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

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Main options of the course

- The main goal of this part of the course is to present some core models of the dynamic general equilibrium approach to macroeconomics. Most (if not all) the course will feature continuous time models.
- I will follow a heuristic analytical approach: emphasise the characterisation of the dynamic properties of the solutions of the models with a view to understand their assumptions and conclusions.
- I will supply two kinds of study material: lecture notes and problem sets for each topic.
- The class notes and the 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**. As a PhD course I assume that students are willing and able to conduct research autonomously by following other literature (referenced or not).

Assumed background

- Ideally: mathematics and economic theory at the level taught in the Masters in Economics, Monetary and Financial Economics, Quantitative Finance at 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 of the ones 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 model 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. Overlapping-generations model (the Blanchard-Yaari version).
3. Intertemporaly-dependent preferences (habit formation).
4. Choice under uncertainty, precautionary motives and asset pricing.

   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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