Syllabus

Econometrics III (20853), 2012-13 academic year

Lecturers

Group 1 & 2: *Theory classes*: Sergi Jiménez
Mondays and Tuesdays from 10:30 to 12:00, Room 40.S02

Seminars: Jaume Garcia (104,105,106, 204, 205,206)
Marc Dordal (101)
Sergi Jimenez (102,103,201,202,203)

Presentation

Econometrics III concludes the series of Econometrics courses. It is a course devoted to the study of econometric tools suitable for the treatment of individual data (Microeconometrics), i.e data which are come from surveys and therefore the observations refer to individuals, families or businesses. This type of information is increasingly common in empirical analysis, as a result of both increasing access to microdata from official statistics, and the growing number of companies and institutions which perform surveys to gather information.

The topics discussed relate mainly to data at a specific point in time (cross-section), although two topics deal with longitudinal data and panel data (samples of individuals for whom information is available at different times).

From the econometric point of view, the contents of the course are:

- The treatment of qualitative information, as both an explanatory factor (regressor) and as as a factor to be explained (dependent variable). Examples include the economic sector and the choice of means of transport, respectively.
- The implications in terms of the estimation of dependent variables that are the result of a decision and a quantitative variable. For example, spending on cigarettes is the result of a decision (to smoke, which entails a zero cost) and a quantitative variable (the amount of spending by those who smoke).
- The importance of the representativeness of the sample when deciding the techniques to be used. For example, in the case of expenditure on cigarettes, only having information about those who perform a positive spending.

- The interest in modelling how the time a person has been in a state (e.g. unemployment) affects the probability of leaving it.
- The advantages of panel data in controlling unobservable factors which with the data on a single period, could generate inconsistency of standard estimation methods.

Although this is an instrumental course, its applied part has a significant weight within the subject.

Competences

Previous competences

- Fundamental knowledge of the regression model, the statistical hypotheses and the method of maximum likelihood (introductory level).
- Basic knowledge of the econometric package STATA.
- Basic knowledge of economics to enable the student to read empirical studies which use the econometric techniques of the course.

Specific competences

- The ability to model qualitative factors in the context of an econometric model.
- The ability to specify the econometric model suitable for the type of issue being studied.
- The ability to translate the characteristics of the sample used in terms of the econometric tools to be used.
- The ability to produce a correct interpretation (qualitative and quantitative) of the estimation results of various microeconometric models.

Cross-disciplinary competences

- The ability to work with data.
- The capacity for analysis and synthesis of the results obtained in the empirical analysis.
- Teamwork.
- The ability to communicate the results of quantitative analysis

Teaching and Learning Activities

The course's teaching activities are organized in 20 lectures and 6 seminars of one hour and a half. Furthermore, preparing classes and seminars involves a learning activity to be carried out individually and as a team.

The lectures will primarily focus on the eight topics that make up the syllabus. These presentations must be complemented by reading the appropriate chapters or sections of the books listed in the bibliography.

The seminars will be devoted to a discussion of the reading and of the empirical exercises that have been set in relation to the topics of the lectures. These exercises can be done in small working groups to enhance teamwork and the comparison of ideas and approaches outside the classroom. However, submission and assessment will be on an individual basis. In addition, an empirical article related to the lecture topics will be discussed and commented on in each seminar.

The exercises must be submitted each week, in addition to a summary consisting of no more than 2,000 characters (including spaces) of each seminar's reading. The summary should refer to the purpose of the study, its econometric peculiarities and the most relevant results. The lists of exercises and readings will be available via the Campus Global.

Assessment

In order to pass the course, the student must obtain 50 points out of a total of 100, distributed as follows:

Final exam: 60 points (a strict minimum of 21 is required to pass the course).
(Active) participation in seminars: 20 points

Submission of abstracts and lists of exercises (conditional on participation in seminars): 20 points

Resit examination: you may resit the final exam on the scheduled dates in May (exact date to be determined).

Bibliographic reference

Basic

GUJARATI, Damodar N. and Porter *Econometría*. (4th edition) McGraw Hill, 2004.

JONES, Andrew. *Applied Econometrics for Health Economists*. 2a. ed. Radcliffe Publishing, 2007.

