

# Teaching about Market Structures

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# Foundational Concepts

Some basic terms/concepts that students often misinterpret, thereby making them unable to understand the topics of market structures

- **Profits**
  - **Profits** vs **Revenues** (vs sales, income, earnings)
- **Price**
  - **Price** vs **Cost** (vs revenue ... who pays?)
- **Quantity**
  - *simplify*: quantity **produced** = quantity **sold**  
(no inventories)

# Economic vs. Accounting Profit

- Profit =  $TR - TC$
- Profit =  $(P - AC) \times Q$
- economic profit = revenue – economic costs
- accounting profit = revenue – explicit costs
- accounting costs include only explicit costs (or expenses), not implicit costs; accounting profs teach “profits = revenues – expenses”

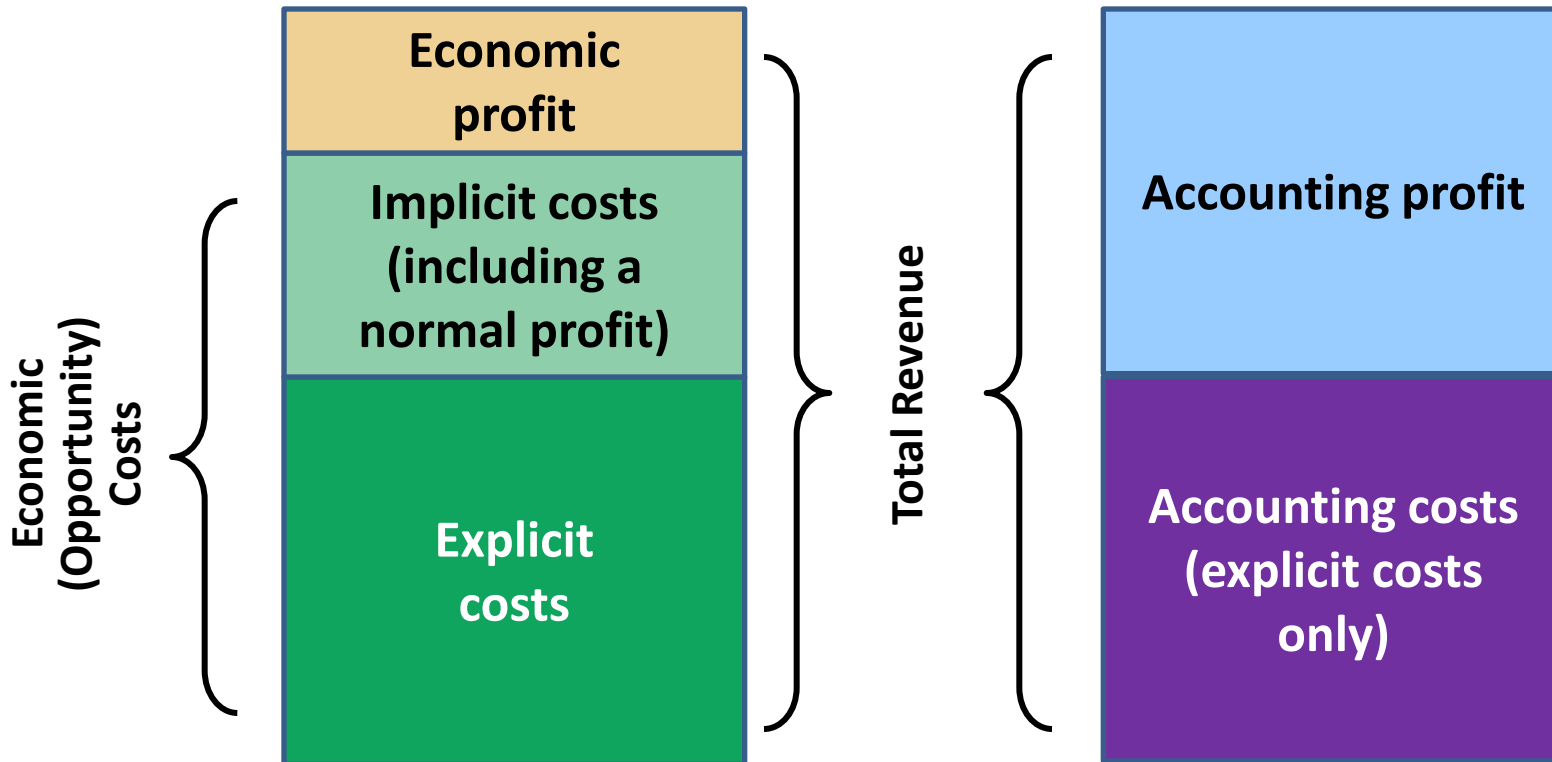
# Economic vs. Accounting Profit

- economic cost = explicit cost + implicit cost
- **normal profit**: minimum acceptable amount of accounting profit for a firm; this is part of economic cost.
- **economic profit** = profit over & above normal profit (hence, also called “**abnormal**”, “**pure**”, or “**extraordinary**” profit)

# Economic vs. Accounting Profit

- If a firm is incurring economic **losses** (negative economic profits), the owners are receiving less income than **could be received if their resources were employed in an alternative use**.
- In the long run, we'd expect to see firms **leave** the industry when this occurs.
- Economic (**extraordinary** or **abnormal**) profits will attract other firms to enter the industry, unless there are barriers to entry

# Accounting vs. Economic Costs & Profits



# Economic Profits $\pi = 0$

## What It Means

- If economic profits equal **zero**, then:
  - owners receive an income (accounting profits) equal to their **opportunity costs** (what they could get in their next-best alternative);
  - no incentive for firms to either enter or leave the industry;
  - **accounting profit** of existing firms = **normal profit**.

# Maximum Profits

- Two Basic Perspectives

- \* **MR = MC Approach**

- (emphasized in AP)

- \* **TR – TC Approach**

- (more intuitive; a concept that most students already understand, and is thus a good “anchor” we teachers can use, to promote learning)



