

INTERNATIONAL WORKSHOP

Recent Advances in Causal Inference for Policy Evaluation

Department of Political Science, University Roma Tre

Guest Speaker: Giovanni Mellace, University of Southern Denmark

Weekly Seminars on May 2017

Syllabus and timetable

Sample selection and Regression Discontinuity Design

Thursday, May 4

10.00 – 12.00

Introduction to partial identification (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Zhang, J., and D. B. Rubin (2003): Estimation of causal effects via principal stratification when some outcome are truncated by death," *Journal of Educational and Behavioral Statistics*, 28, 353-368.

Imai, K. (2008): Sharp bounds on the causal effects in randomized experiments with 'truncation-by-death', *Statistics & Probability Letters*, 78, 144-149.

Horowitz J, Manski CF. (1995) Identification and robustness with contaminated and corrupted data.

Econometrica 63:281–302

Lee, D. S. (2009). Training, Wages, and Sample Selection: Estimating Sharp Bounds on Treatment Effects, *Review of Economic Studies* 76: 1071–1102.

14.30 – 16.30

Sample selection bounds and testing (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Huber, M. and Mellace, G. (2015): Sharp bounds on causal effects under sample selection, *Oxford Bulletin of Economics and Statistics*, 77, 129-151.

Huber, M. and Mellace, G. (2014): Testing exclusion restrictions and additive separability in sample selection models, *Empirical Economics*, 47, 75-92.

Friday, May 5

10.00 – 12.00

RDD identification and inference (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Gerard, F., Rokkanen, M., and Rothe, C. (2016): Bounds on Treatment Effects in Regression Discontinuity Designs with a Manipulated Running Variable, with an Application to Unemployment Insurance in Brazil, mimeo.

Calonico, S., M. D. Cattaneo, and R. Titiunik (2014): Robust Nonparametric Confidence Intervals for Regression-Discontinuity Designs, *Econometrica*, 82, 2295-2326.

Kolesar, M. and Rothe, C. (2016): Inference in Regression Discontinuity Designs with a Discrete Running Variable, mimeo.

14.30 – 16.30

Tutorial R (Daniele Di Gennaro, Università Roma Tre)

Mediation Analysis

Thursday, May 11

10.00 – 12.00 14.30-16.30

Introduction to mediation analysis (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Baron, R. M., and D. A. Kenny (1986): The Moderator-Mediator Variable Distinction in Social Psychological Research: Conceptual, Strategic, and Statistical Considerations, *Journal of Personality and Social Psychology*, 51, 1173-1182.

Imai, K., L. Keele, and T. Yamamoto (2010): Identification, Inference and Sensitivity Analysis for Causal Mediation Effects, *Statistical Science*, 25, 51-71.

Imai, K., and T. Yamamoto (2013): Identification and Sensitivity Analysis for Multiple Causal Mechanisms: Revisiting Evidence from Framing Experiments, *Political Analysis*, 21, 141-171.

Pearl, J. (2001). Direct and indirect effects. In *Proceedings of the Seventeenth Conference on Uncertainty in Artificial Intelligence* (pp. 411-420). San Francisco, CA. Morgan Kaufmann.

16.30 – 18.30

Tutorial R (Daniele Di Gennaro, Università Roma Tre)

Friday, May 12

10.00 – 12.00

Estimation of direct and indirect effects (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Huber, M., Lechner, M., and Mellace, G. (2015). The finite sample performance of estimators for mediation analysis under sequential conditional independence. *Journal of Business and Economic Statistics*.

14.30-16.30

The role of programme assignment as a causal mechanism (Giovanni Mellace, University of Southern Denmark)

Huber, M., Lechner, M., and Mellace, G. (2015). Why do tougher caseworkers increase employment? The role of programme assignment as a causal mechanism, *Review of Economics and Statistics*. Forthcoming.

Relaxing SUTVA

Thursday, May 18

10.00 – 12.00

Relaxing SUTVA (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Laffers, L. and Mellace, G. (2016): Identification of the Average Treatment Effect when SUTVA is violated, mimeo.

14.30-16.30

Relaxing SUTVA (Laura Forastiere, University of Florence)

Suggested readings

Forastiere, L., Airoidi, E. M., Mealli, F. (2016) Identification and estimation of treatment and interference effects in observational studies on networks. <https://arxiv.org/abs/1609.06245>

Arpino, B., Mattei A., (2016) Assessing the causal effects of financial aids to firms in Tuscany allowing for interference, Ann. Appl. Stat. 10, n.3, 1170-1194.

