

Ch.15 Monopoly

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MONOPOLY 0

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.

MONOPOLY 1

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 government gives a single firm the exclusive right to produce the good.
E.g., patents, copyright laws

MONOPOLY 2

Why Monopolies Arise

3. Natural monopoly: a single firm can produce the entire market Q at lower cost than could several firms.

Example: 1000 homes need electricity

ATC is lower if one firm services all 1000 homes than if two firms each service 500 homes.

MONOPOLY 3

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.

The firm can increase Q without lowering P , so $MR = P$ for the competitive firm.

A competitive firm's demand curve

MONOPOLY 4

Monopoly vs. Competition: Demand Curves

A monopolist is the only seller, so it faces the market demand curve.

To sell a larger Q , the firm must reduce P .

Thus, $MR \neq P$.

A monopolist's demand curve

MONOPOLY 5

ACTIVE LEARNING 1
A monopoly's revenue

Common Grounds is the only seller of cappuccinos in town.

The table shows the market demand for cappuccinos.

Fill in the missing spaces of the table.

What is the relation between P and AR ?
 Between P and MR ?

Q	P	TR	AR	MR
0	\$4.50		n.a.	
1	4.00			
2	3.50			
3	3.00			
4	2.50			
5	2.00			
6	1.50			

6

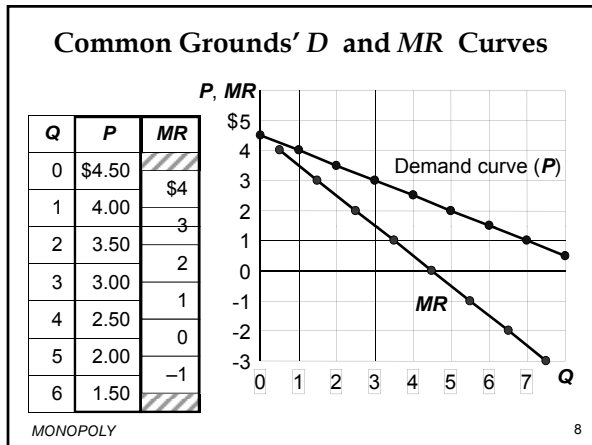
ACTIVE LEARNING 1
Answers

Here, $P = AR$, same as for a competitive firm.

Here, $MR < P$, whereas $MR = P$ for a competitive firm.

Q	P	TR	AR	MR
0	\$4.50	\$ 0	n.a.	
1	4.00	4	\$4.00	\$4
2	3.50	7	3.50	3
3	3.00	9	3.00	2
4	2.50	10	2.50	1
5	2.00	10	2.00	0
6	1.50	9	1.50	-1

7



Understanding the Monopolist's MR

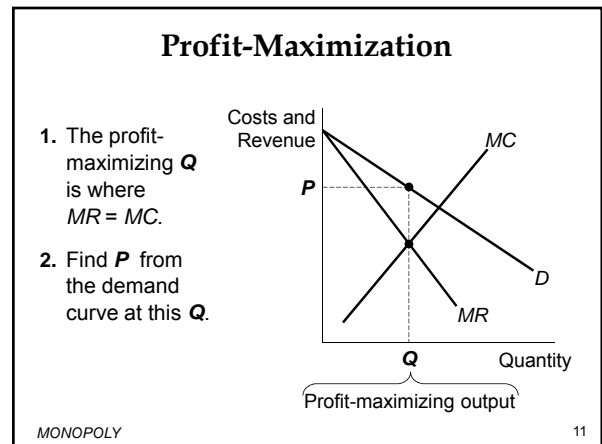
- Increasing Q has two effects on revenue:
 - Output effect:** higher output raises revenue
 - Price effect:** lower price reduces revenue
- To sell a larger Q , the monopolist must reduce the price on all the units it sells.
- Hence, $MR < P$
- MR could even be negative if the price effect exceeds the output effect (e.g., when Common Grounds increases Q from 5 to 6).

9

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.

10



The Monopolist's Profit

As with a competitive firm, the monopolist's profit equals $(P - ATC) \times Q$

MONOPOLY 12

A Monopoly Does Not Have an S Curve

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 ; rather, Q and P are jointly determined by MC , MR , and the demand curve.

So there is no supply curve for monopoly.

MONOPOLY 13

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.

MONOPOLY 14

The Welfare Cost of Monopoly

- Recall: In a competitive market equilibrium, $P = MC$ and total surplus is maximized.
- In the monopoly eq'm, $P > MR = MC$
 - 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.

MONOPOLY 15

The Welfare Cost of Monopoly

Competitive eq'm:
 quantity = Q_C
 $P = MC$
 total surplus is maximized

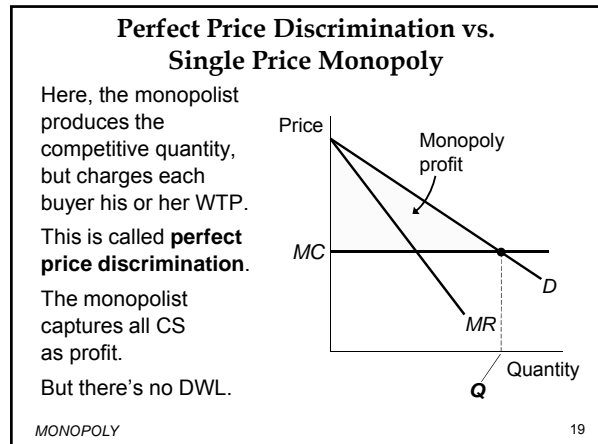
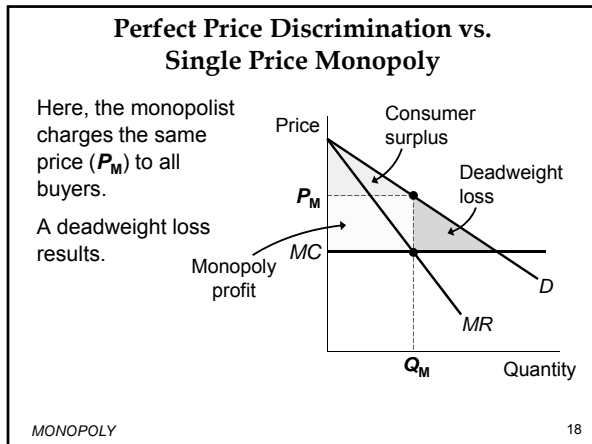
Monopoly eq'm:
 quantity = Q_M
 $P > MC$
 deadweight loss

MONOPOLY 16

Price Discrimination

- 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.

MONOPOLY 17



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 announce it to sellers
- So, firms divide customers into groups based on some observable trait that is likely related to WTP, such as age.

MONOPOLY 20

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.

MONOPOLY 21

Examples of Price Discrimination

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.

MONOPOLY 22

Examples of Price Discrimination

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.

MONOPOLY 23

Public Policy Toward Monopolies

- 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.

MONOPOLY

24

Public Policy Toward Monopolies

- 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.

MONOPOLY

25

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

MONOPOLY

26