

Business, Market and Competition

2018/2019

Business strategy and “applied” economics

What we consider Applied Economics:

- Industrial Organization
- Innovation
- Transports Economics
- Regional Economy

We start from Economics 1.0

Perfect competition

$$\pi = TR - TC$$

Equilibrium $R' = C'$

if $\pi > 0$ new firms enter till $\pi = 0$

Oligopoly

2 basic models

2. Bertrand:

- decision variable: **price**
- Simultaneous decisions

1. Cournot:

- decision variable: **quantity**
- Simultaneous decisions

Bertrand Equilibrium

- there is only one Nash equilibrium in

Bertrand : $p_1 = p_2 = c$

– if $p_1 = p_2 > c$ or $p_1 > p_2 > c$:

- firm 1 can lower $p_1 = p_2 - \varepsilon$

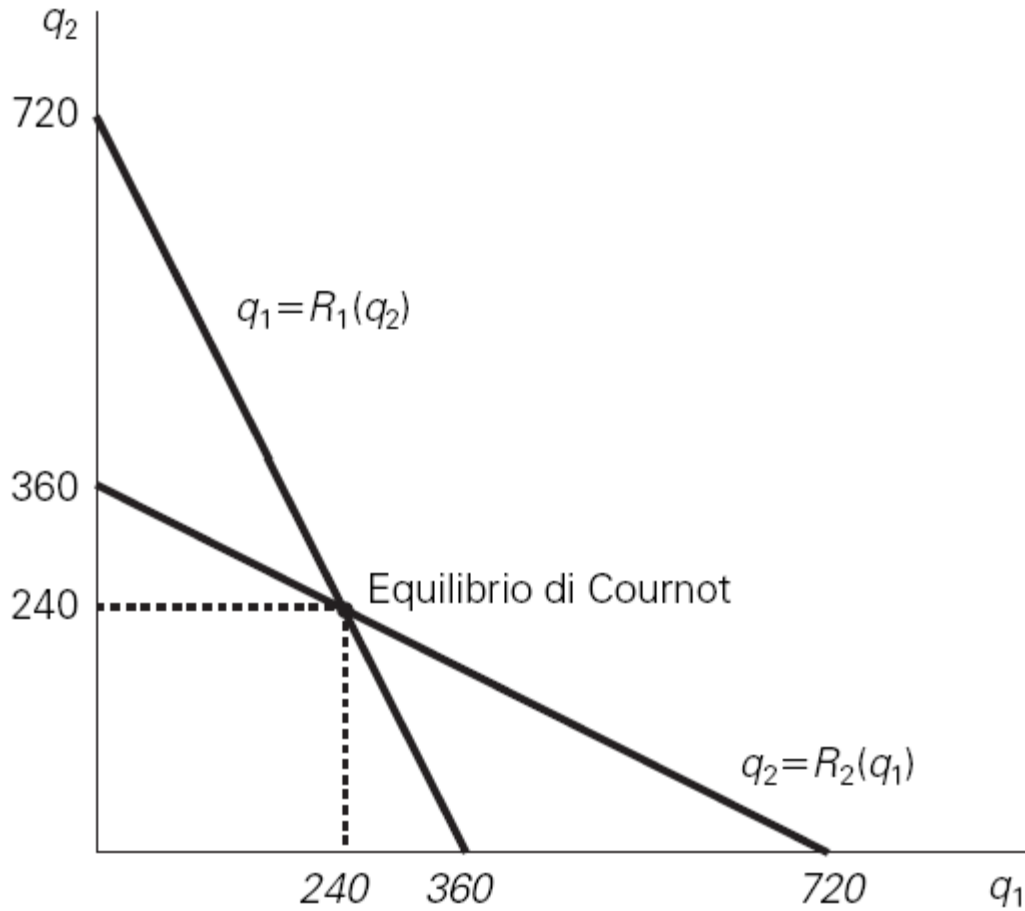
– if $p_1 > c > p_2$ or $c > p_1 > p_2$

or $c > p_1 = p_2$:

- firm 2 can deviate $p_2 \geq c$

- in Equilibrium, $\pi_1 = \pi_2 = 0$

L'oligopolio di Cournot



Cournot N firms

- for $N \geq 2$ of identical firms:
- **Output:** $Q = q_1 + q_2 + \dots + q_N$
- **residual demand for firm 1:**

$$P(q_1, q_1) = a - bq_1 - bq_2 - \dots - bq_N$$

- optimal reply firm 1:

$$q_1(q_{-1}) = (a - c - bq_2 - \dots - bq_N) / 2b$$

- **Symmetry:** $q_1 = q_2 = \dots = q_N = q^*$

$$q^* = (a - c) / b(N+1)$$

- ...for $N \rightarrow \infty$, perfect competition

$$D(p) = 1000 - p, MC = 0,28$$

	Numero di imprese	Prezzo in centesimi	Impresa		Industria	
			Output	Profitti	Output	Profitti
Monopolio	1	64	360	129,60	360	129,60
	2	52	240	57,60	480	115,20
	3	46	180	32,40	540	97,20
	4	42,4	144	20,74	576	82,94
	5	40	120	14,40	600	72,00
	6	38,3	102,9	10,58	617,1	63,48
	7	37	90	8,10	603	56,70
	8	36	80	6,40	640	51,20
	9	35,2	72	5,18	648	46,66
	10	34,5	65,5	4,28	654,5	42,84
	15	32,5	48	2,30	675	32,26
	20	31,4	34,3	1,18	685,7	23,51
	50	29,4	14,1	0,20	705,9	9,97
	100	28,7	7,1	0,05	712,9	5,08
	500	28,1	1,4	0,002	718,6	1,03
1.000	28,1	0,7	0,001	719,3	0,52	
Concorrenza	∞	28	~ 0	0,00	720	0,00

Tabella 6.2
L'equilibrio
di Cournot
con poche
e molte imprese

So?

Firms don't like competition

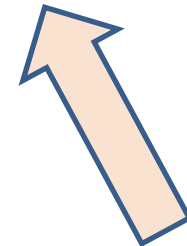
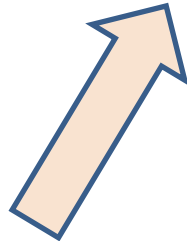
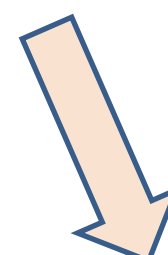
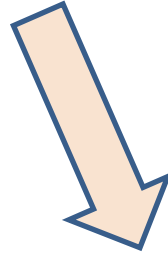
New
Markets

Innovation

$$\pi = TR - TC$$

Strategies and
Game theory

Global supply
Chain



What Will we do?

We will put together

- Strategies
- Innovation
- Supply Chain Management
- new markets (China)

strategies

- A bit of Game Theory
- Game Theory applied and business strategies
- Coopetition

innovation

- Innovation and uncertainty – Innovation and Risk – patents – innovation and business cycle – Innovation and Business strategies.

Supply Chain

- Agglomeration vs fragmentation
- Supply chain management
- Networks

Syllabus

Co-Opetition (Brandenburger e Nalebuff – Currency duobleday)

Games Business Play (Ghemawat - MIT press) (cap 1–3, 7)

Other papers will be given during lectures and posted on the Website

As an example:

Gort, Klepper, 1982. Time path and diffusion of production innovations. *The Economic Journal*, 92(367): 630-653

Klepper, 1996. Entry, exit, growth, and innovation over the product life cycle. *The American Economic Review*, 86(3): 562-583

Exam

- Written text
- If you attend classes you will have to present a Paper or a short dissertation. **(no written paper is needed)**