Course Plan:

Adv. Macro: Heterogeneous Agent Models

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All articles are posted under »Files« on Absalon

I. Computational techniques

• Lecture 1. Introduction (JD)

Additional material: Heathcote et al. [2009], Kaplan and Violante [2018], Cherrier et al. [2023], Auclert et al. [2025]

• Lecture 2. Consumption Saving (JD)

Required reading: Carroll [1997]

• Lecture 3-4. Stationary equilibrium (RH)

Required reading: Aiyagari [1994] Additional material: Nothing

• Lecture 5-6. Transition path (RH)

Required reading: Documentation for GEModelTools

Additional material: Auclert et al. [2021a]

II. Applications without pricing frictions

- Lecture 7. Wealth inequality (RH)
- Lecture 8. Secular Stagnation (RH)

III. Applications with pricing frictions

• Lecture 9-10. Recap of the RANK model + fiscal policy in HANK (RH)

Required reading: [Auclert et al., 2024]

Additional material: [McKay and Reis, 2016, Hagedorn et al., 2019, Bayer et al., 2019]

• Lecture 11: Monetary policy in HANK (RH)

Required reading: [Kaplan et al., 2018]

Additional material: [Werning, 2015, Auclert et al., 2020, Bayer et al., 2019, Alves et al., 2020]

• Lecture 12: Open-economy HANK model (RH)

Required reading: [Druedahl et al., 2024, 2025] Additional material: [Auclert et al., 2021b]

• Lecture 13: HANK with search and matching (JD)

Required reading: [Broer et al., 2025]

Additional material: [Broer et al., 2024, Ravn and Sterk, 2021, Bardóczy and Guerreiro, 2023]

Exam and Perspectives

• Lecture 14. Exam and perspectives (JD)

References

- S. R. Aiyagari. Uninsured Idiosyncratic Risk and Aggregate Saving. *The Quarterly Journal of Economics*, 109(3):659–684, August 1994. ISSN 0033-5533. doi: 10.2307/2118417.
- Felipe Alves, Greg Kaplan, Benjamin Moll, and Giovanni L. Violante. A Further Look at the Propagation of Monetary Policy Shocks in HANK. *Journal of Money, Credit and Banking*, 52(S2): 521–559, December 2020. ISSN 0022-2879, 1538-4616. doi: 10.1111/jmcb.12761. URL https://onlinelibrary.wiley.com/doi/10.1111/jmcb.12761.
- Adrien Auclert, Matthew Rognlie, and Ludwig Straub. Micro Jumps, Macro Humps: Monetary Policy and Business Cycles in an Estimated HANK Model. NBER Working Paper 26647, 2020.
- Adrien Auclert, Bence Bardóczy, Matthew Rognlie, and Ludwig Straub. Using the Sequence-Space Jacobian to Solve and Estimate Heterogeneous-Agent Models. *Econometrica*, 89(5):2375–2408, 2021a. ISSN 1468-0262. doi: 10.3982/ECTA17434. URL https://onlinelibrary.wiley.com/doi/abs/10.3982/ECTA17434.
- Adrien Auclert, Matthew Rognlie, Martin Souchier, and Ludwig Straub. Exchange Rates and Monetary Policy with Heterogeneous Agents: Sizing up the Real Income Channel. NBER Working Paper 28872, 2021b.
- Adrien Auclert, Matthew Rognlie, and Ludwig Straub. The Intertemporal Keynesian Cross. *Journal of Political Economy*, 132(12):4068–4121, December 2024. ISSN 0022-3808, 1537-534X. doi: 10.1086/732531. URL https://www.journals.uchicago.edu/doi/10.1086/732531. Publisher: University of Chicago Press.
- Adrien Auclert, Matthew Rognlie, and Ludwig Straub. Fiscal and Monetary Policy with Heterogeneous Agents. Technical report, 2025.
- Bence Bardóczy and Joao Guerreiro. Unemployment Insurance in Macroeconomic Stabilization with Imperfect Expectations. Technical report, 2023.
- Christian Bayer, Ralph Luetticke, Lien Pham-Dao, and Volker Tjaden. Precautionary Savings, Illiquid Assets, and the Aggregate Consequences of Shocks to Household Income Risk. *Econometrica*, 87 (1):255–290, 2019. ISSN 1468-0262. doi: 10.3982/ECTA13601. URL https://onlinelibrary.wiley.com/doi/abs/10.3982/ECTA13601.
- Tobias Broer, Jeppe Druedahl, Karl Harmenberg, and Erik Öberg. Stimulus effects of common fiscal policies. Working Paper, 2024.
- Tobias Broer, Jeppe Druedahl, Karl Harmenberg, and Erik Öberg. The Unemployment-Risk Channel in Business-Cycle Fluctuations. CEPR Discussion Paper 16639, 2025.
- Christopher D. Carroll. Buffer-Stock Saving and the Life Cycle/Permanent Income Hypothesis. *The Quarterly Journal of Economics*, 112(1):1–55, 1997.

- Beatrice Cherrier, Pedro Duarte, and Aurélien Saïdi. Household heterogeneity in macroeconomic models: a historical perspective. *European Economic Review*, page 104497, May 2023. ISSN 0014-2921. doi: 10.1016/j.euroecorev.2023.104497. URL https://www.sciencedirect.com/science/article/pii/S0014292123001265.
- Jeppe Druedahl, Søren Hove Ravn, Laura Sunder-Plassmann, Jacob Marott Sundram, and Nicolai Waldstrøm. The Transmission of Foreign Demand Shocks. Working Paper, 2024.
- Jeppe Druedahl, Søren Hove Ravn, Laura Sunder-Plassmann, Jacob Marott Sundram, and Nicolai Waldstrøm. Fiscal Multipliers in Small Open Economies With Heterogeneous Households. Working Paper, 2025.
- Marcus Hagedorn, Iourii Manovskii, and Kurt Mitman. The Fiscal Multiplier. NBER Working Paper 25571, February 2019.
- Jonathan Heathcote, Kjetil Storesletten, and Giovanni L. Violante. Quantitative Macroeconomics with Heterogeneous Households. *Annual Review of Economics*, 1(1):319–354, September 2009.
- Greg Kaplan and Giovanni L. Violante. Microeconomic Heterogeneity and Macroeconomic Shocks. *Journal of Economic Perspectives*, 32(3):167–194, August 2018. ISSN 0895-3309. doi: 10.1257/jep.32.3. 167. URL https://www.aeaweb.org/articles?id=10.1257/jep.32.3.167.
- Greg Kaplan, Benjamin Moll, and Giovanni L. Violante. Monetary Policy According to HANK. *American Economic Review*, 108(3):697–743, March 2018.
- Alisdair McKay and Ricardo Reis. The Role of Automatic Stabilizers in the U.S. Business Cycle. *Econometrica*, 84(1):141–194, January 2016.
- Morten O Ravn and Vincent Sterk. Macroeconomic Fluctuations with HANK & SAM: an Analytical Approach. *Journal of the European Economic Association*, 19(2):1162–1202, April 2021. ISSN 1542-4766. doi: 10.1093/jeea/jvaa028. URL https://doi.org/10.1093/jeea/jvaa028.
- Iván Werning. Incomplete Markets and Aggregate Demand. NBER Working Paper 21448, August 2015.