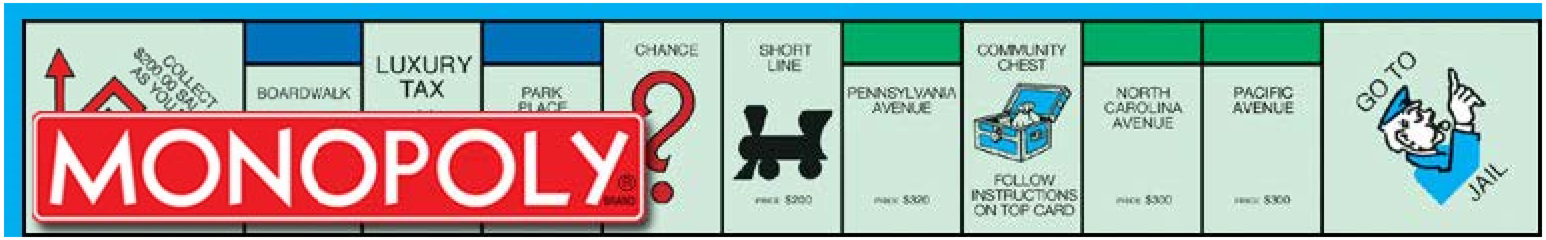
CH 10 - Understanding Monopoly



ECON 1B

CSUS

Big Questions

1. How are monopolies created?

2. How much do monopolies charge, and how much do they produce?

3. What are the problems with, and solutions for, monopolies?

Monopoly

- A ***monopoly*** - is a market structure characterized by a single seller of a well-defined product for which there are no good substitutes producing in a market with high barriers to entry.
  - High barriers to entry insulate the monopolist from competitors.
  - Economic profits may persist into the long run.

- Key Point - A monopolist cannot be sure of demand conditions.

Natural Barriers to Entry

- Ownership of resources without close substitutes
  - If a monopoly controls all of a resource (input) necessary for production, competitors cannot enter
  - The Aluminum Company of America (ALCOA) at one time owned 90% of the world's bauxite.
- Problems in raising adequate capital
  - Choose a product that requires a substantial capital investment
- Economies of scale
  - Low unit costs and prices drive out rivals
  - Car production, electricity production
- Network externalities
  – Facebook, Blu-Ray DVD

Government Created Barriers

- Licenses, qualifications
  - License to use certain radio or TV frequency (prevent the negative externality of interference)
  - Must be qualified to practice medicine or law
- Patents and copyright law
  - Patent
    - Temporarily grants monopoly rights to a product
    - An incentive to innovate
  - However, copyrights (and higher resulting prices) sometimes create unintended consequences
    - File sharing, movie pirating

Practice What You Know—1

- Which of the following firms will most likely be a natural monopoly?

