

- First in-class exam on Monday, Oct 17
- Exam covers Chapters 7 and 9
- Answers to practice exam will be reviewed in discussion sections between Monday Oct 10 - Friday Oct 14
- A second practice exam can be downloaded from course web page and reviewed on your own

Chapter 9: Monopoly, Oligopoly, and Monopolistic Competition

- G. Price discrimination
- H. Natural monopoly
- I. Where does monopoly or oligopoly come from?
 1. Cartels or producer co-operatives

Definition:

A *cartel* is a group of producers who agree to restrict output in order to raise the price

Obstacles to running a cartel:

- (1) They're illegal in the United States

OPEC: Organization of Petroleum Exporting Countries



Obstacles to running a cartel :

- (1) They're illegal in the United States.
- (2) Each member of a cartel has an incentive to cheat on their agreement.

Example: consider a cartel consisting of 10 countries each producing 2 million barrels of oil per day.

Marginal cost of production:

- Physical cost of added production
- Opportunity cost (oil may be worth more next year)

Suppose total marginal cost is \$50/barrel and current price is \$81.50/barrel

Suppose further that if OPEC increased production 1 million barrels per day, price would fall from \$81.50/barrel to \$80/barrel

Then the marginal revenue for OPEC as a whole from producing another million barrels per day is:

$$\begin{aligned} & \$80/b \times 1 \text{ M b/day} - \$1.50/b \times 20 \text{ M b/day} \\ & = \$50 \text{ M /day} \end{aligned}$$

Marginal cost we supposed was \$50/b, so additional cost of producing extra 1 M b/day is \$50 M

Conclusion: $MR = MC = \$50 \text{ M}$

So for these figures, OPEC would be maximizing the collective profit of all its members if it charged a price of \$81.50

However, suppose one country (say Kuwait) by itself could produce an extra 1 M b/day without the other countries finding out

Kuwait's marginal revenue:

$$\begin{aligned} & \$80/b \times 1 \text{ M b/day} - \$1.50/b \times 2 \text{ M b/day} \\ & = \$77 \text{ M /day} \end{aligned}$$

Kuwait's marginal cost:

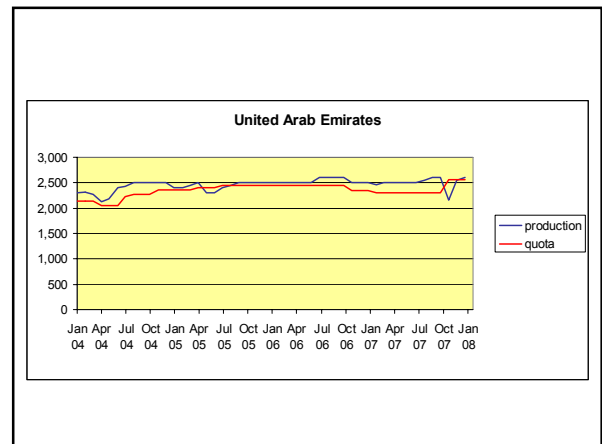
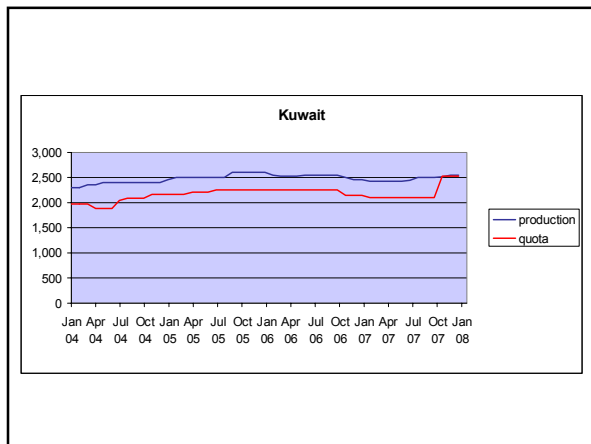
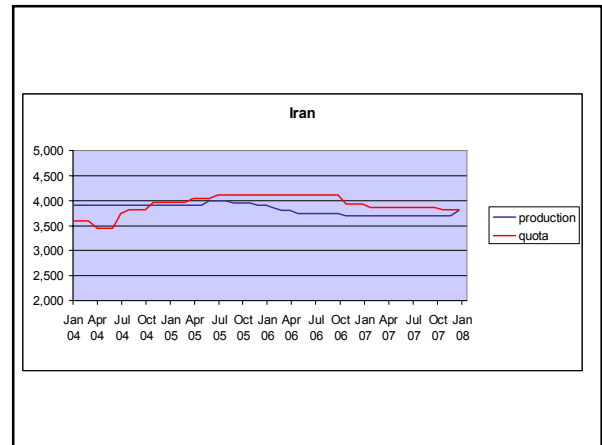
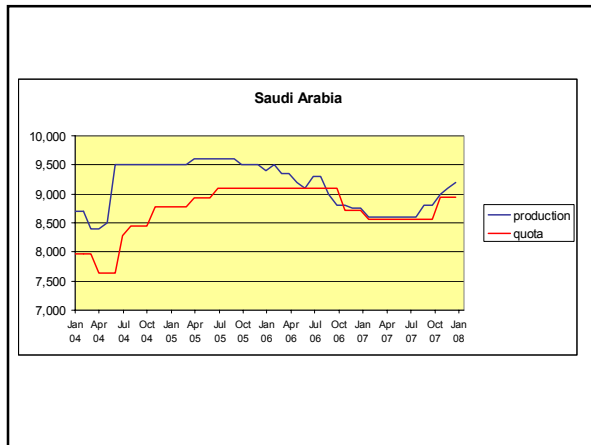
$$\$50 \text{ M/day}$$

