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RoME: Macroeconomics I
Module IV
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Introduction

The course consists of 2 units: Growth and Dynamic Programming. The module focuses mainly on the real side of the economy.

Useful Textbooks

Romer D., (1996) *Advanced Macroeconomics*, McGraw-Hill Advanced Series in Economics, New York

Acemoglu, D. (2009) *Introduction to Modern Economic Growth*, Princeton, New Jersey: Princeton University Press

Blanchard O. and Fischer S. (1989) *Lectures in Macroeconomics* Cambridge, Massachusetts: MIT press

Cooley, T.F. (1995) *Frontiers of Business Cycle Research*, Princeton, New Jersey: Princeton University Press

Ljungqvist, L. and Sargent T., (2000), *Recursive Macroeconomic Theory*. The MIT press.

Stokey, N. Lucas, R.E. and Prescott, E. (1988), *Recursive Methods in Economic Dynamics*, Cambridge MA, Harvard University Press.

Only the notes taken in class are compulsory for the exams. Articles or chapters marked with a '*' are just meant to help you at home.

PROGRAM

Growth (6 lectures)

Lecture 1: Growth facts and the Solow-Swan Growth Model

*Romer D., (1996) *Advanced Macroeconomics*, McGraw-Hill Advanced Series in Economics, New York chapter one.

*Acemoglu, D. (2009) *Introduction to Modern Economic Growth*, Princeton, New Jersey: Princeton University Press, , chapter two-four.

Barro, R. J. and Sala-I-Martin, X., (1995), *Economic Growth*, McGraw-Hill, Advanced Series in Economics

*Hall, R., and C. Jones. "Why Do Some Countries Produce So Much More Output than Others?," *Quarterly Journal of Economics* 114, no. 1 (1999): 83-116.

*Jones, C. "On the Evolution of the World Income Distribution," *Journal of Economic Perspectives* 11, no. 1 (1997): 19-36.

Kaldor, N. (1961), "Capital accumulation and economic Growth," in F.A. Lutz and D.C. Hague (eds.), *The Theory of Capital*, New York: St. Martin's press, 177-222.

Mankiw, N. Romer, R. and Weil, D. (1992), "A Contribution to the Empirics of Economic Growth," *Quarterly Journal of Economics*, 107-2, pp. 407-437.

Romer, P. (1989) "Capital accumulation in the Theory of Long-Run Growth," in *Modern Business Cycle Theory*, R. Barro, ed., Cambridge, Mass.: Harvard University Press.

Lecture 2-3: Optimizing behaviour (the Ramsey-Cass-Koopmans model)

*Romer D., (1996) *Advanced Macroeconomics*, McGraw-Hill Advanced Series in Economics, New York chapter one.

*Barro, R.J. and Sala-I-Martin, X., (1995), *Economic Growth*, McGraw-Hill, Advanced Series in Economics, chapter two.

Cass, D. (1965), "Optimum Growth in an Aggregative Model of Capital Accumulation", *Review of Economic Studies*, 32, July, 233-240.

Koopmans, T. (1965), "On the Concept of Optimal Economic Growth", in *The Econometric Approach to Development Planning*, Amsterdam, North Holland.

Ramsey, F. (1928), "A Mathematical Theory of Saving", *Economic Journal*, 38, December, 543-559.

Romer, P. (1989) "Capital accumulation in the Theory of Long-Run Growth" in *Modern Business Cycle Theory*, R. Barro, ed., Cambridge, Mass.: Harvard University Press.

Lecture 4: *First attempts to endogenize the growth rate: the AK model and the role of externalities*

*Barro, R.J. and Sala-I-Martin, X., (1995), *Economic Growth*, McGraw-Hill, Advanced Series in Economics, chapter one and four.

Arrow K. (1961) "The Economic Implications of Learning by Doing", *Review of Economic Studies*, 29, June, 155-173.

