Outline of the master class:

Recent Developments in Panel Data Econometrics

DIW Berlin
21-22. September 2016

Jörg Breitung
University of Cologne

1. Objectives

The objective of the course is to present and discuss recent advances in the analysis of panel data models for micro and macroeconomic panel data. Empirical applications are considered using Stat, EViews/Stata and Matlab.

2. Contents

September, 21 14:00 – 17:30 h

1. **Analysis of microeconomic panel data**
   - 1.1 Linear static panel data models
     a) Fixed, random effects and mixture models
     b) Robust inference (robust cluster technique)
     c) Specification tests
   - 1.2 Nonlinear models:
     a) Incidental parameter problem
     b) Mundlak-Chamberlain approach
     c) ML based approaches
   - 1.3 Dynamic panel data models
     a) GMM based estimators (Arellano-Bond, system estimator)
     b) Bias-corrected estimators
     c) ML based estimators
   - 1.4 Models with heterogenous coefficients
     a) Robust OLS estimator
     b) GLS estimator
     c) Mean-group estimator

September, 22 9:00 – 12:30 h :

2. **Analysis of Macroeconomic Panel Data**

   2.1 Dynamic models with large N and T

   a) Asymptotic bias of WG and GMM estimators

   b) Bias-corrected estimators

   c) ML and factor analytic approaches

   2.2 Cross-section dependence

   a) weak vs. cross-section dependence

   b) tests for cross-section correlation

   c) panel-corrected standard errors and SUR estimation

   2.3 Factor-augmented panel data models

   a) Pesaran's CCE estimator

   b) Estimators based on principal components

Recommended preparatory reading:

- Baltagi, B., The Econometric Analysis of Panel Data, 2013 (3rd ed.), New York: John Wiley.
- Breitung, J. (2015), The Analysis of Macroeconomic Panel Data, Oxford Handbooks of Panel Data, B. Baltagi (ed.), Chapter 15, 453-492.
- Cameron, A.C. und Trivedi, P.K. Microeconometrics: Methods and Applications, 2005, Cambridge University Press, Chapter V.
- Wooldridge, J.M. Econometric Analysis of Cross Section and Panel Data, 2010 (2nd ed.) Cambridge: MIT Press