A. a grocery store
B. a cable TV company
C. a gas station
D. a barbershop

Practice What You Know—2

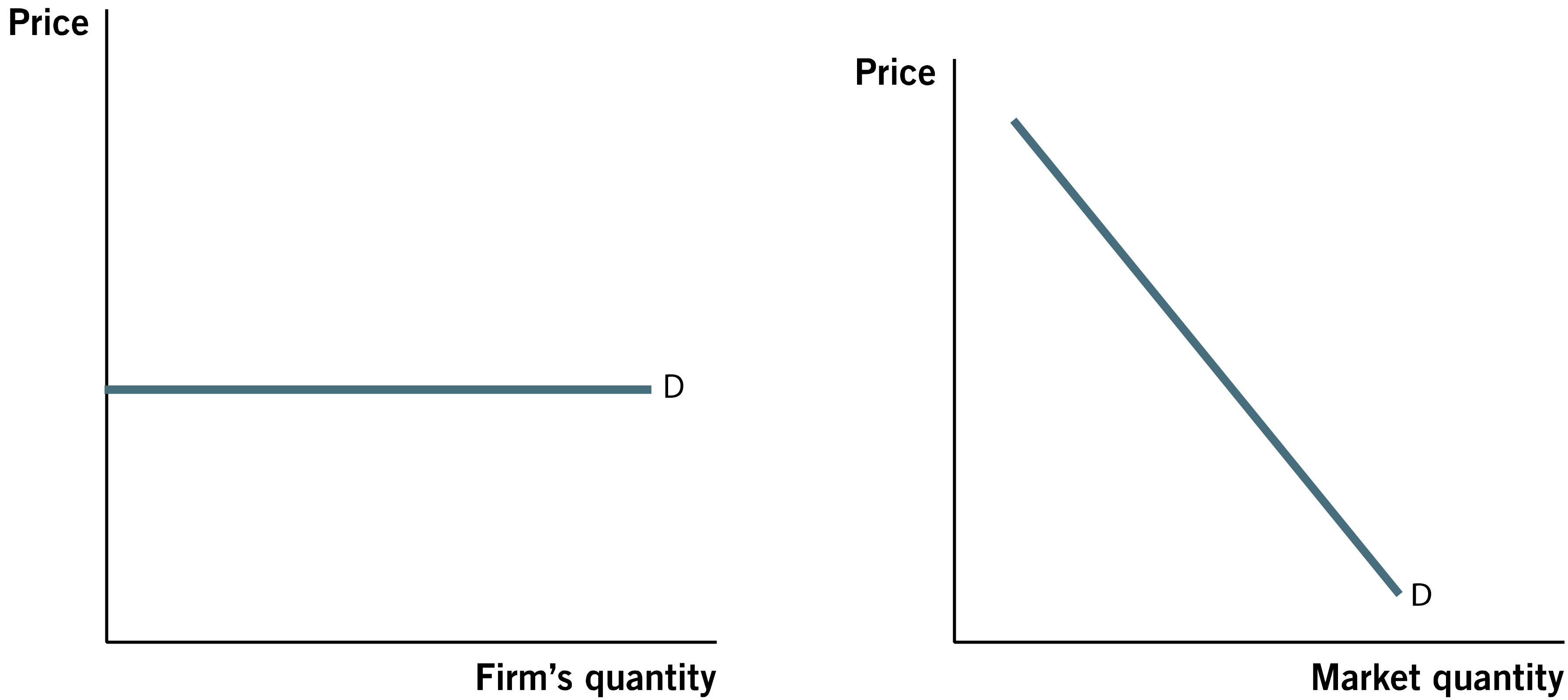
- Which of the following most accurately describes a patent?

A. $\boxed{\text{an incentive to innovate}}$
B. a profit-sharing mechanism
C. a redistribution of wealth
D. an original invention

The Monopolist's Pricing and Output Decisions

- Perfectly competitive firms
  - Price takers, cannot affect the price
  - Each firm faces a *horizontal* demand
- Monopoly firm
  - Price maker, sets the price by choosing output level
  - Faces the *downward-sloping* demand curve for the entire industry

Comparing Demand Curves



(a) Competitive Firm

(b) Monopolist as Sole Provider

Profit Maximizing Rule for Monopoly

- Similarity between monopoly and competitive firms
  - Profit is maximized at output level (Q) where MR = MC
- Difference between monopoly and competitive firms
  - In competition, P = MR
  - In monopoly, P > MR
  - To increase output, monopoly must lower the price. Competitive firms can sell as much as they want at the market price.

