

## Nellis and Parker Chapter 4 – The Competitive Environment

4 market structures again...

Some firms (many firms) may not fit nicely into one category, but we can use these 4 basic market types to create models of behavior and rules for pricing and output decisions that are generally applicable.

### 1. PC

Assumptions:

- a. Homogeneous or standardized product across firms – any one firm's product is a perfect substitute for any other firm's product.
- b. Constant costs across the industry
- c. Large number of firms and consumers
- d. Free entry into and exit from the market
- e. Full consumer information

A & C => the demand curve for any one firm's product will be perfectly elastic at the market-determined price.

- ⇒ PC firms are “price takers”. They do not have any control over the market price of their own good, but rather accept the price that is determined at the market level. GRAPHS.
- ⇒ MR is constant. They don't have to lower price to increase  $Q^D$ .
- ⇒ Only question for profit maximization is how much to produce.
- ⇒ Profit-maximizing quantity,  $Q^*$ , is where  $MR = MC$  can now be written as  $P = MC$ .
  
- ⇒ Long-run price will = minimum ATC (efficient) and all firms earn zero economic profit (normal profit)
- ⇒ Why and how?

What if  $P > \min ATC$ ?

⇒ profits are  $> 0$  ⇒ firms enter ⇒ increase in supply ⇒ decrease price until  $P = \min ATC$

What if  $P < \min ATC$ ?

⇒ profits are  $< 0$  ⇒ firms leave ⇒ decrease in supply ⇒ increase price until  $P = \min ATC$

when  $P = \min ATC$  we say there is a long-run competitive equilibrium, because the size and number of firms are constant.

Monopoly is the opposite of perfect competition.

With PC, we had many firms all selling the same thing.

⇒ many firms and the good had many substitutes.

With PC, there was so much competition, that firms couldn't even set their own price.

⇒ PC firms are price takers.

How much competition will monopolists have?

→ zero

So, will a monopolist have control over price?

→ yes, monopolists are "price makers".

PURE MONOPOLY exists when there is only one seller of a particular good or service in a market and there are no close substitutes for the good.

Implication: the single firm in the market (the monopolist) controls the entire market supply of the good ∴ the monopolist can control price by changing that supply.

Let's consider the characteristics of a "pure monopoly":

- single seller of the good ⇒ firm = industry
- no close substitutes for the good
- firm is a "price maker" → the firm has total control over the market supply ∴ can control price by shifting the supply curve on the market demand curve
- some type of barrier to entry must exist = something that prevents other firms from entering the market. 3 Types of Barriers to Entry: economic, legal, technological)

Most firms are not PURE MONOPOLY, but rather are firms with MONOPOLY POWER.

MONOPOLY POWER is the ability of firms to influence the market price of their product by making more or less of the product available.

Firms with monopoly power do not completely control market supply but have some influence on market supply - enough to influence market price.

We're going to develop a model of pure monopoly as the extreme case, and then adapt it to the more realistic examples of firms with market power (oligopoly and monopolistic competition).

Assumptions:

1. The pure monopoly status of the firm is secured by some barrier to entry.
2. The behavior of the monopolist is not regulated by the gov't
3. The monopolist does not price discriminate  $\Rightarrow$  they charge the same price to all customers for all units of output.

Recall that in the model of perfect competition, the demand curve for the product of any one firm was perfectly elastic.  
 $\Rightarrow$  a PC firm could sell any quantity at the market determined price  
 $\Rightarrow$  the PC firm did not have to lower price to increase  $Q^D$ .  
 $\Rightarrow$  for a PC firm:  $P = MR$

The demand curve faced by the monopolist is the market demand curve.

Since there are no close substitutes for the good, we can say that the demand curve is likely to be inelastic, but unless the good is essential for life it is not likely to be perfectly inelastic.

POINT: the demand for a monopolists product will be downward sloping (= market demand).

Implications:

1. A pure monopolist can only increase sales ( $Q^D$ ) by lowering price.

(eg: at  $P = \$5.00$  assume  $QD = 400$  per month. To increase  $QD$  per month above 400, the firm will have to lower price.)

2. MR will be less than price for a monopolist.

→ why? Because the price decrease is also applied to all units.

