

Professor Dr. Robert Jung

Summer 2024

Institute of Economics
Department of Econometrics and Statistics
University of Hohenheim

Applied Financial Econometrics (5211-520) / Master's program

Instructors:

Prof. Dr. Robert Jung
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Teaching Assistant:

Marius Puke
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Meeting times and locations:

Lecture: Wednesday, 16:15 - 17:45 HS 21 (weekly; first lecture on April, 3)
Practical Class: Tuesday, 16:15 - 17:00 HS 35 (weekly; **first meeting on April, 2**)
Introduction to R: 2.4.2024 16:15

Course description:

The course provides an introduction to the empirical analysis of financial data. For this purpose key statistical and econometric models as well as data analytic methods will be discussed. Hands-on experience in analysing financial data using the *R* package is an important part of the course. However, other statistical software packages can also be used for the empirical analyses. After successfully completing the course you should be able to apply the models and methods introduced using the statistical software and critically discuss and evaluate the results obtained.

Practical class:

The lecture is accompanied by a practical class taught by Marius Puke. The aim of the class is to repeat important concepts discussed in the lecture and to demonstrate their practical application using real world data sets and, in particular the *R* software package.

Grading:

Course evaluation will be based on a paper and pen exam (90 minutes). The exam is closed book, but you can bring a 'cheat sheet', specific rules will be announced during the course.

Up to 20 points (out of 100) for the course grade can be earned through a facultative assignment and a facultative forecast competition. Details will be announced during the course.

Course materials:

Lecture slides, data sets, assignments and additional material will be available via ILIAS. **Note that the ILIAS course membership is by request only. Access is provided only, if your request contains the your current semester and study program.**

Outline:

1. Introduction
2. Univariate and Multivariate Return Distributions
3. Predictability of Asset Returns
4. Single- and Multifactor Asset Pricing Models
5. Event Study Analysis
6. Volatility Modelling

Literature:

- Brooks, C. (2019) *Introductory Econometrics for Finance*, Cambridge UP (4th edition).
- Hurn, S.; Martin, V.L.; Phillips, P.C.B. and Yu, J. (2021) *Financial Econometric Modeling*. Oxford UP.
- Linton, O. (2019) *Financial Econometrics*, Cambridge UP.
- Ruppert, D. und D.S. Matteson (2015) *Statistics and Data Analysis for Financial Engineering*. Springer (2nd edition)
- Tsay, R. S. (2010) *Analysis of Financial Time Series*, Wiley (3rd edition).
- Tsay, R. S. (2012) *An Introduction to Analysis of Financial Data with R*, Wiley.
- Schmid, F. und M. Tiede (2006) *Finanzmarktstatistik*, Springer.