Jones, L. and Manuelli R. (1990), "A Convex Model of Equilibrium Growth: Theory and Policy Implications", *Journal of Political Economy*, 98-5, October, 1008-1038.

Lucas, R. (1988), "On the Mechanics of Economic Development", *Journal of Political Economy*, 96, July, 3-42.

*Lucas, R. (1993), "Making a Miracle", *Econometrica*, 61-2, March, 251-272.

Romer, P. (1986) "Increasing Returns and Long Run Growth", *Journal of Political Economy*, 94-5, October, 1002-1037.

Uzawa, H. (1965) "Optimal Technical Change in an Aggregative Model of Economic Growth", *International Economic Review*, 6, January, 18-31.

Lecture 5: *The second generation of endogenous growth models: the role of innovations. Growth through horizontal innovation.*

*Barro, R.J. and Sala-I-Martin, X., (1995), *Economic Growth*, McGraw-Hill, Advanced Series in Economics, chapter six.

Dixit A. and Stiglitz J. (1977) "Monopolistic Competition and Optimum Product Diversity", *American Economic Review* 67-3, June, 297-308.

Rivera-Batiz, L. and Romer P. (1991), "Economic Integration and Endogenous Growth", *Quarterly Journal of Economics*, 106-2, May, 531-555.

Romer, P. (1990) "Endogenous Technological Change", *Journal of Political Economy*, 98-5, October, 71-102.

Lecture 6: *The second generation of endogenous growth models: the role of innovations. Growth through vertical innovations: Schumpeterian Growth.*

*Aghion P. and Howitt P. (1998), *Endogenous Growth theory* Cambridge, Massachusetts: MIT press, chapter two.

Aghion P. and Howitt P. (1992), "A model of Growth through Creative Destruction", *Econometrica*, 60, 323-51.

Grossman, G. and Helpman E. (1991) "Quality ladders in the Theory of Growth", *Review of Economic Studies*, 58, 43-61.

Segerstrom, P., Anant T. and Dinopoulos E. (1990), "A Schumpeterian Model of the Product Life Cycle", *American Economic Review* 80, 1077-1092.

Dyanmic programming (6 lectures)

Lecture 7: *Practical Dynamic Programming*

Ljungqvist Lars and Thomas Sargent (2018) **Recursive Macroeconomic Theory**, Chapter 3 and 4.

Stokey Nancy and Robert Lucas with Edward Prescott (1989) **Recursive Methods in Economics Dynamics**, chapter 2 and 3.

Brock, W. and Mirman L. (1972), “Optimal Economic Growth and Uncertainty: the Discounted Case”, *Journal of Economic Theory*, 4-3, 479-513.

Lecture 8-9: *Some Mathematical Foundations*

*Sargent, T. (1987) *Dynamic Macroeconomic Theory*, Cambridge, Mass.: Harvard University Press, chapter one.

Ljungqvist, L. and Sargent T. *Recursive Macroeconomic Theory*, chapter one. The book has not yet been published, but it can be freely downloaded at the following address: <http://riffle.stanford.edu/ljungqvist.html>. The name of the file relative to chapter one is green1.ps.

Stokey, N. Lucas, R.E. and Prescotts, E. (1988), *Recursive Methods in Economic Dynamics*, Cambridge MA, Harvard University Press.

Lecture 10: *RBC model*

Ljungqvist Lars and Thomas Sargent (2018) **Recursive Macroeconomic Theory**, Chapter 3 and 4.

Stokey Nancy and Robert Lucas with Edward Prescott (1989) **Recursive Methods in Economics Dynamics**, chapter 2 and 3.

Lecture 11: *Solving the RBC model by Value Function Iteration*

Ljungqvist Lars and Thomas Sargent (2018) **Recursive Macroeconomic Theory**, Chapter 3 and 4.

Stokey Nancy and Robert Lucas with Edward Prescott (1989) **Recursive Methods in Economics Dynamics**, chapter 2 and 3.