Introduction to Econometrics

Lecturer: Dali Laxton

Dates: 24.09.2021 – 07.01.2022

Lectures, Seminars: Friday 9:00 – 11:50

Office hours: Saturday 17:00-18:00 (online by appointment)

Course Description

The course is designed to give students experience of using basic econometric methods important in economics and other business subjects. It provides skills in regression essential for understanding much of the literature of economics, finance, and empirical studies in other areas of business.

The main textbook:

- Wooldridge, J.M. *Introductory Econometrics – A Modern Approach*. 5th ed. Michigan State University, 2013. ISBN-13: 978-1-111-53104-1.
- Studenmund, A. H. (2011): Using Econometrics: A Practical Guide. 6th Edition, Pearson Addison Wesley. ISBN: 978-0-13-136773-9.

Pre-requisites

Basic matrix algebra, elementary probability and mathematical statistics.

Course objectives

The course is designed to give students experience of using econometric methods important in economics, finance and other business subjects. It provides skills in regression essential for understanding much of the literature of economics, finance, and empirical studies in other areas of business.

We begin with the simple regression and multiple regression models. They are treated in depth and in range of applications. Careful attention is given to the interpretations of regression results and hypothesis testing. A part of the course introduces various modern tools for analyzing economic time series regression. Moreover, further topics in regression analysis are presented including regression with panel data and binary dependent variable.

By the end of the course, students should be able to use regression models in many different applications and to critically examine reported regression results in empirical research in economics and other business studies. They will be able to identify and deal with a number of econometric problems in the analysis of time series and cross-section data and will have experience of a range of basic econometric methods.

The course is designed to give students an understanding of why econometrics is necessary and to provide them with a working knowledge of basic econometric tools so that: they can apply these tools to modelling, estimation, inference, and forecasting in the context of real-world economic problems; they can evaluate critically the results and conclusions from others who use basic econometric tools; they have a foundation and understanding for further study of econometrics and they have an appreciation of the range of more advanced techniques that exist and that may be covered in later econometric courses

Grading (Tentative)

Quizzes/Home assignment: 40 %

You will have 2 quizzes (account for 10 points) – 1 before exam and 1 afterwards. There will be two home assignments as well that accounts for 10 points each. These exercises will enhance your problem-solving skills and prepares you for exams.

Midterm exam: 30 %

The midterm exam will take place during regular class on November 12th. You are not allowed to use any textbook, any notes or electronic devises. There will be no make-up for the midterm exam.

Final Exam/Project: 30 %

Final exam will take place on **December 17th**. There will be two make-up exams for the final exam (dates TBA).

Grade distribution:

A: 85 – 100

B: 70 - 84

C: 60 – 69

D: 50 – 59

F: 0 – 49

NOTE: The maximum latter grade in make-up exam is **B**.

Outline

(This is a tentative schedule to be updated based on students' progress.)

1. Introduction to econometrics and working with data

2. A non-technical introduction to regression

3. Simple regression model

4. Multiple regression model

5. Freeing up the classical assumptions – heteroskedasticity

6. Instrumental variables method

7. Qualitative choice and limited dependent variable models

8. Regression with time series variables

9. Vector autoregressive models

10. Models for panel data

11. Other models, methods and issues