

ECONOMETRIC METHODS II: TIME SERIES

SYLLABUS

KRISTOFFER P. NIMARK

Office: 23.408 (Wellington building)

Class time and place: Tuesdays 3pm-5pm (20.019) and Thursdays 5pm-7pm (20.047).

Office hours: Mondays 10am-12am

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TA: Filippo Ferroni, filippo.ferroni@upf.edu, selected Wednesdays 5.30pm-6.30pm (20.049)

Overview

This half of the course aims at equipping students with the tools needed to produce applied macro economic research. Most of the material can be found in a combination of Hamilton's textbook and Cochrane's "text", but reading articles may also be required.

Administrative matters

Grades will be based on 2 homework assignments (2x10%) and a midterm (30%) adding up to the 50% available for the second half of Econometric methods II (Time Series)

1 Cointegration.

- Representation
- Testing and Estimation

2 Structural VARs.

- Orthogonalized shocks
- Impulse response functions
- Variance decompositions

3 State Space Models and the Kalman Filter.

- Representation and uses
- Estimating a hidden process; The Kalman filter
- Recursive log-likelihood functions
- Numerical maximization
- MCMC (Metropolis Hastings)

Date: May 21, 2009.

4 DSGE models and Bayesian Estimation.

- Linearized structural models as state space systems
- The role of observables and measurement errors
- Imposing prior information

REFERENCES

- [1] Hamilton, James D., 1994, *Time Series Analysis*, Princeton University Press
- [2] Cochrane, John, 2005, *Time Series for Macroeconomics and Finance*,
http://faculty.chicagobooth.edu/john.cochrane/research/Papers/Time_Series_Book.pdf