



UNIVERSITÀ  
DEGLI STUDI DI MILANO-BICOCCA

## SYLLABUS DEL CORSO

### Economia e Dinamica Industriale

2223-2-F8204B037-F8204B039M

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#### Learning objectives

This course aims at investigating the relevant aspects of industrial dynamics, both from a theoretical and an empirical perspectives. Economic models and econometric analyses will be presented.

#### Contents

- 1) Industrial economics: S-P-C paradigm. Market structure and market power.
- 2) Economics of innovation.
- 3) Three levels of industrial dynamics.

#### Detailed program

- 1) Industrial economics. S-P-C paradigm. Market structure and market power. Efficiency and market power.
- 2) Economics of innovation. Technological change. Research and development. Technological clusters and spillovers. Patents. Technological regimes.
  - 3a) Industrial dynamics: three levels. 3a - Industrial demography. Entry of new firms.
  - 3b) Structural dynamics: Industry Life Cycle, Organisational Ecology and Resource-partitioning.
  - 3c) Structural evolution: the "History Friendly" models. Case study: pharmaceuticals.

## Prerequisites

Advanced microeconomics

## Teaching methods

Class and lab

## Assessment methods

Exam in lab: open questions about economic issues and econometric exercises to test students' skills in empirical analysis.

Optional oral exam. In this case the student should study also the following further readings: Sutton (1991), Sunk Costs and Market Structure; Garavaglia, Swinnen (2018), Economic Perspectives on Craft Beer; Malerba, Orsenigo, Nelson, Winter (2016), Innovation and the Evolution of Industries: History-Friendly Models.

## Textbooks and Reading Materials

Papers. (\*) indicates the econometric papers; (+) indicates optional readings.

### 1) Industrial economics. S-P-C paradigm. Market structure and market power. Efficiency and market power.

Ø Cabral L. (2002), *Economia Industriale*, Carocci Editore, Cap. 1, 9, 14 (14.1-14.2).

Ø Garavaglia C. (2007), [Appunti sulla Concentrazione e Struttura di Mercato](#).

Ø Garavaglia C. (2007), [Appunti su Costi di Entrata e Struttura di Mercato](#).

Ø Carlton D. e Perloff J. (1997), *Organizzazione Industriale*, McGraw-Hill, Cap. 1 (pag. 3-7), 9 (265-269; 275-276; 280-282; 286-288; 289-298). (+)

Ø Garavaglia C. (2006), *Economia Industriale: Esercizi e Applicazioni*, Carocci Editore, Esercizi 1.1-1.3, 7.1-7.6.

Ø Vezzulli A. (2007), [Appunti e Introduzione al Software Stata](#).

Ø Cerasi V., Chizzolini B. (2004), "Più concorrenza oggi, maggiore concentrazione domani? Un'applicazione all'industria bancaria Europea", in (a cura di) Pelagatti M., *Studi in Ricordo di Marco Martini*, Giuffrè Editore (\*)

(scaricabile dal sito: )

Ø Campbell J.R., Hopenhayn H.A.. (2005), ["Market Size Matters"](#), *Journal of Industrial Economics*, Volume LIII, n.1, 1-25 (\*)

e [Errata Corrige](#) di Campbell J.R., Hopenhayn H.A.. (2005)

Approfondimenti (facoltativi):

Ø Cerasi V. (1996), *A Model of Retail Banking Competition*, Mimeo (+)

(scaricabile dal sito: <http://www.statistica.unimib.it/utenti/cerasi/Pubblicazioni/index.htm>)

## **2) Economics of innovation. Technological change. Research and development. Technological clusters and spillovers. Patents. Technological regimes.**

Ø Cabral L. (2002), *Economia Industriale*, Carocci Editore, Cap. 16.

Ø Garavaglia C. [Appunti su Innovazione](#).

Ø Malerba F. (2000), *Economia dell'Innovazione*, Carocci Editore, Capitolo 1, Capitolo 8 (pag. 231-248).

Ø Garavaglia C. (2006), *Economia Industriale: Esercizi e Applicazioni*, Carocci Editore, Esercizi 13.1-13.7.

Ø Aghion, Bloom, Blundell, Griffith, Howitt (2005), ["Competition and innovation: an inverted-U relationship"](#), *Quarterly Journal of Economics*. (\*)

Ø [Appunti su Aghion et al.](#) (\*)

Ø Garavaglia C. (2004), "Analisi delle determinanti dell'entrata di nuove imprese nei settori industriali: una rassegna", *LIUC Papers n.144*, Serie Economia e Impresa, 36 (Pag. 13-15) scaricabile da

Ø Breschi S., Malerba F. and Orsenigo L. (2000), ["Technological Regimes and Schumpeterian Patterns of Innovation"](#), *Economic Journal*, 110, 338-410.

