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Applied Econometrics

(Module 07-101-5227)

Lecture: Thu, 11.15-12.45, SR 16 (I 315); start: Oct 12

Tutorial: Wed, 9.15-10.45, CIP 3; start: Oct 18; instructors: Jordan Adamson, Frank Simmen

Aims and scope

This class follows an intuitive hands-on approach to impart a selection of topical econometric methods representing central prerequisites for quantitative research in economics. It builds on fundamentals as covered in mandatory introductory modules such as “*Ökonometrie*.” Application-oriented computer work is a crucial element of this course. To this end, statistical software package *Stata* (based on C) and packages based on R will be used. A central aim of this class is to prepare students to run their own empirical projects relying on sound and timely econometric techniques, e.g., within the scope of their bachelor theses.

Audience

Students enrolled in in the Bachelor of Science “*Wirtschaftswissenschaften*” program having passed module “*Ökonometrie*” and Erasmus-program students with some econometrics/statistics background.

Grading and material

Grades will be obtained from writing a term paper based on a quantitative research project and a preceding oral presentation. Passing grants students 5 ECTS credit points. Detail on requirements for papers is communicated in class. Problem sets and data will be online with more detail given in the accompanying computer-lab tutorial. A list of potential term paper projects will be provided

Outline

- I Classical linear regression model (CLRM) I
- II Classical linear regression model (CLRM) II
- III Replication study #1: Ordinary Least Squares (OLS)
- IV Omitted variable bias (OVB) and 2-stage least squares (TSLS)
- V Replication study #2: Panel data models
- VI Time series analysis: filtering
- VII Time series analysis: AR(1)MA and GARCH models
- VIII Time series analysis: VAR models

Literature

- Asteriou, D.; Hall, S.G. (2021): Applied Econometrics (4th ed), Palgrave Macmillan
- Further material will be given during class/tutorial

Papers for our projects and replication studies

Acemoglu, D. et al. (2008): Income and democracy, *American Economic Review* 98, 808–842

Bryant, C. and B. Süßmuth (2019): Is the relationship of wealth inequality with the real, financial and housing cycle country specific?, *Atlantic Economic Journal* 47, 323–341

Easterly, W. and R. Levine (2016): The European origins of economic development, *Journal of Economic Growth* 21, 225–257

Fama, E.F. and K.R. French (2004): The capital asset pricing model: theory and evidence, *Journal of Economic Perspectives* 18, 25–46

Harvey, D.I. et al. (2010): The Prebisch-Singer Hypothesis: four centuries of evidence, *Review of Economics and Statistics* 92, 367–377

Süßmuth, B. (2021): The mutual predictability of Bitcoin and web search dynamics, *Journal of Forecasting* 41, 435–454