

Monday

8:00 am to 8:40 am	Continental Breakfast
8:40 am to 8:45 am	Opening Remarks Victor Rios Rull
8:45 am to 10:15 am	Prof. Enrique Mendoza-Lecture 1
10:15 am to 10:30 am	Coffee Break
10:30 am to 12:00 pm	Prof. Enrique Mendoza-Lecture 2
12:00 pm to 1:15 pm	Lunch Buffet
1:15 pm to 2:45 pm	Prof. Frank Diebold-Lecture 1
2:45 pm to 3:00 pm	Break
3:00 pm to 4:30 pm	Lab 1 for Prof. Enrique Mendoza
5:30 pm to 7:00 pm	Welcoming Reception

Tuesday

8:00 am to 8:45 am	Continental Breakfast
8:45 am to 10:15 am	Prof. Enrique Mendoza-Lecture 3
10:15 am to 10:30 am	Coffee Break
10:30 am to 12:00 pm	Prof Enrique Mendoza's Lecture 4
12:00 pm to 1:15 pm	Lunch Buffet
1:15 pm to 2:45 pm	Prof. Frank Diebold-Lecture 2
2:45 pm to 3:00	Break

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3:00 pm to 4:30 pm	Lab 2 for Prof. Enrique Mendoza
4:45 pm to 6:15 pm	Carolyn Wilkins Distinguished Guest Lecture: The Case for Central Bank's Digital Currency

Wednesday

8:00 am to 8:45 am	Continental Breakfast
8:45 am to 10:15 am	Prof. Frank Schorfheide-Lecture 1
10:15 am to 10:30 am	Coffee Break
10:30 am to 12:00 pm	Prof. Frank Schorfheide -Lecture 2
12:00 pm to 1:15 pm	Lunch Buffet
1:15 pm to 2:45 pm	Prof. Frank Diebold-Lecture 3
2:45 pm to 3:00 pm	Break
3:00 pm to 4:30 pm	Prof. Frank Diebold-Lecture 4
4:45 pm to 6:15 pm	Penn Faculty Lecture: Iouri Manovskii "The Fiscal Multiplier"

Thursday

8:00 am to 8:45 am	Continental Breakfast
8:45 am to 10:15 am	Prof. Frank Schorfheide -Lecture 3
10:15 am to 10:30 am	Coffee Break
10:30 am to 12:00 pm	Prof. Frank Schorfheide -Lecture 4
12:00 pm to 1:15 pm	Lunch Buffet
1:15 pm to 2:45 pm	Lab 3 for Prof. Enrique Mendoza's Lectures
2:45 pm to 3:00 pm	Break
3:00 pm to 4:30 pm	Lab for Prof. Frank Diebold's Lectures

7:00 pm to 10:00 pm	Reception & Dinner
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Friday

8:00 am to 8:45 am	Continental Breakfast
8:45 am to 10:15 am	Lab 1 for Prof. Frank Schorfheide's Course
10:15 am to 10:30 am	Coffee Break
10:30 am to 12:00 pm	Lab 2 for Prof. Frank Schorfheide's Course
12:00 pm to 1:15 pm	Lunch Buffet
1:15 pm to 3:00 pm	Professor Anil Kashyap's Mini Workshop: <i>Macropuru in action: the Financial Policy Committee at the Bank of England</i>
3:00 pm to 3:15 pm	Break
3:15 pm to 4:30 pm	Professor Anil Kashyap's Mini Workshop continued
4:30 pm to 4:45 pm	Evaluations
4:45 pm to 6:15 pm	Distinguished Guest Lecture Gianluca Violante Some Like it Hot: Inclusive Monetary Policy Under Okun's Hypothesis
6:15 pm to 7:15 pm	Farewell Reception (on location)

Detailed Program

Frank Schorfheide Course

Recent Advances in the Econometric Analysis of Dynamic Stochastic General Equilibrium Models

Lecture 1. Introduction to Bayesian Inference and DSGE Modeling

Lecture 2. The Metropolis-Hastings algorithm with application to DSGE model estimation

Lecture 3. Sequential Monte Carlo methods to estimate DSGE models

Lecture 4. Particle Filters for Nonlinear DSGE Models

Francis X. Diebold Course:

