IMPERFECT COMPETITION

Revenue in a market is based on:
1) Amount of competition
2) Degree of product differentiation
3) MR for firm(s) in an industry

- this is used along with production costs in an industry to determine P_*, Q_*, profit, and loss

<u>Perfect Competition</u> (frictionless model)
- large number of small firms
- no product differentiation (commodity)

⇨ Firms are price takers, facing perfectly elastic demand

⇨ Long-run equilibrium: no *economic* profit but normal profit only as free entry/exit eliminates both loss and economic profit

⇨ ZERO economic rent in L/R equilibrium (as supply catches up with demand)

⇨ Economic profit can't be sustained in L/R

The other extreme:

MONOPOLY
- single producer of a good with no *close* substitutes
- no entry into this industry
- the firm IS the industry

<u>Curves for the monopolist</u>
Demand for the industry is *same* as the demand for the monopolist (downward sloping)
- Since there are no close substitutes, demand is steep
- To increase sales, *given downward sloping demand*, price must be lowered

=> MR ≠ P (recall: for perf. comp: P = MR)

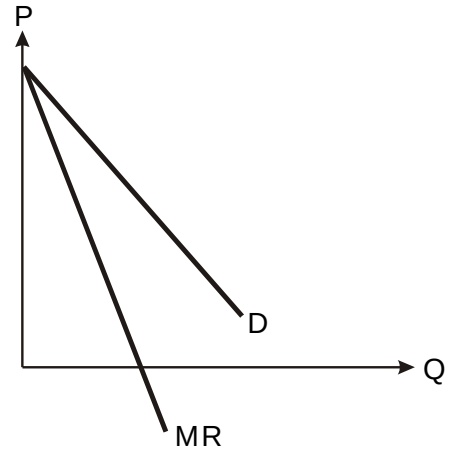
Think of marginal revenue as price of next unit sold
- since must lower price to sell more:

⇨ **MR < P** with downward sloping demand

MR = ΔTR/ΔQ (review this in text)

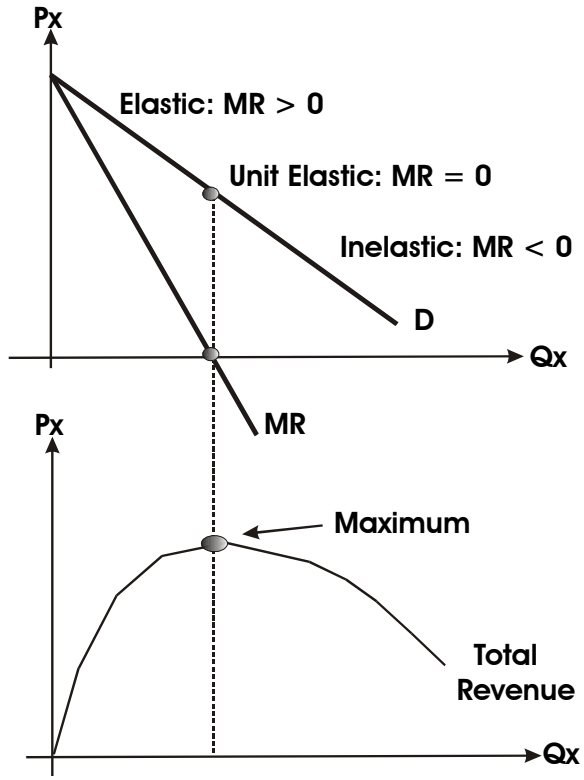
- MR tells what happens to total revenue as sales (Q) changes
- MR is the rate of change in total revenue as Q changes

RESULT: the MR curve:
(1) Has the same vertical intercept as Demand;
(2) Is twice as steep as Demand

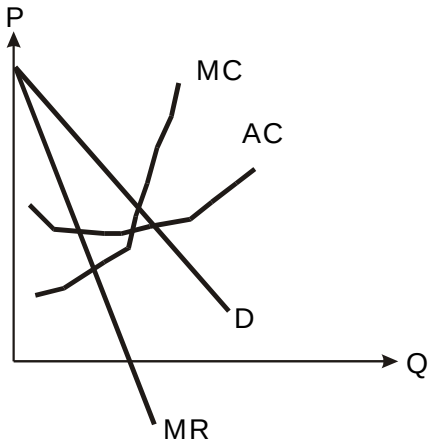


REVIEW: elasticity of demand varies along a straight line demand curve, with:

- upper range – elastic (↓P → ↑TR, MR >0)
- midpoint – unit elastic (TR constant, MR = 0)
- lower range – inelastic demand (↓P → ↓TR, MR < 0)

