Monopoly

November 2, 2006

Reading: Chapter 14

Start examining markets in which perfect competition does not prevail. We examine the case of monopoly – single seller - and explore how it results in market failure and efficiency loss. Discuss appropriate policies to address the problem. Also examine the case of discriminating monopolist.

Monopoly

a. Market structures
b. Meaning of monopoly
c. Monopoly equilibrium
   i. Demand curve and marginal revenue
   ii. Profit maximization
   iii. Monopoly versus perfect competition
d. Monopoly and public policy
   i. Welfare effect of monopoly
   ii. Preventing monopoly
   iii. Dealing with natural monopoly
e. Price discrimination

Market Structures

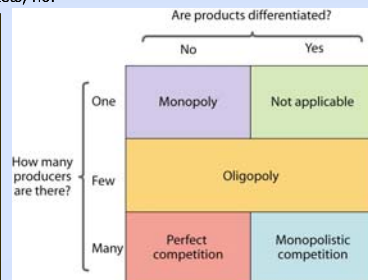
One of the assumptions we have made so far in examining markets is perfect competition: many small sellers. Implication: markets are efficient (under some conditions). But is perfect competition a valid assumption? For many markets, no.

Four principal models of market structure:

1. perfect competition
2. monopoly
3. oligopoly
4. monopolistic competition

Models of market structures can be distinguished on two dimensions:

- The **number of producers** in the market: one, few, or many (few is not defined by numbers but qualitatively).
- Whether the **goods** offered are **identical or differentiated** (considered different by consumers but similar in the sense that they are substitutable).



Meaning of Monopoly

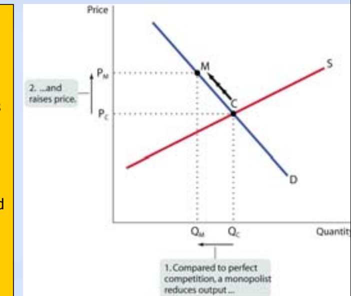
What a Monopolist Does

A **monopolist** is a firm that is the only producer of a good that has no close substitutes. An industry or market with one seller is known as a **monopoly**.

The ability of a monopolist (or other firm) to raise its price above the competitive level by reducing output is known as **market power**.

Under perfect competition, price and quantity are determined by supply and demand. Equilibrium is at *C*, with price P_C and quantity is Q_C. A monopolist reduces the quantity supplied to Q_M, and moves up the demand curve, raising the price to P_M. Firms in perfectly competitive markets cannot do this because they are price takers.

A *monopolist* has *market power* and hence charges higher price and produces less output than a competitive industry. Monopolist makes in the short and long runs.

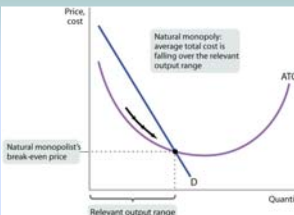


Meaning of Monopoly

Why Do Monopolies Exist?

Why does profit persist in the long run? Why do other firms not enter the market? Monopolies can exist because of **barriers to entry** due to:

- **control of natural resources or inputs**. Ex: De Beers and diamonds
- **economies of scale**, which create natural monopolies. Ex: utilities like gas – large fixed costs and falling average total cost
- **technological superiority**. Ex: Computer chips. But others can copy, temporary
- **legal restrictions** imposed by governments, giving exclusive rights, including patents and copyrights.



As a firm expands output, ATC falls due to economies of scale. Other firms who are smaller will not be able to compete and exit. New firms cannot enter, because of high fixed costs and high ATC at low output levels.

