Financial econometrics

ECTS : 3

Description du contenu de l'enseignement :

Going further the introductory course : « TRUE » model and DGP ; Revisiting the multiple regression model: Hypotheses, statistical inference, criteria for model selection, dummy and explanatory variables ; Revisiting OLS hypotheses violation, tests and correction : Heteroskedasticity, Autocorrelation, Normality, Multicollinearity, Exogeneity, specification error ; Alternative to OLS: Two stage least squares (2SLS), Maximum likelihood, Generalized least squares (GLS), Quantile regression (if time permits).

Compétence à acquérir :

This second course of econometrics applied to finance has three objectives: The first is to comeback to some of the theoretical aspects of econometrics in order to better understand how it works, what are the implications of assumption failures, and what to do to correct the estimators and their precision. The second objective aims to discuss the practices and the concrete implementation of these methods and their corrections as well as new estimation tools. Finally, the third objective is in the way this course is approached as it is based on simulation.

Concretely, simulating the "real" model and observing what happens when we are not in the conditions of use of an estimator, a quality criterion or a test allows:

1. to master the details of the regression tools (simulation of the data generating process - DGP -, choice of the characteristics and laws of variables, choice of hypotheses, etc)
2. to understand the consequences of any assumption failure as well as the interaction of several failures,
3. to use this knowledge to carry out empirical studies.

Bibliographie, lectures recommandées :

- Adkins, L., 2018, Using Gretl for Principles of Econometrics, 5th Edition, Version 1.0, http: http://www.learneconometrics.com/gretl/poe5/using_gretl_for_POE5.pdf
- Brooks C., 2019, Introductory Econometrics for Finance, 4th Edition, Cambridge University Press, 724 pages;
- Carter Hill R., W. E. Griffiths et G.C. Lim, 2018, Principles of Econometrics, 5th Edition, Wiley, 912 pages;
- Gudjarati D. N., 2011, Basics Econometrics, 5th Edition, De Boeck, 1010 pages.

Document susceptible de mise à jour - 05/11/2026

Université Paris Dauphine - PSL - Place du Maréchal de Lattre de Tassigny - 75775 PARIS Cedex 16