

## Course on *Financial Crises*

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Syllabus

**Course Description and format:** The course reviews the main theories of financial crises and their applications to various aspects of the financial systems. The course is divided in three parts. The first part presents the basic concepts of bank fragility and contagion. The second part introduces basic elements of asset pricing and applies them to the analysis of financial stability, interbank market functioning and central bank intervention. The third part concerns the study of bubbles.

**Grading:** The final grade will be based on a take home exam (60%) a research outline (40%). Participation in class will also be considered. The take home exam will consist of a problem set and a few questions on the topics covered in class. More information on the research outline will be provided during the course.

**Course material:** The course will be based on articles and on the book entitled *Understanding Financial Crises* by Franklin Allen and Douglas Gale. The material denoted with (\*) in the list below will be discussed in class. The other references constitute additional basic literature on each topic. Additional references may be provided during the course.

### Background useful reading

(\*) Reinhart, C., and K. Rogoff (2009) *This Time is Different: Eight Centuries of Financial Folly*, Oxford and Princeton: Princeton University Press.

### Outline of the topics

#### 1. The crisis started in 2007

(\*) Allen F. and E. Carletti (2010) "An Overview of the Crisis: Causes, Consequences and Solutions," *International Review of Finance*, 10(1), 1-26.

Brunnermeier, M. (2009). "Deciphering the Liquidity and Credit Crunch 2007-08," *Journal of Economic Perspectives*, 23, 77-100.

Allen F. and D. Gale (2007) *Understanding Financial Crises*, Oxford University Press, 2007 – chapter 1.

#### 2. The role of banks as providers of liquidity insurance and their vulnerability to runs

(\*) Diamond D.V. and P.H. Dybvig (1983), "Bank Runs, Deposit Insurance and Liquidity," *Journal of Political Economy*, 91, 401-419.

(\*) Jacklin C.J. and S. Bhattacharya (1988), “Distinguishing Panics and Information-based Bank Runs: Welfare and Policy,” *Journal of Political Economy*, 96, 568-592.

(\*) Chari V.V. and R. Jagannathan (1988), “Banking Panics, Information and Rational Expectations Equilibrium,” *Journal of Finance*, 43, 749-763.

Goldstein, I. and A. Pauzner, (2005). “Demand-Deposit Contracts and the Probability of Bank Runs,” *Journal of Finance*, 60, 1293-1327.

### **3. Financial contagion**

(\*) Allen F. and D. Gale (2000), “Financial Contagion,” *Journal of Political Economy*, 108, 1-34.

(\*) Allen F. and D. Gale (2007) *Understanding Financial Crises*, Oxford University Press, 2007 – chapter 10.

(\*) Allen F., A. Babus and E. Carletti (2009) “Financial Crises: Theory and Evidence,” *Annual Review of Financial Economics*, 1, 97-116.

Acharya V. and T. Yorulmazer (2008), “Information Contagion and Bank Hearing,” *Journal of Money, Credit and Banking*, 40(1), 215-231.

Brusco S. and F. Castiglionesi (2007). “Liquidity Coinsurance, Moral Hazard and Financial Contagion,” *Journal of Finance*, 62, 2275-2302.

Chen Y. (1999), “Banking Panics: The Role of the First-Come, First-Served Rule and Information Externalities,” *Journal of Political Economy*, 107, 946-968.

Dasgupta, A. (2004). “Financial Contagion through Capital Connections: A Model of the Origin and Spread of Bank Panics,” *Journal of the European Economic Association*, 6, 1049-1084.

Freixas, X. and B. Parigi and J. Rochet (2000). “Systemic Risk, Interbank Relations and Liquidity Provision by the Central Bank,” *Journal of Money, Credit and Banking*, 32, 611-38.

Rochet, J. and X. Vives (2004). “Coordination Failures and the Lender of Last Resort: Was Bagehot Right after All?” *Journal of the European Economic Association*, 2, 1116-1147.

### **4. Financial networks**

(\*) Allen, F., A. Babus and E. Carletti (2011) “Financial Connections and Systemic Risk,” mimeo, European University Institute

Allen F. and A. Babus (2008). “Networks in Finance”, working paper 08-07, Wharton Financial Institutions Center, University of Pennsylvania, forthcoming in P.Kleindorfer and J. Wind (eds.), *Networks-based Strategies and Competencies*, Wharton School Publishing.

Babus A. (2007). “The Formation of Financial Networks,” Discussion Paper 06-093, Tinbergen Institute.

