

SYLLABUS FOR PH.D. MONETARY ECONOMICS

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1. Overview

My goals: (1) presenting basic theories, (2) basic technical skills, and (3) leading you to the research frontier.

My focus this year: real business cycle model, standard New Keynesian model, estimation of DSGE model, continuous-time heterogeneous agent model and behavioral macros.

An ideal class will have three interconnected part: theory, numerical skills and empirical estimation. However, we don't have much time to cover everything. I may open one selective class "Empirical Monetary Policy" next semester. That class will cover empirical and numerical methods in depth. No exam for that class.

2. Class Requirements

2.1 Presentation

- Presentation is an essential part in your Ph.D study. More important than you think. Three ways to choose paper.
 - A. You **MUST** choose papers from AER, QJE, JPE, Econometrica, REStud, AEJ-macro, QJE-macro, JME, JF, JFE and RFS. Top-5 are highly recommended.
 - B. If you are interested in some newest NBER working papers with **BIG** names, email me the pdf of the paper and tell me why it is related with this class or why I should spend 45min with this paper. Email title "Presentation+Your Name" to yang.ei@shufe.edu.cn. I will reply to you in email whether it is accepted for presentation in our class.
 - C. I will upload some papers along the way, you can choose paper from them. Keep an eye on the paper list in the Canvas.
 - * Recently, I'm very interested in the following topics: AI, behavioral economics, interaction of monetary and fiscal policy. Papers related with these topics are highly welcome.

- **Presentation rules:**

- Empirical paper: one student.
- Theoretical paper: one student.
- Empirical + theoretical paper: up to 2 students. Both are required to present. No free-riding anymore.

- **Presentation Structure.**

1. tell us why this is an important/interesting question: 10-20min.
 - * why should I care.
 - * how to think about the question
 - * what are the author's story
 - * what are the challenges
 - * explain the key concepts, the intuitions, background
 - * contributions
2. present limited but essential materials: 30 - 40min.
 - * you don't need to present everything in the paper!
 - * spend more time on the logic and the main results.
 - * theoretical model: what is the new mechanism? how does it work? tell us the settings and what are the key assumptions?
 - * empirical work: what are we looking for? what is the endogeneity problem/ the identification strategy? how it works? how does it connected with the theory?
 - * when you are presenting the key elements, S L O W D O W N. I know, you have read it more than 10 times already, but your classmates haven't read it most likely.
3. Discussions: >20min
 - * Yes, some students will present twice.
 - * everyone can ask questions and comment during the first presentation.
 - * I will ask a lot in the presentation, especially your topic is new to me.
 - * You don't have to provide your answer immediately. If you need more time to ponder over them, and we think they are important, you can return to it next class and we will continue our discussions.

- advise: choose the paper you like
- Presentation (40% of your final grades) and participation in presentation (10%).

2.2 Final score

Final exam, account for 50% of your final grade.

Three questions: two on class material(15+15), one on the paper you present (20).

Score = 10% homework+10% class participation + 30% presentation + 50% exam.

2.3 Class rules

Don't eat in class. Don't click loudly..

You are encouraged and welcome to ask questions and comment in class.

3. Frequently asked questions

- Is failing the class possible?

You will pass as long as you make your efforts. You will fail if you perform poorly.

- Do you know that my advisor is balabala.

I don't care. In this class, your score is earned by your efforts, not by your advisor.

- I heard someone present twice last year. Is it true?

Yes. It happened more than you think. When students READ the slides, know NOTHING about the paper and cannot answer ANY questions in presentation, they need to step down, do their homework and re-do the presentation. Low score will be given from this year.

- Do I need to understand every details in the paper I present?

No. Understand 60% - 80% of the paper is enough, especially for the papers in Top5. Make sure you understand the story, how the model works and how the empirical test is designed.

- Do I need to derive the equations in the paper during the presentation?

No, but you need to tell us the important equations and what do they mean. Spend the time on the essentials. You can tell us how to derive the equations if some ask.

- Do we have (1) paper homework? (2) computation home work?

(1) Yes. And if you want more assignments, let me know. (2) Probably yes.

- I have no background in the monetary policy stuff. What should I do?

Work hard.

If you didn't learn it before or you totally forget it, read some standard undergraduate intermediary macro book or money and banking. For example, Gregory Mankiw's Macroeconomics, Frederic Mishkin's Money and Banking. Check the library. It is useful if you understand the so-called IS-LM-AS framework.

Lectures outlines

- We will use Jordi Gali's book and selected papers in class.
- We won't cover all lectures. Candidates are candidates.

