GRADUATE ECONOMETRICS II 2012-2013   (ECON S 429)

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Basic Info

For questions related to the exercise classes and the handing in of problem sets please write to Lídia Brun *(lidiabrun@gmail.com)*

Theory lectures will take place on Mondays at 14:00
Exercise classes will take place on Fridays at 10:00

All lectures will take place in room R42.4.104

There will be 4 problem sets during the course. You can work individually or in group, but there must be **1 exercise handed in per student**, in which you indicate with whom you have worked.

There will be a written exam at the beginning of June (date to be confirmed). The final grade will be a weighted average between the PS and the exam.

You will find all the information of the course in: http://gradetrics2sbsem.wordpress.com/

Course outline

1. Descriptive statistics of time series

Theory
- Information Session. 11/2
- Introduction to time series I: Stationarity. 18/2
- Introduction to time series II: Trends and filters. 25/2
- Time series in the frequency domain: Spectral Analysis. 4/3

Exercises
- Data sources, data downloading, MATLAB and interpretation. 15/2 (TA: Marco Giani)
- Introduction to linear algebra. 22/2 (TA: Marco Giani)
- De-trending a time series, correlations and the Band-Pass filter 1/3 (TA: Harry Vander Elst)
- Spectral density estimation and the construction of Confidence Bands, 8/3 (TA: Harry Vander Elst)

- Problem Set 1 will have two parts, the first one delivered on 1/3 and the second on 8/3. It will be due on 22/3.

2. Time Series Modeling

Theory
- Wold decomposition, AR and MA models, 11/3
- Vector Autoregressions, 18/3
- Structural Vector Autoregressions, 15/4

- Cointegration and VECM, 22/4

Exercises
- Univariate AR, MA and ARMA models. 15/3 (TA: Marco Giani)
- VARs, Variance decomposition and Granger Causality 22/3 (TA: Harry Vander Elst)
- IRF, Identification, Long-Run Restrictions 19/4 (TA: Harry Vander Elst)
- Cointegration and VECM, 26/4 (TA: Harry Vander Elst)

- Problem Set 2 will be delivered on 22/3. It will be due on 19/4.
- Problem Set 3 will be delivered on 26/4 and due on 17/5

3. Bayesian Analysis

Theory
- Introduction to Bayesian Analysis and BVAR, 6/5
- Bayesian estimation of a VAR with Informative priors, 13/5

Exercises
- Bayesian Analysis I, 10/5 (TA: Alex Wolf)
- Bayesian Analysis II, 17/5 (TA: Alex Wolf)

- Problem Set 4 will be delivered on 17/5 and due on 24/5.

Reading List

The main references are the following textbooks:

- Hamilton, J. D. (1994): *Time Series Analysis*. Princeton University Press, Princeton, New Jersey.
- Brockwell, P. J. & Davis, R. A. (1991): *Time Series: Theory and methods*. Springer Statistics Series.
- Stock, J. and Watson, M. (2003), *Introduction to Econometrics* (first edition), Addison-Wesley.

Further readings (each problem set will also contain a list of references to help you through the requested exercises):

PART I:

Finn E. Kydland & Edward C. Prescott, "Business Cycles: Real Facts and a Monetary Myth", Federal Reserve Bank of Minneapolis Quarterly Review, vol. 14, no. 2, pp 3-18

Cogley, Timothy & Nason, James M., 1995. "Effects of the Hodrick-Prescott filter on trend and difference stationary time series. Implications for business cycle research," Journal of Economic Dynamics and Control, Elsevier, vol. 19(1-2), pages 253-278.

C. W. J. Granger, 1966 "The Typical Spectral Shape of an Economic Variable", Econometrica, Vol. 34, No.1

Baxter, M. and R.G. King, 1999, "Measuring Business Cycles Approximate Band-Pass Filters for Economic Time Series" Review of Economics and Statistics, vol 81(4,Nov), 575-593.

PART II

Sims, Christopher A, 1980: "Macroeconomics and Reality", Econometrica, Econometric Society, vol. 48(1), pages 1-48, January.

Stock, J. H., and M. W. Watson (2001): "Vector Autoregressions", Journal of Economic Perspectives, 15(4), 101.116.

Sims, C., J. Stock and M. Watson (1990): "Inference in Linear Time Series Models with Some Unit Roots", Econometrica, Econometric Society, vol. 58(1), pages 113-44, January.

Blanchard, O. J., and D. Quah (1989): "The Dynamic Effects of Aggregate Demand and Aggregate Supply Shocks", American Economic Review, 79(4), 655-673.

Christiano, L. J., M. Eichenbaum, and C. L. Evans (1998): "Monetary Policy Shocks: What Have We Learned and to What End?", mimeo, Northwestern University.

Gali, J. (1999): "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?", American Economic Review, 89(1), 249-271.

King R.G., Plosser C.I., Stock J.H, and Watson M.W. (1991): "Stochastic Trends and Economic fluctuations", The American Economic Review, Vol. 81 No. 4, 819-840.

Lawrence J. Christiano & Martin Eichenbaum & Robert Vigfusson (2003): "What happens after a technology shock?", International Finance Discussion Papers 768, Board of Governors of the Federal Reserve System (U.S.).

PART III

Doan, T., R. Litterman, and C. A. Sims (1984): "Forecasting and Conditional Projection Using Realistic Prior Distributions", Econometric Reviews, 3, 1–100.

Kadiyala, K. R., and S. Karlsson (1997): "Numerical Methods for Estimation and Inference in Bayesian VAR-Models", Journal of Applied Econometrics, 12(2), 99-132.

Robertson, J. C., and E. W. Tallman (1999): "Vector autoregressions: forecasting and reality", Economic Review, (Q1), 4–18.

Sims, C. A., and T. Zha (1998): "Bayesian Methods for Dynamic Multivariate Models", International Economic Review, 39(4), 949–68.

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

Marta Banbura & Domenico Giannone & Lucrezia Reichlin, 2008. "Large Bayesian VARs",Working Paper Series 966, European Central Bank. Journal of Applied Econometrics, forthcoming.