

**National School of Development  
Peking University**

*Advanced Macroeconomics I*

**Professor Jiayin Hu**

**Fall 2020**

Class time: Tuesday 3:10-6:00pm (with two 10-minute breaks)

Classroom: 二教 415

Office Hours: TBD

Email: [jyhu@nsd.pku.edu.cn](mailto:jyhu@nsd.pku.edu.cn)

Teaching assistant: Zhihao Xu

Email: [xu\\_zh@pku.edu.cn](mailto:xu_zh@pku.edu.cn)

Recitation time: Monday 6:40-9:30pm (with two 10-minute breaks)

Recitation classroom: 二教 406

## **Overview**

The macroeconomics field has been reshaped by the 2007-09 financial crisis, and probably will be (or already is) revamped again by FinTech and the COVID-19 pandemic. Do traditional macro models work in the fast-changing digital era? If not, what is the next direction of research? This class will cover several core topics in macroeconomics to incorporate the latest developments in this discipline, highlighting the importance of macro-financial modeling. For each topic, the aim is to introduce students to the basic questions that motivate research in the area, the theoretical framework used to understand these questions, and empirical work that helps us to answer these questions.

## Readings and References

Readings: We will follow the class notes. Starred readings are required, while non-starred are for your reference; most will be posted online. I will refer to the following books:

- Barro, Robert J. and Xavier Sala-i-Martin (2004), *Economic Growth*, MIT Press, 2nd Edition.
- Woodford, Michael (2003). *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton University Press.
- Uribe, Martin and Stephanie Schmitt-Grohe (2017), *Open Economy Macroeconomics*, Princeton University Press. Hereafter USG.

Optional references:

- Acemoglu, Daron (2009). *Introduction to Modern Economic Growth*. Princeton University Press.
- Gali, Jordi (2008). *Monetary Policy, Inflation and the Business Cycle: An Introduction to the New Keynesian Framework*. Princeton University Press.
- Hall, Robert E. (2010). *Forward-Looking Decision Making*. Princeton University Press.
- Ljungqvist, Lars and Thomas Sargent (2012). *Recursive Macroeconomic Theory*, MIT Press
- Romer, David (2011). *Advanced Macroeconomics*, McGraw-Hill, 4th Edition.

## Course Evaluation & Requirements

There will be five assignments during the semester. Four of the assignments will be problem sets. These problem sets will make up 20% of the class grade and you are required to do these alone.

The fifth assignment will be a referee report on a recent paper, accompanied by a short presentation. The guidelines for writing a referee report will be posted online, and the presentation should follow the style of a discussion on a conference paper. You may choose one paper of your interest from those listed in the syllabus. With permission from the professor, you may also present any other published or working paper in the fields of macroeconomics and macro-finance. You may work on this assignment in a group with no more than three students, and each group member is required to participate in the presentation. This assignment will count for 20% of the class grade.

There will be a final exam during the exam period. The final exam will count for 60% of the class grade. The format of the final exam will be similar to that of the problem sets.

$$\text{ClassGrade} = 0.2 * \text{ProblemSets} + 0.2 * \text{Presentation} + 0.6 * \text{FinalExam}$$

# Course Outline

## Part I: Dismal Science? Economic Growth

### Week 1: September 22nd

(†*Problem set 1 posted*)

**What is the source of economic growth?** The Solow-Swan Model

- Barro and Sala-i-Martin, Chapter 1, 10, 11 & 12
- Robert Solow, “A contribution to the theory of economic growth”, QJE, 1956
- Swan, T.W., “Economic growth and capital accumulation”, Economic Record, 1956

### Week 2: September 29th

**What is the micro-foundation of economic growth?** The Ramsey Model

- \*Barro and Sala-i-Martin, Chapter 2
- Cass, D., “Optimum growth in an aggregate model of capital accumulation”, REStud, 1965
- Koopmans, T.C., “On the concept of optimal growth”, The econometric approach to development planning, north holland, 1965
- Ramsey, F., “A mathematical theory of saving”, Economic Journal, 1928
- Caselli, Francesco and Jaume Ventura (2000). “A Representative Consumer Theory of Distribution.” American Economic Review, 90, 909-926.

*Week 3: National Day Holiday*

### Week 4: October 13th

**The Invisible vs. Visible Hand** Fiscal Stimulus

- \*Woodford, M. (2011): “Simple Analytics of the Government Expenditure Multiplier,” American Economic Journal: Macroeconomics, 1(2), 1-46.

