

Panel Data

Course title - Intitulé du cours	Panel Data
Level / Semester - Niveau /semestre	M2 / Semestre 3
School - Composante	TSE
Teacher - Enseignant responsable	KIM_JIHYUN
Other teacher(s) - Autre(s) enseignant(s)	
Other teacher(s) - Autre(s) enseignant(s)	
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Other teacher(s) - Autre(s) enseignant(s)	
Lecture Hours - Volume Horaire CM	15
TA Hours - Volume horaire TD	/
TP Hours - Volume horaire TP	/
Course Language - Langue du cours	Anglais
TA and/or TP Language - Langue des TD et/ou TP	Anglais

Teaching staff contacts - Coordonnées de l'équipe pédagogique :

jihyun.kim@tse-fr.eu, MF 427, office hours by appointment, by email or after the classes

Course's Objectives - Objectifs du cours :

This course studies econometric methods to be applied when using panel data. It builds on Intermediate Econometrics and Applied Econometrics classes (M1). It presents standard panel data models and econometric methods to estimate parameters of those models, studies the main properties of the estimators and provides examples of application of those methods in economics. The models covered in the course are fixed and random effects models, dynamic panel data models and nonlinear models involving panel data. At the end of the course, students should be able to apply the suitable methods depending on the context, should know their main properties and should know how to interpret the results in practice.

Prerequisites - Pré requis :

Prerequisites are Intermediate Econometrics (M1) and Applied Econometrics (M1). The students should be familiar with the following estimation methods: Ordinary (OLS) and Generalized Least Squares (GLS), Instrumental Variables (IV) Methods and Generalized Method of Moments (GMM), Maximum Likelihood Estimation (MLE). They should know in which context the methods should be used, the properties of the methods, how to interpret the results obtained and how to do hypothesis testing.

Practical information about the sessions - Modalités pratiques de gestion du cours :

Attendance to lectures and lab sessions is essential. Material for the course will be posted on Moodle. Students are expected to check it regularly for updates and information. Usage of laptops and tablets during classes is allowed, provided they are used for the class only. Plagiarism and academic integrity: in the paper submitted for the empirical project, students have to be very careful about citing the source of all ideas that are not their own ones. Anything without citation is understood as being created by the students who wrote the paper. Failing to cite the source of an idea expressed by someone else is a case of plagiarism. Plagiarism will be penalized by a grade of 0 for the empirical project and the case will be sent to the disciplinary council of the University that may take disciplinary sanctions, like university exclusion.

Grading system - Modalités d'évaluation :

One homework (30%). This is an individual assessment. The homework consists in theoretical and/or applied exercises. One empirical project (70%). The project is done by groups of 2 or 3 students. The empirical project consists in one of the following two types of exercises (up to the choice of the students):

- Replication or extension of a paper taken in the academic economics literature that includes a panel data analysis and uses methods studied in the course. The archive for the Journal of Applied Econometrics contains papers with datasets that would fit well for this exercise.
- Own study that involves methods presented in the course. Students select a question, use a panel dataset and perform an econometric analysis involving panel data. The document handed in at the end of the project has to take the form of a short paper. More details will be given in class. Exact copies or late submissions will not be considered for grading.

Bibliography/references - Bibliographie/références :

Lecture slides will be used and available to the students all along the class. No textbook is officially required. The following references may be useful to complement the content of the lecture slides:

- Arellano, M., 2003, "Panel Data Econometrics", Advanced Texts in Econometrics, Oxford University Press.
- Baltagi, B., 2013, "Econometric Analysis of Panel Data", 5th edition, Wiley.
- Cameron, A., Trivedi, P., 2005, "Microeconometrics: Methods and Applications", Cambridge University Press.
- Greene, W., 2011, "Econometric Analysis", 7th edition, Pearson Education.
- Hsiao, C., 2014, "Analysis of Panel Data", 3rd edition, Econometric Society Monographs, Cambridge University Press.
- Wooldridge, J., 2015, "Introductory Econometrics: A Modern Approach", 6th edition, Cengage Learning Custom Publishing.

Session planning - Planification des séances :

- 1-Introduction
- 2-Fixed Effects Model
- 3-Random Effects Model
- 4-Dynamic Panel Data Models
- 5-Nonlinear Panel Data Models