

# DYNAMIC MACROECONOMICS

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Instructor: Fabio C. Bagliano

## Contact information

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## Course Description

The course presents basic dynamic macroeconomic models in several specific fields of macroeconomics: consumption and investment theory, growth theory and labour economics. The aim is to provide key methodological tools for the dynamic analysis of a broad range of macroeconomic issues, mainly based on dynamic optimization techniques. Lecture note handouts and problem sets will be provided throughout the course. All necessary material will be made available on the web page of the course.

## Exam

There will be a two-hour, closed-book, written exam at the end of the course.

## Course outline and material

The course will cover the following topics:

### 1. Dynamic consumption theory

- Permanent income theory with rational expectations
- Empirical issues and puzzles
- The role of uncertainty: precautionary savings
- Intertemporal consumption and portfolio allocation

#### General references

Romer (2012) *Advanced Macroeconomics*, fourth edition, ch. 8  
Bagliano F.C.-Bertola G. (2007) *Models for dynamic macroeconomics*, ch. 1

#### Specific references

Deaton A. (1992) *Understanding consumption*, especially ch. 3, 4  
Attanasio O. (1999) "Consumption demand", in *Handbook of Macroeconomics*, vol. 1B, ch. 11  
Campbell J. (1999) "Asset prices, consumption, and the business cycle", in *Handbook of Macroeconomics*, vol. 1C, ch. 19  
Carroll C. (2001) "A theory of the consumption function, with and without liquidity constraints", *Journal of Economic Perspectives* ("graduate students version" NBER wp 8387)  
Angeletos et al. (2001) "The hyperbolic consumption model: calibration, simulation and empirical evaluation", *Journal of Economic Perspectives*  
Meghir C. (2004) "A retrospective on Friedman's theory of permanent income", *Economic Journal*  
Attanasio O. and G. Weber (2010) "Consumption and saving: models of intertemporal allocation and their implications for public policy", *Journal of Economic Literature*  
Jappelli T. and L. Pistaferri (2010) "The consumption response to income changes", *Annual Reviews in Economics*

### 2. Dynamic investment models

- Dynamic optimization in continuous time
- Adjustment costs and Tobin's forward-looking "q"
- Investment dynamics, interest rates, productivity and wages in partial equilibrium

### **General references**

Romer (2012) *Advanced Macroeconomics*, fourth edition, ch. 9

Bagliano-Bertola (2007) *Models for dynamic macroeconomics*, ch. 2

On mathematical methods: Barro-Sala-i-Martin (1995) *Economic Growth*, Mathematical Appendix

### **Specific references**

Yoshikawa H. (1980) "On the 'q' theory of investment", *American Economic Review*, 70, 4, 739-743

Hayashi F. (1982) "Tobin's marginal q and average q: a neoclassical interpretation", *Econometrica*, 50, 1, 213-224

Abel A. - Blanchard O.J. (1983) "An intertemporal model of saving and investment", *Econometrica*, 51, 3, 675-692

Caballero R. (1999) "Aggregate Investment", *Handbook of Macroeconomics*, vol. 1B, ch 12

### **3. Economic growth in dynamic general equilibrium**

- Balanced growth, steady state and optimal convergence
- Decentralization of production and investment decisions
- Endogenous growth and market imperfections.

#### **General references**

Romer (2012) *Advanced Macroeconomics*, fourth edition, ch. 1, 2 (Part A), 3

Bagliano-Bertola (2007) *Models for dynamic macroeconomics*, ch. 4

#### **Specific references**

Mankiw N.G., D. Romer, D. Weil (1992) "A contribution to the empirics of economic growth", *Quarterly Journal of Economics*, May

Romer P. (1994) "The origins of endogenous growth", *Journal of Economic Perspectives*, 8, Winter

Barro-Sala-i-Martin (1995) *Economic Growth*, ch. 1, 2, 4

Aghion-Howitt (1998) *Endogenous Growth Theory*, ch. 1

### **4. Flow dynamics in the labour market**

- Participation externalities in the labour market
- Features of search models of the labour market
- Job matching and unemployment dynamics

#### **General references:**

Romer (2012) *Advanced Macroeconomics*, fourth edition, ch. 10

Bagliano-Bertola (2007) *Models for dynamic macroeconomics*, ch. 5, sections 5.2-5.4

#### **Specific references:**

Pissarides (2000) *Equilibrium Unemployment Theory*, 2nd ed., ch. 1-3

Petrongolo-Pissarides (2001) "Looking into the black box: a survey of the matching function", *Journal of Economic Literature*

Nickell S., Nunziata L., Ochel W., Quintini G. (2002) "The Beveridge curve, unemployment and wages in the OECD from the 1960s to the 1990s", Centre for Economic Performance, LSE

Hornstein A., Krusell P., G.L. Violante (2005) "Unemployment and Vacancy fluctuations in the matching model: inspecting the mechanism", Federal Reserve Bank of Richmond *Economic Quarterly*

Shimer R. (2005) "The cyclical behavior of equilibrium unemployment and vacancies", *American Economic Review*, March

Hall R. (2005) "Employment fluctuations with equilibrium wage stickiness", *American Economic Review*, March

Pissarides C. (2011) "Equilibrium in the labor market with search frictions", *American Economic Review*

Diamond P. (2011) "Unemployment, vacancies, wages", *American Economic Review*