

**European University Institute**  
**Department of Economics**  
**Fall 2021 (Block I)**  
9:00 – 11:00, Wednesdays and some Fridays<sup>1</sup>

## **Advanced Macro**

### **Fiscal and monetary policy and institutions in a century of crises** (from theories to proposals for EU fiscal and social policies)

**Ramon Marimon<sup>2</sup>**

This advanced (full-credit) course is open to everyone, from 2<sup>nd</sup> year graduates on, but specially designed for 2<sup>nd</sup>ers. The course is self-contained, although familiarity with recursive methods is recommended. As the subtitle indicates, the three crises of the 21<sup>st</sup> Century will be on the background of the course. Both, in terms of the theoretical and economic policy issues that they have unveiled, and in terms of the new developments in macro-finance that have come out, and are coming out, from them. For students taking the course for credit, in principle, the grade of the course will be mostly [75%] based on a short project, which can be done by one or two of you (three will require approval and more work). It will consist of: 1) choosing, and briefly explaining, a specific problem/question/topic of the 21<sup>st</sup> Century crises that you think deserves more research [20%]; 2) *critically* summarize the ‘state-of-the-art’ by *deconstructing* one article, or two and, possibly, make reference to others [20%], and 3) propose how would you pursue the research on the topic if you had more time [20%] (if you have more than a proposal this would be counted as ‘extra’) [+ 15% overall assessment and presentation]. The presentation will consist of a draft of no more than 10 pages (min 11pt, single space and proper borders; not counting references and possible ‘extra’ material) and, time permitting, a short in class (or online) presentation. In addition, there will be a short (possibly in-person) exam [15%] and I will also count class participation [10%].

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<sup>1</sup> 15/09, 22/09, 29/09, 6/10, 8/10, 13/10, 15/10, 20/10, 22/10, 27/10.

<sup>2</sup> Course materials, updated through the course, and office hours in **Brightspace**. (\*) articles should be read in advance of the lecture.

## Syllabus

### 1. Introduction. Asset Prices and Policy Design. Equivalence results.

We first revise some basic elements of the inter-temporal individual agent's problem – e.g. the Stochastic Discount Factor (SDF) -- and of asset pricing accounting, to conclude that *"it's all in agents' SDFs and in getting the prices right"*. We then look at Ricardian (budget) equivalence and, after going through its formulation, at Ramsey (SDF) equivalence.

Chari, V.V. and Patrick J. Kehoe. 1999. "Optimal Fiscal and Monetary Policy," in John B. Taylor and Michael Woodford eds. *Handbook of Macroeconomics* Volume 1, Part C, 1671-1745 (also NBER WP 6891).

Chari, V.V., Juan Pablo Nicolini and Pedro Teles. 2020. "Optimal Capital Taxation Revisited," *Journal of Monetary Economics*, forthcoming.

\*Correia, Isabel, Juan Pablo Nicolini and Pedro Teles. 2008. "Optimal Fiscal and Monetary Policy: Equivalence Results," *Journal of Political Economy*, 116(1), 141-170.

Ljungqvist & Sargent, 2018 (8.7, 10.1 – 10.3, 13.1 – 13.10, 16.1 – 16.8, 20.1 – 20.2 & 27.1 – 27.3).

\*Lucas, Robert E., Jr. 1978. "Asset Prices in an Exchange Economy," *Econometrica*, 46(6), 1429-1445.

### 2. Financial frictions and wedges, behind fluctuations and financial crises. With a brief introduction to Recursive Contracts.

Financial frictions and, more generally, 'wedges' (due to taxes, limited market participation, limited enforcement, etc.) distort SDFs and are at the root macroeconomic fluctuations and crises: *"it's all in the Lagrange multipliers"*. Macroprudential policy is about undoing some of these frictions. Recursive Contracts are most suitable to study constrained dynamic models.

Farhi, Emmanuel and Iván Werning, 2016. "A Theory of Macroprudential Policies in the Presence of Nominal Rigidities," *Econometrica*, 84 (5), 1645-1704.

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

(\*) Gertler, Mark, Nobu Kiyotaki and Andrea Prestipino, 2020. "A Macroeconomic Model with Financial Panics," *Review of Economic Studies*, 87(1) 240-288.

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

Kiyotaki, Nobu and John Moore. 2019. "Liquidity, Business Cycles and Monetary Policy," *Journal of Political Economy*, 127(6), 2926-2966.

Marcet, Albert and Ramon Marimon, 2019. "Recursive Contracts," *Econometrica*, 87(5), 1589 – 1631

Quadrini, Vincenzo, 2011. "Financial Frictions in Macroeconomic Fluctuations," *Economic Quarterly*, 97(3), 209-254.

### **3. Different dynamic equilibria, supporting crises; with a brief introduction to macro-learning models.**

How agents form expectations defines their beliefs, which are part of the SDF, and therefore can determine different equilibria: "it's all about beliefs and managing expectations" (recall, "growth is all about ideas", pity we don't have time to cover growth). We will review/reassess Rational Expectations (Self-Fulfilling), Self-Confirming and Misspecified Equilibria, and how they can help to model crises *et al.* To do so, it may require a brief introduction to macro-learning models; e.g. how subjective and objective beliefs interact (e.g. from the Perceived Law of Motion, PLM, to the Actual Law of Motion, ALM).

