

## **Panel data for assessing Fintech, financial inclusion and income per capita**

§Name of instructor

**Codruta Mare**, Babes-Bolyai University, Cluj-Napoca, Romania

§Short description

Longitudinal assessment of data is a must in macroeconomics, in order to be able to determine evolutions and interdependences. This course deals with the issue of panel data structures and their usage and application in FinTech, Finance and macro assessments in general. Due to the fact that panel data combine both cross-section and time effects, they require specific treatment in respect to the classical estimation methods. This course introduces the audience into the wide area of panel data by discussing the diversity of panel data properties that require special types of methodological approaches, in a simple to complex approach.

Case studies will be conducted in R & STATA.

Students will be guided through the different panel data analysis methods required by specific features of a dataset. Students will learn the basic techniques to analyse, model and interpret business and economic panel data. On one hand, the course will provide a broad training in basic methods and tools. On the other hand, students will learn practical applications to real economic and business problems using those approaches. Particular emphasis is placed on the careful interpretation of numerical results and understanding the implications of these results for economic policy and business decision-making.

§ Schedule

1. Panel data - structures and features
2. Pooled OLS models
3. Classical panel data models; effects in panel data
4. Treating autocorrelation in panel data - dynamic panel data
5. What next? - spatial panel data

§ Background

Cross-section and time series analysis methods

§ Resources

- Wooldridge, J. M. Introductory Econometrics: A Modern Approach (there are several editions - any of them is ok)
- Baltagi, B. H. Econometric analysis of panel data (there are several editions - any of them is ok)
- Baltagi, B. H. (Ed.). (2015). The Oxford handbook of panel data. Oxford University Press.

- § Facilities Required
- Software: R & STATA
  - Course Materials