Empirische Ökonomie für Fortgeschrittene

1. Introduction

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Outline

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2. Introduction
   - Why Empirical Economics?
   - Examples
   - Causality vs. Correlation
   - Forecasts
   - Data Sources
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Organisation

Literature

  Stock and Watson Internet Student Resources

  Wooldridge Internet Student Resources
All material concerning lectures and classes can be found on the Lehrstuhl website:

http://www.iwb.vwl.lmu.de/
⇒ Lehre
⇒ Empirische Ökonomie für Fortgeschrittene

Lecture notes will be available one or two days before the relevant lecture.
They are password protected.
Organisation

Classes

Classes will be held in the Computerpool.
Address: Ludwigstr. 28/Rgb., EG, CIP-Labor

Times:

- Monday 16:00 s.t. - 17:30 (Thorsten Hansen)
  First class: See note next page
- Tuesday 8:00 s.t. - 9:30 (Francesca Fabbri)
  First class: 21.10.2004
- Wednesday 12:00 s.t. - 13:30 (Thorsten Hansen)
  First class: 22.10.2004
NOTE: The Monday class will NOT take place in October. In October, students who want to regularly attend the Monday class should come either to the Tuesday or the Wednesday class in the month of October. The Monday class will then take place regularly from the 3rd November onwards.
Organisation

Classes

Software  We will work with STATA in the CIP-Labor. University computer labs are equipped with STATA. The student version costs $\sim 100$ Euro inkl. MwSt. for Intercooled Perpetual Licence without Upgrade and without manuals. (DPC).

Exercise sheets  Please download them (Übungsblätter) as well as the related data sets from the course Homepage. The solutions will be made available for download only after we have worked through the relevant exercise sheet. A STATA tutorial by Stock and Watson is available on the course webpage.
Communication and Feedback:
After lecture, after class, office hours, email.

Office Hours:
Francesca Fabbri: Monday 9-10 Uhr.
Thorsten Hansen: Wednesday 10-11 Uhr.

Email:
Francesca Fabbri: f.fabbri@lmu.de
Thorsten Hansen: thorsten.hansen@lrz.uni-muenchen.de
Examination
The structure of the exam will resemble the exercises provided in the classes.
Questions related to the use of STATA will be included in the exam.
We will solve a mock exam (Probeklausur) in the lecture before Christmas.
Why Empirical Economics?

- We need **quantitative information** to answer crucial questions in economics and social sciences.
- Research in empirical economics has greatly expanded thanks to the availability of new data sets and the increasing computer capability and speed.
- A decisive competitive advantage of economists is their ability to work quantitatively.
- In this course we will learn some of the most important methods in empirical economics research.
Examples

1. How does advertisement affect a company’s sales?
2. Does imposing a minimum wage have an effect on unemployment?
3. Does increasing police force reduce crime rates? Is the effect the same for violent and property crimes?
4. How elastic is the demand of cigarettes?
5. How will Germany’s GDP and inflation rates do in the next couple of years?
Causal Effects

The **core issue** of empirical research is to distinguish between 
causal relationships and simple correlations. Let’s go back to Example 1:

- Using a survey of firms we discover that firms with high volumes 
of sales spend less in advertising.
- Can we then conclude that a lot of advertising causes sales to 
sink?
- Surely not: maybe firms with high volumes of sales sell higher 
  quality products. Therefore they can still sell larger volumes 
  even advertising less.

Most of this course will deal with a set of methods which help 
disentangling between simple correlation and causal relationship.
Example 5, which deals with the future trends of German GDP and inflation, is a forecast problem. A useful forecast model does not need to be based on causal relationships. For a reliable forecast simple correlations are sufficient. In a later lecture we will deal with some special forecast model.
Data Sources

We will mainly look at data sets coming from two sources:

- Observational (survey) data
- Experimental data

Example (Experiment): applicants are randomly chosen for a training program; the subsequent performance of the participants is then compared to that of the rejected applicants.

For many interesting economic questions only survey data are available. Experimental data have a decisive advantage with respect to survey data: it is much easier to identify causal effects.
Data Structure

We will work with three types of data sets:

- Cross-sections
- Time series
- Panel Data

Cross-sections: contain observations on individuals, firms, industries, etc. at a specific point in time.

Time series: contain observations on a variable or set of variables at different points in time.

Panel Data: contain a series of observations from each cross-sectional unit at different points in time.

For reasons we will discuss during the course, panel data are usually the preferable data structure.
Course Outlook

Chapter 2  Multiple Regression
Chapter 3  Specification Issues in Multiple Regression Analysis
Chapter 4  Panel Data
Chapter 5  Instrumental Variables
Chapter 6  Experiments and “Natural Experiments”
Chapter 7  Discrete and Limited Dependent Variables
Chapter 8  Heteroskedasticity and Autocorrelation
Chapter 9  Time Series and Forecasts