Field Experiments (Econ 2041/HBS 4430)  
Cumnock 220  
Tuesday, 4 – 7:00 PM

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For appointments: email Katie Noddin (knoddin@hbs.edu) and cc Professor Ashraf

Course Description:
This course is for doctoral students who want to learn how to design and run field experiments as a research methodology. The objective is for students to refine their own experimental designs and be able to run them by the end of the course, leading to an academic paper.

The course will be hands-on and oriented towards providing technical skills for the design and implementation of field experiments, including overcoming the many possible associated pitfalls. We will examine in-depth examples of how field experiments are designed, implemented and analyzed, including the “back story” of several published field experiments.

We will also discuss at length throughout the course how to use field experiments to test academic theory as opposed to only for policy/impact evaluation. The course also introduces particularly fruitful areas for research using field experiments and facilitates students’ presentations of their own research ideas.

Students should be intending to run a field experiment, or writing a paper on an existing field experiment, in the near future, and ideally in the summer of 2011. The course assignments will be a completed proposal outlining the theory, design, and proposed analysis for the field experiment, a completed IRB application for human subjects approval, 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 35 minutes, with an additional 10 minutes for questions and feedback. Student presentations will be scheduled in the last half of the later classes.

Proposal Guidelines: The proposal should be about 15 pages, and due the last day of class. It will build on the half-page summary and the presentation above and should include a heavy emphasis on motivation, theory tested, and experimental design.
Course Outline:

January 25, 2011
Session 1: Why do field experiments?


Causal Inference:


Lab experiments vs field experiments:


In this class, we will discuss the two main reasons for field experiments: to improve causal inference, and to provide more natural settings and external validity for laboratory experiments. We will discuss the evolution of field experiments as policy evaluation tools and as a methodology for testing economic theory.

Helpful technical guide going forward:


Assignment: 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. If you have specific requests for class content, please include them in your description. Due: February 1, 2011 by 12PM. Send to Professor Ashraf, Sara and Katie.

**February 1, 2011**
Session 2: Anatomy of a Field Experiment: Generating a Hypothesis, Designing a Treatment, and Convincing Practitioners


*Ashraf, Nava and Laura Winig, HBS Case Study B-case “Implementing Evaluation: Green Bank’s Decision”

This cluster of readings illustrates one field experiment, on a commitment savings product in the Philippines, from beginning to end: the *QJE* article is the final academic published result; the *ADB* article uses the field experiment and its timeline (including sample surveys) to illustrate a more general guide for practitioners on using randomization to test savings innovations; and the HBS Cases are about a particular moment in time when the field partner had to be convinced to do individual-level randomization and the concerns they had.

In this class, we will discuss the time horizon of a field experiment, from conception to implementation to results (not including publication!), and 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 and ruining 3 years of your graduate career
- Pilot testing
- What happens if your pilot fails? When should you cut your losses?

**February 8, 2011**
Session 3: What can field experiments tell us about the real world? Designing Field Experiments to test theory and have external validity.

**Critiques and Responses on Field Experiment Methodology:**


**Learning From Field Experiments:**


**February 15, 2011**  
Session 4: Policy Field Experiments and External Validity


**February 22, 2011**  
Session 5: Experiment Mechanics: Measurement of Outcomes, and Power and Sample Size


**Designing Behavioral Indicators and Survey Questions:**

In this class, we will discuss 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. We will also be discussing how to do power calculations, in order to determine the sample size you will need for the results you expect to have statistical significance, so that you don’t end up spending a large amount of money and time only to discover you didn’t have a large enough sample size to see an effect. We will be using the software *Optimal Design*.

**March 1, 2011**

Session 6: Qualitative Methods


*Hughey, Matthew. “Focus Group Research.”


**Assignment:** 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 March 8, 2011 by 12PM. Send to Professor Ashraf, Sara and Katie.

**March 8, 2011**

Session 7: Ethics of Randomization and Human Subjects Review


**Assignment:** Take the Harvard Ethics Training [https://hethr.harvard.edu/HethrLogin.jsp](https://hethr.harvard.edu/HethrLogin.jsp). Additionally, you should draft an IRB Application. Due March 22, 2011 by 12PM. Send to Professor Ashraf, Sara and Katie.

**SPRING BREAK – WEEK OF MARCH 13**

**March 22, 2011**

Session 8: How to Actually Randomize

March 29, 2011
Session 9: Managing Threats to Validity and Evaluating Results


April 5, 2011
Session 10: Ripe Areas for research with Field Experiments I: Incentives and Company Experiments


April 12, 2011
Session 11: Ripe Areas for research with Field Experiments II: Consumer Decision Making
*(Readings to be assigned)*