

European University Institute
Department of Economics
Fall 2016 (Block II)
9:00 – 11:00, Wednesday Nov. 16 – Dec. 14¹

Advanced Macro
Financial Frictions, Sovereign Debt and Risk-Sharing
(with an introduction to Recursive Contracts)
Ramon Marimon²

This (half-credit) course, for 2nd Year PhDs in economics, and beyond, does not attempt to review the substantial current macro-finance literature of dynamic models with *financial frictions* and *leverage*, *sovereign debt* and *risk-sharing*, but rather focusses on some of the main elements and mechanisms underlying these models; in the process, we will also cover *Recursive Contract Theory*. The course is self-contained, but familiarity with basic maximization theory (Lagrange saddle-points, Bellman equations) and general equilibrium theory (Complete vs. incomplete markets, Nash equilibrium) will be assumed. Due to time limitations, the course will not cover computational aspects, but students with computational skills will be encouraged to solve basic models. For students taking the course for credit, the grade of the course will be based on class participation [15%] (go through the main references – marked with * -- in advance), a short take-home exam [40%] and a short paper [45%], which typically would be a ‘deconstruction’ of one or more papers, emphasizing the strengths and weaknesses of existing mechanisms, although it can also be original research. The paper can have two co-authors or, in exceptionally complex projects, three.

Syllabus³

1. Financial Frictions and leverage

(*) Bernanke, Ben and Mark Gertler. 1989. “Agency Costs, Net Worth, and Business Fluctuations,” *American Economic Review*, 79, 14-31.

¹ The last class will be December 16, 9:00 – 11:00.

² European University Institute, Barcelona Graduate School of Economics – UPF & CREi, NBER & CEPR. E-mail: ramon.marimon@eui.eu Personal web page: www.eui.eu/Personal/rmarimon/. Course materials and office hours in the [Economics Moodle](#).

³ Read the (**) papers before the lecture and, if possible, the (*) papers. Other references may also be useful for your ‘short paper.’

Best, James and John Moore, 2013. "Self-Fulfilling Price Cycles," University of Edinburgh.

Dubey, Pradeep, John Geanakoplos and Martin Shubik, 2005. "Default and Punishment in General Equilibrium", *Econometrica*, 73(1), pp. 1-37.

(*) Fostel, Ana and John Geanakoplos, 2013. "Reviewing the Leverage Cycle," Cowles Foundation Disc. Paper No. 1918.

Gaballo, Gaetano and Ramon Marimon, 2016. "Breaking the Spell with *Credi-Easing*: Self-Confirming Credit Crises in Competitive Search Economies," EUI.

Geanakoplos, John, 2010. "The Leverage Cycle," in *NBER Macroeconomics Annual 2009*, V. 24.

(*) Gertler, Mark and Nobu Kiyotaki, 2011. "Financial Intermediation and Credit Policy in Business Cycle Analysis," in *Handbook of Monetary Economics*, Vol. 3A.

(*) Huo, Zhen and José-Victor Rios-Rull. 2016. "Financial Frictions, Asset Prices, and the Great Recession," University of Pennsylvania.

(**) Kiyotaki, Nobu and John Moore. 1997. "Credit Cycles," *Journal of Political Economy*, 105(2), 1477-1507.

Moore, John, 2012 (slides). "Leverage Stacks and the Financial System," University of Edinburgh.

Quadrini, Vincenzo, 2014. "Bank Liabilities Channel," University of Southern California.

Zetlin-Jones, Ariel and Ali Shourideh. 2016, "External Financing and the Role of Financial Frictions over the Business Cycle: Measurement and Theory," Carnegie Mellon University

2. Sovereign Debt and Self-fulfilling Debt Crises

(*) Aguiar, Manuel and Manuel Amador, 2014. "Sovereign Debt," in *Handbook of International Economics*, Vol. 4, pp. 647 - 687. North Holland.

(*) Aguiar, Manuel and Harold Cole, 2016. "Quantitative Models of Sovereign Debt Crises," in *Handbook of Macroeconomics*, Vol. 4.

(*) Aguiar, Manuel, Satyajit Chatterjee, Harold Cole and Zachary Stangebye, 2016. "Self-Fulfilling Debt Crises, Revisited: The Art of the Desperate Deal," Princeton University.

(*) Arellano, Cristina, 2008. "Default Risk and Income Fluctuations in Emerging Markets," *American Economic Review*, 98(3), 690 - 712.

Bulow, Jeremy, and Kenneth S. Rogoff, 1989. "Sovereign Debt: Is to Forgive to Forget?," *American Economic Review*, 79(1), 43 - 50.

(*)Calvo, Guillermo, 1988. "Servicing the Public Debt: The Role of Expectations," *American Economic Review*, 78, 647 - 661.

(**)Cole, Harold and Timothy Kehoe, 2000. "Self-Fulfilling Debt Crises," *The Review of Economic Studies*, 67, 91 - 116.

Conesa, Juan Carlos and Timothy Kehoe, 2015. "Gambling for Redemption and Self-Fulfilling Debt Crises," Federal Reserve Bank of Minneapolis Research Department Staff Report 465.

Eaton, Jonathan and Mark Gersovitz, 1981. "Debt with Potential Repudiation: Theoretical and Empirical Analysis," *The Review of Economic Studies*, 48(2), 289 - 309.

Mendoza, Enrique and V. Z. Yue, 2012. "A General Equilibrium Model of Sovereign Default and Business Cycles," *Quarterly Journal of Economics*, 127(2), 889 - 946.

3. Recursive Contracts (the basics and beyond)

Brendon, Charles and Martin Ellison, 2015. "Time-Consistent Institutional Design," Cambridge University.

(**) Marcet, Albert and Ramon Marimon, 2016 (last version). "Recursive Contracts," EUI.

Marimon, Ramon and Jan Werner, 2016 (last version). "The Envelope Theorem, Euler and Bellman Equations, without Differentiability," EUI.

4. Risk-sharing mechanisms vs. Sovereign Debt

(*)Ábrahám, Árpád, Eva Cárceles-Poveda, Ramon Marimon and Y. Liu, 2016 (wip). "On the Optimal Design of a Financial Stability Fund," EUI.

(*)Chatterjee, Satyajit and Burcu Eyigungor. 2012. "Maturity, Indebtedness, and Default Risk," *American Economic Review*, 102(6): 2674-2699.

Müller, Andreas, Kjetil Storesletten and Fabrizio Zilibotti, 2016. "Sovereign Debt and Structural Reforms," University of Oslo.

5. Endogenous constraints and competition

(**)Cooley, Thomas, Ramon Marimon and Vincenzo Quadrini, 2004. "Aggregate Consequences of Limited Contract Enforceability," *Journal of Political Economy*, 112, 4, 817—847.

(*)Cooley, Thomas, Ramon Marimon and Vincenzo Quadrini, 2015. "Risky Investments with Limited Commitment," EUI.

Grochulski, Borys and Yuzhe Zhang, "Market-based incentives," 2016. *International Economic Review* (forthcoming).

(*)Marimon, Ramon and Vincenzo Quadrini, 2011. "Competition, human capital and income inequality with limited commitment," *Journal of Economic Theory*, 146, 978-1008. 2011.