Financial Econometrics

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Course: 16 hours - TP: 6 hours

Objectives

This course is an introduction to Financial Econometrics. In the context of the main models of financial theory, it presents the classical tools, their empirical motivations and adapted statistical inference methods.

Outline

- Historical analysis of returns of financial assets. Estimation of moments under the Gaussian assumption. Definitions of portfolios. Extension to non-gaussian models. Tests.
- Portfolio theory – Mean-variance portfolios. Optimal portfolios and their estimation. Measure et comparison of performances. Estimation and tests.
- CAPM - Regression models on market portfolios. Characterization of efficient portfolios. Equilibrium models. Estimation of the empirical market model. Test of the CAPM assumption.
- Foactor models – No arbitrage assumption. Setting of the number of factors. Statistical inference for observable or unobservables factor models.
- Econometrics of asset pricing - Estimation in the Black-Scholes model. Asset pricing formulas that are compatible with data (stochastic volatility).

Bibliography

- GOURIEROUX C., SCAILLET, O. et SZAFARZ A. (1997) : *Econométrie de la finance : Analyses historiques*, Economica.
- CAMPBELL J.Y., LO A.W. and MACKINLAY A.C. (1996) : *The econometrics of financial markets*, Princeton university press.