Advanced Macroeconomics
Part I
PhD in Economics
Universidade de Lisboa, ISEG

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14.9.2020

Main options of the course

- The main goal of this part is to present some core models of the dynamic general equilibrium approach to macroeconomics
- We will follow an analytical but heuristic approach: emphasise the characterisation of the dynamic properties generated by several dynamic systems rather than trying to prove existence and uniqueness of solutions to the generic functional equations. This is not a course on functional analysis.
- We will supply study material: as a minimum requirement we will be made available notes for every topic. They do not substitute studying from other literature (referenced or not). A problem set for every topic will also be handed.
- The class notes and some problem sets will be posted at `https://pmbbrito.github.io/cursos/phd/ame/ame_2021.html`. I may introduce changes after the fist posting**Warning: please check the date of the document before downloading because** .
- Disclaimer: the questions and problems in the problem sets are suggestions for self study. I am available to discuss their solutions but I make no commitment to hand out their solutions.

Assumed background

- Ideally: mathematics and economic theory at the level of the Masters in Economics, Monetary and Financial Economics, Quantitative Finance (ISEG)
- At least: calculus, algebra, optimisation and probability theory, at an intermediate level.

Assessment

The assessment will be made by a final written open book exam. The questions may be taken from, or will be similar, to the ones included in the problem sets.

Sessions

Tentative scheduling of sessions:

session n.	date	time	lecturer	topic
1	15/09/2020	18:00 - 20:00	Paulo Brito + Bernardino Adão	Presentation.
2	22/09/2020	18:00 - 20:00	Paulo Brito	
3	29/09/2020	18:00 - 20:00	Paulo Brito	
4	13/10/2020	18:00 - 20:00	Paulo Brito	
5	20/10/2020	18:00 - 20:00	Paulo Brito	
6	27/10/2020	18:00 - 20:00	Paulo Brito	
7	03/11/2020	18:00 - 20:00	Bernardino Adão	
8	10/11/2020	18:00 - 20:00	Bernardino Adão	
9	17/11/2020	18:00 - 20:00	Bernardino Adão	
10	24/11/2020	18:00 - 20:00	Bernardino Adão	
11	15/12/2020	18:00 - 20:00	Bernardino Adão	

Part 1: Instructor Paulo Brito

Bibliography

General textbooks covering some of the topics and with similar mathematical requirements which will be lectured:

- Alogoskoufis, G. (2019). *Dynamic Macroeconomics*. MIT Press
- Blanchard, O. and Fischer, S. (1989). *Lectures in Macroeconomics*. MIT Press
- Heijdra, B. J. (2009). *Foundations of Modern Macroeconomics*. Oxford University Press, 2 edition
- Romer, D. (2012). *Advanced Macroeconomics*. McGraw-Hill, 5th edition
- Wickens, M. (2008). *Macroeconomic Theory. A Dynamic General Equilibrium Approach*. Princeton University Press
- My notes in the Advanced Mathematical Economics course.
- Other references will be given along the way and would be cited in the classnotes.

Other advanced textbooks in macroeconomics, with a different emphasis or of a more advanced level

- Growth: Acemoglu, D. (2009). *Introduction to Modern Economic Growth*. Princeton University Press
- Recursive macroeconomics: Ljungqvist, L. and Sargent, T. J. (2018). *Recursive Macroeconomic Theory*. MIT Press, Cambridge and London, 4th edition, Miao, J. (2014). *Economic Dynamics in Discrete Time*. MIT Press
- Open economy macroeconomics Uribe, M. and Schmitt-Grohé, S. (2017). *Open Economy Macroeconomics*. Princeton University Press
- Macroeconomics and money: Woodford, M. (2003). *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton University Press, Walsh, C. E. (2017). *Monetary Theory and Policy*. Mit Press, 4th edition
- Macro-finance: Stokey, N. L. (2009). *The Economics of Inaction*. Princeton
- Distribution: Stachurski, J. (2009). *Economic Dynamics. Theory and Computation*. MIT Press

Lectures

Lecture 1: Benchmark DGE models

1. The Ramsey model
2. The simplest DGE/RBC model
3. The simplest DGE with endogenous labour supply

   References:

   - (Alogoskoufis, 2019, ch 4), (Romer, 2012, ch. 4), (Heijdra, 2009, ch 14)

Lecture 2: Intertemporal consumer behavior

1. The microeconomics of intertemporal consumption
2. The overlapping-generations models
3. Intertemporaly-dependent preferences
4. Choice under uncertainty and precautionary motives

   References: (Heijdra, 2009, ch 16), (Alogoskoufis, 2019, ch 5)

Lecture 3: Neo-Keynesian models

1. DGE models with imperfect competition, exogenous and endogenous markups
2. Externalities and indeterminacy: the Benhabib-Farmer model

   References:

   - (Alogoskoufis, 2019, ch 16)
   - Benhabib, J. and Farmer, R. (1994). Indeterminacy and increasing returns. *Journal of Economic Theory*, 63:19–41

Lecture 4: Asset pricing and macroeconomic dynamics

1. Asset pricing in frictionless economies
2. Frictions 1: heterogenous market participation
3. Friction 2: technological illiquidity

   References:

   - Basak, S. and Cuoco, D. (1998). An equilibrium model with restricted stock market participation. *Review of Financial Studies*, 11(2):309–341,

- Brunnermeier, M. K. and Sannikov, Y. (2014). A macroeconomic model with a financial sector. *American Economic Review*, 104:379–421,
- Brunnermeier, M. K. and Sannikov, Y. (2016). Macro, Money and Finance: A Continuous Time Approach. NBER Working Papers 22343, National Bureau of Economic Research, Inc,
- Brunnermeier, M. K., Eisenbach, T., and Sannikov, Y. (2013). Macroeconomics with financial frictions: A survey. In *Advances in Economics and Econometrics, Tenth World Congress of the Econometric Society*. Cambridge University Press, New York,
- Kiyotaki, N. and Moore, J. (1997). Credit cycles. *Journal of Political Economy*, 105:211–48

Lecture 5: Optimal fiscal policy

1. Optimal allocation: capital taxation (the Chamley-Judd model)
2. Optimal allocation: capital and labour taxes
3. Optimal distribution: taxation with complete information
4. Optimal distribution: tax policy with information frictions (the Mirrlees model)

References:

- Chamley, C. P. (1986). Optimal taxation of capital income in general equilibrium with infinite lives. *Econometrica*, 54(3):607–22,
- Judd, K. L. (1985). Redistributive taxation in a simple perfect foresight model. *Journal of Public Economics*, 28,
- Lansing, K. J. (1999). Optimal redistributive capital taxation in a neoclassical growth model. *Journal of Public Economics*, 73,
- Diamond, P. A. (1998). Optimal income taxation: An example with a U-shaped pattern of optimal marginal tax rates. *The American Economic Review*, 88(1):83–95,
- Farhi, E. and Werning, I. (2013). Insurance and taxation over the life cycle. *Review of Economic Studies*, 80:596–635,
- Tuomala, M. (2016). *Optimal Redistributive Taxation*. Oxford University Press, 1 edition, chap: 4,
- Mirrlees, J. A. (1971). An exploration in the theory of optimum income taxation. *Review of Economic Studies*, 38:175–208,
- Saez, E. (2001). Using elasticities to derive optimal income tax rates. *Review of Economic Studies*, 68:205–229

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