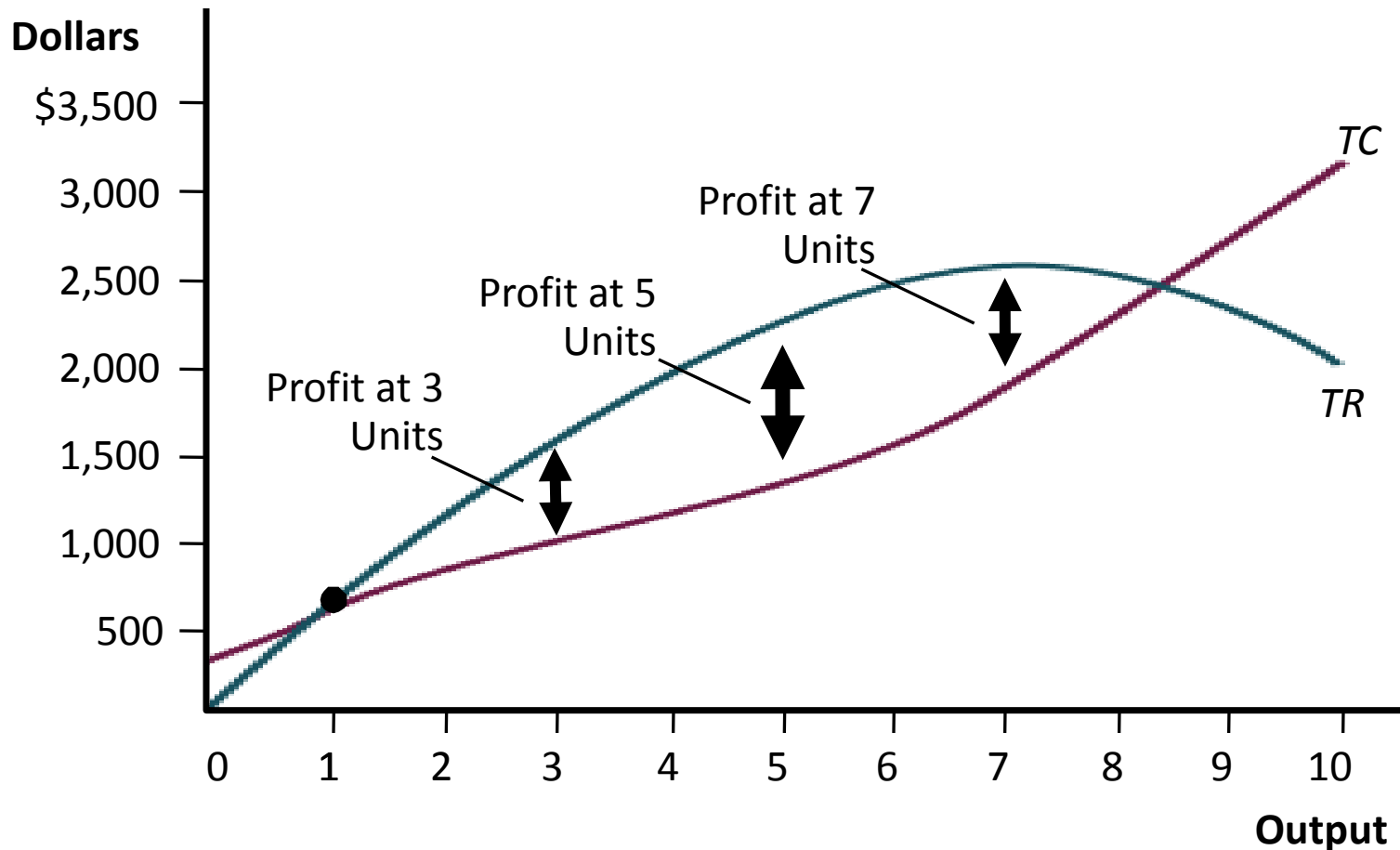
# Profits: The (TR *minus* TC) Approach

- At any given output level, we know:
  - how much **revenue** the firm will earn
  - the firm's **total cost** of production
- **Loss**
  - Negative profit: when **total cost** > **total revenue**
- In the **total revenue – total cost** approach, the firm calculates Profit = TR – TC at each output level, then selects the output level where “profit” is greatest (if positive, or smallest if negative)

# Profit Maximization

(when  $TR > TC$  over some range)

**Profit = gap (distance) between TR and TC**



**Questions: Why does TC not start at zero (the origin)?**

**Why does TR do so?**

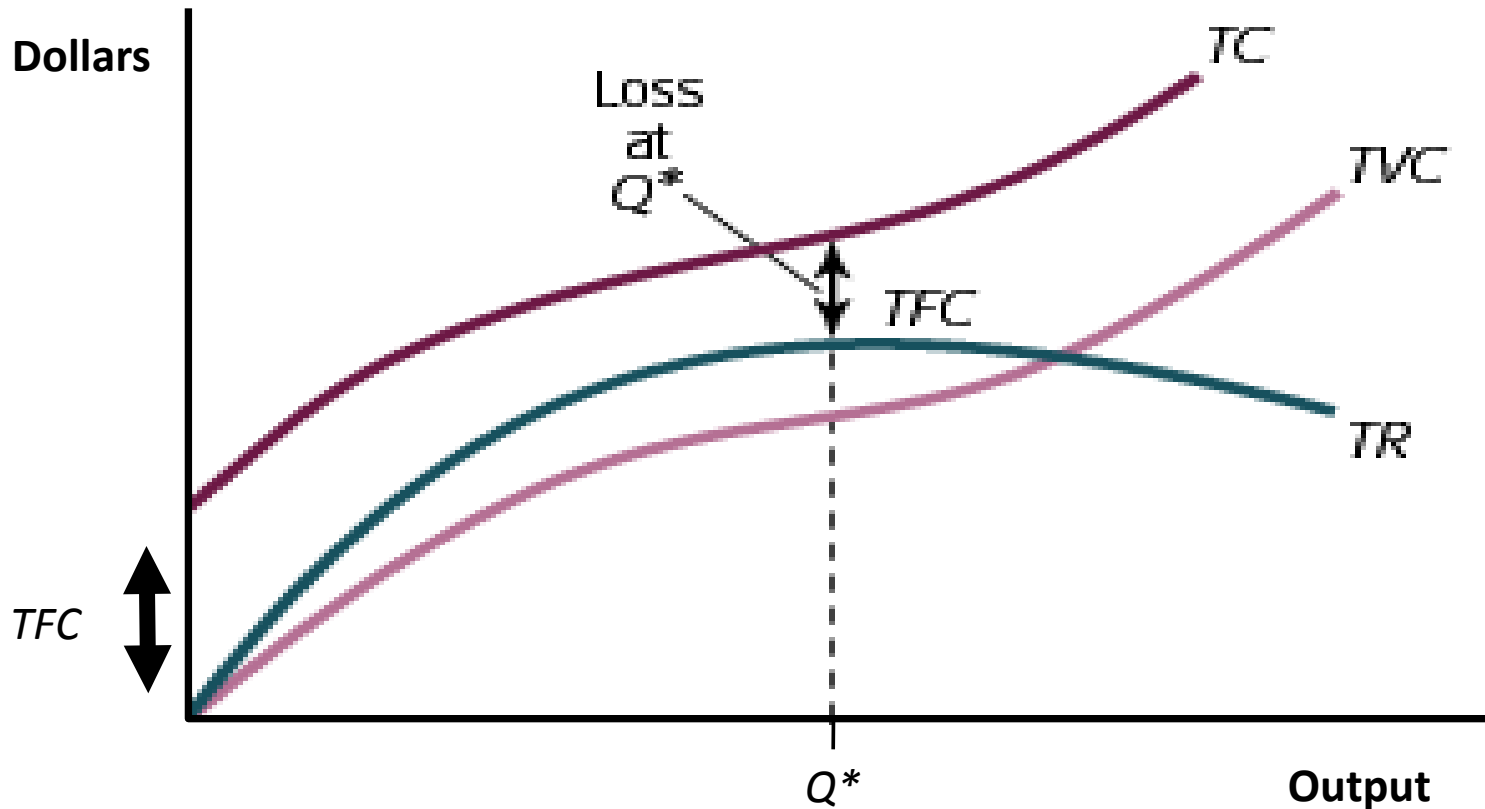
# Loss Minimization

(when  $TR < TC$  over all  $Q$  levels)

- When does it makes sense to continue operating at a loss (because  $TR < TC$ )?
- When does it make sense to just shut down?

# Loss Minimization

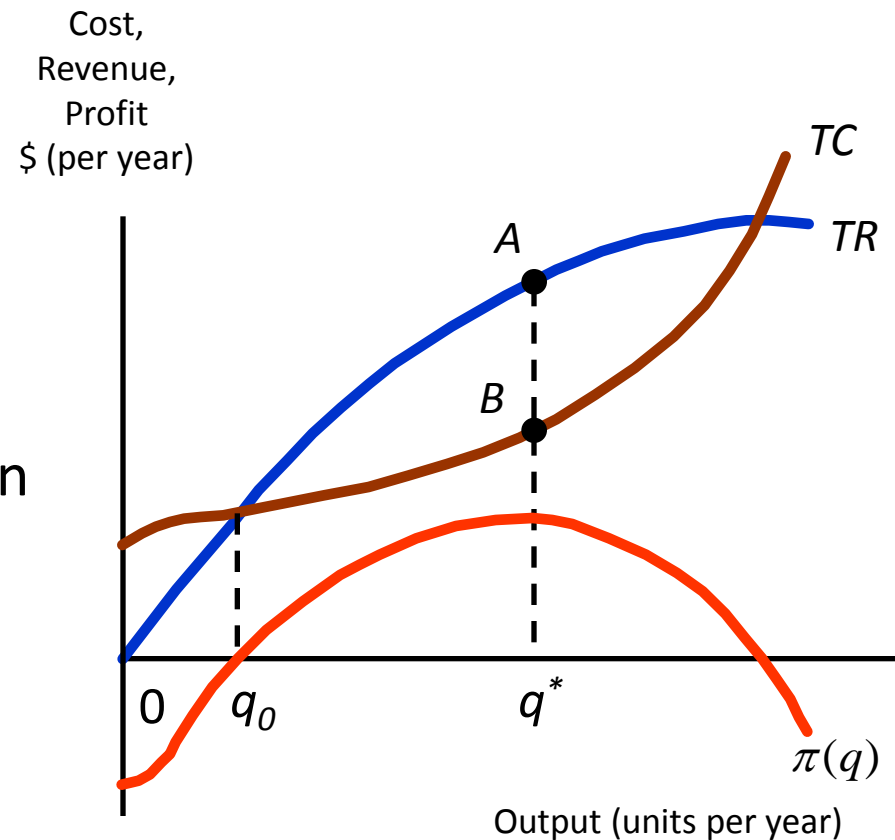
(when  $TR < TC$  over all  $Q$  levels)



basic point: compare TR against TVC, or AR (i.e., P) against AVC

# Total Revenue & Cost, and Maximum Profit (or Minimum Loss)

- **Comparing  $TR$  and  $TC$** 
  - Why is profit negative when output is 0, or low?
  - What is the importance of  $q_0$ ? Will there always be a  $q_0$ ?



