

## Course on *Financial Crises*

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**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 two 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 innovation, interbank market functioning and central bank intervention.

**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 depth in class. The other references constitute additional basic literature on each topic. Additional references (in particular recent working papers) will be provided during the course.

*Note: this is a provisional syllabus. More information will be provided closer to the start of the course or during the course itself.*

### Outline of the topics

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

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

(\*) 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.

#### 2. 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 3

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

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.

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.

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

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.

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

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

(\*) Allen F. and E. Carletti (2008) “The Role of Liquidity in Financial Crises” (with Franklin Allen), forthcoming in *Maintaining Stability in a Changing Financial System*, Federal Reserve Bank of Kansas City’s 2008 Economic Symposium proceedings

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

#### **4. 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.

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*, 317-49

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.

#### **5. Interbank Markets and Central Bank intervention**

(\*) Allen F. and E. Carletti (2008) “The Role of Liquidity in Financial Crises” (with Franklin Allen), forthcoming in *Maintaining Stability in a Changing Financial System*, Federal Reserve Bank of Kansas City’s 2008 Economic Symposium proceedings

(\*) Allen F., E. Carletti and D. Gale (2009), “Interbank Market Liquidity and Central Bank Intervention”, mimeo, European University Institute.

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

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.

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

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

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

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)

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

Brunnermeier M. and L. Perdersen (2009) “Market Liquidity and Funding Liquidity”, forthcoming, *Review of Financial Studies*

## **6. Financial Innovation**

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

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

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

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

## **7. Bubbles and Crises** (topic covered by Franklin Allen)

(\*) 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

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.

## **Useful working papers**

Acharya V., D. Gromb and T. Yorulmazer (2008), “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 (2008), “Rollover Risk and Market Freezes”, mimeo, Stern Business School.

Acharya V. and S. Viswanathan (2009) “Leverage, Moral Hazard, and Liquidity”, mimeo, Duke University.

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

Castiglionesi F., F. Feriozzi and G. Lorenzoni (2009) “Financial Integration, Liquidity and the Depth of Systemic Crises”, mimeo, University of Tilburg.

Castiglionesi F. and W. Wagner (2009) “The Optimality of Interbank Liquidity Insurance”, mimeo, University of Tilburg.

Castiglionesi F. and W. Wagner (2009) “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.

Ewerhart C. and J. Tapping (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,” mimeo, Federal Reserve Bank of New York.