

14.454 Economic Crises

Instructor:	Ricardo J. Caballero (caball@mit.edu)	
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Office Hours :	Tu (E52-448) 2:30 - 4:00 pm	
Lectures:	TuTh (E51-151)	9:05 am - 10:25 am
Recitations:	Fr (E51-151)	9:05 am - 10:25 am

Objective of the course. This half-semester course provides a fast-paced description of the canonical macroeconomic models of financial frictions and crises. We will cover various topics, including: (i) financial amplification mechanisms; (ii) financial intermediation and credit crunches; (iii) coordination failures and bank runs; (iv) speculative bubbles and credit booms; (v) liquidity traps and deleveraging; and (vi) sudden stops and financial contagion.

Course Requirements. The class will run from Tuesday, April 4th, to Tuesday, May 16th. The requirement is one long pset with weekly deadlines on individual problems and one final exam during the last day of classes (May 16th), worth 70% and 30%, respectively. You can waive the final exam if you have met all the pset deadlines and have an average score above 90%.

Logistics. The course webpage is: <https://canvas.mit.edu/courses/18447>. Check regularly for lecture notes, problem sets, and recitation notes. The lectures and recitations will take place at E51-151. Office hours will take place at E52-448.

Reading and Course Layout. The list of topics covered in this course, and the associated readings, can be found below. The required readings are indicated with a star symbol (★). The remaining readings include useful references, which might be covered briefly during the course.

1 Introduction

1. Luttrell, D., T. Atkinson, and H. Rosenblum. “Assessing the Costs and Consequences of the 2007-09 Financial crisis and Its Aftermath,” *Dallas Fed Economic Letter* 8(7), September 2013.
2. Allen, F., E. Carletti, J.P. Krahenen, and M. Tyrell. “An Introduction to Liquidity and Crises,” in *Liquidity and Crises*, (Eds.) (same authors), Oxford UP, 3-32, 2011.
3. Ball, L., “The Fed and Lehman Brothers,” JHU mimeo, July 2016
4. Caballero, R.J., “Macroeconomics after the Crisis: Time to deal with the Pretense-of-Knowledge Syndrome.” *Journal of Economic Perspectives*, 85-102, Fall 2010.
5. Blanchard, O.J., G. Dell’Ariccia, P. Mauro, ”Rethinking Macroeconomic Policy,” *Journal of Money, Credit and Banking* 42(s1), 199-215, September 2010.
6. Caballero. R.J., “Crisis and Reform: Managing Systemic Risk,” *Rivista di Politica Economica*, vol. 99(4), 9-64, October-December 2009.

2 Collateral and Amplification

1. ★ Bernanke B. and M. Gertler, “Agency Costs, Net Worth, and Business Fluctuations,” *American Economic Review*, 79(1), 14-31, March 1989.
2. ★ Kiyotaki, N. and J. Moore, “Credit Cycles,” *Journal of Political Economy*, 105(2), 211-248, April 1997.
3. Mian, A. and A. Sufi, “What Explains the 2007-2009 Drop in Employment?,” *Econometrica*, 82(6), 2197-2223, November 2014
4. Greenwald, B.C. and J.E. Stiglitz, “Financial Market Imperfections and Business Cycles,” *Quarterly Journal of Economics*, 108(1), 77-114, February 1993.
5. Dixit, A., ”Whither Greenwald-Stiglitz?” Presentation at Joseph Stiglitz’s 60th birthday conference, Columbia University, October 24, 2003.
6. Tang, K. and H. Zhu, ”Commodities as Collateral,” *Review of Financial Studies* 29(8), 2110-2160, August 2016.
7. Brunnermeier, M.K., and Y. Sannikov, “A Macroeconomic Model with a Financial Sector,” *American Economic Review* 104(2), 379-421, February 2014.
8. Krishnamurthy, A., “Collateral constraints and its amplification mechanism,” *Journal of Economic Theory* 111(2), 277-292, August 2003

3 The Credit Crunch

1. ★ Holmstrom, B. and J. Tirole, “Financial Intermediation, Loanable Funds, and the Real Sector,” *Quarterly Journal of Economics*, 112(3), 663-691, August 1997.
2. Kashyap, A. and J. Stein, ”Monetary Policy and Bank Lending,” in *Monetary Policy*, (Ed.) N.G. Mankiw, NBER, 221-262, 1994.
3. Hanson, S. and J. Stein, “Monetary Policy and Long-Term Real Rates,” *Journal of Financial Economics*, 115(3), 55-109, March 2015.
4. Bernanke, B. and A. Blinder, “Credit, Money and Aggregate Demand,” *American Economic Review*, 78(2), 435-439, May 1988.

4 Runs, Panics, and Contagion

1. ★ Diamond, D.W. and P.H. Dybvig, “Bank Runs, Deposit Insurance, and Liquidity,” *Journal of Political Economy*, 91(3), 401-419, June 1983.
2. ★ Allen, F. and D. Gale, “Financial Contagion,” *Journal of Political Economy*, 108(1), 1-33, February 2000.
3. Gorton, G.B. and A. Metrick, “Securitized Banking and the Run on Repo,” *Journal of Financial Economics*, 104(3), 425-451, June 2012.
4. V. Acharya, D. Gale, and T. Yorulmazer, “Rollover Risk and Market Freezes,” *The Journal of Finance*, 66(4), 1177-1209, August 2011.
5. Tirole, J. *The Theory of Corporate Finance*, Princeton University Press, 2006 – Ch 12.
6. Caballero, R.J., “Sudden Financial Arrest,” *IMF Economic Review*, July 20, 2010.
7. Adrian, T. and H.S. Shin, “Liquidity and Financial Contagion,” *Financial Stability Review* 11, Banque de France, 1-7, February 2008.

