Empirical Methods for Development Economics
Master in Public Policy and Development
Toulouse School of Economics
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Instructor
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Description
This course features a broad overview of randomized experiments as a key tool in empirical research. The first part of the course discusses the rationale behind the experimental approach through the lens of prominent empirical methods. The second part covers econometric aspects as well as a variety of implementation issues that arise when running RCTs in practice. The third part is aimed at illustrating the diverse use of randomized experiments in the most recent research practice through the exposition and discussion of leading academic articles.

Outline
1. Why randomize? (week 1 to week 3)
   - Endogeneity and causality in economics
   - The causal inference approach
   - The structural econometrics approach
2. Designing and implementing RCTs (week 4 to week 6)
   - Econometrics of RCTs
   - Practical design and implementation issues
   - Sample size and the power of experiments
   - Additional topics (externalities, attrition, etc..)
3. RCTs applications (week 7 to week 10)
   - Policy evaluation
   - Field experiments
   - Structural models
Pre-requisites and Background Readings

The course is meant to be self-containing. However, basic knowledge of statistics and econometrics at the level of, say, the M1 Program Evaluation course offered at TSE will be assumed during the exposition. Two (somehow complementary) introductory econometrics textbooks that you may want to consult to either refresh or enhance your knowledge and empirical skills are


Most closely related to the core topic of the course, these books provide a non-technical overview of randomized experiments and their applications in developing countries

- “More Than Good Intentions: Improving the Ways the World’s Poor Borrow, Save, Farm, Learn, and Stay Healthy”, Dean Karlan and Jacob Appel. Penguin Group

I will also make use of basic programming tools and commands within the environment of the STATA software. Beyond the official manuals and the several existing online resources, a good introduction on how to do microeconometric research using STATA is


Course Evaluation

The learning objective of the course is twofold. First, students should be able to critically assess existing empirical research that employs the experimental approach. Second, students should be able to originally think about an experimental design of a research question of their choice. Students will be asked to form small groups in order to work on the assignments. Groups are voluntary but each student is required to work with different classmates under different assignments. Group size is approximately 2-3 but will ultimately depend on the total number of students enrolled in the course and it will possibly vary between assignments. The requirements of the course [relative weight] are

1. **Detailed pre-analysis plan of a mock RCT [40%]**
   A pre-analysis plan outlines the hypotheses to be tested and specifications to be used in the analysis of a randomized experiment before collecting the data generated by the random treatment assignment. In your case, you should use an existing dataset of your choice (survey or administrative data) as the baseline of your hypothetical experiment. You should write it in the form of a draft of a paper of maximum 20 pages (including bibliography, tables, etc). Final drafts are due at the end of the Fall semester - the exact due date will be communicated later during the course. Some examples of pre-analysis plans are made available in the course’s Moodle.

2. **Oral presentation of one of the papers listed in sections 3 to 5 of the reading list [40%]**
   I will soon circulate a doodle in which each group is required to select one paper (and the associated pre-specified date) on a first-come first-serve basis. Students are required to critically assess the motivation, findings and contribution of the paper, with special emphasis on how the experimental design is used and the relative pros and cons of the empirical approach. Oral presentations should last about 20 minutes and should be accompanied by slides. Some examples of presentation slides are made available in the course’s Moodle.
3. **Homework [10%]**
   You will be required to manipulate some STATA codes with related datasets and hand in the associated output/log files.

4. **Active participation during others’ paper presentation [10%]**
   All students are expected to read before each class the papers to be presented by their classmates in order to actively participate in the discussion at the end of each paper presentation.

**Reading List**

All papers listed below are mandatory reading and they will be made available to the students through the course’s Moodle page. The following list may be subject to minor changes during the course. Please check the Moodle regularly for any update.

1. **Why Randomize?**

2. **Designing and implementing RCTs**

3. **Policy evaluation**

4. Field experiments


5. Structural models


