

Applied Monetary Economics

Roberto A. De Santis*

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Syllabus

This course targets graduate students with a background in economics or related fields. It aims to equip students with the analytical tools and knowledge necessary to understand and evaluate monetary policy decisions and their implications for the economy.

The course is organised in 15 hours: 8 hours are dedicated to lectures and 7 hours to student presentations based on the reading of the literature or group projects.

I Conventional vs Unconventional Monetary Policy

Exploration of unconventional monetary policy tools, such as quantitative easing, forward guidance, and negative interest rates. Explaining the Taylor rule, a widely-used guideline for setting interest rates based on inflation and output deviations from target levels.

Number of hours: 2

References: Taylor (1993); Christiano et al. (1999); Krishnamurthy and Vissing-Jorgensen (2011); Bernanke (2020).

II Identification of Monetary Policy Surprises

Overview of empirical techniques used to identify monetary policy surprises including time series analysis, econometric models, and event studies. The identification of monetary policy surprises involves determining unexpected changes in monetary policy actions or announcements that deviate from market expectations.

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Number of hours: 2

References: Kuttner (2001); Cochrane and Piazzesi (2002); Faust et al. (2003); Romer and Romer (2004); Faust et al. (2004); Bernanke and Kuttner (2005); Gürkaynak et al. (2005); Hanson and Stein (2015); Gertler and Karadi (2015a); Ramey (2016); Cieslak (2018); Altavilla et al. (2019); Jarociński and Karadi (2020); Swanson (2021); Miranda-Agrippino and Ricco (2021); Bauer and Swanson (2023a,b).

III Monetary Policy Transmission Mechanisms

Monetary policy transmission mechanisms describe how changes in monetary policy actions, such as interest rate adjustments or changes in the money supply, affect key economic variables such as output, inflation, and employment. There are several channels through which monetary policy influences the economy: (i) The interest rate channel describes how changes in the central bank's policy rate affect interest rates in financial markets, influencing borrowing, spending, and investment decisions. (ii) The credit channel focuses on the impact of changes in credit conditions (e.g., bank lending standards, availability of credit) on economic activity and aggregate demand. (iii) The exchange rate channel focuses in he changes in the exchange rates and the impact on exports cheaper and imports. (iv) The expectations channel describes the effects of forward guidance, communication by central bank officials, and credibility of policy commitments, which can shape expectations and influence spending and investment decisions. (v) The asset price channel is associated to the effect on the the present value of future cash flows, influencing asset valuations and investor behavior. Rising asset prices can boost household wealth and confidence, leading to increased consumption and investment.

III.A Linear Models

Number of hours: 2

References: Christiano et al. (1999); Gertler and Karadi (2015a); Ramey (2016); Jarociński and Karadi (2020); Miranda-Agrippino and Ricco (2021); Bauer and Swanson (2023a).

III.B Nonlinear Models

Number of hours: 2

References: Granger and Teräsvirta (1993); Mumtaz and Surico (2015); Tenreyro and Thwaites (2016); Angrist et al. (2018); Bruns and Piffer (2021); De Santis and Tornese (2024).

IV Students' Readings and Projects

Number of hours: 7

1. Baumeister and Hamilton (2018)'s structural model
2. The role of credit spreads in the transmission mechanism
 - Gertler and Karadi (2015b)
 - Caldara and Herbst (2019)
3. Discuss the findings in Tenreyro and Thwaites (2016) and De Santis and Tornese (2024)'s nonlinear models
4. Discuss the findings in Canova and Perez Forero (2024)'s nonlinear model

Date	Number of hours	Lectures	Presentations and discussions	Location
21 October 2024	2	1		Bicocca
22 October 2024	2	1		Bicocca
23 October 2024	2	1		Bicocca
24 October 2024	2	1		Bicocca
25 October 2024	2	1		Bicocca
08 November 2024	2		1	Team
15 November 2024	2		1	Team
22 November 2024	1		1	Team

Table 1: **Schedule of Lectures and Presentations**

The final valuation could be based on an exam, the discussion of a paper or the replication of a paper.

