

ECO511 : Macroeconomics 1

Université Mohammed VI Polytechnique

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Professor

Steve Ambler

Professeur émérite, Université du Québec à Montréal

Office : To be determined

Email : steve.AMBLER@um6p.ma or
ambler.steven@uqam.ca

Home Page : <https://stevambler.uqam.ca>

Course Description

The overall objective is to present an introduction (at an advanced level) to dynamic macroeconomic theory. We will study several models and theories, including the basic neoclassical model with infinite horizons, overlapping generations models, the basic Real Business Cycle model, the basic New Keynesian model, the welfare cost of fluctuations, and optimal monetary policy.

By the end of the course students will be familiar with the basic models in dynamic macroeconomics. They will be able to understand, analyze, and solve them, and use them for policy analysis.

Evaluation

Project :	20%
Mid-term exam :	40%
Final exam :	40%

Course calendar

I will be in Rabat from September 24 to October 8. As I write this, there are four lectures and two labs scheduled for this time period. The rest of the course will be taught online. The full calendar is available and will be updated on Canvas.

Documents

There is no compulsory textbook. The course will be based on journal articles and lecture notes. However, quite a bit of the material will come from Romer (2018). I will also refer to lecture notes for PhD macro courses I have given at l'UQÀM at the Bank of Canada, and at the Institut für Höhere Studien (Vienna), adapted and updated. See the bibliography at the end.

I will be preparing detailed lecture notes over the course of the semester. I will make them available online. Some lecture notes are already available in French. See below.

Course outline

Compulsory readings are indicated with an asterisk. The other references are included for students who wish to deepen their knowledge of particular topics.

0. Introduction

References : Lecture notes*

1. Stylized facts of the business cycle and the evaluation of macroeconomic models

References : Lecture notes (Ambler 2023l)* ; Romer (2018, chapter 5, section 1) ; Ambler (2023d) ; Backus, Kehoe and Kydland (1992) ; Gamber and Joutz (1997)

2. Basic growth model : Solow, infinite horizon and overlapping generations

References : Lecture notes (Ambler 2023m)*; Romer (2018, chapters 1 and 2); Farmer (1999, chapters 5 and 9)

3. Basic Real Business Cycle model and solution under rational expectations

References : Lecture notes (Ambler 2023n)*; Notes on the Sims model (Ambler 2023n1); Sims (2017); Sims (2017b); Romer (2018, chapter 5); Ambler (2023d); Ambler (2023e); Ambler (2023f); Blanchard and Kahn (1980); King, Plosser and Rebelo (1988a); King, Plosser and Rebelo (1988b); King and Rebelo (2000); King and Watson (1998)

4. Microfoundations of nominal rigidities

References : Lecture notes (Ambler 2023o)*; Romer (2018, chapter 6); Ambler (2023g); Ambler (2010)

5. The New Keynesian model : basic model and real rigidities

References : Lecture notes (Ambler 2023p)*; Blanchard and Galí (2007); Romer (2018, chapter 7); Ambler (2023h); Galí (2015); Galí and Gertler (2007); Dotsey, King and Wolman (1999); Kiley (2002); King and Kurmann (2003); Mankiw (1990); Chari, Kehoe and McGrattan (2000); Dotsey and King (2001); Danthine and Kurmann (2004); Romer (1993)

6. The welfare cost of fluctuations

References : Lecture notes (Ambler 2023q)*; Galí, Gertler, and López-Salido (2007)*; Huggett (1997); Krusell and Smith (1999); Lucas (1987); Lucas (2003)

7. Monetary Policy

References : Lecture notes (Ambler 2023s)*; Romer (2018, chapter 12); Clarida, Gali and Gertler (1999); Benhabib, Schmitt-Grohé and Uribe (2001); Aoki

(2001); Erceg, Henderson and Levin (2000); Goodfriend and King (1998); King (2000); King and Wolman (2003); Cochrane (2023)

8. Endogenous growth : basic models

References : Lecture notes (Ambler 2023t)*; Romer (1994)*; Aghion and Howitt (2008), chapters 2*, 5*; Sala-i-Martin (2002); Romer (2018, chapter 3); Barro and Sala-i-Martin (1995), section 1.3, chapters 4, 6, 7; Ljunqvist and Sargent (2000), chapter 11