Lecture: Introduction to RBC model

Some Business Cycle Facts

- Rebelo, Sergio T. and Robert G. King (1999). "Resuscitating Real Business Cycles." In Handbook of Macroeconomics: 927-1007.
- Stock, James and Mark Watson (1999). "Business Cycle Fluctuations in U.S. Macroeconomic Time Series." In Handbook of Macroeconomics: 3-64.
- Basic RBC and RBC extensions
- Method: Linear Difference Equations with Rational Expectation
 - Blanchard, Olivier and Charles Kahn (1980), The Solution of Linear Difference Models under Rational Expectations, *Econometrica*, 48, 1305-1311
 - Schmitt-Grohé, Stephanie, and Martín Uribe. "Solving dynamic general equilibrium models using a second-order approximation to the policy function." *Journal of economic dynamics and control* 28, no. 4 (2004): 755-775.
- Method: VAR and SVAR
- * Stock and Watson (2001) JEP, Vector Autoregressions

Lecture: The New Keynesian Model

- **Overview**
 - Galí, Jordi (2018): "The State of New Keynesian Economics: A Partial Assessment," *Journal of Economic Perspectives* 32(3), 87-112.
 - Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans (1998): Monetary Policy Shocks: What Have We Learned and to What End ?, in J.B. Taylor and M. Woodford eds., *Handbook of Macroeconomics*, volume 1A, 65-148.
 - Ramey, Valerie (2016): "Macroeconomic Shocks and their Propagation," in J.B. Taylor and H. Uhlig (eds.) *Handbook of Macroeconomics* vol.2, 71-162
- **Some papers**
 - Blanchard, Olivier, and Nobuhiro Kiyotaki (1987). "Monopolistic Competition and the Effects of Aggregate Demand." *AER* 77(4): 647-666.
 - Gali, Jordi (1999). "Technology, Employment, and the Business Cycle: Do Technology Shocks Explain Aggregate Fluctuations?" *AER* 89(1): 249-271.

- Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans. "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy." *Journal of Political Economy* 113, no. 1 (2005): 1-45. Accessed September 9, 2020. doi:10.1086/426038.
- Klenow, Peter J. and Benjamin A. Malin (2011): "Microeconomic Evidence on Price Setting," in B. Friedman and M. Woodford (eds.) *Handbook of Monetary Economics* vol. 3A, 231-284, Elsevier B.V.
- Gali, Jordi and Mark Gertler (1999). "Inflation Dynamics: A Structural Econometric Analysis." *JME* 44: 195-222.
- Gali, Jordi, Mark Gertler, David Lopez-Salido (2001): *European Inflation Dynamics*, *European Economic Review* vol. 45, no. 7, 1237-1270.
- Barnichon, Regis, and Geert Mesters. "The Phillips Multiplier." *Journal of Monetary Economics* (2020).
- Smets, Frank, and Raf Wouters (2003): *An Estimated Dynamic Stochastic General Equilibrium Model of the Euro Area*, *Journal of the European Economic Association*, vol 1, no. 5, 1123-1175.
- Smets, Frank and Rafael Wouters (2007). "Shocks and Frictions in U.S. Business Cycle Models." *AER* 97(3): 586-606.
- Chari, V.V., Patrick Kehoe, and Ellen McGrattan (2009). "New Keynesian Models: Not Yet Useful for Policy Analysis." *AEJ: Macro* 1(1): 242-266.

Lecture: Price rigidity

- Bilal, Mark and Peter J. Klenow (2004): *Some Evidence on the Importance of Sticky Prices*, *Journal of Political Economy*, vol 112 (5), 947-985.
- Nakamura, E., J. Steinsson, P. Sun, D. Villar (2018): "The Elusive Costs of Inflation: Price Dispersion during the U.S. Great Inflation," *Quarterly Journal of Economics*, 133(4), 1933-1980.
- Golosov, M., and R. E. Lucas (2007): "Menu Costs and Phillips Curves," *Journal of Political Economy*, 115(2), 171-199
- Gagnon, E. (2009): "Price Setting During Low and High Inflation: Evidence from Mexico," *Quarterly Journal of Economics*, 124(3), 1221-1263.
- Alvarez, F., M. Beraja, M. Gonzalez-Rozanda, A. Neumeyer (2019): "From Hyperinflation to Stable Prices: Argentina's Evidence on Menu Cost Models," *Quarterly Journal of Economics*, 134(1), 451-505.

Lecture: the Information Effect of Monetary Policy

- Romer, Christina D. and David H. Romer (2014): "A New Measure of Monetary Shocks: Derivation and Implications," *American Economic Review* 94 (4), 1055-1084.

