Ph.D. Course

Econometric Methods for Education Economics

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The purpose of this course is to familiarize students with econometric methods and models for empirical work in education economics. Topics include regression analysis, instrumental variables estimation, models for discrete and limited dependent variables, models for heterogeneous treatment effects. Applications focus on the human capital production function and the determinants of, and returns to, schooling.

Literature

Boes, S. and R. Winkelmann (2006) Analysis of Microdata.

Cameron, C. and P. Trivedi (2006) Microeconometrics.

Wooldridge, J.M. (2002) Econometric Analysis of Cross Section and Panel Data.

I. Linear regression

- best linear predictor
- causal interpretation
- inference

II. Dealing with endogeneity

- Instrumental variables
- Panel/Twin models
- Differences in differences

III. Discrete dependent variables

- Binary probit
- Ordered/multinomial logit/probit
- Interval data

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IV. Sample selection models
- Censored regression
- incidental censoring / Roy model

V. Treatment effects and the potential outcomes model
- The identification problem
- Heterogeneous potential outcomes
- Instrumental variables estimaton

Applications include topics such as

* how much, and what type of schooling
  - intergenerational mobility in schooling
  - sibling rivalry
  - college choice
  - graduation probability
* the effect of schooling on earnings
  - returns to schooling
  - overeducation
  - transferability of human capital
* the human capital production function
  - school quality
  - class size
  - the effectiveness of training interventions