Monopoly Marginal Revenue

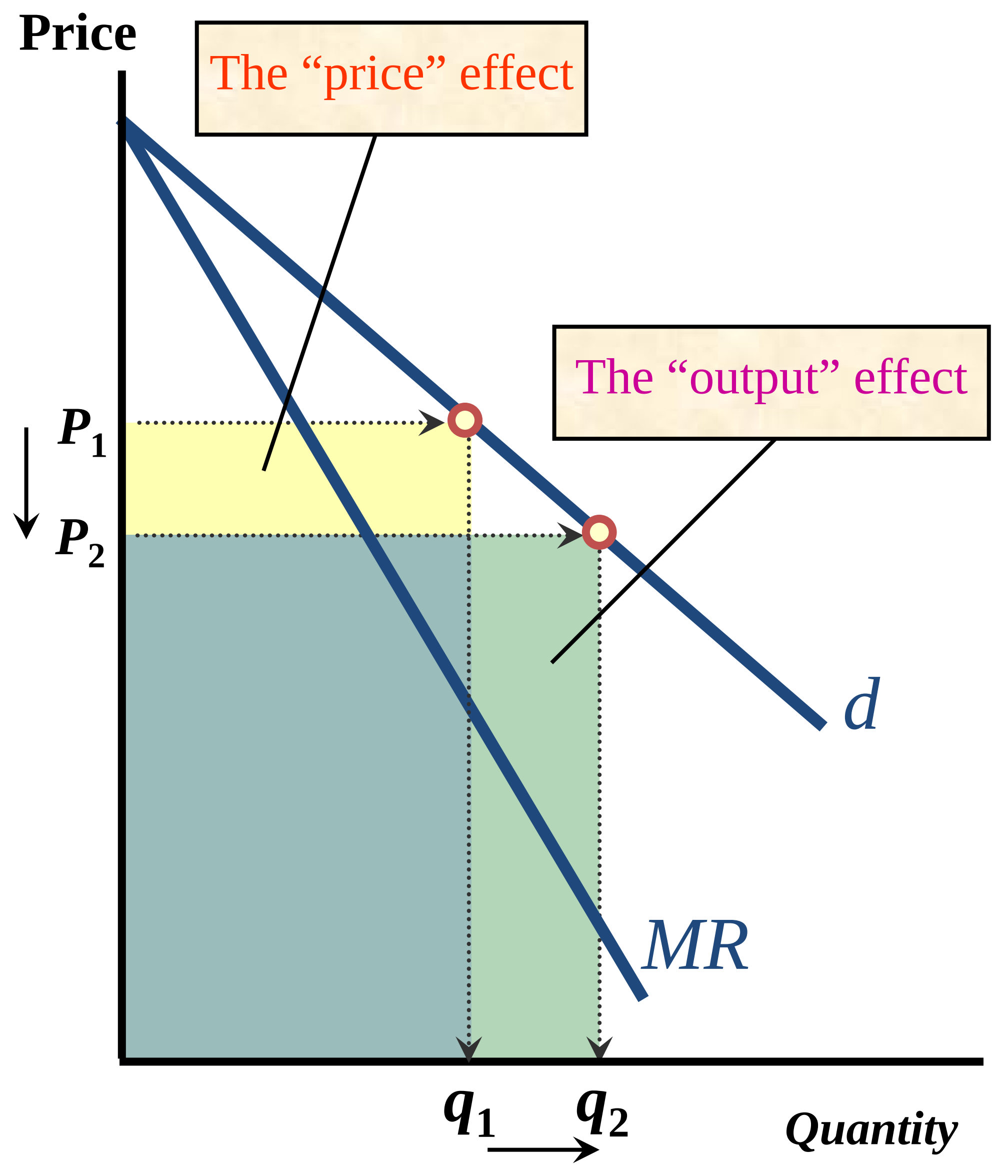
Quantity of Customers (Q)	Price (P)	Total Revenue (TR) = Q × P	Marginal Revenue (MR) = ΔTR/ΔQ
0	$100	$0.00	
1	90	90	$90
2	80	160	70
3	70	210	50
4	60	240	30
5	50	250	10
6	40	240	-10
7	30	210	-30
8	20	160	-50
9	10	90	-70
10	0	0.00	-90

Monopoly Marginal Revenue

- When the monopoly decreases its price in order to sell more output units, two things happen:
  - The price effect
    - All units are now sold at a lower price. By itself, this is a *loss* for the firm.
  - The output effect
    - More units are sold. By itself, this is a *gain* for the firm.

