

# Economics 101 – Section 5

Lecture #21 – April 6, 2004

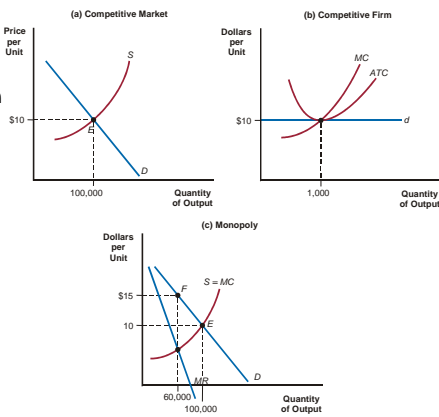
Monopoly – Chapter 9  
Price discrimination

Chapter 10  
Monopolistic Competition  
Oligopoly  
Game Theory

## Monopoly

- If there is an increase in demand, the monopolist will
  - Charge a higher price, produce more quantity
  - Earn higher profit
- If there is a decrease in demand, the monopolist will
  - Charge a lower price and reduce output
  - Earn smaller profit

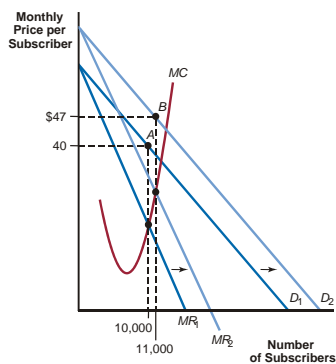
**Figure 4**  
Comparing Monopoly and Perfect Competition



## Monopoly – Price discrimination

- Price discrimination
  - Charging different people different prices
- If a monopolist can charge different prices to different groups of people they would generally like to do so.
  - Why?
    - By distinguishing between the low and high demand individuals they are better able to charge a higher price to those individuals with higher demand

**Figure 5** A Change in Demand



## Monopoly – Price discrimination

- High demand groups are willing to pay more for the same quantity than a low demand group
- The monopolist will always like to price differently for these two groups since
- Also, the option to price discriminate should never make a monopolist worse off
  - More choice is always better for a firm

## Monopoly – Price discrimination

- When price discrimination raises the price as compared to just the single price monopoly consumers are worse off
- When price discrimination lowers the price as compared to just the single price monopoly, those consumers will be better off.

## Monopoly – Price discrimination

- For a perfect price discriminator:
  - Marginal revenue (MR) is equal to the price of the additional unit sold
    - A firm's MR curve is actually the demand curve when the firm is practicing perfect price discrimination

Figure 6 Price Discrimination

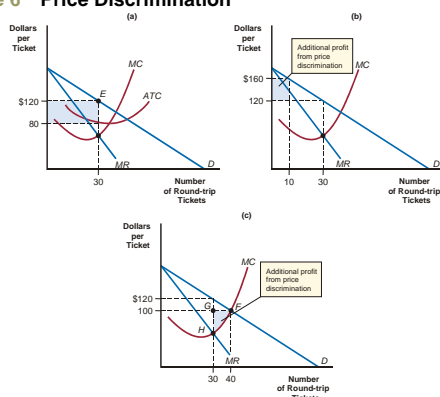
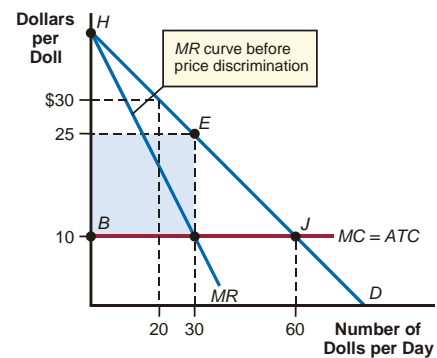


Figure 7 Perfect Price Discrimination



## Monopoly – Price discrimination

- Perfect price discrimination
  - Under perfect price discrimination the monopolist will charge each consumer the highest price possible they would be willing to pay for each unit bought
  - Hypothetical example with water in the desert
    - Willing to pay all for the first glass – the monopolist charges you this price
    - Willing to pay a little less for the second glass – the monopolist now charges you this price
    - This will continue until the price you pay per glass of water is equal to the cost of providing the glass of water by the monopolist

## Monopolistic Competition

- 3 characteristics of a monopolistically competitive market
  - 1) Many buyers and sellers
  - 2) no major barriers to entry or exit
  - 3) differentiated products
- Note that point 3) is different from perfect competition

## Monopolistic Competition

- What is a monopolistically competitive firm?
- A monopolistic firm is the only producer of a differentiated product but there are still close substitutes
  - Examples
    - Restaurants - McDonalds vs. Burger King
    - Magazines
    - Newspapers – Des Moines Register vs. Ames Tribune

## Monopolistic Competition

- If there are excess profits then other firms will enter
  - These new firms will not be producing the same products, but they will be close substitutes
  - Foreign example with magazines – The Globe and Mail vs. the National Post
    - In the 80's Canada had one major national paper – the globe and mail, and many regional papers
    - The excess profits enticed (Lord) Conrad Black to launch another paper – The National Post

