Chapter 15: Monopoly

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Discussion section 4

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Outline

Today we will talk about:

- Monopoly (not the board game)
  - barriers to entry
  - profit maximization
  - social welfare
  - price discrimination

What is a Monopoly?

A monopoly is...

A firm that is the sole seller of a product without any close substitutes

$\rightarrow$ Caused by barriers to entry in the market

Examples of monopolies include:

- local utilities
- local internet providers
- railroads

Barriers to entry

What are barriers to entry?

Monopoly resources:

A key resource required for production is owned by a single firm

Government Regulations:

The government gives a single firm the exclusive right to produce some good or service

The production process:

A single firm can produce output at a lower cost than can a larger number of firms $\rightarrow$ **natural monopoly**

Monopoly vs. Competitive Firms

Key difference...

- Firms in a competitive market are **price takers**
- Monopoly firms are **price setters**

How does the demand curve for a monopoly curve differ from that of a competitive firm?

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How does the demand curve for a monopoly curve differ from that of a competitive firm?

- Competitive firm: $MR = P^* \rightarrow$ firms demand curve is the MR curve
- Monopoly firm: demand curve is equal to the market demand curve
  - the market demand prevents monopolies from setting crazy prices - if they did that nobody would buy anything

Monopoly revenue

Let's fill in the following table...

Q	P	TR	AR	MR
0	$11		---	---
1	10			
2	9			
3	8			
4	7			
5	6			

Monopoly Revenue

- $AR = P$: true for both monopoly and competitive firms.
- $MR < P$: true only for monopoly firms.
  - Recall: $MR = P$ for competitive firms.
- A monopoly's total revenue is $TR = P \times Q$; the monopolist chooses P and Q.

There is a revenue tradeoff:

- **Output effect:** $\uparrow Q \implies \uparrow TR$ because more units are sold.
- **Price effect:** $\uparrow Q \implies \downarrow P$, which reduces TR.

MR becomes negative when the price effect exceeds the output effect.

Profit maximization

How does any firm choose which quantity to produce?

Set $MC = MR$!

This is the same for competitive and monopoly firms... But:

- For a monopoly - $P < MR = MC$
- For a competitive firm - $P = MR = MC$

Profit is still calculated the same way :

$$\pi = (P - ATC) \times Q$$

Social welfare

What is the socially optimal Q?

Q where $MC =$ the demand curve

Since the MR curve is less than the D curve when $Q > 0 \implies$ the socially optimal $Q^{SE} > Q^M$, the monopolists profit maximizing Q.

This means that when a monopoly firm produces at Q^M, there is some deadweight loss!

- DWL similar to taxes... what is the difference here?

Price discrimination

When monopoly firms produce at Q^M, price is higher than the socially optimal level $\rightarrow$ DWL

Firms can Price Discriminate to appeal to more consumers:

price discriminating is the business practice of selling the sasme good at different prices to different customers

- Why might a firm want to price discriminate?
- What are some examples of price discrimination?
- How would price discrimination affect social welfare?

What is perfect price discrimination?

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- What are some examples of price discrimination?
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What is perfect price discrimination? $\rightarrow$ Each person who values the good at more than the MC of the firm buys the good and is charged exactly their willingness to pay