Module number: WSF-VWL-MW-EcoI-V
Module name: Econometrics I
Courses:
  Lecture: Econometrics I
  Tutorial: Econometrics I
Responsible person for this module: Prof. Dr. Herwartz
Teachers: Prof. Dr. Herwartz
Term: 1
Frequency: Annual, winter term
Duration: 1 Semester
Language: English
Attribution to curriculum: MSc Economics, MSc Quantitative Economics, MSc Quantitative Finance
Status: Compulsory
Requirements for performance assessment: Written exam
Credit points and grade: 8 LP German Scale, ECTS-System
Work load
  Time of attendance: L: 45 Hrs. T: 30 Hrs.
  Time for home studies: L: 95 Hrs. T: 70 Hrs.
Entire work load: L: 140 Hrs. T: 100 Hrs. Entire module: 240 Hrs.
Requirements for participation: Bachelor
Applicability of the module: MSc Economics, MSc Quantitative Economics, MSc Quantitative Finance
Kind of teaching/contact hours/number of participants:
  Lecture, 3, 90
  Tutorial, 2, 90
Educational objective/competencies:
1. This course builds upon the basic econometric techniques addressed in ‘Einführung in die Ökonometrie’. Throughout, regressors are considered stochastic. Students will learn to deal with dynamic models and nonstationary time series. The focus is on single equation models. The course will require students to be familiar with standard econometric software as Eviews and Matlab.

2. After this module, the students will have a solid econometric foundation necessary for participating in advanced courses. Moreover, they will be able to perform advanced univariate time series studies and understand the modern macroeconometric literature.

Contents:
1. Stochastic Regressors
   (Nonlinear LS-estimation, autocorrelation, instrumental variable estimation)
2. Generalized methods of moments (GMM)
3. Dynamic Models
   (Stochastic processes, nonstationary stochastic processes, convergence of moments of I(1) variables)
4. Regression with nonstationary variables
   (Spurious regression, cointegration, unit roots, weak exogeneity)

Knowledge transfer:
Interactive lecture and tutorial, lecture notes, literature studies, exercises
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