8. Caballero, R.J. and A. Simsek, "Fire Sales in a Model of Complexity," *Journal of Finance*, 68(6),2549-2587, August 2013
9. Brunnermeier, M. and L. Pedersen, "Market Liquidity and Funding Liquidity," *Review of Financial Studies*, 22(6), 2201-2238, November 2008.
10. Jacklin, C.J, "Demand Deposits, Trading Restrictions and Risk Sharing," in "Contractual Arrangements for Intertemporal Trade," (Eds.) E.C. Prescott, N. Wallace, 1987.
11. Metrick, A. and Schmelzing, P., "The March 2023 Bank Interventions in Long-run context – Silicon Valley Bank and Beyond," NBER Working Paper 31066, March 2023.
12. Cetorelli, N., Landoni, M., and Lu, L., "Non-Bank Financial Institutions and Banks' Fire-Sale Vulnerabilities," Federal Reserve Bank of New York Staff Reports 1057, March 2023.

5 Bubbles and Credit Booms

1. ★ Tirole, J., "Asset Bubbles and Overlapping Generations," *Econometrica*, 53(6), 1499-1528, November 1985.
2. ★ Allen, F. and D. Gale, "Bubbles and Crises," *Economic Journal*, 460(110), 236-255, January 2000.
3. ★ Abreu D. and M. Brunnermeier, "Bubbles and Crashes," *Econometrica*, 71(1), 173-204, November 2003.
4. ★ Harrison, J.M., and D.M. Kreps, "Speculative Investor Behavior in a Stock Market with Heterogeneous Expectations," *Quarterly Journal of Economics*, 92(2), 323-336, May 1978.
5. ★ Martin, A. and J. Ventura, "Managing credit bubbles," *Journal of the European Economic Association*, 14(3), 753-89, June 2016.
6. ★ Lorenzoni, G., "Inefficient Credit Booms," *Review of Economic Studies*, 75(3), 809-833, July 2008.
7. Woodford, M., "Stationary Sunspot Equilibria in a Finance-Constrained Economy," *Journal of Economic Theory*, 40(1), October 1986.
8. Carvalho, V.M., A. Martin, and J. Ventura, "Understanding Bubbly Episodes," *American Economic Review: Papers & Proceedings*, 102(3), 95-100, May 2012
9. Kocherlakota, N., "Bursting Bubbles: Consequences and Cures," Univ of Minnesota mimeo, 2009.
10. Davila, E. and A. Korinek, "Pecuniary Externalities in Economies with Financial Frictions," *Review of Economic Studies*, 85(1), 352-395, January 2018.
11. Gourinchas, P.O., R. Valdes, and O. Landerretche, "Lending Booms: Latin America and the World," *Economia Journal* 1(2), Spring 2001.
12. Farhi, E. and J. Tirole, "Bubbly Liquidity," *Review of Economic Studies*, 79(2), 678-706, April 2012.
13. Brunnermeier, M.K., and I. Schnabel, "Bubbles and Central Banks: Historical Perspectives," in *Central Banks at a Crossroads-What Can We Learn from History?*, Cambridge University, 493-562, 2016.
14. Jorda, O., M. Schularick, and A. Taylor, "Leveraged Bubbles," *Journal of Monetary Economics*, 76(S), S1-S20, December 2015.
15. Brunnermeier, M.K. and M. Oehmke, "Bubbles, Financial Crises, and Systemic Risk," in *Handbook of the Economics of Finance*, Vol 2, 2013.

6 Liquidity Traps and Leverage

1. ★ Eggertsson, G.B. and P. Krugman, “Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach,” *Quarterly Journal of Economics*, 127(3), 1469-1513, July 2012.
2. ★ Korinek, A. and A. Simsek, “Liquidity Trap and Excessive Leverage,” *American Economic Review*, 106(3): 699-738, March 2016.
3. Kocherlakota, N., “Impact of a Land Price Fall When Labor Markets are Incomplete,” mimeo Federal Reserve Bank of Minneapolis, April 2013.
4. Guerrieri, V. and G. Lorenzoni, “Credit Crises, Precautionary Savings, and the Liquidity Trap,” *Quarterly Journal of Economics*, 132(3), 1427-1467, August 2017.
5. Farhi, E. and I. Werning, I. “A Theory of Macroprudential Policies in the Presence of Nominal Rigidities,” *Econometrica* 84(5), September 2016.

7 Capital Flows and Financial Crises

1. ★ Lorenzoni, G., “International Financial Crises,” Handbook of International Economics, Volume 4, (Eds.) G. Gopinath, E. Helpman, K. Rogoff, 689-740, 2014.
2. ★ Caballero, R.J. and A. Krishnamurthy, “Bubbles and Capital Flow Volatility: Causes and Risk Management,” *Journal of Monetary Economics*, 53(1), 35-53, January 2006.
3. Bianchi, J. and G. Lorenzoni, “The Prudential Use of Capital Controls and Foreign Currency Reserves,” NBER Working Paper 29476, November 2021.
4. Bocola, L. and G. Lorenzoni, “Financial Crises and Lending of Last Resort in Open Economies,” NBER Working Paper 23984, June 2018.
5. Obstfeld, M. and K. Rogoff. *Foundations of International Macroeconomics*, Chapter 6, The MIT Press, Cambridge MA.
6. Caballero, R.J. and A. Simsek, “A Model of Fickle Capital Flows and Retrenchment,” *Journal of Political Economy*, v128(6), August 2020.
7. Caballero, R.J., E. Farhi, and P.O. Gourinchas, “An Equilibrium Model of ‘Global Imbalances’ and Low Interest Rates,” *American Economic Review*, 98(1), 358-393, March 2008.