

EC 478: Empirical Macroeconomics with Micro Data

Spring 2020

Class Schedule

Monday, 5:00- 7:50, Tyler Hall 217

Contact Information

Professor: Matt Klepacz

Email: mtklepacz@wm.edu

Office: Tyler 257

Office Hours: Tuesday 3:00-5:00 pm, Wednesday 2:00-3:00 pm, or by appointment

Course Material

Optional Textbook. Macroeconomic Theory: A Dynamic General Equilibrium Approach, 2nd Edition, by Michael Wickens.

Additional Optional Textbooks

Monetary Theory and Policy, 3rd Edition, by Carl Walsh. (ISBN: 9780262013772)

Mastering Metrics: The Path from Cause to Effect, by Joshua Angrist and Jorn-Steffen Pischke. (ISBN: 0691152845)

Course Description

This course will introduce students to modern business cycle macroeconomics with a focus on using micro-data to inform and discipline macroeconomic models. It will include a survey of business cycle models that help us understand the effects of policy. The course will cover a variety of empirical methods and data sources that can be used to test, calibrate, and develop models for macroeconomics. We will discuss identification of macroeconomic outcomes through structural, narrative, and cross-sectional approaches. Specific topics will include fiscal and monetary policy, firm investment behavior, the effects of uncertainty shocks, and financial frictions.

This course fulfills the COLL 400 capstone experience. As such, it will require you to take initiative in synthesis and critical analysis, to solve problems in applied and academic settings, to create original material or original scholarship, and to communicate effectively with a diversity of audiences. Assignments that satisfy these requirements are included below.

After a minimal number of background lectures, the course will shift to a seminar style class where students will be presenting the material and providing feedback to others. As such, it is important to prepare for and participate in class. This includes reading and thinking about assigned materials in order to discuss them. Active participation will lead to successful seminars and help suggest avenues for future research.

Prerequisites

This course builds on the theory and tools developed in Intermediate Micro/Macroeconomics (EC 303 and 304), Calculus I and II (MATH 111/112 or equivalents), and Econometrics (EC 308). More generally, students should be familiar with the concepts of supply and demand, monetary and fiscal policy, and have extensive practice using equations, graphs, and tables to analyze economic situations. Students are also expected to be experts working with functions, their graphical representation, and the solution of simultaneous equations. This class incorporates empirical evidence to discipline macroeconomic models, and students are expected to be comfortable with regression analysis. Consistent study habits coupled with an eagerness to learn and ask questions will help to achieve the learning objectives.

Course Website

All course material will be posted on Blackboard.

Attendance Policy

Attendance at class is mandatory. More than two unexcused absences may result in a partial letter grade reduction per additional absence (e.g. A to A- if three classes are missed).

Statistical Software

In addition to the theoretical models that we cover, this course will study firm level decision making and outcomes. The primary data source we will use for this is Compustat, which enables us to track firm investment, employment, and many other variables over time. In order to analyze the data we will be using the Stata. Stata is available on all campus computers. An introduction and review of Stata will be posted on Blackboard, and the problem sets will give you additional practice.

We will make extensive use of Stata. For Stata you may want to buy your own copy of the software (through the *Grad Plan* at <https://www.stata.com>) and the cost is around \$100. Alternatively, a College-owned version can be run remotely on a Unix machine (stat.wm.edu) from your laptop through X11 or other means. If you decide to go this route, know that the setup is time consuming and you will likely need assistance from IT. If you plan on using stat.wm.edu, please deal with these logistics during the first week of class. Additionally, there are computer labs around campus (e.g. Morton 240) where Stata is accessible.

Additionally, we have a class account in WRDS (<https://wrds-www.wharton.upenn.edu/>) in order to access Compustat. Detailed instructions for access will be given in class.

Assignments

- There will be three problem sets covering theory and empirical methods. The problem sets are designed to introduce you to data sources, experience how economists apply econometric techniques from Econ 308 to test hypotheses, and help prepare you to undertake research. All assignments must be typed up and turned in as a hardcopy, as well as online using Blackboard. This will be 30% of grade.
- There are three writing assignments worth 45% of your grade.
 - A non-technical article intended for broad audience such as an article in *The Economist*. This assignment will prepare you to communicate with audiences that are outside of

academia and have less technical background on a subject. This assignment is worth 10% of your course grade.

- A literature review on the topic of your proposed research question and a one-page research proposal. This assignment is worth 15% of your course grade.
- The final paper with original research content. The research paper will require you use microeconomic data to estimate a relationship that matters for macroeconomic fluctuations. This assignment is worth 20% of your course grade.
- You will make two presentations in class worth 25% of your course grade.
 - The first presentation you will motivate and present a published paper. This presentation will be worth 10% of your course grade.
 - The second presentation you will present your final paper as a work in progress. This presentation will be worth 15% of your course grade.

