SPS 3rd term seminar 2019-2020

Panel Data Analysis

Given by Raffaele Grotti – raffaele.grotti@eui.eu

Day	Time	Room	Topic
April 16	10:00-15:00	Sala del Capitolo	Introduction, data structure and data handling
April 22	10:00-15:00	Emeroteca	More data handling & Data description
April 23	10:00-15:00	Emeroteca	Confounders & Between- and Random-Effects models
May 5	10:00-15:00	Villa Paola	Fixed-Effects models and tests & Distributed FE and FEIS (Fixed-Effects Individual Slope)
May 7	10:00-15:00	Villa Paola	Dynamic models & Students presentation

The seminar entails a total 20 hours, 4 hours per each day of class.

Register via Osiris (deadline for registrations: 8 April)

Contact: Monika.Rzemieniecka@eui.eu

Description

The increasing availability of longitudinal data, namely data in which the same units (often individuals) are observed over time (usually every year), provides researchers with many opportunities. For example, the longitudinal character of the data allows identifying the temporal order of events and life stages over the life-course, and allows controlling for unobserved confounders. These possibilities help social scientists in the difficult enterprise of estimating causal effects. At the same time, the complex structure of panel data requires advanced data management techniques, as well as specific methods for their analysis.

This seminar aims at providing the necessary skills for managing and analyzing panel data.

The seminar first introduces panel data, how to deal with their complex structure, and presents the main tools for descriptive analysis.
Then, we will cover the main estimators, including Random- and Fixed-effects models; we will discuss their pros and cons; and how to choose the more suitable estimator for our scope.
Next, we will discuss more advanced estimators.
Finally, students are asked to do an intermediate assignment in which they have to

work on data management and perform a set of analysis using the estimators presented. We will then discuss the assignment in the last class.

The seminar is practical and we will use Stata with simulated and real-life data.

The examination consists of the take home exam, using your own (preferred) or assigned data. The exam is supposed to build on the previous assignment. The exam is due on 1 June.

Students who intend to work with panel data for their dissertation are invited to use their own data for the assignment and the exam.

Literature

Primary resources

Halaby, CN. 2004 'Panel Models in Sociological Research: Theory into Practice'. *Annual Review of Sociology*, 30: 507-44.

Longhi, S & Nandi, A. 2015. *A Practical Guide to Using Panel Data*. SAGE Publishing. (Chapters 1-5, 9, 10)

Kohler, U., & Kreuter, F. (2012). *Data analysis using Stata. Third edition.* Stata press.

Rabe-Hesketh, S & Skrondal, A. 2012. *Multilevel and Longitudinal Modeling Using Stata.Volume I: Continuous Responses.* Stata Press. (Part III Introduction, Chapter 5)

Additional resources

Rabe-Hesketh, S & Skrondal, A. 2012. *Multilevel and Longitudinal Modeling Using Stata. Volume II: Categorical Responses, Counts, and Survival.* Stata Press. (Chapter 10)

The literature list above will be subject to updates, but it already provides the central texts for the seminar. A list of additional readings specific for each class will be available soon.