

Advanced Master's & Ph.D. Course in

Time Series Analysis

Description:

The aim of the course is to enhance the students' capability to analyze economic time series data. It should help the participants to understand the concepts underlying some widely used univariate and multivariate time series models and to carry out their own empirical research by applying such models to economic questions.

The course is open to students enrolled in the following programs: M.Sc. in Economics, M.Sc. in Statistics, Diplom-Wahlfach Ökonometrie (as "Spektralanalyse") and the BDPEMS.

Time and Location:

Thursday, 12-2 p.m., Room K005 (Garystr. 21, Basement)

Friday, 8-10 a.m., Room K005 (Garystr. 21, Basement)

One of the lectures will take place **every fortnight**. Details will be clarified during the first session on Thursday, 15 April 2010.

The lecture will be held in **English**. Grading of this course will be based on a written final exam (120 minutes) which may be satisfied in German or English.

Preliminary Outline:

- I. Univariate time series
 1. Stationary processes
 2. Unit root processes
- II. Multivariate time series
 1. Stationary vector autoregressive (VAR) models
 2. (Co-)integrated systems of time series
 3. Vector error-correction (VEC) models
 4. Structural VAR and structural VEC models,
- III. State-space models and the Kalman filter
- IV. Stationarity in dynamic panel data models

Useful Literature:

Hamilton, J.D.: *Time Series Analysis*, Princeton University Press, 1994.

Lütkepohl, H.: *New Introduction to Multiple Time Series Analysis*, Springer, 2006.

Greene, W.: *Econometric Analysis*, Pearson, 2008.