

Advanced Macroeconomics I

Fall, 2020

INSTRUCTOR

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LECTURES

Wednesdays 8:00 AM - 10:30 AM, Ming De Main Building (MDMB) Room 0417

COURSE WEBSITE

<https://portal.ruc.edu.cn/ypy>.

OFFICE HOURS

Thursdays 2:00 PM - 5:00 PM in my office MDMB Room 512A or by appointment via email

COURSE DESCRIPTION

This course covers the advanced topics in Macroeconomics, which is intended for second-year and above Ph.D./M.Phil. students with major or minor research interests in macro. This course is to equip the students with the tool-kit for doing research in the frontier areas of Macroeconomics. We start with the discussions of commonly used numerical methods for solving a simple dynamic stochastic macro model, and then will move to a rich coverage of advanced topics including the labor search models, micro-founded monetary models, heterogeneous agent models, models of imperfect information, macro asset-pricing models, macro models with financial frictions though conditional on time allowance.

PREREQUISITE

Students are required to have taken the first-year Ph.D. theory courses in Microeconomics and Macroeconomics. Math courses of advanced calculus, matrix algebra, difference/differential equations, and nonlinear dynamics are recommended.

TEXTBOOK AND READINGS

This course will be based on a variety of sources, but will also draw on materials from the following textbooks:

- Kenneth L. Judd. *Numerical Methods in Economics*. The MIT Press, July 1998 [Judd]
- Jerome Adda and Russell W. Cooper. *Dynamic Economics: Quantitative Methods and Applications*. The MIT Press, July 2003 [AddaCooper]
- Christopher A. Pissarides. *Equilibrium Unemployment Theory*, Second Edition, MIT Press 2000. [Pissarides]
- Jordi Galí. In *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework*. Princeton University Press, 2008 [Gali]
- Michael. Woodford. *Interest and prices : foundations of a theory of monetary policy*. Princeton University Press Princeton, N.J. : Woodstock, 2003 [Woodford]
- Carl E. Walsh. *Monetary Theory and Policy, Third Edition*. The MIT Press, July 2010 [Walsh]
- Laura L. Veldkamp. *Information Choice in Macroeconomics and Finance*. Princeton University Press, 09-2014 2011 [Veldkamp]
- Lars Ljungqvist and Thomas J. Sargent (2012). *Recursive Macroeconomic Theory*, Third Edition, MIT Press. [LS]

GRADING

- 30% SIX paper comments (2 pages) on SIX papers from the reading list.

Please make sure that except the first section that covers the numerical methods, you are supposed to provide at least one paper comment corresponding to each section of the reading list covered in class. The candidates for written comments are the papers marked with a #. Comments are due at the beginning of class following the week in which the corresponding section of the reading list has been fully covered in class. I will grade these comments with 0 (minimal or no effort), 1 (summary), or 2 (critical summary).

- 35% Big Referee Report & Presentation (6-8 pages of report + presentation slides)

Select one of the papers marked with a \$ in the reading list and notify me of your choice by **November 30th** (one student per paper, first come, first served). Write a detailed referee report, present your findings (15 minutes), and submit your slides. The scheduling of the presentations will be discussed in class. The referee report is due at the beginning of class after your presentation.

- 35% Research Proposal. Propose a research topic on which you have motivation why this research is important and why you think this can be of interest from **macroeconomic** perspective, e.g. it's related to themes covered in our class. You should demonstrate the relationship of this research relative to other literature. In addition, preliminary results and description of methodology ready to execute should be included. Other than these, ideally if you can draw conclusions or policy implications, that would be a plus. (at least 15 pages required).

Your overall course grade will be a *weighted average* of scores of *all* the categories above. If at any point during the semester, you face circumstances which prevent you from attending the lecture and/or handing in the assignment on time. please contact me as *early* as possible to manage the situation. There is little that can be done after an unsatisfactory grade has been assigned.

ASSIGNMENTS

The assignments including the paper comments, the referee reports, and the presentation slides are due at the **beginning** of the lecture which is **one week** following the completion of a section in class, a lunch seminar, and your presentation respectively. Please kindly put the printed hard-copy assignments on my teaching desk before class.

ACADEMIC INTEGRITY

As a student, you are responsible for upholding the academic integrity with full commitment to all the ethics, codes, and standards of the Renmin University of China. It is very important for you to be aware of the consequences of cheating, fabrication, facilitation, and plagiarism.

