Part 2
This half of the course examines identification issues in empirical microeconomics, with a focus on the sensible application of econometric methods to empirical problems. We will examine issues that arise when analyzing non-experimental economic data and the tools that are useful for applied research. By the end, students should have a firm grasp of the types of research designs that can lead to convincing analysis and be comfortable working with large-scale data sets.

Office Hours: Fridays, 3:00-5:00 pm, 657 Evans Hall

Course Requirements:
Students should read assigned readings before class and participate in class discussion. There will also be 3-4 applied exercises. Course grades will be based on the applied exercises and class participation.

Class handouts will be available at Rowie Balza’s office in 649 Evans Hall and on the course home page.

Topics:
1. The linear regression model and regression analysis as a statistical tool. Measurement error, “omitted variables” bias, and the functional form of the conditional expectation. When does the tool of linear regression lead to “causal” inferences?
2. Selection on observables and program evaluation. The method of matching and propensity score approaches to dimensionality reduction. The regression discontinuity design.
4. Experimental design and the value of randomized trials. Quasi-experimental research designs.
5. Linear panel data models and program evaluation. Random effects, correlated random effects, and fixed effects models. Dynamic panel data models and the feedback problem.

We will not follow any particular text. The following books may be useful as references to supplement the readings covered in class.

Rough outline of lectures and background readings – applied readings TBA in class

Lecture 1 (October 17)
Overview and the linear regression model

Lecture 2 (October 24) – no class on October 31
Selection on observables, propensity score and matching methods

Lecture 3 (November 7)
Selection on unobservables and instrumental variables

Lecture 4 (November 14)
Selection on unobservables, latent variable models, heterogeneous treatment effects
Lecture 5 (November 21) – no class on November 28 (Thanksgiving)

Regression discontinuity design approaches to the program evaluation problem


Lecture 6 (December 5)

Panel data models