\*\* each additional unit contributes to total revenue its price less the sum of the price cuts which must be taken on the other units of output.

(because we've assumed that the monopolist cannot price discriminate, they must charge the new lower price on all units).

This is tough - best to see it with an example:

→ handout

**Example:**

Price	Q <sup>D</sup>	TR	MR	TC	MC	Profit
1000	10	10,000	1000	8000	750	2,000
980	20	19,600	960	15,000	700	4,600
960	30	28,800	920	21,000	600	7,800
940	40	37,600	880	27,500	650	10,100
920	50	46,000	840	34,500	700	10,500
900	60	54,000	800	41,800	730	12,200
880	70	61,600	760	49,350	755	12,250
860	80	68,800	720	57,000	765	11,800
840	90	75,600	680	65,000	800	10,600
820	100	82,000	640	74,000	900	8,000
800	110	88,000	600	84,000	1,000	4,000
780	120	93,600	560	95,000	1,100	-1,400

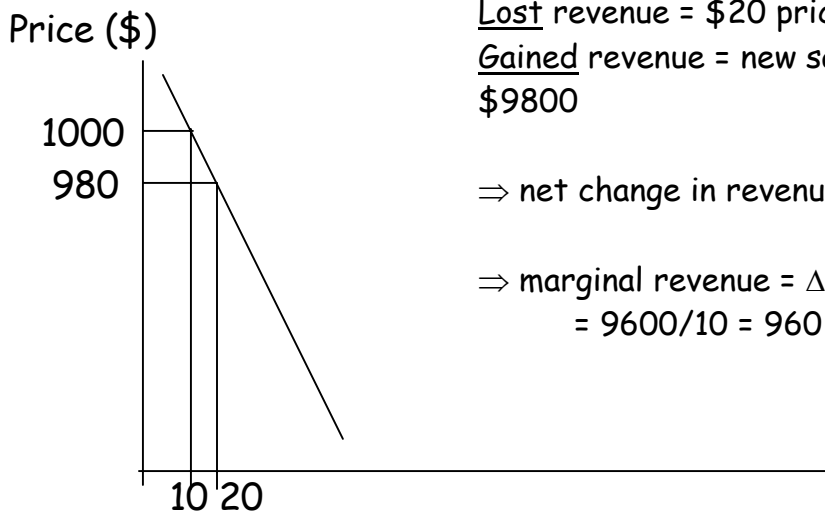
- 1<sup>st</sup> 2 columns = the demand curve.
- TR = Price x quantity
- $MR = \Delta TR / \Delta Q \rightarrow$  for each  $\uparrow Q$  the MR can be broken into 2 parts: the  $\uparrow$  revenue from  $\uparrow Q$ , and the  $\downarrow$  revenue from the  $\downarrow$  price that we needed in order to get the  $\uparrow Q$ . The second partially offsets the first.

(can skip this...)

Look at this idea graphically:

Consider the first price change: we're selling 10 units at  $P = \$1000$  and we want to increase QD, so we lower price to  $\$980$ .

Price  $\Delta = 1000 \rightarrow 980$



Lost revenue =  $\$20$  price cut on 10 units =  $\$200$

Gained revenue = new sales  $\cdot$  Price =  $10 \cdot \$980 = \$9800$

$\Rightarrow$  net change in revenue =  $\$9800 - 200 = \$9600$

$\Rightarrow$  marginal revenue =  $\Delta \text{ revenue} / \Delta Q$   
 $= 9600 / 10 = 960 < \text{price } (980)$

POINT: a pure monopolist is a price maker and therefore must lower price to  $\uparrow$  QD, and as a result,  $P > MR$ .

Question to address:

Where does the monopolist want to be in terms of quantity?

What is the profit maximizing rule for finding Q?  
(recall what it was for the PC firm... where  $MR = MC$ )

$\rightarrow$  Same idea applies for a monopolist only now we don't have  $P = MR$   
PROFIT MAXIMIZING CONDITION FOR A MONOPOLIST:

Find the Q where  $MR = MC$

Common sense that we've used over and over throughout the semester:

$MR > MC \Rightarrow$  profit is increasing as  $Q \uparrow \Rightarrow$  produce more

$MR < MC \Rightarrow$  profit is decreasing as  $Q \uparrow \Rightarrow$  produce less

Once the monopolist find the optimal quantity to produce (where  $MR = MC$ ) they simply use the demand curve to find out how much to charge to make sure that they sell the optimal quantity.

