

*August 26, 2021*

**AEM/ECON 7670**

**Topics in International Finance**

Fall 2021

Wednesdays 5:15-7:45 p.m.

Warren Hall B02

Professor Eswar Prasad

This course will provide a selective overview of topics at the cutting-edge of academic research and policy debates about the international financial system. Main areas will include the effects of financial globalization on growth, volatility, and the transmission of business cycles. We will also examine the determinants of the direction and composition of capital flows. We will then discuss the causes and effects of the financial crisis and what implications it has for the research agenda in international finance and macroeconomics, with particular emphasis on the implications for monetary policy and financial regulation. A final module will cover the potential implications of new financial technologies for central banking and financial markets.

This course is intended for advanced Ph.D. students, especially those in search of thesis topics, and will require extensive student involvement in preparing research proposals and critiques of existing literature. Students will be expected to have basic graduate-level training in modeling techniques and familiarity with empirical tools (both panel data and time series).

There will be no exams. All registered candidates will be required to write a paper in order to receive a passing grade. The course will be graded S/U only.

Course Support: Jennifer Reynolds (jr889)  
201B Warren Hall

Office Hours: By appointment (through Jennifer Reynolds)

Teaching Assistant: Bineet Mishra (bm596)

## Background Readings

*Foundations of International Macroeconomics*, Maurice Obstfeld and Kenneth Rogoff, MIT Press, 1996.

Kose, Ayhan M., Eswar Prasad, Shang-Jin Wei, and Kenneth Rogoff, 2009, “Financial Globalization: A Reappraisal,” *IMF Staff Papers*, Vol. 56:1, pp. 8-62. [KPRW]

*The Dollar Trap*, Eswar Prasad, Princeton University Press, 2014.

*Gaining Currency: The Rise of the Renminbi*, Eswar Prasad, Oxford University Press, October 2016.

*Open Economy Macroeconomics*, Stephanie Schmitt-Grohé and Martin Uribe, Princeton University Press, March 2017.

*The Future of Money: How the Digital Revolution is Transforming Currencies and Finance*, Eswar Prasad, Harvard University Press, 2021.

## Structure of Course

### Topic 1: Measurement of Financial Openness

- A. Measures of Asset Market Integration Based on Price Data
- B. Capital Controls
- C. De Facto Measures of Integration Based on Quantities—Flows, Stocks
- D. Evolution of De Facto Measures
- E. Brief Presentation on Sources of International Macro Data

References for this lecture can be found in Section III of KPRW. For a different approach to construction of capital control indexes and for detailed chronologies of capital controls in specific emerging markets, see the relevant chapters in: *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences*, 2007, Sebastian Edwards, ed. Chicago, IL: University of Chicago Press.

*The Dollar Trap*, Chapters 3-6.

*Gaining Currency*, Chapter 3

Chinn, Menzie, and Hiro Ito, 2006, “What Matters for Financial Development? Capital Controls, Institutions, and Interactions,” *Journal of Development Economics*, Vol. 81:1, pp. 163-192.

Coppola, Antonio, Matteo Maggiori, Brent Neiman, and Jesse Schreger, 2021, “Redrawing the Map of Global Capital Flows: The Role of Cross-Border Financing and Tax Havens,” *The Quarterly Journal of Economics*, Vol. 136:3, pp. 1499-1556.

Damgaard, Jannick, Thomas Elkjaer, and Niels Johannesen , 2019, “ What Is Real and What Is Not in the Global FDI Network,” IMF Working Paper No. 19/274.

Erten, Bilge, Anton Korinek, and Jose Antonio Ocampo, 2021, “Capital Controls: Theory and Evidence,” *Journal of Economic Literature*, Vol. 59:1, pp. 45-89.

Fernandez, Andres, Michael W. Klein, Alessandro Rebucci, Martin Schindler, and Martin Uribe, 2016, “Capital Control Measures: A New Dataset,” *IMF Economic Review*, Vol. 64:3, pp. 548-574

Klein, Michael W., 2012, “Capital Controls: Gates versus Walls,” *Brookings Papers on Economic Activity*, Vol. 2, pp.317-350.

