

## MASTER Economics Econometrics of banking and finance

### Contact

Sebastien LAURENT  
sebastien.laurent@univ-amu.fr

### Description

Part of course.  
Code: PA-ME5BEC-BECCV27B  
Domain: Law, Economics,  
Management

### Information

<http://formations.univ-amu.fr>  
Department: Faculty of Economics  
and Management  
*Last modification: 27/08/2018*

### CONTENT

This course presents the econometric methods used to measure and forecast financial risks. Different models will be studied. These models make it possible to model the dynamics of prices (or returns), ie. the conditional mean, the conditional variance, but also the higher moments (asymmetry, thickness of the distribution tails). Part of this course will also deal with the dependence between the returns of several assets.

#### Course outline :

- Conditional mean
- Conditional variance
- Estimation
- Specification tests
- Forecast
- Value-at-risk
- Multivariate models

### PROFESSIONAL SKILLS

- Understanding time series models specific to financial market data
- Application to real data
- Risk prediction
- Use of specific econometric tools (OxMetrics) and

programming (R, matlab, python, ox, etc)

### BIBLIOGRAPHY

Laurent S. (2018). G@RCH 8, Estimating and Forecasting ARCH Models, London : Timberlake Consultants Press.

### ORGANISATION

Lecture. Evaluation based on a group project.

### FUNDAMENTAL PREREQUISITES

- Advanced statistics
- Introduction to econometrics
- Maximum likelihood
- Econometrics of time series

### RECOMMENDED PREREQUISITES

- Programmation (R, matlab, python, ox, etc)

### VOLUME OF TEACHINGS

- Lectures: 24 hours

### TRAINING

#### Master's degree: Economics

- Quantitative finance and insurance

