TOPICS ON APPLIED MACRO & LABOUR

(Mondays & Thursdays: March-April 2020)

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SYLLABUS:

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

(**Additional Material: Time permitting**). Further Topics on Cointegrated Variables, Fully- Modified Estimation & Dynamic OLS, Co-integration and Multi-cointegration, Fractional Co-integration, Johansen´s Reduced Rank Approach, ML Estimation of Common Factors, Co-integration in Panel Data Sets

REFERENCES:

Textbooks

1. Kilian, L. and H. Lutkepohl, (2017): **Structural Vector Autoregressive Analysis**, Cambridge University Press.

2. Cahuc, P. and A. Zylberberg (2014): **Labor Economic**s, MIT Press.

3. Cameron, C. (2017) **Machine Learning for Microeconomists** (slides)

http://cameron.econ.ucdavis.edu/e240f/machinelearning.html

4. Hamilton, J. (1994): **Time Series Analysis**, Princeton University Press, ch.22 4.

5. Johansen, S. (1995): **Likelihood Based Inference in Cointegrated Autoregressive Models, Oxford University Press, chapters 1-3**

Articles

1. Banerjee, A., Marcellino, M and C. Osbat (2002) "Testing for PPP: Should We Use Panel Data Methods?," http://repec.org/res2002/Banerjee.pdf

2. Balmaseda, M., Dolado, J. and D. Lopez-Salido (2000) " The Dynamic Effects of Shocks to Labour Markets: Evidence from OECD Countries" *Oxford Economic Papers* 52,3-23 .

3. Beaudry, P. and F. Portier (2006): “News, Stock Prices and Economic Fluctuations”, *American Economic Review*, 96, 1293-1307.

4. Bernanke, B. and I. Mihov (1998) “Measuring Monetary Policy” *Quarterly Journal of Economics*, 113, 869-902

5. Blanchard, O. and D. Quah (1989): “The Dynamic Effects of Aggregate Demand and Supply Disturbances”, *American Economic Review* 79, 655-73 6.

6. Blanchard, O. and R. Perotti (2002): “An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output”, *Quarterly Journal of Economics*, 117, 1329-1368.

7. Bullard, J. and J. Keating (1995): “The Long-Run Relationship Between Inflation and Output in Postwar Economics”, *Journal of Monetary Economics* 36, 477-96

8. Canova, F. (1995): “Vector Autoregressive Models: Specificatio, Estimation, Inference, and Forecasting” ch. 2 in Pesaran, M. H and M. Wickens (eds), **Handbook of Applied Econometrics**, Blackwell.

9. Clarida, R., Galí, J and M. Gertler (1998): “Monetary Policy Rules in Practice: Some International Evidence”, *European Economic Review*, 42, 1033- 68. 10.

10. Chen, L., Dolado, J. and J. Gonzalo (2014), “Detecting Big Structural Breaks in Large Factor Models” *Journal of Econometrics*, 180, 30-48. 11.

11. Chen, L., Dolado, J. and J. Gonzalo (2017), “Quantile Factor Models” http://dolado.blogspot.it/p/research.html

12. Christiano, L.J., Eichenbaum, M. and C. Evans (2000): Monetary Policy Shocks: What Have we Learned and to What End?, in Taylor and Woodford, **Handbook of Macroeconomics.**

13. Christiano, L.J., Eichenbaum, M. and R. Vigfusson (2004): The Response of Hours to a Technology shock: Evidence Based on Direct Measures of Technology*”, Journal of the European Economic Association*, 2, 381-395.

14. Charnavoki, V. and J. Dolado (2014), “The Effects of Global Shocks on Small Commodity-Exporting Economies. New Evidence from Canada”, *American Economic Journal –Macro*, 6(2), 207-237.

15. Dolado, J. and J. Jimeno (1997): “The Causes of Spanish Unemployment: a Structural VAR Approach “, *European Economic Review* 41, 1281-1307.

16. Dolado, J. and R. Maria-Dolores (2002) “Evaluating Changes in The Bank of Spain's Interest Rate Target: An Alternative Approach Using Marked Point Processes *“ Oxford Bulletin of Economics& Statistics*, 64, 159-82.