- \*Barro, R.J. and C.J. Redlick (2011): “Macroeconomic Effects from Government Purchases and Taxes,” *Quarterly Journal of Economics*, 126(1), 51-102.
- \*Blanchard, O.J. and R. Perotti (2002): “An Empirical Characterization of the Dynamic Effects of Changes in Government Spending,” *Quarterly Journal of Economics*, 117(4), 1329-1368.
- \*Ramey (2011): “Identifying Government Spending Shocks: It’s All in the Timing,” *Quarterly Journal of Economics*, 126, 1-50.
- \*Nakamura, E. and J. Steinsson (2014): “Fiscal Stimulus in a Monetary Union: Evidence from U.S. Regions,” *American Economic Review*, 104(3), 753-792.
- Eggertsson, G. (2010): “What Fiscal Policy is Effective at Zero Interest Rates?” in *NBER Macroeconomics Annual 2010*, eds. D. Acemoglu and M. Woodford, University of Chicago Press, Chicago, IL, 59-112.
- Parker, J.A., N. Souleles, D. Johnson, and R. McClelland (2012): “Consumer Spending and the Economic Stimulus Payments of 2008,” *American Economic Review*, 103(6), 2530-2553.
- Romer, C.D. and D.H. Romer (2010): “The Macroeconomic Effects of Tax Changes: Estimates Based on a New Measure of Fiscal Shocks,” *American Economic Review*, 100(3), 763-801.
- Acconcia, A., G. Corsetti, and S. Simonelli (2011): “Mafia and Public Spending: Evidence on the Fiscal Multiplier from a Quasi-experiment,” *American Economic Review*, 104(7), 2185-2209.
- Farhi, E. and I. Werning (2013): “Fiscal Multipliers: Liquidity Traps and Currency Unions,” Working Paper, Harvard University.
- Christiano, L., M. Eichenbaum, and S. Rebelo (2011): “When Is the Government Spending Multiplier Large?” *Journal of Political Economy*, 119(1). 78-121.
- Penning, S. (2014): “Cross-Region Transfers in a Monetary Union,” Working Paper, New York University.

## Part II: New Keynesian Economics

**Week 5: October 20th**

(†*Problem set 2 posted; Problem set 1 due in class*)

Money and Inflation

- \* Hall, Robert E. and Ricardo Reis (2014). Controlling inflation under new-style central banking.” Notes to be distributed.

- \* Woodford, Interest and Prices, chapter 2.
- Woodford, Michael (1994). "Monetary Policy and Price Level Determinacy in a Cash-in-Advance Economy." *Economic Theory*, 4, 345-380.
- Woodford, Michael (1995). "Price-Level Determinacy without Control of a Monetary Aggregate." *Carnegie-Rochester Conference Series on Public Policy*, 43, 1-46.
- Benhabib, Jess, Stephanie Schmitt-Grohe and Martin Uribe (2002). "Avoiding Liquidity Traps." *Journal of Political Economy*, 110, 535-563.
- \*Nakamura, E. and J. Steinsson (2013): "Price Rigidity: Microeconomic Evidence and Macroeconomic Implications," *Annual Review of Economics*, 5, 133-163.
- \*Golosov, M., and R. E. Lucas (2007): "Menu Costs and Phillips Curves," *Journal of Political Economy*, 115(2), 171-199.
- \*Nakamura, E. and J. Steinsson (2010): "Monetary Non-Neutrality in a Multi-Sector Menu Cost Model," *Quarterly Journal of Economics*, 125(3), 961-1013.
- \*Christiano, L.J., M. Eichenbaum and C. Evans (2005): "Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy," *Journal of Political Economy*, 113(1), 1-46.
- \*Romer, C.D. and D.H. Romer (2004): "A New Measure of Monetary Shocks: Derivation and Implications," *American Economic Review*, 94(4), 1055-1084.
- \*Stock, J.H. and M.W. Watson (2001): "Vector Autoregressions," *Journal of Economic Perspectives*, 15(4), 101-115.
- Classics - Friedman, M. and A.J.Schwartz (1963): *A Monetary History of the United States, 1867-1960*, Princeton University Press, Princeton, NJ.
- Sims, C.A. (1980): "Macroeconomics and Reality," *Econometrica*, 48(1), 1-48.
- 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 (2013): "High Frequency Identification of Monetary Non-Neutrality," Working Paper, Columbia University.
- Bernanke, B.S., J. Boivin and P. Elias (2005): "Measuring Monetary Policy: A Factor Augmented Vector Autoregressive (FAVAR) Approach," *Quarterly Journal of Economics*, 120(1), 387-422.