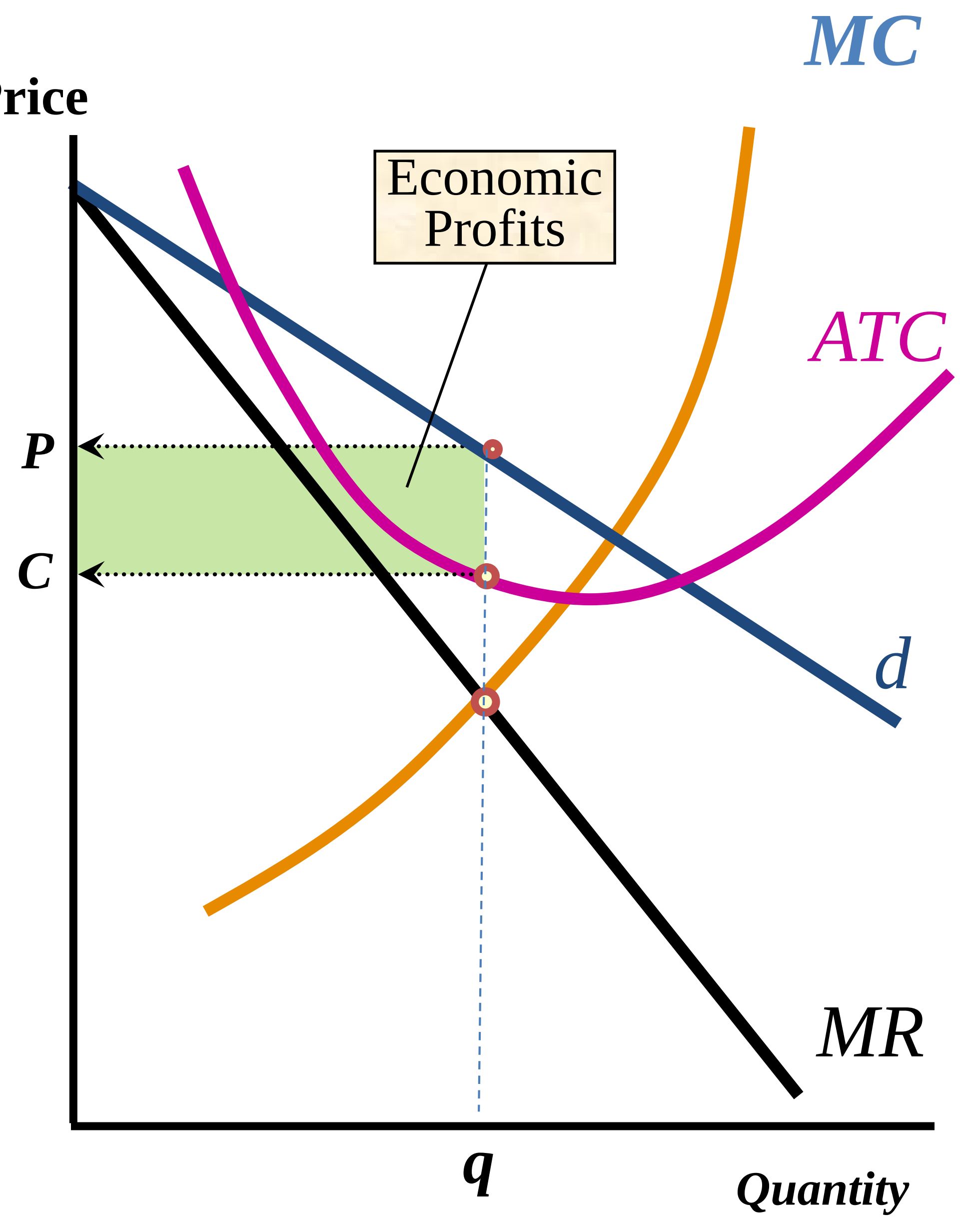
Marginal Revenue of a Price Maker

- When a firm faces a downward sloping demand curve, a price reduction that increases sales will exert two conflicting influences on total revenue.
- As we decrease price from P_1 to P_2, output increases from q_1 to q_2. What effects does this have on total revenue?
- First, total revenue will rise because of an increase in the number of units sold $(q_2 - q_1) * P_2$.
- However, total revenue will decline by $[(P_1 - P_2) * q_1]$ because q_1 units that were previously sold at the higher price (P_1) are now sold at the lower price (P_2).
- Depending on the size of the respective shaded regions, total revenue may increase or decrease.

