



Bachelor's courses School of Business and Economics

VU University Amsterdam - Student- & Onderwijszaken - Exchange programme Vrije Universiteit - 2018-2019

Financial Econometrics

Course code	E_EOR3_FTR ()
Period	Period 5
Credits	6.0
Language of tuition	English
Faculty	School of Business and Economics
Coordinator	dr. P. Gorgi
Examinator	dr. P. Gorgi
Teaching staff	dr. P. Gorgi
Teaching method(s)	Lecture, Study Group
Level	300

Course objective

This course introduces students to econometric methods in financial econometrics.

By the end of this course, participants will:

- (1) know how to design, code, estimate and analyze time-varying parameter models used in Finance;
- (2) understand the interplay between econometric techniques and modeling assumptions;
- (3) have used computational methods to solve econometric exercises;
- (4) know how to estimate parameters of structural models using simulation-based estimators;
- (5) have gained experience in working with real data.

Participation in this course is a worthwhile preparation for the master courses in the MSc Econometrics program. The econometric techniques discussed will also be beneficial to everyone planning to write a Bachelor's thesis in Financial Econometrics.

Course content

This course covers both theoretical and practical aspects of modern econometric models that are used by financial institutions, investment banks, central banks, governments, think tanks, and other research institutes.

The students are introduced to models in Finance that feature nonlinearities, time-varying parameters and latent variables. In particular, the students learn how to design, implement, estimate and analyze both observation-driven and parameter-driven models.

Finally, from a practical perspective, the students also learn how to use these models in Finance to calculate important risk measures and design optimal portfolios.

Form of tuition

Lectures, tutorials and practical computer-lab classes.

Type of assessment

Final exam and group assignment – Individual assessment

Course reading

Lecture notes and other material provided by teacher.

Other reading material:

Francq and Zakoian, 2011, GARCH Models: Structure, Statistical Inference and Financial Applications. John Wiley & Sons.

Tsay, 2010, Analysis of Financial Time Series. John Wiley & Sons.

Gourieroux and Monfort, 1996, Simulation-Based Econometric Methods. Oxford University Press.

Entry requirements

None

Recommended background knowledge

This course builds on introductory time-series concepts.

Attending courses such as "Introduction to Time-Series" in the minor of Applied Econometrics, or the third-year Bachelor course "Econometrics III", is not required, but certainly provides an adequate background knowledge.

Target group

This course is targeted at both econometrics and non-econometrics students that have an understanding of basic mathematics, probability, statistics and time-series analysis.