Castiglionesi F. and N. Navarro (2007). “Optimal Fragile Financial Networks,” working paper, Tilburg University.

## **5. Asset markets and cash in the market pricing**

(\*) Allen F. and E. Carletti (2008). “The Role of Liquidity in Financial Crises,” 2008 Jackson Hole Conference Proceedings, Federal Reserve Bank of Kansas City, 379-412.

Allen F. and D. Gale (1994). “Limited Market Participation and Volatility of Asset Prices,” *American Economic Review*, 84, 933-955.

(\*) Allen F. and D. Gale (1998). “Optimal Financial Crises,” *Journal of Finance*, 47, 1245-1284.

(\*) Allen F. and D. Gale (2005). “From Cash in the Market Pricing to Financial Fragility,” *Journal of the European Economic Association*, 3, 535-546.

(\*) Allen F. and D. Gale (2007). *Understanding Financial Crises*, Oxford University Press, 2007 – chapters 3 and 4.

Acharya V. and T. Yorulmazer (2008). “Cash-in-the-Market Pricing and Optimal Resolution of Bank Failures,” *Review of Financial Studies*, 21, 2705-2742

## **6. Financial fragility**

(\*) Allen F. and D. Gale (2007). *Understanding Financial Crises*, Oxford University Press, 2007 – chapter 5.

Allen F. and D. Gale (2004). “Financial Fragility, Liquidity and Asset Prices,” *Journal of the European Economic Association*, 2, 1015-1048.

Carletti E. and A. Leonello (2011). “Credit Market Competition and Interbank Liquidity,” mimeo, European University Institute.

Diamond D. and R. Rajan (2005). “Liquidity Risk, Liquidity Creation and Financial Fragility: A Theory of Banking,” *Journal of Political Economy*, 109(2), 287-327.

Diamond D. and R. Rajan (2005). “Liquidity Shortages and Banking Crises,” *Journal of Finance*, 60, 615-647.

Kiyotaki N. and J. Moore (1997). “Credit Cycles,” *Journal of Political Economy*, 99, 220-264.

Kiyotaki N. and J. Moore (2005). “Liquidity and Asset Prices,” *International Economic Review*, 46 (2005), 317-349.

## **7. Interbank markets and central bank intervention**

(\*) Allen F. and E. Carletti (2008). “The Role of Liquidity in Financial Crises,” 2008 Jackson Hole Conference Proceedings, Federal Reserve Bank of Kansas City, 379-412.

(\*) Allen F., E. Carletti and D. Gale (2009). “Interbank Market Liquidity and Central Bank Intervention,” *Journal of Monetary Economics*, 56(5), 639-652.

Bhattacharya S. and D. Gale (1987). "Preference Shocks, Liquidity and Central Bank Policy," in W. Barnett and K. Singleton (eds.), *New Approaches to Monetary Economics*, Cambridge University Press, 69-88.

Brunnermeier M. and L. Perdersen (2009). "Market Liquidity and Funding Liquidity," *Review of Financial Studies*, 22(6), 2201-2238.

Cecchetti, S. (2009). "Central Bank Tools and Liquidity Shortages," working paper available at [http://www.newyorkfed.org/research/conference/2009/cblt/CB\\_Tools\\_and\\_Liquidity\\_Shortages.pdf](http://www.newyorkfed.org/research/conference/2009/cblt/CB_Tools_and_Liquidity_Shortages.pdf).

Flannery M. (1996). "Financial Crises, Payment System Problems and Discount Window Lending," *Journal of Money, Credit and Banking*, 28, 804-824.

Gorton H. and L. Huang (2004). "Liquidity, Efficiency and Bank Bailouts," *American Economic Review* 94, 455-483.

Heider F., M. Hoerova and C. Holthausen (2009). "Liquidity Hoarding and Interbank Market Spreads: The Role of Counterparty Risk," mimeo, European Central Bank, Frankfurt.

Holmstrom, B. and J. Tirole (1998), "Private and Public Supply of Liquidity," *Journal of Political Economy*, 106, 1-40.

Kiyotaki N. and J. Moore (2008). "Liquidity, Business Cycles and Monetary Policy," mimeo, Princeton University.

## **8. Mark-to-market accounting**

(\*) Allen F. and E. Carletti (2008) "Mark-to-Market Accounting and Cash-in-the-Market Pricing," *Journal of Accounting and Economics*, 45(2-3), 358-378.

Plantin, G., H. Sapra and H. Shin (2008) "Marking to Market: Panacea or Pandora's Box?," *Journal of Accounting Research*, 46, 435-460.