- Gertler, M., and P. Karadi (2015): “Monetary Policy Surprises, Credit Costs, and Economic Activity,” *American Economic Journal: Macroeconomics*, 7(1), 44-76.
- Nakamura, E. and J. Steinsson (2018): “High Frequency Identification of Monetary Non-Neutrality: The Information Effect,” *Quarterly Journal of Economics*, 133(3), 1283-1330.

Lecture: Optimal Monetary Policy Design

Follow Jordi Gali’s book closely.

- Clarida, Richard, Jordi Gali, and Mark Gertler (1999). “The Science of Monetary Policy: A New Keynesian Perspective.” *JEL* 37(4): 1661-1707.
- Clarida, Richard, Jordi Gali, and Mark Gertler (2000): *Monetary Policy Rules and Macroeconomic Stability: Evidence and Some Theory*, QJE

Lecture: NK in Open Economy

- Gali, Jordi, and Tommaso Monacelli (2005): *Monetary Policy and Exchange Rate Volatility in a Small Open Economy*, *Review of Economic Studies*, vol. 72, issue 3, 2005, 707-734.
- Clarida, Richard, Jordi Gali, and Mark Gertler (2002): *A Simple Framework for International Monetary Policy Analysis*, *Journal of Monetary Economics*, vol. 49, no. 5, 879-904.
- Benigno, Gianluca and Pierpaolo Benigno, *Price Stability in Open Economies*, *Review of Economic Studies*, 2005

Lecture: Financial Frictions and The New Keynesian Model

- Bernanke, Ben and Mark Gertler (1989): “Agency Costs, Net Worth and Business Cycle Fluctuations”, *American Economic Review* 79, no 1, 14-31.
- Bernanke, B.S., M. Gertler and S. Gilchrist (1999): “The Financial Accelerator in a Quantitative Business Cycle Framework,” in *The Handbook of Macroeconomics*, ed. by J.B. Taylor and M. Woodford, pp 1341-1393. Elsevier Science, B.V, Amsterdam.
- Carlstrom, Charles and Timoth Fuerst (1997): “Agency Costs, Net Worth and Business Fluctuations: A Computable General Equilibrium Analysis,” *American Economic Review* 87, no 5, 893-910.
- Christiano, Lawrence, Roberto Motto and Massimo Rostagno (2009): “Financial Factors and Economic Fluctuations”, AER, Northwestern University.
- Gilchrist, Simon and Egon Zakrajsek: “Credit Spreads and Business Fluctuations”, *American Economic Review*, 2012
- Jermann, Urban and Vincenzo Quadrini (2010): “Macroeconomic Effects of Financial Shocks”, AER

- Kyotaki, Nobuhiro and John Moore (1997): “Credit Cycles”, Journal of Political Economy 105, no. 2, 211-248.

Lecture: Monetary Policy According to HANK

- Kaplan, Greg, Benjamin Moll, and Giovanni Violante (2016). “Monetary Policy According to HANK.” AER
- Sushant Acharya Keshav Dogra, “Understanding HANK: Insights from a PRANK” Econometrica, 2020

Candidate: The Forward Guidance Puzzle

- Del Negro, Marco, Marc Giannoni, and Christina Patterson (2015). “The Forward Guidance Puzzle.” AEJ-macro.
- McKay, Alisdair, Emi Nakamura, and Jon Steinsson (2016). “The Power of Forward Guidance Revisited.” AER 106(10): 3133-3158.

Candidate: Redistribution and Monetary Transmission

- Auclert, Adrien (2016). “Monetary Policy and the Redistribution Channel.” JPE.
- Doepke, Matthias, and Martin Schneider (2006). “Inflation and the Redistribution of Nominal Wealth.” JPE 114(6): 1069-1097.

Candidate: The Mortgage Channel of Monetary Transmission

- Midrigan, Virgiliu and Thomas Philippon (2016). “Household Leverage and the Recession.” QJE.

Candidate: Income and Wealth Distribution in Macroeconomics

- Yves Achdou, Jiequn Han, Jean-Michel Lasry and Pierre-Louis Lions, Benjamin Moll, Income and Wealth Distribution in Macroeconomics: A Continuous-Time Approach, Review of Economic Studies

Candidate: Behavior Macro and NK

- Emmanuel Farhi, Ivan Werning, 2019. “Monetary Policy, Bounded Rationality, and Incomplete Markets,” American Economic Review, vol 109(11), pages 3887-3928
- Xavier Gabaix, 2020. A Behavioral New Keynesian Model, AER

Candidate: Money and Banking in China

Basically, they are Top 5 papers written by Zheng Song, Kaiji Chen, Tao Zha etc. I will cover 1-2 papers in class and upload their papers for presentations.