Monopoly & Antitrust

EC 201: Principles of Microeconomics

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Prologue

Housekeeping

Final exam: Next week!

- Details next lecture.

Canvas: New practice problems + discussion worksheets.

Wednesday lecture: Final exam review.

- Come prepared with questions!
- Syllabus update: no podcast.

Friday discussion: Monopoly worksheet + practice problems.

Market Failure

Causes

1. Absence of property rights.
    - Externalities.
    - Public goods.
2. Market power.
    - *e.g.*, monopoly (today).
3. Asymmetric information.

Monopoly

Monopoly

Conditions

1. One seller.
2. Unique product without close substitutes.
3. Barriers to entry.

Result

Market power: A monopolist has the ability to influence market prices.

- A monopolist is a **price maker**.

Monopoly

Examples?

Q: Is Google a monopolist? Why or why not?

- Most popular search engine by far + huge, vertically integrated company + ability to purchase potential new competitors.
- Competes with Apple, Amazon, and Microsoft.

A: Not a monopolist, but has market power.

Monopoly

Examples?

Q: Is Comcast a monopolist? Why or why not?

- Sole internet provider in many areas + huge, vertically integrated company + high barriers to entry.
- Competes with Verizon in some areas.

A: Depending on where you live, yes.

Monopoly

Examples?

Q: Is the only hardware store in a small town a monopolist? Why or why not?

- No direct competitors in town + small size of market deters entrants.
- A grocery store might carry some of the same products.

A: Yes, provided that there sufficiently few indirect competitors.

Sources of Monopoly Power

Exclusive control of resources

A firm can keep out potential competitors by buying up essential resources for production.

Examples

- Early 1900s: Aluminum manufacturer ALCOA owned 90% of the global bauxite supply.
- De Beers owned most of the world's raw diamonds until the mid-2000s.

Sources of Monopoly Power

Difficulty raising capital

Incumbent monopolists are often large $\longrightarrow$ new competitors would need a lot of money to compete effectively!

- Chances of competing against entrenched monopolist are low $\longrightarrow$ risky investment for lenders.

Example: Operating systems.

- Supplanting Windows 10 as the leading operating system for PCs would require vast amounts of capital.
- A lender would pick Microsoft over your start-up to develop the next big operating system.

Sources of Monopoly Power

Economies of scale

Some industries feature immense upfront fixed costs, but low marginal costs thereafter.

- Tendency for consolidation over time.

Examples: Natural monopolies.

- Electricity and water.
- Cable internet and television.
- Railroads.

Sources of Monopoly Power

Licensing

Governments establish monopolies with licensing requirements.

- Licensing requirement = legal barrier to entry.

Rationale: Minimize negative externalities or exploit economies of scale.

Examples

- Trash collection.
- Taxi medallions.
- Occupational licenses.

Sources of Monopoly Power

Patents and copyright law

Governments issue exclusive rights to sell a particular good or service for a fixed amount of time.

- Exclusive rights $\longrightarrow$ monopoly.

Tradeoff: Market power *vs.* innovation.

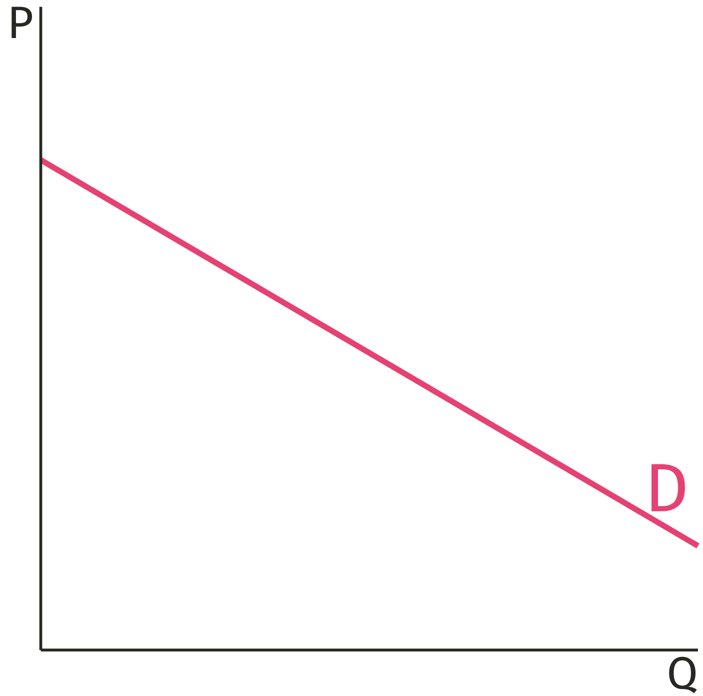
Examples

- New prescription drugs.
- Books and music.

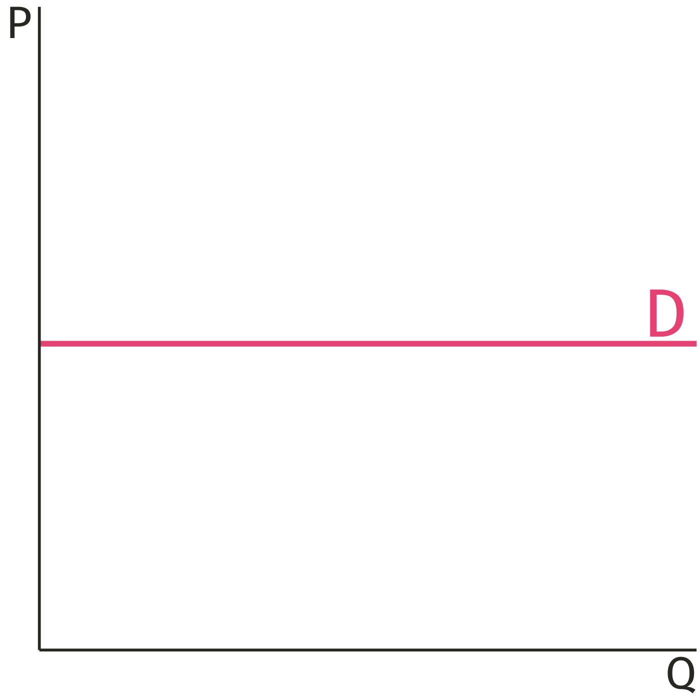
Monopolists *vs.* Competitive Firms

Consumers of a particular firm's product have fewer alternatives in a monopolistic market than in a perfectly competitive market.

