Microeconomics of Development:
Applications to Health, Nutrition, and Education
Fall 2017

Professor David E. Sahn

Course description: This seminar will explore recent empirical research and focus on the microeconomics of development. Topics covered are health, nutrition, and education, with an emphasis on models of behavior of households and individuals, as well as impacts of social programs. Although we will briefly review underlying theory and econometric techniques, the course will attempt to bridge the gap between theory and practice, addressing issues such as model identification, functional form, and estimation techniques to control for endogeneity and heterogeneity. A key objective of the class will be to investigate the merits and limitations of randomized control trials (experiments) and non-experimental and econometric methods used to evaluate social interventions, as well as to gain an understanding of behavior and structural relationships. We will also discuss the various types of household surveys that are employed for these purposes.

The course is designed as a seminar, rather than a lecture course, to encourage active participation of all students. Students are expected to be ready to discuss all the assigned readings. For each meeting, students will be (randomly) assigned to lead a discussion in which all the other students are expected to actively participate. Those leading the session will be required to prepare a short and critical evaluation of the assigned readings, usually of 3–5 pages, in outline or annotated form. These reviews will cover central issues related to the strengths and weaknesses of the papers, and the effectiveness of the readings in addressing underlying concerns of causation, identification, internal and external validity, and so forth.

Replication/empirical assignment: Students will also prepare an empirical paper. There are two options for this paper:

Replication Assignment:
The replication assignment will involve selecting a published empirical paper in a refereed economics or social science journal. You are encouraged to choose a paper that is consistent with your own research interests; and this paper should be broadly related to health, nutrition, education, or other issues related to human capital accumulation and poverty alleviation.

In order to perform the replication assignment, you will need to arrange access to the data set. You should first try to find the data set online. If you are not able to do so, you can contact the author(s). Many, if not most major journals now require access to the data as a condition for publication of a paper. You will then try to replicate the analysis in the journal article.

My expectation is that you will be able to closely replicate the results. If not, you need to elaborate in detail your findings and why you think that you were not able to replicate the results. It is certainly possible that you will find errors in the work of others. This may be due
to mistakes of the researchers, for example, in coding, or worse, purposeful manipulation of the data and results. There have been a series of such cases in recent years that have received great attention in the social sciences where, traditionally, replication has been given far too little importance.

The second part of the replication assignment is to conduct a variant on the original paper to extend the analysis by, for example, adding additional covariates or changing the dependent variable. For example, if the paper is looking at birthweight outcomes of an intervention program, and the data set has other health measures, such as anthropometrics, you could estimate a similar model using height-for-age as the outcome measure. Or, similarly, if the analysis looks at the impact of a program on children 6 to 36 months of age, you may focus on the impact on other age groups or explore impact by gender or urban/rural location. Alternatively, you may change the econometric model or estimation technique. For example, if the model is an OLS that looks at the age of first birth, you may want to use a hazard model instead. I understand that your extension of the original paper may not yield new and exciting results that would potentially contribute to the literature. Again, you should be able to discuss the innovations you tried, and your findings.

I would expect the replication’s text to be around 8 to 10 single-spaced pages, using 12-point font, with one-inch margins. Tables, figures, and references will be additional pages. Your paper will be reviewed and graded by me; two other students will be assigned to serve as referees to carefully review your paper, both for substance and form. These reviews should include identifying grammatical errors or typos, in addition to critiquing in detail what has been done and even proposing new extensions of the work. Based on your peers’ detailed referee reports of the draft, you will be required prepare a point-by-point response and revise the paper accordingly; in turn, the referees will assess the quality of your rebuttal and the revised paper. If you do not agree with the referee on any point, and/or you do not address one or more suggestions, you should clearly state why. For those of you unaccustomed to writing or preparing referee reports, and responding to them, I will provide such examples.

**Empirical Paper**

With my permission, and if the student has a compelling reason, an alternative to the replication assignment is preparing an original empirical paper with one of the panel data sets from Madagascar or Senegal. The topic will be one that is proposed by the student in consultation with me. If this option is selected, my expectation is that, during the semester, there will be sufficient progress to prepare a preliminary draft of what will eventually be a publishable paper. You can find the questionnaires at the following:

http://www.saqa.cornell.edu/Senegal_EBMS/surveys.html
Grading:

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replication assignment (or empirical paper)</td>
<td>40%</td>
</tr>
<tr>
<td>Research paper and referee reports</td>
<td>20%</td>
</tr>
<tr>
<td>Leading class discussion</td>
<td>20%</td>
</tr>
<tr>
<td>Participation in class discussion</td>
<td>20%</td>
</tr>
</tbody>
</table>

**Dates and deadlines:** A prospectus on the replication assignment (or research topic) is due on **September 15**. This should include a discussion of the paper to be replicated, and a confirmation that the data are available, has been reviewed, and is in a format that will allow the conducting of the exercise.

A preliminary progress report is due on **October 15**, which should at least present summary statistics, including means, standard deviations, and basic cross tabulations on the variables to be used in the model. This should include replicating descriptive statistics found in the published paper. Additionally, the progress report should include a discussion and justification for the proposed extension of the research, and the broad contours of the model you plan to estimate.

A final draft is due on **November 15**. At that time, I will distribute the drafts to peer referees that I will randomly select to review each paper. Referees are responsible for preparing their reports by **November 21**, at which time they will be made available to the authors. The authors will then have to submit the final revised paper with response to the referees on **December 7**, at which time I will return the paper to the peer referees who, will review and assign a final assessment due on **December 12**. I will provide a template for the referee’s comments.

**Readings:** A preliminary reading list is found below. More details on how to organize the in-class presentations will be posted on the class website on the Blackboard, including the questions and issues to be addressed for each paper reviewed.

Please note that, before we begin our discussion specific empirical research papers and methods, we will devote the first two classes to a more general discussion on experimental versus non-experimental techniques. This will be organized as a debate, again where I will provide prompts in advance on the website to be debated by students in the class.

Students who have limited or no experience with STATA, SAS, or similar software will be expected to find appropriate assistance from CISER or other resources on campus, including other students.

**Meeting Time and Location:**

Monday 5:00 – 7:30 p.m.
Savage Hall 332
Office Hours: Professor Sahn will hold office hours by appointment in B16 MVR Hall.

Course Website: http://blackboard.cornell.edu

I. EVALUATING SOCIAL PROGRAMS: EXPERIMENTAL VS. STRUCTURAL MODELS


Background Reading:

II. EARLY LIFE HEALTH OVER THE LIFE-COURSE: EDUCATION AND HEALTH IMPACTS


### III. HEALTH AND NUTRITION


**IV. REPRODUCTIVE HEALTH**


V. HIV/AIDS


VI. NUTRITION, HEALTH AND PRODUCTIVITY


VII. INTRAHOUSEHOLD DECISION-MAKING


VIII. IMPACT OF HEALTH AND NUTRITION ON EDUCATION AND SCHOOLING


IX. EDUCATION OUTCOMES

A. EARLY CHILDHOOD ABILITY AND LATER LIFE OUTCOMES


B. SCHOOLS AND EDUCATION INTERVENTIONS AND POLICIES


X. MULTIDIMENSIONAL POVERTY: HEALTH AND EDUCATION AS ALTERNATIVE/COMPLEMENTARY METRICS

