

## APPLIED MICROECONOMETRICS

### Organization

**Lectures:** Prof. Steiner

**Tutorials:** Sebastian Schmitz ([sebastian.schmitz@fu-berlin.de](mailto:sebastian.schmitz@fu-berlin.de))

**Dates:** Tuesday, 14:30 – 16:00 (weekly lectures); *starting date:* Tuesday, 19<sup>th</sup> April  
Wednesday, 8:30 – 10:00 (biweekly tutorials); *starting date:* Wednesday, 27<sup>th</sup> April

**Venue:** FU Berlin, Garystr. 21, HS 106 (lectures), K006 PC-Pool 1 (tutorials)

### Aim and contents of the course

The aim of applied microeconometrics is to analyze individual behavior on the basis of micro data (cross-section and panel data) of individuals, households, and firms. The standard linear regression model is generally not applicable to micro data due to the non-metric measurement and censoring of dependent variables at the individual level, selectivity and incomplete observability of endogenous variables, and the dependence of individual observations over time. The empirical methods most frequently applied in empirical microeconomics are surveyed and several applications in empirical microeconomics are presented. Students learn how to apply these methods using real-world micro data and the software package STATA.

### Requirements and grading

The course is appropriate for MA and PhD students specializing in empirical microeconomics with some basic knowledge in econometrics. There is a “refresher” course on the required mathematical/statistical material and the linear regression model for students requiring some backup (see **Precourse Quantitative Methods**).

The course is mandatory for the **Master in Public Economics** program under the new StO and counts as elective course (Wahlfach) for the **Master Economics** and the **Master of Statistics** programs. It also counts as elective course in the **BDPEMS**. Grading will be based on the **final exam** which may be written in English or German. For **BDPEMS** students, an empirical research paper is also required.

### Text books

M. Verbeek, A Guide to Modern Econometrics (4 ed.), Wiley, 2012.

A. C. Cameron and P. K. Trivedi, Microeconometrics. Methods and Applications, Cambridge University Press, 2005

W. H. Greene, Econometric Analysis (7 ed.), Pearson, 2012, Chapters 11 and 17-19.

J. M. Wooldridge, Econometric Analysis of Cross Section and Panel Data, MIT Press, 2 ed. 2010

**Lecture slides** and **selected journal articles** on empirical applications will be made available at the course blackboard. /.

# Syllabus

## 1. Review of the Linear Regression Model

- 1.1. Least Squares Estimation using cross-section data
- 1.2. Endogenous Regressors and Instrumental Variable estimation

## 2. Discrete Choice Models

- 2.1. Binary Logit and Probit models
- 2.2. Multinomial and Conditional Logit models
- 2.3. Ordered Logit and Probit models

## 3. Limited-Dependent Variable Models

- 3.1. Tobit models
- 3.2. Selection models
- 3.3. Treatment-effects estimation
- 3.4. Duration models

## 4. Panel Data Models

- 4.1. Static linear fixed-effects and random-effects models
- 4.2. Dynamic linear models
- 4.3. Non-linear fixed-effects and random-effects models
- 4.4. Models for repeated cross-section data (*if time allows*)