Klein, Michael W., 2014, “Capital Controls and Real Exchange Rates,” in Bruno Carrasco, Subir Gokarn and Hiranya Mukhopadhyay, eds., *Managing Capital Flows*, Oxford University Press, pp. 55-70.

Lane, Philip R., and Gian Maria Milesi-Ferretti, 2007, “The External Wealth of Nations Mark II: Revised and Extended Estimates of Foreign Assets and Liabilities, 1970–2004,” *Journal of International Economics*, Vol. 73:2, pp. 223-250.

Lane, Philip R., and Gian Maria Milesi-Ferretti, 2008, “The Drivers of Financial Globalization,” *American Economic Review*, Vol. 98:2, pp. 327-332.

Ostry, Jonathan, Atish Ghosh, Karl Habermeier, Marcos Chamon, Mahvash Qureshi, and Dennis Reinhardt, 2010, “Capital Inflows: The Role of Controls,” *Revista de Economica Institucional*, Vol. 12:23, pp.135-164.

Prasad, Eswar, 2012, “Role Reversal in Global Finance,” *Proceedings of the 2011 Jackson Hole Symposium*, Federal Reserve Bank of Kansas City.

## Topic 2: Financial Integration and Growth

A. Macro Evidence

B. FDI and Growth

C. Equity Market Liberalizations and Growth

D. New Thinking on Capital Controls

References for this lecture can be found in Sections V and VI of KPRW. Additional readings:

*The Dollar Trap*, Chapter 10.

Bekaert, Geert, Campbell R. Harvey and Christian Lundblad, 2005, “Does Financial Liberalization Spur Economic Growth,” *Journal of Financial Economics*, Vol. 77:1, pp. 3-55.

Coeurdacier, Nicolas, Hélène Rey , and Pablo Winant, 2020, “Financial Integration and Growth in a Risky World”,” *Journal of Monetary Economics*, Vol. 112, pp. 1-21.

Forbes, Kristin J., 2007, “The Microeconomic Evidence on Capital Controls: No Free Lunch,” in *Capital Controls and Capital Flows in Emerging Economies: Policies, Practices, and Consequences* , ed. Sebastian Edwards (Chicago, IL: University of Chicago Press), pp. 171-202.

Gourinchas, Pierre-Olivier, and Olivier Jeanne, 2006, “The Elusive Gains from International Financial Integration,” *Review of Economic Studies*, Vol. 73:3, pp. 715-41.

Henry, Peter Blair, 2007, “Capital Account Liberalization: Theory, Evidence, and Speculation,” *Journal of Economic Literature*, Vol. 45:4, pp. 887-935.

Larrain, Mauricio and Sebastian Stumpner, 2017, “Capital Account Liberalization and Aggregate Productivity: The Role of Firm Capital Allocation,” *The Journal of Finance*, Vol. 72:4, pp. 1825-1858.

Magud, Nicolas, Carmen Reinhart, and Kenneth Rogoff, 2018, “Capital Controls: Myth and Reality – A Portfolio Balance Approach,” *Annals of Economics and Finance*, Vol. 19:1, pp. 1-47.

Prasad, Eswar, Raghuram Rajan, and Arvind Subramanian, 2007, “Foreign Capital and Economic Growth,” *Brookings Papers on Economic Activity*, Vol. 2007:1, pp. 153-230.

Rodrik, Dani, 2008, “The Real Exchange Rate and Economic Growth,” *Brookings Papers on Economic Activity*, Vol. 2008:2, pp. 365-439.

### Topic 3: Risk Sharing

- A. International Risk Sharing—Patterns and Channels
- B. Intrastate Risk Sharing as a Benchmark
- C. Risk Sharing, Specialization and Growth
- D. Risk Pooling and GDP-Linked Bonds

Asdrubali, Pierfederico, Bent Sorensen and Oved Yosha, 1996, “Channels of Interstate Risk Sharing: United States 1963-1990,” *Quarterly Journal of Economics*, Vol. 111, pp. 1081-1110.