Important Dates

Add/ Drop Deadline: 1/31/2020

Withdrawal Deadline: 3/23/2020

Final Paper Due: 5/1/2020

Academic Conduct

The College of William & Mary has had an honor code since at least 1779. Academic integrity is at the heart of our community, and we are all responsible for upholding the ideals of honor and integrity. I will report all suspected instances of academic dishonesty to the honor system. Additional information is available at www.wm.edu/studenthandbook and includes your responsibilities as a student and the full Code. Your full participation and observance of the Honor Code is expected.

Student Accessibility Services

William & Mary accommodates students with disabilities in accordance with federal laws and university policy. Any student who feels s/he may need an accommodation based on the impact of a learning, psychiatric, physical, or chronic health diagnosis should contact Student Accessibility Services staff at [757-221-2509](tel:757-221-2509) or at sas@wm.edu to determine if accommodations are warranted and to obtain an official letter of accommodation. For more information, please see www.wm.edu/sas.

Tentative Course Outline

1. Introduction

Angrist, Joshua D., and Jörn-Steffen Pischke (2010). "The Credibility Revolution in Empirical Economics: How Better Research Design Is Taking the Con out of Econometrics." *Journal of Economic Perspectives* 24, no. 2: 3–30.

Nakamura, Emi and Jon Steinsson (2018). "Identification in Macroeconomics," *Journal of Economic Perspectives*, 32(3), 59-86.

Sims, Christopher A. "Macroeconomics and Reality." *Econometrica* 48, no. 1 (1980): 1–48.

King, Robert G. and Sergio T. Rebelo (1999). "Resuscitating Real Business Cycles." *Handbook of Macroeconomics* 927-10007.

2. Review of Neoclassical Growth Model

3. Real business cycle model and facts

- a. Total Factor Productivity shocks
- b. Introduction to Compustat

Bartlesman, Eric and Mark Doms (2000), "Understanding Productivity: Lessons from Longitudinal Microdata," *Journal of Economic Literature*.

Castro, Rui, Gian Luca Clementi, and Yoonsoo Lee (2015), "Cross-Sectional Variation in the Volatility of Plant-Level Idiosyncratic Shocks," *Journal of Industrial Economics*.

King, Robert and Sergio Rebelo (1999), "Resuscitating Real Business Cycles," *Handbook of Macroeconomics*.

Summers, Lawrence (1986). "Some Skeptical Observations on Real Business Cycle Theory." *Minneapolis Quarterly Review*, Fall, 23-27.

4. Fiscal Policy

- a. Cross Sectional Identification
- b. Industry Identification
- c. Spending Shocks
- d. Taxation and Investment

Baxter, Marianne and Robert King (1993). "Fiscal Policy in General Equilibrium." *American Economic Review*, Vol 83(3), 315-334.

Blanchard, Olivier, and Roberto Perotti (2002). "An Empirical Characterization of the Dynamic Effects of Changes in Government Spending and Taxes on Output." *The Quarterly Journal of Economics* 117, no. 4: 1329–68.

Christiano, Lawrence, Martin Eichenbaum, and Sergio Rebelo (2012). "When Is the Government Spending Multiplier Large ?" *Journal of Political Economy* 119, no. 1: 78–121.

Chodorow-Reich, Gabriel (2017). "Geographic Cross-Sectional Fiscal Spending Multipliers: What Have We Learned?" Working Paper.

Cloyne, James (2013). "Discretionary Tax Changes and the Macroeconomy: New Narrative Evidence from the United Kingdom." *American Economic Review* 103, no. 4:1507–28.

Mertens, Karel, and Morten O. Ravn (2012). "Empirical Evidence on the Aggregate Effects of Anticipated and Unanticipated US Tax Policy Shocks." *American Economic Journal: Economic Policy* 4, no. 2 (May 2012): 145–81.

Nakamura, Emi, and Jón Steinsson (2014). "Fiscal Stimulus in a Monetary Union: Evidence from US Regions." *American Economic Review* 104, no. 3: 753–92.

Ramey, Valerie (2018). "Ten Years after the Financial Crisis: What Have We Learned from the Renaissance in Fiscal Research?" NBER Conference "Global Financial Crisis @10".

Romer, Christina D., and David H. Romer (2010). "The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks." *American Economic Review* 100, no. 3: 763–801.

5. Tobin's Q Theory and Firm Investment Behavior

Asker, John, Allan Collard-Wexler, and Jan De Loecker (2014). "Dynamic Inputs and Resource (Mis)Allocation," *Journal of Political Economy*.

Bachmann, Ruediger, Ricardo Caballero, and Edouardo Engel (2013), "Aggregate Implications of Lumpy Investment: New Evidence and a DSGE Model," *American Economic Journal: Macroeconomics*.

Caballero, Ricardo, Eduardo Engel, and John Haltiwanger (1995), "Plant-Level Adjustment and Aggregate Investment Dynamics," *Brookings Papers on Economic Activity*.