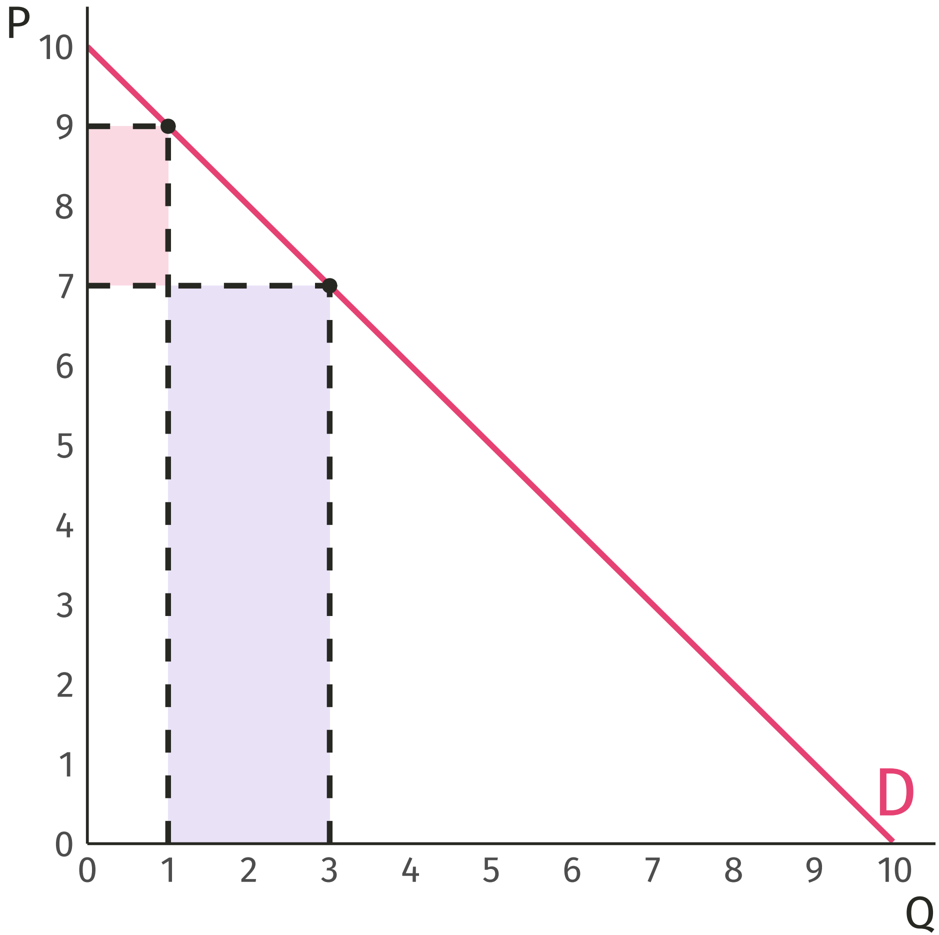
Monopolist



Perfectly Competitive Firm



Marginal Revenue

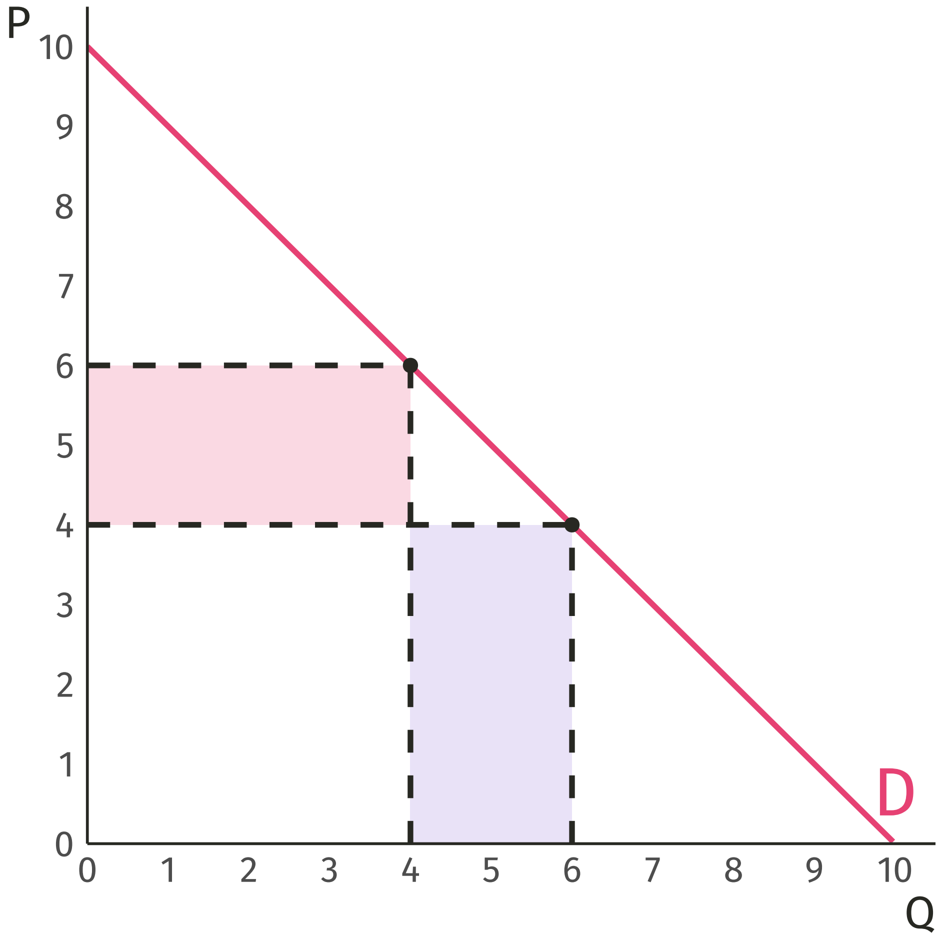


Price effect: As price decreases, existing customers pay less.

Output effect: As price decreases, new customers purchase goods.

Output effect $>$ price effect $\Longrightarrow$ price cut increases revenue.