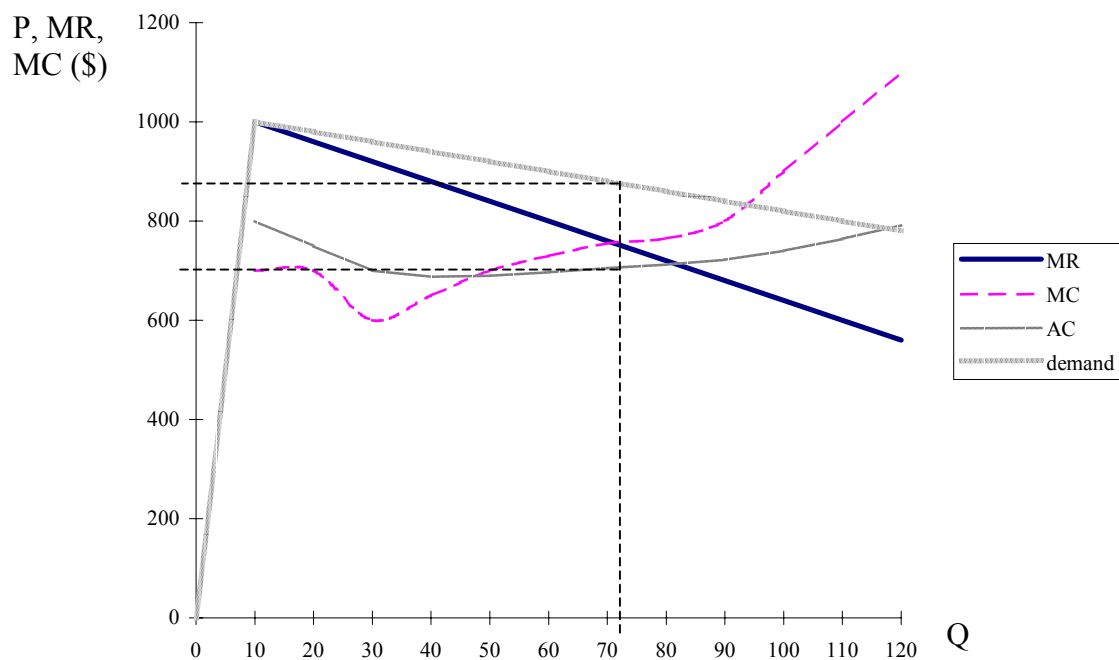
Is this firm earning an economic profit?

$\rightarrow$  yes.

Will these profits last into the long run?

$\rightarrow$  yes. There is a barrier to entry that prevents other firms from entering the market.

Let's look at the profits graphically:



→ How does the monopolist determine price and quantity to maximize profits?

1. find  $q^*$  where  $MR = MC$
2. set price at max WTP for  $Q^*$  - take  $Q^*$  up to D curve to determine  $P^*$  (set price so as to ensure that  $Q^D = Q^*$ )
3.  $TR = p^*Q^*$
4.  $TC = Q^* \cdot ATC$
5. Profit =  $TR - TC$

Notice something here → the monopolist can maintain a profit greater than zero because it can keep price above minimum ATC (no new firms can enter to drive it down as was the case with PC).

So, we can start to make some comparisons between monopoly and perfect competition:

Now we can start comparing the two market structures we've looked at so far... PC and monopoly.

One difference is how they go about profit-maximizing: We've just seen that the monopolist determines the profit maximizing quantity  $Q^*$  and then sets price so that  $Q^*$  will result.

PC firm takes price and sets  $Q$  to maximize profits.

⇒ Monopolists are price makers while PC firms are price takers.

To highlight other important differences, let's look at the monopolist's graph and ask ourselves what would price and quantity be if the monopolist market were taken over by perfect competition – say, when the patent runs out (like we're advancing the clock 20 years...).

Assume that market demand does not change and that the average costs of production do not change (likely to decrease as new firms innovate and specialize).

