

The Competitive Ideal

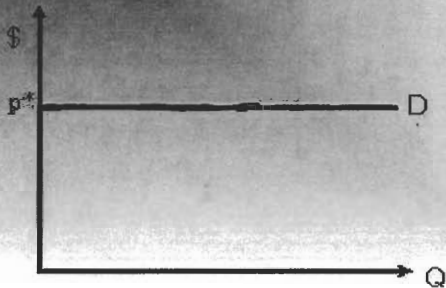


Perfect Competition:

- potential buyers and sellers are numerous
- firms produce a homogeneous (standardized) good
 - no barriers to entry or exit
 - complete information
 - price takers
 - price = marginal revenue



Firm's Demand Curve



**DEMAND AS SEEN BY A
PURELY COMPETITIVE SELLER**

Product Price (P) (Average Revenue)	Quantity Demanded (Q)	Total Revenue (TR)	Marginal Revenue (MR)
\$131	0	\$ 0	

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**DEMAND AS SEEN BY A
PURELY COMPETITIVE SELLER**

Product Price (P) (Average Revenue)	Quantity Demanded (Q)	Total Revenue (TR)	Marginal Revenue (MR)
\$131	0	\$ 0	
131	1	131	\$131

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**DEMAND AS SEEN BY A
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Product Price (P) (Average Revenue)	Quantity Demanded (Q)	Total Revenue (TR)	Marginal Revenue (MR)
\$131	0	\$ 0	
131	1	131	\$131
131	2	262	131

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Product Price (P) (Average Revenue)	Quantity Demanded (Q)	Total Revenue (TR)	Marginal Revenue (MR)
\$131	0	\$ 0	\$131
131	1	131	131
131	2	262	131
131	3	393	131

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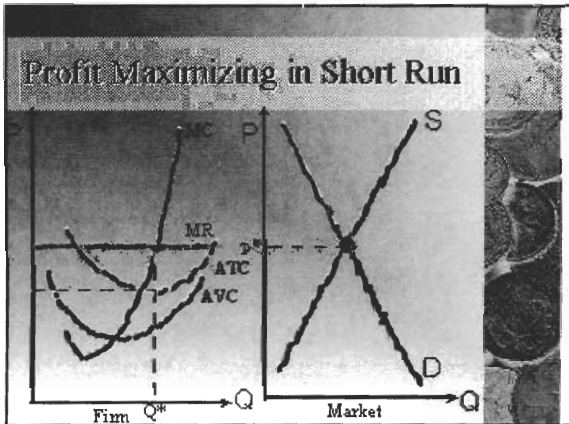
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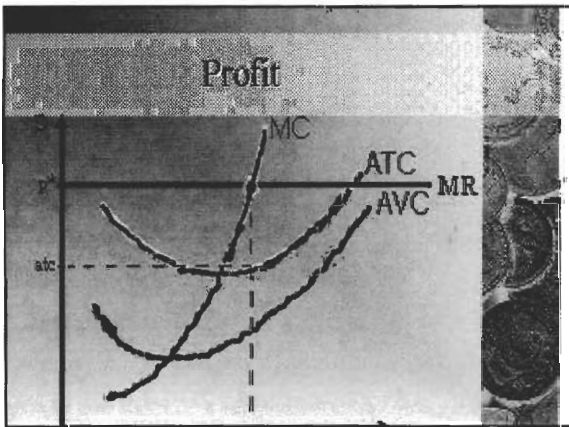
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\$131	0	\$ 0	\$131
131	1	131	131
131	2	262	131
131	3	393	131
131	4	524	131

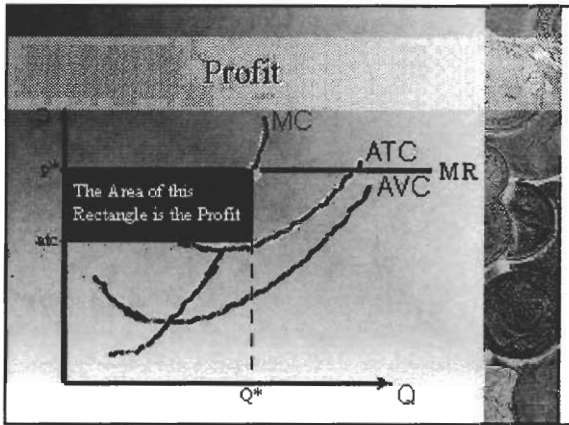
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Firm's horizontal demand curve