Marginal Revenue

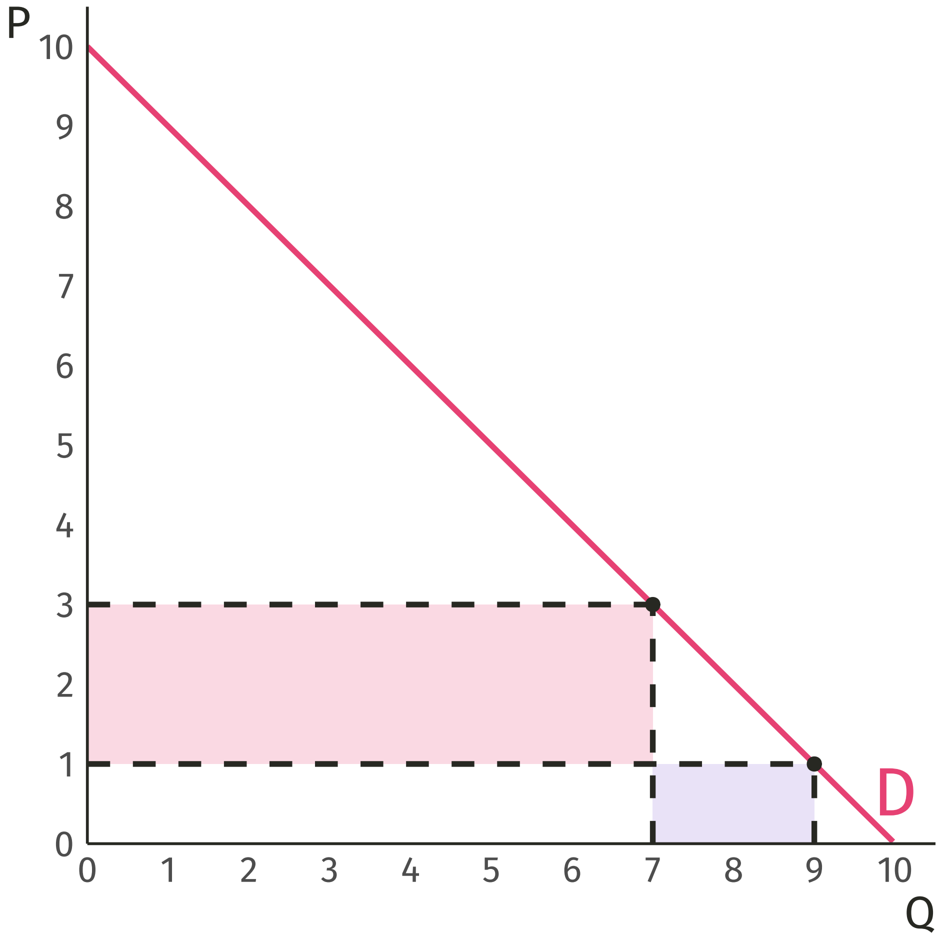


Price effect: As price decreases, existing customers pay less.

Output effect: As price decreases, new customers purchase goods.

Output effect = price effect $\implies$ price cut does not change revenue.

Marginal Revenue



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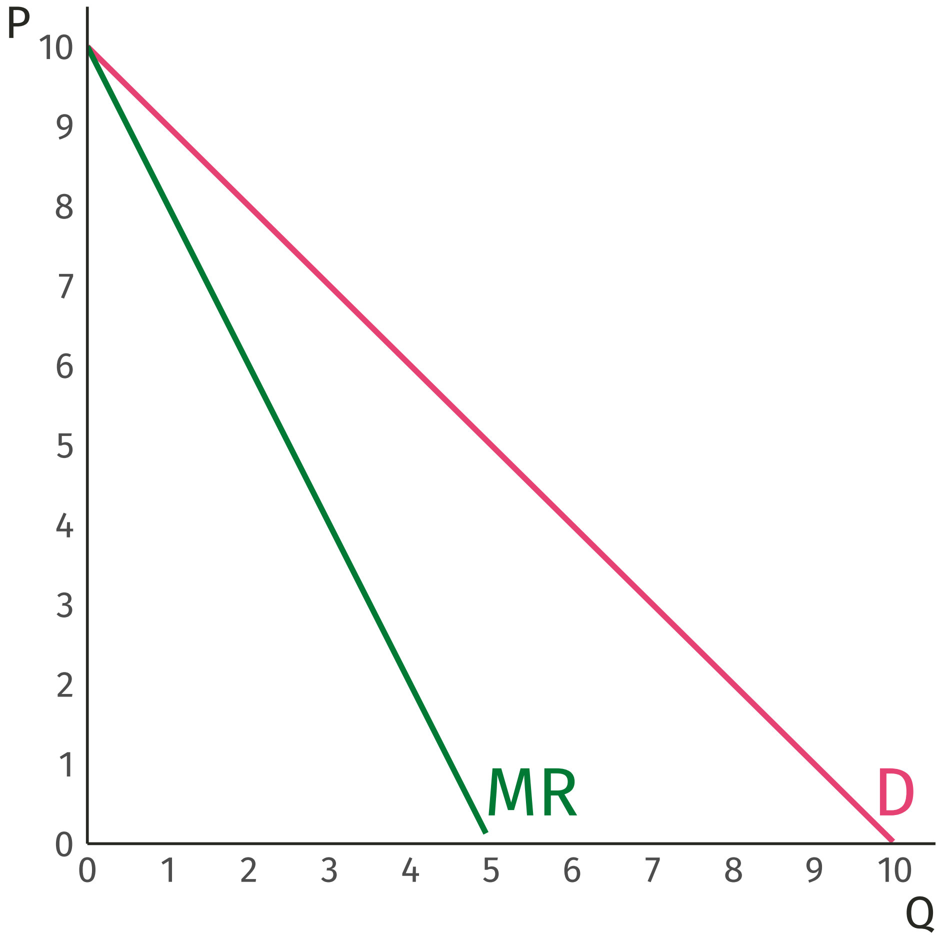
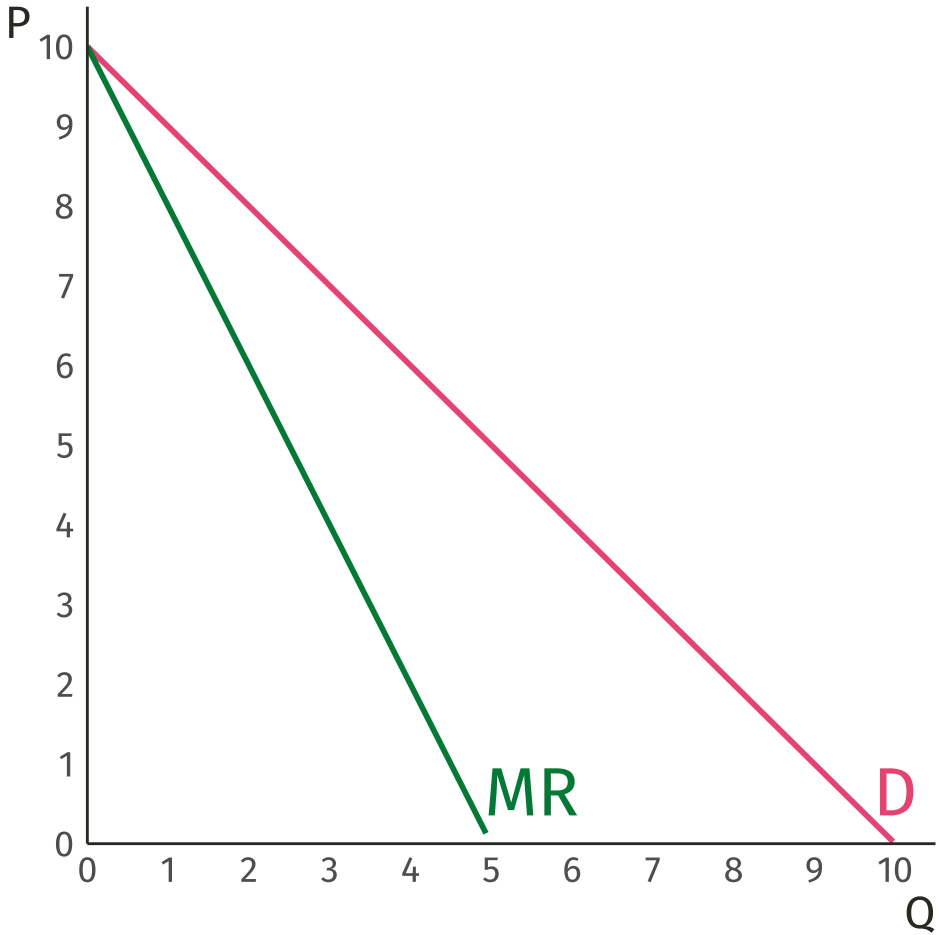
Marginal Revenue