Ø Mariani M. (2006), "Firm and Regional Determinants in Innovation Models: Evidence from Biotechnology and Traditional Chemicals", in Dosi G. and Mazzucato M. (eds.) *Knowledge Accumulation and Industry Evolution: the Case of Pharma-Biotech*, Cambridge University Press (\*). (disponibile in formato cartaceo su richiesta)

Ø Nelson R., Winter S. (1982), *An Evolutionary Theory of Economic Change*, Harvard University Press, Cambridge MA (+).

### **3a) Industrial dynamics: three levels. 3a - Industrial demography. Entry of new firms.**

Ø Malerba F., Orsenigo L. (1996), ["The Dynamics and Evolution of Industries"](#), *Industrial and Corporate Change*, Volume 5, Number 1 [in alternativa: Malerba F. (2000), *Economia dell'Innovazione*, Carocci Editore, Capitolo 9]

Ø Garavaglia C. (2004), "Analisi delle determinanti dell'entrata di nuove imprese nei settori industriali: una rassegna", *LIUC Papers n.144*, Serie Economia e Impresa, 36 (Pag. 1-2 e 10-36) scaricabile da

### **3b) Structural dynamics: Industry Life Cycle, Organisational Ecology and Resource-partitioning.**

Ø Klepper S. (1996), ["Entry, Exit, Growth and Innovation Over the Product Life Cycle"](#), *American Economic Review*, Volume 86, 562-583.

Ø Klepper S. (1997), [“Industry Life Cycles”](#), *Industrial and Corporate Change*, Volume 6, Number 8, 145-181 (+).

Ø Klepper S., Simons K. (2000), [“Dominance by Birthright: Entry of Prior Radio Producers and Competitive Ramifications in the US Television Receiver Industry”](#), *Strategic Management Journal*, Vol. 21, 997-1016 (\*)

Ø Garavaglia C. (2004), “Analisi delle determinanti dell’entrata di nuove imprese nei settori industriali: una rassegna”, *LIUC Papers n.144*, Serie Economia e Impresa, 36 (Pag. 1-2 e 10-36) scaricabile da

Ø Swaminathan A. (1995), [“The Proliferation of Specialist Organizations in the American Wine Industry, 1941-1990”](#), *Administrative Science Quarterly*, Vol. 40

Ø Garavaglia C. (2014), Appunti su [Resource Partitioning, Organizational Ecology e Evoluzione dell'Industria della Birra](#).

Ø Swaminathan A. (1998), [“Entry into new Market Segments in Mature Industries: Endogenous and Exogenous Segmentation in the US Brewing Industry”](#), *Strategic Management Journal*, Vol. 19 (+)

Ø Carroll G., Swaminathan A. (1992), “The Organizational Ecology of Strategic Groups in the American Brewing Industry from 1975 to 1990”, *Industrial and Corporate Change*, Volume 1, Number 1, 65-97 (+) (disponibile in formato cartaceo su richiesta)

Ø Garavaglia C. (2014) [Appunti su Shakeout](#).

Ø Bonaccorsi A. and Giuri P. (2000), [“When shakeout doesn’t occur. The evolution of the turboprop engine industry”](#). *Research Policy*, 2, 847–870 (+)

### **3c) Structural evolution: the “History Friendly” models. Case study: pharmaceuticals.**

Ø Garavaglia C. e Pezzoni M. (2012), [Appunti su Modelli History-Friendly e Evoluzione dell'Industria Farmaceutica](#). (\*)

Ø Garavaglia C., Malerba F., Orsenigo L., Pezzoni M. (2012), [“Technological Regimes and Demand Structure in the Evolution of the Pharmaceutical Industry”](#), *Journal of Evolutionary Economics*, Volume 22, Issue 4, 677-709.

Ø Garavaglia C. (2010), “Modelling Industrial Dynamics with History Friendly Simulations”, *Structural Change and Economic Dynamics*, Vol. 21, Issue 4, 258-275. (+)

Ø Malerba F., Orsenigo L. (2002), “Innovation and Market Structure in the Dynamics of the Pharmaceutical Industry and Biotechnology: Towards a History-friendly Model”, *Industrial and Corporate Change*, Volume 11, Number 4 (+)

Ø Garavaglia C., Malerba F., Orsenigo L., Pezzoni M. (2013), “A Simulation Model of the Evolution of the Pharmaceutical Industry: A History Friendly Model”, *Journal of Artificial Societies and Social Simulation*, 16 (4) 5. () (+)

Ø Garavaglia C., Malerba F., Orsenigo L., Pezzoni M. (2014), “Innovation and Market Structure in Pharmaceuticals. An Econometric Analysis on Simulated Data”, *Journal of Economics and Statistics (Jahrbücher für Nationalökonomie und Statistik)*, Vol. 234 (2+3), 274-298 (+)

## **Semester**

September-November

## **Teaching language**

Italian

## **Sustainable Development Goals**

INDUSTRY, INNOVATION AND INFRASTRUCTURE

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