

TOPICS IN ECONOMETRICS

This topics course intends to advice Ph.D. students interested in using data in their applied research. The course discusses different models and statistical procedures conceived for economics data of different nature. Students will read in advance the articles, book chapters or notes recommended, which will be discussed in each session. The topics will be treated with unequal detail, and alternative topics could be considered, depending on attendants' interests.

The course will be evaluated on the basis of an essay on one of the topics discussed, which must involve numerical work including an application using real data.

Syllabus

1. Inference on Lebesgue densities and regression curves. Reading: Peter Robinson Notes.
2. Inference on semiparametric models: Average derivatives and partially linear models. Reading: U-satistic theory (Serfling 1980 Chap 5 or/and Winfried Stute notes), Robinson (1988), Powell, Stock & Stoker (1989), Delgado & Robinson (1992).
3. Quantile regression and distributional regression. Reading: Koenker & Bassett (1978), Foresi & Peracchi (1995)
4. Inference on counterfactual decomposition in policy analysis. Reading: Blinder (1973), Oaxaca (1973), Stock (1986), Chernozhukov, Fernández- Val & Melly (2013).
5. Program evaluation: Inference on average treatment effects: Reading: two papers. Imbens and Wooldridge (2009), Abadie (2002), Abadie (2009).
6. Treatment effects: ATE inference based on discontinuous regression. Reading: Hahn, Todd, & Van der Klaauw (2001). Imbens & Lemieux (2008).
7. Inference using survival data. Reading: W. Stute notes.
8. Specification testing. Reading: Miguel Delgado notes.
9. Spatial econometrics. Reading: Case (1991), Lee (2004), Anselin (2013).
10. Econometrics of extremes: Reading: Hill (1975), Leadbetter, Lindgren & Rootzen (1983), Hsing (1991).

Reading List

Abadie, A. (2002). Bootstrap tests for distributional treatment effects in instrumental variable models. *Journal of the American Statistical Association*, 97(457), 284-292.

Abadie, A., & Imbens, G. W. (2006). Large sample properties of matching estimators for average treatment effects. *Econometrica*, 74(1), 235-267.

Anselin, L. (2013). *Spatial Econometrics: Methods and Models* (Vol. 4). Springer Science & Business Media.

Blinder, A. S. (1973). Wage discrimination: reduced form and structural estimates. *Journal of Human Resources*, 436-455.

Case, A. C. (1991). Spatial patterns in household demand. *Econometrica: Journal of the Econometric Society*, 953-965.

Chernozhukov, V., Fernández-Val, I., & Melly, B. (2013). Inference on counterfactual distributions. *Econometrica*, 81(6), 2205-2268.

Delgado, M. A., & Robinson, P. M. (1992). Nonparametric and semiparametric methods for economic research. *Journal of Economic Surveys*, 6(3), 201-249.

Foresi, S., & Peracchi, F. (1995). The conditional distribution of excess returns: An empirical analysis. *Journal of the American Statistical Association*, 90(430), 451-466.

Hahn, J., Todd, P., & Van der Klaauw, W. (2001). Identification and estimation of treatment effects with a regression discontinuity design. *Econometrica*, 69(1), 201-209.

Hill, B.M. (1975). A simple general approach to inference about the tail of a distribution, *Annals of Mathematical Statistics*, 3, 1163-1174.

Hsing, T. (1991). On tail index estimation using dependent data. *Annals of Statistics*, 19, 1547-1569.

Imbens, G. W., & Lemieux, T. (2008). Regression discontinuity designs: A guide to practice. *Journal of Econometrics*, 142(2), 615-635.

Imbens, G. W., & Wooldridge, J. M. (2009). Recent developments in the econometrics of program evaluation. *Journal of Economic Literature*, 47(1), 5-86.

Koenker, R., & Bassett Jr, G. (1978). Regression quantiles. *Econometrica*, 33-50.

Leadbetter, M.R., G. Lindgren & H. Rootzen (1983). *Extremes and Related Properties of Random Sequences and Processes*. Springer-Verlag.

Lee, L. F. (2004). Asymptotic Distributions of Quasi-Maximum Likelihood Estimators for Spatial Autoregressive Models. *Econometrica*, 72(6), 1899-1925.

Leorato, S., & Peracchi, F. (2015). Comparing Distribution and Quantile Regression, IEF working paper <http://www.eief.it/files/2015/10/wp-11-comparing-distribution-and-quantile-regression.pdf>.

Oaxaca, R. (1973). Male-female wage differentials in urban labor markets. *International Economic Review*, 693-709.

Powell, J.L., Stock, J.H. and Stoker, T.M. (1989). Semiparametric estimation of index coefficients. *Econometrica*, 1403-1430.

Robinson, P. M. (1988). Root-N-consistent semiparametric regression. *Econometrica*, 931-954.

Stock, J. H. (1989). Nonparametric policy analysis. *Journal of the American Statistical Association*, 84(406), 567-575.