



Aachen International
Summer School
in Research Methods

RWTHAACHEN
UNIVERSITY

6TH AACHEN INTERNATIONAL SUMMER SCHOOL IN RESEARCH METHODS AND DATA SCIENCE (ACISS)

**APPLIED ADVANCED ECONOMETRICS:
METHODS FOR PANEL DATA**

UNIV.-PROF. DR. ALMUT BALLEER

School of Business and Economics
MOE Research Area | Applied Economics (**EWIFO**)

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SUMMER 2020

COURSE OVERVIEW

Course Name:	Introduction to Applied Advanced Econometrics
Degree Programmes:	<ol style="list-style-type: none"> 1. Post-Docs and PhD students 2. Master BWL (all specializations): MSBWL10, MSBWL13 Master Wirtschaftswissenschaften (all specializations): MSWiWi10, MSWiWi14 Master Wirt.-Ing. (MSWiBau, MSWiEET, MSWiWPT, MSWiMB, all specializations): MSWi10, MSWi15
Lecturer:	Univ.-Prof. Dr. Almut Balleer
Contact:	Mail: balleer@ewifo.rwth-aachen.de
Location and Time:	Templergraben 64, Room 518 (WiÜ) 21 September to 25 September, 6 hours attendance daily
Content Description:	This course introduces the econometric methods needed for the analysis of panel data and teaches the implementation application of these methods using the econometric software STATA. The goal of the course is both to be able to replicate and evaluate the output of applied academic articles and to design and conduct an empirical study.
Qualification Objectives:	After participating in this course, students should be in a position to: <ul style="list-style-type: none"> - Evaluate empirical research critically - Conduct their own empirical studies
Literature:	See readings below
Course Examination:	Presentation of empirical project (part of dissertation or master thesis); alternatively presentation of assigned research article Applied class exercises (master students need to hand these in at the end of the week)
Participation Requirements:	There are no formal requirements for this course, but it will be assumed that all students are familiar with basic Statistics and Econometrics. There will be a short recap of the relevant parts of Statistics and Econometrics at the beginning of the course. In addition, the literature references below provide sources for preparatory reading on the principles of Econometrics.
Group Size:	20 participants (max)
Workload:	30 hours of lecturing, discussion, and exercise work 120 hours additional individual preparation (depending on previous knowledge and experience)
Type of Teaching Event:	Lectures, discussions, and exercise sessions
Language:	English
Credits:	5

COURSE DESCRIPTION

This course introduces the econometric methods needed for the analysis of panel data and teaches the implementation application of these methods using the econometric software STATA.

After participating in this course, students should be in a position to:

- Replicate and evaluate empirical research critically
- Design and conduct their own empirical studies

PARTICIPANTS AND REQUIREMENTS

Participants

1. Post-Docs and PhD students
2. Master BWL (all specializations): MSBWL10, MSBWL13
Master Wirtschaftswissenschaften (all specializations): MSWiWi10, MSWiWi14
Master Wirt.-Ing. (MSWiBau, MSWiEET, MSWiWPT, MSWiMB, all specializations): MSWI10, MSWI15

Due to the interactive teaching format, the number of participants is limited to 20. Advanced master students are invited to participate, but preference will be given to PhD students

Requirements

There are no formal requirements for this course, but it will be assumed that all students are familiar with basic Statistics and Econometrics. There will be a short recap of the relevant parts of Statistics and Econometrics at the beginning of the course. In addition, the literature references below provide sources for preparatory reading on the principles of Econometrics.

GRADING

I: Presentation of your own empirical research project. Alternatively, presentation of an empirical paper that I will assign (15 minutes)

II: Students are asked to complete applied assignments in class. The applied assignments can encompass (parts of) your own empirical study (master thesis, paper for your dissertation). Alternatively, I will assign concrete exercises and research articles to be replicated.

Passing grades can only be granted to students who have not missed more than 20% of total class time.

STRUCTURE OF THE COURSE

The course consists of three parts: Lectures that cover the methodological background, discussion sessions in which we discuss your own research and existing applied articles, and exercise sessions in which panel data estimation methods are applied using Stata. For the exercise sessions, you should bring your own computer. PhD students should bring their own license (please contact us if this is problematic). For master students, we can provide student licenses (please contact us well in advance if you need a license).

OVERVIEW OF THE METHODS COVERED

1. Reviewing basic methods
 - 1.1. The OLS estimator
 - 1.2. Model specification
 - 1.3. Hypothesis testing
 - 1.4. Heteroscedasticity
 - 1.5. Endogeneity
2. Estimation using panel data
 - 2.1. Pooled repeated cross-section
 - 2.2. Fixed effect estimation
 - 2.3. Random effect estimation
 - 2.4. (Dynamic panels)
3. Discrete choice in panel data
 - 3.1. Probit, logit, tobit
 - 3.2. Heckman selection models

LITERATURE

1. Applied research articles from economics and business administration (all areas): still to be assigned, you can also suggest articles of your own (if relevant for your PhD or master thesis for example) but should check with me first
2. Textbooks
 - Jeffrey M. Wooldridge: Econometric Analysis of Cross-Section and Panel Data
 - Angrist, J. and J. Pischke: Mostly Harmless Econometrics
 - Cameron, A. Colin and Pravin K. Trivedi: Microeconometrics
 - Badi H. Baltagi: Econometric Analysis of Panel Data
3. Literature to refresh Principles in Econometrics
 - Stock, James H., und Mark W. Watson: Introduction to Econometrics
 - Wooldridge, Jeffrey: Introductory Econometrics: A Modern Approach
 - Judge, George G. et al: Introduction to the Theory and Practice of Econometrics
 - Greene, William H.: Econometric Analysis

Contact Details

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