Definition

> Change in total revenue that arises from a one-unit increase in output.

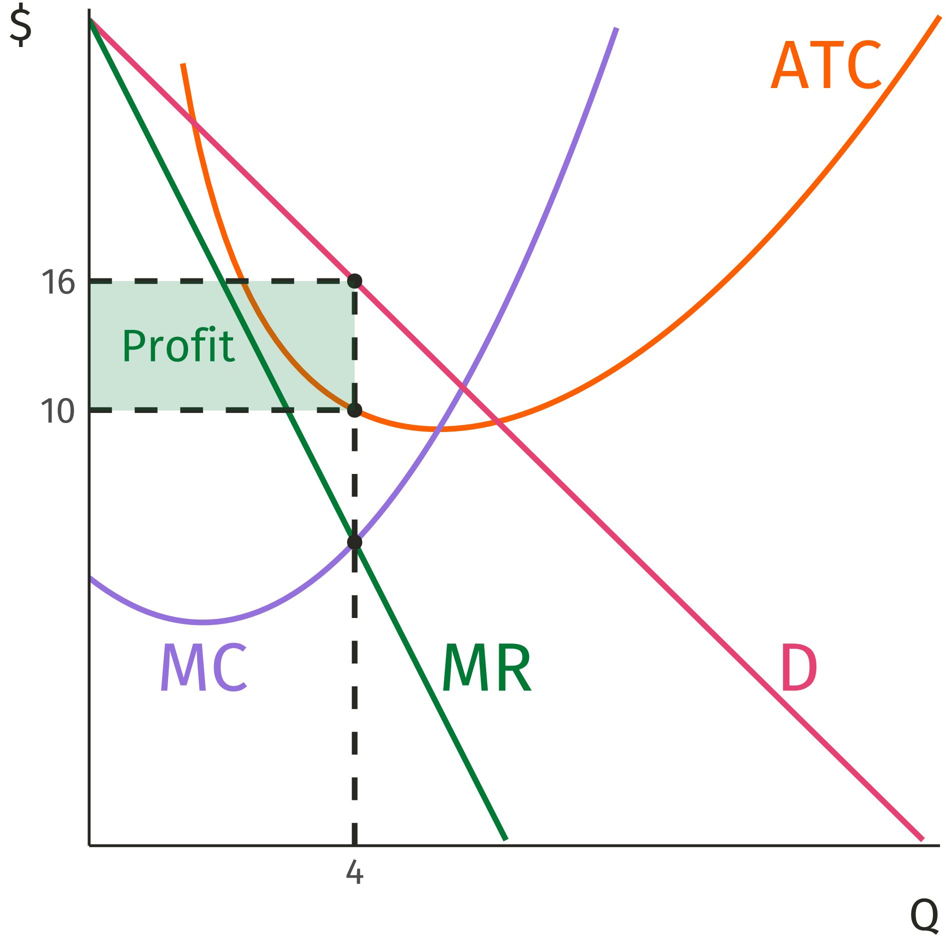
Marginal Revenue



A monopolist faces a downward-sloping MR curve.

- MR > \$0 $\longrightarrow$ increasing revenue.
- MR = \$0 $\longrightarrow$ maximum revenue.
- MR < \$0 $\longrightarrow$ decreasing revenue.

Profit Maximization



Q: How does a monopolist maximize profit?

A: Two steps!

