Systemic Risk Management
Syllabus and reading list

Master in Finance, Insurance and Risk Management (Collegio Carlo Alberto)
Instructor: Nicola Borri, LUISS University (nborri@luiss.it)
A.Y. 2024-25
Last update: **November 11, 2024**

Short description This course is a primer on systemic risk management. Systemic risk is the risk of a collapse of the entire financial system, possibly due to shocks that hit a specific financial institution (or a set of financial institutions), and then propagate to the entire system. The aim of the course is to explain how systemic risk arises and impacts the financial sector. Further, students will learn how to construct different measures used to track and manage systemic risk using `MATLAB` examples and applications. Finally, the course will discuss the evolution of systemic risk measures used by regulators, also in relation of the evolution of the Basel banking regulations.

Detailed syllabus and reading list The main topics covered in the this short course are the following:

1. What is systemic risk? Freixas et al. (2015)'s chapters 1–2; The roots of the "clean up after bubbles" approach (The Economist)

2. Contagion: Freixas et al. (2015)'s chapter 5

3. How to measure systemic risk: Freixas et al. (2015)'s chapter 7; Banco Popular CoCo bonds wiped out after Santander takeover (The FT)

4. One application: $CoVaR$ and systemic risk with applications to financial institutions, sovereign debt, cryptocurrencies and the Covid-19 shock to financial markets: Adrian and Brunnermeier (2016), Borri (2017), Borri (2019), Borri and Di Giorgio (2021) and Bonaccolto et al. (2021). How to code $CoVaR$ and estimate it.

Additional non-required references Acharya et al. (2017); Benoit et al. (2016); Gorton and Ordoñez (2016); Schularick and Taylor (2012); Duffie (2010).

References

Acharya, Viral V, Lasse H Pedersen, Thomas Philippon, and Matthew Richardson, "Measuring systemic risk," *Review of Financial Studies*, 2017, *30* (1), 2–47.

Adrian, Tobias and Markus K Brunnermeier, "CoVaR," *The American Economic Review*, 2016, *106* (7), 1705–1741.

Benoit, Sylvain, Jean-Edouard Colliard, Christophe Hurlin, and Christophe Pérignon, "Where the risks lie: A survey on systemic risk," *Review of Finance*, 2016, p. rfw026.

Bonaccolto, Giovanni, Nicola Borri, and Andrea Consiglio, "Breakup and default risks in the great lockdown," *Journal of Banking & Finance*, 2021, p. 106308.

Borri, Nicola, "Local currency systemic risk," *Emerging Markets Review*, 2017.

_ , "Conditional tail-risk in cryptocurrency markets," *Journal of Empirical Finance*, 2019, *50*, 1–19.

_ **and Giorgio Di Giorgio**, "Systemic risk and the COVID challenge in the european banking sector," *Journal of Banking & Finance*, 2021, p. 106073.

Duffie, Darrell, "The failure mechanics of dealer banks," *The Journal of Economic Perspectives*, 2010, *24* (1), 51–72.

Freixas, Xavier, Luc Laeven, and José-Luis Peydró, *Systemic risk, crises, and macroprudential regulation*, MIT Press, 2015.

Gorton, Gary and Guillermo Ordoñez, "Good booms, bad booms," Technical Report, National Bureau of Economic Research 2016.

Schularick, Moritz and Alan M Taylor, "Credit booms gone bust: monetary policy, leverage cycles, and financial crises, 1870–2008," *The American Economic Review*, 2012, *102* (2), 1029–1061.