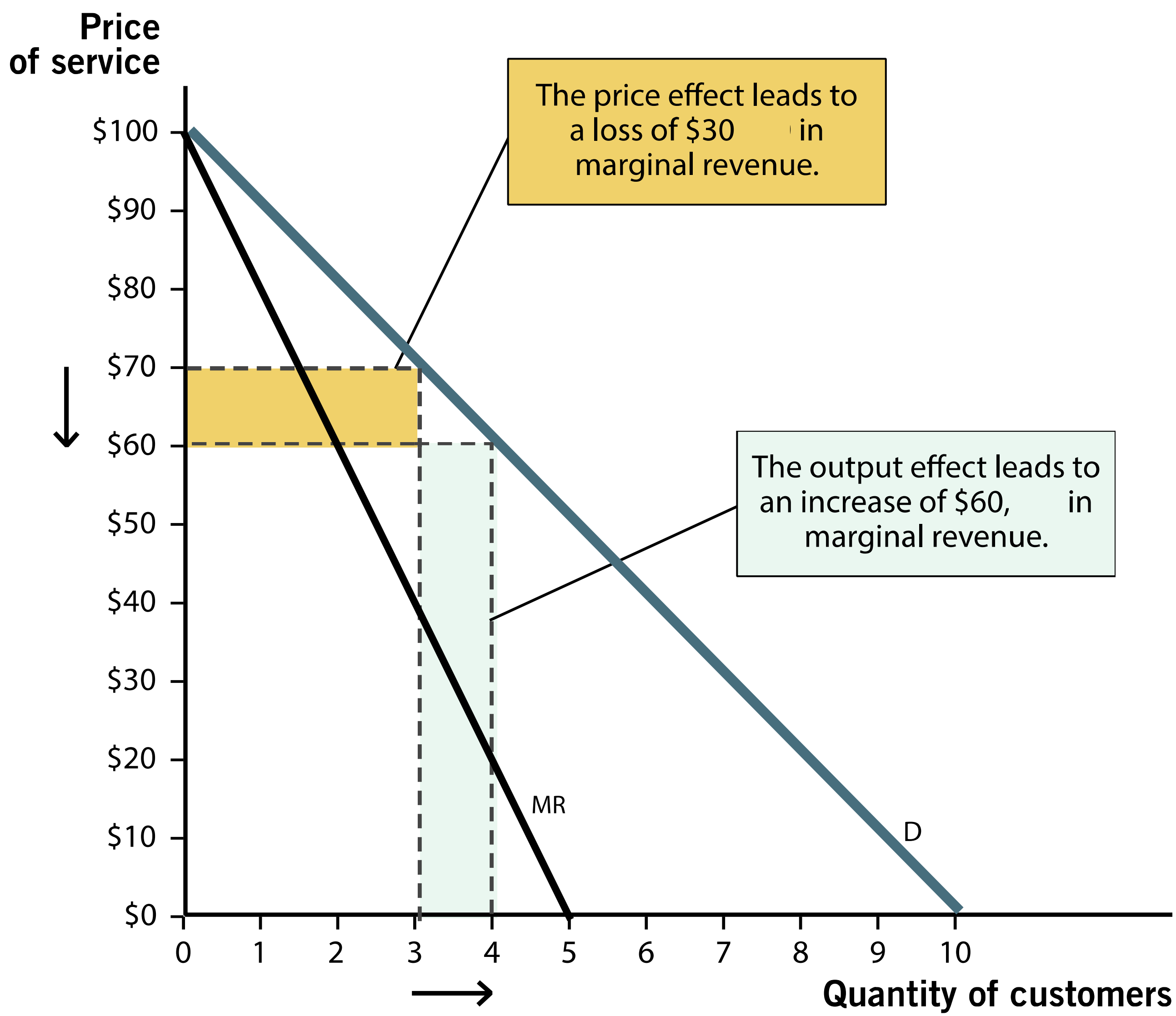


A Price Maker's Price and Output

- A price searcher maximizes profits by producing where ***MR = MC***, at output level ***q*** . . . and charges a price (***P***) along the demand curve for that output level.
- At ***q*** the average total cost is ***C*** . . .
- Because P > C the firm is making economic profits equal to the shaded area, ([***P*** - ***C***] * ***q***)



