

**Department of Economics  
Hong Kong University of Science and Technology**



**Economics 5260  
Macroeconomic Theory II  
Spring 2023**

**Lecture: Prof. Jenny Xu**  
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***Course Description and Objectives:***

This is an advanced macroeconomics theory course for Ph.D. students, with special emphasis on monetary theory and policy. The objective of this course is to introduce you to current research on monetary macro modeling, models with nominal rigidities, and monetary policy analysis. We will talk about the empirical and theoretical results that the literature has converged upon and cover the needed analytical techniques along the way.

***Pre requisites***

This course is for Ph.D student in Economics and also available to other students as permitted by the regulations. Students are also expected to have completed Econ 5250 or equivalent courses that covers DSGE models and dynamic optimization.

***Learning Outcomes – Program Intended Learning Outcomes (“PILOs”):***  
**Upon successful completion of this course, you should be able to:**

1. Have an up-to-date and in-depth knowledge of advanced macroeconomics, especially monetary economics. Understand the important questions of monetary economics and the main components of business cycle and monetary theories. (SILO # 1)
2. Grasp the advanced mathematical and quantitative tools to understand the important macroeconomic research questions discussed in the literature; (SILO # 1.2, #1.3)
3. Apply the concepts, principles, and models learnt in this course to analyze economic phenomena and the current macroeconomic events and its impact on the business environment and the economy; (SILO # 2.2)
4. Develop new research questions independently based on the literatures and current macroeconomic phenomenon; and carry out research independently to address these questions; (SILO # 4.1)
5. Apply monetary theories and models to understand and evaluate the effects of monetary policies, possible effects and causes of recent financial crisis, and financial and monetary policies that may stabilize fluctuations. (SILO # 2.2)
6. Think critically and creatively when making effective economic decisions and policy suggestions supported by macroeconomic theories and analytical and quantitative techniques. (SILO # 1.3)
7. Communicate effectively in oral and written English; (SILO # 5, SILO # 6.1 )
8. Demonstrate proficiency in using mathematical, quantitative and empirical tools in conducting economics research; (SILO # 3.2, #3.3)
9. Locate, gather, and analyze data using appropriate information technology, software and systems.

For the details of SILOs, please refer to:

<http://www.bm.ust.hk/sbmlern/eng/thirdcat.php?sid=5&thirdid=8>

### ***Teaching Approach***

**This course is primarily delivered through lectures, tutorials, and class discussion.**

<b>Teaching and Learning Activities</b>	<b>Roles in the Course</b>	<b>Course Learning Outcome addressed</b>
Lectures with in-class discussions	Explain key concepts and models to students	1, 2, 3, 4, 5, 6, 7, 8,9
Homework assignments	Practice problem solving, data collection and apply models to analyze economic issues	1,2,3,5 ,7,8,9
Literature Review (Ph.D students only)	Understand research questions, practice critical review on papers	1,2,3,4,6,7,8
Class Presentation	Understand important papers, presentation skills	1,2,6,7,8,9
Exams	Problem solving and understanding of course materials	1,2,3, 5,7,8

## ***Evaluation***

There will be a set of assignments (20%), a presentation (5%), a mid-term (35%), and a final exam (40%).

## ***Required Textbook:***

There is no single source that could usefully act as a textbook for the whole course.

For the first half of this course, the **require textbook** is *Walsh, Carl, Monetary Theory and Policy, 4/e, MIT Press, 2017*. For the rest of this course, we will focus on journal articles and working papers that will be listed in the course outline.

Other **useful reference** includes:

*Woodford, Michael, Interest and Prices: Foundations of a Theory of Monetary Policy, Princeton University Press, 2003.*

*Gali, Jordi, Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework, Princeton University Press, 2008.*

## ***Syllabus***

The syllabus for the course is below. Some articles may be added at a later date.

### **1. Empirical evidence on Money, Prices, and Output**

Walsh, Chapter 1

Leeper, Sims, and Zha, 1996 "What Does Monetary Policy Do?", Brookings Papers on Economic Activity;

\*Christiano, L, M. Eichenbaum, and C. Evans "Monetary Policy Shocks: What Have We Learned and to What End?", in Taylor and Woodford, eds. Handbook of Macroeconomics (NBER working paper 6400).

