독점 시장

# 14. Monopoly

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# Questions in this chapter

- Why do monopolies arise?
- Why is MR $< P$ for a monopolist?
- How do monopolies choose their $P$ and $Q$ ?
- How do monopolies affect society's well-being?
- What can the government do about monopolies?
- What is price discrimination?

# Introduction

- A monopoly is a firm that is the sole seller of a product without close substitutes.
- In this chapter, we study monopoly and contrast it with perfect competition.
- The key difference:
  A monopoly firm has market power, the ability to influence the market price of the product it sells. A competitive firm has no market power.

# Why Monopolies Arise

The main cause of monopolies is barriers to entry : other firms cannot enter the market.

- Three sources of barriers to entry:
  1. A single firm owns a key resource.
     E.g., DeBeers owns most of the world's diamond mines
  2. The govt gives a single firm the exclusive right to produce the good.
     E.g., patents, copyright laws 특허 & 저작권
  3. Natural monopoly: a single firm can produce the entire market $Q$ at lower cost than could several firms.
     huge FC and small MC, electricity

여러기업이 경쟁을 못하는 경우.

# Monopoly vs. Competition: Demand Curves

- In a competitive market,
  - the market demand curve slopes downward.
  - But the demand curve for any individual firm's product is horizontal at the market price.
  - That is, the firm takes $P$ given,
  - so $\boxed{\mathrm{MR} = P}$ for the competitive firm.
- A monopolist is
  - the only seller, so it faces the market demand curve.
  - To sell a larger $Q$, the firm must reduce $P$.
  - Thus $\boxed{\mathrm{MR} \neq P}$.

# Understanding the Monopolist's MR

- Increasing $Q$ has two effects on revenue:
  - **Output effect:** higher output raises revenue
  - **Price effect:** lower price reduces revenue
- To sell a larger $Q$ , the monopolist must reduce the price on all the units it sells (unless the demand is completely inelastic).
- Hence, MR $< P$
- MR could even be negative if the price effect exceeds the output effect (when the demand is inelastic)

# Profit-Maximization

- Like a competitive firm, a monopolist maximizes profit by producing the quantity where MR = MC.
- Once the monopolist identifies this quantity, it sets the highest price consumers are willing to pay for that quantity.
- It finds this price from the D curve.

The monopolist's profit equals

$$(P - \text{ATC}) \times Q$$

(c.f.) This is the exactly same as in perfect competition. But here $P > \text{MC}$, while $P = \text{MC}$ in chap 13.

# A Monopoly Does Not Have an S Curve

이익최대생산량에서 생산한다.

- A competitive firm
  - takes $P$ as given
  - has a supply curve that shows how its $Q$ depends on $P$.
- A monopoly firm
  - is a "price-maker," not a "price-taker"
  - $Q$ does not depend on $P$; $Q$ and $P$ are jointly determined by MC, MR, and the demand curve.
- Hence, no supply curve for monopoly.

# The Welfare Cost of Monopoly

- Recall: In a competitive market equilibrium, $P = \text{MC}$ and total surplus is maximized.
- In the monopoly eq, $P > \text{MR} = \text{MC}$
  - The value to buyers of an additional unit ($P$) exceeds the cost of the resources needed to produce that unit (MC).
  - The monopoly $Q$ is too low : could increase total surplus with a larger $Q$.
  - Thus, monopoly results in a deadweight loss.

신약시장 에서의 특허가 만료되었을 때 → 완전경쟁시장으로 변화

**CASE STUDY: Monopoly vs. Generic Drugs**

- Patents on new drugs give a temporary monopoly to the seller.
- When the patent expires, the market becomes competitive, generics appear.

1개씩 판다면 더 수익을 높일수있다.

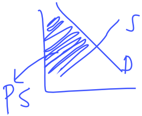
# Price Discrimination

가격 차별

- Discrimination: treating people differently based on some characteristic, e.g. race or gender.
- Price discrimination: selling the same good at different prices to different buyers.
- The characteristic used in price discrimination is willingness to pay (WTP):
  - A firm can increase profit by charging a higher price to buyers with higher WTP.

# Perfect Price Discrimination vs. Single Price Monopoly

이렇게하면 후생손실은 없다.
단, 모두 생산자 잉여이다.




- Single Price Monopoly: charges the same price to all buyers.

$\Rightarrow$ A deadweight loss results.

- Perfect Price Discrimination: monopolist produces the competitive quantity, but charges each buyer his or her WTP.

$\Rightarrow$ The monopolist captures all CS as profit. No CS. But there's no DWL.

# Price Discrimination in the Real World

- In the real world, perfect price discrimination is not possible:
  - No firm knows every buyer's WTP
  - Buyers do not reveal it to sellers
- So, firms divide customers into groups based on some observables that is likely related to WTP, such as age.

# Examples of Price Discrimination

- **Movie tickets:** Discounts for seniors, students, and people who can attend during weekday afternoons. They are all more likely to have lower WTP than people who pay full price on Friday night.
- **Airline prices:** Discounts for Saturday-night stayovers help distinguish business travelers, who usually have higher WTP, from more price-sensitive leisure travelers. 시간이 많은 사람들
- **Discount coupons:** People who have time to clip and organize coupons are more likely to have lower income and lower WTP than others.
- **Need-based financial aid:** Low income families have lower WTP for their children's college education. Schools price-discriminate by offering need-based aid to low income families.
- **Quantity discounts:** A buyer's WTP often declines with additional units, so firms charge less per unit for large quantities than small ones. Example: A movie theater charges \$4 for a small popcorn and \$5 for a large one that's twice as big.

# Public Policy Toward Monopolies

독점금지법

- Increasing competition with antitrust laws
  - Ban some anticompetitive practices, allow govt to break up monopolies.
  - e.g., Sherman Antitrust Act (1890), Clayton Act (1914)
- Regulation
  - Govt agencies set the monopolist's price.
  - For natural monopolies, MC $<$ ATC at all $Q$, so marginal cost pricing would result in losses.
  - If so, regulators might subsidize the monopolist or set $P =$ ATC for zero economic profit.
- Public ownership
  - Example: U.S. Postal Service
  - Problem: Public ownership is usually less efficient since no profit motive to minimize costs
- Doing nothing
  - The foregoing policies all have drawbacks, so the best policy may be no policy.

# CONCLUSION: The Prevalence of Monopoly

- In the real world, pure monopoly is rare.
- Yet, many firms have market power, due to:
  - selling a unique variety of a product
  - having a large market share and few significant competitors
- In many such cases, most of the results from this chapter apply, including:
  - markup of price over marginal cost
  - deadweight loss

# SUMMARY

- Monopolies arise due to barriers to entry, including: government-granted monopolies, the control of a key resource, or economies of scale over the entire range of output.
- A monopoly firm faces a downward-sloping demand curve. As a result, it must reduce price to sell a larger quantity, which causes marginal revenue to fall below price.
- Monopoly firms maximize profits by producing the quantity where marginal revenue equals marginal cost. But since marginal revenue is less than price, the monopoly price will be greater than marginal cost, leading to a deadweight loss.
- Monopoly firms try to raise their profits by charging higher prices to consumers with higher willingness to pay. This practice is called price discrimination.
- Policymakers may respond by regulating monopolies, using antitrust laws to promote competition, or by taking over the monopoly and running it.