Athanasoulis, Stefano, and Robert Shiller, 2001, “World Income Components: Measuring and Exploiting Risk Sharing Opportunities,” *American Economic Review*, Vol. 91:4, pp. 1031–54.

Caselli, Francesco, Miklós Koren, Milan Lisicky, Silvana Tenreyro, 2020, “Diversification Through Trade,” *Quarterly Journal of Economics*, Vol. 135(1), pp. 449-502.

Gourinchas, Pierre-Olivier, H el ene Rey, and Kai Truempler, 2012, “The Financial Crisis and the Geography of Wealth Transfers,” *Journal of International Economics*, Vol. 88:2, pp. 266-83.

Kalemli-Ozcan, Sebnem, Bent E. S orensen, and Oved Yosha, 2003, “Risk Sharing and Industrial Specialization: Regional and International Evidence,” *American Economic Review*, Vol. 93:3, pp. 903–18.

Kose, M. Ayhan, Eswar Prasad, and Marco Terrones, 2009, “Does Financial Globalization Promote International Risk Sharing,” *Journal of Development Economics*, Vol. 89:2, pp. 258-270.

Lewis, Karen K., 1996, “What Can Explain the Apparent Lack of International Consumption Risksharing?” *Journal of Political Economy*, Vol. 104:2, pp. 267–297.

Obstfeld, Maurice, 1994, “Are Industrial-Country Consumption Risks Globally Diversified?” in *Capital Mobility: The Impact on Consumption, Investment and Growth*, eds. L. Leiderman and A. Razin (Cambridge University Press), pp. 13–47.

Obstfeld, Maurice, 1994, “Risk-Taking, Global Diversification and Growth,” *American Economic Review*, Vol. 84, pp. 1310-29.

Prasad, Eswar, Kenneth Rogoff, Shang-Jin Wei, and M. Ayhan Kose, 2003, “Effects of Financial Globalization on Developing Countries: Some Empirical Evidence,” *IMF Occasional Paper No. 220*. [Appendix III: Calculating the Potential Welfare Gains from International Risk Sharing]

#### Topic 4: Volatility, Crises

A. Financial Integration and Macroeconomic Volatility

B. Financial Crises

### C. Globalization and the Growth-Volatility Relationship

Acemoglu, Daron, Simon Johnson, James Robinson and Yunyong Thaicharoen, 2003, "Institutional Causes, Macroeconomic Symptoms: Volatility, Crises and Growth," *Journal of Monetary Economics*, Vol. 50, pp. 49-123.

Calvo, Guillermo, Alejandro Izquierdo, and Ernesto Talvi, 2006, "Sudden Stops and Phoenix Miracles in Emerging Markets," *American Economic Review*, Vol. 96:2, pp. 405-410.

Frankel, Jeffrey, and George Saravelos, 2011, "Can Leading Indicators Assess Country Vulnerability? Evidence from the 2008-2009 Global Financial Crisis," *Journal of International Economics*, Vol. 87:2, pp.216-231.

Kose, M. Ayhan, Eswar Prasad, and Marco Terrones, 2003, "Financial Integration and Macroeconomic Volatility," *IMF Staff Papers*, Vol. 50, pp. 119-41.

Kose, M. Ayhan, Eswar Prasad, and Marco Terrones, 2006, "How Do Trade and Financial Integration Affect the Relationship between Growth and Volatility?" *Journal of International Economics*, Vol. 69:1, pp. 176-202.

Levchenko, Andrei A., Romain Ranciere, and Matthias Thoenig, 2009, "Growth and Risk at the Industry Level: The Real Effects of Financial Liberalization," *Journal of Development Economics*, Vol. 89:2, pp. 210-222.

Martin, Philippe, and Hélène Rey, 2006, "Globalization and Emerging Markets: With or Without Crash?" *American Economic Review*, Vol. 96:5, pp. 1631-1651.

Ranciere, Romain, Aaron Tornell and Frank Westermann, 2008, "Systemic Crises and Growth," *Quarterly Journal of Economics*, Vol. 123:1, pp. 359-406.

