PhD Course in Monetary Economics 2024, for 7,5 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 , 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 in *Macroeconomics* (forthcoming).

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

** 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.

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

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.

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

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-Grohe, 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, Princeton University, Ch. 5.

Lectures 6: Money, Credit (KL)

Macroeconomic models with financial friction. An introduction to models which incorporate agency or information frictions into macroeconomic frameworks to allow financial shocks to impact the real economy. The lecture will focus on Kiyotaki and Moore and the Bernanke-Gertler-Gilchrist financial accelerator model.

**Kiyotaki, N. & Moore, J. (1997) Credit Cycles, *Journal of Political Economy*

**Bernanke, B., Gertler, M. & Gilchrist, M. (1999) The Financial Accelerator in a Quantitative Business Cycle Framework, *Handbook of Macroeconomics*

Gertler, M. & Kiyotaki, N. (2011) Financial Intermediation and Credit Policy in Business Cycle Analysis, *Handbook of Macroeconomics*

Bernanke, B. & Gertler, M. (1989) Agency Costs, Net Worth, and Business Fluctuations, *The American Economic Review*

Bernanke, B., Gertler, M. & Gilchrist, M. (1996) The Financial Accelerator and the Flight to Quality, *The Review of Economics and Statistics*

Gertler, M. & Karadi, P. (2015) Monetary Policy Surprises, Credit Costs, and Economic Activity, *AEJ: Macro*

Lectures 7: … and Banking (JW)

**Diamond, Douglas W & Dybvig, Philip H, 1983. "Bank Runs, Deposit Insurance, and Liquidity," Journal of Political Economy, University of Chicago Press, vol. 91(3), pages 401-419, June.'

Ennis, H. M. and Keister, T., 2009. "Bank runs and institutions: The perils of intervention," The American Economic Review, 99(4): 1588–1607.

Goldstein, Itay and Ady Pauzner, 2005. "Demand-Deposit Contracts and the Probability of Bank Runs," The Journal of Finance, 60(3): 1293-1327.

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

Carlstrom, Charles, Timothy Fuerst and Mattias Paustian, 2015, Inflation and output in New Keynesian models with a transient interest rate peg, Journal of Monetary Economics, vol 76, p 230-243.

*Del Negro, Marco, Marc Giannoni and Christina Patterson, 2023, The Forward Guidance Puzzle, Journal of Political Economy Macroeconomics, vol 1, p 43-79.

**McKay, Alisdair, Emi Nakamura and Jon Steinsson, 2015, The Power of Forward Guidance Revisited,

American Economic Review, vol 106, p 3133-3158.

Werning, Ivan, 2015, Incomplete Markets and Aggregate Demand, NBER working paper 21448.

Lecture 9: Monetary policy and production networks (AW)

*Acemoglu, Daron, Vasco Carvalho, Asuman Ozdaglar and Alireza Tahbaz-Salehi, 2012, The Network Origins of Aggregate fluctuations, Econometrica, vol 80, p 1977-2016.

*Baqaee, David and Emmanuel Fahri, 2019, The Macroeconomic Impact of Microeconomic Shocks: Beyond Hulten's Theorem, Econometrica, vol 87, p 1155-1203.

*Baqaee, David and Emmanuel Fahri, 2020, Productivity and Misallocation in General Equilibrium, Quarterly Journal of Economics, p 105-163.

Carvalho, Vasco and Xavier Gabaix, 2013, The Great Diversification and its Undoing, American Economic Review, vol 103, p 1697-1727.

**Gabaix, Xavier, 2011, The Granular Origins of Aggregate fluctuations, Econometrica, vol 79, p 733-772.

Hulten, Charles, 1978, Growth Accounting with Intermediate Inputs, Review of Economic Studies, vol 45, p 511-518.

**Rubbo, Elisa, 2023, Networks, Phillips Curves, and Monetary Policy, Econometrica, vol 91, p 1417-1455.

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

Valerie Ramey (2016). "Chapter 2 - Macroeconomic Shocks and Their Propagation". In: ed. by John B. Taylor and Harald Uhlig. Vol. 2. Handbook of Macroeconomics. Elsevier, pp. 71–162.

Emi Nakamura and Jon Steinsson (2018). "Identification in Macroeconomics". Journal of Economic Perspectives 32(3), pp. 59–86.

Barnichon, Regis & Mesters, Geert, 2021. "The Phillips multiplier," Journal of Monetary Economics, vol. 117(C), pages 689-705.

Valerie A. Ramey & Sarah Zubairy, 2018. "Government Spending Multipliers in Good Times and in Bad: Evidence from US Historical Data," Journal of Political Economy, vol. 126(2), pages 850-901.

Jaime Guajardo & Daniel Leigh & Andrea Pescatori, 2014. "Expansionary Austerity? International Evidence," Journal of the European Economic Association, vol. 12(4), pages 949-968.

Tenreyro, Silvana, and Gregory Thwaites. 2016. "Pushing on a String: US Monetary Policy Is Less Powerful in Recessions." American Economic Journal: Macroeconomics, 8 (4): 43-74.

Nakamura, Emi, and Jón Steinsson. 2014. "Fiscal Stimulus in a Monetary Union: Evidence from US Regions." American Economic Review, 104 (3): 753-92.

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

Report on the Riksbank (CeMoF)