

# Econ 2410hfc Syllabus

Professors Gabriel Chodorow-Reich and Paul Willen

Harvard University

Spring 2017

## Course overview

### Logistics

Meeting time: Thursday 3:00pm-5:30pm

Location: Littauer M-15

Course website: <https://canvas.harvard.edu/courses/21313>

Chodorow-Reich:

Office hours: Tuesday 4-5:00 (Littauer M-7)

Email: [chodorowreich@fas.harvard.edu](mailto:chodorowreich@fas.harvard.edu). Please include “econ 2410” in the subject line.

Willen:

Office hours: TBA

Email: [paul.willen@researchfed.org](mailto:paul.willen@researchfed.org).

TA: Michael Reher

Office hours: TBA

Email: [mreher@g.harvard.edu](mailto:mreher@g.harvard.edu).

### Prerequisites

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

### Requirements in brief

Weekly readings, four homework assignments and a final “virtual” paper.

### Grade

Virtual 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 starred papers before lecture and come prepared to discuss and critique them.

## Homework I

The first homework will be a problem set with a focus on building quantitative skills and familiarity with VARs. You may work together, but each student must submit his/her own independent write up. **Posted February 2. Due via email the evening before class on Wednesday February 8.**

## Homework II

The second homework will be a problem set. You may work together, but each student must submit his/her own independent write up. **Posted February 9. Due via email the evening before class on Wednesday February 22.**

## “Virtual” paper

This will be your main project for the course. The purpose of making the assignment a virtual paper is that we would rather you get 50% of the way toward a project you are excited to continue after the semester finishes than you complete a project in the timeframe of the course to which you will never return. 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 take 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 virtual paper:

- **February 26:** Email a two page write up of proposed idea. Please include “econ 2410” in the subject line.
- **February 27-28:** Meet with Professor Chodorow-Reich to receive feedback.
- **April ?:** Email a five page update. Please include “econ 2410” in the subject line.
- **April ?:** Meet with Professor Willen to receive feedback.
- **May 5:** Papers due via email. Please include “econ 2410” in the subject line.

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

## **Audit policy**

If you are a 3rd year or above and wish to audit the course, send us an email introducing yourself and so you can be added to the class list (as always, please include “econ 2410” in the subject line). Auditors are not required to complete the written assignments, but are expected to do the starred readings and participate in class.

# Course outline

## 1. Overview

## 2. Applied time series techniques (February 2)

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

Oscar Jordà. 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>

James Stock and Mark Watson. Factor models and structural vector autoregressions in macroeconomics. *Handbook of Macroeconomics*, 2016, Section 4

## 3. Applied papers: VARs (February 9)

Homework I due.

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 Macroeconomics*, pages 65 – 148. Elsevier, 1999. doi: [http://dx.doi.org/10.1016/S1574-0048\(99\)01005-8](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 Elias. Measuring the effects of monetary policy: 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>

Christiane Baumeister and James D. Hamilton. Sign restrictions, structural vector autoregressions, and useful prior information. *Econometrica*, 83(5):1963–1999, 2015. <http://dx.doi.org/10.3982/ECTA12356>

## 4. Applied papers: Narrative approach (February 16)

\*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>

## 5. Applied papers: Cross-sectional approach (February 23)

Homework II due.

Edward L. Glaeser, Joseph Gyourko, and Albert Saiz. Housing supply and housing bubbles. *Journal of Urban Economics*, 64(2):198 – 217, 2008. <http://www.sciencedirect.com/science/article/pii/S0094119008000648>

Albert Saiz. The geographic determinants of housing supply. *The Quarterly Journal of Economics*, 125(3):1253–1296, 2010. <http://qje.oxfordjournals.org/content/125/3/1253.abstract>

\*Atif Mian and Amir Sufi. What explains the 2007-2009 drop in employment? *Econometrica*, 82(6):2197–2223, 2014. <http://dx.doi.org/10.3982/ECTA10451>

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>

\*Martin Beraja, Erik Hurst, and Juan Ospina. The aggregate implications of regional business cycles. 2016

Gabriel Chodorow-Reich, Laura Feiveson, Zachary Liscow, and William Gui Woolston. Does state fiscal relief during recessions increase employment? evidence from the american recovery and reinvestment act. *American Economic Journal: Economic Policy*, 4(3):118–45, September 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>

Jonathan Parker. Why don't households smooth consumption? evidence from a 25 million dollar experiment. Unpublished manuscript, 2015. <http://www.nber.org/papers/w21369.pdf>

Emmanuel Farhi and Ivan Werning. Fiscal multipliers: Liquidity traps and currency unions. In *Handbook of Macroeconomics*. 2016. Harvard University mimeo

\*Gabriel Chodorow-Reich. Geographic cross-sectional fiscal multipliers: What have we learned? [http://scholar.harvard.edu/files/chodorow-reich/files/cross\\_sectional\\_multipliers.pdf](http://scholar.harvard.edu/files/chodorow-reich/files/cross_sectional_multipliers.pdf) (You may read the appendix only.)

## 6. Macro labor (March 2)

Christopher A. Pissarides. *Equilibrium Unemployment Theory*. The MIT Press, 2000. <http://mitpress.mit.edu/books/equilibrium-unemployment-theory>

Richard Rogerson, Robert Shimer, and Randall Wright. Search-theoretic models of the labor market: A survey. *Journal of Economic Literature*, 43(4):959–988, 2005. <http://www.aeaweb.org/articles.php?doi=10.1257/002205105775362014>

Robert Shimer. The cyclical behavior of equilibrium unemployment and vacancies. *The American Economic Review*, 95(1):pp. 25–49, 2005. <http://www.jstor.org/stable/4132669>

Robert Hall. Employment fluctuations with equilibrium wage stickiness. *American Economic Review*, 95(1):50–65, 2005

Marcus Hagedorn and Iourii Manovskii. The cyclical behavior of equilibrium unemployment and vacancies revisited. *American Economic Review*, 98(4):1692–706, 2008. <http://www.aeaweb.org/articles.php?doi=10.1257/aer.98.4.1692>

Christopher A. Pissarides. The unemployment volatility puzzle: Is wage stickiness the answer? *Econometrica*, 77(5):1339–69, 2009. <http://dx.doi.org/10.3982/ECTA7562>

Andreas Hornstein, Per Krusell, and Giovanni L. Violante. Frictional wage dispersion in search models: A quantitative assessment. *American Economic Review*, 101(7):2873–98, September 2011. <http://www.aeaweb.org/articles.php?doi=10.1257/aer.101.7.2873>

Gabriel Chodorow-Reich and Loukas Karabarbounis. The cyclicality of the opportunity cost of employment. *Journal of Political Economy*, 124(6):1563–1618, 2016. <http://dx.doi.org/10.1086/688876>