COURSE EVALUATION

At the end of the semester, please let me know what you think about this class and what can be improved by taking advantage of the university's on-line course evaluation system. I really appreciate your feedback. Incorporating your suggestions will greatly help me in updating the course for future generations of students.

ADDITIONAL HANDOUTS

- Lecture Schedule and Reading List (*Disclaimer: the course plan is subject to due changes throughout the semester*)

READING LIST

Disclaimer: We will primarily cover the core readings from this list but you are encouraged to keep on reading per your interest in any of the following sections.

*: indicates the core and required reading

§: indicates the candidates for the referee report and the class presentation

#: indicates the candidates for paper comments

Notes: if a paper has a header of two or three signs altogether, it means it's a paper candidate that serves more than one purposes as marked by the signs.

Computational Methods

Linearized System and Difference Equation Solution

* Wouter den Haan's Notes on Functional Approximation, Numerical Integration, and Local Method (Perturbation)

Global Methods (Value Function Iteration Method)

Finite Markov Chain Approximation and Simulation

*AddaCooper - Chapter 3 (Numerical Analysis)

Karen A. Kopecky and Richard M.H. Suen. Finite state markov-chain approximations to highly persistent processes. *Review of Economic Dynamics*, 13(3):701 – 714, 2010

*S. Boragan Aruoba, Jesus Fernandez-Villaverde, and Juan F. Rubio-Ramirez. Comparing solution methods for dynamic equilibrium economies. *Journal of Economic Dynamics and Control*, 30(12):2477–2508, December 2006

*#Lilia Maliar and Serguei Maliar. Envelope condition method versus endogenous grid method for solving dynamic programming problems. *Economics Letters*, 120(2):262 – 266, 2013

#Kenneth L. Judd, Lilia Maliar, Serguei Maliar, and Inna Tsener. How to solve dynamic stochastic models computing expectations just once. *Quantitative Economics*, 8(3):851–893, 2017

#Christoph Gortz and Afrasiab Mirza. Solving models with jump discontinuities in policy functions. *Oxford Bulletin of Economics and Statistics*, 80(2):434–456, 2018

Labor Search Models and Other Applications of Search Models

*Pissarides, Chapters 1, 2 and 8.

*Dale T. Mortensen and Christopher A. Pissarides. Job Creation and Job Destruction in the Theory of Unemployment. *Review of Economic Studies*, 61(3):397–415, 1994

#Robert Shimer. The Cyclical Behavior of Equilibrium Unemployment and Vacancies. *American Economic Review*, 95(1):25–49, March 2005

#Steven J. Davis, R. Jason Faberman, and John Haltiwanger. The Flow Approach to Labor Markets: New Data Sources and Micro-Macro Links. *Journal of Economic Perspectives*, 20(3):3–26, Summer 2006

*Steven J. Davis, R. Jason Faberman, and John C. Haltiwanger. The Establishment-Level Behavior of Vacancies and Hiring. *The Quarterly Journal of Economics*, 128(2):581–622, 2013

#Robert E. Hall. High Discounts and High Unemployment. *American Economic Review*, 107(2):305–330, February 2017

#Robert E. Hall and Sam Schulhofer-Wohl. Measuring Job-Finding Rates and Matching Efficiency with Heterogeneous Job-Seekers. *American Economic Journal: Macroeconomics*, 10(1):1–32, January 2018

#Robert E. Hall and Andreas I. Mueller. Wage dispersion and search behavior: The importance of nonwage job values. *Journal of Political Economy*, 126(4):1594–1637, 2018

#\$Robert Shimer. Wage rigidities and jobless recoveries. *Journal of Monetary Economics*, 59:S65 – S77, 2012b

#\$Robert Shimer. Reassessing the ins and outs of unemployment. *Review of Economic Dynamics*, 15(2):127 – 148, 2012a

#\$Monika Piazzesi, Martin Schneider, and Johannes StroebeL. Segmented housing search. *American Economic Review*, 110(3):720–59, March 2020

##Lars-Alexander Kuehn, Mikhail Simutin, and Jessie Jiaxu Wang. A labor capital asset pricing model. *The Journal of Finance*, 72(5):2131–2178, 2017

#Nicolas Petrosky-Nadeau, Lu Zhang, and Lars-Alexander Kuehn. Endogenous disasters. *American Economic Review*, 108(8):2212–45, August 2018

#Bronson Argyle, Taylor D Nadauld, and Christopher Palmer. Real effects of search frictions in consumer credit markets. Working Paper 26645, National Bureau of Economic Research, January 2020