- At $p > p^*$, sales = 0
- at $p < p^*$, less profits than if sell at p^*
- p^* found from market equilibrium price

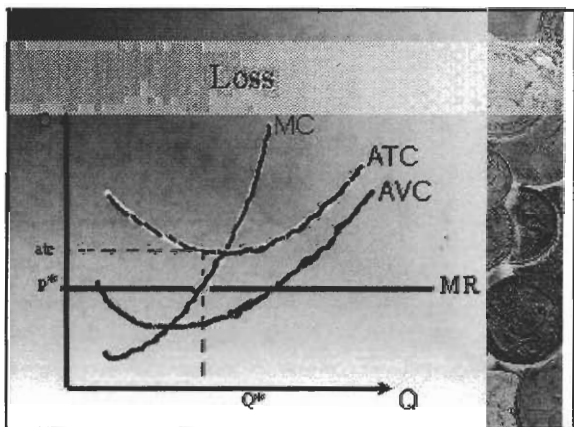


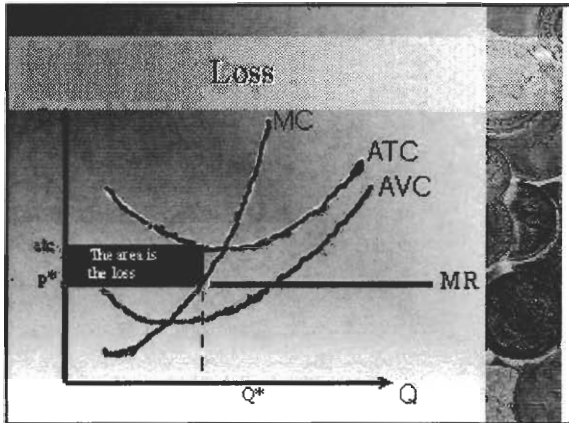




Profit maximization:

- If $MR > MC$ then increasing production will increase profit
- If $MR < MC$ then decreasing production will increase profit
- Profit is maximized by producing where
 - $MR = MC$
 - or
 - $P = MC$ (perfect competition only)





The decision of whether to stay open:

- Just because a firm is losing money in the short run doesn't mean it should close its doors. Often we hear of major firms like IBM posting a loss, but they stay open.
 - When does a firm shut down?
 - Break even point- $P = ATC$
 - Firm is earning normal profits

The decision of whether to stay open:

- If $AVC < P^* < ATC$, then the firm is losing money, but they are getting enough revenue to pay all of the variable cost and some of the fixed cost.
 - If they shut down, they will have to pay all of the fixed cost with no revenue.
 - So they are better off staying open and being able to pay some of the fixed costs than shutting down and not being able to pay all of the fixed cost

The shut down point:

- Shut-down point- $p = \min AVC$
- firm is indifferent between staying in business and going out of business

Shut down point:

- As long as a firm can cover its variable cost it will continue to produce in the short run
 - If a firm cannot cover its variable cost it will minimize its losses in the short run by shutting down
- in the long run if a perfectly competitive firm has negative economic profits it will exit the industry
 - if firms in a perfectly competitive industry are earning economic profits other firms will enter the industry and eliminate those profits

Output supply decisions are less constrained in the long run.

- **The firm has no fixed factors of production; all inputs are variable.**
- **Firms are free to enter or exit the industry.**

Profits can fall into three different categories:

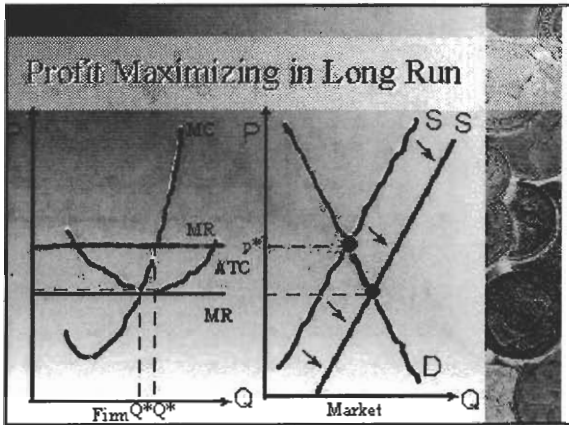
- **Normal profits:** The firm is earning just enough to cover opportunity costs. Economic profits are zero and the firm is “breaking even.”
- **Economic profits:** The firm is earning more than enough to cover opportunity costs.
- **Economic losses:** The firm is not earning enough to cover opportunity costs.