Empirical Methods for Measurement, Modeling, and Forecasting

Lecture 1: Real-Time Macroeconomic Monitoring

Lecture 2: Aggregation of Probability Assessments, with Applications to Inflation and Interest Rates

Lecture 3: Measuring Dynamic Bank Network Connectedness

Lecture 4: Robust Estimation in Dynamic Macroeconomic Environments

Enrique Mendoza Course

Quantitative Models of Financial Crises and Macroprudential Policy

This course studies quantitative macroeconomic models of financial crises and macroprudential policy based on a framework that features Fisherian collateral constraints (i.e. credit constraints in which collateral is valued at market prices). From a methodological standpoint, the course covers global, nonlinear solution methods used to solve models in which asset-market incompleteness and financial frictions (i.e., occasionally binding constraints) are “essential,” in the sense that they affect prices and allocations significantly. The course blends elements of real business cycle theory, international macroeconomics and asset pricing theory and it relies on recursive macroeconomic theory. A good understanding of the material covered in a standard first-year Ph.D. macro course provides useful background, and knowledge of computational methods used in macro modeling is also helpful.

The course begins with a refresher of a simple workhorse model of a small open economy with endowment shocks and incomplete markets, followed by a review of stylized facts of credit booms and financial crises (or Sudden Stops, in the context of emerging markets). Then it shows how the workhorse model can be enriched and modified to introduce Fisherian collateral constraints, and that the Fisherian models produces significant financial amplification that can account for several of the stylized facts of Sudden Stops. The course then moves to examine normative implications, in particular the design and quantitative

evaluation of macroprudential policy. The course includes hands-on applications in which easy-to-use quantitative tools are used to conduct positive and normative analysis of Sudden Stop models. This includes a case examining the properties and effectiveness of optimal macroprudential policy in a model in which news about fundamentals and switches in global liquidity regimes contribute to cause financial crises. If time permits, we will also study costly tradeoffs of macroprudential capital controls related to misallocation of capital and participation of firms in international trade.

Course Layout:

Lecture 1: Workhorse Model and Facts of Credit Booms & Sudden Stops, Basics of Nonlinear Financial Crises Models

Readings: Mendoza and Terrones (2012), Mendoza (2010)

Lecture 2: Fisherian Models: Analytic Foundations and Quantitative Applications

Readings: Mendoza (2005), Mendoza (2010)

Lecture 3: Modeling Macroprudential Policy, Application to Emerging Markets Sudden Stops (debt-to-income constraints), complexity

Readings: Mendoza (2017), Bianchi, Liu and Mendoza (2016)

Lecture 4: Application to U.S. Financial Crisis (loan to-value constraints), credibility, limitations of simple rules, costly tradeoffs

Readings: Bianchi and Mendoza (2018), Andreasen et al. (2023)

Lab 1: Introduction to the FiPit method and Applications to Workhorse and Sudden Stop Models

Material: Mendoza E.G. and S. Villalvazo (RED, 2020), Handouts, and Matlab codes.

Lab 2: Solving for the Optimal Macroprudential Policy, Assessment of Policy Effectiveness

Material: Bianchi, J., C. Liu and E.G. Mendoza, (JIE 2016), Handouts and Matlab codes.

Readings covered in the Lectures and Labs (click on web links to download):

Andreasen, E., S. Bauducco, E. Dardati and E.G. Mendoza, (2023), "Beware the Side Effects: Capital Controls, Trade, Misallocation & Welfare," NBER Working Paper w30963, <https://www.sas.upenn.edu/~egme/wp/w30963.pdf>

Bianchi, J. and E. G. Mendoza, (2020), "A Fisherian approach to financial crises: Lessons from the Sudden Stops literature," Review of Economic Dynamics, <https://www.sas.upenn.edu/~egme/pp/BianMendozaRED.pdf>

Bianchi, J. and E. G. Mendoza, (2018), "Optimal, Time-Consistent Macro-prudential Policy," Journal of Political Economy, <https://www.sas.upenn.edu/~egme/pp/JPE2018.pdf>