#Per Krusell, Toshihiko Mukoyama, Richard Rogerson, and Ayşegül Şahin. Gross worker flows and fluctuations in the aggregate labor market. *Review of Economic Dynamics*, 37: S205 – S226, 2020. ISSN 1094-2025

#Jonathan Heathcote, Fabrizio Perri, and Giovanni L. Violante. The rise of us earnings inequality: Does the cycle drive the trend? *Review of Economic Dynamics*, 37:S181 – S204, 2020. ISSN 1094-2025

#Simon Mongey and Giovanni L Violante. Macro recruiting intensity from micro data. Working Paper 26231, National Bureau of Economic Research, September 2019

#Patrick J Kehoe, Pierlauro Lopez, Virgiliu Midrigan, and Elena Pastorino. Asset prices and unemployment fluctuations. Working Paper 26580, National Bureau of Economic Research, December 2019

Financial Frictions, Credit, Liquidity, and Bubbles

*Nobuhiro Kiyotaki and John Moore. Credit Cycles. *Journal of Political Economy*, 105(2): 211–248, April 1997

*Ben Bernanke and Mark Gertler. Agency Costs, Net Worth, and Business Fluctuations. *American Economic Review*, 79(1):14–31, March 1989

Bruce C. Greenwald and Joseph E. Stiglitz. Financial Market Imperfections and Business Cycles. *The Quarterly Journal of Economics*, 108(1):77–114, 1993

Robert M. Townsend. Optimal contracts and competitive markets with costly state verification. *Journal of Economic Theory*, 21(2):265–293, October 1979

Ben S. Bernanke, Mark Gertler, and Simon Gilchrist. The financial accelerator in a quantitative business cycle framework. In J. B. Taylor and M. Woodford, editors, *Handbook of Macroeconomics*, volume 1 of *Handbook of Macroeconomics*, chapter 21, pages 1341–1393. Elsevier, 1999

*Douglas W Diamond and Philip H Dybvig. Bank Runs, Deposit Insurance, and Liquidity. *Journal of Political Economy*, 91(3):401–419, June 1983

*Jean Tirole. Asset Bubbles and Overlapping Generations. *Econometrica*, 53(6):1499–1528, November 1985

Bengt Holmstrom and Jean Tirole. Financial intermediation, loanable funds, and the real sector. *The Quarterly Journal of Economics*, 112(3):663–691, 1997

#Alberto Martin and Jaume Ventura. Economic Growth with Bubbles. *American Economic Review*, 102(6):3033–3058, October 2012

#\$Matteo Iacoviello. House Prices, Borrowing Constraints, and Monetary Policy in the Business Cycle. *American Economic Review*, 95(3):739–764, June 2005

#\$Gabriel Jimenez, Steven Ongena, Jose-Luis Peydro, and Jesus Saurina. Credit supply and monetary policy: Identifying the bank balance-sheet channel with loan applications. *American Economic Review*, 102(5):2301–26, May 2012

#\$Simon Gilchrist, Raphael Schoenle, Jae Sim, and Egon Zakrajšek. Inflation dynamics during the financial crisis. *American Economic Review*, 107(3):785–823, March 2017

#\$M. Gertler, N. Kiyotaki, and A. Prestipino. *Wholesale Banking and Bank Runs in Macroeconomic Modeling of Financial Crises*, volume 2 of *Handbook of Macroeconomics*, chapter 0, pages 1345–1425. Elsevier, 2016

#\$Javier Bianchi. Overborrowing and Systemic Externalities in the Business Cycle. *American Economic Review*, 101(7):3400–3426, December 2011

#\$Javier Bianchi. Efficient Bailouts? *American Economic Review*, 106(12):3607–3659, December 2016

#\$Javier Bianchi, Juan Carlos Hatchondo, and Leonardo Martinez. International Reserves and Rollover Risk. *American Economic Review*, 108(9):2629–2670, September 2018

#\$Simon Gilchrist and Egon Zakrajsek. Credit Spreads and Business Cycle Fluctuations. *American Economic Review*, 102(4):1692–1720, June 2012

#\$Simon Gilchrist, Jae W. Sim, and Egon Zakrajsek. Misallocation and Financial Market Frictions: Some Direct Evidence from the Dispersion in Borrowing Costs. *Review of Economic Dynamics*, 16(1):159–176, January 2013

#\$Atif Mian, Amir Sufi, and Emil Verner. Household Debt and Business Cycles Worldwide. *The Quarterly Journal of Economics*, 132(4):1755–1817, 2017