## Week 6: October 27th

### New Keynesian Models

- \* Mankiw, N. Gregory and Ricardo Reis (2011). Imperfect Information and Aggregate Supply. Handbook of Monetary Economics, edited by B. Friedman and M. Woodford, Elsevier-North Holland, vol. 3A, 182-230. Sections 1-3.
- \* Romer, Advanced Macroeconomics, chapter 6, part B.
- Mankiw, N. Gregory (1985). Small Menu Costs and Large Business Cycles: A Macroeconomic Model of Monopoly." Quarterly Journal of Economics, 100, 529-539.
- Ball, Laurence and David Romer (1990). Real Rigidities and the Nonneutrality of Money." Review of Economic Studies, 57, 183-203.
- Nakamura, Emi and Jon Steinsson (2013). Price Rigidity: Microeconomic Evidence and Macroeconomic Implications." Annual Review of Economics, 5, 133-163.
- \* Romer, Advanced Macroeconomics, Chapter 6, part C.
- \* Mankiw, N. Gregory and Ricardo Reis (2002). "Sticky Information versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve." Quarterly Journal of Economics, 117, 1295-1328.
- Woodford, Interest and Prices, Chapter 3.
- Roberts, John (1995). "New Keynesian Economics and the Phillips Curve." Journal of Money, Credit and Banking, 27(4), 975-984.
- Mankiw, N. Gregory (2001). "The Inexorable and Mysterious Tradeoff between Inflation and Unemployment." Economic Journal, 111, C45-61.
- \* Woodford, Michael (2009). Convergence in Macroeconomics: Elements of a New Synthesis." American Economic Journal: Macroeconomics, 1(1), 267-279.
- \* Gali, Jordi and Mark Gertler (2007). Macroeconomic Modeling for Monetary Policy Evaluation." Journal of Economic Perspectives, 21(4), 25-45.
- Woodford, Interest and Prices, chapters 4 and 5.
- Gali, Monetary Policy, chapter 3.
- Mankiw, N. Gregory and Ricardo Reis (2002). Sticky Information in General Equilibrium." Journal of the European Economic Association, 5 (2-3), 603-613.

- Schmitt-Grohe, Stephanie and Martin Uribe (2007). "Optimal, Simple, and Implementable Monetary and Fiscal Rules." *Journal of Monetary Economics*, 54, 1702-1725.

### **Week 7: November 3rd**

#### Monetary Policy and Central Banking

- \* Reis, Ricardo (2013). "Central Bank Design." *Journal of Economic Perspectives*, 27 (4), 17-44.
- \* Hall, Robert E. and Ricardo Reis (2013). "Maintaining Central-Bank Solvency under New-Style Central Banking." Columbia University manuscript.
- Reis, Ricardo (2013). "The Mystique Surrounding the Central Banks Balance Sheet, Applied to the European Crises." *American Economic Review*, 103, 135-140.
- Woodford, Michael (2008). "How Important is Money in the Conduct of Monetary Policy?" *Journal of Money, Credit and Banking*, 40(8), 1561-1598.
- \* Sims, Christopher A. (2013). "Paper Money." *American Economic Review*, 103(2), 563-584.
- \* Leeper, Eric (1991). "Equilibria under active and passive monetary and fiscal policies." *Journal of Monetary Economics*, 27, 129-147.
- Sargent, Thomas and Neil Wallace (1981). "Some unpleasant monetarist arithmetic." *Federal Reserve Bank of Minneapolis Quarterly Review*, Fall, 1-17.
- Woodford, Michael (2000). "Fiscal Requirements for Price Stability." *Journal of Money Credit and Banking*, 33, 669-728.
- Uribe, Martin (2006). "A Fiscal Theory of Sovereign Risk." *Journal of Monetary Economics* 53, 1857-1875.
- \* Woodford, Michael (2010). "Optimal Monetary Stabilization." *Handbook of Monetary Economics*, edited by B. Friedman and M. Woodford, Elsevier-North Holland, vol. 3B, 723-828. Sections 1-3.
- \* Ball, Laurence, N, Gregory Mankiw and Ricardo Reis (2005). "Monetary Policy for Inattentive Economies." *Journal of Monetary Economics*, 52(4), 703-725.
- Woodford, Michael (2010) "Optimal Monetary Stabilization." *Handbook of Monetary Economics*, edited by B. Friedman and M. Woodford, Elsevier-North Holland, vol. 3B, 723-828. Sections 4-5.
- Reis, Ricardo (2013). "Central Bank Design." *Journal of Economic Perspectives*, forthcoming.
- Gali, Monetary Policy, chapter 4.
- Woodford, Interest and Prices, chapters 1, 6, 7, 8.

