

## Monetary Theory and Policy

This course introduces students to the dynamic stochastic general equilibrium (DSGE) models used in modern monetary macroeconomics called New Keynesian models. The basic model equations including nominal frictions such as price stickiness are derived carefully, and model solution techniques are discussed. Numerical solutions of the models are obtained and the models are simulated and analyzed using Dynare in MATLAB. Possible extensions to the core model that may be treated in class include an analysis of optimal monetary policy.

After completing the course, students should understand the dynamic mechanisms of nominal rigidities and the policy tradeoffs facing monetary policy. Mechanically, students will be able to derive, solve and simulate simple DSGE models and should be able to read and understand more elaborate models found in the literature.

### Course Outline

#### 1. Introduction

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| <b>Concepts/techniques:</b> | Real Business Cycles versus New Keynesianism |
| <b>Main readings:</b>       | Galí (2008), ch. 1                           |
| <b>Additional reading:</b>  | Lucas (1976), Sims (1981)                    |

#### 2. A Classical Monetary Economy

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|-----------------------------|--|
| <b>Concepts/techniques:</b> | Intertemporal optimization, monetary neutrality, log linearization |
| <b>Main reading:</b>        | Galí (2008), ch. 2   |
| <b>Additional reading:</b>  | King and Watson (1995)   |

#### 3. The Basic New Keynesian Model

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| <b>Concepts/techniques:</b> | Staggered price setting, equilibrium determination |
| <b>Main reading:</b>        | Galí (2008), ch. 3                                 |
| <b>Additional reading:</b>  | Clarida et al. (1999)                              |

#### 4. Optimal Policy Design

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|-----------------------------|---|
| <b>Concepts/techniques:</b> | Policy efficiency, optimal versus simple policy rules |
| <b>Main reading:</b>        | Galí (2008), ch. 4                                    |
| <b>Additional reading:</b>  | Woodford (2001)                                       |

#### 5. Discretion versus Commitment

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| <b>Concepts/techniques:</b> | Time consistency        |
| <b>Main reading:</b>        | Galí (2008), ch. 5      |
| <b>Additional reading:</b>  | Barro and Gordon (1983) |

### Literature

- Barro, Robert and David Gordon (1983): "Rules, discretion and reputation in a model of monetary policy," *Journal of Monetary Economics*, 12(1), pp. 101-121.
- Clarida, Richard, Jordi Galí, and Mark Gertler (1999): "The Science of Monetary Policy: A New Keynesian Perspective," *Journal of Economic Literature*, American Economic Association, vol. 37(4), pp. 1661-1707.
- Galí, Jordi (2008): *Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework*. Princeton University Press.
- King, Robert and Watson, Mark, (1995), *Money, prices, interest rates and the business cycle*, No 95-10, Working Paper Series, Macroeconomic Issues, Federal Reserve Bank of Chicago.
- Lucas, Robert E. (1976): "Econometric Policy Evaluation: A Critique," *Carnegie-Rochester conference Series on Public Policy*, vol. 1, 19-46.
- McCandless, George (2008): *The ABCs of RBCs: An Introduction to Dynamic Macroeconomic Models*. Harvard University Press.
- Sims, Christopher (1980): "Macroeconomics and Reality," *Econometrica*, 48(1), 1-48.
- Woodford, Michael (2001): "The Taylor Rule and Optimal Monetary Policy," *American Economic Review* 91(2), pp. 232-237.