So Kuwait would make an extra \$27 M each day by "cheating" on the rest of the cartel

- Issue: marginal revenue from perspective of any one country is bigger than marginal revenue from perspective of cartel as a group
- This creates the incentive to “cheat” on the cartel’s agreements
- Most international cartels throughout history have fallen apart after a short period from these forces.

But what about OPEC?

Many economists believe that OPEC in fact is not operating as a cartel, but is just a collection of countries each acting in its own interests.



Actual figures:

OPEC produces 30 M bl/day

Saudi Arabia alone produces 9 M bl/day

OPEC = Saudi Arabia



Chapter 9: Monopoly, Oligopoly, and Monopolistic Competition

I. Where does monopoly or oligopoly come from?

1. Cartels or producer co-operatives

Problems: illegal in U.S. and incentive to cheat

2. Mergers or acquisitions

Problems with merging to create monopoly:

(1) The merger can be challenged by

U.S. Department of Justice or
Federal Trade Commission

Celler-Kefauver amendment to Clayton Act (1950):

Prohibits mergers or acquisitions that would reduce competition

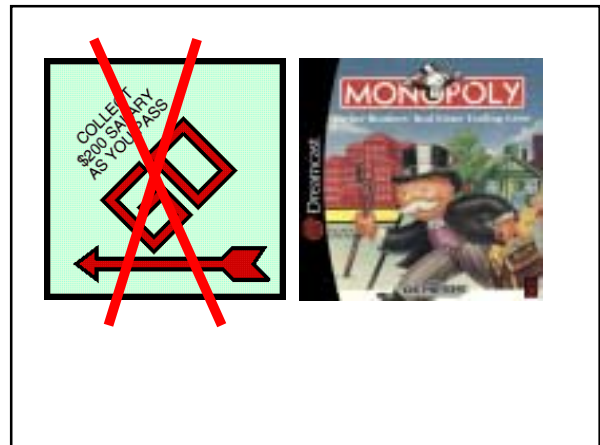
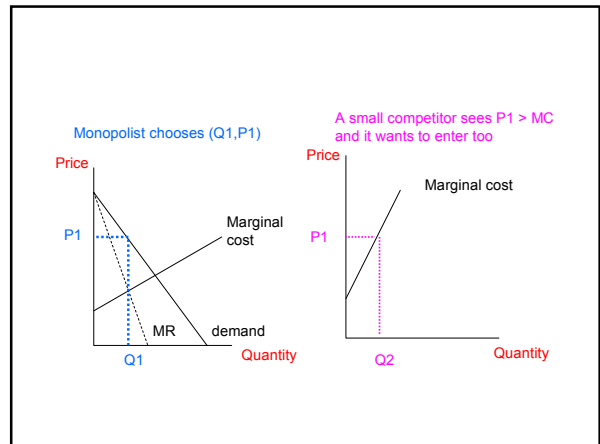
- Example: last spring AT&T announced its intention to purchase T-Mobile
- AT&T = 2nd largest wireless service provider
- T-mobile = 4th largest wireless service provider
- August 31: U.S. Justice Department filed lawsuit to prohibit merger

