UCLouvain

lecon2602
2023

Advanced Econometrics II - Microeconometrics

5.00 credits	30.0 h	Q2

Teacher(s)	Parienté William ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	The course proposes an up-to-date presentation of methods to model, analyse and test continuous, discrete and partially observed (censored or truncated) cross section and panel data models. For panel data models, both static and dynamic approaches are considered. The course includes an introduction to the treatment of sample selection and attrition. If time permits, some variable open topics such as multinomial and ordered response models, semi-parametric approaches to static models and non-stationary panels can be included in the course according. Econometric modelling and statistical inference are presented at an advanced level. The course also includes an introduction to an econometric software (such as Stata®), which is used to illustrate all methods through applications.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 This course focuses on the analysis of cross section and panel data. Cross section data refer to a large number of sample units (individuals, firms, ...) at a given instant of time. Panel data refer to the repeated observation of sample units over time. In this course we limit the analysis to panels with a large number of sample units that are followed over a limited number of time periods. The objective of the course is to give the student a firm understanding of the workings of certain methods and a background for developing new methods. In addition, students should learn to implement certain methods by running econometric software programmes on data sets coming from published work. As such, the course in-tends to provide the necessary background both for the applied researcher who wants to uncover some causal relationship between two variables and for the theoretical researcher aiming at the development of new estima-tion methods.
Evaluation methods	The evaluation for this course is twofold: a) mandatory exercises (4 to 5) to submit during the 7 weeks of the course b) a take-home exam that students will have to complete during a period of 2 to 3 weeks. It will consist in 1) reproducing and extending the results of an empirical paper using real data and 2) writing a 2 pages referee report of a research paper. Students will have to submit their take home on Moodle. c) An oral examination (either at the office of the teacher or on Microsoft Teams) to discuss the solutions of the take home exam.
Content	Contents: 1) Introduction. The nature of panel data. 2) Linear, static model for panel data. Estimating System of Equations by OLS and GLS. Modelling individual heterogeneity. Fixed effect, Random effect models. Specification test. First difference meth-ods. Random effect with correlated unobserved effect. The approach of Mundlak and Chamberlain. The GMM approach (Haussman and Taylor types of estimator) 3) Linear, dynamic model for panel data. The bias of usual estimators. Estimator of Anderson-Hsiao, estimator of Arellano-Bond, estimator of Blundell-Bond. 4) Discrete panel data. Refreshing on multiple response model. Random effect models for a binary dependent variable.Fixed effect models. Incidental parameter problem. 5) Limited dependent variable and selection models. Truncated/censored data. Tobit I, II and III models. Attrition and selection bias. Random effect Tobit model. Fixed effect in truncated regression
Other infos	Advanced econometrics I A take home exam consisting of an empirical implementation of methods covered during the lec-tures, and an oral exam. No specific support. Some mandatory readings from the literature in microeconometrics.
Faculty or entity in charge	ECON

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Economics: Econometrics	ETRI2M	5		🔍
Master [60] in Economics : General	ECON2M1	5		🔍
Master [120] in Statistics: General	STAT2M	5		🔍
Master [120] in Economics: General	ECON2M	5		🔍