Rose, K. Andrew and Mark M. Spiegel, 2011, "Cross-Country Causes and Consequences of the Crisis: An Update," *European Economic Review*, Vol. 55:3, pp. 309-324.

#### Topic 5: A New Framework: Collateral Benefits and Thresholds

The framework is summarized in Section VII of KPRW. We will go over the specifics of this framework in detail, and critically examine its theoretical basis and empirical relevance. Sections VIII and IX of KPRW contain the key references.

For some evidence and more detailed discussion of a key collateral benefit, see:

Goldberg, Linda S., 2007, "Financial Sector FDI and Host Countries: New and Old Lessons," *Federal Reserve Bank of New York Economic Policy Review*, Vol. 13, No. 1, pp. 1-17.

Mishkin, Frederic S., 2006, *The Next Great Globalization: How Disadvantaged Nations Can Harness Their Financial Systems to Get Rich* (Princeton, N.J.: Princeton University Press).

For a detailed literature survey and related evidence on threshold effects, see:

Kose, M. Ayhan, Eswar Prasad, and Ashley D. Taylor, 2011, "Thresholds in the Process of International Financial Integration," *Journal of International Money and Finance*, Vol. 30:1, pp. 147-179.

### Topic 6: International Business Cycle Transmission

- A. Properties of Business Cycles in Emerging Markets
- B. How Does Financial Integration Affect Domestic Business Cycles
- C. Implications of Financial Integration for Business Cycle Transmission
- D. Decoupling or Convergence of International Business Cycles?

Aguiar, Mark, and Gita Gopinath, 2007, "Emerging Market Business Cycles: The Cycle is the Trend," *Journal of Political Economy*, Vol. 115:1, pp. 69-102.

Heathcote, Jonathan, and Fabrizio Perri, 2004, "Financial Globalization and Real Regionalization," *Journal of Economic Theory*, Vol. 119:1, pp. 207-243

Kose, M. Ayhan, Eswar Prasad, and Marco Terrones, 2003, "How Does Globalization Affect the Synchronization of Business Cycles," *American Economic Review*, Vol. 93:2, pp. 57-62.

Kose, M. Ayhan, Christopher Otrok, and Eswar Prasad, 2012, "Global Business Cycles: Convergence or Decoupling?" *International Economic Review*, Vol. 53:2, pp. 511-538.

Kose, M. Ayhan, Christopher Otrok, and Eswar Prasad, 2021, "Macro-Financial Linkages In an Era of Globalization," Manuscript, Cornell University.

Kose, M. Ayhan, Christopher Otrok, and Charles Whiteman, 2003, "International Business Cycles: World, Region, and Country Specific Factors," *American Economic Review*, Vol. 93, pp. 1216-39.

### Topic 7: Understanding the Causes and Dynamics of the Global Financial Crisis

*The Dollar Trap*, Chapters 1-2, 7-8, 11.

Boz, Emine, and Enrique Mendoza, 2014, “Financial Innovation, the Discovery of Risk, and the U.S. Credit Crisis,” *Journal of Monetary Economics*, Vol. 62, pp. 1-22.

Caballero, Ricardo J. and Pablo D. Kurlat, 2009, “The ‘Surprising’ Origin and Nature of Financial Crises: A Macroeconomic Policy Proposal, Financial Stability and Macroeconomic Policy,” *Proceedings of the 2009 Jackson Hole Symposium*, Federal Reserve Bank of Kansas City.

Claessens, Stijn, M. Ayhan Kose, and Marco Terrones, 2010, “The Global Financial Crisis: How Similar? How Different? How Costly?” *Journal of Asian Economics*, Vol. 21:3, pp. 247–64.

Claessens, Stijn, Ayhan Kose, and Marcos E. Terrones, 2011, “What Happens During Recessions, Crunches and Busts?” *Economic Policy*, Vol. 24:60, pp. 653–700.

Eggertsson, Gauti and Paul Krugman, 2012, “Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach,” *Quarterly Journal of Economics*, Vol. 127:3, pp. 1469-1513.