17. Dolado, J., Gonzalo, J. and L. Mayoral (2002) “A Fractional Dickey-Fuller Test for Unit Roots” Econometrica, 70, 1963-2006.

18. Dolado, J., R. Maria-Dolores and F.J. Ruge-Murcia (2004) “Nonlinear Monetary Policy Rules: Some New Evidence for the U.S.”. *Studies in Nonlinear Dynamics and Econometrics,* 8, (3).

19. Dolado, J., R. Maria-Dolores and M. Naveira (2005) “Are Monetary-policy Reaction Functions Asymmetric ?: The Role of Nonlinearity in the Phillips Curve” *European Economic Review*, 49, 485-503.

20. Erceg, C. J., Guerreri, L. and C. Gust (2005): "Can Long-Run Restrictions Identify Technology Shocks?" *Journal of the European Economic Association*, 3.

21. Fernández-Villaverde, J., Rubio-Ramirez, J. F, Sargent, T. and M. Watson (2007): “A, B, C, (and D)s for Understanding VARs." *American Economic Review* 97, 1021-1026.

22. Fernández-Villaverde, J. Guerrón-Qintana., P. and J.F. Rubio-Ramírez (2010), “Reading the Recent Monetary History of the United States, 1959-2007” *Review Federal Reserve Bank of St. Louis*, issue May, pp. 311-338, 92, 1-28.

23. Galí, J (1999) “Technology, Employment and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations? *American Economic Review*, 89, 249-271.

24. Galí, J. (2011) “The Return of the Wage Phillips Curve”, *Journal of the European Economic Association*, 9, 436-461.

25. Galí, J. (2013), “Notes for a New Guide to Keynes (I): Wages, Aggregate Demand, and Employment”, *Journal of the European Economic Association*, 1(5) 973-1003.

26. Galí, J and M. Gertler (1999) “Inflation Dynamics: A Structural Econometric Analysis”, *Journal of Monetary Economics*, 44, 195-222.

27. Hamilton, J. (1989): “A New Approach to the Economic Analysis of Nonstationary Time Series and the Business Cycle”, *Econometrica* 57, 357-84.

28. Jermann, U. and V. Quadrini, (2012), “Macroeconomic Effects of Financial Shocks", *American Economic Review*, 102, 2012.

29. Johansen, S. and K. Juselius (1990): “Maximum Likelihood Estimation and Inference on Cointegration: With Applications to the Demand for Money”, *Oxford Bulletin of Economics & Statistics* 52, 169-210.

30. Johansen, S. and M. O. Nielsen (2012): “Likelihood Inference for a Fractionally Cointegrated Vector Autoregressive Model”, *Econometrica*, 80, 2667-2733.

31. Koenker, R, and K.F. Hallock (2001) “Quantile Regression*”, Journal of Economic Perspectives* 15 (4), 143-156

32. Lubik, T. (2009) “Estimating a Search and Matching Model of the Aggregate Labor Market”, Richmond Fed Economic Quarterly, 95, 101-120

33. Mullainathan, S. and J. Spiess (2017) “ Machine Learning: An Applied Econometric Approach” *Journal of Economic Perspectives* 31 (2), 87-106

34. Phillips, P.C.B and J. Pu (2010), "Dating the Timeline of Financial Bubbles during the Subprime Crisis," *Quantitative Economics*, 1(2): 455-491.

35. Mertens, K. and M. Ravn (2014), “ A Reconciliation of SVAR and Narrative Estimates of Tax Multipliers,” *Journal of Monetary Economics*, 68, S1-S19.

36. Stock, J. and M. Watson (2002), “Forecasting Using Principal Components from a Large Number of Predictors”, *Journal of the American Statistical Association*, 2002.

37. Uhlig, H. (2005), “What Are the Effects of Monetary Policy on Output? Results from an Agnostic Identification Procedure” *Journal of Monetary Economics*, 2005, 52(2), pp. 381-419.