# MR = MC Perspective

- marginal revenue (MR) -- the additional revenue resulting from the production/sale of an additional unit of output
- marginal cost (MC) -- the additional cost resulting from the production/sale of an additional unit of output

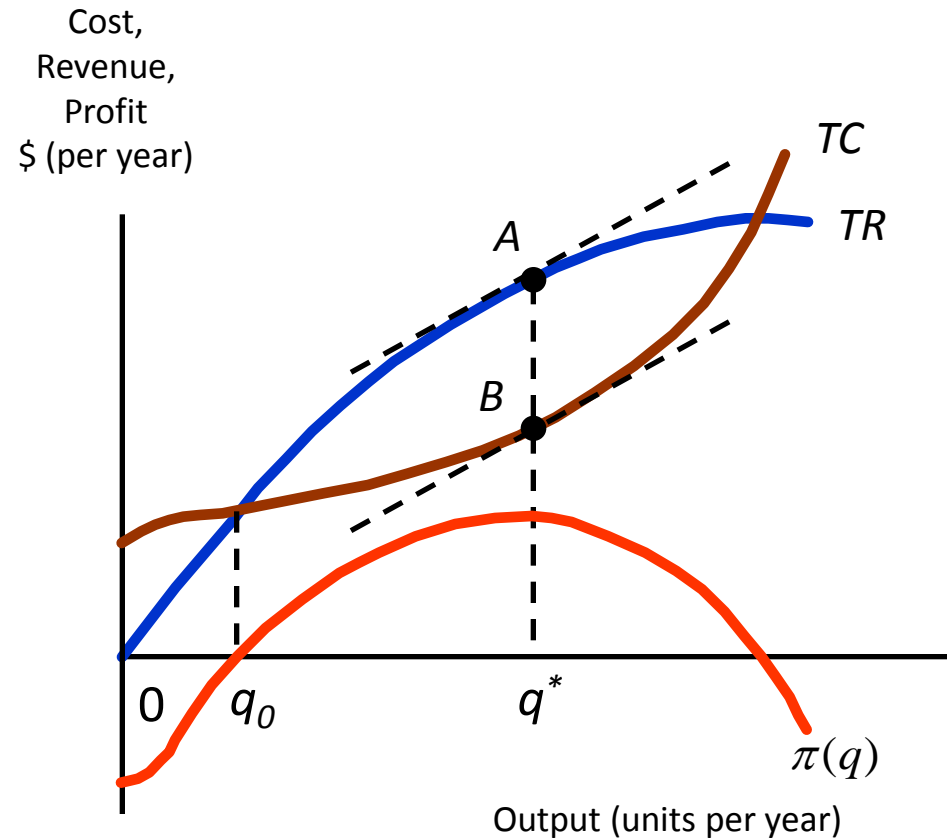
# TR, TC, MR & MC and Profit Maximization

- Remember:

- MR is the **slope** of the tangent to TR
- MC is the **slope** of the tangent to TC

- Question:

- Why does profit shrink if production goes above, or below,  $q^*$ ?



# MR > MC

- If marginal revenue exceeds marginal cost, the production of an additional unit of output adds more to revenue than to costs ... *so what happens to profit?*
- In this case, a firm adds to its profits if it increases its level of production → so  $Q \uparrow$



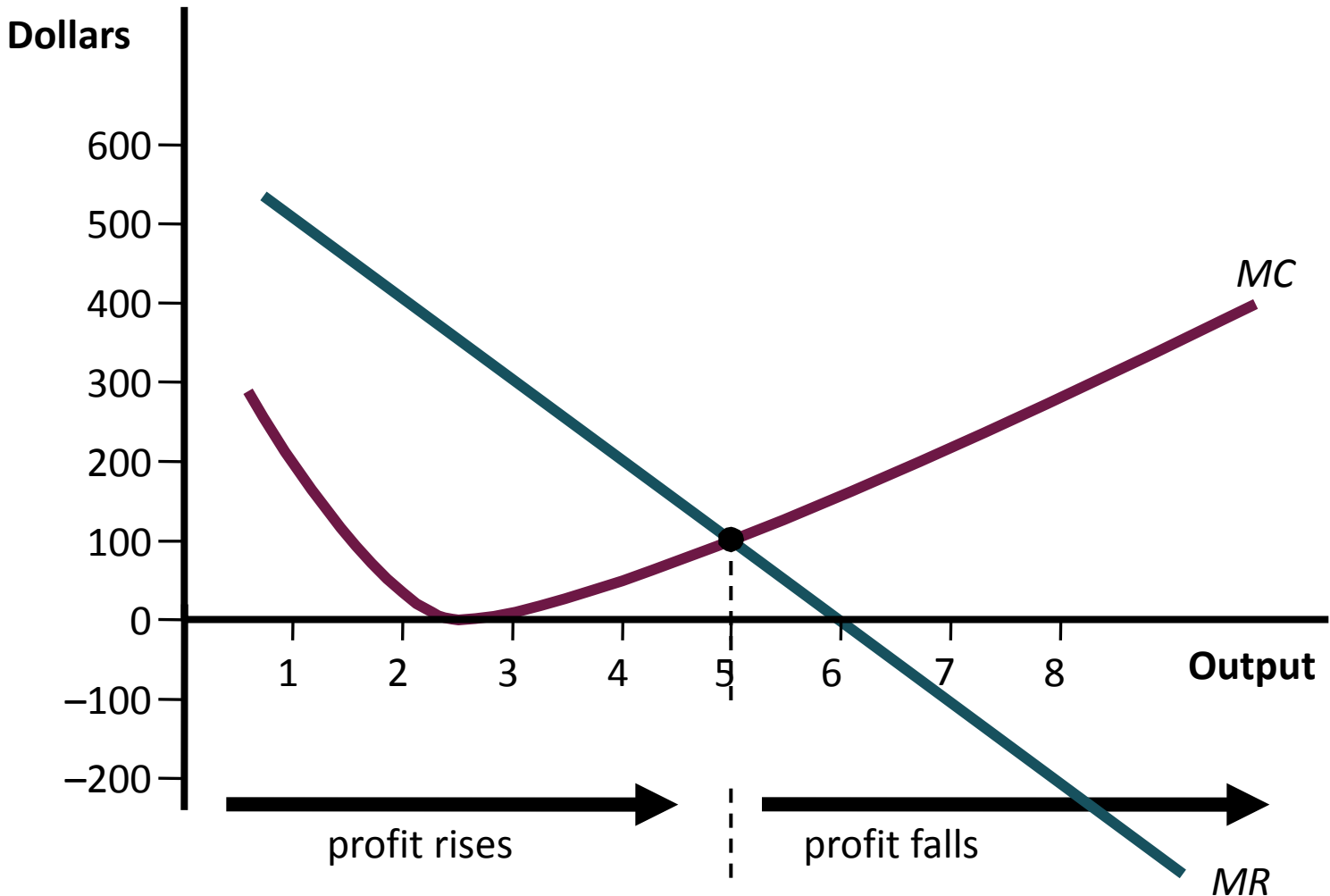
# MR < MC

- If marginal cost exceeds marginal revenue, the production of an extra unit of output costs more than the additional revenue generated by the sale of this extra unit.
- Does this mean that profits are negative?
- In this case, firms can increase their profits by reducing its production level → so  $Q \downarrow$

# MR = MC

- A profit-maximizing firm will produce more output when  $MR > MC$ , and less output when  $MR < MC$
- The firm's profits are maximized (or losses minimized) at the level of output at which  $MR = MC$ .
- Questions: Does  $MR > MC$  mean positive profits? Does  $MR = MC$  mean breaking even?

