VNIVERSITAT ɴ̃ D̃ VALÈNCIA

COURSE DATA

Data Subject

Code	44953
Name	Microeconometrics
Cycle	Master's degree
ECTS Credits	5.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
2242 - M.D. in Economics	Faculty of Economics	1	First term

Subject-matter

Degree	Subject-matter	Character
2242 - M.D. in Economics	10 - Materia instrumental	Optional

Coordination

Name	Department
ROCHINA BARRACHINA, MARIA ENGRACIA	132 - Economic Structure
SANCHIS LLOPIS, JUAN ALBERTO	132 - Economic Structure

SUMMARY

Microeconometrics is a subject in the second semester of the Master in Economics. The aim of this subject is to provide economists sufficient knowledge of the most updated topics in microeconometrics so that they can choose the most appropriate estimators as well as exploit both the databases and economic models.

The programme is designed to respond to the needs of researchers and practitioners when working with real data, where an important dimension in the unit of analysis is the individual. This requires the use of micro data and the use of advanced techniques in (micro) econometrics.

The practical content of this course has two objectives: on the one hand, the knowledge and management of the statistic-econometric package STATA; on the other hand, and in each of the issues, being able to solve practical cases that require the use of the various estimators explained in the theoretical part of the program.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

There are no specified enrollment restrictions with other subjects of the curriculum.

Econometrics in the first semester of the Master in Economics.

OUTCOMES

2242 - M.D. in Economics

- Students should apply acquired knowledge to solve problems in unfamiliar contexts within their field of study, including multidisciplinary scenarios.

- Students should be able to integrate knowledge and address the complexity of making informed judgments based on incomplete or limited information, including reflections on the social and ethical responsibilities associated with the application of their knowledge and judgments.

- Students should communicate conclusions and underlying knowledge clearly and unambiguously to both specialized and non-specialized audiences.

- Students should demonstrate self-directed learning skills for continued academic growth.

- Students should possess and understand foundational knowledge that enables original thinking and research in the field.

LEARNING OUTCOMES

On successful completion of the course, the student should be able to:
- Know and understand advanced micro-econometric methods.
- Choose between them depending on the economic problem at hand.
- Know how to estimate a specific economic model using real data, proper techniques and handling the statistic-econometric package STATA.
- Get familiar with the usage of Spanish and international databases.
- Be able to interpret estimation results from an economic perspective.

DESCRIPTION OF CONTENTS

1. Panel data models.

1.1. Fixed effects and random effects.

1.2. Static models.

1.2.1. The random effects estimator: Generalized Least Squares (GLS).

1.2.2. The fixed effects estimator: Within-Groups (WG) and individual dummies regression.

1.2.3. Random effects versus fixed effects: Hausman test.

1.2.4. Some instrumental variables (IV) extensiones for the random and the fixed effects estimators.

1.3. Dynamic models.

1.3.1. Problems in estimation of dynamic models with panel data.

1.3.2. The Arellano and Bond estimator: An application of the Generalized Method of Moments estimator (GMM).

1.3.3. The Sargan test of overidentifying restrictions.

1.3.4. The test of correlation of idiosincratic errors.

1.3.5. The Arellano and Bover, and the Blundell and Bond estimator: the System Generalized Method of Moments estimator (Sistem-GMM).

2. Discrete choice models.

2.1. Introduction.

2.2. Binomial response models: the linear probability model for binary response; and, the Probit and Logit models. Maximum likelihood estimation.

2.3. Reporting the results for Probit and Logit.

2.4. Multinomial discrete choice models: non-ordered (multinomial logit), probabilistic choice models (conditional multinomial logit) and non-ordered models.

3. Censored dependent variable models.

3.1. Introduction

3.2. The Tobit model

3.3. Estimation and inference of the Tobil model. 3.4. Reporting the results.

3.5. Heckmans method (sample selection models).

4. Count data models.

4.1. Definition, examples and distribution functions.

4.2. Poisson model.

4.2.1. Distribution function, properties and assumptions.

4.2.2. Maximum likelihood estimator and consistency.

4.2.3. Interpretation of coefficients: Marginal effects.

4.2.4. Main limitation of the Poisson model, consequences and solutions. 4.3. Negative Binomial model.

4.4. Zero inflated count data models.

5. Some advanced topics in causal inference

WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	40,00	100
Classroom practices	10,00	100
Attendance at events and external activities	5,00	0
Development of individual work	10,00	0
Study and independent work	35,00	0
Preparation of practical classes and problem	25,00	0
TOTAL	125,00	

TEACHING METHODOLOGY

Development for the course is structured around three elements.

First, the theoretical lectures, where we explain the most important concepts and illustrate the use of essential analysis techniques. The most relevant literature will be referenced. Attendance to theses classes is considered crucial as it guarantees a proper transmission of knowledge and, at the same time, serves as a personal orientation to students.

Second, the practical classes where we solve exercises with real databases and use the statistic-econometric package STATA. In this way students will have sufficient knowledge for solving personal exercises that will be delivered during the development of the subject.

Third, the study and preparation of materials by the student, as well as attendance at academic seminars.

EVALUATION

The composition of the final score for this topic will be 80% from the exam score and 20% from the work developed by the student through the course.

REFERENCES

Basic

- Cameron, A. C., and Trivedi, P. K. (2005): Microeconometrics: Methods and applications. Cambridge University Press.

  Greene, W. H. (2003): Econometric analysis. 7th edition. Prentice-Hall.

  Wooldridge, J. M. (2006): Introductory econometrics: a modern approach. South-Western.

  Wooldridge, J. M. (2008): Econometric analysis of cross section and panel data, 2nd edition. The MIT press.

Additional

- Topic 1

  Arellano, M. (2003): Panel data econometrics. Oxford University Press.

  Hsiao, C. (1986): Analysis of Panel Data. Econometric Society Monographs, Cambridge.

  Lee, M. J. (2002): Panel data econometrics: Methods of moments and limited dependent variables. Elsevier Science.

  Topics 2 & 3

  Lee, M. J. (2002): Panel data econometrics: Methods of moments and limited dependent variables. Elsevier Science.

  Maddala, G.S. (1983): Limited Dependent and Qualitative Variables in Econometrics, Cambridge.

  Topic 4

  Winkelmann, R. (1997): Econometric analysis of count data. Springer.

  Topic 5

  Angrist; J. D. and J.S. Pischke (2008) , Mostly Harmless Econometrics: An Empiricists Companion, Princeton University Press.

  Cunningham, S. (2021). Causal inference: The mixtape. Yale university press.