9. Endogenous growth 2 : Schumpeterian growth

References : see previous section

References

See also

<http://stevambler.uqam.ca/511/references.pdf>

Books and online lecture notes

Aghion, Philippe et Peter Howitt (1998), *Endogenous Growth Theory*. Cambridge MA, MIT Press

Alogoskoufis, George (2019), *Dynamic Macroeconomics*. Cambridge MA, MIT Press

Barro, Robert et Xavier Sala-i-Martin (1995), *Economic Growth*. New York NY, McGraw Hill

Campbell, John, Andrew Lo et A. C. MacKinlay (1997), *The Econometrics of Financial Markets*. Princeton NJ, Princeton University Press

Cochrane, John (2023), *The Fiscal Theory of the Price Level*. Princeton NJ, Princeton University Press

Farmer, Roger (1999), *Macroeconomics of Self-Fulfilling Prophecies*. 2^e édition, Cambridge MA, MIT Press

Galí, Jordi (2015), *Monetary Policy, Inflation, and the Business Cycle : An Introduction to the New Keynesian Framework and Its Applications*. 2^e édition, Princeton NJ, Princeton University Press

Greenwood, Jeremy (2002), *Lecture Notes on Dynamic Competitive Analysis*.
University of Rochester

<https://www.coursehero.com/file/75393946/lecture-notes-Greenwoodpdf>

Heijdra, B. J. (2017), *Foundations of Modern Macroeconomics*. 3^e édition, Oxford, Oxford University Press

Krueger, Dirk (2012), *Macroeconomic Theory* University of Pennsylvania

<https://users.ssc.wisc.edu/~aseshadr/econ714/MacroTheory.pdf>

Ljungqvist, Lars and Thomas Sargent (2000), *Recursive Macroeconomic Theory*.
Cambridge MA, MIT Press

Lucas, Robert E. (1987), *Models of Business Cycles*. Oxford, Basil Blackwell

Romer, David (1997), *Macroéconomie approfondie*. Paris, McGraw Hill-Éditions

Romer, David (2018), *Advanced Macroeconomics*. fifth edition, New York NY,
McGraw Hill

Uribe, Martín and Stephanie Schmitt-Grohé (2017), *Open Economy Macroeconomics*. Princeton NJ, Princeton University Press

Woodford, Michael (2003), *Interest and Prices*. Princeton, Princeton University Press

Lecture notes

The lecture notes are in French. I will be translating them as time permits. I will concentrate on producing detailed slides from the notes for presentation in class. The slides will contain the same material as the notes but in bullet point form. I will post them to my personal website at UQAM and on Canvas.

Ambler, Steve (2023), “Introduction général au cours.” UQAM

<https://stevambler.uqam.ca/511/oldnotes/introduc.pdf>

Ambler, Steve (2023b), “Le modèle de croissance de Solow.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/croissas.pdf>

Ambler, Steve (2023c), “Croissance optimale.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/croissan.pdf>

Ambler, Steve (2023d), “Notes sur les modèles de cycles réels et leurs successeurs.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/cyclereee.pdf>

Ambler, Steve (2023e), “Les modèles du cycle réel.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/cyclere2.pdf>

Ambler, Steve (2023f), “Notes on the Forward-Backward Simulation Method.” UQAM

<https://steveambler.uqam.ca/511/oldnotes/forbackd.pdf>

Ambler, Steve (2023g), “Notes sur les microfondements des rigidités nominales.”
UQAM
<https://steveambler.uqam.ca/511/oldnotes/prixfixe.pdf>

Ambler, Steve (2023h), “Le modèle néo-keynésien de base.” UQAM
<https://steveambler.uqam.ca/511/oldnotes/newkeynes.pdf>

Ambler, Steve (2023i), “Consommation.” UQAM
<https://steveambler.uqam.ca/511/oldnotes/consomma.pdf>

Ambler, Steve (2023j), “Notes sur la consommation.” (avec André Kurmann)
UQAM
<https://steveambler.uqam.ca/511/oldnotes/consomma2.pdf>