Q: will consumers of the product be better off or worse off?  
→ better - let's see why and let's see if we can measure how much better off they will be...

Monopolistic competition is similar to the case of perfect competition in that there are many firms, and entry into the industry is not restricted by any barriers.

However, it differs from perfect competition because the products sold by different firms are differentiated from one another.

For example, there may be differences in product quality, appearance, or reputation. Essentially what we're dealing with here are industries that have a lot of different "brands" to choose from.

Examples are clothes, toothpaste, cereal, shampoo, sporting goods, most grocery store items, majority of retail goods are MC. Each firm is the sole supplier of its own brand, but other brands of the same type of product exist and are close, although not perfect, substitutes.

The following conditions prevail in a monopolistically competitive market:

1. Many firms each with a small market share (larger market share than was the case with PC firms).
2. Each firm's product is a close, though not perfect, substitute for the product of other firms => a price increase by a single firm will drive away some customers, but not all customers as in PC - some customers stay because of "brand loyalty".
3. The actions of any single firm will affect its own profitability, but will not have a significant impact on the profitability of other firms in the industry (we need this assumption to

separate monopolistic competition from oligopoly, where each firm's market strategy is strongly influenced by the actions of other firms).

4. Entry into and exit from the industry are relatively easy.
5. There is no incentive to cooperate with other firms (again, this assumption is a critical difference between monopolistic competition and oligopoly).

Questions to think about:

1. What will the demand curve for any one firm's product look like?
2. Will firms earn economic profit  $> 0$ ?
3. Will there be efficiency?

→ since the product is differentiated, some market power exists at the firm level  $\Rightarrow$  the firm's demand curve will be downward sloping (the other brands are similar, but not perfect substitutes).

So these firms have some market power - some ability to influence price. They are not the pure "price takers" like in PC.

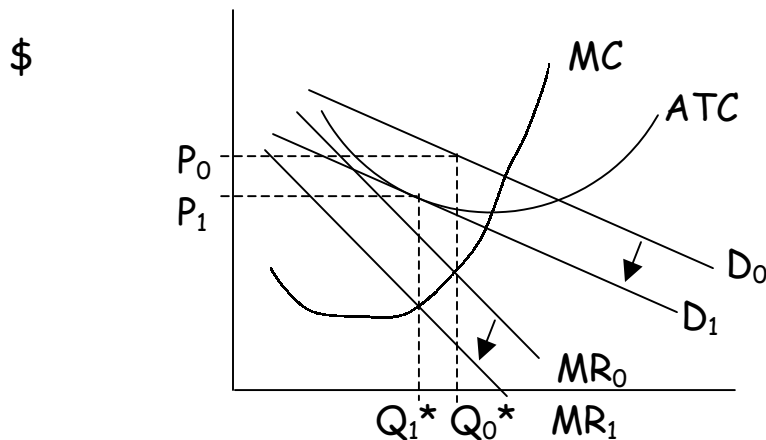
$\Rightarrow$  price will not be equal to MR (the MR curve will be below the D curve just like in monopoly, but the curves will be flatter indicating greater elasticity of demand because more substitutes).

Profit max quantity is where  $MR = MC$  (true for all firms)  
The firm then sets price according to the demand curve

So the steps for finding  $P^*$  and  $Q^*$  are just like monopoly. But this does not mean that monopolistically competitive firms will be able to enjoy the same profitability as monopolists.

Lets see why...

What if  $P > \min ATC$  in a MC market?



$\Rightarrow$  profit  $> 0 \Rightarrow$  new firms will want to enter..

can they?

$\rightarrow$  yes. No real barriers to entry here...

$\uparrow S \Rightarrow \uparrow$  availability of substitutes for any one firm's product  $\Rightarrow \downarrow D$  for that firms product.

entry of new firms will  $\downarrow$  the market share of existing firms (market becomes more competitive).

How long will this continue?

$\rightarrow$  as long as profits are  $> 0 \Rightarrow$  as long as price is  $> ATC$

D falls until D is tangent to the ATC curve  $\Rightarrow P = ATC \Rightarrow$  profit = 0  $\therefore$  firms stop entering.

POINT: even though MC firms have some market power, they earn zero economic profit in the long-run.

