Course Syllabus

Applied Econometrics for Macroeconomics (MA program - I year)
Ural State Federal University, Higher School of Economics and Management
Spring 2011

Instructor: Olga Popova, CERGE-EI (Prague, Czech Republic)
E-mail: popova.olga.v@gmail.com
Course web page: http://home.cERGE-EI.cz/opopova/teaching.html
Office Hours: TBA

Prerequisites: Mathematical statistics, Probability theory, Advanced Econometrics

Course description: This course continues the Econometrics sequence. The aim of the course is to introduce the methodology used in applied empirical research in the field of Macroeconomics and Financial Economics. By the end of the course, students should be acquainted with and be able to apply in practice different econometric time series methods. Lectures will be accompanied with practical exercise sessions in computer lab to assure the understanding of theoretical concepts and provide guidance for using these concepts in applied research. Primary software that is to be used during the course is Eviews. Occasionally TSP will also be used.

Grading is based on a midterm exam (25%), final exam (50%) and 2 home assignments (15% and 10%, respectively).

Midterm and Final are a written closed book, closed notes exam. You may use statistical tables at the exams. The violation of academic honesty during the exam (including the use of unauthorized materials, receiving and/or providing unauthorized help from/to other students) would result in a failing grade for the exam.

Home assignments will contain empirical and theoretical parts. Students may work on home assignments in a group of up to three, but make sure that every member of your group understands the solution. To work with empirical part, every group should choose data from different countries. All home assignments must be submitted. No late submissions will be accepted.

Readings

Main textbooks

Supplementary textbooks

Textbooks will also be supplemented by articles. Exact list will follow.
Course Outline

• Univariate time series

Lecture 1. Brief introduction to the nature and properties of time series. Notion of stationarity of time series and unit root tests. AR(p), MA(q), ARMA(p,q). Estimation of the ARMA models of time series. Box-Jenkins Methodology. Simple extensions of the ARMA model.

Ex. session 1. ARMA models estimation.


Ex. session 2. Testing for unit roots.


Ex. session 3. Unit roots and structural breaks.


Ex. session 4. ARCH-GARCH estimation.

• Multiple time series


Ex. session 5. Estimation of VAR models

Lecture 7. Forecasting.

Ex. session 6. Forecasting.


Ex. session 7. Cointegration

Ex. session 8. Error Correction

HW Outline

HW1. ARMA; Testing for Unit Roots; Unit Roots and Structural Changes; ARCH-GARCH estimation

HW2. VAR, Forecasting; Cointegration, Granger Causality. Error Correction