Ambler, Steve (2023k), “Notes sur l’investissement.” UQAM
<https://steveambler.uqam.ca/511/oldnotes/investis.pdf>

Ambler, Steve (2023l), “General Introduction.” Mohammed VI Polytechnic
<https://stevambler.uqam.ca/511/introducs.pdf>

Ambler, Steve (2023m), “Solow Growth Model and Overlapping Generations.”
Mohammed VI Polytechnic
<https://stevambler.uqam.ca/511/solows.pdf>

Ambler, Steve (2023n), “Optimal Growth Models.” Mohammed VI Polytechnic
<https://stevambler.uqam.ca/511/croissans.pdf>

Ambler, Steve (2023n1), “Notes on the Sims Model.” Mohammed VI Polytechnic
<http://stevambler.uqam.ca/511/simsmodel.pdf>

Ambler, Steve (2023o), “Microfoundations of Nominal Rigidities.” Mohammed
VI Polytechnic
<https://stevambler.uqam.ca/511/prixfixes.pdf>

Ambler, Steve (2023p), “The New Keynesian Model.” Mohammed VI Polytechnic
<https://steveambler.uqam.ca/511/newkeyness.pdf>

Ambler, Steve (2023q), “The Welfare Costs of Fluctuations.” Mohammed VI Polytechnic
In progress

Ambler, Steve (2023r), “Consumption and Investment.” Mohammed VI Polytechnic
In progress

Ambler, Steve (2023s), “Monetary and Fiscal Policy.” Mohammed VI Polytechnic
<https://steveambler.uqam.ca/511/monetary.pdf>

Ambler, Steve (2023t), “Endogenous Growth Models.” Mohammed VI Polytechnic
<https://steveambler.uqam.ca/511/endgrowth.pdf>

Articles and book chapters

- Abramovitz, Moses (1956), "Resource and Output Trends in the United States since 1870." *American Economic Review* 46, 5–23
- Aghion, Philippe and Peter Howitt (2006), "Appropriate Growth Policy : A Unifying Framework." *Journal of the European Economic Association* 4, 269–314
- Ambler, Steve (2010), "Real Rigidities and Endogenous Nominal Wage Rigidity." UQAM
<http://www.steveambler.uqam.ca/papers/fixwage.2010.pdf>
- Ambler, Steve and Emanuela Cardia (1995), "Les modèles réels de la transmission internationale du cycle économique." *Actualité économique : revue d'analyse économique* 71, 193–217
- Ambler, Steve and Emanuela Cardia (2003), "Les modèles réels de la transmission internationale du cycle économique." UQAM
<http://steveambler.uqam.ca/papers/transmis.pdf>
- Ambler, Steve, Emanuela Cardia and Christian Zimmermann (2002), "International Transmission of the Business Cycle in a Multi-Sector Model." *European Economic Review* 46, 273–300
- Aoki, Kosuke (2001), "Optimal Monetary Policy Responses to Relative-Price Changes." *Journal of Monetary Economics* 48, 55–80
- Backus, David and Patrick Kehoe (1992), "International Evidence on the Historical Properties of Business Cycles." *American Economic Review* 82, 864–888
- Backus, David, Patrick Kehoe and Finn Kydland (1993), "International Business Cycles : Theory and Evidence." Working paper
- Backus, David, Patrick Kehoe and Finn Kydland (1995), "International Business Cycles : Theory and Evidence.", in Thomas F. Cooley (ed.), *Frontiers of Business Cycle Research*. Princeton NJ, Princeton University Press
- Ball, Laurence and David Romer (1990), "Real Rigidities and the Non-Neutrality of Money." *Review of Economic Studies*, 57, 183–203
- Baumol, William (1986), "Productivity Growth, Convergence, and Welfare." *American Economic Review* 76, 1072–1085
- Benhabib, Jess, Stephanie Schmitt-Grohé and Martín Uribe (2001), "Monetary Policy and Multiple Equilibria." *American Economic Review* 91, pages 167–186
- Bernanke, Benjamin, Mark Gertler, and Stephen Gilchrist (1998). "The Financial Accelerator in a Quantitative Business Cycle Framework." *Handbook of Macroeconomics*, Amsterdam, North Holland (also NBER working paper 6455)

