Preliminary syllabus for

PhD Course in Monetary Economics 2025, for 10 credits

Organized by Sveriges Riksbank and CeMoF

This course is designed to provide students with a comprehensive understanding of monetary economics. The course will cover a range of topics, including the concept of money, models where monetary policy has real effects, credit market frictions, and modern econometric tools to empirically assess the effects of monetary policy. We will begin by exploring how the value of money is determined in equilibrium, which is an important question at the core of monetary economics. We will then delve into monetary policy in the New Keynesian framework- a standard tool for central banks. Additionally, we will examine alternative transmission channels of monetary policy, such as the bank credit channel, general equilibrium effects in models with heterogeneous agents, and the effects of monetary policy through the production network. Finally, we will discuss leading identification methods used in macro to estimate the real effects of monetary policy. The course will also contain an evaluation of the conduct of monetary policy in Sweden in recent years, with active student participation.

The course material comprises mainly of journal articles and lecture notes as specified below.

Some useful books:

Gali, Jordi, 2008, Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework (first or second edition), Princeton University Press.

Walsh, Carl. E., 2010, Monetary Theory and Policy (third edition), MIT Press, Cambridge, Mass.

Woodford, Michael, 2003, Interest and Prices: Foundations of a Theory of Monetary Policy, Prince- ton University Press.

References marked ** should be read carefully. References marked * can be read more superficially. Other references are given as suggested further reading.

Instructors: Per Krusell (PK; main faculty responsible for the course), Mathias Klein (MK), Kieran Larkin (KL), Daria Finocchiaro (DF), Joshua Weiss (JW) and Andreas Westermark (AW).

Examination: student participation, reading assignments, and possibly homework assignments; some of these tasks will involve presentations.

Reading List

Lecture 1-3: Monetary Theory and an NK primer (PK)

**Hornstein, Andreas, and Per Krusell, 2024. Money, Chapter 16 in *Macroeconomics* (forthcoming, Oxford University Press); visit https://phdmacrobook.org for free downloads.

**Chapter 6 on Welfare, especially sections 6.3.5 on monopolistic competition and 6.4 on overlapping generations, in *Macroeconomics* (forthcoming, Oxford University Press); visit https://phdmacrobook.org for free downloads.

**McKay, Alisdair and Morten Ravn, 2024. Nominal Frictions and Business Cycles, Chapter 17 in *Macroeconomics* (forthcoming, Oxford University Press); visit https://phdmacrobook.org for free downloads.

Lecture 4: Wage Rigidity and Labor Market Frictions (DF)

Gali, J., 2008, Monetary Policy, Inflation, and the Business Cycle, chapter 6.

** Erceg, C., Henderson, D., Levin, A., 2000. Optimal monetary policy with staggered wage and price contracts, Journal of Monetary Economics 46, 281-313.

Blanchard, O. and J. Gali, 2007, Real Wage Rigidities and the New Keynesian Model, Journal of Money, Credit, and Banking 39, Supplement, 35-65.

Blanchard, O. and J. Gali, 2010, Labor Markets and Monetary Policy: A New Keynesian Model with Unemployment, American Economic Journal - Macroeconomics, 2, 1-30.

Chari, V.V., P. Kehoe, and Ellen McGrattan, 2000, Sticky Price Models of the Business Cycle: Can the Contract Multiplier Solve the Persistence Problem? Econometrica 68, 1151-1179.

Christiano, L., Eichenbaum, M., Evans, C., 2005, Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy, Journal of Political Economy 113, 1-45.

Christiano, L., Trabandt M. and Walentin, K. 2011, DSGE Models for Monetary Policy Analysis, in Handbook of Monetary Economics, Volume 3a, Elsevier, Friedman, Benjamin M., and Michael Woodford, red,Elsevier.

Lecture 5: A Quantitative NK model (DF)

**Smets, F. and Raf Wouters, 2003, An Estimated Dynamic Stochastic General Equilibrium Model of the Euro Area, Journal of the European Economic Association 1, 1123-1175.

*Smets, F. and Raf Wouters, 2007, Shocks and Frictions in US Business Cycles: A Bayesian DSGE Approach, American Economic Review 97, 586-606.

Abel, A.B., 1990, Asset prices under habit formation and catching up with the Joneses, American Economic Review 80, Papers and Proceedings, 38-42.

Altig, D., Lawrence Christiano, Martin Eichenbaum, and Jesper Linde, 2011, Firm-specific capital, nominal rigidities and the business cycle, Review of Economic Dynamics 14, 225-247

Amato, Jeffery D and Thomas Laubach, 2003, Rule-of-Thumb Behaviour and Monetary Policy, European Economic Review 47, 791-831.