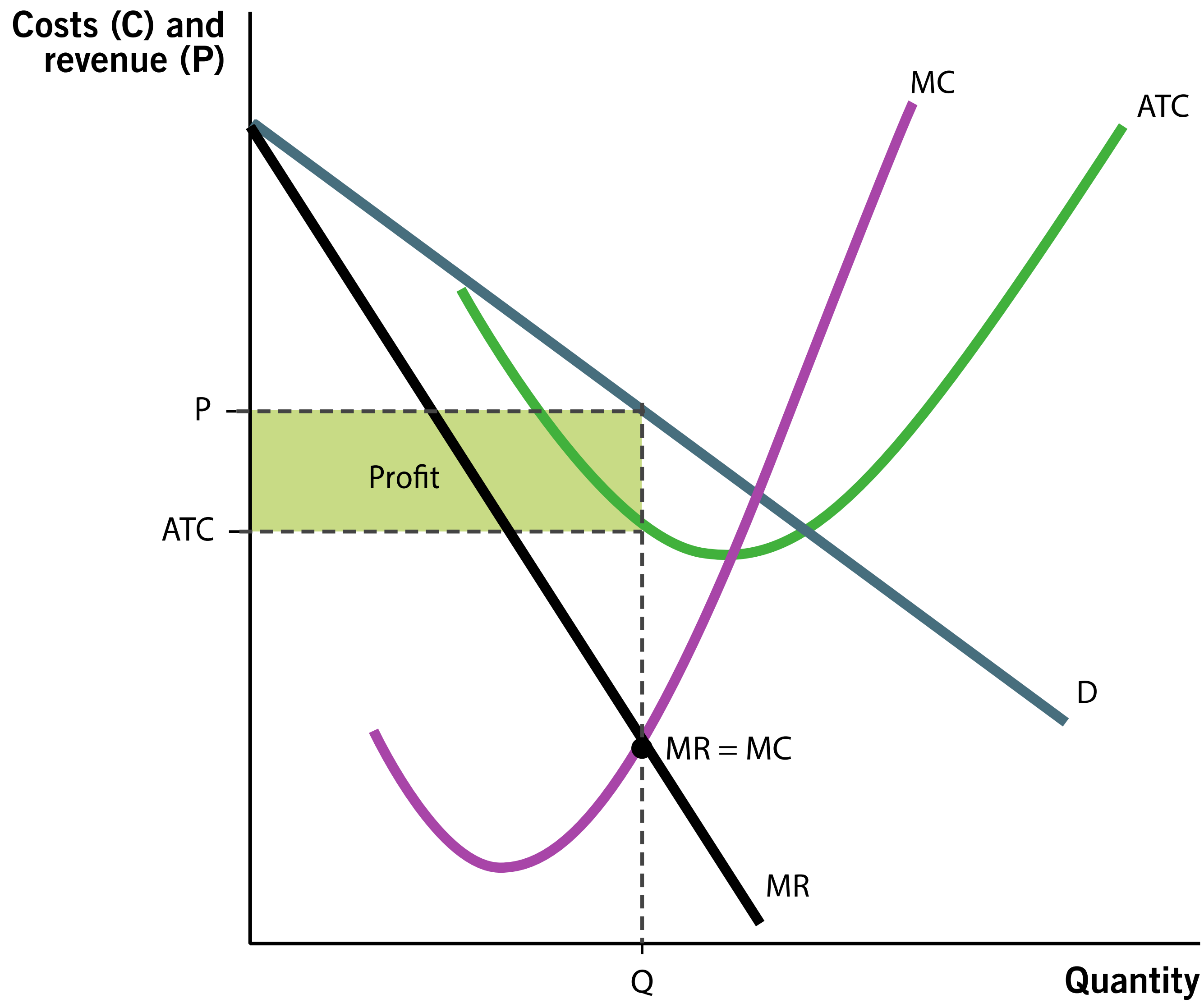
Monopoly MR and Demand



Deciding How Much to Produce

- For a monopoly, we can use the same three-step process to determine profits that we used for a competitive firm:
  1. Find the **profit maximizing** point: MR = MC
  2. Find **output** (Q) at this point: move down the vertical dashed line to the *x* axis at point q
  3. The monopolist will charge a price P equal to the height of the demand curve at that quantity. The average costs will be the height of the ATC curve at that quantity. Average profit per unit is (P – ATC).

