Professional Training Course

Panel Data for Banking Sector Analysts

@FBF_School

4 - 6 March 2020

Sala Europa - Villa Schifanoia, Via Boccaccio 121 - Florence

Instructors:

Jeffrey Wooldridge | Michigan State University

Introduction

The course will cover the basics of panel data analysis and some more advanced extensions, focusing mainly on microeconometric settings with a large number of cross-sectional observations.

The common estimators – random effects, fixed effects, and first differencing will be discussed, with emphasis on robust inference and specification tests. Extensions that allow heterogeneous slopes and trends, and instrumental variables methods, will also be covered. Estimation of dynamic models also will be covered. Fixed effects estimation and inference with a large number of time periods, applicable to more aggregated data, will also be treated. The problem of unbalanced panels and how to test for nonrandom sample selection will be covered. If time permits, nonlinear models for binary and nonnegative outcomes will be introduced.

The statistical package Stata will be used to illustrate all of the methods, including applications to the banking sector.

Programme

4 March

13. 30 - 13.45   *Welcome Coffee*

13.45 - 14.00   **Introduction by the Florence School of Banking and Finance and *tour de table***

14.00 - 15.30   **Session 1. OLS, Random Effects, Fixed Effects, and First Differencing**

- Pooled OLS Estimation
- Random Effects Estimation
- Fixed Effects Estimation
- First-Differencing Estimation

15.30 - 16.00   *Coffee break*

16.00 - 17.30   **Session 2. Choosing Among Estimators**

- Random Effects versus Pooled OLS
- Fixed Effects versus Pooled OLS
- Random Effects versus Fixed Effects
- Fixed Effects versus First Differencing

After the course *Social Activities outside the EUI (TBD)*

5 March

09.30 - 11.00   **Session 3. Practical Session**

- Applying POLS, RE, FE, and FD to Problems in Banking

11.00 - 11.30   *Coffee Break*

11.30 - 13.00   **Session 4. Instrumental Variables Methods**

- Pooled IV
- RE IV Methods
- FE IV Methods
- Specification Tests
- First Differencing and IV

13.00 - 14.00   *Lunch break*

14.00 - 15.30   **Session 5. Estimation Under Sequential Exogeneity**

- Estimation Under Sequential Exogeneity
- Static and Distributed Lag Models
- Autoregressive Models

15.30 - 16.00   *Coffee break*

16.00 - 17.15   **Session 6. Practical Session**

Applying Panel Data IV Methods and Dynamic Models to Problems in Banking

After the course *Social Activities outside the EUI (TBD)*

6 March

09.30 - 11.00   **Session 7. Random Trends, Random Coefficients, and Unbalanced Panels**

- Random Trend Models
- FE Estimation with Random Slopes
- FE Estimation with Unbalanced Panels
- RE Estimation with Unbalanced Panels
- Correlated RE Estimation with Unbalanced Panels

11.00 - 11.30   *Coffee Break*

11.30 - 13.00   **Session 8. Nonlinear Panel Data Models**

- Linear versus Nonlinear Models
- Approaches to Nonlinear Models
- Quantities of Interest: Average Partial Effects
- Assumptions for Nonlinear Models
- Binary/Fractional Response Panel Data Models
- Exponential Models for Panel Data

13.00 - 14.00   *Light Lunch*

14.00 - 16.00   **One – to – one practical session**

During this session, the instructor will be available to meet individually participants who wish to discuss specific topics with him