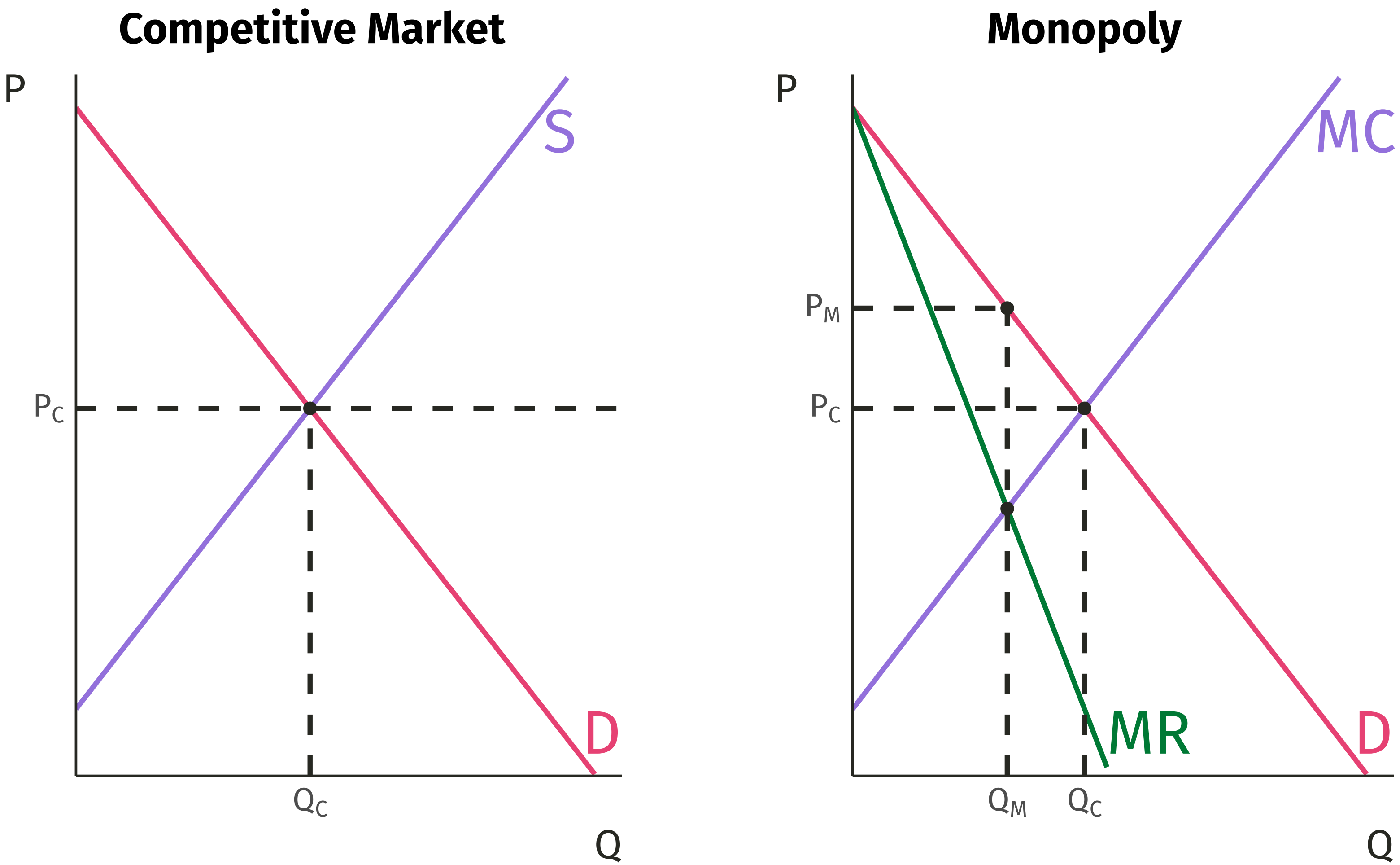
- **Step 1:** Pick Q_M where MR = MC.
- **Step 2:** Set P_M on the demand curve.

Profit = $(P_M - \text{ATC}) \times Q_M$

= $(\$16 - \$10) \times 4$

= $\$24$.

Perfect Competition *vs.* Monopoly



Perfect Competition *vs.* Monopoly

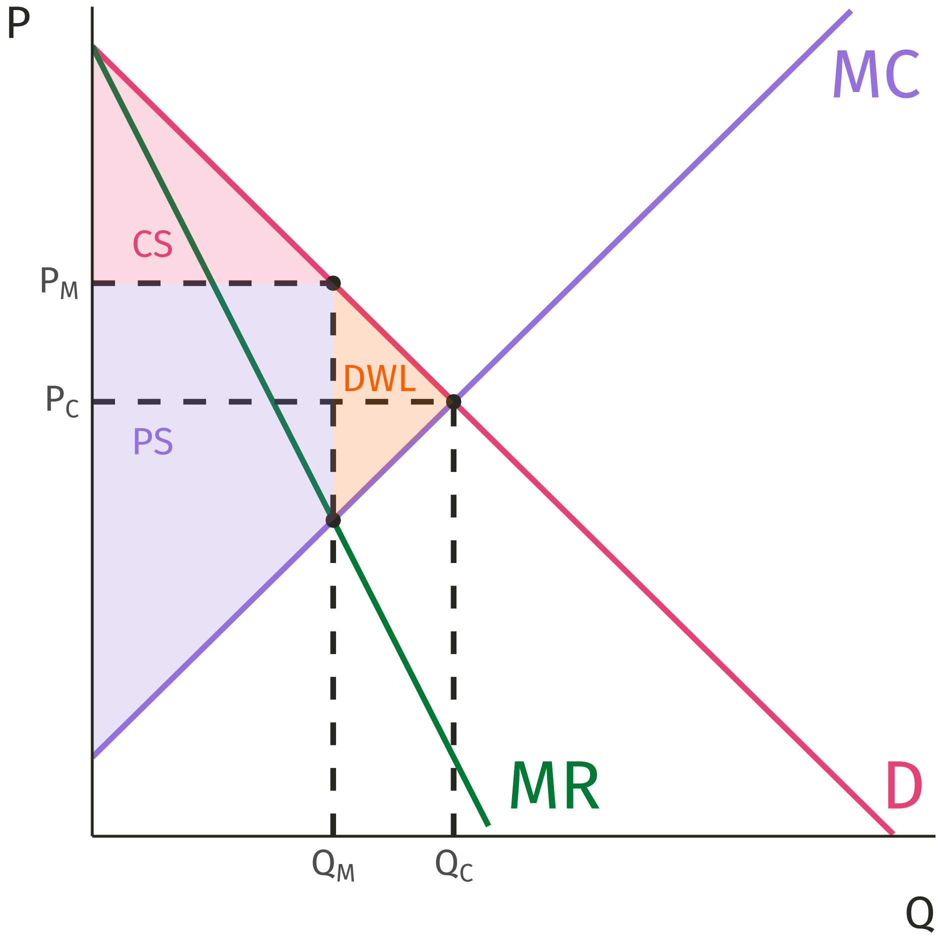
Competitive Market

1. Many firms.
2. No firm can earn long-run economic profits.
3. Each firm is a **price taker**
   $\longrightarrow$ no market power!
4. Each firm produces efficient level of output
   $\longrightarrow$ *i.e.*, where P = MC.