Lawsuit claims merger:

“would substantially lessen competition for mobile wireless telecommunications services across the United States, resulting in higher prices, poorer quality services, fewer choices and fewer innovative products for the millions of American consumers who rely on mobile wireless services in their everyday lives.”

Problems with merging to create monopoly:

- (1) The merger can be challenged by U.S. Department of Justice or Federal Trade Commission
- (2) If you act as a monopoly, new competitors will appear



Conclusion: a successful monopoly or oligopoly requires barriers to new entry

Chapter 9: Monopoly, Oligopoly, and Monopolistic Competition

- I. Where does monopoly or oligopoly come from?
 1. Cartels or producer co-operatives
 2. Mergers or acquisitions
 3. High fixed costs and barriers to entry

Increasing returns to scale only hold up to the efficient scale of the plant

Example: there are 159 refineries in the U.S. today

However, there were 263 refineries in the U.S. in 1982

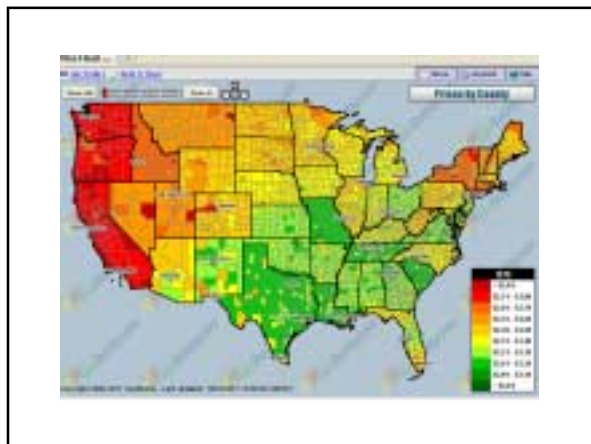
No new refineries built in last quarter century and 100 shut down



One reason: difficulties in getting new sites approved



Conclusion: environmental regulation can raise additional barriers to entry and has made the U.S. gasoline industry less competitive over the last 25 years



Chapter 9: Monopoly, Oligopoly, and Monopolistic Competition

- I. Where does monopoly or oligopoly come from?
 1. Cartels or producer co-operatives
 2. Mergers or acquisitions
 3. High fixed costs and barriers to entry
 4. Explicit government restrictions
 - a. Government licenses or franchises

Yosemite Concession Services



Permits to operate a taxi



Chapter 9: Monopoly, Oligopoly, and Monopolistic Competition

- I. Where does monopoly or oligopoly come from?
 4. Explicit government restrictions
 - a. Government licenses or franchises
 - b. Patents and copyrights

My book:

MC = \$20

Price (wholesale) =

\$60

Princeton Univ. Press
has exclusive right to
publish book in U.S.



Reason for copyright or patent:

There were big fixed costs in creating
book (say, \$300,000)

Before book was written, "fixed costs"
weren't fixed.

Before book was written, made a guess that would sell 10,000 copies
Marginal cost of writing one more book:
\$300,000 "fixed cost"
+ 10,000 books x \$20 "marginal cost" per book
= \$500,000

Marginal revenue from one more book:
10,000 books x \$60/book
= \$600,000
Based on this market expectation, looked like a good deal
But if price only covered the marginal production cost of \$20/book, book would never have been written

Patents and copyright:
Government intentionally creates a legal monopoly for creator of original work in order to provide incentive for the work to have been created in the first place

Lipitor (lowers cholesterol)
• 100 pills (20 milligrams) cost \$290 in U.S.
• cost \$201 in Canada
• Pfizer spent \$7.5 billion on research this year