The Monopolist's Profit



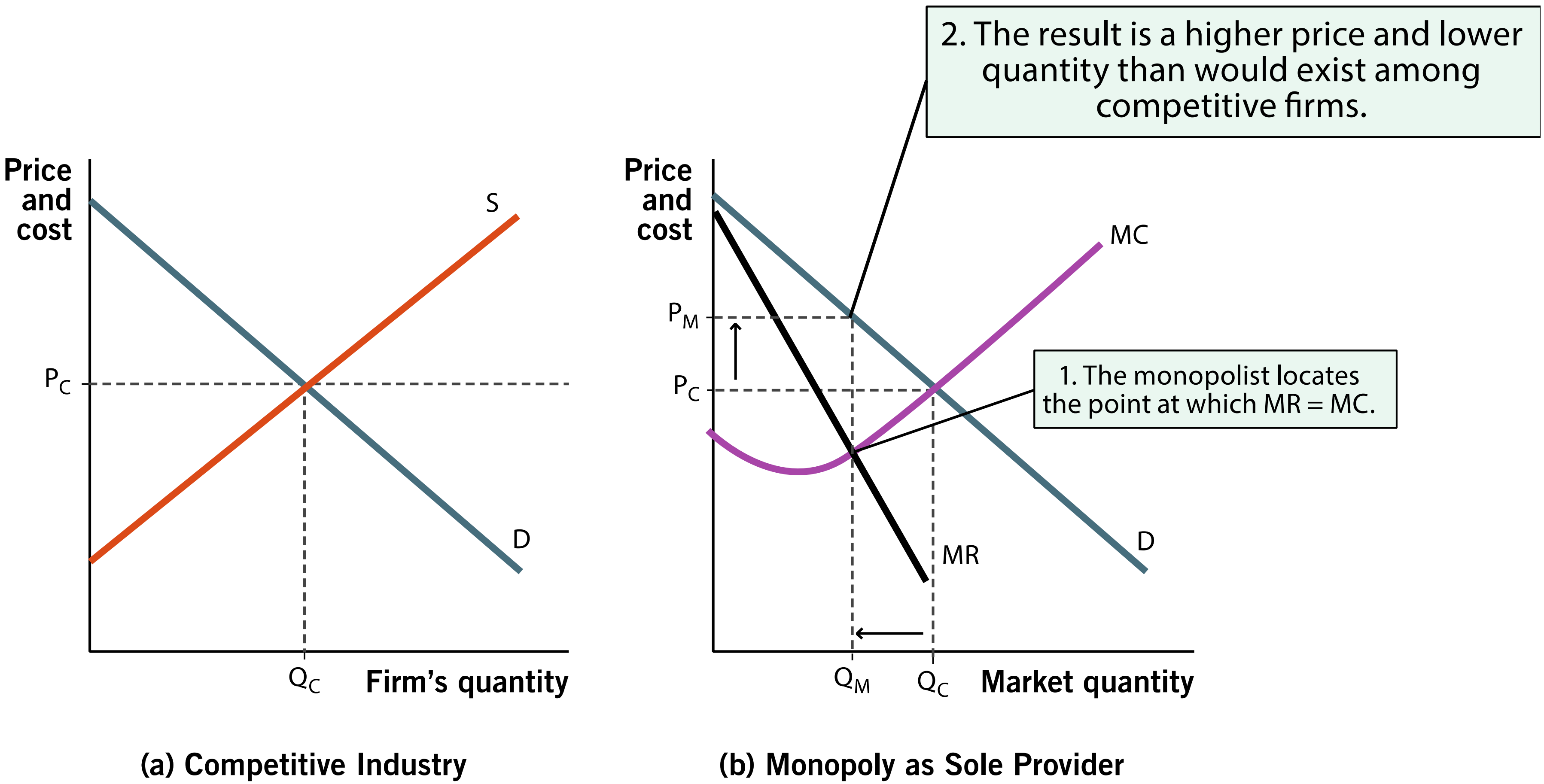
Contrasting Competition and Monopoly

Competitive Markets	Monopoly
Many firms	One firm
Produces efficient level of output (since P = MC)	Produces less than the efficient level of output (since P > MC)
Cannot earn long run economic profits	May earn long run economic profits
Has no market power (is a price taker)	Has significant market power (is a price maker)

Practice What You Know—3

- What is true for a profit-maximizing monopoly?
  A. P = MR = MC
  B. P = MR > MC
  C. P > MR = MC
  D. P > MR > MC

Competitive Markets versus Monopoly



Monopoly versus Competition

- Output (quantity)
  - $Q_{Monopoly} < Q_{Competition}$

- Price
  - $P_{Competition} < P_{Monopoly}$

Solutions for Monopoly

- <u>Restructure the industry:</u>
  - Breaking up Monopolies
  - Not appropriate in the case of a natural monopoly. Since the average costs of production continually decline as output increases.

- <u>Regulate Producers:</u>
  - Restrictions in terms of what prices can be charged.

Conclusion

- Monopolies do not always earn profits. They control supply but not demand.
- Competitive markets charge a lower price and sell more units relative to monopolies
- Government seeks to limit monopoly outcomes and promote competitive markets.
- Perfectly competitive markets and monopolies are market structures at opposite extremes.