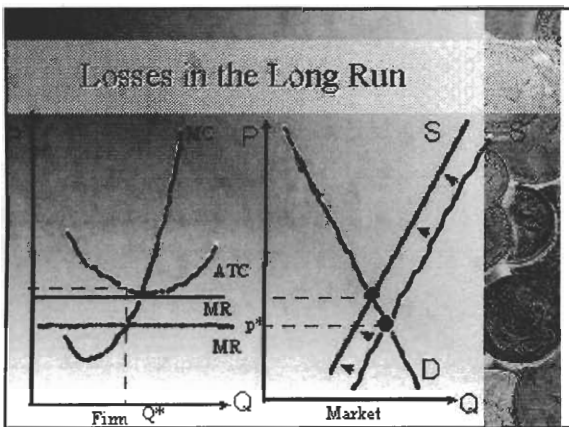
Economic profits:

- Positive economic profits are signals to enter into an industry
- Negative economic profits are signals to leave an industry
- When economic profits are zero (normal rate of return) there is no incentive to enter or exit

Long-Run Directions

- If firms in an industry are earning economic profits, expect that industry to expand.
- If firms in an industry are earning economic losses, expect that industry to contract.
- If firms in an industry are earning normal profits, expect no further entry or exit.





Monopoly



Imperfect Competition

Occurs when firms in a market or industry have some control over the *price* of their output (market power)

Monopoly, Oligopoly, and Monopolistic Competition

Pure Monopoly

An industry with a single firm

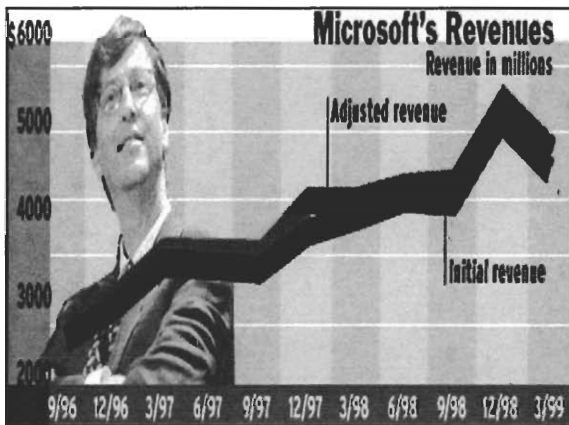
- that produces a product for which there are no close substitutes, and
- in which significant barriers to entry prevent other firms from entering the industry to compete for profits.

There are now four firm decisions that must be characterized:

- How much output to produce
- How to produce output
- How much to demand in each input market
- What price to charge for output

How to produce the output?

- The mix of labor and capital depends on their relative productivity and price
- Firms want the most output for a dollar spent

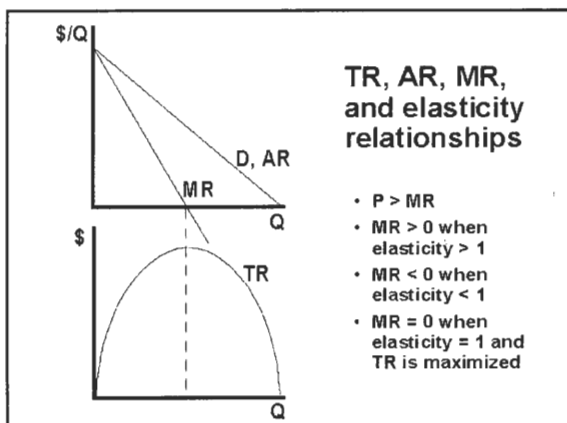


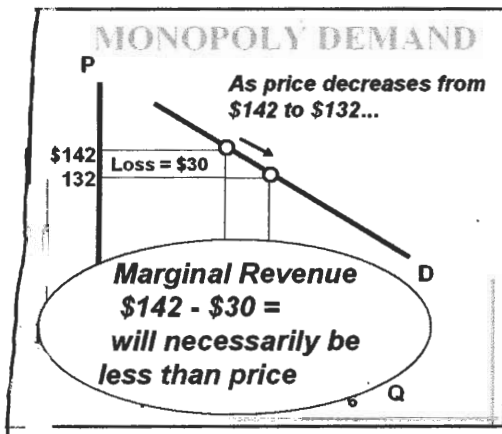
How much of each input to demand?