Bianchi, J., C. Liu and E. G. Mendoza, (2016) "Fundamentals News, Global Liquidity and Macroprudential Policy," Journal of International Economics, <https://www.sas.upenn.edu/~egme/pp/BianchiLiuMendozaJIE.pdf>

Mendoza, E.G. (2005), "Real Exchange Rate Volatility and the Price of Nontradable Goods in Economies Prone to Sudden Stops," *Economia*, Fall. <http://www.sas.upenn.edu/~egme/pp/EconomiaFall05.pdf>

Mendoza, E.G. and M. Terrones (2012), "An Anatomy of Credit Booms and their Demise," NBER Working Paper no. 18379, 2012 Available at <http://www.sas.upenn.edu/~egme/wp/w18379.pdf>

Mendoza, E.G., (2010) "Sudden Stops, Financial Crises and Leverage," American Economic Review, Dec., <http://www.sas.upenn.edu/~egme/pp/CompletePaperRevforDistribution.pdf>;

Mendoza, E.G., (2017), "Macroprudential Policy: Promise and Challenges," NBER Working Paper No. 22868 <http://www.sas.upenn.edu/~egme/wp/w22868.pdf>

Mendoza, E.G. and S. Villalvazo, (2020), "FiPit: A Simple, Fast Global Method for Solving Models with Two Endogenous States & Occasionally Binding Constraints," Review of Economic Dynamics, <https://www.sas.upenn.edu/~egme/pp/MendozaVillRED.pdf>

Additional readings on quantitative applications of Fisherian models:

Bianchi, J. "Overborrowing and Systemic Externalities in the Business Cycle" American Economic Review, 2011.
http://www.javierbianchi.com/uploads/8/8/5/8/8858198/overborrowing_published.pdf

Bianchi, J. , E. Boz and E. Mendoza, 2012, "Macroprudential Policy in a Fisherian Model of Financial Innovation," IMF Economic Review,
<http://www.sas.upenn.edu/~egme/pp/imfer20129a.pdf>

Boz. E. and E. G. Mendoza, 2014, "Financial Innovation, the Discovery of Risk, and the U.S. Credit Crisis," Journal of Monetary Economics,
(<http://www.sas.upenn.edu/~egme/pp/BozMendozaJME.pdf>).

Carrillo, J., Mendoza, E.G., Nuguer, V., and Roldán-Peña, J. "Tight Money-Tight Credit: Tinbergen's Rule and Strategic Interaction in the Conduct of Monetary and Financial Policies," AEJ-Macroeconomics,
July 2021, also NBER WP No. 23151 <http://www.sas.upenn.edu/~egme/wp/w23151.pdf>

Durdu, C.B. and Mendoza E., "Are Asset Price Guarantees Useful for Preventing Sudden Stops?: A Quantitative Investigation of the Globalization Hazard Moral Hazard Tradeoff," JIE, 2006. Available at <http://www.sas.upenn.edu/~egme/pp/JIE06Durdu.pdf>

Durdu, C.B., Mendoza, E.G. and Terrones, M., (2009) "Precautionary Demand for Foreign Assets in Sudden Stop Economies: An Assessment of the New Mercantilism," Journal of Development Economics, available at
http://www.sas.upenn.edu/~egme/pp/Precautionary_durdu_terrones.pdf

Mendoza, E. and K. Smith, 2006 "Quantitative Implications of a Debt-Deflation Theory of Sudden Stops and Asset Prices," JIE,. <http://www.sas.upenn.edu/~egme/pp/JIE06Smith.pdf>

Mendoza, E. and K. Smith 2014, "Financial Globalization, Financial Crises, & the External Portfolio Structure of Emerging Markets," Scandinavian Journal of Economics,
<http://www.sas.upenn.edu/~egme/wp/w19072.pdf>

Mendoza, E.G. (2006) "Lessons from the Debt-Deflation Theory of Sudden Stops," AER, Pap. & Proc., May, <http://www.sas.upenn.edu/~egme/pp/LessonsNBERw11966.pdf>

Mendoza, E., 2002, "Credit, Prices, and Crashes: Business Cycles with a Sudden Stop," in Preventing Currency Crises in Emerging Markets, also NBER WP no. w8338, 2001,
http://www.sas.upenn.edu/~egme/pp/sudden_stops_draft.pdf