Gourinchas, Pierre-Olivier and Maurice Obstfeld, 2012, “Stories of the Twentieth Century for the Twenty-First,” *American Economic Journal: Macroeconomics*, Vol. 4:1, pp. 226-265.

Kose, M. Ayhan, and Eswar Prasad, 2010, *Emerging Markets: Resilience and Growth Amidst Global Turmoil*, Brookings Institution Press.

Krugman, Paul, 2008, “The International Financial Multiplier” Manuscript, Princeton University.

Lane, Philip R., and Gian Maria Milesi-Ferretti, 2015, “Global Imbalances and External Adjustment After the Crisis,” Central Banking, Analysis, and Economic Policies Book Series, Chapter 4 in: Claudio Raddatz & Diego Saravia & Jaume Ventura (ed.), *Global Liquidity, Spillovers to Emerging Markets and Policy Responses*, Vol 20, pp. 105-142.

Mendoza, Enrique G., Jose-Victor Rios-Rull and Vincenzo Quadrini, 2009, “Financial Integration, Financial Deepness and Global Imbalances,” *Journal of Political Economy*, Vol. 117:3, pp. 371-410.

Schularick, Moritz, and Alan M. Taylor, 2012, “Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008,” *American Economic Review*, Vol. 102:2, pp. 1029-61.

### Topic 8: Financial Cycles

Borio, Claudio, 2014, “The Financial Cycle and Macroeconomics: What Have We Learnt?” *Journal of Banking & Finance*, Vol. 45, pp. 182-198.

Cerutti, Eugenio, Stijn Claessens, and Andrew Kenan Rose, 2019, “How Important is the Global Financial Cycle? Evidence from Capital Flows,” *IMF Economic Review*, Vol. 67(1), pp. 24-60.

Claessens, Stijn, M. Ayhan Kose, and Marco E. Terrones, 2010, “Financial Cycles: What? How? When?” In NBER International Seminar on Macroeconomics, pp. 303-343. University of Chicago Press.

Coimbra, Nuno, and H elene Rey, 2017, “Financial Cycles with Heterogeneous Intermediaries,” NBER Working Paper No. 23245.

Ha, Jongrim, M. Ayhan Kose, Christopher Otrok, and Eswar S. Prasad, 2017, “Global Macro-Financial Cycles and Spillovers,” In *18th Jacques Polak Annual Research Conference*, International Monetary Fund.

Krishnamurthy, Arvind, and Tyler Muir, 2017, “How Credit Cycles Across a Financial Crisis,” NBER Working Paper No. 23850.

Mian, Atif, Amir Sufi, and Emil Verner, 2017, “Household Debt and Business Cycles Worldwide,” *The Quarterly Journal of Economics*, Vol. 132:4, pp. 1755-1817.

Miranda-Agrippino, S. and Rey, H el ene, 2020, “U.S. Monetary Policy and the Global Financial Cycle,” *The Review of Economic Studies*, Corrected Proof.

Reinhart, Carmen M., Vincent R. Reinhart, and Christoph Trebesch, 2017, “Capital Flow Cycles: A Long, Global View,” In *IMF Jacques Polak Annual Research Conference*, International Monetary Fund.

Rey, H el ene, 2015, “Dilemma Not Trilemma: The Global Financial Cycle and Monetary Policy Independence,” *Proceedings - Economic Policy Symposium - Jackson Hole*, Federal Reserve of Kansas City Economic Symposium, pp. 285-333.

#### Topic 9: Implications of Financial Globalization (and the Crisis) for Monetary Policy Frameworks in Emerging Markets

A. Monetary Policy: The New Neoclassical Synthesis

B. Does Financial Openness Make Monetary Policy Less/More Effective, Less/More Relevant

C. Monetary Policy Spillovers

Anand, Rahul, Eswar Prasad, and Boyang Zhang, 2015, “What Measure of Inflation Should a Developing Country Central Bank Target?” *Journal of Monetary Economics*, Vol. 74, pp. 102-116.