References

- Altavilla, Carlo, Luca Brugnolini, Refet S. Gürkaynak, Roberto Motto, and Giuseppe Ragusa (2019) “Measuring euro area monetary policy,” *Journal of Monetary Economics*, 108 (C), 162–179.
- Angrist, Joshua D., Òscar Jordà, and Guido M. Kuersteiner (2018) “Semiparametric Estimates of Monetary Policy Effects: String Theory Revisited,” *Journal of Business & Economic Statistics*, 36 (3), 371–387.
- Bauer, Michael D. and Eric T. Swanson (2023a) “A Reassessment of Monetary Policy Surprises and High-Frequency Identification,” *NBER Macroeconomics Annual*, 37, 87–155.
- (2023b) “An Alternative Explanation for the “Fed Information Effect”,” *American Economic Review*, 113 (3), 664–700.
- Baumeister, Christiane and James Hamilton (2018) “Inference in structural vector autoregressions when the identifying assumptions are not fully believed: Re-evaluating the role of monetary policy in economic fluctuations,” *Journal of Monetary Economics*, 100 (C), 48–65.
- Bernanke, Ben S (2020) “The New Tools of Monetary Policy,” *American Economic Review*, 110 (4), 943–983.
- Bernanke, Ben S. and Kenneth N. Kuttner (2005) “What Explains the Stock Market’s Reaction to Federal Reserve Policy?,” *Journal of Finance*, 60 (3), 1221–1257.
- Bruns, Martin and Michele Piffer (2021) “Monetary policy shocks over the business cycle: Extending the Smooth Transition framework,” University of East Anglia School of Economics Working Paper Series 2021-07.
- Caldara, Dario and Edward Herbst (2019) “Monetary Policy, Real Activity, and Credit Spreads: Evidence from Bayesian Proxy SVARs,” *American Economic Journal: Macroeconomics*, 11 (1), 157–92.
- Canova, F and F Perez Forero (2024) “Does the Transmission of Monetary Policy Shocks Change when Inflation is High?” *CEPR Discussion Paper* (18993).

- Christiano, Lawrence J, Martin Eichenbaum, and Charles L Evans (1999) “Monetary Policy Shocks: What Have We Learned and to What End?” in *Handbook of Macroeconomics*, 1, 65–148: Elsevier.
- Cieslak, Anna (2018) “Short-Rate Expectations and Unexpected Returns in Treasury Bonds,” *Review of Financial Studies*, 31 (9), 3265–3306.
- Cochrane, John H. and Monika Piazzesi (2002) “The Fed and Interest Rates - A High-Frequency Identification,” *American Economic Review*, 92 (2), 90–95.
- De Santis, Roberto and Tommaso Tornese (2024) “US monetary policy is more powerful in low economic growth regimes,” Working Paper 2919, European Central Bank.
- Faust, Jon, John H. Rogers, Eric Swanson, and Jonathan H. Wright (2003) “Identifying the Effects of Monetary Policy Shocks on Exchange Rates Using High Frequency Data,” *Journal of the European Economic Association*, 1 (5), 1031–1057.
- Faust, Jon, Eric Swanson, and Jonathan Wright (2004) “Identifying VARS based on high frequency futures data,” *Journal of Monetary Economics*, 51 (6), 1107–1131.
- Gertler, Mark and Peter Karadi (2015a) “Monetary Policy Surprises, Credit Costs, and Economic Activity,” *American Economic Journal: Macroeconomics*, 7 (1), 44–76.
- (2015b) “Monetary Policy Surprises, Credit Costs, and Economic Activity,” *American Economic Journal: Macroeconomics*, 7 (1), 44–76.
- Granger, Clive and Timo Teräsvirta (1993) *Modelling Non-Linear Economic Relationships*: Oxford University Press.
- Gürkaynak, Refet S, Brian Sack, and Eric Swanson (2005) “Do Actions Speak Louder Than Words? The Response of Asset Prices to Monetary Policy Actions and Statements,” *International Journal of Central Banking*, 1 (1).
- Hanson, Samuel and Jeremy Stein (2015) “Monetary policy and long-term real rates,” *Journal of Financial Economics*, 115 (3), 429–448.

- Jarociński, Marek and Peter Karadi (2020) “Deconstructing Monetary Policy Surprises—The Role of Information Shocks,” *American Economic Journal: Macroeconomics*, 12 (2), 1–43.
- Krishnamurthy, Arvind and Annette Vissing-Jorgensen (2011) “The Effects of Quantitative Easing on Interest Rates: Channels and Implications for Policy,” *Brookings Papers on Economic Activity*, 2, 215–287.
- Kuttner, Kenneth N. (2001) “Monetary policy surprises and interest rates: Evidence from the Fed funds futures market,” *Journal of Monetary Economics*, 47 (3), 523–544.
- Miranda-Agrippino, Silvia and Giovanni Ricco (2021) “The Transmission of Monetary Policy Shocks,” *American Economic Journal: Macroeconomics*, 13 (3), 74–107.
- Mumtaz, Haroon and Paolo Surico (2015) “The Transmission Mechanism in Good and Bad Times,” *International Economic Review*, 56 (4), 1237–1260.
- Ramey, Valerie (2016) “Macroeconomic Shocks and Their Propagation,” 2, Chap. Chapter 2, 71–162: Elsevier.
- Romer, Christina D. and David H. Romer (2004) “A New Measure of Monetary Shocks: Derivation and Implications,” *American Economic Review*, 94 (4), 1055–1084.
- Swanson, Eric (2021) “Measuring the effects of federal reserve forward guidance and asset purchases on financial markets,” *Journal of Monetary Economics*, 118 (C), 32–53.
- Taylor, John B (1993) “Monetary Policy Rules: Theory and Practice,” *NBER Working Paper*, n° 396.
- 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.