

Academic Year: (2021 / 2022)

Review date: 04-05-2021

Department assigned to the subject: Economics Department

Coordinating teacher: DOLADO LOBREGAD, JUAN JOSE

Type: Electives ECTS Credits : 4.0

Year : 2 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Graduate courses in Statistics, Econometrics I and Econometrics II (Master in Economic Analysis)

OBJECTIVES

The goal of this course is twofold. The first half of the syllabus is devoted to get graduate students familiar with a wide range of econometric methods for estimation of SVAR, DSGE and SAM macro models. Special emphasis is placed on the analysis of the transmission and propagation effects on financial, fiscal, monetary and productivity shocks on macro aggregates in product and labour markets. The second half of the course is devoted to estimation and inference in large datasets, including methods like quantile regressions, factor models and machine learning technique.

The course will be organized around lectures and paper presentations to provide solid economic theory and econometric background for each topic. The lectures will be complemented with problem sets, that include both theoretical and empirical exercises.

DESCRIPTION OF CONTENTS: PROGRAMME

Topic 1. VAR Models in Macro (Brief overview)

- 1.1 General Framework (VAR, ECM, SVAR)
- 1.2 Estimation of VAR, ECM, SVAR & Proxy SVAR Models
- 1.3 Identifying Restrictions: Short & Long-Run, Sign, Heteroskedasticity, IV
- 1.4 Specifying the Co-integrating Rank
- 1.5 Bayesian VARs

Topic 2. Empirical Applications

- 2.1 Inflation Shocks and Money Neutrality
- 2.2 Labour Market Shocks
- 2.3 Fiscal Shocks
- 2.4 Identifying Monetary Policy Switching Regimes
- 2.5 What Do VARs mean when Shocks are Persistent?
- 2.5. Stock Prices, News Shocks & the Business Cycle
- 2.6 An Attack on RBC Models: Technology vs. Demand Shocks
- 2.7 Using DSGE Models to Check Identification in SVARs

Topic 3. Miscellanea

- 3.1 Structural Breaks
- 3.2 Modelling TS with Changes in Regime through Markov Chains
- 3.3 Marked-Point Processes in High-frequency data
- 3.4 Estimation of Taylor Rules & NK Phillips Curves
- 3.5 Quantile Regression Models
- 3.6 Large Dimensional Factor Models (Estimation, Forecasting, Breaks, Quantiles)
- 3.7 Testing for Rational Bubbles.
- 3.8 Calibration /Estimation of Search & Matching Models

Topic 4. Machine Learning Techniques

- 4.1 Estimating Prediction Error
- 4.2 Shrinkage and LASSO methods
- 4.3 Nonlinear methods
- 4.5 Regression Trees, Random Forests
- 4.6 Causal Inference with Machine Learning

LEARNING ACTIVITIES AND METHODOLOGY

State-of- art calibration, simulation and estimation techniques.

ASSESSMENT SYSTEM

Grading will be based on class assignments (30%), and a final takehome exam (70%).

% end-of-term-examination:	70
% of continuous assessment (assignments, laboratory, practicals...):	30

BASIC BIBLIOGRAPHY

- Cahuc, P. and A. Zylberberg Labor Economics, MIT Press, 2014
- Cameron, C Machine Learning for Microeconomists (slides), <http://cameron.econ.ucdavis.edu/e240f/machinelearning.html>, 2017
- Hamilton, J. Time Series Analysis, Princeton University Press, ch.22 4. , 1994
- Johansen, S. Likelihood Based Inference in Cointegrated Autoregressive Models, Oxford University Press, 1995
- Kilian, L. and H. Lutkepohl Structural Vector Autoregressive Analysis, Cambridge University Press, 2017

ADDITIONAL BIBLIOGRAPHY

- Balmaseda, M., Dolado, J. and D. Lopez-Salido The Dynamic Effects of Shocks to Labour Markets: Evidence from OECD Countries, Oxford Economic Papers 52,3-23 , 2000
- Banerjee, A., Marcellino, M and C. Osbat Testing for PPP: Should We Use Panel Data Methods?, <http://repec.org/res2002/Banerjee.pdf> , 2002
- Beaudry, P. and F. Portier News, Stock Prices and Economic Fluctuations, American Economic Review, 96, 1293-1307, 2006
- Bernanke, B. and I. Mihov Measuring Monetary Policy, Quarterly Journal of Economics, 113, 869-902 , 1998
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- Charnavoki, V. and J. Dolado The Effects of Global Shocks on Small Commodity-Exporting Economies. New Evidence from Canada, American Economic Journal ¿Macro, 6(2), 207-237. , 2014
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- Dolado, J., R. Maria-Dolores and F.J. Ruge-Murcia Nonlinear Monetary Policy Rules: Some New Evidence for the U.S., Studies in Nonlinear Dynamics and Econometrics, 8, (3). , 2004
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- Erceg, C. J., Guerrieri, L. and C. Gust Can Long-Run Restrictions Identify Technology Shocks?, Journal of the European Economic Association, 3. , 2005
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BASIC ELECTRONIC RESOURCES

- Juan José Dolado . Course material : <https://dolado.blogspot.com>