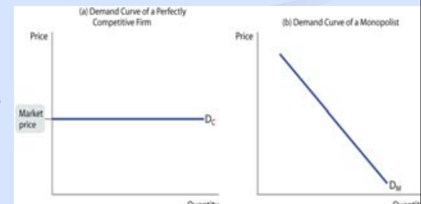
Monopoly Equilibrium

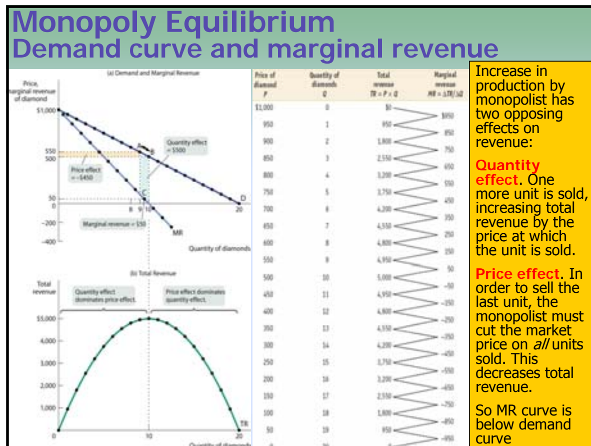
Demand curve

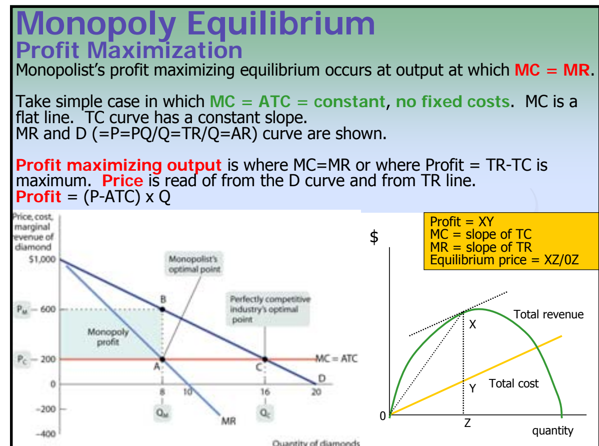
Profit maximizing firms produce at the level of output at which profit, or revenue minus cost is at its maximum. This is the same as the output at which **MC = MR**.

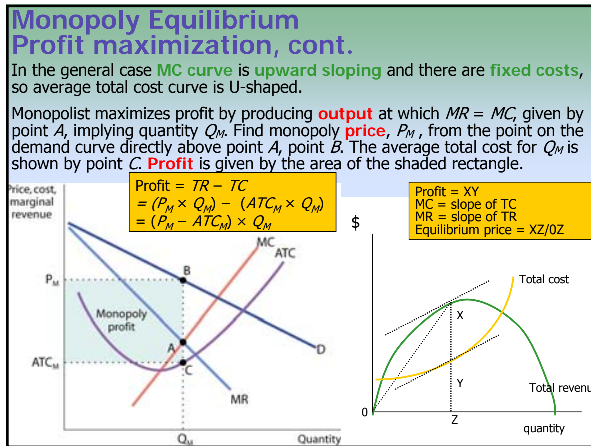
In a market with **perfect competition**, the individual firm is a price taker. Cannot charge a higher price than market price: buyers will buy from other firms. Will not charge a lower price than market price: it can sell any amount at the going price – why sell for less. So the firm's demand curve is a perfectly elastic, although the market demand curve is negatively sloped. The firm here is small.

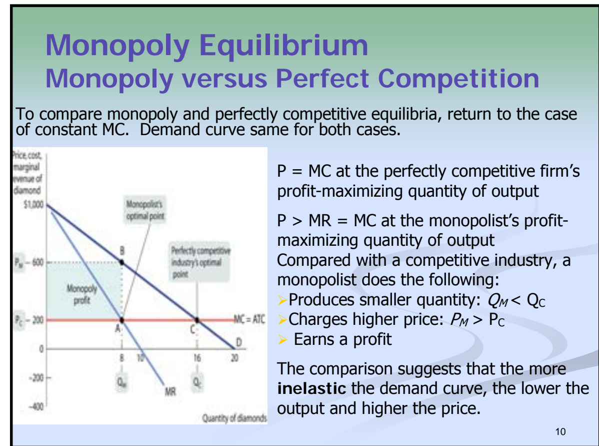
For the **monopolist**, the demand curve is the market demand curve: it is therefore downward sloping. The monopolist knows that if it produces more it will obtain a lower price for its product and will take this into account.

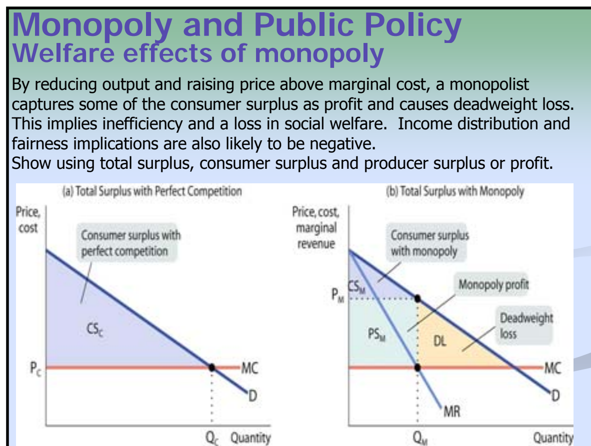












Monopoly and Public Policy

Preventing monopoly

To avoid social welfare loss, government policy attempts to prevent monopoly behavior.

