Syllabus: Time Series Analysis

Summer Semester 2012

Time and place: Lecture: Wednesday, 18:15-19:45; Room 024, Ludwigstr. 28, RG
Tutorial: Thursday, 10:15 – 11:45; CIP, Ludwigstr. 28 (Front building), Room 207

The lecture starts on 18.4.2012, the tutorial on 19.4.2012

ECTS-Credits: 6 (final written examination, 2 hours)

Office hours: Tuesday, 2-4 p.m., Schackstraße 4, room 213

Outline of lecture

1) Stationary time series models (some basic concepts)
2) ARIMA models
3) Spectral analysis
4) Some important filters in economics
5) An introduction to state space modelling and the Kalman filter

Outline of tutorial

1) Lag operators and some properties of polynomials
2) Trigonometric functions and complex numbers
3) Descriptive analysis of time series
4) Model selection and estimation of ARIMA models
5) Empirical aspects of spectral analysis
6) Applications of filters

Prerequisites:

It is very useful when the students have a good knowledge of econometric methods and at least a basic knowledge of univariate ARIMA models.

Target audience: M.Sc. and doctoral candidates in economics

Description of the course:

The aim of the course is to present important concepts of time series analysis (Stationarity of stochastic processes, ARIMA models, spectral analysis, state space modelling etc.). The course is a mixture of theory and practical applications of time series methods. The theoretical material (presented mainly in the lecture) focuses
upon properties of stationary time series and their analysis in the time and frequency domain. In addition, we treat in some detail the theoretical foundations and practical applications of time series filters. In the tutorial, problems of specification and estimation of time series are treated. We use the programming language GAUSS for empirical applications.

Literature:


Lecture Notes:

You can download notes for both the lecture and the tutorial from the LSF system (you need a user name for using this offer).

You could send to me a short email (Gebhard.flaig@lrz.uni-muenchen.de) with the information that you participate in the course. I will build up an email list and send to the members of the list the notes and other information (e.g., GAUSS programs).