Amato, Jeffery D and Thomas Laubach, 2004, Implications of Habit Formation for Optimal Monetary Policy,

Journal of Monetary Economics 51, 305-325.

Christiano, Lawrence J., Martin Eichenbaum, and Charles L. Evans. 2005, Nominal Rigidities and the Dynamic Effects of a Shock to Monetary Policy, Journal of Political Economy 113, 1-45.

Christiano, Lawrence and Richard Todd, 1996, Time to Plan and Aggregate Fluctuations, Federal Reserve Bank of Minneapolis Quarterly Review, Vol 20, 14-27.

Fuhrer, Jeffrey, 2000, Habit Formation in Consumption and its Implications for Monetary Policy Models, American Economic Review 90, 367-390.

Gourio, Francois and Anil K Kashyap, Investment spikes: New facts and a general equilibrium exploration, Journal of Monetary Economics 54, 1-22

Greenwood, Jeremy, Zvi Hercowitz, and Gregory Huffman, 1988, Investment, Capacity Utilization, and the Real Business Cycle, American Economic Review 78, 402-17.

Hayashi, F., 1982, Tobin's Marginal *q*, and Average *q*: A Neoclassical Interpretation , Econometrica 50, 213-224.

Kydland, F. and E. Prescott, 1982, Time-to-Build and Aggregate Fluctuations, Econometrica 50, 1345-1370.

Ravn, Morten O., Stephanie Schmitt-Grohé, and Martin Uribe, 2006, Deep Habits, Review of Economic Studies 73, 195-218.

Woodford, Michael, 2003, Interest and Prices: Foundations of a Theory of Monetary Policy, Prince- ton University, Ch. 5.

Lectures 6: Money, Credit (KL)

BGG
.....

Lectures 7: … and Banking (JW)

DD
....

Lectures 8: The HANK model and Forward Guidance (AW)

Useful book:

Acemoglu, Daron, 2009, Introduction to Modern Economic Growth (chapters 7-8), Princeton University Press

Papers:

Acdou, Yves, Francisco Buera, Jean-Michel Lasry, Pierre-Louis Lions, Benjamin Moll, 2014, Partial differential equation models in macroeconomics, Philosophical Transactions of the Royal Society A 372, https://www.princeton.edu/~moll /PDE_macro.pdf.

*Ahn, SeHyoun, Greg Kaplan, Benjamin Moll, Thomas Winberry, Christian Wolf, 2017, When Inequality Matters for Macro and Macro Matters for Inequality, mimeo.

Auclert, Adrien, 2017, Monetary Policy and the Redistribution Channel, NBER working paper 23451.

Ayagari, Rao, 1994, Uninsured Idiosyncratic Risk and Aggregate Saving, Quarterly Journal of Economics 109, 659-684.

Barles, G, P Souganidis 1991, Convergence of Approximation Schemes for Fully Nonlinear Second Order Equations, Asymptotic Analysis 4, 217-283

Bayer, Christian and Ralph Luetticke, 2018, Solving heterogeneous agent models in discrete time with many idiosyncratic states by perturbation methods, CEPR WP.

*Broer, Tobias, Niels-Jakob Harbo Hansen, Per Krusell, Erik Öberg, 201, The New Keynesian Transmission Mechanism: A Heterogenous-Agent Perspective, NBER working paper 22418.

*Debortoli, David, Jordi Gali, 2017, Monetary Policy with Heterogeneous Agents: Insights from TANK models, mimeo.

*Lang, Harald 1993, Optimal Control, https://people.kth.se/~lang/control.pdf.

**Kaplan, Greg, Benjamin Moll, Giovanni Violante, (2018) Monetary Policy According to HANK, American Economic Review 108, 697-743.

*Krusell, Per, Anthony Smith 1998, Income and Wealth Heterogeneity in the. Macroeconomy, Journal of Political Economy 106, 867-896.

*Ravn, Morten, Vincent Sterk, 2017, Macroeconomic Fluctuations with HANK & SAM: an Analytical Approach, mimeo.

Tourin, Agnes 2010, An introduction to Finite Difference methods for PDEs in Finance, https://www.fields.utoronto.ca/programs/scientific/09-10/finance/courses /tourin.pdf

*Winberry, Thomas, 2018, A metod for Solving and Estimating Heterogenous Agent Macro Models, Quantitative Economics vol 9, p 1123-1151.

Lecture 9: Monetary policy and production networks (AW)

TBA

Lecture 10-11: Identification in macroeconomics (MK, AR)

TBA

Lecture 12-13: Evaluating monetary policy in Sweden (PK, AS and RV)

Report on the Riksbank (CeMoF)

…..