- Blanchard, Olivier and Jordi Galí (2007), “Real Wage Rigidities and the New Keynesian Model.” *Journal of Money, Credit and Banking* 39, 35–64
- Blanchard, Olivier and Charles Kahn (1980), “The Solution of Linear Difference Models under Rational Expectations.” *Econometrica* 48, 1305–1311
- Clarida, Richard, Jordi Galí et Mark Gertler (1999), “The Science of Monetary Policy.” *Journal of Economic Literature* 4, 1661–1707
- Chari, V. V., Patrick Kehoe and Ellen McGrattan (2000), “Sticky Price Models of the Business Cycle : Can the Contract Multiplier Solve the Persistence Problem?” *Econometrica* 68, 1151–1179
- Danthine, Jean-Pierre and André Kurmann (2004), “Fair Wages in a New Keynesian Model of the Business Cycle.” *Review of Economic Dynamics*, 7, 107–142
- de Carvalho Guillén, Osmani Teixeira, João Victor Isslerz and Afonso Arinos de Mello Franco-Netox (2012), “On the Welfare Costs of Business-Cycle Fluctuations and Economic-Growth Variation in the 20th Century.” working paper 284, Banco Central do Brasil
<https://www.bcb.gov.br/pec/wps/ingl/wps284.pdf>
- DeLong, J. Bradford (1988), “Productivity Growth, Welfare and Convergence : Comment.” *American Economic Review* 78, 1138–1154
- Dotsey, Michael, Robert G. King and Alexander L. Wolman (1999), “State-Dependent Pricing and the General Equilibrium Dynamics of Money and Output.” *Quarterly Journal of Economics* 114, 655–690
- Dotsey, Michael et Robert G. King (2001), “Pricing, Production and Persistence.” NBER working paper 8407
- Erceg, Christopher, Dale Henderson and Andrew Levin (2000), “Optimal Monetary Policy with Staggered Wage and Price Contracts.” *Journal of Monetary Economics* 46, 281–313
- Fiorito, Riccardo and Tryphon Kollintzas (1994), “Stylized Facts of Business Cycles in the G7 From a Real Business Cycles Perspective.” *European Economic Review* 38, 235–269
- Fischer, Stanley (1977), “Long-Term Contracts, Rational Expectations and the Optimal Money Supply.” *Journal of Political Economy* 85, 191–205
- Friedman, Milton (1968), “The Role of Monetary Policy.” *American Economic Review* 58, 1–17
- Galí, Jordi and Mark Gertler (2007), “Macroeconomic Modeling for Monetary Policy Evaluation.” *Journal of Economic Perspectives* 21, 25–45
- Galí, Jordi, Mark Gertler, and J. David López-Salido (2007), “Markups, Gaps, and the Welfare Costs of Business Fluctuations.” *Review of Economics and*

