

MICROECONOMETRICS II

Organisation

Lectures: Prof. Steiner

Classes: Dr. Peter Haan (phaan@diw.de)

Dates: Weekly, Tuesday, 14.00 – 15.30 (Lectures), 16.00 – 17.30 (Classes)
Starting: 5th June; *Ending:* 17th July; *Written exam:* Friday, 27th July, 14.00 – 15.00

Venue: DIW Berlin, Q110, Mohrenstraße (close to Gendarmenmarkt).

Aim and contents of the course

The aim of microeconometrics is to analyze individual behavior on the basis of micro data (cross-section and panel data) of individuals, households, and firms. The course is appropriate for advanced students specializing in econometrics as well as for doctoral students specializing in empirical microeconomics. Basic knowledge of the theory of estimation and testing in econometrics, including IV, GMM and ML estimation, as well as the material taught in the course **Microeconometrics I** is assumed. Topics include: discrete-choice analysis, dynamic linear and non-linear panel data models, censored regression models and duration analysis, and selection and treatment-effect models. Applications of these models to a variety of empirical topics are given in classes. All lectures and classes are given in English.

Requirements

Students are expected to attend all lectures and classes. To keep up with the material presented in the lectures and classes, students with little background in econometrics will also have to spend continuously substantial time (point estimate: 4 hours/week) on digesting the material at home. Students are expected to write a research paper applying one of the methods covered in this course. The research paper (not more than 15 pages) has to be completed by 15th August.

There will be a **final exam** (60 minutes) covering material from both the lectures as well as the applications. The exam may be written in English or German. The empirical application will contribute 50% to the final grade.

2 credit points can be obtained for this course counting for Econometrics as “Pflichtveranstaltung“ or for Economic Policy (“Volkswirtschaftspolitik”) as “Wahlveranstaltung”. The course can be combined with Microeconometrics I to obtain 4 credit points in either of the two mentioned subjects. This course, or alternatively Microeconometrics II, also counts for the microeconometrics part of Econometrics II in the **Berlin Graduate Program in Economics and Management Science**.

Literature

The lectures are mainly based on:

W. H. Greene, *Econometric Analysis* (5th ed.), Prentice Hall, 2003, Chapters 13, 21 and 22.

Some additional material presented in the course, and much more, is also contained in the more advanced textbooks:

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

J. M. Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, MIT Press, 2002.

The material presented in the course is also made available in lecture notes downloadable for students from the Blackboard for this course. There, you will also find some additional material, such as data sets, exercise sheets, additional references and downloadable papers, and news concerning the course.

Syllabus

1. Discrete Choice Models II

- 1.1. Nested Logit Model
- 1.2. Mixed and Random Coefficient Logit Models
- 1.3. Multivariate and Simultaneous Probit Models

Application 1: Empirical Analyses of Transport Choice

2. Panel Data Models II

- 2.1. Extensions of the Linear Panel Data Model (IV estimation)
- 2.2. Dynamic Linear Panel Models
- 2.3. Non-Linear Fixed and Random Effects Models

Refresher: IV and GMM Estimation

Application 2: Dynamic Models of Female Labor Force Participation

3. Duration Models

- 3.1. Continuous-time models
- 3.2. Discrete-time models

Application 3: Analyzing Unemployment Duration Data

4. Selection Models and the Estimation of Treatment Effects

- 4.1. Econometric selection models and treatment effects
- 4.2. Propensity-Score Matching

Application 4: Evaluation of training Programs