- The demand for any input is derived from the demand for output
- Example: ford demands auto workers because consumers demand cars.

What price to charge?

- The demand curve shows the most consumers are willing and able to pay for a given quantity.
- Any firm with market power, will charge what the market will bear.
- To find price go from the quantity produced to the demand curve.





MONOPOLY REVENUES & COSTS

Quantity of Output	Price (Average Revenue)	Total Revenue	Marginal Revenue	Average Total Cost	Total Cost	Marginal Cost	Profit + or loss -
0	\$172	\$ 0			\$100		-\$100

MONOPOLY REVENUES & COSTS

Quantity of Output	Price (Average Revenue)	Total Revenue	Marginal Revenue	Average Total Cost	Total Cost	Marginal Cost	Profit + or loss -
0	\$172	\$ 0			\$100		-\$100
1	162	162	\$162		\$190.00	90	-28

MC = \$190 - 100 = \$90

*Loss Improvement
from -\$100 to -\$28
Check next unit of
output!*

MONOPOLY REVENUES & COSTS

Quantity of Output	Price (Average Revenue)	Total Revenue	Marginal Revenue	Average Total Cost	Total Cost	Marginal Cost	Profit or loss
0	\$172	\$ 0	\$162		\$100	90	-\$100
1	162	162	142	\$190.00	190	80	- 28
2	152	304	122	135.00	270	70	+ 34
3	142	426	102	113.33	340	60	+ 86
4	132	528	82	100.00	400	70	+ 128
5	122	610	62	94.00	470	80	+ 140
6	112	672	42	91.67	550	90	+ 122
7	102	714	22	91.43	640	110	+ 74
8	92	736	2	93.73	750	130	- 14
9	82	738	- 18	97.78	880	150	- 142
10	72	720		103.00	1030		- 310

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Can you see profit maximization?

$MR \geq MC$

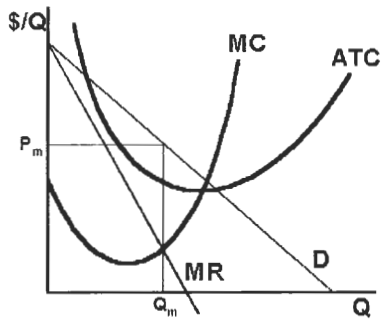
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How much output to produce?

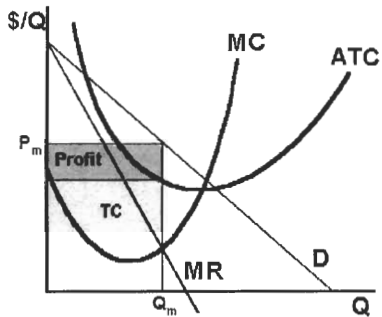
- Increase output whenever $MR > MC$
- Decrease output whenever $MR < MC$
- Produce where $MR = MC$



Profit-maximizing Q and P: $MR = MC$



Economic profit

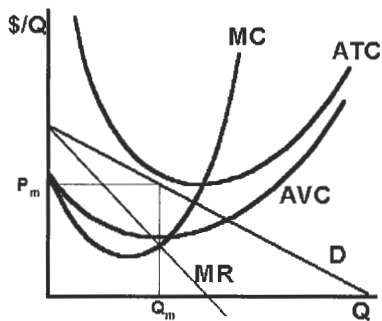


Barriers to Entry

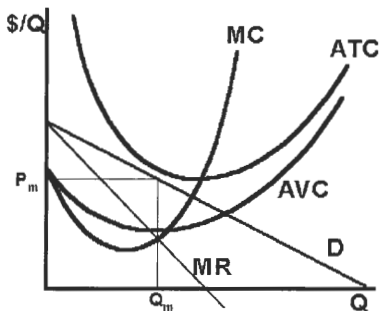
- Government franchises ex: utilities
- Patents-provide incentives for innovation
- Economies of scale and other cost advantages
- Ownership of a scarce factor of production ex: diamonds



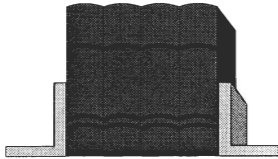
Must a monopoly be profitable?



Produce at $MR = MC$, but only if $P \geq AVC$



Monopolistic Competition and Oligopoly



Characteristics of monopolistic competition:

- There are many firms, so many that no firm can influence market price based on size alone.
- Firms differentiate their products.
- There are no barriers to entry.

