

Description

651 - Empirical Economics, Fall 2018

Course Description

Economists study the behavior of individuals, firms, and aggregates. Economic models provide ways to think about how agents act. Data allow us to quantify these relationships and test competing models against each other. The course provides a link between economic theory and observations from the real world. In doing so we cover a number of commonly used empirical methods. The focus will be on the practical applications of these methods and interpretation of the results.

Intended Learning Outcomes

At the end of the course, students should:

- Understand how economic theory can guide empirical analysis
- Be able to perform and evaluate cross-sectional analysis
- Be able to perform and evaluate panel data analysis
- Understand how instrumental variables can address some empirical concerns

Course structure

The course consists of 17 lectures (including one review lecture) and 7 seminars. The aim of the lectures is to teach the basics of econometrics and sound research practice when doing empirical work. The aim of the seminars is to provide intuition for the topics taught in the lectures and in the textbook. The seminars also allow students to work with the statistical software STATA and provide valuable “hands on” experience with empirical work. Neither the lectures nor the seminars are mandatory. However, participation in the first seminar is strongly encouraged as student pairs for the assignments will be formed during the first seminar, and since there will be an introduction to working with STATA.

Advice for students

The course requires students to understand a set of ideas rather than memorizing facts. Since the ideas taught toward the end of the course build upon the ideas in the early part, we strongly encourage students to put in effort right from the start, and not wait until the last weeks before the exam.

Course team

Erik Lindqvist (Course director and teacher), erik.lindqvist@hhs.se

Andrew Proctor (Teaching assistant), andrew.proctor@phdstudent.hhs.se

Idha Hobro (Administrative assistant), idha.hobro@hhs.se

Contact with teachers

We prefer that students use the lectures and seminars to contact the teaching staff. In case you want to contact a teacher outside of teaching hours, send a mail and we will do our best to respond to your questions or set up a meeting.

Course material

The course material consists of lecture notes and the course textbook, *Introductory Econometrics: A Modern Approach* by Jeffrey M. Wooldridge, sixth edition. The content in of the sixth edition does not differ much from the fifth and fourth editions, and if you have one of these you will do fine.

Lectures

Each lecture is given twice. You are free to go to whichever lecture you find most suitable. However, you should be aware that the lecture in each "lecture group" will start where the last one ended. Since the pace may differ somewhat between lecture groups, there is a chance that you will hear something twice or miss something in case you switch groups.

Lecture	Topics	Reading in Wooldridge
1	Course outline Introduction to empirical economics Experiments in economics	Ch. 1
2	The simple regression model	Ch. 2
3	Multiple regression: Estimation	Ch. 3
4	Multiple regression: Inference	Ch. 4
5	Multiple regression: Applications	
6	Multiple regression: <u>Asymptotics</u>	Ch. 5
7	Multiple regression: Further issues	Ch. 6
8	Multiple regression: Qualitative information	Ch. 7
9	<u>Heteroskedasticity</u>	Ch. 8
10	Introduction to Time Series Data	(Ch. 10-12)
11	Simple Panel Data Methods	Ch. 13
12	Advanced Panel Data Methods	Ch. 14
13	Advanced Panel Data Methods	Ch. 14
14	Instrumental Variables (IV)	Ch. 15
15	Instrumental Variables (IV)	Ch. 15
16	More on Specification and Data Issues	Ch. 9
17	Review lecture	

Seminars

There will be three or four different seminar groups depending on the total number of students. Unlike the lectures, we require students to stick to the seminar group to which they are registered. Requests to change seminar groups will be handled by the respective seminar teacher.

There will be two types of seminars: five seminars in the PC labs (1-2, 4, 6-7) and two case-based seminars (3 and 5). Both types of seminars aim to provide a learning environment with larger scope for student involvement compared to the lectures, but the focus is different.

The seminars in the PC labs focus on understanding the course material through empirical exercises using the statistical software Stata. The seminars will cover the key issues discussed in class during the preceding lectures.