\*Emi Nakamura and Jón Steinsson "Identification in Macroeconomics", in Journal of Economic Perspective, 32(3), Summer 2018, 59-86

Wu, J.C., and F. D. Xia, 2016, “Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound.” *Journal of Money, Credit, and Banking* 48(2-3), 253-29120

\*Ozdagli Ali and Weber, Michael, 2019 “Monetary Policy through Production Networks: Evidence from the Stock Market”, Working paper, Chicago Booth

\* Coibion Olivier, Yuriy Gorodnichenko and Saten Kumar, 2018, “How Do Firms Form Their Expectations? New Survey Evidence” *American Economic Review* 108(9), 2671-2713.

\*Eric T. Swanson, 2021. "Measuring the Effects of Federal Reserve Forward Guidance and Asset Purchases on Financial Markets," *Journal of Monetary Economics* 118 (2021) 32-53.

## **2. Dynamic General Equilibrium Monetary Models**

2.1 Money-in-Utility Model (Walsh Chapter 2)

2.2 Money and Transaction: Cash-in-Advance Model (Walsh Chapter 3)

Woodford, M. Interest and Prices

## **3. Money in the Short Run: Portfolio Rigidities**

3.1 Limited Participation Model

Walsh, Chapter 5

Woodford, Chapter 3

Alvarez F., A. Atkeson and P. J. Kehoe, “ Money, Interest Rates, and Exchange Rates with Endogenously Segmented Markets”, *Journal of Political Economy*, 2002, pp. 73-112

\*Alvarez, F., Atkeson, A., & Kehoe, P. J. (2009). Time-Varying Risk, Interest Rates, and Exchange Rates in General Equilibrium. *The Review of Economic Studies*, 76(3), 851–878.

Christiano, L. M. Eichenbaum, and C. Evans, “Sticky Price and Limited Participation Models: A Comparison”, *European Economic Review*, 1997, 41, 1201-1249.

## **4. Money in the Short Run: Nominal Price and Wage Rigidities**

4.1 CKM model and Calvo Model

4.2 Time dependant Model and State dependant Model

Walsh, Chapter 7

Ball L. and D. Romer, 1990, "Real Rigidities and the Non-Neutrality of Money", *Review of Economic Studies*.

Calvo, "Staggered Prices in a Utility Maximizing Framework", *Journal of Monetary Economics*, 1983, 12, 383-98.

Taylor, J. (1999), "Staggered Price and Wage Setting in Macroeconomics", in Taylor and Woodford, eds. *Handbook of Macroeconomics*,

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

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

Mankiw N. G., and R. Reis "Sticky Information Versus Sticky Prices: A Proposal to Replace the New Keynesian Phillips Curve", 2003, *Quarterly Journal of Economics*.

\*Nakamura E. and J. Steinsson "Five Facts About Prices: A Reevaluation of Menu Cost Models", 2008, *Quarterly Journal of Economics* 123(4), 1415-1464

\* Klenow, Peter J. and Oleksiy Kryvtsov "State-Dependent or Time-Dependent Pricing: Does it Matter for Recent U.S. Inflation?", 2008, *The Quarterly Journal of Economics*, 123(3), 863-904

\*Nakamura E. and J. Steinsson "Price Rigidity: Microeconomic Evidence and Macroeconomic Implications", 2013, *Annual Review of Economics*, 5, 133-163, 2013.

\*Gorodnichenko, Y. and M. Weber, 2016 "Are Sticky Prices Costly? Evidence from the Stock Market", *American Economic Review*, 106(1): 165-199.

## **5. Optimal Monetary Policy with Sticky Prices: New Keynesian Monetary Economics**

Walsh, Chapter 8

Woodford, Michael, *Interest and Prices*:

Clarida, R., J. Gali, and M. Gertler, "The Science of Monetary Policy: A New Keynesian Perspective", 1999, *Journal of Economic Literature*;

Khan, A., King R.G., and A. Wolman, "Optimal Monetary Policy", 2003 *Review of Economic Studies*;

King, R. G., A. Wolman, "What Should Monetary Policy Do When Prices are Sticky?", in Taylor, J.B. (ed) 1999, Monetary Policy Rules;

Erceg, C. D. Henderson, and A. Levin "Optimal Monetary Policy with Staggered Price and Wage Contracts", 2000, Journal of Monetary Economics;

Ireland, P. "The Role of Countercyclical Monetary Policy", 1996, Journal of Political Economy;

Gali, Jordi, 2018, "The State of New Keynesian Economics: A Partial Assessment," Journal of Economic Perspectives, Summer.

