Freie Universität Berlin
School of Business & Economics

PD Dr. Till Strohsal / Prof. Dr. Dieter Nautz/ Elias Wolf
Summerterm 2023

Methods in Empirical Economics

Time Series Econometrics

Typ
Lecture / Exercise Sessions/Seminar (Language: English)

Credits
12 LP

Schedule
The course consists of a two parts. In the first half of the semester, a block course introduces important theoretical concepts in a series of lectures and exercise sessions. The second half of the semesters is organized as a seminar. Building on concepts of the first part, course participants will independently learn and present an advanced time series method they can choose from an econometrics paper to their colleagues. Subsequently students are expected to explain and discuss that method in a seminar paper.

Prerequisites
The course Econometric Analysis is highly recommended.

Exam
Seminar Thesis and Presentation
Active participation
Mandatory test (pass or fail)[1] after the course phase.

Objectives
Students know theory and methods of Time Series Analysis to model and forecast common univariate and multivariate time series processes. They are able to understand and evaluate empirical studies based on time series data and can conduct their own projects.

Content
- ARMA Processes
- Time Varying Volatility
- Persistency
- Cointegration
- VAR Models

[1] For students in the new study regulations 22/23. Students enrolled under previous study regulations have the possibility to enroll in both parts of the course separately taking the modules “Univariate Time Series Analysis” and “Current Research Topics on Time Series Econometrics”. In that case, the test after the block course is the final exam of “Univariate Time Series Analysis”, while the grade of the “Current Research” part is based on the presentation and seminar paper.

Literature

- Kirchgässner, G., J. Wolters und U. Hassler (2013): *Introduction to Modern Time Series Analysis*, Springer-Verlag.
- Enders, W. (2004): *Applied Econometric Time Series*, Wiley & Sons.
- Lütkepohl, H. (2007): *New Introduction to Multiple Time Series Analysis*, Springer-Verlag.
- Kilian, L and Lütkepohl, H. (2017): *Structural Vector Autoregressive Analysis*, Cambridge University Press.
- Hamilton, J.D. (1994): *Time Series Analysis*, Princeton University Press.