



SPS Workshop 2014-2015

Introduction to Panel Data Analysis

Given by Martin Ehlert (WZB)

20-22 May 2015

Please register [here](#).

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This workshop provides an introduction to the analysis of panel data. The growing availability of longitudinal micro data, i.e. repeated surveys of the same individuals at different points in time, offers many opportunities for social scientists. For example, panel data enables the researcher to study longitudinal processes such as labor market careers in greater detail. The repeated measurement allows assessing the temporal order of events and stages over the life course. Additionally, panel data facilitates the estimation of causal effects because it can be used to control for unobserved variables. Yet, panel data sets also require complex data management techniques. Additionally, special statistical methods have to be used to account for the structure of the data. The aim of this workshop is to provide an applied introduction to these topics. It will enable the participants to conduct own analyses of panel data using the statistical software package Stata. There will be several hands-on sessions during the workshop where the participants can apply the methods to data sets provided by the instructor or to their own data.

The workshop starts with an introduction to data management of panel data and descriptive statistics in the panel context to introduce the participants to the data structure. Then we will cover statistical methods geared towards panel data. This includes random and fixed effects regression as well as the (conditional) difference-in-difference approach. As part of the latter method the workshop will also briefly introduce matching techniques. We will discuss the relative advantages and pitfalls of these methods. The main focus will be on continuous dependent variables, yet we will also briefly cover nonlinear dependent variables such as binary outcomes. All of the techniques and methods will be introduced and illustrated using the software package Stata.

Prerequisites for this workshop are basic knowledge of data management and data analysis using Stata. Also, some experience with regression techniques in the cross-sectional context is needed as the introduced methods build on them. In order to be awarded the 10 workshop credits, participants will have to make an assignment that will be distributed on the second day of the workshop.

Schedule:

May 20th 3pm to 5.30pm

May 21st 10am to 4pm with a one hour lunch break

May 22nd 10am to 12.30pm

Introductory literature:

Kohler, U., & Kreuter, F. (2012). *Data Analysis Using Stata* (3rd Ed.). College Station, Texas: Stata Press.

Halaby, Charles N. „Panel Models in Sociological Research: Theory into Practice“. *Annual Review of Sociology* 30 (2004): 507–44.

Wooldridge, J. M. (2012). *Introductory Econometrics: A Modern Approach* (5th Ed.). Mason, OH: Cengage Learning.