M.Phil. Advanced Econometrics 1: Panel Data Methods

Prof Steve Bond

This course covers econometric methods for linear panel data models. The main focus is on estimation and specification tests for dynamic models, in the context of panels with large N and small T.

The most comprehensive textbook for this course is:

Arellano, M. (2003), *Panel Data Econometrics*, Oxford University Press.

Other textbook treatments include:

Baltagi, B.H. (2013), *Econometric Analysis of Panel Data*, 5th edition, Wiley

Cameron, A.C. and Trivedi, P.K. (2006), *Microeconometrics: Methods and Applications*, Cambridge University Press

Hsiao, C. (2014), *Analysis of Panel Data*, 3rd edition, Cambridge University Press

Wooldridge, J.M. (2010), *Econometric Analysis of Cross Section and Panel Data*, 2nd edition, MIT Press

The main material is also covered in:

Arellano, M. and Honore, B. (2001), 'Panel data models: some recent developments', in J.J. Heckman and E.E. Leamer (eds), *Handbook of Econometrics, Vol. 5*, North Holland.

Blundell, R.W., Bond, S.R. and Windmeijer, F. (2000) 'Estimation in dynamic panel data models: improving on the performance of the standard GMM estimator', in B.H. Baltagi (ed), *Advances in Econometrics Vol. 15: Nonstationary Panels, Panel Cointegration and Dynamic Panels*, JAI Elsevier.

Bond, S.R. (2002) 'Dynamic panel data models: a guide to micro data methods and practice', *Portuguese Economic Journal*, 1, 141-162 (also available as Cemmap Working Paper no. CWP09/02, http://cemmap.ifs.org.uk/wps/cwp0209.pdf).

Other references include:

Ahn, S.C. and Schmidt, P. (1995), 'Efficient estimation of models for dynamic panel data', *Journal of Econometrics*, 68, 5-28.

Anderson, T.W. and Hsiao, C. (1981), 'Estimation of dynamic models with error components', *Journal of the American Statistical Association*, 76, 598-606.

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Arellano, M. and Bond, S.R. (1991), 'Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations', *Review of Economic Studies*, 58, 277-297.

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Arellano, M. and Bover, O. (1995), 'Another look at the instrumental variable estimation of error-components models', *Journal of Econometrics*, 68, 29-52.

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Hansen, L.P. (1982), 'Large sample properties of generalized method of moments estimators', *Econometrica*, 50, 1029-1054.

Holtz-Eakin, D., Newey, W. and Rosen, H. (1988), 'Estimating vector autoregressions with panel data', *Econometrica*, 56, 1371-1395.

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Roodman, D.M. (2009), 'How to do xtabond2: an introduction to 'difference' and 'system' GMM in Stata', *The Stata Journal*, 9, 86-136 (earlier draft at http://www.cgdev.org/content/publications/detail/11619)

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Windmeijer, F. (2005), 'A finite sample correction for the variance of linear two-step efficient GMM estimators', *Journal of Econometrics*, 126, 25-51.