## Part III: Macro-Financial Modeling

### Week 8: November 10th

(+*Problem set 3 posted; Problem set 2 due in class*)

Bank Runs and Financial Stability

- TBD

### Week 9: November 17th

Shadow Banking

- TBD

### Week 10: November 24th

Financial Frictions

- \*USG, chapter 12, “Financial Frictions and Aggregate Instability.”
- Bianchi, Javier, “Overborrowing and Systemic Externalities in the Business Cycle,” *American Economic Review* 101, December 2011, 3400-3426.
- Fern´andez, Andres, Alessandro Rebucci, and Martin Uribe, “Are Capital Controls Countercyclical?,” *Journal of Monetary Economics* 76, 2015, 1-14.
- Jeanne, Olivier, “Macroprudential Policies in a Global Perspective,” NBER Working Paper No. 19967, March, 2014.
- Jeanne, Olivier, and Anton Korinek, “Macroprudential Regulation Versus Mopping Up After the Crash,” NBER Working Paper No. 18675, January 2013.
- Lorenzoni, Guido, “Inefficient Credit Booms,” *Review of Economic Studies* 75, 2008, 809-833.
- Mendoza, Enrique G., “Sudden Stops, Financial Crisis, and Leverage,” *American Economic Review*, December 2010, 1941-1966.
- Uribe, Martin, “On Overborrowing,” *American Economic Review Papers and Proceedings* 96, May 2006, 417-421.
- Uribe, Martin, “Individual Versus Aggregate Collateral Constraints and the Overborrowing Syndrome,” NBER Working Paper No. 12260, May 2006.



## Part IV: Frontiers in Macro & Financial Economics

### Week 11: December 1st

(†*Problem set 4 posted; Problem set 3 due in class*)

FinTech

- TBD

### Week 12: December 8th

Digital Economy

- TBD

### Week 13: December 15th

(†*Problem set 4 due in class*)

Regulatory Responses to Financial Crises and the COVID-19 Pandemic

- \*Mian, A.R. and A. Sufi (2011): House Prices, Home Equity-Based Borrowing, and the U.S. Household Leverage Crisis, *American Economic Review*, 2011, 101 (August): 2132-2156.
- \*Mian, A.R. and A. Sufi (2012): “What Explains the 2007-2009 Drop in Employment?” *Econometrica*, 82(6), 2197-2223.
- Khwaja A.I. and A. Mian (2008): “Tracing the Impact of Bank Liquidity Shocks: Evidence from an Emerging Market,” *American Economic Review*, 98(4), 1413-1442.
- Kashyap, A.K. and J.C. Stein (2000): “What Do a Million Observations on Banks Say about the Transmission of Monetary Policy?” *American Economic Review*, 90(3), 407-428.
- Classics - Bernanke, B.S. (1983): “Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression,” *American Economic Review*, 73(3), 257-276.
- Mian, A.R. and A. Sufi (2009): “The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis,” *Quarterly Journal of Economics*, 124(4), 1449-1496
- Chodorow-Reich, G.I. (2014): “The Employment Effects of Credit Market Disruptions: Firm-Level Evidence from the 2008-09 Financial Crisis,” *Quarterly Journal of Economics*, 129(1), 1-59.

- Jimenez, G., S. Ongena, J.-L. Peydro, and J. Saurina (2012): “Credit Supply and Monetary Policy: Identifying the Bank Balance-Sheet Channel with Loan Applications,” *American Economic Review*, 102(5), 2301-2326.
- Amiti, M. and D. Weinstein (2011): “Exports and Financial Shocks,” *Quarterly Journal of Economics*, 126(4), 1841-1877.
- Mian, A., K. Rao and A. Sufi (2013): “Household Balance Sheets, Consumption, and the Economic Slump,” *Quarterly Journal of Economics*, 128(4), 1687-1726.
- Paravisini, D., V. Rappoport, P. Schabl, and D. Wolfenzon (2014): “Dissecting the Effects of Credit Supply on Trade: Evidence from Matched Credit-Export Data,” *Review of Economic Studies*, forthcoming.

## **Part V: Student Presentation & Discussion**

### **Week 14 & 15: December 22nd & 29th**

Student Presentation on Recent Papers

### **Week 16: January 5th**

Highlights in 2021 AEA/ASSA Annual Meeting (virtual, Jan 3-5, 2021)

**Final Exam: TBD**