

European University Institute
Department of Economics
Winter 2016
Tues. & Thurs. 11 – 13, Jan. 7 – Feb. 4¹

Macroeconomics II²

Ramon Marimon

This is the second course (Block II) of the 1st Year PhD Macroeconomics sequence at the EUI. It is an intensive course, which builds on the macro & micro courses of the first term (e.g. on Uncertainty, General Equilibrium, Learning, Dynamic Programming and, in particular, the Growth-Real-Business-Cycle Model), I plan to roughly cover a major topic every week. We will focus on (recursive) macroeconomic theory, with an eye on empirical and policy issues.

There will be a short in class mid-term at the beginning of the fourth week, take-home assignments, and a final exam (on Feb. 15). Grade will be approximately based on 20% the mid-term, 10% take-home assignments³ and 70% final exam; the approximation based on class participation and progress. **Alessandro Ferrari** and **Karol Mazur** will be Teaching Assistants for the course. As Christmas break introductory reading, it is highly recommended to read the Nobel Prize Lectures of Mortensen and Pissarides (Topic 1) and Sargent (Topic 3).

Syllabus

1. Labour Markets: Matching, Search and Equilibrium Unemployment.

We start with a brief account of the labour market -- wages and employment – in a RBC frictionless economy. We then we consider search frictions, starting with a reference to McCall's model of search and then we concentrate on the Mortensen & Pissarides' model of job creation and destruction with search & matching frictions. Time permitting, we will discuss efficiency and directed search models.

Ljungqvist & Sargent, 2012 (6.1 – 6.3 & 28.1 – 28.4)

Mortensen, Dale T., 2011. "Markets with Search Friction and the DMP Model," *American Economic Review*, 101, 1073-1091. (2010 Nobel Prize Lecture).

¹ January 8: 15:00 – 17:00.

² The materials of the course can be found in the EUI [Economics Moodle](#). In particular, the Notes corresponding to the topics, however these are supporting notes and are not substitute for class attendance and active participation. These Notes – and, generally, the materials – are updated through the course, so make sure you have the last version; particularly, in coming to the class. This year's Notes have been edited by **Milena Wittwer**.

³ Take-home assignments will be graded on the basis of being completed (which can also be in group; max 3) and, for selected exercises, for their execution (some of these will need to be done individually!).

Pissarides, 2000 (Ch. 1)

Pissarides, Christopher A., 2011. "Equilibrium in the Labor Market with Search Frictions," *American Economic Review*, 101, 1092-1105. (2010 Nobel Prize Lecture)

2. Macro-Finance: Asset Prices, Ricardian Equivalence, Credit and Currency.

We first revise some basic elements of the inter-temporal individual agent's problem and of asset pricing accounting. Then, we move to Lucas' Asset Pricing model and the Ricardian equivalence proposition. Finally, we recall equilibrium with and without complete markets and/or participation, in order to discuss credit and currency in decentralized economies, such as Townsend's turnpike, Overlapping Generations, and Cash-in-Advance economies.

Ljungqvist & Sargent, 2012 (8.7, 10.1 – 10.3, 13.1 – 13.10 & 27.1 – 27.7)

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

3. Fiscal vs. Monetary Optimal Policies: Ramsey & Some Unpleasant Lessons.

We first focus on the design of Optimal Macroeconomic Policies with commitment. In particular, we show how to solve Ramsey problems using the 'primal approach' to fiscal and monetary policies. Then we study optimal fiscal policies, debt contingent policies and non-contingent debt policies. Finally, we discuss how 'the unpleasant monetarist arithmetic' is pervasive in the design of dynamic government policies.

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).

Ljungqvist & Sargent, 2012 (16.1 – 16.8 & 26.1 – 26.3)

Lucas, Robert E. and Nancy L. Stokey, 1983. "Optimal Fiscal and Monetary Policy in an Economy without Capital," *Journal of Monetary Economics*, 12(1), 55-93.

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

4. Indeterminacy and Ricardian equivalence in OLG economies. Economies with adaptive learning.

We start by revisiting the Overlapping Generations (OLG) model to discuss how fiat money, and inflation (seignorage) financing, can lead to indeterminacy problems, which Lucas' trees may prevent. We also briefly discuss the experimental evidence on the 'indeterminacy problem' and economies where agents form their expectations adaptively based on their past experience. Finally, we formulate the OLG model as a 'dynastic model' to revisit the 'Ricardian equivalence' and discuss efficiency.

Chari, V.V., Patrick J. Kehoe and Ellen R. McGrattan. 2007. "Business Cycle Accounting," *Econometrica*, 75(3), 781 – 386.

Ljungqvist & Sargent, 2012 (9.1 – 9.7)

Marimon, Ramon and Shyam Sunder. 1993. "Indeterminacy of Equilibria in a Hyperinflationary World: Experimental Evidence," *Econometrica*, 61, 1073-1107.

5. Limited enforcement and limited credibility.

We conclude by relaxing two classical assumptions: full enforcement and commitment. Examples of the former are models of the 'dynasties' or of defaultable debt; of the latter the design of policies when the Ramsey policy is time-inconsistent and commitment is weak. We first look at the general issue of solving dynamic models with *forward-looking constraints* using 'recursive contracts'. We also look at these endogenous constraints as *wedges* and we discuss how to price them. We then discuss credible policies, starting by showing how the Ramsey problems can be casted in recursive form and how 'recursive contracts' can help to discuss credibility issues, we then turn to Markov perfect equilibria, revisiting the design of non-contingent debt policies with indexed and nominal debt without commitment.

Diaz-Giménez, Javier, Giorgia Giovannetti, Ramon Marimon and Pedro Teles, 2008. "Nominal Debt as a Burden to Monetary Policy," *Review of Economic Dynamics*, 11, 3, 493—514. 2008.

Ljungqvist & Sargent, 2012 (20.4 & 23.1 – 23.7)

Marcet, Albert and Ramon Marimon, 2015. "Recursive Contracts," EUI.

Book References

Ljungqvist, Lars and Thomas J. Sargent, 2012. *Recursive Macroeconomic Theory*, Third Edition, (or, with different Chapter numbering, 2004 Second Edition), MIT Press.

Pissarides, Christopher A. 2000. *Equilibrium Unemployment Theory*, Second Edition, MIT Press.