Professor Dr. Robert Jung   Summer 2025

Institute of Economics
Department of Econometrics and Statistics
University of Hohenheim

Time Series Econometrics (5211-740) / Master's program

Instructors:

Prof. Dr. Robert Jung
FG. Ökonometrie und Wirtschaftstatistik
e–mail: `econometrics@uni-hohenheim.de`
Tel.: 0711/459-24710 Office hour: by appointment.

Teaching Assistant:

MSc Domenic Franjic
e–mail: `domenic.franjic@uni-hohenheim.de`
Tel.: 0711/459-24717 Office hour: by appointment

Meeting times and locations:

Lecture: Thursday, 14:15 - 15:45, HS 35, (first lecture on April, 3)
Practical class: Monday, 14:15 - 15:45 Seminarraum Lebensmittelchemie (first practical class on April, 7).

Course description:

The goal of the course is to provide a solid foundation in econometric methods that will permit students to conduct a serious empirical analysis of economic time series data. The focus is both on theoretical econometric models and their applications. Special emphasis will be on discussing properties of the models, estimators and test statistics. Throughout the course, the methods discussed will be demonstrated using actual economic and financial data and the econometrics software `R`.

Practical class:

The lecture is accompanied by a weekly practical class taught by Domenic Franjic. The aim of the class is to repeat important concepts discussed in the lecture and demonstrate their practical application using real world data sets and the software package `R`. We offer an online tutorial in R, which is available on Ilias upon registration for the course.

Grading:

Course grading is 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 the facultative forecast competitions. Details will be announced during the course.

Literature:

The main references for the course are

- Enders, W. *Applied Econometric Time Series*, Wiley, 2015 (4th edition)

- Hamilton, J. *Time Series Analysis*. Princeton UP, 1994.

- Kirchgässner, G.; Wolters, J.; Hassler, U. *Introduction to Modern Time Series Analysis*. Springer Verlag, 2013 (second edition)

- Lütkepohl, H. *New Introduction to Multiple Time Series Analysis*. Springer Verlag, 2005.

- Martin, V.; Hurn, S. and Harris, D. (2013) Econometric Modelling with Time Series. Cambridge UP

- Patterson, K. *An Introduction to Applied Econometrics*, Palgrave, 2000.

Additional reading, in particular references to journal articles, 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.**

Course outline:

1. Introduction

2. Linear Time Series Models

3. Vector Autoregressive Models

4. Nonstationary Time Series Models and Cointegration

5. Latent Factor Models