# Profit Maximization



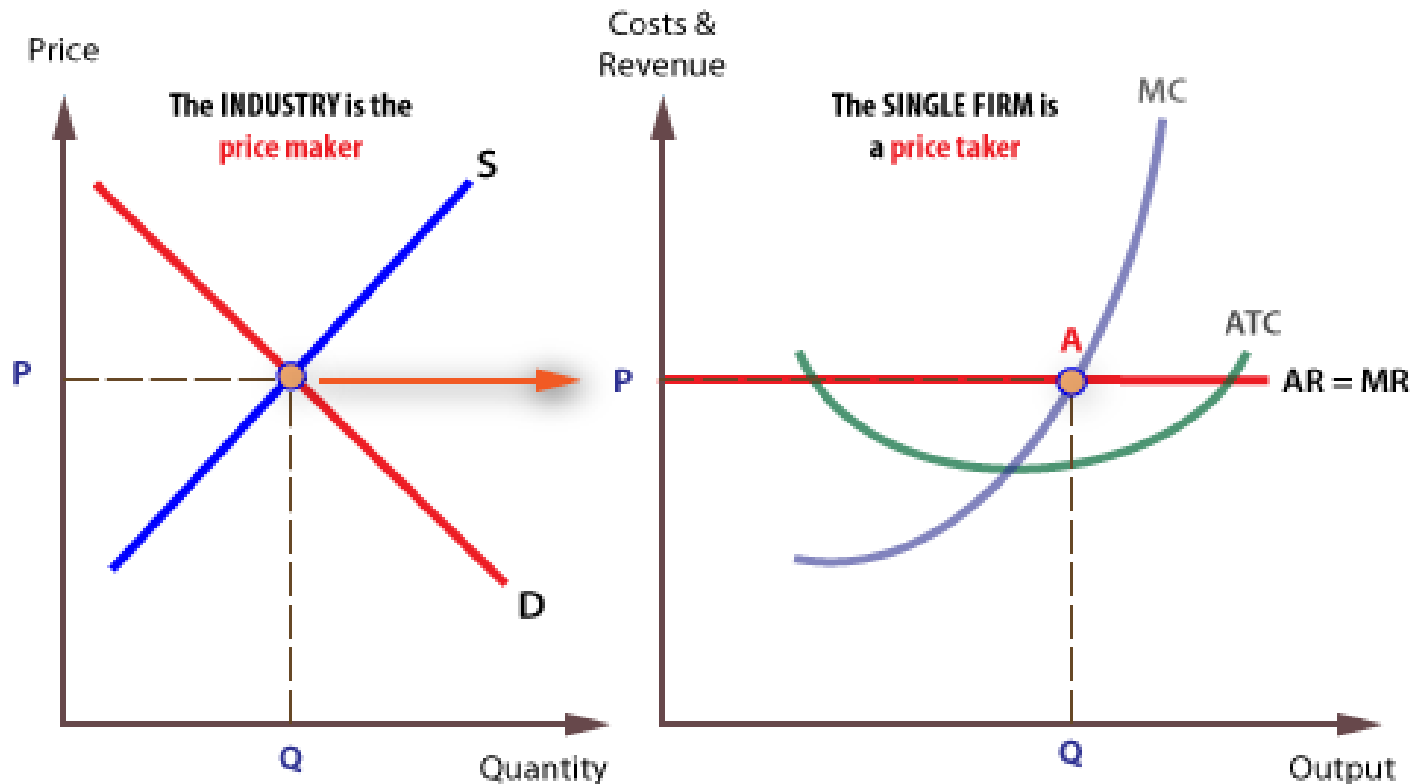
**Questions:** Why does MR decline as Q increases?  
And why does MC rise?



# Pure Competition

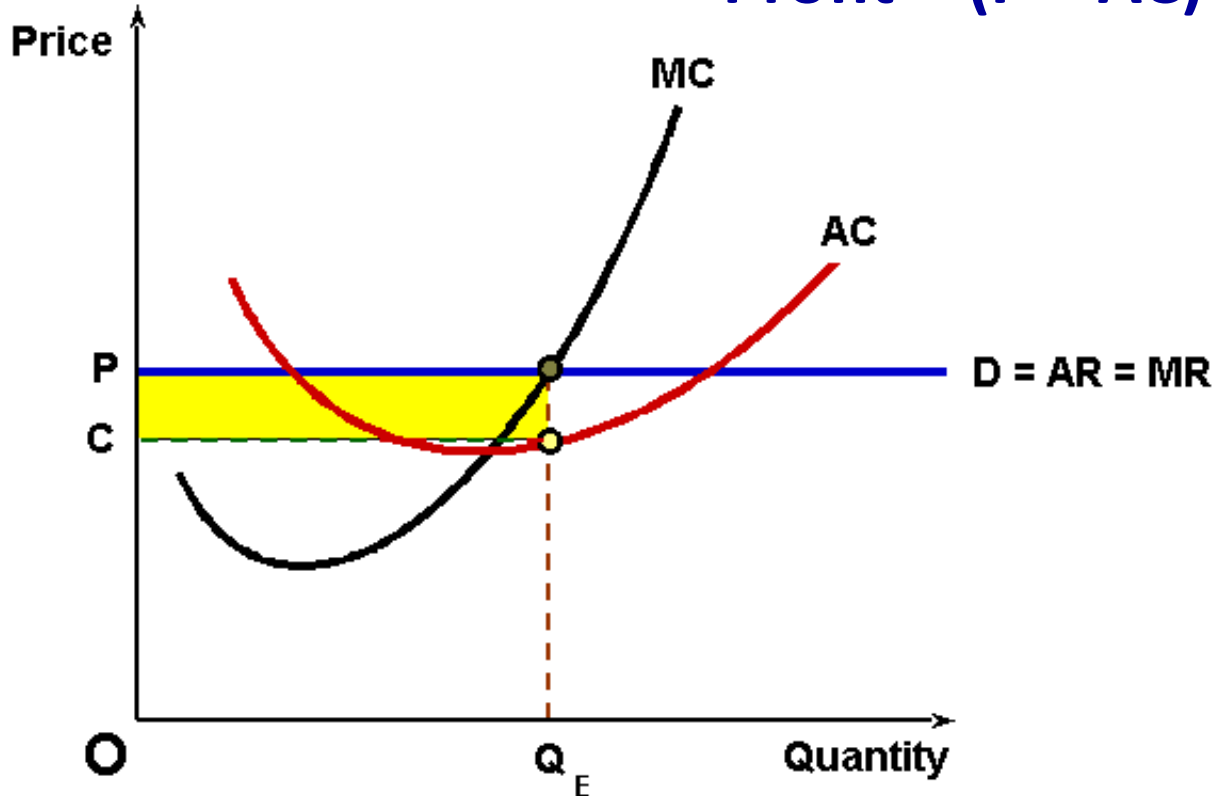
- **Characteristics**
- **Individual firm is a “price taker”**
  - why?
  - how do you reconcile the flat D curve with the downward-sloping D curve?
  - implications for TR and for MR
- **So, if D is flat, then why does S retain its upward slope?**

# Perfect Competition: Short-Run Equilibrium



# Maximum PROFITS: MR = MC Approach;

$$\text{Profit} = (P - AC) \times Q$$



Why is MR flat?

Do you see the TR rectangle?

... the TC rectangle?

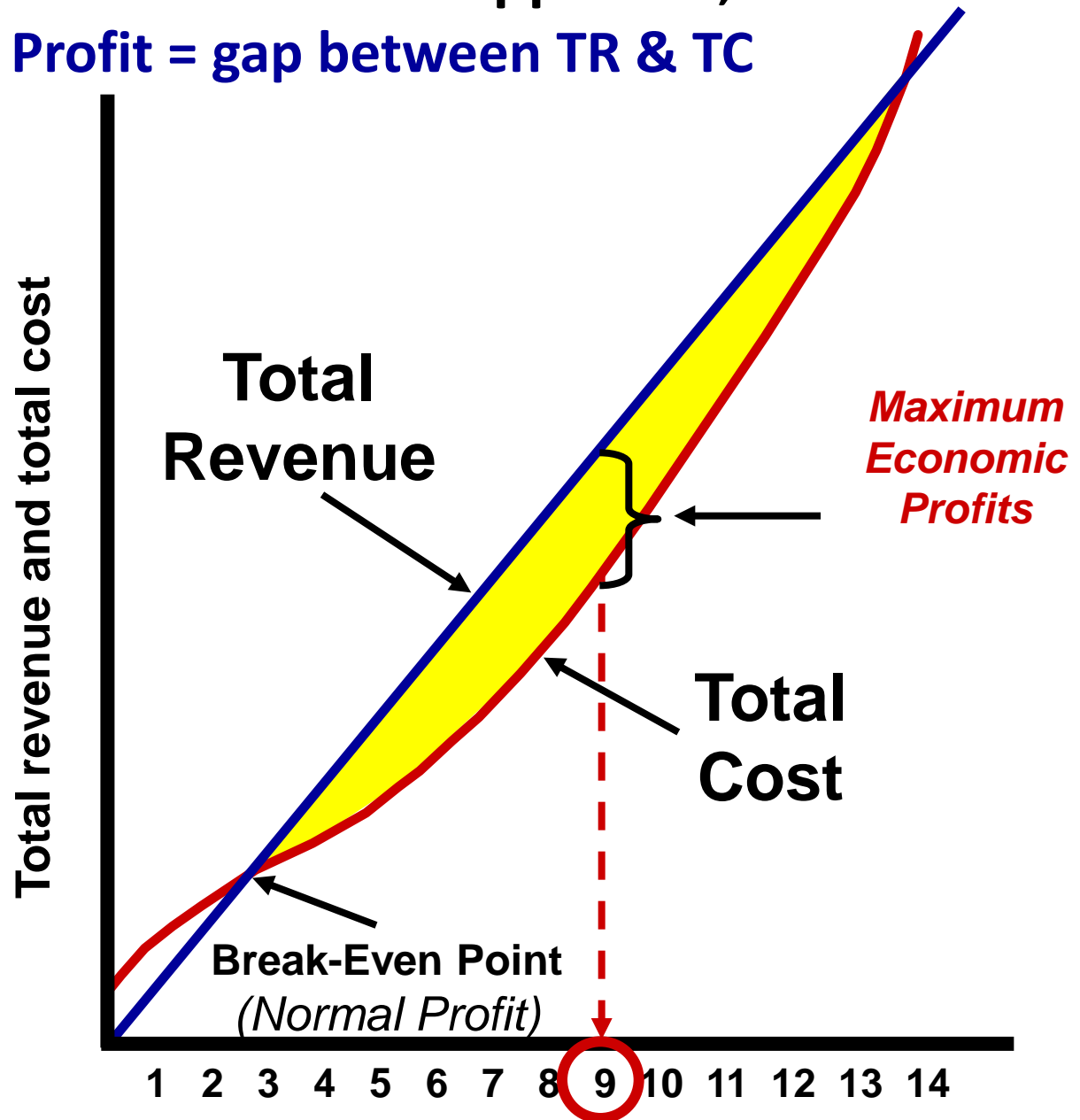
... the two ways of viewing the profit rectangle?

