

15E030

6 ECTS

Econometric Methods III

Overview and Objectives

This is an introductory course in time series econometrics. The course deals with econometric methods for estimation and testing of economic relationships among macro-economic variables, as well as forecasting. Emphasis is given on application of the techniques to relevant macro-economic problems.

Students are assumed to have an understanding of probability theory, linear algebra, and mathematical statistics. Prior knowledge of the linear regression model is also required.

Course Outline

Univariate Stationary Time Series Processes

Forecasting

Nonstationary Time Series Processes

Trends and Cycles

Vector Auto Regressions

Structural Vector Auto Regression

Cointegration

Required Activities

The course will comprise of 40 hours of lectures. In addition, the students will have to hand in problem sets that are discussed in tutorial sessions. Problem sets will include both theoretical and empirical exercises, therefore some basic knowledge of statistical software is required (solutions to the empirical problem sets will consist of Matlab codes). Problem sets should be handed in individually.

Evaluation

Grades will be based on the problem sets (20%) and a final exam (80%)

Materials

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The main reading materials are lecture notes, which are based on the following references:

Textbooks

Diebold, F. (2006), Elements of Forecasting, available freely online at:
<http://www.ssc.upenn.edu/~fdiebold/Teaching221/FullBook.pdf>

Hamilton, J. D. (1994), Time Series Analysis,

Hansen, B. (2015), Econometrics, available freely online at:
<http://www.ssc.wisc.edu/~bhansen/econometrics/Econometrics.pdf>

Lütkepohl, H. (2005), New Introduction to Multiple Time Series Analysis, Springer Edition

White, H. (2001), Asymptotic Theory for Econometricians: Revised Edition, Academic Press, New York

Journal Articles

Olivier Jean Blanchard and Danny Quah (1989), "The dynamic effects of aggregate demand and supply disturbances" American Economic Review, 79(4):655-73

Jordi Gali (1999), "Technology, employment, and the business cycle: Do technology shocks explain aggregate fluctuations?" American Economic Review, 89(1):249-271

Domenico Giannone, Michele Lenza and Giorgio E. Primiceri (2015) "Prior Selection for Vector Autoregressions," The Review of Economics and Statistics, MIT Press, vol. 97(2), pages 436-451

Domenico Giannone, Michele Lenza and Giorgio E. Primiceri (2016), "Priors for the Long Run," CEPR Discussion Papers 11261

Robert G. King, Charles I. Plosser, James H. Stock, and Mark W. Watson (1991) "Stochastic trends and economic fluctuations". American Economic Review, 81(4):819-40

James H. Stock and Mark W. Watson (2001) "Vector autoregressions" Journal of Economic Perspectives, 15(4):101-115

Harald Uhlig (2005) "What are the effects of monetary policy on output? Results from an agnostic identification procedure. Journal of Monetary Economics, 52(2):381-419