Cooper, Russell and John Haltiwanger (2008), "On the Nature of Capital Adjustment Costs," *Review of Economic Studies*.

Doms, Mark and Timothy Dunne (1998), "Capital Adjustment Patterns in Manufacturing Plants," *Review of Economic Dynamics*.

Fazzari, Steven M., R. Glenn Hubbard, Bruce C. Petersen, Alan S. Blinder, and James M. Poterba (1988). "Financing Constraints and Corporate Investment." *Brookings Papers on Economic Activity* 1988, no. 1: 141–206.

Gourio, Francois and Anil Kashyap (2007), "Investment Spikes: New Facts and a General Equilibrium Exploration," *Journal of Monetary Economics*.

Hassett, Kevin and Glenn Hubbard (2002), "Tax Policy and Business Investment," *Handbook of Public Economics*.

Hayashi, Fumio. "Tobin's Marginal Q and Average Q: A Neoclassical Interpretation." *Econometrica* 50, no. 1 (1982): 213–24.

Summers, Lawrence H., Barry P. Bosworth, James Tobin, and Philip M. White (1981). "Taxation and Corporate Investment: A Q-Theory Approach." *Brookings Papers on Economic Activity* 1981, no. 1: 67–140.

Zwick, Eric and James Mahon (2017), "Tax Policy and Heterogeneous Investment Behavior," *American Economic Review*, 107(1), 217-248.

6. New Keynesian Model

7. Effects of Monetary Policy

- a. Narrative Approach
- b. High Frequency Identification
- c. VAR
- d. Local Projections

e. Unconventional Policy

Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans (1999). "Chapter 2 Monetary Policy Shocks: What Have We Learned and to What End?" In *Handbook of Macroeconomics*, 1:65–148. Elsevier.

Jordà, Òscar. "Estimation and inference of impulse responses by local projections." *American economic review* 95.1 (2005): 161-182

Kashyap, Anil K, and Jeremy C. Stein (2000). "What Do a Million Observations on Banks Say about the Transmission of Monetary Policy?" *The American Economic Review* 90, no. 3: 407–28.

Romer, Christina D., and David H. Romer (2004). "A New Measure of Monetary Shocks: Derivation and Implications." *American Economic Review* 94, no. 4: 1055–84.

Romer, Christina D., and David H. Romer (1989). "Does Monetary Policy Matter? A New Test in the Spirit of Friedman and Schwartz." *NBER Macroeconomics Annual 1989, Volume 4, January 1* 121–84.

Velde, François R (2009). "Chronicle of a Deflation Unforetold." *Journal of Political Economy* 117, no. 4: 591–634.

8. Uncertainty Shocks

Bloom, Nicholas. "Fluctuations in Uncertainty," *Journal of Economic Perspectives*, 2014, 28(2):153-176.

9. Financial Frictions

Chaney, Thomas, David Sraer, and David Thesmar (2012), "The Collateral Channel: How Real Estate Shocks Affect Corporate Investment," *The American Economic Review*

Chodorow-Reich, Gabriel (2013), "Unemployment Effects of Credit Market Disruptions: Firm-Level Evidence from the 2008-2009 Financial Crisis," *The Quarterly Journal of Economics*

Crouzet, Nicolas and Neil Mehrotra (2017), "Small and Large Firms Over the Business Cycle," Working paper.

Gertler, Mark and Simon Gilchrist (1994), "Monetary Policy, Business Cycles, and the Behavior of Small Manufacturing Firms," *The Quarterly Journal of Economics*.

Gilchrist, Simon and Charles Himmelberg (1995), "Evidence on the Role of Cash Flow for Investment," *Journal of Monetary Economics*.

Gilchrist, Simon, and Egon Zakrajšek (2012). "Credit Spreads and Business Cycle Fluctuations." *American Economic Review* 102, no. 4 (June 2012): 1692–1720.

Jiménez, Gabriel, Steven Ongena, José-Luis Peydró, and Jesús Saurina (2014). "Hazardous Times for Monetary Policy: What Do Twenty-Three Million Bank Loans Say About the Effects of Monetary Policy on Credit Risk-Taking?" *Econometrica* 82, no. 2: 463–505.

Ottionello, Pablo and Thomas Winberry (2017), "Financial Heterogeneity and the Investment Channel of Monetary Policy," Working paper

Josh Rauh (2007), "Investment and Financing Constraints: Evidence from the Funding of Corporate Pension Plans," *Journal of Finance*

10. Spatial Variation

Mian, Atif, Kamalesh Rao, and Amir Sufi (2013). "Household Balance Sheets, Consumption, and the Economic Slump." *The Quarterly Journal of Economics* 128, no. 4: 1687–1726.

Mian, Atif, and Amir Sufi (2014). "What Explains the 2007–2009 Drop in Employment?" *Econometrica* 82, no. 6: 2197–2223.