# Maximum PROFITS: TR—TC Approach; Profit = gap between TR & TC

Why is TR a straight line? Is it always a straight line?

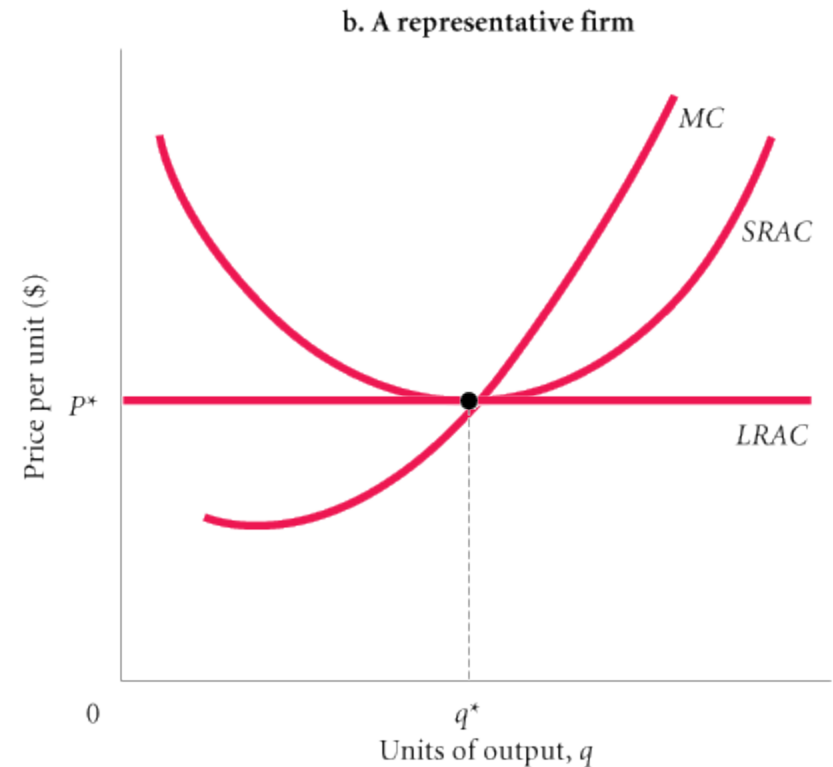
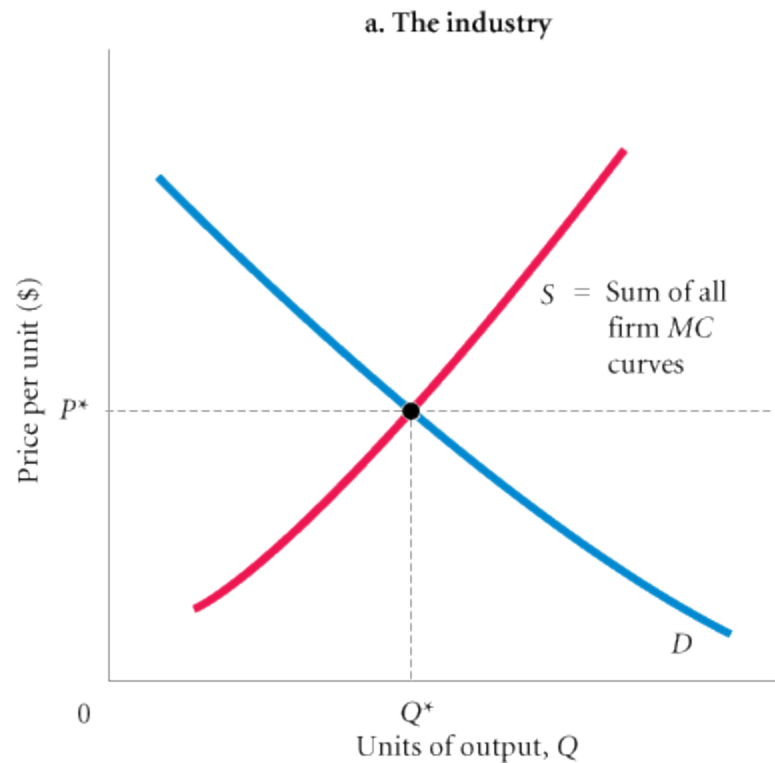
What is the importance of the slope of TR?

What would be the consequence if TR became much flatter? What causes this to occur?





# Perfect Competition: *Long-Run Equilibrium*



**Questions: How does the industry reach this long-run situation, from its short-run equilibrium (shown a few slides back)?**

**How does this picture translate into the TR-TC view in the preceding slide?**

# Pure Monopoly

- \* CHARACTERISTICS

- \* BARRIERS to ENTRY:

- Economies of Scale

- The Natural Monopoly Case
- Minimum Efficient Scale

- Legal Barriers to Entry

- Patents
- Licenses

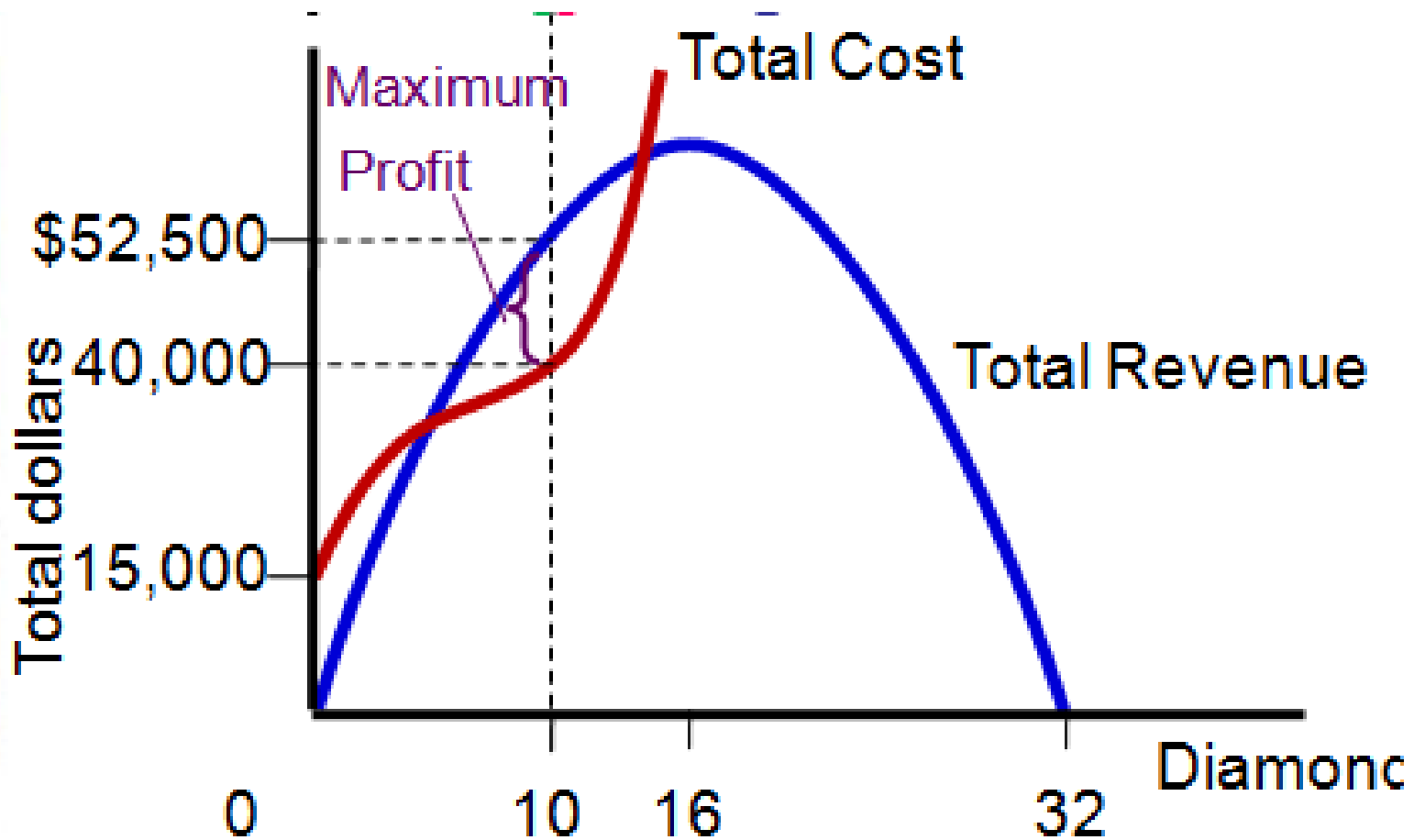
- Ownership or Control of Essential Resources

