

12F005

6 ECTS

Financial Econometrics

Overview and Objectives

Introduce students to the theory and practice of the quantitative techniques for the analysis of financial markets. This course provides an introduction to the quantitative techniques used in the analysis of financial data. We begin with a brief review of the econometric methods that will be used throughout the course, including Generalized Method of Moments (GMM) and Maximum Likelihood (ML) estimation.

The main topics that will then be covered are empirical asset pricing tests, the dynamics of volatility, the dynamics of correlations, extreme events, risk management and portfolio selection.

Required Activities

Computer lab sessions using MATLAB will be used to apply the techniques illustrated in class on real financial data. Students will replicate findings documented in the literature and engage in forecasting exercises of financial time series.

Evaluation

- 15% class participation
- 25% course assignments
- 60% final exam

Materials

Campbell, J. Y., Lo, A. W. and MacKinlay, A. C. (1996), *The Econometrics of Financial Markets*
Christoffersen, P. (2003), *Elements of Financial Risk Management*

Engle, R. F. (2009), *Anticipating Correlations: A New Paradigm for Risk Management*
Hayashi, F. (2000), *Econometrics*
Tsay, R. S. (2010), *Analysis of Financial Time Series*