

Short Course on the Econometric Methods to Estimate Causal Effects @ LASER

April 15-17 2014

Lecturer: Sascha O. Becker: University of Warwick, CEPR, CESifo, Ifo and IZA

Goal: Familiarize participants with the theory and application of econometric evaluation techniques, including guided lab sessions (Stata).

Preliminary Programme:

Tuesday 15 April 2014, 9:00-12:15 Room 31^o– 13:15-16:30 Lab 712*

0900-1030 Session 1
1030-1045 Coffee break
1045-1215 Session 2
1215-1315 Lunch
1315-1445 Session 3
1445-1500 Coffee break
1500-1630 Session 4

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Wednesday 16 April 2014, 9:00-12:15 Room 9[^] – 13:15-16:30 Lab 711**

0900-1030 Session 5
1030-1045 Coffee break
1045-1215 Session 6
1215-1315 Lunch
1315-1445 Session 7
1445-1500 Coffee break
1500-1630 Session 8

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Thursday 17 April 2014, 9:00-12:15 Room 6[^] – 13:00-14:15 Lab 711**

0900-1030 Session 9
1030-1045 Coffee break
1045-1200 Session 10
1200-1300 Lunch
1300-1415 Session 11

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Format of sessions:

A short introduction to the sessions will review the theoretical background, but the majority of the sessions will deal with (re-)estimation of published papers and understanding the identification strategy and how it is implemented in Stata code.

We will re-estimate some classical papers as well as more recent work, some of which covers less commonly used material (e.g. synthetic control groups and bounding analysis) which turns out to be useful in various contexts.

If time permits, we will also look into Monte Carlo simulations.

Potential list of papers to be covered, sorted by "method":

Instrumental-variables estimation:

main paper for Stata analysis:

Becker, Sascha O. and and Ludger Woessmann (2009) Was Weber Wrong? A Human Capital Theory of Protestant Economic History. *Quarterly Journal of Economics* 124(2), 531–596.

additional reading(s):

Ashenfelter, Orley and Alan Krueger (1994) Estimates of the Economic Return to Schooling from a New Sample of Twins, *American Economic Review*, 84(5), 1157-1173.

Card, David (1995) Using Geographic Variation in College Proximity to Estimate the Return to Schooling,” in Louis N. Christofides, E. Kenneth Grant, and Robert Swidinsky, eds., *Aspects of labour market behaviour: Essays in honour of John Vanderkamp*, Toronto, Buffalo and London: University of Toronto Press, 1995, pp. 201–222.

Difference-in-differences:

main paper for Stata analysis:

Redding, Stephen J. and Daniel M. Sturm (2008) The Costs of Remoteness: Evidence from German Division and Reunification, *American Economic Review* 98(5), 1766–1797

Card, David and Alan Krueger (1994) Minimum Wages and Employment: A Case Study of the Fast-Food Industry in New Jersey and Pennsylvania” *American Economic Review* 84(4), 772–793.

Propensity Score Matching:

main paper for Stata analysis:

Becker, Sascha O. and Andrea Ichino (2002) Estimation of average treatment effects based on propensity scores. *Stata Journal* 2(4), 358–377.

additional reading(s):

Dehejia, Rajeev H. and Sadek Wahba (1999) Causal Effects in Nonexperimental Studies: Reevaluating the Evaluation of Training Programs. *Journal of the American Statistical Association* 94(448), 1053–1062.

Regression-Discontinuity Design:

main paper for Stata analysis:

Becker, Sascha O., Peter H. Egger and Maximilian von Ehrlich (2012) Absorptive Capacity and the Growth Effects of Regional Transfers: A Regression Discontinuity Design with Heterogeneous Treatment Effects. *American Economic Journal: Economic Policy*, forthcoming.

additional reading(s):

Angrist, Joshua and Victor Lavy (1999) Using Maimonides’ rule to estimate the effect of class size on scholastic achievement. *Quarterly Journal of Economics* 114(2), 533–575.

Lee and Lemieux (2010): Regression Discontinuity Design in Economics. *Journal of Economic Literature*. 48 (June 2010), 281–355

Synthetic Control Groups:

main paper for Stata analysis:

Billmeier, Andreas and Tommaso Nannicini (2012) Assessing Economic Liberalization Episodes: A Synthetic Control Approach. *Review of Economics and Statistics*, forthcoming.

additional reading(s):

Abadie, Alberto, Alexis Diamond and Jens Hainmueller (2010) Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program. *Journal of the American Statistical Association* 105(490): 493-505. <http://dx.doi.org/10.1198/jasa.2009.ap08746>

Bounding in different contexts:

a) bounding for matching estimates:

Becker, Sascha O. and Marco Caliendo (2007) Sensitivity Analysis for Average Treatment Effects. *Stata Journal* 7(1), 71–83.

b) bounding for regression estimates

Becker, Sascha O. and Ludger Woessmann (2009) Was Weber Wrong? A Human Capital Theory of Protestant Economic History. *Quarterly Journal of Economics* 124(2), 531–596.

Monte Carlo simulations:

main paper for Stata analysis:

Becker, Sascha O., Peter H. Egger and Maximilian von Ehrlich (2012) Absorptive Capacity and the Growth Effects of Regional Transfers: A Regression Discontinuity Design with Heterogeneous Treatment Effects. *American Economic Journal: Economic Policy*, forthcoming.

additional reading(s):

Blundell, Richard and Monica Costa Dias (2009) Alternative Approaches to Evaluation in Empirical Microeconomics. *Journal of Human Resources* 44(3), 565–640.

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