

Syllabus

Advanced Macroeconomics (22-3.PM2)

Winter Semester 2021/2022

Universität Hamburg

(Version: September 29, 2021)

Lectures:

- Elements: Mondays 9-11a and Wednesdays 12-2p
- Methods: Wednesdays 11a-12p
- Room WiWi 2101/2105 (2nd floor, Von-Melle-Park 5)

Course website: www.openolat.uni-hamburg.de/auth/RepositoryEntry/211255492

Office hours: by appointment

Final exam: 90min closed-book exam, February 3, 2022, and March 24, 2022

Instructors:

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Course description

The course module “Advanced Macroeconomics” includes two interactive lectures.

- The main lecture “Elements of Dynamic Macroeconomic Theory” provides an introduction to modern macroeconomics at an advanced level, with a focus on the most important theoretical macroeconomic models in the areas of growth theory and business cycles. The lecture is taught by Prof. Michael Bauer.
- The accompanying lecture “Methods of Macroeconomic Analysis” teaches analytical, computational and empirical methods used in modern macroeconomics. The “Methods” lecture is taught by Dr. Daniel Huber.

Both lectures are **interactive**, meaning that students actively participate in discussions in class, prepare course materials outside class, and independently work on exercises to deepen their understanding of the material.

The course has the following three complementary **learning objectives**:

- Becoming familiar with the most important topics in modern macroeconomics
- Learning the necessary tools and techniques to formulate and solve dynamic models
- Analyzing macroeconomic policy issues using theoretical models and quantitative methods

Requirements

Course participants are assumed to have a solid background in mathematics, statistics and quantitative economics.

Course logistics

- Lectures will generally be taught in-person.
- COVID protocol for in-person lectures:
 - (3G) Bring proof of vaccination/negative test/recent recovery to every lecture. A PCR test must not be older than 48 hours, a rapid test must not be older than 24 hours.
 - Wear a medical fask mask at all times. Only the presenters (Bauer/Huber) may take off their masks.
 - Enter your name in registration list each time.
- This semester Universität Hamburg does not entitle students to digital access for all courses. However, to accommodate special cases I will have hybrid lectures if necessary.
 - Students who cannot be in Hamburg due to COVID/travel restrictions will be allowed to participate online.
 - In that case, email Prof. Bauer and explain your situation to obtain permission and a Zoom link.
- All course materials will be made available on OpenOLAT.
 - The lecture slides will be uploaded before each lecture.
 - The problem sets (see below) will also be distributed via OpenOLAT, but need to be handed in via email to Daniel Huber.
- Office hours will be digital via Zoom. Email Prof. Bauer or Dr. Huber to make an appointment for office hours.

Assessments

Problem Sets

There will be regular problem sets, about once every other week. Students are expected to work on the problems and hand in their written solutions via email. It is allowed—and indeed encouraged—to work in groups with up to four people. If you work in a group, make sure to put the names of all group members on the front page of your solution.

Most of the questions will be analytical exercises that you can work out with pen and paper. Some of the questions will require you to carry out empirical analysis or simulations using statistical software packages on your computer. You are free to use any software package, but we recommend R, Python or Matlab.

Please submit your problem set as a single PDF file via email to Dr. Daniel Huber! Your solutions can be handwritten and scanned, or typeset using software like Word or Latex. In either case, you should produce a single PDF file to hand in. Late assignments will not be accepted or graded.

Final Exam

The final exam for this course will be an in-person, closed-book exam, offered at the following two dates:

- February 3, 2022, 3:15-4:45p
- March 24, 2022, 10:15-11:45a

Grading Policy

The exam will be graded on the usual grading scale with passing grades from 1.0 (very good) to 4.0 (sufficient), and with a failing grade 5.0 (insufficient). Students who do well on the problem sets will receive a grade bonus of up to +0.7, provided that they pass the final exam.

