

## PhD Course

### PANEL DATA

Block course:

23.01.2018: 09:00 am - 05.00 pm

24.01.2018: 09:00 am - 05.00 pm

25.01.2018: 09:00 am - 05.00 pm

**Classroom:** 4029, Esplanade 36

**Course Instructor:** Prof. Dr. Giovanni Mellace

**Course Value:** 5 ECTS

**Course Overview:** The first part of the course will cover the traditional linear and non-linear models for panel-data. The second part will focus on the most recent literature on identification and estimation of causal effect using panel data or repeated cross-sections. Most of the theoretical part will be motivated by empirical applications and example with real data will be provided in R and/or STATA.

**Topics:** Linear panel data models; non-linear panel data models; matching and propensity score matching; Difference-in-Differences (DiD); Changes-in-Changes; Synthetic Control Method.

**General literature:** The main textbook will be: Wooldridge, Jeffrey M. (2010), "Econometric Analysis of Cross Section and Panel Data", MIT Press, second edition. Suggested reading list:

- Imbens, G.W. ; J.M. Wooldridge. 2009. 'Recent Developments in the Econometrics of Program Evaluation.', *Journal of Economic Literature*, 47: 5-85.
- Chabé-Ferret, S. 2015. 'Analysis of the bias of Matching and Difference-in-Difference under alternative earnings and selection processes', *Journal of Econometrics*, 185: 13.
- Lechner, Michael, 2011. "The Estimation of Causal Effects by Difference-in-Difference Methods," *Foundations and Trends(R) in Econometrics*, now publishers, vol. 4(3), pages 165-224, November.
- Lechner, Michael, 2013. "Treatment effects and panel data," *Economics Working Paper Series 1314*, University of St. Gallen, School of Economics and Political Science.
- Abadie, A., Diamond, A., & Hainmueller, J. (2014). *Comparative Politics and the Synthetic Control Method*. *American Journal of Political Science*, 59(2), 495-510.
- Abadie, A., Diamond, A., & Hainmueller, J. (2007). *Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California's Tobacco Control Program*.
- Abadie, A., & Gardeazabal, J. (2001). *The Economic Costs of Conflict: A Case-Control Study for the Basque Country*. *American Economic Review*, 93(1), 113-132.



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**Assessment:** Take-home assignment

**Teaching language:** English