Monopoly

1. One firm.
2. Monopolist can earn long-run economic profits.
3. Monopolist is a **price maker**
   $\longrightarrow$ significant market power!
4. Monopolist produces inefficient level of output
   $\longrightarrow$ *i.e.*, where P > MC.

Social Consequences

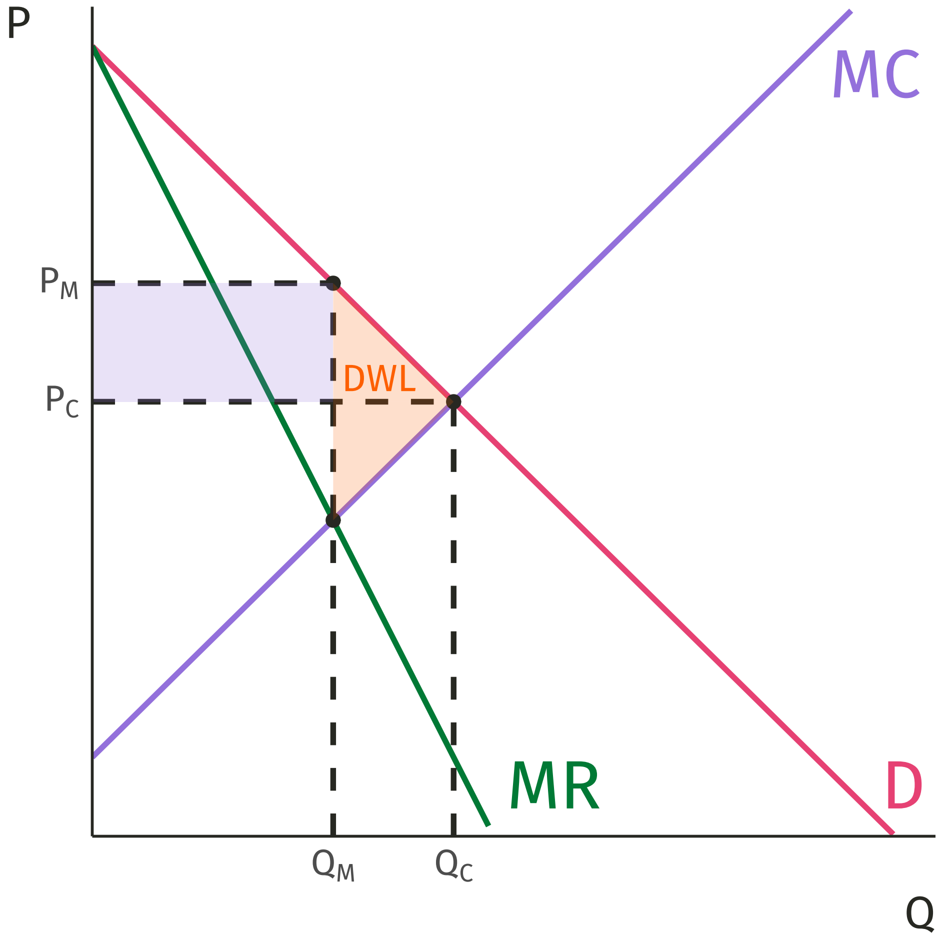


Inefficiency

Monopolies fail to maximize total surplus.

- $Q_M < Q_C \implies$ deadweight loss.

Social Consequences



Inefficiency

Monopolies fail to maximize total surplus.

- $Q_M < Q_C \implies$ deadweight loss.

Monopolies reduce consumer surplus.

Social Consequences

Limited choices for consumers

Monopolists face few incentives to compete for customers.

- **Result:** Fewer product lines + lower quality.
- **Example:** Cable companies and bundled services.

Rent seeking

Monopolists can use political processes to preempt competition or secure new monopolies.

- A form of competition, but not the good kind.
- **Example:** Lobbying Congress for trade protections.

Monopoly

Solutions?

1. Antitrust law.
    - *e.g,.* breaking up monopolies, blocking mergers, *etc.*
2. Regulation.
    - *e.g.*, price controls.
3. In the case of monopsony, unions?
4. Wait for technological disruptions.
    - *e.g.*, rise of mobile devices reduced Microsoft's market share.

Antitrust

Antitrust

History

Technological innovations during the 1800s created economies of scale.

- **Result:** Consolidation of industries into national *trusts*.†
- **Example:** Standard Oil.

Sherman Antitrust Act of 1890 made anti-competitive business practices illegal.

- Eventually used to break-up trusts like Standard Oil and block mergers.

†: *Trust* = An organization of colluding or jointly-owned companies.

Antitrust

History

Over time, courts started to rule in favor of small incumbent firms over national entrants.

- Small incumbents had local monopoly power!

Eventually, federal courts adopted the Consumer Welfare Standard.

- **Q:** Would a merger increase consumer surplus?
  - If yes, let the merger happen.
  - If no, block the merger.
- Still governs antitrust law today.

Market definition

Product market

- **Q:** Are there substitutes for the merging firms' good?