16.30 – 18.30

Tutorial R (Daniele Di Gennaro, Università Roma Tre)

Friday, May 19

10.00 – 12.00

Relaxing SUTVA (Marusca De Castris, University Roma Tre)

Suggested readings

De Castris, M. Pellegrini, G. (2015): Neighborhood Effects on the Propensity Score Matching, CREI Working Paper no. 5/2015, Roma Tre, <http://host.uniroma3.it/centri/crei/pubblicazioni.html>.

Relaxing SUTVA (Daniele Di Gennaro, University Roma Tre)

Di Gennaro, D., Pellegrini, G. (2017): Evaluating direct and indirect treatment effects in Italian R&D expenditures, MPRA paper, no. 76467

14.30-16.30

Introduction to IV with Heterogeneous effects

Sharp IV bounds (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Huber, M., Laffers L., and Mellace, G. (2016): Sharp IV bounds on average treatment effects on the treated and other populations under endogeneity and noncompliance, Journal of Applied Econometrics, forthcoming.

IV with Heterogeneous effects

Tuesday, May 30

10.00 – 12.00

Sharp IV bounds (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Kitagawa, T. (2009): Identification Region of the Potential Outcome Distribution under Instrument Independence, CeMMAP working paper 30/09.

14.30-16.30

Testing the LATE assumptions (Giovanni Mellace, University of Southern Denmark)

Suggested readings

Kitagawa, T. (2015): A Test for Instrument Validity, *Econometrica*, 83, 2043-2063.

Mourifie, I., and Y. Wan (2016): Testing LATE Assumptions, *Review of Economics and Statistics*, forthcoming.

Huber, M., and Mellace, G. (2015): Testing instrument validity for LATE identification based on inequality moment constraints, *Review of Economics and Statistics*, 97, 398411.

Wednesday, May 31

10.00 – 12.00

LATE without monotonicity (Giovanni Mellace, University of Southern Denmark)

Suggested readings

de Chaisemartin (2014) "Tolerating defiance? Identification of treatment effects without monotonicity", Warwick Economics Research Paper Series, 2014. (<http://qeconomics.org/ojs/forth/601/601-4.pdf>)

(<http://qeconomics.org/ojs/forth/601/QE601SUPP.pdf>)

Dahl, C. M., Huber, M. and Mellace, G. (2016): It's never too LATE: A new look at local average treatment effects with or without defers. mimeo.

14.30 – 16.30

Tutorial R (Daniele Di Gennaro, Università Roma Tre)

TIMETABLE

Day	Time	Topic	Speaker
Thursday, May 4	10.00 – 12.00	Introduction to partial identification	Giovanni Mellace
Thursday, May 4	14.30 – 16.30	Sample selection bounds and testing	Giovanni Mellace
Friday, May 5	10.00 – 12.00	RDD identification and inference	Giovanni Mellace
Friday, May 5	14.30 – 16.30	<i>Tutorial R</i>	Daniele Di Gennaro
Thursday, May 11	10.00 – 12.00	Introduction to mediation analysis	Giovanni Mellace
Thursday, May 11	14.30 – 16.30	Introduction to mediation analysis	Giovanni Mellace
Thursday, May 11	16.30 – 18.30	<i>Tutorial R</i>	Daniele Di Gennaro
Friday, May 12	10.00 – 12.00	Estimation of direct and indirect effects	Giovanni Mellace
Friday, May 12	14.30 – 16.30	The role of programme assignment as a causal mechanism	Giovanni Mellace
Thursday, May 18	10.00 – 12.00	Relaxing SUTVA	Giovanni Mellace
Thursday, May 18	14.30 – 16.30	Relaxing SUTVA	Laura Forastiere
Thursday, May 18	16.30 – 18.30	<i>Tutorial R</i>	Daniele Di Gennaro
Friday, May 19	10.00 – 11.00	Relaxing SUTVA	Marusca De Castris
Friday, May 19	11.00 – 12.00	Relaxing SUTVA	Daniele Di Gennaro
Friday, May 19	14.30 – 16.30	Introduction to IV with heterogeneous effects	Giovanni Mellace
Tuesday, May 30	10.00 – 12.00	Sharp IV bounds	Giovanni Mellace
Tuesday, May 30	14.30 – 16.30	Testing the LATE assumptions	Giovanni Mellace
Wednesday, May 31	10.00 – 12.00	LATE without monotonicity	Giovanni Mellace
Wednesday, May 31	14.30 – 16.30	<i>Tutorial R</i>	Daniele Di Gennaro