Macroeconomics of Financial Markets
ECON 712-001, Fall 2018
University of Pennsylvania

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Syllabus

Course Description

Financial markets are critical for the functioning of the economy, but their effects are still poorly understood. This course discusses the state of the art knowledge about the positive and negative effects of financial markets in macroeconomics. We will first study the foundations of financial contracts and the rationale for the existence of financial intermediaries. Then, we will discuss the positive role of financial markets in promoting growth and their negative role in magnifying aggregate fluctuations. We will pay particular attention to financial crises and the fragility of financial markets to bubbles, panics and information surrounding financial products. We will also discuss new theories of business cycles that display financial crises at their core. Finally, we discuss the new financial landscape (securitization and shadow banking) and the regulation challenges (both imposed by the government and induced by the market) that such a new environment introduces.

Just as a commitment device (to myself), I will hold office hours Thursdays from 5pm to 6pm. However, you are welcome to drop me a line if you want to schedule a meeting in some other moment. My door is always open in case you want to stop by, go for a coffee and chat.

Finally, I'm planning this class to be very flexible. We will be discovering new common interests along the way, and I rather accommodate them than follow rigorously the contents I plan to cover. Hence, the reading list is not exhaustive and may change (most likely get longer) during the semester.

Grading

You will be graded on a term paper (50% of the grade), a "referee report" (25% of the grade) and a presentation (25% of the grade).

You should see the term paper as an opportunity to start exploring a topic of your interest. Ideally this paper will lead you towards a broader and more ambitious project,… but everything starts from zero! I am eager to discuss your ideas, whether they are theoretical or empirical, and to guide you the best I can towards a relevant question. In terms of evaluation, I will put weight on your efforts and the creativity and quality of the paper, not on its length. You should let me know the topic you will work on and the way you plan to approach it by October 18.

When time comes, I will assign one paper to each one of you to present and to make a critical "referee report" about it. This paper may be related to your chosen topic for the term paper, but we can talk more about it later. We will schedule these presentations for the last two classes (November 27th and December 4th) to give ample time also to discuss the relation between the paper and your own ideas for the term paper. I may also assign some optional exercises along the way…but I will give you details later, depending on how the class evolves.

Class Schedule

Lecture 1 – August 28: Foundations of Financial Contracts and Intermediation.
Lecture 2 – September 4: Foundations of Financial Contracts and Intermediation.
Lecture 3 – September 11: Foundations of Financial Contracts and Intermediation.
Lecture 4 – September 18: Securitization and Shadow Banking.
Lecture 5 – September 25: Financial Markets and Business Cycles.
Lecture 6 – October 2: Financial Crises – Bubbles.
Lecture 7 – October 9: Financial Crises – Panics.
Lecture 8 – October 16: Financial Crises – Debt and Information.
Lecture 9 – October 23: Financial Crises – Debt and Information.
Lecture 10 – October 30: Financial Crises and Business Cycles.
Lecture 11 – November 6: Financial Crises and Business Cycles.
Lecture 12 – November 13: Regulation of Financial Markets.
Lecture 13 – November 27: Student Presentations
Lecture 14 – December 4: Student Presentations

Reading List

In bold you can see the papers that I intend to discuss in lectures, * indicates papers that I may not discuss in lectures but you should read. The rest are papers that I consider highly recommended additional reading.

Lectures 1-3: Foundations of Financial Contracts and Intermediation.

Gorton G. and A. Winton, (2002) "Financial Intermediation", *Handbook of the Economics of Finance. Eds: Constantinides, Harris and Stulz. North Holland.*

Modigliani, F. and M. Miller (1958) "The Cost of Capital, Corporation Finance and the Theory of Investment", *American Economic Review*, 48, 261-297.

a) Liquidity Provision and Consumption Smoothing

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

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

* Allen, F and D. Gale (2004) “Financial Intermediaries and Markets”, *Econometrica*, 72, 1023-1062.

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

* Green E. and P. Lin (2000) “Diamond and Dybvig’s Classical Theory of Financial Intermediation: What’s Missing?”. *Federal Reserve Bank of Minneapolis Quarterly Review*, 24.

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

* Plantin G. (2009), “Learning by Holding and Liquidity”, *Review of Economic Studies*, 76, 395-412.

<u>b) Monitoring Delegation</u>

Gale D. and M. Hellwig (1985), “Incentive Compatible Debt Contracts: The One-Period Problem”. *Review of Economic Studies*, 52, 647-663.

Diamond D. (1984), “Financial Intermediation and Delegated Monitoring”, *Review of Economic Studies*, 51, 393-414.

* Diamond D. (1991), “Debt Maturity Structure and Liquidity Risk”, *Quarterly Journal of Economics*, 106, 709-737.

* Townsend, R. (1979), “Optimal Contracts and Competitive Markets with Costly State Verification”, *Journal of Economic Theory*, 21, 265-293.