- Pricing and Other Strategic Barriers to Entry

- \* The monopolist faces the industry demand

# Maximum Profits: TR-TC Approach

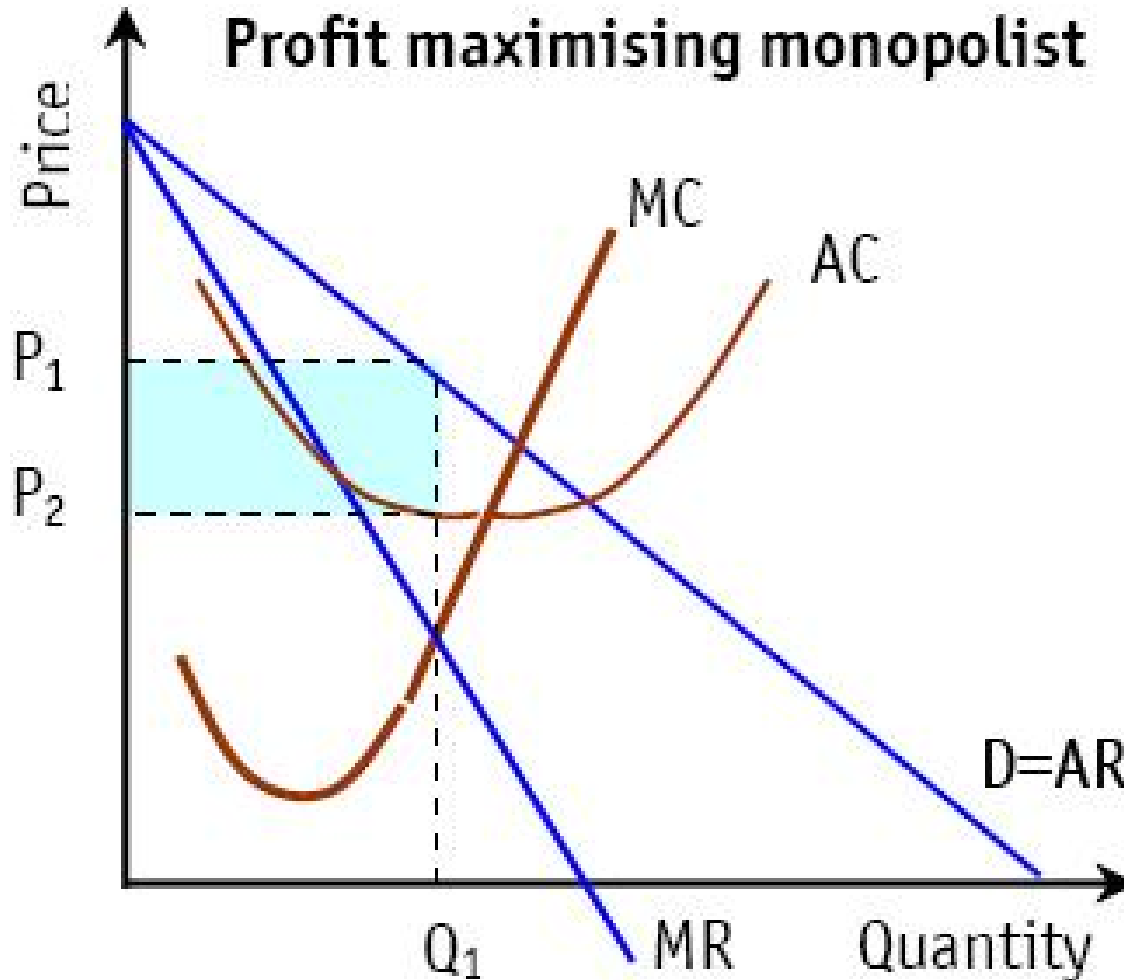
Profits = gap between TR & TC



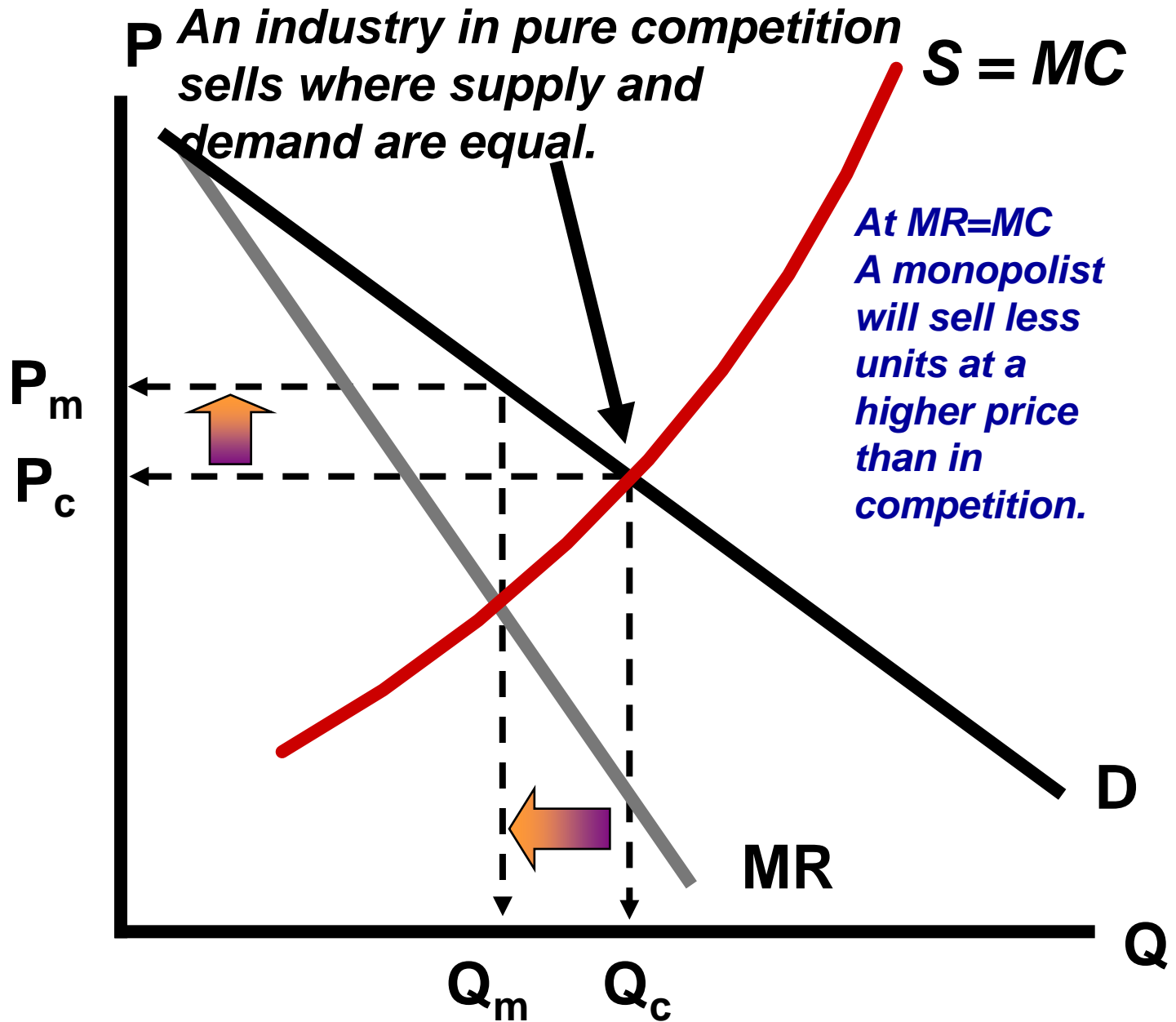
\* Questions: How much is the firm's fixed costs? Why is TR not a straight line anymore? When will a monopolist be UNABLE to earn positive profits ... or, is that possible?