## **6. Time Consistency and Policy (optional, if time permits)**

Walsh, Chapter 6

Albanesi, S. V. V. Chari and L. Christiano, "Expectations Traps and Monetary Policy", 2003, Review of Economic Studies

Barro, R. G. and D. Gordon, "A Positive Theory of Monetary Policy in a Natural Rate Model", 1983, Journal of Political Economy.

Calvo, G, "On the time-inconsistency of Optimal Policy in a Monetary Economy," 1978, Econometrica 46, Pg. 1411-1428.

Ireland, P. "Sustainable Monetary Policies", 1997, Journal of Economic Dynamics and Control,

Lucas, R.E. and N. Stokey, "Optimal Fiscal and Monetary Policy in an Economy without Capital", 1983, Journal of Monetary Economics.

## **7. Financial Markets and Monetary Policy**

Walsh Chapter 10

Bernanke, B. S., and M. Gertler. 1989. "Agency Costs, Net Worth, and Business Fluctuations." American Economic Review 79(1): 14–31.

Bernanke, B. S., and M. Gertler, 1995. "Inside the Black Box: The Credit Channel of Monetary Policy Transmission." Journal of Economic Perspectives 9(4): 27–48.

Bernanke, B. S., M. Gertler, and S. Gilchrist, 1999. "The Financial Accelerator in a Quantitative Business Cycle Framework." In Handbook of Macroeconomics, ed. J. B. Taylor and M. Woodford. Vol. 1C, 1341–1393. Amsterdam: North-Holland.

Bernanke, B. S., M. Gertler, and S. Gilchrist. 1996. "The Financial Accelerator and the Flight to Quality." Review of Economics and Statistics 78(1): 1–15.

Carlstrom, C. T., and T. S. Fuerst, 1997. "Agency Costs, Net Worth, and Business Fluctuations: A Computable General Equilibrium Analysis." *American Economic Review* 87(5): 893–910.

Kiyotaki, N., and J. Moore. 1997. "Credit Cycles." *Journal of Political Economy* 105(2): 211–248.

Gertler, Mark & Karadi, Peter, 2011. "A model of unconventional monetary policy," *Journal of Monetary Economics*, Elsevier, vol. 58(1), pages 17-34, January

\*Jermann, Urban, and Vincenzo Quadrini. 2012. "Macroeconomic Effects of Financial Shocks." *American Economic Review*, 102(1): 238-71.

Coibion, Gorodnichenko, and Wieland, 2012. "The Optimal Inflation Rate in New Keynesian Models: Should Central Banks Raise Their Inflation Targets in Light of the Zero Lower Bound?," *Review of Economic Studies*, 79 (4): 1371-1406.

\*Eric Sims and Jing Cynthia Wu, 2021, "Evaluating Central Banks' tool kit: Past, present, and future", *Journal of Monetary Economics* 118, 135-160.

\* Bhattarai Saroj, Christopher J. Neely, 2022, "An Analysis of the Literature on International Unconventional Monetary Policy", *Journal of Economic Literature* 2022, 60(2), 527–597

## **8. Money and the Open economy (optional, if time permits)**

Walsh, Chapter 9

Obtsfeld, M. and K. Rogoff, "Exchange Rate Economics: Redux" 1995, *Journal of Political Economy*.

Chari, V. V., P.J. Kehoe, and E. McGratten, "Can Sticky Price Models Generate Volatile and Persistent Real Exchange Rates?", 2002, *Review of Economic Studies*.

Obstfeld, M. and K. Rogoff, "Global Implications of Self-Oriented Monetary Policy", 2002, *Quarterly Journal of Economics*.

Devereux, M. and C. Engel, "Monetary Policy in the Open Economy Revisited", 2003, *Review of Economic Studies*.

\*Gali, J. and T. Monacelli, "Optimal Monetary Policy in an Open Economy", 2005, *Review of Economic Studies*.

\*Engel, Charles, 2012, "Currency Misalignments and Optimal Monetary Policy: A Reexamination," American Economic Review 101, 2796-2822.

**Remark:** Depending on our progress, we may or may not cover all these topics. Time constraints will force us to deviate at times.

**Presentation Schedule:**

You can choose to present a paper with a "\*" mark in the syllabus or any paper related to this course, subject to my approval. Please let me know by March 31<sup>st</sup>, 2023.

Notes: Ph.D students will present individually, and M.Sc students will present in groups.