When monopolies are "created" rather than natural, governments can act to prevent them from forming and break up existing ones.

The government policies that prevent or eliminate monopolies are known as **antitrust policy**. If firms are trying to get together and create a monopoly, government gets involved to prevent mergers or collusion.

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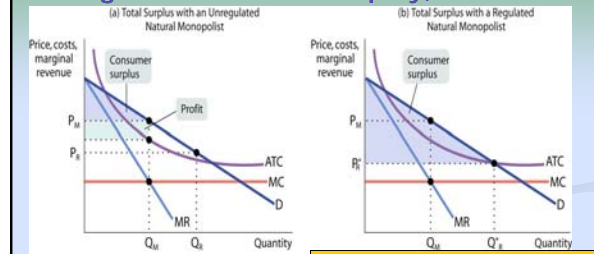
Monopoly and Public Policy
Dealing with natural monopoly

If there is a natural policy, it cannot be broken up without raising average costs. Also, one firm is likely to emerge as the only seller. Three approaches:

1. **Public ownership**. Government ownership of utilities, transportation. Sometimes works well, reducing welfare loss. But publicly owned companies often create inefficiencies because they have high costs (managers don't try to keep costs down) and they are open to political pressures, for instance, to keep employment high.
2. **Price regulation**. Common in the US. A price ceiling imposed on a monopolist does not create shortages as long as it is not set too low.
3. **Doing nothing**: monopoly is a bad thing, but the cure may sometimes be worse than the disease. Politicization of prices. Not knowing what is the correct cost. Cost padding by regulated firms. But doing nothing results in welfare losses.

Monopoly and Public Policy
Dealing with natural monopoly, cont.



Unregulated monopolist is allowed to charge P_M, it makes a profit, shown by the green area; consumer surplus is shown by blue area. If it is **regulated** and must charge the lower price P_R, output increases from Q_M to Q_R, and consumer surplus increases.

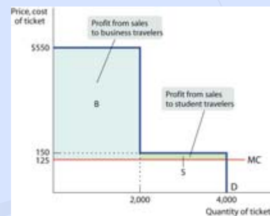
Regulated monopolist which must charge a price equal to average total cost, the price P_R^*. Output is Q_R^*, and consumer surplus is entire blue area. The monopolist makes zero profit. This is the greatest consumer surplus possible when the monopolist is allowed to at least break even, making P_R^* the best regulated price.

Price Discrimination

So far we examine only **single-price monopolist**, one who charges all consumers the same price. Not all monopolists do this.

In fact, many monopolists find that they can increase their profits by charging different customers different prices for the same good: they engage in **price discrimination**.

Price discrimination is **possible** if there are two or more groups of potentially customers who can be easily distinguished and who cannot resale what they buy to each other. It is **profitable** if the groups of customers have different characteristics – such as how elastic their demand is or how much they are willing to pay.

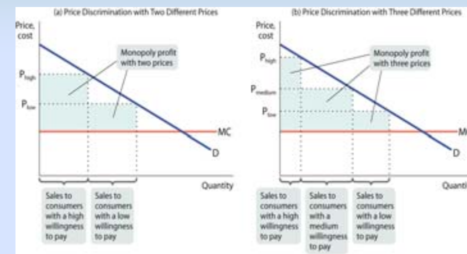


Example: airline tickets for businesses and students.

Price Discrimination, cont.

It is profit-maximizing to charge higher prices to low-elasticity consumers and lower prices to high elasticity ones.

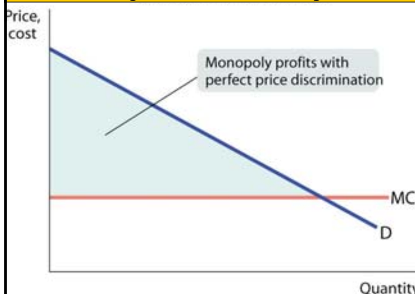
Discriminating monopolists can charge more than two prices to different sets of customers. Example with three prices.



By increasing the number of different prices charged, the monopolist captures more of the consumer surplus and makes a large profit.

Price Discrimination
Perfect Price Discrimination

In the case of perfect price discrimination, a monopolist charges each consumer his or her willingness to pay; the monopolist's profit is given by the shaded triangle. There is no deadweight loss!



Perfect price discrimination is probably impossible in practice.

Creates a problem for **prices as economic signals**; consumer's true willingness to pay can easily be disguised.

However, monopolists do try to move towards perfect price discrimination through a variety of **pricing strategies**, such as:

Advance purchase restrictions

Volume discounts

Two-part tariffs: fee plus price.

Fairness issues.