Product Differentiation

A strategy that firms use to achieve market power

Achieved by producing products that have distinct positive identities in the minds of consumers

Price and Output Determination in Monopolistic Competition

Remember:

- Large number of firms and no barriers to entry
- Each small relative to the size of the market
- Firms differentiate their products

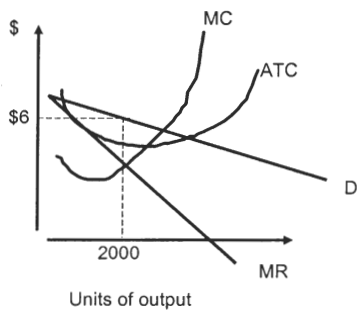


Firms have some control over price !

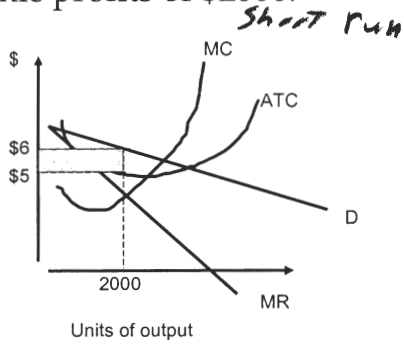
Long run:

- In the long run firms in a monopolistically competitive industry earn a normal profit
 - Reason- no barriers to entry

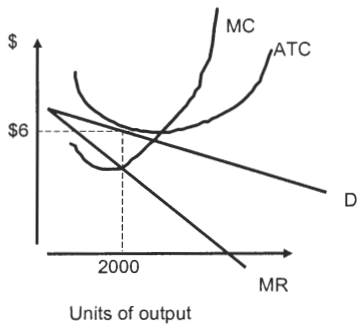
Short-run equilibrium price and quantity :
 $MR = MC$



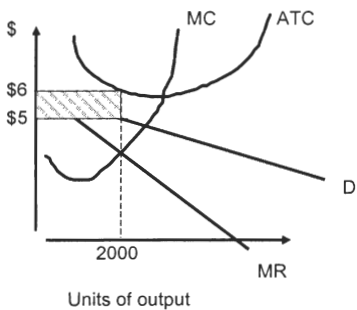
This monopolistic competitor earns economic profits of \$2000.



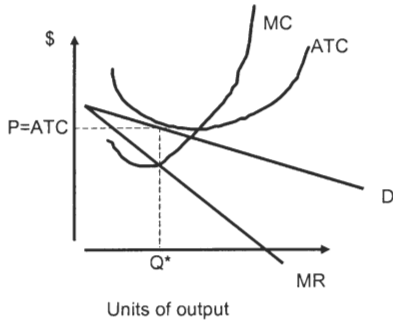
This monopolistic competitor earns normal profits.



This monopolistic competitor earns losses of \$2000.



Long-run equilibrium: Firms earn normal profits.



Efficiency of Monopolistic Competition

- Price is greater than marginal cost, greater than the perfectly competitive solution.
- The long-run equilibrium quantity of output is to the left of the minimum of ATC.

Characteristics of oligopoly:

- A few large firms
- Interdependent decision makers
- Product may be homogeneous or differentiated
 - Barriers to entry
- Possibility of long run economic profits
- *Strategic Pricing*

Measuring monopoly power:

- Lerner index of monopoly power $(p-mc)/p$
- Concentration ratio(CR)- sum the four largest firms market shares
- Herfindahl Hershman index(HHI)- sum the squares of the four largest firms market shares

Game theory:

- Dominant strategy- to be at least as well as your opponent no matter what your opponent does

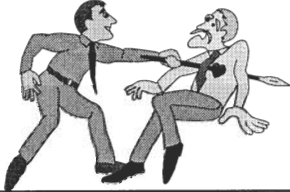
- Nash equilibrium



		JAN	
		increase price	don't increase price
MIKE	increase price	Jan \$ = 1,000 Mike \$ = 1,000	Jan \$ = 2,000 Mike \$ = 0
	don't increase price	Jan \$ = 0 Mike \$ = 2,000	Jan \$ = 100 Mike \$ = 100

Cartel:

- An organization through which members jointly make decisions about prices and production
- a cartel's members jointly decide what price to charge and how much to sell



Kinked demand:

- If other firms don't match your price changes, your demand curve will be relatively elastic
- If other firms match your price changes, your demand curve will be relatively inelastic
- the kinked demand model assumes that other firms will match your price decreases and will not match your price increases

