# Principles of Microeconomics

# **Chapter 9 Monopoly**

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Market Structure: Monopoly

* One seller and many buyers
* There are no close substitutes for the product
* The firm has market power; can control over price;   
  called **price maker**;   
  set the price at will.
* Barriers to entry   
  – other firms cannot enter into the market for three reasons:   
  legal restrictions,   
  economies of scale,   
  control of an essential resource

## 9-1. Barrier to entry

## 9-1a. Legal restrictions

### *Patents* Exclusive right to sell a product for 20 years from the date the patent application is filed Reason: to protect incentive for innovation

### *Licenses* - Government awarding an individual firm the exclusive right to supply a particular good or service 9-1b. Economies of scale

### Downward-sloping long-run average cost curve - one firm can supply market demand at a lower average cost per unit than could two firms

### A firm arises as a monopoly due to economies of scale is called a *natural monopoly*, because it is not created artificially by the government. Economies of scale is a nature of production cost.

# Ex

# hibit 1

## 9-1c. Control of essential resources

### The firm owns the resource

### Examples

|  |  |  |
| --- | --- | --- |
| Alcoa (aluminum) - control the supply of bauxite | Professional sports leagues | Local monopolies – only one utility company; one movie theater… |
| DeBeers diamonds | China - Giant pandas | Page 133: “Starbucks over the years has built up a unique “experience” for the customer, …”  Disagree:1. there are many close substitutes for coffee.2. Similar “comfortable atmosphere” can be found in other places. |

# 9-2. Revenue for a monopolist

## 9-2a. Demand and marginal revenue

## 

## demand for a perfect competitive firm: horizontal

* For a monopolist, the firm’s demand is the market demand.
* The demand is downward-slopping: if the monopolist wants to sell more, it must lower the price.

## Example1. Monopoly revenue, costs, and profits

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| --- | --- | --- | --- | --- | --- | --- | --- |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Q | P | TR | TC | Profit | MR | MC | ATC |
| 0 | $200 |  | 145 |  |  |  |  |
| 1 | 180 |  | 175 |  |  |  |  |
| 2 | 160 |  | 200 |  |  |  |  |
| 3 | 140 |  | 220 |  |  |  |  |
| 4 | 120 |  | 250 |  |  |  |  |
| 5 | 100 |  | 300 |  |  |  |  |
| 6 | 80 |  | 370 |  |  |  |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| P |  |  |  |  |  |  |  |  |
| 200 |  |  |  |  |  |  |  |  |
| 180 |  |  |  |  |  |  |  |  |
| 160 |  |  |  |  |  |  |  |  |
| 140 |  |  |  |  |  |  |  |  |
| 120 |  |  |  |  |  |  |  |  |
| 100 |  |  |  |  |  |  |  |  |
| 80 |  |  |  |  |  |  |  |  |
| 60 |  |  |  |  |  |  |  |  |
| 40 |  |  |  |  |  |  |  |  |
| 20 |  |  |  |  |  |  |  |  |
| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | Q |

# 9-3. The monopolist’s cost and profit maximization

|  |  |
| --- | --- |
| Golden Rule of profit maximization: **MR =MC** |  |

## Findings:

## The demand curve is always above the MR curve in monopoly market.

This implies the monopoly price is always above MR

(P = MR in perfect competition)

1. How to find the profit max. output and price?   
   a. MR=MC

b. Go vertically down and find the profit max output Qm

c. go vertically up to the demand curve, then find Pm

Example 2. Short-run losses

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| --- | --- |
| 1. What is Qm?  2. What is Pm?  3. What is TR?  4. What is TC?  5. What is the amount of loss? |  |

Example 3. Shutdown decision

Pm <AVC or FC < Loss

|  |  |
| --- | --- |
| a. If stay in production,  economic loss =  b. If shutdown, fixed cost =  Decision: |  |

Summary:  
1. If Pm > ATC, profitable;

if Pm = ATC, breaks even;   
if Pm < ATC, suffers losses.

2. A monopoly incurs losses but should stay in production if Pm > AVC

3. A monopoly should shut down if Pm < AVC or FC < Loss

4. A monopoly can earn long run economic profit because of the barriers of entry that block competition.

5. A monopoly should exit the industry if Pm < ATC in the long run.

9-6. Price discrimination

### Charging different groups of consumers different prices for the same product

## Price discrimination increases profit

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|  |  | **A Monopolist Price Discrimination** | | | | |  |
|  |  |  |  |  |  |  |  |
|  | Information | Time machine travel ticket | | | FC | $100 |  |
|  |  |  |  |  | MC | $100 |  |
|  |  |  | Willing and able to pay | |  |  |  |
|  |  | A | 500 |  |  |  |  |
|  |  | B | 400 |  |  |  |  |
|  |  | C | 380 |  |  |  |  |
|  |  | D | 350 |  |  |  |  |
|  |  | E | 200 |  |  |  |  |
|  |  | F | 100 |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
|  | Potential Buyers | Q | P | TR | TC | MR | MC |
|  |  |  | 600 |  |  |  |  |
|  | A |  | 500 |  |  |  |  |
|  | B |  | 400 |  |  |  |  |
|  | C |  | 380 |  |  |  |  |
|  | D |  | 350 |  |  |  |  |
|  | E |  | 200 |  |  |  |  |
|  | F |  | 100 |  |  |  |  |
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|  | Case 1. Charge a single price (no price discrimination) | | | | |  |  |
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|  | Case 2. Charge A and B $400 each, and C and D $350 each. | | | | | |  |
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|  | Case 3. Perfect price discrimination - charge each buyer a different price. | | | | | | |
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