Monopolistic Competition long-run equilibrium:

$$MR = MC$$

$$P > MR$$

$$\Rightarrow P > MC$$

$$P = ATC \text{ (no economic profit)}$$

$$\text{But, } P > \min ATC$$

So, is monopolistic competition efficient?

-> NO. 2 reasons:

1. we don't capture all the CS and PS just like in the monopoly case.

At  $Q^*$  for the firm  $P > MC$  so the value to consumers is above the additional costs of producing the next unit, so there are units beyond what the firm produces, society could be better off. This is true for any market structure where firms have market power, where firms can set price, where firms face a downward sloping demand curve - "DWL" from monopoly power.

2. Monopolistic firms operate at a  $Q$  where  $ATC$  is not at its minimum.  $\Rightarrow$  firms are not being as efficient as possible.

IOW: they could lower costs by producing more....

Does this mean that monopolistic competition is undesirable?

- No. we sacrifice a little efficiency but we get product diversity.

Further, there are so many firms in these markets that the market power of any one firm is likely very small, and as a result, demand curves are pretty elastic and the efficiency losses are also probably pretty small.

Oligopoly exists when a few large firms dominate a market. By "a few firms", we typically mean between 3 and 10.

Note: when 2 firms control a market, we have a "duopoly".

A good rule of thumb is that if the largest 4 firms control 40% or more of the total market supply, then the industry can be considered an oligopoly.

Using this measure, approximately half of all US manufacturing industries are oligopolies.

Tons of examples: chewing gum, cigarettes, light bulbs, beer, greeting cards, airlines.

We encounter monopolistic markets for both homogenous and heterogeneous goods.

Homogenous goods examples: copper, glass, aluminum

The largest firms in oligopolistic markets have large enough market shares so that they can influence market price. Further, because market shares are so big, the actions of other firms are important to the price and output decisions of each firm.

That is, contrary to the assumptions of perfect competition and monopolistic competition, individual firms in oligopolies can threaten the profitability of other firms.

So oligopolistic firms are always watching each other, and basing their own decisions, in large part, on what other firms are doing.

In short, we can say that the characteristic that separates oligopoly from other market structures is the mutual interdependence of competing firms.

Question: if there are only a few firms, what must be true in an oligopolistic market that isn't true in PC and MC?

→ some form of barriers to entry must exist.

- ✪ economic (large scale cost advantages)
- ✪ advertising (huge cost ⇒ small firms cannot compete)
- ✪ ownership of raw mat (copper, aluminum eggs)
- ✪ patents

## Models of Oligopoly (kinked demand curve and cartels)

1. Kinked demand curve model of Oligopoly
2. Collusion/Cartel

### 1. kinked demand curve model of Oligopoly

- no cooperation or collusion among firms
- this model helps explain why the prices in some oligopolistic markets change very slowly over time – individual firms are basically *afraid* to change price because of what other firms might do.

eg: 3 firms A, B, and C

$$P_A = \$500 \quad \& \quad Q_A = 100,000$$

### **Question: what does the demand curve for firm A's product look like?**

-> it depends on how much substitution goes on between A's product and the similar products produced by firms B and C...

- the shape of the demand curve for A's product tells us how much QD changes when there is a price change (elasticity idea) – this depends on the pricing behavior and similarity of the substitutes B and C.

Consider what happens when A changes its price:

1. If firm A lowers price then B and C can follow the price change or ignore it.

If B and C *follow* then they also lower price because they are afraid of losing their market share to firm A.

If B and C ignore the price change by A, then they maintain the higher price because they don't believe that people will switch.

2. If firm A raises price then B and C can follow the price change or ignore it.

If B and C follow then they also raise price because they don't believe that people will switch, so they can increase profits by charging more.

If B and C ignore the price change by A, then they maintain the lower price because they believe that people will switch, and they can capture some of firm A's market share by having a lower price.

Notice that if the competitors B and C ignore the price change – then we have more price difference than before, so consumers are more likely to switch between products.