## **9. Bubbles and crises**

(\*) Allen F. and D. Gale (2000). "Bubbles and Crises", *Economic Journal*, 110, 236-255.

(\*) Allen F. and D. Gale (2007). *Understanding Financial Crises*, Oxford University Press, 2007 – chapter 9

Abreu, D. and M. Brunnermeier (2003). "Bubbles and Crashes," *Econometrica* 71, 173-204.

Allen F. and G. Gorton (1993), "Churning Bubbles", *Review of Economic Studies*, 60, 813-836.

Allen F. and D. Gale (2004), "Asset Price Bubbles and Monetary Policy," in M. Desai and Y. Said (eds.), *Global Governance and Financial Crises*, New York and London: Routledge, Chapter 2, 19-42.

Allen, F., S. Morris, and A. Postlewaite (1993). "Finite Bubbles with Short Sale Constraints and Asymmetric Information," *Journal of Economic Theory* 61, 206-229.

Barlevy, G. (2009). "A Leverage-based Model of Speculative Bubbles," working paper, Federal

Reserve Bank of Chicago.

Caballero, R., and A. Krishnamurthy (2006). “Bubbles and Capital Flow Volatility: Causes and Risk Management,” *Journal of Monetary Economics* 53, 35-53.

De Long, B., A. Shleifer, L. Summers, and R. Waldmann, (1990). “Positive Feedback Investment Strategies and Destabilizing Rational Speculation,” *Journal of Finance* 45, 379-395.

Dobles-Madrid, A. (2009). “A Robust Model of Bubbles with Multidimensional Uncertainty,” working paper, Michigan State University.

Farhi, E. and J. Tirole (2009). “Bubbly Liquidity,” working paper, Harvard University.

Herring, R. and S. Wachter (1999). Real Estate Booms and Banking Busts: An International Perspective, Wharton Financial Institutions Center Working Paper 99-27, University of Pennsylvania.

Scheinkman, J., and W. Xiong (2003). “Overconfidence and Speculative Bubbles,” *Journal of Political Economy* 111, 1183-1220.

Tirole, J. (1985). “Asset Bubbles and Overlapping Generations,” *Econometrica* 53, 1499-1528.

#### **Other useful material**

Acharya V., D. Gromb and T. Yorulmazer (2009). “Imperfect Competition in the Inter-Bank Market for Liquidity as a Rationale for Central Banking,” mimeo, Stern Business School.

Acharya V., D. Gale and T. Yorulmazer (2010). “Rollover Risk and Market Freezes”, forthcoming, *Journal of Finance*.

Acharya V. and S. Viswanathan (2010). “Leverage, Moral Hazard, and Liquidity”, forthcoming, *Journal of Finance*.

Allen F. and E. Carletti (2006). “Credit Risk Transfer and Contagion,” *Journal of Monetary Economics*, 53, 89-111.

Cai J. and A. Thakor (2008). “Liquidity Risk, Credit Risk and Interbank Competition”, mimeo, Washington St. Louis.

Castiglionesi F., F. Feriozzi and G. Lorenzoni (2010). “Financial Integration and Liquidity Crises”, mimeo, University of Tilburg.

Castiglionesi F. and W. Wagner (2010). “The Optimality of Interbank Liquidity Insurance”, mimeo, University of Tilburg.

Castiglionesi F. and W. Wagner (2010). “Turning Bagehot on His Head: Lending at Penalty Rates When Banks Can Become Insolvent”, mimeo, University of Tilburg.

Diamond D. and R. Rajan (2009). “Illiquidity and Interest Rate Policy”, mimeo, University of Chicago.

Duffee, G. and C. Zhou (2001). "Credit Derivatives in Banking: Useful Tools for Managing Risk?" *Journal of Monetary Economics*, 48, 25-54.

Ewerhart C. and J. Tapking (2008). "Repo markets, counterparty risk and the 2007/2008 liquidity crisis", working paper series 909, European Central Bank, Frankfurt am Main.

Freixas X., A. Martin and D. Skeie (2009). "Bank Liquidity, Interbank Markets, and Monetary Policy," Federal Reserve Bank of New York Staff Report, Number 371.

Morrison, A.D. (2005). "Credit Derivatives, Disintermediation and Investment Decisions," *Journal of Business*, 78:2, 621-647.

Parlour, C. and G. Plantin (2008). "Loan Sales and Relationship Lending," *Journal of Finance*, 63:3, 1291-1314.