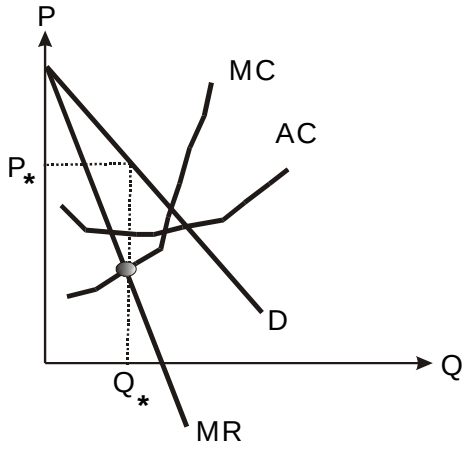


To determine profit-maximizing output and price add the short-run cost curves:



Profit-maximizing output: where MR = MC (same as before)

Price – *the highest price the market will pay for the profit-maximizing quantity* (called the **demand price**)



Procedure:

(1) Find where MR = MC

(2) Draw a line straight down to get Q_*

(3) Draw a line up to the demand curve at Q_* to get P_*

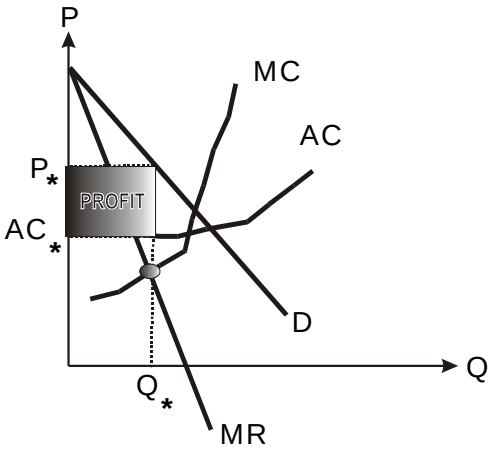
There is no guarantee that a monopolist earns profit – depends on costs and demand

If demand is very low, falling far below AC, profit is impossible (draw this)

- then, have a monopoly but nobody cares about the product with a monopoly

⇨ ***Demand is a constraint on the monopolist, it ultimately determines the maximum price that can be charged***

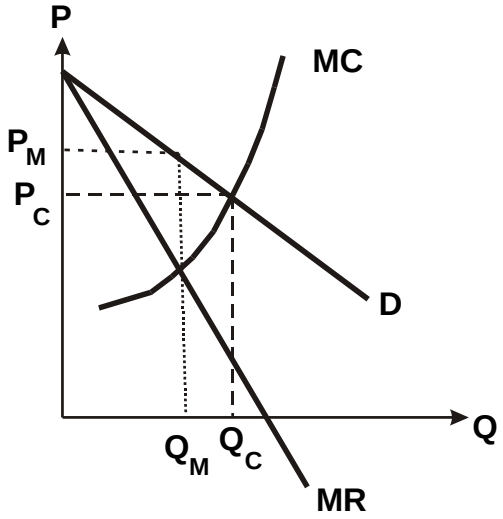
Determining profit/loss done the usual way: compare P and AC at Q_*. If P > AC then economic profit exits



IF a monopolist earns economic profit in the short-run, then, since there is no entry, economic profit (rent) can be sustained *and possibly increased* in the long-run

- This occurs if economies of scale exist
- It probably will make government intervene

Relative to perfect competition, monopoly restricts output and raises price
- Monopoly is not allocatively efficient



<u>Monopolist:</u>
$P = P_M$
$Q = Q_M$
<u>Perfect Comp.</u>
P = MC (at D) = $\mathbf{P_C}$
Q at D = MC = $\mathbf{Q_C}$

Recall: *Perfect Competition produces the socially optimal output – it is allocatively efficient*

⇨ what is best for the individual producer is also what is best for society

MONOPOLY:

- the monopolist pursuing self-interest (profit-maximization) fails to bring about the socially optimal output

⇨ what is best for the monopolist is *not* what is best for society

⇨ **MARKET FAILURE – the market when left alone fails to automatically bring about the socially optimal Q**

⇨ **Allocative efficiency fails here**

Market failure provides a rationale for government intervention to better approximate $\mathbf{Q_c}$
- generally this means litigation and an unfavorable anti-trust ruling

The "Robber Barons" of the 1800s industrial era were monopolists

- Have you seen their modest summer homes in Newport? (i.e., the mansions)

Problem:

While monopoly *was* a major problem *then*, today firms have large research and development (R&D) costs and they compete in a globally competitive environment

⇨ *to compete globally in high tech fields, firms must often pool their resources (knowledge, resources, etc.) to survive*

⇨ technically, this violates anti-trust laws

Q: Does existing anti-trust legislation need to be eliminated or modified?

A: At least modified, sometimes relaxed

Ex: To preserve DRAM memory firms in the US it was necessary to allow them to combine into a Consortium to compete

Application:

Microsoft Corp – is this a monopoly that must be broken up into separate parts?

