

Econometric Methods

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Course Outline

Part 1. Parametric

1. Generalized Method of Moments
Convenient way of organizing estimation of various econometric models. Focus on asymptotics for the non-smooth cases, e.g. quantile regression and ...
2. Quantile Regression
Computation, Censoring
3. Panel Data Models, Instrumental Variables
Fixed/Random Effects, Dynamics, Nonlinear Models, Weak Instruments
4. Simulation Estimation
Estimation principles and how to simulate.
5. Bootstrapping
Theory behind this computational method for improved inference.
6. Efficiency
Cramer-Rao, Conditional moments.

Part 2. Semi/Non-parametric

1. Nonparametric Estimation
Kernels, series, splines - asymptotics.
2. Semiparametric Estimation
Two-step estimation; root-N and other estimators
3. Causal Inference
Matching, propensity score, regression discontinuity, nonparametric IV

Part 3. Special Topics

(Depending on Time...)

1. Partial Identification
2. Limits of Experiments
3. Decision Theory

Reading

- ANDREWS, D. (1994): “Empirical Process Methods in Econometrics,” in *Handbook of Econometrics*, Vol. 4, ed. by R. Engle, and D. McFadden, pp. 2247–2294. North-Holland, New York.
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