

ECON5100 — Lecture Plan

Edwin Leuven

Literature

- Angrist, Joshua D., and Jörn-Steffen Pischke. Mostly harmless econometrics: An empiricist's companion. Princeton University Press, 2008.
- Symposia: Con out of Economics, Journal of Economic Perspectives: Vol. 24 No. 2 (Spring 2010)

Background reading is indicated by (B) such as this textbook

- Bruce Hansen. Econometrics. 2015. <http://www.ssc.wisc.edu/~bhansen/econometrics/>

Prerequisites

Econ 4150 or equivalent. Statistics 2 or equivalent recommended.

Topics

1 Causality

- MHE, Ch.1
- Holland, P. (1986), "Statistics and Causal Influence," Journal of the American Statistical Association, 81, 945-960

2 Ordinary Least Squares and weighting

- Gary Solon, Steven J. Haider, and Jeffrey M. Wooldridge What Are We Weighting For? J. Human Resources March 31, 2015 50:301-316.

3 Bootstrap, Clustering, Robust SEs

- MHE, Ch. 8
- A. Colin Cameron and Douglas L. Miller A Practitioner's Guide to Cluster-Robust Inference *J. Human Resources* March 31, 2015 50:317-372, Sections I, II, IV, III, V.A, VI, VIII.
- (B) Stock, James H. 2010. "The Other Transformation in Econometric Practice: Robust Tools for Inference." *Journal of Economic Perspectives*, 24(2): 83-94.
- (B) Hansen, Ch.10

4 Non-parametric density estimation and regression

- DiNardo, John, and Justin L. Tobias. 2001. "Nonparametric Density and Regression Estimation." *Journal of Economic Perspectives*, 15(4): 11-28.
- (B) Hansen, Ch. 20, 11.1–11.4

5 Binary & Ordered Response Models

- Horowitz, Joel L., and N. E. Savin. "Binary response models: logits, probits and semi-parametrics." *The Journal of Economic Perspectives* 15.4 (2001): 43-56.
- (B) Ch 2 and 3 of *Discrete Choice Methods with Simulation* by Kenneth Train:

6 Matching Methods

- Imbens, G.W. (2015). Matching Methods in Practice: Three Examples. *Journal of Human Resources* 31(5). pp 373–419.
- Morgan, S.L. and D.J. Harding (2006), "Matching Estimators of Causal Effects: Prospects and Pitfalls in Theory and Practice," *Sociological Methods & Research*, 35, 3–60
- (B) Smith, J.A. and P.E. Todd (2005), "Does Matching Overcome LaLonde's Critique of Nonexperimental Estimators," *Journal of Econometrics*, 125, 305-353

7 Instrumental Variables

- MHE, Ch.3, 4
- (B) Hansen, Ch.15
- (B) Angrist, J.D. and A.B. Krueger (2001) Instrumental Variables and the Search for Identification: From Supply and Demand to Natural Experiments *Journal of Economic Perspectives* 15(4). pp 69–85.
- (B) Angrist, Joshua D. "Lifetime earnings and the Vietnam era draft lottery: evidence from social security administrative records." *The American Economic Review* (1990): 313-336.
- (B) Murray, Michael P. "Avoiding invalid instruments and coping with weak instruments." *The journal of economic perspectives* 20.4 (2006): 111-132.
- (B) Sovey, A.J. and D.P. Green (2011). Instrumental Variables Estimation in Political Science: A Readers' Guide. *American Journal of Political Science* 55(1). pp. 188–200

8 Instrumental Variables – Heterogeneity

9 Instrumental Variables – Heterogeneity

- MHE, Ch.3, 4
- (B) Imbens, G. (2014). Instrumental Variables: An Econometrician's Perspective. NBER Working Paper No. 19983
- (B) Angrist, Joshua D., Guido W. Imbens, and Donald B. Rubin. "Identification of causal effects using instrumental variables." *Journal of the American statistical Association* 91.434 (1996): 444-455.
- (B) J. Angrist and G. Imbens, "Two-Stage Least Squares Estimation of Average Causal Effects in Models with Variable Treatment Intensity," *JASA*, June 1995.
- (B) Imbens, G.W. and Rubin, D.B. (1997). Estimating Outcome Distributions for Compliers in Instrumental Variables Models *The Review of Economic Studies* 64(4). pp. 555-574

10 Selection models

- Hansen 18.3, 18.4
- (B) Heckman, J. J. (1979). Sample selection bias as a specification error. *Econometrica*, 153-161.
- (B) Rosen, S., & Willis, R. J. (1979). Education and Self-Selection. *Journal of Political Economy* 87(5), 7-36.

11 Difference-in-Differences

- MHE, Ch. 5
- Bertrand, M., E. Duflo, and S. Mullainathan, (2004), "How Much Should We Trust Difference in Differences Estimates?" *Quarterly Journal of Economics*, 119, 249-275

12 Regression Discontinuity Design

- MHE, Ch. 6
- Imbens, G. and T. Lemieux (2008), "Regression Discontinuity Designs: A Guide to Practice," *Journal of Econometrics*, 142, 615-635
- (B) Lee, D.S. and T. Lemieux (2010), "Regression Discontinuity Designs in Economics," *Journal of Economic Literature*, 48, 28-355