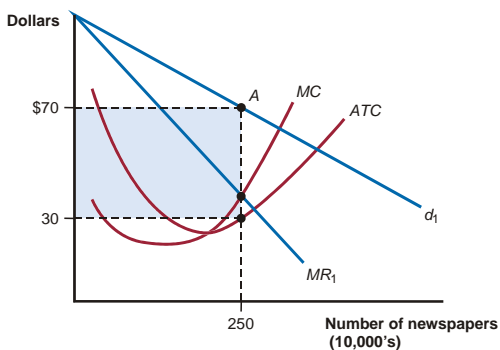
## Monopolistic Competition

- Under monopolistic competition the firm still faces a downward sloping demand curve
  - When it raises the price it charges the quantity demanded will decrease but not to zero
    - Remember that under PC, if a firm raised its price then the amount it could sell went to zero
- The firm will, as always, have the objective of maximizing profit
  - The firm will maximize profit where  $MR=MC$  and
    - $P > AVC$  in the SR, or
    - $P > ATC$  in the LR

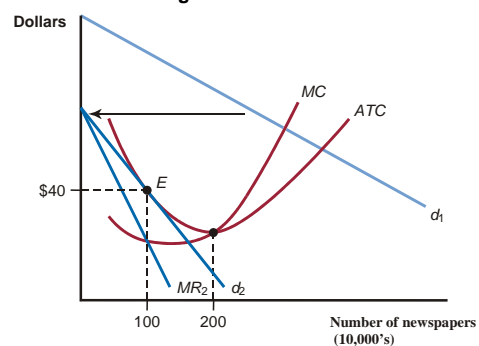
## Monopolistic Competition

- The presence of the other The National Post caused demand for the Globe and Mail to decrease since the two papers were close substitutes
  - This decrease in demand will reduce how much revenue can be earned
  - In the LR and entry of additional firms, profits are driven to zero

**A Monopolistically Competitive Firm in the Short Run – The Globe and Mail**



**A Monopolistically Competitive Firm in the Long Run – The Globe and Mail**



## Monopolistic Competition

- Note that in the LR the monopolistically competitive firm will always operate at a point to the left of the minimum of the ATC
  - The firm will not produce enough output to reach the minimum cost to produce per unit
    - i.e. it will not achieve the minimum efficient scale
- Recall the LR result for
  - 1) Competition
  - 2) Monopoly

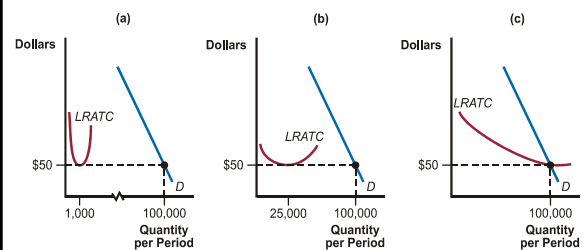
## Oligopoly

- Why do oligopolies exist?
  - 1) economies of scale – arise because of minimum efficient scale
    - Construction companies at the local level
    - Biotech companies
    - Multinational corporations
    - Railroad companies

## Monopolistic Competition

- Final point on monopolistic competition
  - Under monopolistic competition firms can use methods other than price to sell more goods
    - This is non-price competition
- Why does this not work under perfect competition?
- Would a perfectly competitive firm use non-price competition actions?
- Would a monopolist ever use non-price competition?

**Figure 3 Minimum Efficient Scale and Market Structure**



## Oligopoly

- An oligopoly is a market dominated by a small number of strategically inter-dependent firms
  - Strategic here since the firms actions directly affect those of the other firms
  - Since there are a small number of firms, they realize the interaction amongst themselves
  - This creates an incentive to act strategically since:
    - “They know that I know that they know that I know that...”
- Under monopolistic competition and perfect competition there were so many buyers and sellers that no one firm could affect any other firm

## Oligopoly

- Why do oligopolies exist?
  - 1) economies of scale – arise because of minimum efficient scale
  - 2) Reputation as a barrier
  - Strategic barriers
  - Government created barriers
    - US steel companies
    - Zoning

## Oligopoly

- How to capture this strategic interaction among firms?
- Mostly use **Game Theory**
  - This captures explicitly the strategic interaction between firms
  - Strategies
    - Dominant strategy
      - Weakly vs. strictly dominant strategy
    - Dominated strategy

Figure 4 The Prisoner's Dilemma

		Colin's Actions	
		Confess	Don't Confess
Rose's Actions	Confess	Colin gets 20 years Rose gets 20 years	Colin gets 30 years Rose gets 3 years
	Don't Confess	Colin gets 3 years Rose gets 30 years	Colin gets 5 years Rose gets 5 years

## Oligopoly

- Classic example of the prisoners dilemma
  - Two people (Colin and Rose) have committed a crime – say murder
    - They were both seen beating two people – one person got away and the other - less fortunate, person was actually murdered
    - No body was ever found – only these two people know where it is.
    - If they both keep their mouths shut then they will only get convicted of assault – each gets 5 years
    - However, if one (i.e. Colin) confesses and agrees to a plea bargain then they get 3 years but the other individual (Rose) gets 30 years
    - If they both confess then they each get 20 years

## Oligopoly

- Classic example of the prisoners dilemma
  - Also assume they Colin and Rose did not really know each other before the crime and do not really care what will happen to each other in the future.
  - What is the solution here?
- Consider the payoff matrix where Rose's sentence is in orange and Colin's sentence is in purple