So if A lowers price and B and C do not follow:

- consumers are more likely to substitute toward A
- > decrease in  $P_A \Rightarrow$  big increase in  $Q^D_A$

So if A raises price and B and C do not follow:

- consumers are more likely to substitute toward B and C
- > increase in  $P_A \Rightarrow$  big decrease in  $Q^D_A$

IOW: if the other firms do not follow then the demand for A's product will be relatively ELASTIC (flat slope).

On the other hand, if the other firms do follow A's price changes, then there is going to be less substitution taking place and the demand for A's product is going to be relatively INELASTIC (steep slope).

Now...

Pretend that you are firm B and C and I am firm A.

And you think that your product is a close substitute for my product.

? what will you do if I raise price?

- nothing. Keep your price low to try and capture my market share.
- = ignore  $\Rightarrow$  makes my demand ELASTIC.

? what will you do if I lower price?

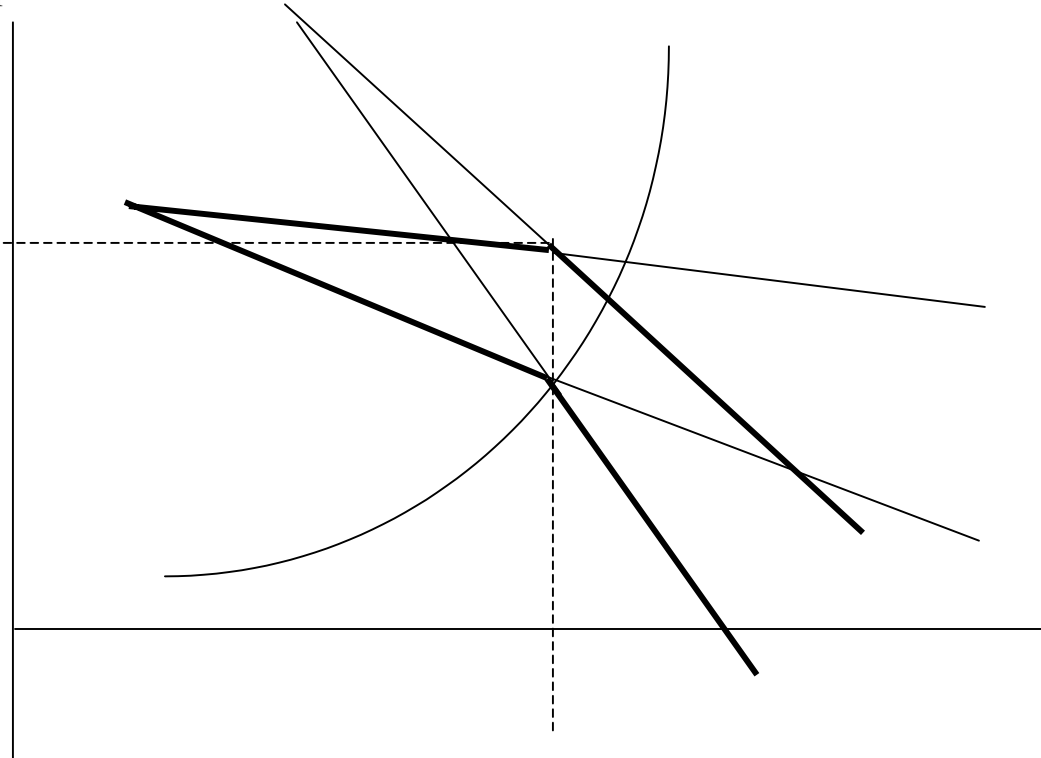
- follow. Also lower price so that I do not capture your market share.
- Makes my demand inelastic

Back to the example:

If I raise price above \$500 the demand for my product is FLAT.

If I lower price below \$500 the demand for my product is STEEP.

= “kinked” demand curve – a kink (a change in the slope) occurs at the current price. Also have a kink in the MR curve:



Notice that if one firm lowers price and others follow, there is a real possibility that the price decreases won't stop = “price war” – each price decrease by one firm is matched by other firms... we see this in airlines occasionally.

\* When firms believe that their product is a close substitute for their competitors product, they do not have much incentive to change price:

A price *decrease* will be matched, so they have nothing to gain by lowering price.

A price *increase* will not be matched, so they have a lot to lose by raising price.