Geographic market

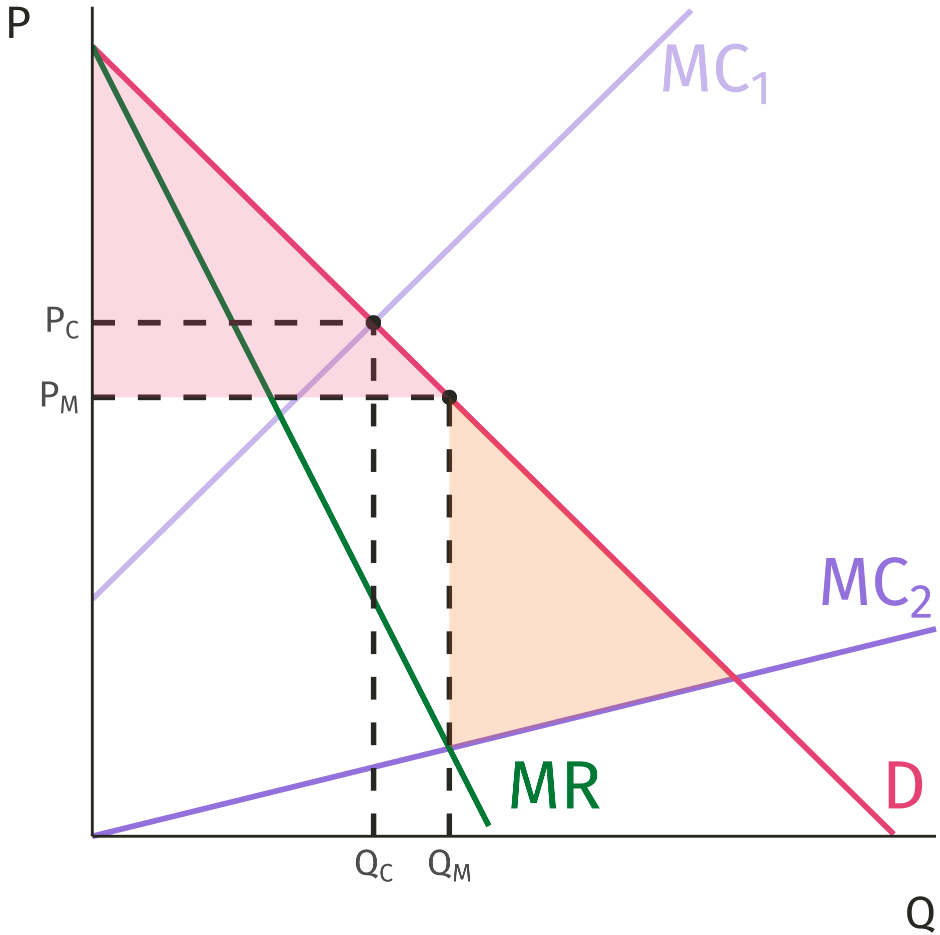
- **Q:** Is the market local or national?

Bottom line

- Larger markets make mergers look better.

- Smaller markets make mergers look worse.

Mergers



All else being equal, industry consolidation creates deadweight loss.

In some cases, consolidation can reduce marginal costs.

Possible to increase consumer surplus relative to original competitive equilibrium.

Podcast Question: True or false? According to Charlotte Slaiman, mergers usually result in lower prices for consumers.

> **A.** True.
>
> **B.** False.

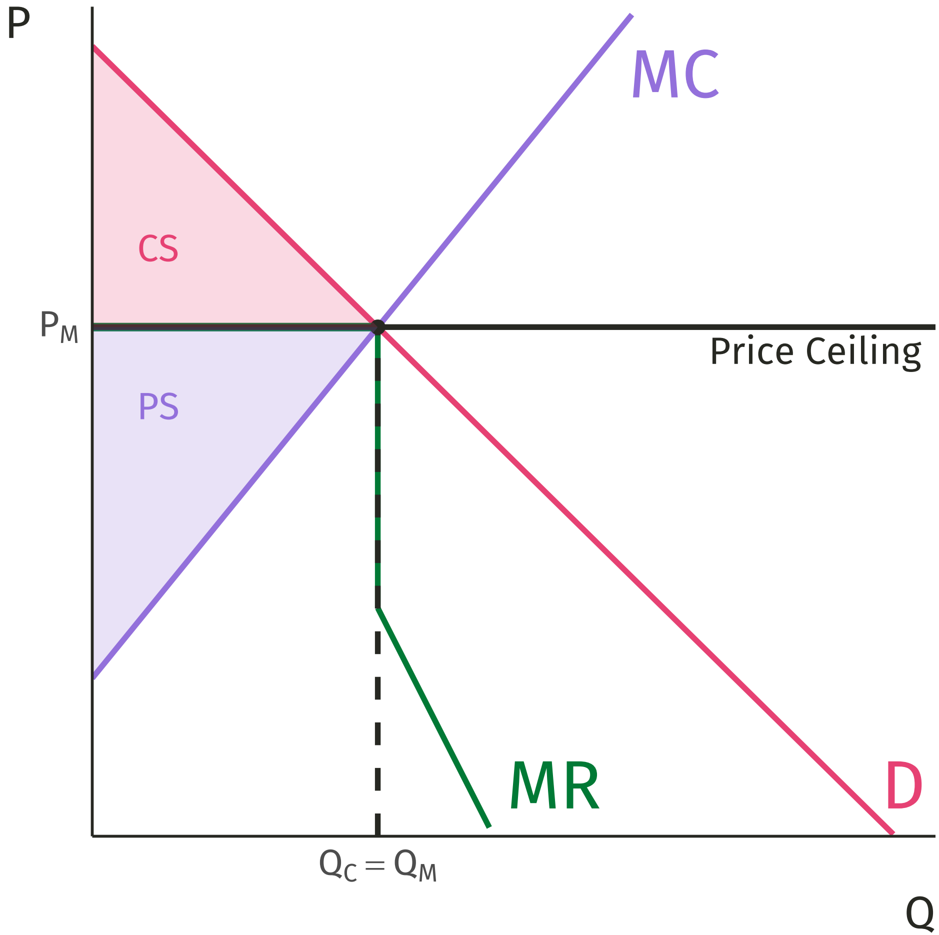
Regulation

Regulating Monopoly

Options

1. Mandate marginal cost pricing?
   - Make monopolist choose quantity where price equals marginal cost.
2. Have the government take over the monopoly?
   - Not always better.
3. Subsidize the monopolist?
   - Politically unpopular in most cases.