Bester, H. (1985) “Screening vs. Rationing in Credit Markets with Imperfect Information”, *American Economic Review*, 71, 393-410.

<u>c) Information Production</u>

Stiglitz J. and A. Weiss (1981), “Credit Rationing in Markets with Imperfect Information”, *American Economic Review*, 71, 393-410.

Boyd J. and E. Prescott (1986), “Financial Intermediary Coalitions”, *Journal of Economic Theory*, 38, 211-232.

* Leland H. and D. Pyle (1977) “Informational Asymmetries, Financial Structure, and Financial Intermediation”, *Journal of Finance*, 31, 371-387.

Campbell T. and W. Kracow, (1980), “Information Production, Market Signaling and the Theory of Financial Intermediation”, *Journal of Finance*, 35, 863-881.

<u>d) Incomplete Contracts and Commitment</u>

Aghion P. and P. Bolton (1992), “An Incomplete Contracts Approach to Financial Contracting”, *Review of Economic Studies*, 59, 473-494.

Diamond D. and R. Rajan (2001), “Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking”, *Journal of Political Economy*, 94, 691-719.

Hart, O (1994) “A Theory of Debt Based on the Inalienability of Human Capital”, *Quarterly Journal of Economics*, 109, 841-879.

Hart, O (1995) “Firms, Contacts and Financial Structure”, Clarendon Lectures in Economics, Oxford University Press.

e) Information and Liquidity

Dang T.V., Gorton, G., Holmstrom, B. and G. Ordonez (2017) “Banks as Secret Keeper”, *American Economic Review*, 107, 1005-1029.

Lecture 4: Securitization. Shadow Banking.

Ordonez G. (2017) “Sustainable Shadow Banking”, *AEJ Macroeconomics, forthcoming*.

Ordonez G. (2016) “Confidence Banking and Strategic Default”, *UPenn Working Paper*.

Gennaioli, N. and Shleifer A., and R. Vishny (2013) “A Model of Shadow Banking”, *Journal of Finance*. 68: 1331-1363

Ordonez, G. (2013). “Fragility of Reputation and Clustering of Risk-Taking.” *Theoretical Economics*: 8, 653-700.

Ordonez, G. and Piguillem, F. (2017). “Retirement in the Shadow (Banking)”. *UPenn Working Paper.*

Gorton, G., Lewellen, S. and A. Metrick (2010) “The Safe Asset Share”, *American Economic Review. P&P. 102, 101-106.*

Caballero, Ricardo (2006), “On the Macroeconomics of Asset Shortages,” NBER Working Paper 12753.

Nadauld, Taylor and Michael Weisbach (2012), “Did Securitization Affect the Cost of Corporate Debt?,” Journal of Financial Economics 105, 332-352.

Sunderam, Adi (2012), “Money Creation and the Shadow Banking System,” *Review of Financial Studies* 28, 939=977.

Gorton, G. and G. Ordonez (2016). “The Supply and Demand for Safe Assets.” NBER Working Paper 18732.

Diamond, D. (1989) “Reputation Acquisition in Debt Markets”, *Journal of Political Economy*, 97, 828-862.

Gorton, G. (1996) “Reputation Formation in Early Bank Note Markets”, *Journal of Political Economy*, 104, 346-397.

Lecture 5: Financial Markets and Business Cycles.

Kiyotaki N. and J. Moore (1997), "Credit Cycles" *Journal of Political Economy*, 105, 211-248.

Bernanke B. and M. Gertler (1989) "Agency Costs, Net Worth and Business Fluctuations", *American Economic Review*, 79, 14-31.

Carlstrom C. and T. Fuerst (1997) "Agency Costs, Net Worth and Business Fluctuations: A Computable General Equilibrium Analysis", *American Economic Review*, 87, 893-910.

* Ordonez, G (2013) "The Asymmetric Effects of Financial Frictions", *Journal of Political Economy*, 121, 844-895.

* Chari V.V. and P. Kehoe (2009). "Confronting Models of Financial Frictions with the Data", Working Paper, University of Minnesota.

Lorenzoni, G (2008) "Inefficient Credit Booms", *Review of Economic Studies*, 75, 809-833.

Lecture 6: Financial Crises - Bubbles.

Allen, Morris and Shin (2006), "Beauty Contests and Iterated Expectations in Asset Markets", *Journal of Financial Studies*, 19, 719-752.

Tirole J. (1982), "On the Possibility of Speculation under Rational Expectations", *Econometrica*, 50, 1163-1181.

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

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

Harrison J. and D. Kreps, (1978), "Speculative Investor Behavior in a Stock Market with Heterogeneous Expectations", *Quarterly Journal of Economics*, 92, 323-336.

Angeletos G.M. and I. Werning (2006) "Crises and Prices: Information Aggregation, Multiplicity and Volatility" *American Economic Review*, 96, 1720-1736.

