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# Applied Econometrics

(Module 07-101-5227)

Lecture: Thu, 11.15-12.45, SR 16 (I 315); start: Oct 13

Tutorial: Wed, 9.15-10.45, CIP 3; start: Oct 12; 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. 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