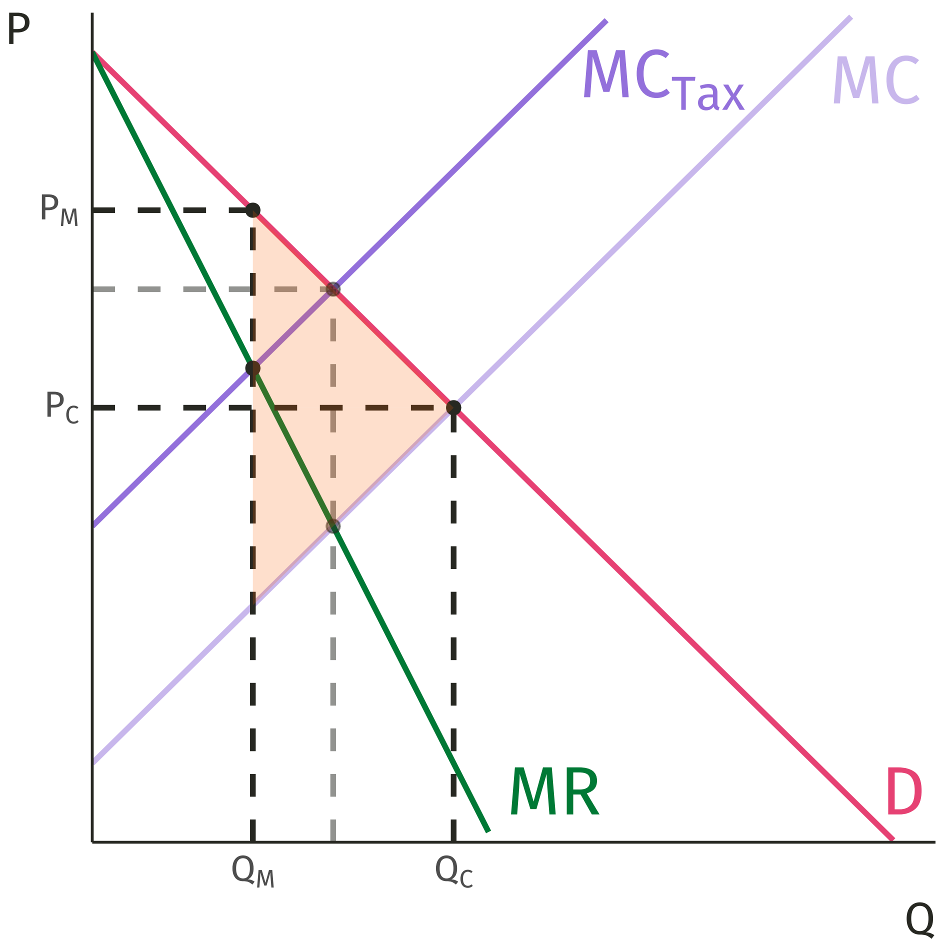
Regulating Monopoly



Q: Can a price ceiling at the competitive price eliminate deadweight loss?

A: Yes!

Q: Can a tax eliminate deadweight loss from the monopoly?[†]



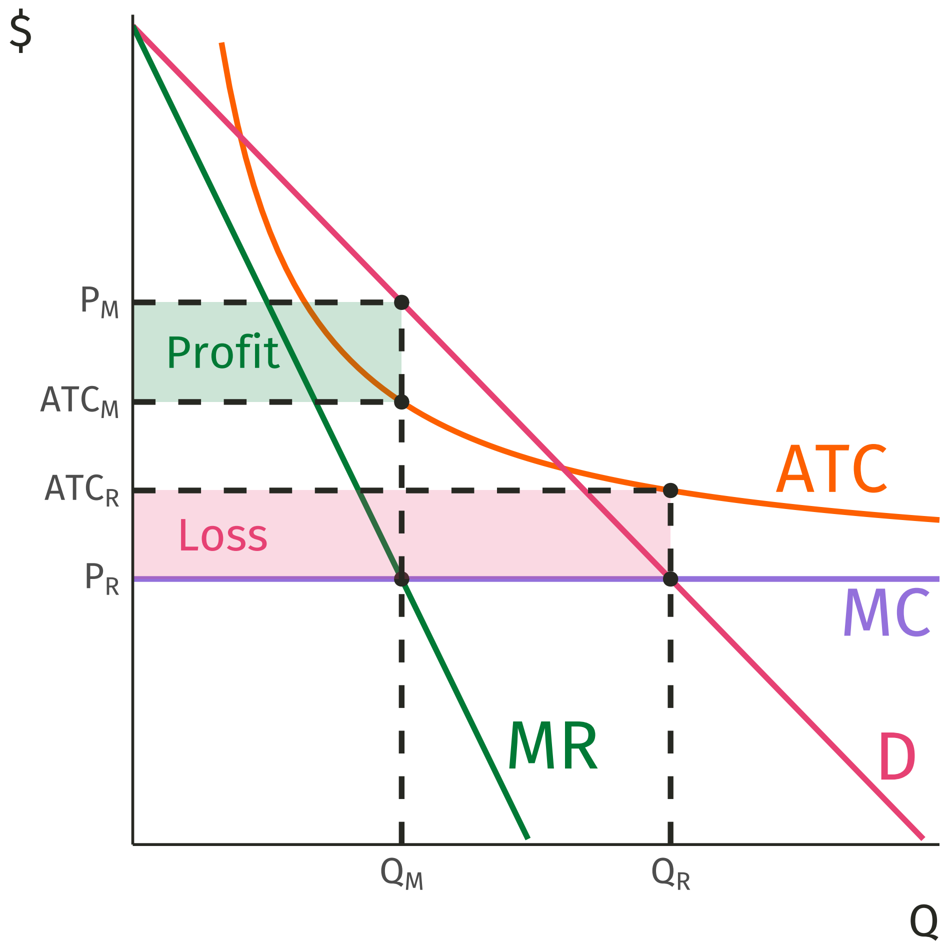
A. Yes.

B. No.

C. Depends.

†: Assume that there are no negative externalities.

Regulating Natural Monopoly



Price Ceiling

Some natural monopolies are not profitable under marginal cost pricing.

Losses
⟶ monopolist exits
⟶ market ceases to exist
⟶ even less total surplus than before!