

NONLINEAR PANEL DATA LECTURES

Manuel Arellano
January 2017

Outline

Tuesday, January 24, 3:30 – 5 pm

Lecture 1: Incidental parameters and fixed effects

1. Dealing with unobserved heterogeneity
2. The incidental parameter problem
3. Fixed effects fixed-T approaches
4. Identification problems

Thursday, January 26, 5:30 – 7 pm

Lecture 2: Random effects and bias-reduction

1. Random effects models
2. Dynamic discrete choice
3. Bayesian methods
4. Bias-reduction methods

Friday, January 27, 3:30 – 5 pm

Lecture 3: Quantile response and panel data

1. Quantile regression
2. QR with fixed effects in large panels
3. QR with random effects in short panels
4. Dynamic quantile models

Readings

Overviews

Chamberlain, G. (1984): "Panel Data", in Z. Griliches and M. D. Intriligator (eds.), *Handbook of Econometrics*, Vol. 2, Ch. 22, Elsevier Science.

Arellano, M. and B. Honoré (2001): "Panel Data Models. Some Recent Developments," in J. Heckman and E. Leamer (eds.), *Handbook of Econometrics*, Vol. 5, Ch. 53.

Arellano, M. and S. Bonhomme (2011): "Nonlinear Panel Data Analysis," *Annual Review of Economics*, 3, 395-424.

Identification issues

Honoré, B. and E. Tamer (2006): "Bounds on Parameters in Dynamic Discrete Choice Models," *Econometrica*, 74, 611-629.

Chamberlain, G. (2010): "Binary Response Models for Panel Data: Identification and Information," *Econometrica*, 78, 159-168.

Chernozhukov, V., I. Fernández-Val, J. Hahn, and W. Newey (2013): "Average and Quantile Effects in Nonseparable Panel Models," *Econometrica*, 81, 535-580.

Bias reduction

Hahn, J. and W. K. Newey (2004): "Jackknife and Analytical Bias Reduction for Nonlinear Panel Models," *Econometrica*, 72, 1295-1319.

Arellano, M. and J. Hahn (2007): "Understanding Bias in Nonlinear Panel Models: Some Recent Developments." In: Blundell, Newey, and Persson (eds.): *Advances in Economics and Econometrics*, Vol. III, Cambridge University Press, 381-409.

Arellano, M. and S. Bonhomme (2009): "Robust Priors in Nonlinear Panel Data Models," *Econometrica*, 77, 489-536.

Quantile methods

Arellano, M. (2014): "Uncertainty, Persistence, and Heterogeneity: A Panel Data Perspective," *Journal of the European Economic Association*, 12, 1127-1153.

Arellano, M. and S. Bonhomme (2016): "Nonlinear Panel Data Estimation via Quantile Regressions," *Econometrics Journal*, 19, C61-C94.

Arellano, M., R. Blundell, and S. Bonhomme (2016): "Earnings and Consumption Dynamics: A Nonlinear Panel Data Framework," Becker Friedman Institute Working Paper 2016-25.