Syllabus

Advanced Macroeconomics (22-3.PM2)
Winter Semester 2022/2023
Universität Hamburg

(Version: October 17, 2022)

Lectures:

- Elements: Tuesdays and Wednesdays, 8:00–10:00, ESA H
- Methods: Thursdays, 12:00–13:00, WiWi 2095/2197

Course website: www.openolat.uni-hamburg.de/auth/RepositoryEntry/269320525

Office hours Prof. Bauer: Wednesdays, 13:00–14:00, VMP5 2090

Final exam: 90-min in-person exam, February 9 and March 23, 2023

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

- All lectures will take place in-person.
  - There will not be a hybrid/Zoom option to participate in the lectures.
  - You are strongly encouraged to be vaccinated against Corona and to weak a medical fask mask at all times.
- 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: Prof. Bauer has weekly office hours (see above). For additional office hours with Prof. Bauer or Dr. Huber, please make an appointment.

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 a 90-minute, closed-book, in-person exam. It will take place on these two dates:

- February 9, 2023, 13:15–14:45
- March 23, 2023, 10:15–11:45

Additional information:

- You need to be registered for the exam in STiNE.
- In general, the format will be very similar to the problem sets.

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):
  - Dirk Niepelt. *Macroeconomic Analysis*. MIT Press, 2019.
  - 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 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: Gali 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 10)
  - Romer 12.6
  - Optional: Clarida et al. (2000)
- The practice of monetary policy: goals, strategies, implementation (week 11)
  - 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)
- The yield curve and the zero lower bound (week 12)
  - Romer 12.2, 12.7
  - Optional: Kuttner (2001), Gürkaynak et al. (2005), Bauer and Rudebusch (2016), Bauer and Mertens (2018), Galí (2018)

Fiscal policy

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

References

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Laurence Ball and N. Gregory Mankiw. The nairu in theory and practice. *Journal of economic Perspectives*, 16(4):115–136, 2002.

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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.

Olivier J. Blanchard. Public debt and low interest rates. *American Economic Review*, 109(4):1197–1229, 2019.

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Marjorie A. Flavin. The adjustment of consumption to changing expectations about future income. *Journal of Political Economy*, 89(5):974–1009, 1981.

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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.

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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.

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Dirk Niepelt. *Macroeconomic Analysis*. MIT Press, 2019.

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.

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