Econometrics I (20844)

Degree/study: ADE/E Grau
Course: 2
Term: third
Number of ECTS credits: 5.0 credits
Hours of student's dedication: 125 hours
Language or languages of instruction: English and Catalan
Professors: Christian Fons-Rosen and Stephan Litschig

1. Presentation of the subject

Econometrics I teaches how to make quantitative inferences about causal effects using cross-sectional experimental and observational data. Most of the course focuses on multiple regression analysis as a way to mitigate bias, particularly in observational studies.

2. Competences to be attained

This first econometrics course will allow the student to be familiarised with the basic foundations of regression analysis and its principal problems. All this, combined with a rigorous analytical perspective and a wide array of practical examples, solved with the help of a standard econometrics software.

3. Contents

Review of Statistics, Estimation and Inference for Bivariate Regression, Omitted Variable Bias, Estimation and Inference for Multiple Regression, Non-linear Regression Models, Reverse Causality Bias, Measurement Error Bias, Sample Selection Bias.

4. Assessment

June session: Mid-term exam: 40%; Final Exam: 60%.

July session: Final Exam 100%.

There will be weekly problem sets involving at least one empirical exercise. The problem sets do not count towards the course grade but help prepare for the mid-term and final exams. The data for the problem sets are available on the course website.

5. Bibliography and teaching resources

J.H. Stock and M.W. Watson, *Introduction to Econometrics* (second or third edition, US or international), Addison-Wesley. The second edition is fine but the third edition is recommended. The textbook is available at steep discounts from various online retailers, such as www.abebooks.com. We strongly advise you to buy this textbook, not only for this course, but for Econometrics II and other courses and not least for future reference. The third edition is also available in Spanish, for example on Amazon.

6. Methodology

Combination of lectures (theory classes) and practical sessions involving theoretical and data exercises.

The course statistical software is Stata, which is available on UPF computers. You should consult our Stata guide to familiarize yourself with this software.

7. Activities Planning

				Readings:	Problem Sets:	
Class #	**Date**	**Day**	**Topic**	**SW Ch. #**	**Posted**	**Solution**
1	March 31	Mon	Introduction and review of probability and statistics	2,3		
2	April 1	Tue	Review of probability and statistics	2,3	PS#1	
	April 2/3	Wed/Thu	Practical sessions groups 1 and 2: Stata Tutorial			
3	April 7	Mon	Bivariate regression I: Estimation	4		
4	April 8	Tue	Bivariate regression II: Estimation	4	PS#2	
	April 9/10	Wed/Thu	Practical sessions group 1 and 2: PS#1 Solutions			PS#1
	April 14	Mon	No class			
	April 15	Tue	No class			
	April 16/17	Wed/Thu	No practical sessions			
	April 21	Mon	No class			
5	April 22	Tue	Bivariate regression I: Inference	5		
	April 23	Wed	No practical sessions group 2			
	April 24	Thu	Practical sessions group 1: PS#2 Solutions			PS#2
6	April 28	Mon	Bivariate regression II: Inference	5		
7	April 29	Tue	Multiple regression I: Estimation	6	PS#3	
	April 30	Wed	Practical sessions group 2: PS#2 Solutions			PS#2
	May 1	Thu	No practical sessions group 1			
8	May 5	Mon	Multiple regression II: Estimation	6		
9	May 6	Tue	Multiple regression III: Estimation	7	PS#4	
	May 7/8	Wed/Thu	Practical sessions groups 1 and 2: PS#3 Solutions			PS#3
10	May 12	Mon	Multiple regression I: Inference	7		
11	May 13	Tue	Multiple regression II: Inference	7	PS#5	
	May 14/15	Wed/Thu	Practical sessions groups 1 and 2: PS#4 Solutions			PS#4
12	May 19	Mon	Multiple regression III: Inference			
13	May 20	Tue	Review	7		
	May 21	Wed	Midterm exam: 11.00-13.00			

	May 21/22	Wed/Thu	Practical sessions groups 1 and 2: PS#5 Solutions			PS#5
14	May 26	Mon	Nonlinear regression models I	8		
15	May 27	Tue	Nonlinear regression models II	8	PS#6	
	May 28/29	Wed/Thu	Practical sessions groups 1 and 2: Midterm Solutions			
16	June 2	Mon	Assessing regression studies I	9		
17	June 3	Tue	Assessing regression studies II	9		
	June 4/5	Wed/Thu	Practical sessions groups 1 and 2: PS#6 Solutions			PS#6
	June 9	Mon	No class			
18	June 10	Tue	Review			