STOCK, J. H.; WATSON, M. W. *Introducción a la Econometría, 3rd edition, Pearson. 2012.*

WOOLDRIDGE, Jeffrey M. *Introducción a la Econometría, un enfoque moderno. 4th edition*. Gengage, 2010. (Previous editions are also valid).

Intermediate

GREENE, William H. *Análisis econométrico.* 3rd. ed. Madrid: Prentice Hall, 1999.

Advanced

CAMERON, A. Colin; TRIVEDI, Pravin K. *Microeconometrics. Methods and applications*. Cambridge: Cambridge University Press, 2005.

CAMERON, A. Colin; TRIVEDI, Pravin K. *Microeconometrics using STATA, STATA press, 2009*.

GARCIA-PEREZ, JI (ed.), Metodología y diseño de estudios para la evaluación de políticas públicas, UPO, 2009

WOOLDRIDGE, Jeffrey M. *Econometric Analysis of Cross Section and Panel Data*. Cambridge: MIT Press, 2002.

Course programme

Topic 1: Qualitative explanatory variables

Greene, 8.2
Gujarati, Cap. 9
Wooldridge (2010), 7.1 to 7.4
+ class notes

Topic 2: Discrete choice models with two alternatives

Cameron and Trivedi, 14.1 to 14.3
Greene, 19.2, 19.3, 19.4.3
Gujarati, Cap. 15
Jones, Cap. 3
Stock i Watson, 11
Wooldridge (2010), 7.5 i 17.1
Wooldridge (2002), 15.1 a 15.6
+ class notes

Topic 3: Discrete choice models with three or more alternatives

Cameron and Trivedi, 15.1 to 15.4
Greene, 19.7
Jones, Cap. 5
Wooldridge (2002), 15.9
+ class notes

Topic 4: Models with a limited dependent variable

Cameron and Trivedi, 16.1 to 16.3
Greene, 20.2, 20.3.1 to 20.3.3
Wooldridge (2010), 17.2 and 17.4
Wooldridge (2002), 16.1 to 16.6
+ class notes

Topic 5: Sample selection models

Cameron and Trivedi,16.5, 16.6,
Greene, 20.4.1 to 20.4.4
Jones, Chap. 7 and Chap. 8
Wooldridge (2010), 17.5
Wooldridge (2002), 17.1 a 17.4.1
+ class notes

Topic 6: Public policy assessment models

Cameron and Trivedi, 25.1 to 25.3, 25.5
GARCIA-PEREZ, JI (ed), chapters 1 and 2
+ class notes

Topic 7: Models with count data

Cameron and Trivedi, 20.1 to 20.4
Greene, 19.9
Jones, Cap. 9
Wooldridge (2010), 17.3
Wooldridge (2002), 19.1 a 19.3
+ class notes

Topic 8: Models with panel data

Cameron and Trivedi, 21.1 to 21.10
Greene, 14.1 to 14.4
Gujarati, Ch. 16
Stock i Watson, ch. 10
Wooldridge (2010), Ch. 13 and Ch. 14
Wooldridge (2002), Ch. 10
+ class notes

Topic 9: Duration models

Cameron and Trivedi, 17.1 to 17.5
Greene, 20.5
Jones, Cap. 10
Wooldridge (2002), 20.1 to 20.3
+ class notes

Session schedule

Week 1 (7-8 Jan.)

Lectures: Topic 1

Week 2 (14-15 Jan.)

Lectures: Topic 2

Week 3 (21-22 *Jan.*)

Lectures: Topic 3

Week *4* (28-29 Feb.)

Lectures: Topic 4
Seminar: List 1, Reading 1

Week *5* (4-5 Feb.)

Lectures: Topic 5
Seminar: List 2, Reading 2

Week *6* (11-12 Feb.)

Lectures: Topic 6
Seminar: List 3, Reading 3

Week 7 (18-19 Feb.)

Lectures: Topic 7
Seminar: List 4, Reading 4

Week *8 (25-26* Feb.*)*

Lectures: Topic 8-part 1
Seminar: List 5, Reading 5

Week *9 (4-5 Mar.)*

Lectures: Topic 8-part 2
Seminar: List 6, Reading 6

Week *10 (11-12 Mar.)*

Lectures: Topic 9