Textbooks

- Main textbook (required reading):
 - David Romer. *Advanced Macroeconomics*. McGraw-Hill Economics, 5th edition, 2018.
- Other textbooks (useful for further reading):
 - Daron Acemoglu. *Introduction to Modern Economic Growth*. Princeton University Press, 2009.
 - Olivier J. Blanchard and Stanley Fischer. *Lectures on Macroeconomics*. MIT press, 1989.
 - Thomas J. Sargent. *Dynamic Macroeconomic Theory*. Harvard University Press, 1987.
 - Thomas J. Sargent and Lars Ljungqvist. *Recursive Macroeconomic Theory*. MIT Press, 4th edition, 2018.
 - Angus Deaton. *Understanding Consumption*. Oxford University Press, 1992.
 - George McCandless. *The ABCs of RBSs: An Introduction to Dynamic Macroeconomic Models*. Harvard University Press, 2008.

- Jordi Galí. *Monetary policy, inflation, and the business cycle: an introduction to the new Keynesian framework and its applications*. Princeton University Press, 2nd edition, 2015.

Outline

This outline and schedule is tentative and subject to change.

Economic growth and the neoclassical model

- Solow model (week 1)
 - Romer ch. 1
 - Optional: Acemoglu ch. 1-2
- Growth accounting and growth empirics, AK model (week 2)
 - Romer ch. 1.7, ch. 4
 - Optional: Acemoglu ch. 3, Young (1995), Fernald (2015), Hall and Jones (1999), Baumol (1986), De Long (1988), Mankiw et al. (1992)
- Neoclassical growth model in continuous time (week 3)
 - Romer ch. 2.A
 - Optional: Acemoglu ch. 5, 7, 8; Blanchard-Fischer ch. 1
- Neoclassical growth model in discrete time and dynamic programming (week 4)
 - Optional: Acemoglu ch. 6, 8.6, McCandless ch. 4

Business cycles

- Consumption (week 5)
 - Romer ch. 8
 - Optional: Deaton ch. 1-4, 6.1, Blanchard-Fischer ch. 6.2, Hall (1978); Flavin (1981), Campbell and Mankiw (1989)
- Real business cycle models (week 6)
 - Romer ch. 5
 - Optional: McCandless ch. 6, Blanchard-Fischer ch. 7, Hansen (1985), Uhlig (1995)
- Monetary non-neutrality, the Phillips curve, nominal rigidities (week 7)
 - Romer ch. 5.9, ch. 6
 - Optional: Blanchard-Fischer ch. 8, Romer and Romer (1989), Gertler and Karadi (2015), Ramey (2016), Mankiw (2001), Ball and Mankiw (2002)
- New Keynesian models (weeks 8-9)
 - Romer ch. 7, 12.5
 - Optional: Galí ch. 2-4, Mankiw (2001)

Monetary policy

- Optimal monetary policy in the New Keynesian model (week 10)
 - Romer 12.3-12.5, 12.8
 - Optional: Gali ch. 5, Clarida et al. (1999)
- Monetary policy rules (week 11)
 - Romer 12.6
 - Optional: Clarida et al. (2000), Taylor and Williams (2010)
- The yield curve and monetary policy (week 12)
 - Romer 12.2
 - Optional: Kuttner (2001), Gürkaynak et al. (2005), Bauer and Rudebusch (2016), Bauer and Mertens (2018)
- The zero lower bound (week 12)
 - Romer 12.7
 - Optional: Gali (2018)
- The practice of monetary policy: goals, strategies, implementation (week 13)
 - Required reading: Fed’s [“Statement on Longer-Run Goals and Monetary Policy Strategy”](#) and [Powell’s 2020 Jackson Hole speech](#)
 - Optional: Bernanke and Mishkin (1997)

Fiscal policy

- Fiscal policy and government debt (week 13)
 - Romer ch. 13.1-13.4
- Debt sustainability (week 14)
 - Romer ch. 13.8
 - Optional: Reinhart and Rogoff (2010), Blanchard (2019)
- Government expenditures and fiscal multipliers (week 14)
 - Optional: Ramey (2011, 2019)

