#### **Course overview**

Topics on Macroeconomy B: Recent developments in Applied Macroeconomics

#### Professor Evi Pappa

Universidad Carlos III de Madrid

The course will explore topics in applied macroeconomics, with emphasis on the intersection of empirical analysis and theory. Topics may include monetary policy, fiscal policy, financial frictions, and labor markets. The course will present a variety of empirical methods, such as the narrative approach, VAR analysis, and the use of cross-sectional data in macroeconomics, as well as theoretical models such as Standard DSGE NK Models and DSGE models with SAM and HANK features.

#### **Prerequisites**

Completion of the first year Ph.D sequence, or permission of instructor.

## Requirements in brief

Weekly readings, two homework assignments, two referee reports, and a final "virtual" paper.

### Grade

Paper (65%), other homeworks (25%), class participation (10%)

Requirements details

# Weekly readings

Much of the class will revolve around discussion of assigned readings. This makes it essential that you read the papers before lecture and come prepared to discuss and critique them.

## Homework I

The first homework will be a data exploration project. Students should discuss ideas together, but each student must complete the assignment separately.

### Homework II

The second homework will build quantitative skills with a focus on simulations of a theoretical model. You may work together, but each student must submit his/her own write up.

# Referee reports

Students will complete two referee reports. You will be assigned papers during the course. A referee report should contain:

- A one-half page to one page summary of the paper. The summary should not simply repeat the abstract. If there is a key equation in the paper, put it in the summary with the relevant context. The summary should also include an assessment of the paper's contribution to the literature.
- Two to four pages of analysis of the paper. What did you like, what could be improved, and what did the authors just get wrong? Make your report a stand alone document, repeating key arguments or equations from the paper as necessary before praising or critiquing them.

#### <u>Paper</u>

This will be your main project for the course. It is a virtual paper in that you do not have to completely finish the paper – but you should make significant progress on it. You will formulate an original research idea, develop a practical plan for executing the idea, and take initial steps in the execution. The paper may the following form:

- 1. Introduction: What is the question and why is the question of interest?
- 2. Literature Review: How does your paper fit into the broader literature?
- 3. Theoretical Motivation: This could be actual theory or just a sketch of the relevant theory that underlies your question.
- 4. Data: What data would you use to answer/address this question? Why are the data well suited to the question?
- 5. Empirical Methodology: How would you use the data to answer your question? Be explicit about identification and causality, keeping in mind that the same set of empirical facts can often support many theories. Depending on the nature of your question and the ease of accessing and using the data, I may ask you to make significant progress in the actual implementation of your proposed empirical work.
- 6. Falsification Tests: What other specifications, tests and investigations could either bolster or cast doubt upon the primary tests of your hypotheses?
- 7. Preliminary Results: The extent of the results provided will differ across students based on the project and discussions with me.

# Deadlines for the paper:

- Last day of the exam week in the summer course.
- Presentations of research projects will follow in a separate class.

You may request approval from me to work jointly on the virtual paper. Of course the bar for sufficient progress will be higher for joint projects.

# **Course outline**

Overview

\*Lawrence H. Summers. The Scientific Illusion in Empirical Macroeconomics. The Scandinavian Journal of Economics, 93(2):pp. 129–148, 1991. http://www.jstor.org/stable/3440321

Monetary and fiscal policy: Theory

Marianne Baxter and Robert G. King. Fiscal Policy in General Equilibrium. The American

Economic Review, 83(3):pp. 315–334, 1993. http://www.jstor.org/stable/2117521 Michael Woodford. Interest and Prices. Princeton University Press, 2003. http://press.

princeton.edu/titles/7603.html, Chapter 3

\*Michael Woodford. Simple Analytics of the Government Expenditure Multiplier. American Economic Journal: Macroeconomics, 3(1):1–35, September 2011. http://www.aeaweb.org/articles.php?doi=10.1257/mac.3.1.1

Lawrence Christiano, Martin Eichenbaum, and Sergio Rebelo. When Is the Government Spending Multiplier Large? Journal of Political Economy, 119(1):pp. 78–121, 2011. http://www.jstor.org/stable/10.1086/659312

Jesu's Ferna ndez-Villaverde, Grey Gordon, Pablo Guerru n-Quintana, and Juan F. Rubio-Ram ırez.

Canova, F. & Pappa, E. (2020), "What are the likely macroeconomic effects of the EU Recovery plan?", mimeo.

Monetary and fiscal policy: TANK and HANK models

Acharya, S and K. Dogra, "Understanding HANK: Insights from a PRANK," available at: https://sushantacharya.github.io/sushantacharya.github.io/pdfs/prank.pdf

Kaplan, Moll and Violante: "Monetary Policy According to HANK," available at: http://economics.mit.edu/files/11200/

P.J. Kehoe, V. Midrigan, E. Pastorino and S. Salgado "On the Dynamic Effects of Monetary Policy with Heterogeneous Agents" available at: https://drive.google.com/file/d/llscoqsGljjblq6aDVQGtyOcXiKBa28Pv/view

Gergo Motyovzski, Monetary-Fiscal Interactions and Redistribution in Small Open Economies, mimeo 2020

