
Advanced Topics in Econometrics with an Application to Inequality
Universitat Autònoma de Barcelona
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Summary

This course is designed to provide students with an overview of some topics in advanced applied econometrics with applications in the study of inequality in microdata. The topics covered are decided on the basis of the PhD and MSc students' needs and they are provisionally set to two separate lectures: quantile regression and influence functions.

- i. Quantile econometrics is a popular tool in statistics and econometrics that allow to study marginal and conditional effects on the entire distribution of a response variable.
- ii. Influence functions and introduction to robust statistics. Unconditional vs. conditional effects. Distributional effects. Recentered influence functions (RIF) regressions with applications to Gini, Theil, unconditional quantiles and other inequality statistics.

The lectures will provide a description of the econometric problem involved, the main theoretical results and empirical applications. The lectures have a computational content using STATA.

The course lectures will be available on my web.

December 11th, 2018: Quantile regression

Suggested bibliography

Angrist, J.D., Pischke, J.-S. (2009), *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press. Ch. 7. <https://www.researchgate.net/publication/51992844/download>

Chernozhukov, V. and Hansen, C. (2004), "The Impact of 401(k) Participation on the Wealth Distribution: An Instrumental Quantile Regression Analysis", *Review of Economics and Statistics*, 86(3), 735-751. http://www.mit.edu/~vchern/papers/ch_401k.pdf

Chernozhukov, V. and Hansen, C. (2006), "An IV Model of Quantile Treatment Effects", *Econometrica*, 73(1), 245-261. http://www.mit.edu/~vchern/papers/ch_iqr_ema.pdf

Frolich, M., and Melly, B. (2010) "Estimation of quantile treatment effects with Stata," *Stata Journal*, 10, 423-457. http://ageconsearch.umn.edu/record/159033/files/sjart_st0203.pdf

- Kwak, D. (2010), "Implementation of instrumental variable quantile regression (IVQR) methods." <https://msu.edu/~kwakdo/ivqreg.pdf>
- Koenker, R., Hallock, K. (2001), "Quantile regression," *Journal of Economic Perspectives* 15(4), 143–156. <http://www.econ.uiuc.edu/~roger/research/rq/QRJEP.pdf>
- Koenker, R. (2005), *Quantile Regression*. Cambridge: Cambridge University Press.
- Montes-Rojas, G., Siga, L. & Mainali, M. (2017) "Mean and quantile regression Oaxaca-Blinder decompositions with an application to caste discrimination," *Journal of Income Inequality*, 15(3), 245-255. <http://gabrielmontes.com.ar/Montes-Rojas%20Siga%20Mainali%20JIE%202017.pdf>
- Wooldridge, J. (2012), *Econometrics Analysis of Cross-Section and Panel Data* (2nd edn), MIT Press. Ch. 12. https://jrvargas.files.wordpress.com/2011/01/wooldridge_j-2002_econometric_analysis_of_cross_section_and_panel_data.pdf

December 11th, 2018: Influence functions and RIF regression

Suggested bibliography

- Bitler, M. P., J. B. Gelbach, and H. W. Hoynes (2006). "What mean impacts miss: Distributional effects of welfare reform experiments." *American Economic Review*, 96(4), 988–1012. <http://www.nber.org/papers/w10121>
- Essama-Nssah, B. and Lambert, P.J (2015) "Chapter 6. Influence Functions for Policy Impact Analysis" In *Inequality, Mobility and Segregation: Essays in Honor of Jacques Silber Research on Economic Inequality*, Volume 20, 135–159. <https://www.emeraldinsight.com/doi/pdfplus/10.1108/S1049-2585%282012%290000020009>
- Firpo, S., Fortin, N.M. and Lemieux, T. (2009) "Unconditional Quantile Regressions," *Econometrica*, 77(3), 953-973. <http://www.nber.org/papers/t0339>
- Firpo, S., Fortin, N.M. and Lemieux, T. (2011) "Chapter 1. Decomposition Methods in Economics," in Orley Ashenfelter and David Card (eds.) *Handbook of Labor Economics*, Vol 4A, 2-102. <http://www.nber.org/papers/w16045>