# Maximum Profits: MR = MC Approach

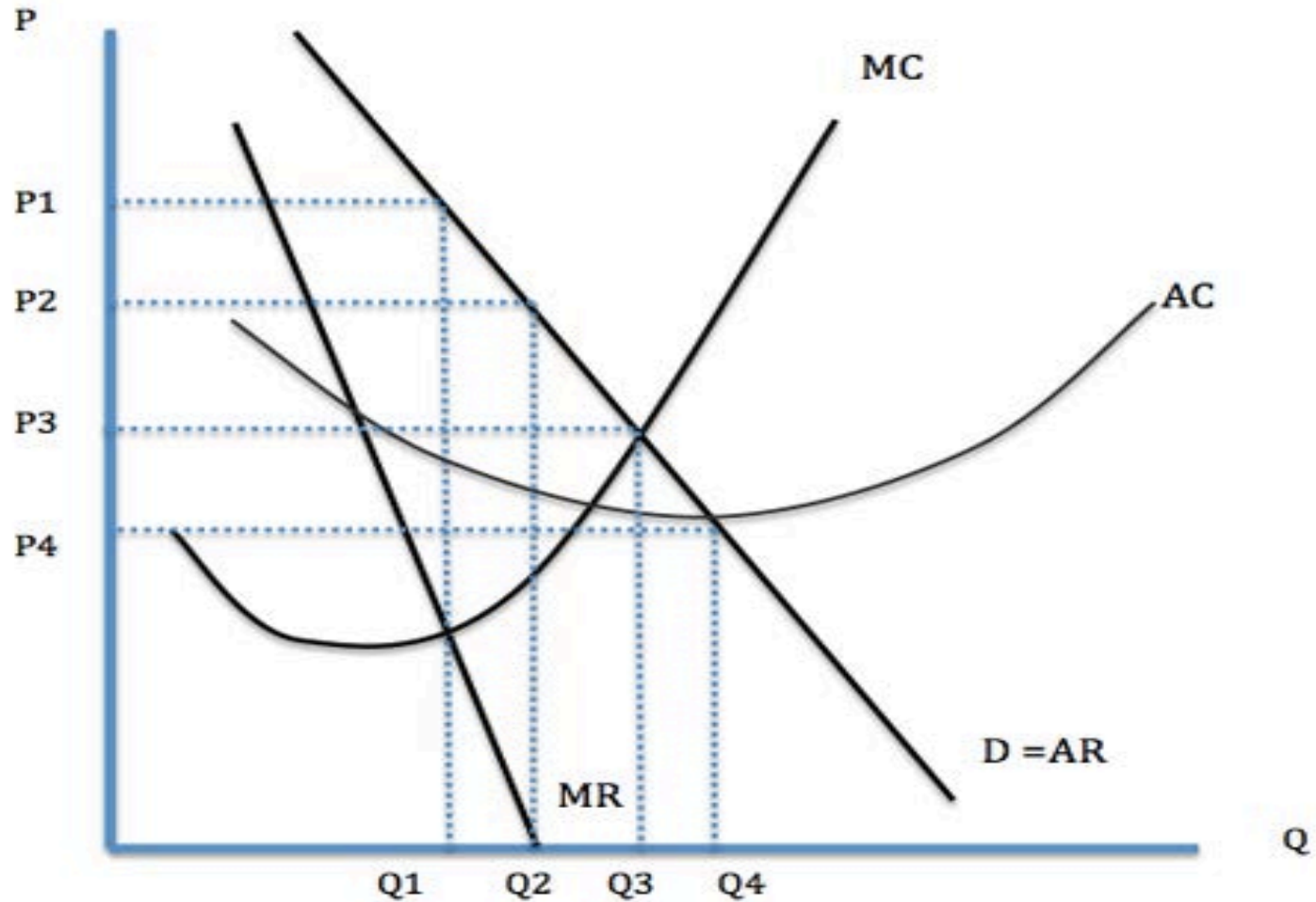
$$\text{Profits} = (P - AC) \times Q$$



# INEFFICIENCY OF PURE MONOPOLY



*Check your understanding*  
(alternative goals in monopoly):





# Monopolistic Competition

\* In what ways is this similar to pure competition?

\* In what ways is this similar to monopoly?



# Bases of Differentiation

## Three Categories

### 1) **Product Attributes**

- exploiting the actual product, including its availability

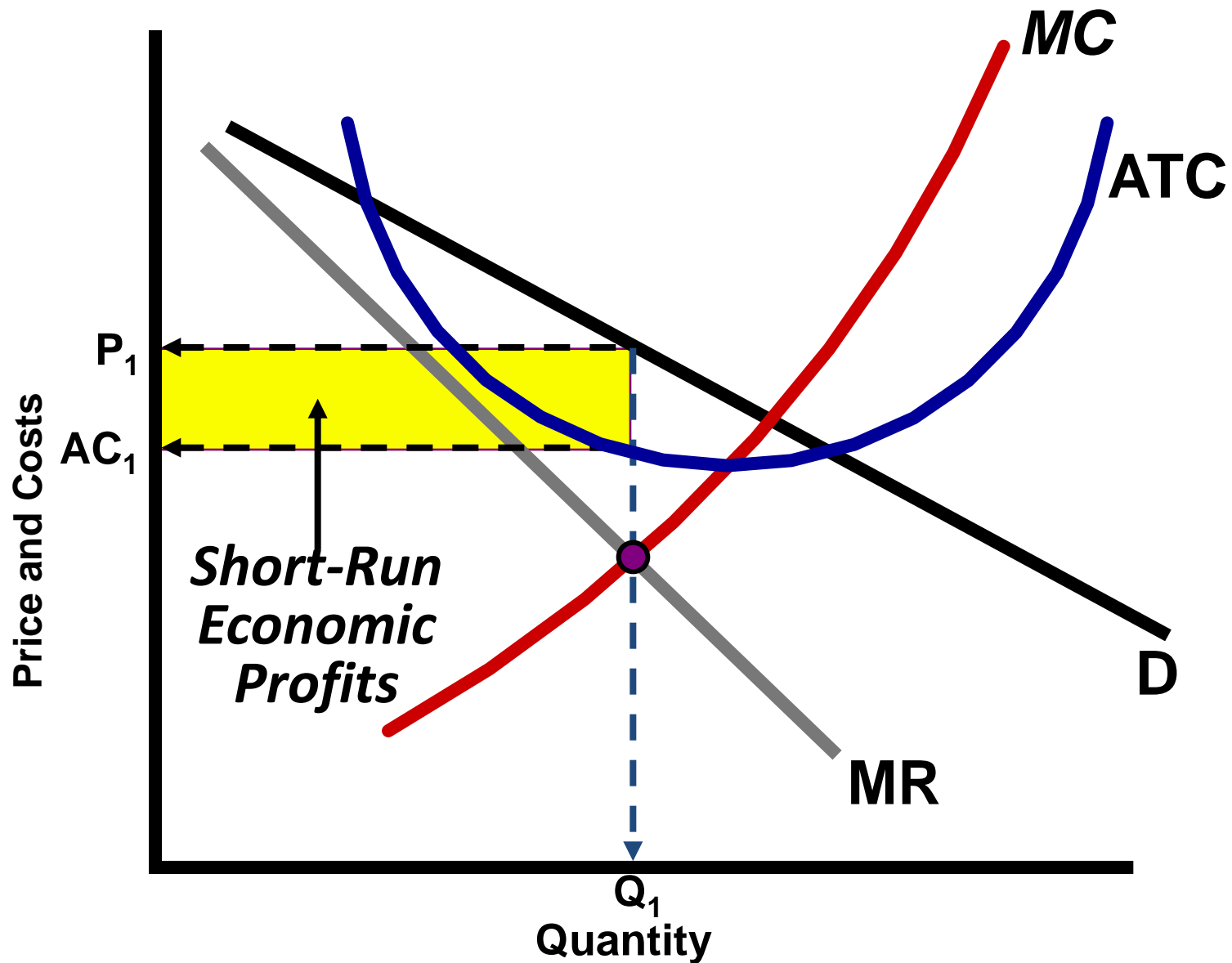
### 2) **Firm-Customer Relationships**

- exploiting relationships with customers (e.g., customization, reputation)