## 2. Cartels

- ➔ a group of firms who sell a similar product who have joined together in an agreement to act as a monopoly – restrict output and raise price.
- the cartel model is represented by firms that cooperate or collude among each other

Collusion: to conspire to reach an agreement

Overt: open; not hidden

Covert: hidden; secret; concealed or disguised

? why would firms in an oligopoly want to cooperate or collude?

### Reasons for collusion among firms:

1. to reduce the uncertainty of a noncooperative situation – like we just discussed, competition over market share makes firms unsure of what to do with regard to pricing decisions – they're afraid to change prices – so to avoid the possibility of a price war, firms might try to cooperate.
2. to increase profits – obvious, but ahhhhhhhh... this need for profit can turn out to be the downfall of most cartels – GREED.

### 2 more “facts” about cartels and collusion:

1. Overt collusion is illegal in the US. If you're going to arrange a pricing agreement with other firms, you'd better not get caught.

2. Most cartels fail. This is because 3 things are needed for a cartel to be successful, and they're tough to accomplish –

1<sup>st</sup>, the firms must come to an agreement as to what the price and quantity should be – this is tough to do because different firms will have different cost structures and different assessments of market demand, so what is the profit-maximizing price and quantity for one firm is not likely to be the profit-maximizing combination for another firm.

2<sup>nd</sup>, the cartel members must adhere to the agreed upon price and production levels – no cheating. Turns out that each firm knows that if it cheats and the

others do not, that they can have higher profits – but if each firm follows this line of reasoning, then they all cheat and nothing is gained.

3<sup>rd</sup>, there must be the potential for monopoly power – the market demand curve must be relatively inelastic so that there are potential gains from increasing price – it has to be a good with few substitutes.

?Is the NCAA a cartel?

Where do the big profits come from at large state schools?

- sports.

Is it a competitive market?

- you'd think so with so many schools... but the large profits suggest that there is some monopoly power.
- The NCAA creates this market power and profit by restricting output – limit the number of games per season, limit the number of teams per division, strict eligibility guidelines for schools.
- Up until 1984 the NCAA restricted the number of games on TV and charged very high prices compared to today – but the supreme court called it illegal collusion and as a result we have much more games on TV today than 20 years ago.

A lot of the same things can be said for professional sports.

## Cournot Model of Oligopoly Behavior

3 assumptions:

1. duopoly – 2 firms in the industry
2. each firm takes the output of the other firm as given
3. both firms seek to maximize profits

Story ... One firm in the market producing everything, and a new firm enters. So the existing firm is acting like a monopoly – market demand curve = firms demand curve.

So the new firm enters and assumes that the existing firm will initially disregard the existence of the new firm – producing as much as before and charging the same price.

So the new firm is just looking at the market demand curve below the price charged by the existing firm.

Old firm soon discovers that its demand has eroded somewhat due to the new competition, so starts producing at a lower level of output.

New firm now sees that the old firm is producing less and raises its output.

Eventually, the firms split the market and charge the same price.

Simple model, that rests on the assumption that firms do not anticipate each other's moves ... Unrealistic for that reason.

Game theory is the study of these types of situations.

In all conflict situations (games) there are decision makers (players), rules, and payoffs (prizes).

Game theory is a mathematical technique for analyzing the decisions of interdependent oligopolistic firms in uncertain situations. A “game” here is simply a competitive situation where two or more firms or individuals pursue their interests and no person can dictate the final outcome or “payoff”.

Players choose their strategy without certain knowledge of the other players strategies, but may eventually learn which way the opposition is leaning.

The fundamental tool of game theory is the “payoff matrix”. This is simply a way of organizing the potential outcomes of a given game when they are contingent upon the game player’s actions.

Example of a simple game and “payoff matrix”:

Duopoly – each of the two firms A and B must decide whether to mount an expensive advertising campaign.

- If each firm decides not to advertise, each will earn a profit of \$50,000.

- If one firm advertises and the other does not, the firm that does will increase its profits by 50% to \$75,000, and drive the competition into the loss column.

- If both firms advertise, they will earn \$10,000 each.  
(advertising expense forced by competition wipes out large profits)

- If firms could agree to collude, the optimal strategy would obviously be to not advertise – maximize joint profits = \$100,000
  - assume they cannot collude, and therefore do not know what the competitor is doing.