Brunnermeier, Marcus K., and Yuliy Sannikov, 2012, “Redistributive Monetary Policy,” paper presented at the Federal Reserve Bank of Kansas City’s Jackson Hole Economic Policy Symposium on “The Changing Policy Landscape”.

Forbes, Kristin J., 2019, “Has Globalization Changed the Inflation Process?” BIS Working Paper No. 791.

Obstfeld, Maurice, 2020, “Global Dimensions of U.S. Monetary Policy” *International Journal of Central Banking*, Vol. 16(1), pp. 73-132.

Prasad, Eswar, 2015, “Distributional Effects of Monetary Policy in Emerging Market Economies,” NBER Working Paper No. 21471.

Schmitt-Grohé, Stephanie, and Martín Uribe, 2016, “Downward Nominal Wage Rigidity, Currency Pegs, and Involuntary Unemployment,” *Journal of Political Economy*, Vol. 124:5, pp. 1466-1514.

Rose, Andrew, 2007, “A Stable International Monetary System Emerges: Inflation Targeting is Bretton Woods, Reversed,” *Journal of International Money and Finance*, Vol. 26:5, pp. 663-81.

Woodford, Michael, 2007, “Globalization and Monetary Control,” in J. Gali and M. Gertler, eds., *International Dimensions of Monetary Policy*, Chicago: University of Chicago Press, 2010.

Woodford, Michael, 2012, “Methods of Policy Accommodation at the Interest-Rate Lower Bound,” paper presented at the Federal Reserve Bank of Kansas City’s Jackson Hole Economic Policy Symposium on “The Changing Policy Landscape”.

## Topic 10: Exchange Rates

### A. Exchange Rate Dynamics and Management

### B. Optimal Exchange Rate Policies for Emerging Markets

Amador, Manuel, Javier Bianchi, Luigi Bocola, and Fabrizio Perri, 2019, “Exchange Rate Policies at the Zero Lower Bound,” *The Review of Economic Studies*, Vol. 87(4), pp. 1605-1645.

Boz, Emine, Gita Gopinath, and Mikkel Plagborg-Møller, 2019, “Dollar Invoicing and the Heterogeneity of Exchange Rate Pass-Through,” *AER P&P*, Vol. 109, pp. 527-32.

Calvo, Guillermo A., and Carmen M. Reinhart, 2002, “Fear of Floating,” *The Quarterly Journal of Economics*, Vol. 117:2, pp. 379-408.

Chien, YiLi, Hanno Lustig, and Kanda Naknoi, 2020, “Why are Exchange Rates So Smooth? A Household Finance Explanation,” *Journal of Monetary Economics*, Vol. 112, pp. 129-144.

Gabaix, Xavier, and Matteo Maggiori, 2015, “International Liquidity and Exchange Rate Dynamics,” *The Quarterly Journal of Economics*, Vol. 130:3, pp. 1369-1420.

Gopinath, Gita, and Jeremy C. Stein, 2021, “Banking, Trade, and the Making of a Dominant Currency,” *The Quarterly Journal of Economics*, Vol. 136:2, pp. 783-830.

Gopinath, Gita, Emine Boz, Camila Casas, Federico Diez, Pierre-Olivier Gourinchas, and Mikkel Plagborg-Moller, 2020, “Dominant Currency Paradigm,” *American Economic Review*, Vol. 110 (3), pp. 677-719.

Hassan, Tarek A., and Rui C Mano, 2019, “Forward and Spot Exchange Rates in a Multi-Currency World,” *The Quarterly Journal of Economics*, Vol. 134:1, pp. 397-450.

Hassan, Tarek A., Thomas M. Mertens, and Tony Zhang, 2016, “Currency Manipulation,” Federal Reserve Bank of San Francisco Working Paper 2016-15.

Ilzetzki, Ethan, Carmen M. Reinhart, and Kenneth S. Rogoff, 2019, “Exchange Arrangements Entering the Twenty-First Century: Which Anchor Will Hold?” *The Quarterly Journal of Economics*, Vol. 134:2, pp. 599-646.