Monetary Policy, Micro-foundations, Monetary Theories

*Lawrence J. Christiano, Martin Eichenbaum, and Charles L. Evans. Monetary policy shocks: What have we learned and to what end? In J. B. Taylor and M. Woodford, editors, *Handbook of Macroeconomics*, volume 1 of *Handbook of Macroeconomics*, chapter 2, pages 65–148. Elsevier, 1999

*Christina D. Romer and David H. Romer. A New Measure of Monetary Shocks: Derivation

- and Implications. *American Economic Review*, 94(4):1055–1084, September 2004
- #\$Kenneth N. Kuttner. Monetary policy surprises and interest rates: Evidence from the Fed funds futures market. *Journal of Monetary Economics*, 47(3):523–544, June 2001
- #Olivier Coibion. Are the effects of monetary policy shocks big or small? *American Economic Journal: Macroeconomics*, 4(2):1–32, April 2012
- Mikhail Golosov and Robert Lucas. Menu Costs and Phillips Curves. *Journal of Political Economy*, 115:171–199, 2007. doi: 10.1086/512625
- *Mark Gertler and John Leahy. A phillips curve with an ss foundation. *Journal of Political Economy*, 116(3):533–572, 2008
- *Peter J. Klenow and Benjamin A. Malin. Microeconomic Evidence on Price-Setting. In Benjamin M. Friedman and Michael Woodford, editors, *Handbook of Monetary Economics*, volume 3 of *Handbook of Monetary Economics*, chapter 6, pages 231–284. Elsevier, 2010
- #Peter J. Klenow and Oleksiy Kryvtsov. State-dependent or time-dependent pricing: Does it matter for recent u.s. inflation?*. *The Quarterly Journal of Economics*, 123(3):863–904, 2008
- #Emi Nakamura and Jón Steinsson. Monetary non-neutrality in a multisector menu cost model. *The Quarterly Journal of Economics*, 125(3):961–1013, 2010
- #Olivier Coibion and Yuriy Gorodnichenko. Is the phillips curve alive and well after all? inflation expectations and the missing disinflation. *American Economic Journal: Macroeconomics*, 7(1):197–232, January 2015b
- Tobias Adrian and Hyun Song Shin. Money, Liquidity, and Monetary Policy. *American Economic Review*, 99(2):600–605, May 2009
- Ben S Bernanke and Alan S Blinder. Credit, Money, and Aggregate Demand. *American Economic Review*, 78(2):435–439, May 1988
- *Mark Gertler and Peter Karadi. A model of unconventional monetary policy. *Journal of Monetary Economics*, 58(1):17–34, January 2011
- *Mark Gertler and Nobuhiro Kiyotaki. Chapter 11 - financial intermediation and credit policy in business cycle analysis. volume 3 of *Handbook of Monetary Economics*, pages 547 – 599. Elsevier, 2010
- *\$Eric T. Swanson and John C. Williams. Measuring the effect of the zero lower bound on medium- and longer-term interest rates. *American Economic Review*, 104(10):3154–85, October 2014

*Itamar Drechsler, Alexi Savov, and Philipp Schnabl. The deposits channel of monetary policy. *The Quarterly Journal of Economics*, 132(4):1819–1876, 2017

John G. Fernald, Mark M. Spiegel, and Eric T. Swanson. Monetary policy effectiveness in China: Evidence from a FAVAR model. *Journal of International Money and Finance*, 49 (PA):83–103, 2014. doi: 10.1016/j.jimonfin.2014.0

Kaiji Chen, Jue Ren, and Tao Zha. The nexus of monetary policy and shadow banking in china. Working Paper 23377, National Bureau of Economic Research, May 2017

*Kaiji Chen, Patrick Higgins, Daniel F. Waggoner, and Tao Zha. China Pro-Growth Monetary Policy and Its Asymmetric Transmission. NBER Working Papers 22650, National Bureau of Economic Research, Inc, September 2016

#Alisdair McKay, Emi Nakamura, and Jon Steinsson. The power of forward guidance revisited. *American Economic Review*, 106(10):3133–58, October 2016

#Marco Del Negro, Gauti Eggertsson, Andrea Ferrero, and Nobuhiro Kiyotaki. The Great Escape? A Quantitative Evaluation of the Fed’s Liquidity Facilities. *American Economic Review*, 107(3):824–857, March 2017

#Mark Gertler and Peter Karadi. Monetary policy surprises, credit costs, and economic activity. *American Economic Journal: Macroeconomics*, 7(1):44–76, January 2015