Monetary and fiscal policy: VARs

James D. Hamilton. Time Series Analysis. Princeton University Press, 1994, Chapters 10 and 11

Oscar Jorda. Estimation and Inference of Impulse Responses by Local Projections. American Economic Review, 95(1):161–182, 2005. http://www.aeaweb.org/articles.php?doi=10. 1257/0002828053828518

Alan J. Auerbach and Yuriy Gorodnichenko. Fiscal Multipliers in Recession and Expansion. In Alberto Alesina and Francesco Giavazzi, editors, Fiscal Policy after the Financial Crisis. The University of Chicago Press, 2013. http://www.nber.org/papers/w17447.pdf

Ben S. Bernanke and Ilian Mihov. Measuring Monetary Policy. The Quarterly Journal of Economics, 113(3):869–902, 1998. http://qje.oxfordjournals.org/content/113/3/869

Lawrence J. Christiano, Martin Eichenbaum, and Charles L. Evans. Chapter 2 Monetary policy shocks: What have we learned and to what end? volume 1, Part A of Handbook of Macroeco- nomics, pages 65 – 148. Elsevier, 1999. doi: http://dx.doi.org/10.1016/S1574-0048(99)01005-8. http://www.sciencedirect.com/science/article/pii/S1574004899010058

- \*Olivier Blanchard and Roberto Perotti. An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output. The Quarterly Journal of Economics, 117(4):1329–1368, 2002. http://qje.oxfordjournals.org/content/117/4/1329
- \*Ben S. Bernanke, Jean Boivin, and Piotr Eliasz. Measuring the Effects of Monetary Pol- icy: A Factor-Augmented Vector Autoregressive (FAVAR) Approach. The Quarterly Journal of Economics, 120(1):387–422, 2005. http://qje.oxfordjournals.org/content/120/1/387. abstract
- \*Andrew Mountford and Harald Uhlig. What are the effects of fiscal policy shocks? Journal of Applied Econometrics, 24(6):960–992, 2009. http://dx.doi.org/10.1002/jae.1079

Monetary and fiscal policy: Narrative approach

- \*Christina D. Romer and David H. Romer. Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz. In Olivier Jean Blanchard and Stanley Fischer, editors, NBER Macroeconomics Annual, volume 4, pages 121–184. MIT Press, 1989. http://emlab.berkeley.edu/users/cromer/MacroAnnual1989.pdf
- \*Christina D. Romer and David H. Romer. The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks. American Economic Review, 100(3):763–801, 2010. http://www.aeaweb.org/articles.php?doi=10.1257/aer.100.3.763

\*Robert J. Barro and Charles J. Redlick. Macroeconomic Effects From Government Purchases and Taxes. The Quarterly Journal of Economics, 126(1):51–102, 2011. http://qje.oxfordjournals.org/content/126/1/51

Valerie A. Ramey. Identifying Government Spending Shocks: It's all in the Timing. The Quarterly Journal of Economics, 126(1):1–50, 2011. http://qje.oxfordjournals.org/content/126/1/1

\*Karel Mertens and Morten O. Ravn. The Dynamic Effects of Personal and Corporate Income Tax Changes in the United States. American Economic Review, 103(4):1212–47, 2013. http://www.aeaweb.org/articles.php?doi=10.1257/aer.103.4.1212

Fiscal policy: Cross-sectional evidence

David S. Johnson, Jonathan A. Parker, and Nicholas S. Souleles. Household Expenditure and the Income Tax Rebates of 2001. American Economic Review, 96(5):1589–1610, 2006. http://www.aeaweb.org/articles.php?doi=10.1257/aer.96.5.1589

\*Jonathan A. Parker, Nicholas S. Souleles, David S. Johnson, and Robert McClelland. Consumer Spending and the Economic Stimulus Payments of 2008. American Economic Review, 103 (6):2530–53, 2013. http://www.aeaweb.org/articles.php?doi=10.1257/aer.103.6.2530

\*Gabriel Chodorow-Reich, Laura Feiveson, Zachary Liscow, and William Gui Woolston. Does State Fiscal Relief during Recessions Increase Employment? Evidence from the American Recov- ery and Reinvestment Act. American Economic Journal: Economic Policy, 4(3):118–45, Septem- ber 2012. http://www.aeaweb.org/articles.php?doi=10.1257/pol.4.3.118

\*Emi Nakamura and Jon Steinsson. Fiscal Stimulus in a Monetary Union: Evidence from US Regions. American Economic Review, 104(3):753–92, 2014. http://www.aeaweb.org/articles.php?doi=10.1257/aer.104.3.753

\*Joshua Hausman. Fiscal Policy and Economic Recovery: The Case of the 1936 Veterans' Bonus. 2013. http://behl.berkeley.edu/files/2013/02/WP2013-06\_Hausman.pdf

Emmanuel Farhi and Ivan Werning. Fiscal Multipliers: Liquidity Traps and Currency Unions. Harvard University mimeo., 2012

Canova, F. & Pappa, E. (2020), "What are the likely macroeconomic effects of the EU Recovery plan?", mimeo.

Canova, F. Should we trust cross-sectional multiplier estimates? Mimeo available at: https://drive.google.com/file/d/1VOBWbH5FGRpsRDrd-i1hUf1upHm3NxL /view

Student presentations