

Price Competition

- Suppose homogeneous product, $MC = 25$, $FC=0$
- What is the equilibrium?
 - Why?

Differentiated Products

- How can we model strategic interactions between two firms whose products are imperfect substitutes?
- For example
 - $Q_1 = 100 - 3P_1 + 2P_2$
 - $Q_2 = 100 - 3P_2 + 2P_1$
 - What do these demand functions mean?

Price as Choice Variable

- Suppose $MC=0$
- What is firm 1's reaction curve?

- Calculate profits for each firm

Reaction Function Graphs

Collusion

- Suppose one firm chooses P_1, P_2 to maximize joint profit
- Calculate collusive prices:

- Profits with collusion

Choosing Price

- If $P_1=P_2=50$, then $\pi_1= \pi_2=2500$.
- If $P_1=P_2=25$, then $\pi_1= \pi_2=1875$.
- What if I charge 25 when you charge 50?
 - Calculate profits for each firm

The Prisoner's Dilemma

- (A way to think about this pricing problem)
- Two prisoners, A and B, have been accused of collaborating on a crime
 - In separate jail cells
 - Each is asked to confess

(payoffs to A, B)

		Prisoner B	
		Confess	Not confess
Prisoner A	Confess	(-5,-5)	(-1,-10)
	Not confess	(-10,-1)	(-2,-2)

- Consider A' decision:
 - If B confesses, A is choosing between -5 (confess) and -10 (not)
 - If B doesn't confess, A is choosing between -1 (confess) and -2 (not)
- *Either way, confess is better for A*
- Consider B's decision:
 - If A confesses, B is choosing between -5 (confess) and -10 (not)
 - If A doesn't confess, B is choosing between -1 (confess) and -2 (not)
- *Either way, confess is better for B*

Pricing as a Prisoner's Dilemma

		Firm 2	
		“compete” $P_2=25$	Collude $P_2=50$
Firm 1	“compete” $P_1=25$	(1875,1875)	(3125,0)
	Collude $P_1=50$	(0,3125)	(2500,2500)

- Consider firm 1's decision:

- Consider firm 2's decision:

How Might Firms Achieve Cooperation?

- “people of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices”
- **Who said this?**
 - Andrew Carnegie
 - Adam Smith
 - Karl Marx
 - Groucho Marx

Price Fixing

- ...is illegal in the US, but...