- Statistics* 89, 44–59
- Gamber, Edward and Frederick Joutz (1997), “Real Wages over the Business Cycle.” *Eastern Economic Journal* 23, 277–291
- Goodfriend, Marvin and Robert G. King (1998), “The New Neoclassical Synthesis and the Role of Monetary Policy,” NBER Macroeconomics Annual, Cambridge : MIT Press.
- Huggett, Mark (1997), “The One Sector Growth Model with Idiosyncratic Shocks : Steady States and Dynamics,” *Journal of Monetary Economics* 39, 385–403
- Jones, Charles and Paul Romer (2010) “The New Kaldor Facts : Ideas, Institutions, Population, and Human Capital,” *American Economic Journal : Macroeconomics* 2, 224–245.
- Kaldor, Nicholas (1961), “Capital Accumulation and Economic Growth.” in Lutz, Friedrich and Douglas Hague, Douglas (eds.), *Capital Accumulation and Economic Growth*. London, MacMillan and Co. Ltd. 177–222
- Kiley, Michael (2002), “Partial Adjustment and Staggered Pricing.” *Journal of Money, Credit and Banking* 34, 283–298
- King, Robert G. (2000), “The New IS-LM Model : Language, Logic and Limits,” *Federal Reserve Bank of Richmond Economic Quarterly*, 86, 45–103
- King, Robert G., Charles I. Plosser and Sergio Rebelo (1988a), “Production, Growth and Business Cycles : 1. The Basic Neoclassical Model.” *Journal of Monetary Economics* 21, 195–232
- King, Robert G., Charles I. Plosser and Sergio Rebelo (1988b), “Production, Growth and Business Cycles : 2. New Directions.” *Journal of Monetary Economics*, 21, 309–41
- King, Robert G. and Sergio Rebelo (2000), “Resuscitating Real Business Cycles,” *Handbook of Macroeconomics*. Amsterdam, North Holland (and NBER working paper 7534)
- King, Robert G. and Mark Watson (1998), “The Solution of Singular Linear Difference Systems under Rational Expectations.” *International Economic Review* 39, 1015–1026
- King, Robert G. and Alexander Wolman (2004), “Monetary Discretion, Pricing Complementarity and Dynamic Multiple Equilibria.” *Quarterly Journal of Economics* 119, pages 1513–1553 (and NBER working paper 9929)
- Krusell, Per and Anthony Smith (1999), “On the Welfare Effects of Eliminating Business Cycles,” *Review of Economic Dynamics* 2, 245–272
- Lucas, Robert E. (1978), “Asset Prices in an Exchange Economy.” *Econometrica* 46, 1429–1445

- Kydland, Finn and Edward Prescott (1982), “Time to Build and Aggregate Fluctuations.” *Econometrica* 50, 1345–1370
- Lucas, Robert E. (1976), “Econometric Policy Evaluation : A Critique.” *Carnegie-Rochester Conference Series on Public Policy* 1, 19–46
- Lucas, Robert E. (2003), “Macroeconomic Priorities.” *American Economic Review* 93, 1–14
- Mankiw, N. Gregory (1990), “A Quick Refresher Course in Macroeconomics.” *Journal of Economic Literature* 28, 1645–1660
- Mankiw, N. Gregory, David Romer and Philippe Weil (1992), “A Contribution to the Empirics of Economic Growth.” *Quarterly Journal of Economics* 107, 407–437
- Monacelli, Tommaso (2004), “Into the Mussa Puzzle : Monetary Policy Regimes and the Real Exchange Rate in a Small Open Economy.” *Journal of International Economics* 62, 191–217
- Obstfeld, Maurice and Kenneth Rogoff (2000), “New Directions for Stochastic Open Economy Models.” *Journal of International Economics* 50, 117–154 (and NBER working paper 7313)
- Romer, David (1993), “The New Keynesian Synthesis.” *Journal of Economic Perspectives* 7, 5–22
- Romer, Paul (1994), “The Origins of Endogenous Growth.” *Journal of Economic Perspectives* 8, 3–22
- Romer, David (2000), “Keynesian Economics without the LM Curve.” *Journal of Economic Perspectives* 14, 149–169
- Sala-i-Martin, Xavier (2002), “15 Years of Growth Economics : What Have We Learnt?,” *Journal Economía Chilena* (Central Bank of Chile) 5, 5–15 (and Universitat Pompeu Fabra working paper 620)
<https://econ-papers.upf.edu/papers/620.pdf>
- Sims, Eric (2017), “The Real Business Cycle Model.” University of Notre Dame
https://sites.nd.edu/esims/files/2023/05/rbc_notes_2017.pdf
- Sims, Eric (2017b), “Stylized Business Cycle Facts and the Quantitative Performance of the RBC Model.” University of Notre Dame
https://sites.nd.edu/esims/files/2023/05/stylized_facts_rbc_sp17.pdf
- Solow, Robert (1957), “Technical Change and the Aggregate Production Function.” *Review of Economics and Statistics* 39, 312–320
- Uhlig, Harald (1998), “A Toolkit for Analysing Nonlinear Dynamic Stochastic Models Easily.” in Ramon Marimon and Andrew Scott, (eds.), *Computational Methods for the Study of Dynamic Economies*. Oxford, Oxford University Press (and QM&RBC codes 123, Quantitative Macroeconomics & Real Busi-

ness Cycles)

<https://dge.repec.org/codes/marimon-scott/Uhlig/>

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