Jiang, Zhengyang, Arvind Krishnamurthy, and Hanno Lustig, 2018, “Foreign Safe Asset Demand for U.S. Treasuries and the Dollar,” *AER P&P*, Vol. 108, pp. 537-41.

Lilley, Andrew, Matteo Maggiori, Brent Neiman, and Jesse Schreger, 2019, “Exchange Rate Reconnect,” NBER Working Paper No. 26046.

Lustig, Hanno, and Adrien Verdelhan, 2019, “Does Incomplete Spanning in International Financial Markets Help to Explain Exchange Rates?” *American Economic Review*, Vol.109:6, pp. 2208-44.

### Topic 11: Capital Flow Management, Safe Assets

A. Managing Volatile Capital Flows When Capital Markets are Integrated

B. Models of Safe Assets

Caballero, Ricardo J. and Alp Simsek, 2020, “A Model of Fickle Capital Flows and Retrenchment,” *Journal of Political Economy*, Vol. 128(6).

Caballero, Ricardo J., and Emmanuel Farhi, 2017, “The Safety Trap,” *The Review of Economic Studies*, Vol. 85:1, pp. 223-274.

Caballero, Ricardo J., Emmanuel Farhi, and Pierre-Olivier Gourinchas, 2016, “Safe Asset Scarcity and Aggregate Demand,” *American Economic Review*, Vol. 106:5, pp. 513–518.

Farhi, Emmanuel, and Ivan Werning, 2013, “Dilemma Not Trilemma? Capital Controls and Exchange Rates with Volatile Capital Flows,” *IMF Economic Review*, Vol. 62:4, pp. 569-605.

Heathcote, Jonathan, and Fabrizio Perri, 2016, “On the Desirability of Capital Controls,” *IMF Economic Review*, Vol. 64:1, pp. 75-102.

He, Zhiguo, Arvind Krishnamurthy, and Konstantin Milbradt, 2016, “What Makes U.S. Government Bonds Safe Assets,” *American Economic Review*, Vol. 106:5, pp. 519–523.

Jiang, Zhengyang, Arvind Krishnamurthy, and Hanno Lustig, 2021, “Foreign Safe Asset Demand and the Dollar Exchange Rate,” *The Journal of Finance*, Vol. 76:3, pp. 1049-1089.

Klein, Michael W. and Shambaugh, Jay C., 2015, “Rounding the Corners of the Policy Trilemma: Sources of Monetary Policy Autonomy,” *American Economic Journal: Macroeconomics*, Vol. 7:4, pp. 33-66.

## Topic 12: Integrating Macroeconomics and Finance

### A. Macroeconomic Models with a Financial Sector

### B. Macro-Prudential Policies

Brunnermeier, Markus K., Thomas M. Eisenbach, and Yuliy Sannikov, 2012, “Macroeconomics with Financial Frictions: A Survey,” in *Advances in Economics and Econometrics*, 10th World Congress of the Econometric Society, eds. D. Acemoglu, M. Arellano, and E. Dekel. Cambridge University Press: Cambridge, UK.

Brunnermeier, Markus K., and Yuliy Sannikov, 2014, “A Macroeconomic Model with a Financial Sector,” *American Economic Review*, Vol. 104:2, pp. 379-421.

Brunnermeier, Markus K., and Yuliy Sannikov, 2016, “The I-Theory of Money,” NBER Working Paper No. 22533.

Bruno, Valentina, and Hyun Song Shin, 2015, “Capital Flows and the Risk-taking Channel of Monetary Policy,” *Journal of Monetary Economics*, Vol. 71, pp. 119-132.

Farhi, Emmanuel, and Ivan Werning, 2016, “A Theory of Macroprudential Policies in the Presence of Nominal Rigidities,” *Econometrica*, Vol. 84:5, pp. 1645-1704.

Hahm, Joon-Ho, Mishkin Frederic S., Hyun Song Shin, and Kwanho Shin, 2011, “Macroprudential Policies in Open Emerging Economies,” Proceedings, Federal Reserve Bank of San Francisco, Issue Nov, pp. 63-114.

Topic 13: The Implications of New Financial Technologies for Finance and Central Banking

*The Future of Money*. Chapters 3-7.