References

- Daron Acemoglu. *Introduction to Modern Economic Growth*. Princeton University Press, 2009.
- Laurence Ball and N. Gregory Mankiw. The nairu in theory and practice. *Journal of economic Perspectives*, 16(4):115–136, 2002.
- Michael D. Bauer and Thomas M. Mertens. Economic forecasts with the yield curve. FRBSF Economic Letter 2018-07, Federal Reserve Bank of San Francisco, March 5, 2018.
- Michael D. Bauer and Glenn D. Rudebusch. Why are long-term interest rates so low? FRBSF Economic Letter 2016-36, Federal Reserve Bank of San Francisco, December 5, 2016.
- William J. Baumol. Productivity growth, convergence, and welfare: what the long-run data show. *American Economic Review*, pages 1072–1085, 1986.
- Ben S. Bernanke and Frederic S. Mishkin. Inflation targeting: a new framework for monetary policy? *Journal of Economic perspectives*, 11(2):97–116, 1997.
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- Richard Clarida, Jordi Gali, and Mark Gertler. The science of monetary policy: a new keynesian perspective. *Journal of economic literature*, 37(4):1661–1707, 1999.
- Richard Clarida, Jordi Gali, and Mark Gertler. Monetary policy rules and macroeconomic stability: evidence and some theory. *The Quarterly journal of economics*, 115(1):147–180, 2000.
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- Angus Deaton. *Understanding Consumption*. Oxford University Press, 1992.
- John G. Fernald. Productivity and potential output before, during, and after the great recession. *NBER macroeconomics annual*, 29(1):1–51, 2015.
- Marjorie A. Flavin. The adjustment of consumption to changing expectations about future income. *Journal of Political Economy*, 89(5):974–1009, 1981.
- Jordi Galí. *Monetary policy, inflation, and the business cycle: an introduction to the new Keynesian framework and its applications*. Princeton University Press, 2nd edition, 2015.
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- Mark Gertler and Peter Karadi. Monetary policy surprises, credit costs, and economic activity. *American Economic Journal: Macroeconomics*, 7(1):44–76, 2015.
- Refet S. Gürkaynak, Brian P. Sack, and Eric T. Swanson. Do actions speak louder than words? the response of asset prices to monetary policy actions and statements. *International Journal of Central Banking*, 1(1):55–93, May 2005.
- Robert E. Hall. Stochastic implications of the life cycle-permanent income hypothesis: theory and evidence. *Journal of Political Economy*, 86(6):971–987, 1978.

- Robert E Hall and Charles I Jones. Why do some countries produce so much more output per worker than others? *The quarterly journal of economics*, 114(1):83–116, 1999.
- Gary D. Hansen. Indivisible labor and the business cycle. *Journal of monetary Economics*, 16(3):309–327, 1985.
- 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.
- N. Gregory Mankiw. The inexorable and mysterious tradeoff between inflation and unemployment. *The Economic Journal*, 111(471):45–61, 2001.
- N. Gregory Mankiw, David Romer, and David N. Weil. A contribution to the empirics of economic growth. *The quarterly journal of economics*, 107(2):407–437, 1992.
- George McCandless. *The ABCs of RBSs: An Introduction to Dynamic Macroeconomic Models*. Harvard University Press, 2008.
- Valerie A. Ramey. Can government purchases stimulate the economy? *Journal of Economic Literature*, 49(3):673–85, 2011.
- Valerie A. Ramey. Macroeconomic shocks and their propagation. In *Handbook of macroeconomics*, volume 2, pages 71–162. Elsevier, 2016.
- Valerie A. Ramey. Ten years after the financial crisis: What have we learned from the renaissance in fiscal research? *Journal of Economic Perspectives*, 33(2):89–114, 2019.
- Carmen M. Reinhart and Kenneth S. Rogoff. Growth in a time of debt. *American economic review*, 100(2):573–78, 2010.
- Christina D Romer and David H Romer. Does monetary policy matter? a new test in the spirit of friedman and schwartz. *NBER macroeconomics annual*, 4:121–170, 1989.
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- Harald Uhlig. A toolkit for analyzing nonlinear dynamic stochastic models easily. 1995.
- Alwyn Young. The tyranny of numbers: confronting the statistical realities of the east asian growth experience. *The Quarterly Journal of Economics*, 110(3):641–680, 1995.