Adam, Klaus, Albert Marcet, and Juan Pablo Nicolini. 2016. "Stock Market Volatility and learning," *Journal of Finance*, 71(1), 33-82.

Adam, Klaus, Johannes Beutel and Albert Marcet. 2017. "Stock Price Booms and Expected Capital Gains," *American Economic Review*, 107(8), 2352-2408.

Aguiar, Mark and Manuel Amador, 2019. ["Self-fulfilling Debt Dilution: Maturity and Multiplicity in Debt Models."](#) Princeton University.

Ayres, João, Gaston Navarro, Juan Pablo Nicolini and Pedro Teles, 2018. "Sovereign Default: The Role of Expectations," *Journal of Economic Theory*, 175, 803 – 812.

Ayres, João, Gaston Navarro, Juan Pablo Nicolini and Pedro Teles, 2019. "Self-Fulfilling Debt Crises with Long Stagnations," *Federal Reserve Bank of Minneapolis*, wp 757.

(\*) Evans, George W. and Seppo Honkapohja. 2001. *Learning and Expectations in Macroeconomics*. Princeton University Press. Chs. 1 & 2.

(\*) 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.

Gaballo, Gaetano, and Ramon Marimon. 2021. "Breaking the Spell with Credit-Easing: Self-Confirming Credit Crises in Competitive Search Economies," *Journal of Monetary Economics*, 119, April.

Hansen, Lars Peter. 2014. "Nobel Lecture: Uncertainty Outside and Inside Economic Models," *Journal of Political Economy*, 122 (5): 945-987.

Marcet, Albert and Juan P. Nicolini. 2003. "Recurrent Hyperinflations and Learning," *American Economic Review* 93 (5):1476-1498.

Sargent, Thomas J. 1999. *The Conquest of American Inflation*. Princeton University Press. Ch. 3 - 6.

Woodford, Michael. 2013. "Macroeconomic Analysis without the Rational Expectations Hypothesis," *Annual Review of Economics* 5: 303-346.

#### 4. Debt as a source and outcome of crises.

We then take a closer look at private and sovereign debt, starting with "the value of debt", which will take us to "*it's all in The Fiscal Theory of the Price Level*", then moving into 'Debt as Money' and how major crises and wars are financed and – time permitting – on what happens when ' $r < g$ '?

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.

Angeletos, George-Marios, Fabrice Collard and Harris Dellas, 2020. "*Public Debt as Private Liquidity*," CEPR Discussion Paper 15488.

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

(\*) Cochrane, John H. 2019. "The Value of Government Debt," NBER Working Paper 26090.

Cochrane, John H. 2021, [The Fiscal Theory of the Price Level](#), Princeton University Press, forthcoming. Chs. 2 & 3. (\*) Watch his [EUI – PWC Lecture](#), May 13, 2021.

Hall, George J. and Thomas Sargent, 2020. "[Debt and Taxes in Eight U.S. Wars and Two Insurrections](#)", New York University.

Reis, Ricardo, 2021. "The constraint on public debt when  $r < g$  but  $g < m$ ," LSE.

Sargent, Thomas J. 2012. "Nobel Lecture: United States Then, Europe Now," *Journal of Political Economy*, 120, 1, 1-40.

#### 5. Designing an Economic and Monetary Union (EMU).

We conclude with "*it's all about optimal mechanism design*", starting with a closer look into the peculiar European EMU, its institutions and policies – say, in contrast with the USA—, to better understand strengths and weaknesses and propose a 'constrained efficient mechanism' for the EMU after the 2020 - ... pandemic.

Dovis, Alessandro, 2019. "Efficient Sovereign Default," *Review of Economic Studies*, 86, 282-312.

(\*) Ábrahám, Árpád, Eva Cárceles-Poveda, Yan Liu and Ramon Marimon, 2021. "[On the Optimal Design of a Financial Stability Fund](#)," M EUI.

Ferrari, Alessandro, Ramon Marimon and Chima Simpson-Bell, 2021. "[Fiscal and Currency Union with Default and Exit](#)," EUI.

Liu, Yan, Ramon Marimon and Adrien Wicht, 2021. "[Making Sovereign Debt Safe with a Financial Stability Fund](#)," EUI

(\* Marimon, Ramon and Adrien Wicht, 2021. "[Euro area fiscal policies and capacity in post-pandemic times](#)" (with), *European Parliament, Economic Governance Support Unit*, PE 651.392.

Müller, Andreas, Kjetil Storesletten and Fabrizio Zilibotti, 2019. "Sovereign Debt and Structural Reforms," *American Economic Review*, 109(12), 4220 – 4259.

## **6. Extra?. Designing fiscal- social policies for the incoming (ageing) crisis.**

In studying crises – for example, of this century – "*it's all about linkages*". For example: the 2017-2019 financial crisis, the 'economic stability – financial stability linkage'; the euro-area debt crisis (2010 – 2012), the 'economic stability – debt sustainability linkage'; the (2020 - ...) Covid-19 crisis, the 'economic stability – health security linkage', and the incoming Social Security crisis, 'the fiscal-social protection and ageing linkage'. Having covered the lived-ones in the previous topics, if there is time and willingness, we may as well cover the next.

Díaz-Saavedra, Julián, Ramon Marimon and João Brogueira de Sousa, 2021. "[A Worker's Backpack as Alternative to PAYG Pension Systems](#)," EUI.