### 3) **Firm Linkages**

- exploiting relationships within the firm and/or relationships with other firms (e.g., complements, customer services)

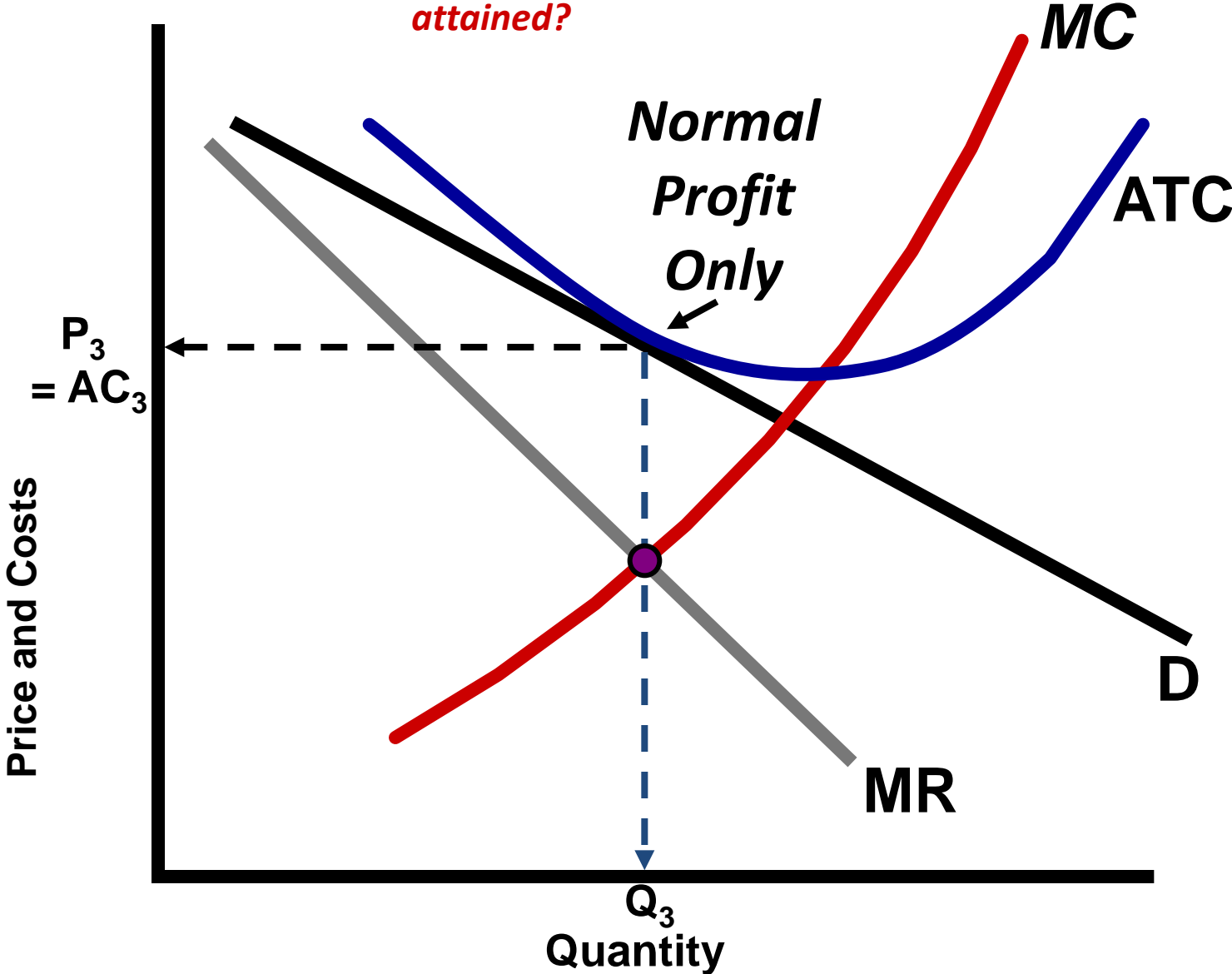
# Maximum Profits in Monopolistic Competition: $MR = MC$



# MONOPOLISTIC COMPETITION

*Long-Run Equilibrium*

*Question: How is this attained?*



# MONOPOLISTIC COMPETITION

## Long-Run Equilibrium

- **Not Productively Efficient**  
Q not at minimum ATC
- **“Excess Capacity”**
- **Not Allocatively Efficient**  
Price  $\neq$  MC
- **Zero Economic Profit**
- *In what ways are these results similar to competition? to monopoly?*

# **OLIGOPOLY**

- \* Characteristics**

- \* Alternative Models**



# Profit Maximization

- For all firms, at ALL TIMES, regardless of the market structure they're in, the profit maximizing solution is:

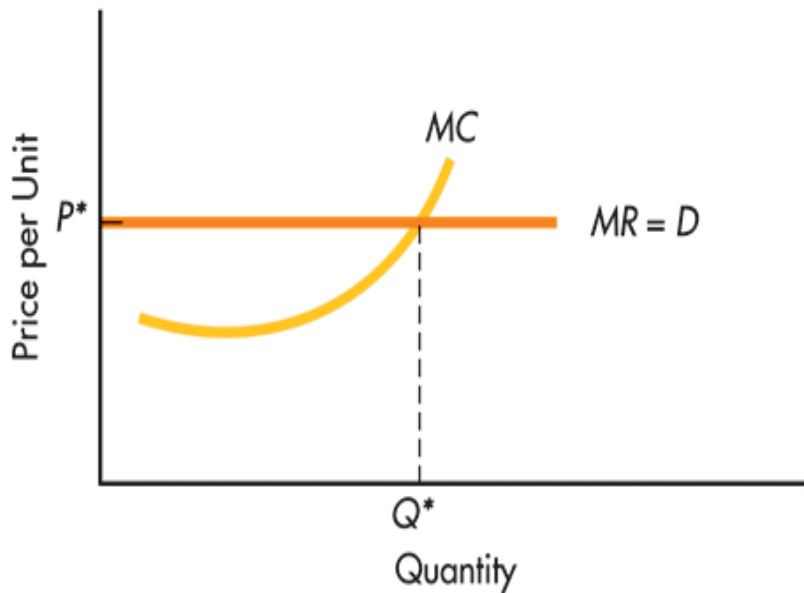
$$MR = MC$$

# Profit Maximization

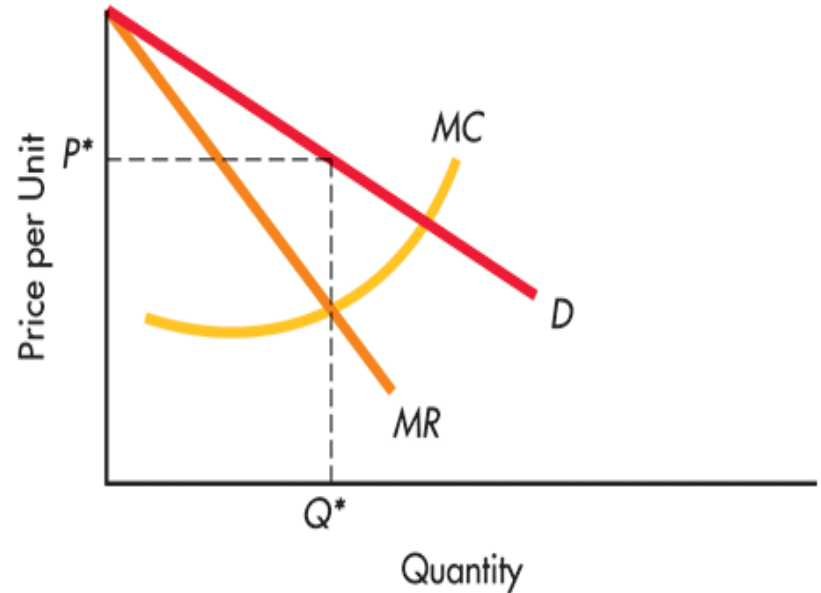
## the *Price Taker* vs. *Price Maker*

(“monopoly power” = the ability to set one’s own price)

(a) Price Taker



(b) Price Maker





# Profit Maximization

- Do firms maximize profits?

## Possibility of other objectives

- Revenue maximization
- Dividends for stockholders
- Short-run vs long-run profits
- Sales volume (greater economic, political, etc. influence)
- Social/ environmental concerns
- Co-ops (focus on other stakeholders, esp. workers)

**QUESTIONS???**