Athey, Susan, Ivo Parashkevov, Vishnu Sarukkai, and Jing Xia, 2019, “Bitcoin Pricing, Adoption, and Usage: Theory and Evidence,” SIEPR Working Paper No. 17-033.

Allen, Sarah, Srdjan Capkun, Ittay Eyal, Giulia Fanti, Bryan Ford, James Grimmelmann, Ari Juels, Kari Kostianen, Sarah Meiklejohn, Andrew Miller, Eswar Prasad, Karl Wüst, and Fan Zhang, 2020, “Design Choices for Central Bank Digital Currency: Policy and Technical Considerations,” NBER Working Paper No. 27634.

Auer, Raphael, Philipp Haene and Henry Holden, 2021, “Multi-CBDC Arrangements and the Future of Cross Border Payments,” Monetary and Economic Department, BIS Papers No. 115.

Barrdear, John, and Michael Kumhof, 2016, “The Macroeconomics of Central Bank Issued Digital Currencies,” Bank of England Staff Working Paper No. 605.

Bech, Morten, and Rodney Garratt, 2017, “Central Bank Cryptocurrencies,” *Bank for International Settlements Quarterly Review*, pp. 55–70.

Benos, Evangelos, Rodney Garratt, and Pedro Gurrola-Perez, 2017, “The Economics of Distributed Ledger Technology for Securities Settlement,” Bank of England Working Paper No. 670.

Bordo, Michael D., and Andrew T. Levin, 2017, “Central Bank Digital Currency and the Future of Monetary Policy,” NBER Working Paper No. 23711.

Committee on Payments and Market Infrastructures, 2015, “Digital Currencies,” Bank for International Settlements Publication.

Committee on Payments and Market Infrastructures, 2018, “Central Bank Digital Currencies,” Bank for International Settlements Publication.

Kumhof, Michael, and Clare Noone, 2018, “Central Bank Digital Currencies-Design Principles and Balance Sheet Implications,” Bank of England Working Paper No. 725.

Schilling, Linda, and Harald Uhlig, 2019, “Some Simple Bitcoin Economics,” *Journal of Monetary Economics*, In Press.

### Key Dates

- Friday, October 15, 2021:** Paper proposals due @ 10 a.m.
- Monday, October 25, 2021:** Revised, extended proposals due @ 10 a.m.
- Friday, November 19, 2021:** First drafts of papers due @ 10 a.m.
- Friday, December 10, 2021:** Final drafts of papers due @ 10 a.m.

Please adhere strictly to deadlines. I will not be able to provide detailed feedback if you do not get your assignment in on time.

Email documents to me (eswar.prasad), with cc to Bineet Mishra (bm596). Subject line “7670: Proposal” (or whatever the relevant doc is).

### Research Proposals

Maximum length: 10 pages of double-spaced text including cover page and appendixes but excluding references, charts, and tables (use 12-point font, at least 1 inch margins)

An extensive literature survey not essential. In the text, discuss the key papers that you are building on. Footnote the remaining papers. Emphasize your contribution since main purpose of proposal is to evaluate feasibility of your research question/idea.

### Preliminary Draft

Maximum length: 20 pages of double-spaced text including cover page and appendixes but excluding references, charts, and tables (use 12-point font, at least 1 inch margins)

### Structure, Format for Final Research Paper

Maximum length: 25 pages of double-spaced text including cover page and appendixes but excluding references, charts and tables (use 12-point font, at least 1 inch margins). Cover page should contain an abstract—maximum of 150 words.

Introduction should clearly convey the objective of your paper, provide a clear motivation (why the questions you are addressing are of interest), what the main original contribution of your paper is, and the key results.

Tables and figures should have self-explanatory titles and footnotes, with axes labeled clearly and showing relevant units.

Empirical work should be described clearly (dataset, variable transformations, exact specifications etc.) in a manner that allows for easy replication by other researchers. Theoretical work should have clear and consistent notation.

Final draft of paper is due on **Friday, December 10, 2021 at 10 am**. No exceptions.