A “Dominant Strategy” is the one that is best no matter what the opposition does.

		<b>B</b>	
		Do not Ad	Ad
<b>A</b>	<b>Do not Ad</b>	A profit = \$50 B profit = \$50	A loss = \$25 B profit = \$75
	<b>Ad</b>	A profit = \$75 B profit = \$25	A profit = \$10 B profit = \$10

*“The Prisoners Dilemma”.*

The setup: You and your friend Buggy are the prime suspects for knocking over a liquor store. The cops pick you up, and immediately after your arrest you and Buggy are separated and questioned individually by the district attorney. Without a confession, the DA has insufficient evidence for a conviction. During your interrogation, you are told the following:

- a. The police do have sufficient evidence to convict you and Buggy of lesser crime.
- b. If you and Buggy both confess to the liquor store heist, you will each get a 5 year sentence.
- c. If neither of you confesses, you will each be charged with the lesser crime, and sent up the river for 1 year.
- d. If Buggy confesses (turns state’s evidence) and you do not, Buggy will go free while you will be convicted of the liquor store robbery and get sent to the big house for 7 years.

Buggy is told the exact same information.

→ **What will you do?**

Use the following table to show the outcomes of the dilemma.

		<u>You</u>	
		Do not Confess	Confess
<u>Buggy</u>	Does not Confess	Buggy = 1 year You = 1 year	Buggy = 7 years You = free
	Confess	Buggy = Free You = 7 years	Buggy = 5 years You = 5 years

There are some games where one player does not have a dominant strategy but the outcome is predictable ...

		<b>D</b>	
		<b>Left</b>	<b>Right</b>
<b>C</b>	<b>Top</b>	C profit = \$100 D profit = \$0	C profit = \$100 D profit = \$100
	<b>Bottom</b>	C loss = \$100 D profit = \$0	C profit = \$200 D profit = \$100

D's behavior is predictable in this case.

“Nash Equilibrium” is achieved when all players are playing their best strategy given what the other players are doing.

		<b>D</b>	
		<b>Left</b>	<b>Right</b>
<b>C</b>	<b>Top</b>	C profit = \$100 D profit = \$0	C profit = \$100 D profit = \$100
	<b>Bottom</b>	C loss = \$10,000 D profit = \$0	C profit = \$200 D profit = \$100

D's behavior is again predictable – choose Right is the dominant strategy – but now C stands to lose a great deal if by chance D chooses left instead.

C is likely to choose top and guarantee a \$100 profit rather than chancing a loss of 10,000 for a potential profit of 200.

Herfindahl-Hishman Index (HHI) = a measure of market structure or measure of degree of competition between firms.

Calculated by expressing the market share of each firm as a percentage, squaring these figures, and adding them up.

$$\text{HHI} = \sum_{i=1}^n S_i^2 \quad (S = \text{share})$$

Eg: 2 firms control 50% each:

$$\text{HHI} = 50^2 + 50^2 = 2500 + 2500 = 5000$$

$$A = 80\%, B = 10\%, C = 10\% \quad \text{HHI} = 6,600$$

$$4 \text{ firms with even market shares} \quad \text{HHI} = 2,500$$

$\text{HHI} < 1000 \Rightarrow$  the industry is considered not concentrated, mergers will likely go unchallenged.

$1000 < \text{HHI} < 1800 \Rightarrow$  justice dept will challenge mergers that increase the HHI by over 100 points

$\text{HHI} > 1800 \Rightarrow$  industry is concentrated and justice dept will challenge mergers that increase HHI by 50 points.

1982 Pabst and Heileman breweries proposed a merger.

HHI in the industry ws 1772

Each had 7.5% pre-merger

? did the justice dept allow the merger?

NO.

$$15^2 = 225$$

$(7.5^2 + 7.5^2) = 112.5 \Rightarrow$  increase in HHI is 112.5

Pabst agreee to sell 4 brands 2 years later and decrease its market share by one-third.

Merger went through...

Ok... Wrap it up:

are oligopoly firms going to earn a profit? Yep.

Charge a higher price? Yep.

Higher than ATC? Yep.

Higher than MC? Yep.