The case-based seminars aim to provide an opportunity to reflect on and discuss research papers. For each seminar there will be one paper. All students are required to have read this paper beforehand and prepared to give a 10-minute presentation of the paper, covering topics such as the question asked, the data used, the estimation strategy and the credence of the results. The non-presenting students are expected to be able to discuss the paper following the presentation.

Participation in the seminars is not mandatory, however:

1. Participation in the first seminar is highly recommended since the basics of Stata (needed to solve the Stata assignments) will be discussed.
2. **Active** participation in the two case-based seminars give 2 points each. To be considered "active" a student must have read the paper in question and be prepared to discuss it in class.

Seminar	Location	Topics	Reading
1	PCLab1	Introduction to Stata + simple regression	Ch. 1-2 in Wooldridge
2	PCLab1	Simple and multiple regression	Ch. 2-4 in Wooldridge
3	328	Case 1: Multiple regression	Ch. 1-8 in Wooldridge + assigned papers
4	PCLab1	Multiple regression (various issues) <u>Heteroskedasticity</u> Basic time series	Ch. 1-8 in Wooldridge + Time series lecture notes
5	328	Case 2: Differences-in-differences	Ch. 13 in Wooldridge + assigned papers
6	PCLab1	Panel data	13-14 in Wooldridge
7	PCLab1	Instrumental variables	15 in Wooldridge

Grading

The maximum score on the course is 100. The Stata-based assignments give a maximum of 5 points each, except for the last assignment that gives 3 points (18 points in total). Active participation in each of the case-based seminars gives 2 points (4 points in total). The maximum score on the mid-term exam is 8 points and the final exam gives a maximum of 70 points. We follow the grading guidelines set out by the school (A: 85-100; B: 70-84; C: 55-69; D: 52-54; E: 50-51; F: 0-49).

Stata assignments

There will be four assignments in the course. The deadlines for handing in the assignments **are September 12th and 26th, and October 10th and 17th**. Because the deadline for the last assignment is close to the exam, it will be less extensive compared to the first three. Each of the first three assignments gives a maximum of 5 points each, whereas the last assignment gives a maximum of 3 points. Solutions handed in after **20.00** will not be accepted.

The assignments should be solved in teams of two students. Students are allowed to form their own teams within (but not across) seminar groups. In the event that some students are unable to find a partner, the seminar teacher will facilitate the formation of groups in the first seminar. In case there are an odd number of students in the seminar group, a team of three students will be formed. We require each group to hand-in a unique solution (one solution per group). Copy-paste from fellow students or other sources is not allowed.

Completed assignments should be submitted through the online portal. Answers to the written exercises should be typed. Pictures of handwritten exercises taken from a camera (or smartphone) will not be accepted. Answers to the Stata-based exercises should be submitted in the form of a well-commented Stata log file that contains your code, output, and discussion of results.

Stata commands needed to solve each assignment will be discussed in the seminars prior to the assignment due date, as well as key interpretations issues invoked by the assignment. Seminar presentation slides will be made available to students for reference while completing the assignment.

We aim to publish the solutions to each assignment on the course webpage within a day after the deadline.

Mid-term exam

The mid-term exam takes place on **September 18th, 08.00-10.00 in room 720 and 750** (the allocation of students to rooms will be announced in due time before the exam). The exam will consist of multiple-choice question on the material covered in the first **eight** lectures of the course (**chapter 1-7 in Wooldridge**). The result on the mid-term exam gives a maximum of **8 points** to the final score on the course.

Old exams

We will post examples of old exams on the course web page toward the end of the course. There will be suggested solutions to some, but not to all, old exams.

Literature

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Examination

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Grading

The maximum score on the course is 100.

- Assignments give a total of 18 points (5 + 5 + 5 + 3)
- Case-based seminars 4 points (2 + 2)
- Mid-term exam 8 points
- Final exam 70 points

We follow the grading guidelines set out by the school (A: 85-100; B: 70-84; C: 55-69; D: 52-54; E: 50-51; F: 0-49).

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