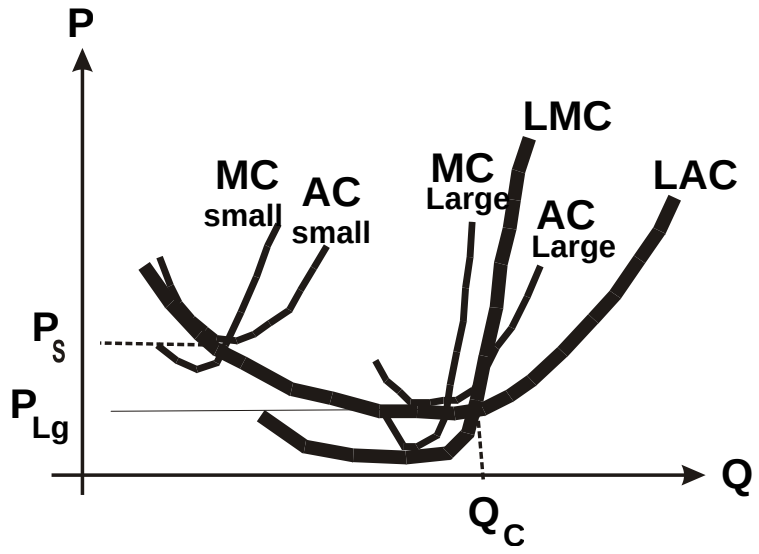
- in 1995 they *were* a monopoly, engaging in abuses possible as the result of their sheer market power
- BUT, today, technology has diminished the central role of the desktop computer. They don't dominate software for PDA's or other "appliances" of the future

Technology and rapidly changing "product life cycles" make sustaining monopoly more difficult that it was in the past

An example of this is the NATURAL MONOPOLY

NATURAL MONOPOLY (traditional view)

- when large economies of scale exist, it is "natural" for a monopoly to arise since a single large firm can out-compete any smaller firm based on price



This was once applied to the phone company
- AT&T was a natural monopoly since it would "never" be economical for any other firm to run phone wires to homes
- They were regulated in terms of price, etc.
- *But, with technology and cable TV, there is another line running to many homes that can carry (digital) phone service*
- This led to phone companies merging with cable TV companies in the 1990s

"Ma Bell" (AT&T) had its local service taken away and broken into "Baby Bells" years ago
- these "Baby Bells" were not allowed to provide long-distance service, only AT&T could provide this along with new competitors (ex: MCI, Cox Cable, Sprint)
- today, AT&T is getting back to local service and the "Baby Bells" are starting to provide long-distance service
- in the next few years, will we be using line phones in homes or just cell phones?

PRACTICE QUESTIONS

When _____ substitutes exist, the market power of the firm is _____.
a. few; greater.
b. few; reduced.
c. many; greater.
d. many; unaffected.
e. many; eliminated.

All of the following are sources of barriers to entry EXCEPT
a. government franchises.
b. patents.
c. full information.
d. economies of scale.
e. ownership of a scarce factor of production.

For a competitive firm, *P* _____ *MR*, and for a monopolist *P* _____ *MR*.
a. equals; is greater than.
b. equals; is less than.
c. equals; equals.
d. is less than; equals.
e. is greater than; equals.

Comparing long-run equilibrium in monopoly to that in a perfectly competitive industry we find
a. the monopolist charges higher prices.
b. output is greater in the perfectly competitive equilibrium.
c. the monopolist can earn positive profits.
d. All of the above.
e. (a) and (c) only.

Natural monopoly occurs when there are
a. large economies of scale.
b. firms joining together to limit output and raise prices.
c. different prices for different consumers or groups of consumers.
d. input markets that have only one buyer.
e. patents.

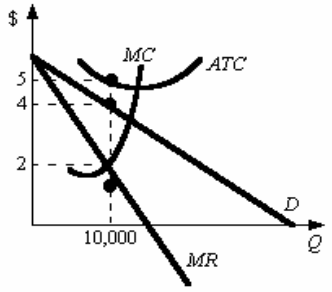


Figure 12.1

Refer to the Figure 12.1. The profit-maximizing price
a. is $2.
b. is $4.
c. is $5.
d. is approximately $4.50.

Refer to the Figure 12.1. At the profit-maximizing level of output, total revenue
a. is $10,000.
b. is $20,000.
c. is $40,000.
d. is $50,000.

Refer to the Figure 12.1. At the profit-maximizing level of output, total cost
a. is $10,000.
b. is $20,000.
c. is $30,000.
d. is $50,000.

Refer to the Figure 12.1. At the profit-maximizing level of output, the firm has a:

a. profit of $10,000.
b. profit of $20,000.
c. loss of $10,000.
d. loss of $20,000.
e. break-even position.