Hellwig, C and G. Lorenzoni (2009), "Bubbles and Self-Enforcing Debt", *Econometrica*, 77, 1137-1164.

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

Lecture 7: Financial Crises - Panics.

Allen F. and D. Gale (1998), "Optimal Financial Crises", *Journal of Finance, Papers and Proceedings*, 53, 1245-1284.

Morris, S. and H.S. Shin (1998) "Unique Equilibrium in a Model of Self-Fulfilling Currency Attacks", *American Economic Review*, 88, 587-597.

Morris, S. and H.S. Shin (2000) "Rethinking Multiple Equilibria in Macroeconomics", *NBER Macroeconomics Annual*, 139-161. (See also the discussions by Andy Atkeson and Helene Rey).

* Goldstein, I. and A. Pauzner (2005) "Demand-Deposit Contracts and the Probability of Bank Runs", *Journal of Finance*, 40, 1293-1327.

* He Z. and W. Xiong (2012) "Dynamic Debt Runs", *Journal of Financial Studies*, 25, 1799-1843.

Gorton G. and L. Huang, (2006) "Bank Panics and the Endogeneity of Central Banking", *Journal of Monetary Economics*, 53, 1613-1629.

Williamson, S (1988), "Liquidity Banking and Bank Failures", *International Economic Review*, 29, 25-43.

Banerjee, A. (1992) "A Simple Model of Herd Behavior" *Quarterly Journal of Economics*, 107, 797-817.

Caplin, A. and J. Leahy (1994) "Business as Usual, Market Crashes, and Wisdom After the Fact", *American Economic Review*, 84, 548-565.

Lecture 8-9: Financial Crises – Debt and Information.

Gorton G. and G. Ordonez (2014) "Collateral Crises", *American Economic Review*, 104, 343-378.

Holmström, B. (2015) "Understanding the Role of Debt in the Financial System, BIS working paper, no. 479.

Cole, H., Neuhann, D. and Ordonez, G. (2017) " A Walrasian Theory of Sovereign Debt Auctions with Asymmetric Information." *UPenn Working Paper.*

Gaballo, G. and Ordonez, G. (2017) "The Two Faces of Information" *UPenn Working Paper.*

* Brancati, E. and M. Macchiavelli (2015) "The Role of Dispersed Information Uncertainty in Pricing Default: Evidence from the Great Depression", *FEDS Working Paper No. 2015-079*.

Gorton, G. and G. Ordonez (2017). "Fighting Crises with Secrecy" NBER Working Paper 22787.

Lecture 10-11: Financial Crises and Business Cycles.

Gorton G. and G. Ordonez (2016) "Good Booms, Bad Booms", ***UPenn Working Paper.***

Cerra, Valerie and Sweta Chaman Saxena (2008), "Growth Dynamics: The Myth of Economic Recovery," AER 98, 439-457.

Schularick, M. and A. Taylor (2012) "Credit Booms Gone Bust: Monetary Policy, Leverage Cycles, and Financial Crises, 1870-2008". American Economic Review 102, 1029-1061.

Herrera, H., Ordonez, G. and C. Trebesch (2016) "Political Booms, Financial Crises", ***UPenn Working Paper.***

* Ranciere, R, Tornell, A. and F. Westermann (2008) "Systemic Crises and Growth", *Quarterly Journal of Economics, 123, 359-406.*

Lecture 12: Regulation

Diamond, D. (1991) "Monitoring and Reputation: The Choice between Bank Loans and Directly Placed Debt", ***Journal of Political Economy*****, 99, 689-721.**

Erol S. and G. Ordonez. (2017) "Network Reactions to Banking Regulations", ***Journal of Monetary Economics*****, 89, 51-67.**

Jeanne, O. and A. Korinek (2016). "Macroprudential Regulation Versus Mopping Up After the Crash." JHU Working Paper.

Nosal J. and G. Ordonez (2013) "Uncertainty as Commitment", ***Journal of Monetary Economics*****, 80, 124-140.**

Gorton, G and A. Metrick (2010 "Regulating the Shadow Banking System." Brookings Papers on Economic Activity, Fall.

Diamond, D. and A. Kashyap (2016). "Liquidity Requirements, Liquidity Choice ad Financial Stability." NBER Working Paper 22053.

* Atkeson, A., C. Hellwig and G. Ordonez (2009), "Optimal Regulation in the Presence of Reputation Concerns", *Quarterly Journal of Economics*, 130, 415-464.

* Farhi, E., M. Golosov and A. Tsyvinski (2009) "A Theory of Liquidity and Regulation of Financial Intermediation", *Review of Economic Studies*, 76, 973-992.

Hanson, S. Kashyap, A. and J. Stein (2010) "A Macroprudential Approach to Financial Regulation". Journal of Economic Perspectives. 25, 3-28.