Models of Imperfect Information

*Veldkamp Chapters 1,2,3

*N. Gregory Mankiw and Ricardo Reis. Sticky Information versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve. *The Quarterly Journal of Economics*, 117(4):1295–1328, 2002

*Stephen Morris and Hyun Song Shin. Social value of public information. *American Economic Review*, 92(5):1521–1534, December 2002

*Guido Lorenzoni. A Theory of Demand Shocks. *American Economic Review*, 99(5):2050–2084, December 2009

*Christopher A. Sims. Rational Inattention and Monetary Economics. In Benjamin M. Friedman and Michael Woodford, editors, *Handbook of Monetary Economics*, volume 3 of *Handbook of Monetary Economics*, chapter 4, pages 155–181. Elsevier, 2010

*Paul Beaudry and Franck Portier. Stock prices, news, and economic fluctuations. *American Economic Review*, 96(4):1293–1307, September 2006

Bartosz Mackowiak and Mirko Wiederholt. Optimal Sticky Prices under Rational Inattention. *American Economic Review*, 99(3):769–803, June 2009

#Olivier Coibion and Yuriy Gorodnichenko. Information Rigidity and the Expectations Formation Process: A Simple Framework and New Facts. *American Economic Review*, 105(8):2644–2678, August 2015a

#Bartosz Maćkowiak and Mirko Wiederholt. Business cycle dynamics under rational inattention. *The Review of Economic Studies*, 82(4):1502–1532, 2015

#Nir Jaimovich and Sergio Rebelo. Can news about the future drive the business cycle? *American Economic Review*, 99(4):1097–1118, September 2009

Heterogeneous Agent Models

*LS Chapters 17.1-17.2, 17.6-17.12

§*S. Rao Aiyagari. Uninsured Idiosyncratic Risk and Aggregate Saving. *The Quarterly Journal of Economics*, 109(3):659–684, 1994

*Mark Huggett. The risk-free rate in heterogeneous-agent incomplete-insurance economies. *Journal of Economic Dynamics and Control*, 17(5-6):953–969, 1993

Satyajit Chatterjee. Transitional dynamics and the distribution of wealth in a neoclassical growth model. *Journal of Public Economics*, 54(1):97–119, May 1994

*Hugo A Hopenhayn. Entry, Exit, and Firm Dynamics in Long Run Equilibrium. *Econometrica*, 60(5):1127–1150, September 1992

Marc J. Melitz. The Impact of Trade on Intra-Industry Reallocations and Aggregate Industry Productivity. *Econometrica*, 71(6):1695–1725, November 2003

§*Per Krusell, Anthony A. Smith, and Jr. Income and Wealth Heterogeneity in the Macroeconomy. *Journal of Political Economy*, 106(5):867–896, October 1998

#Aubhik Khan and Julia K. Thomas. Idiosyncratic Shocks and the Role of Nonconvexities in Plant and Aggregate Investment Dynamics. *Econometrica*, 76(2):395–436, 03 2008

#Aubhik Khan and Julia K. Thomas. Credit Shocks and Aggregate Fluctuations in an Economy with Production Heterogeneity. *Journal of Political Economy*, 121(6):1055–1107, 2013

*#Greg Kaplan, Benjamin Moll, and Giovanni L. Violante. Monetary Policy According

to HANK. *American Economic Review*, 108(3):697–743, March 2018

Adrien Auclert. Monetary Policy and the Redistribution Channel. *American Economic Review*, 109(6):2333–2367, June 2019

Dirk Krueger, Kurt Mitman, and Fabrizio Perri. Macroeconomics and household heterogeneity. Working Paper 22319, National Bureau of Economic Research, June 2016

SeHyouon Ahn, Greg Kaplan, Benjamin Moll, Thomas Winberry, and Christian Wolf. When inequality matters for macro and macro matters for inequality. Working Paper 23494, National Bureau of Economic Research, June 2017

Martin Beraja, Andreas Fuster, Erik Hurst, and Joseph Vavra. Regional Heterogeneity and Monetary Policy. NBER Working Papers 23270, National Bureau of Economic Research, Inc, March 2017

Mikhail Golosov and Thomas Winberry. Macroeconomic Implications of Asset Prices. Technical report, 2018

Pablo Ottonello and Thomas Winberry. Financial Heterogeneity and the Investment Channel of Monetary Policy. NBER Working Papers 24221, National Bureau of Economic Research, Inc, January 2018