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Lecture 4

Monopoly & Market Efficiency

Economics & Society

SMU

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Previously in E&S

- Production function
- Cost of production
  - short-run vs. long-run
- Returns and Economies of Scale
- Assumptions of PC
- Profit maximization condition
  - in general and in PC
- S-R supply of a PC firm
- Zero profit in the L-R

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Monopoly & Market Efficiency

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Monopoly assumptions

A market is a ***pure monopoly*** when:

1. There is only one ***seller*** but many ***buyers***
2. The ***product*** has no (close) substitutes
3. There exist ***barriers*** to entry:
   - ***Production***: Access to resources, to labor, or to the physical market
   - ***Economic***: Economies of scale
   - ***Legal***: patents, copyright, licensing, exclusive relations
   - Ecosystems, Network effects.

* ***Examples*** of (near) monopolistic markets:

  patented medications, replacement parts, wholesale diamonds, airports

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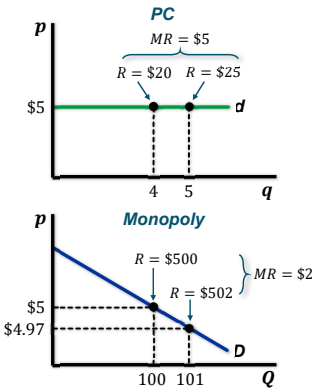
Price setting

* The generalized ***profit maximization*** condition applies in monopoly

$$MR = MC$$

* In monopoly, MR ***is NOT equal*** to the price:
  - The monopoly ***does not face*** a horizontal demand for its brand
  - It faces the entire ***market demand***
  - Once it sets a price, it has to ***decrease*** it to sell an additional unit
  - Thus, in monopoly $p > MR$…



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MR for linear demand

* Consider a ***linear*** demand

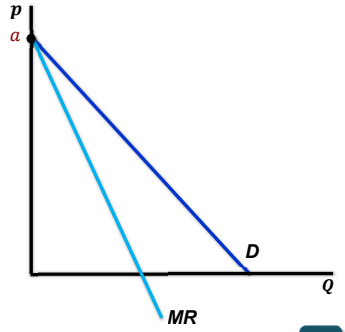
$$p = a - bQ$$

constant, gradient

* Then, ***marginal revenue*** is

$$MR = a - 2bQ$$

for every linear demand, we can calculate the MR by ***doubling the gradient***



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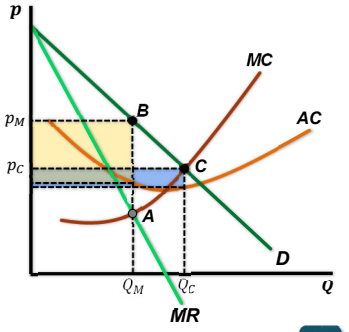
Profit maximization in Monopoly vs. PC

* A monopoly, maximizes profit when $MR = MC$
  - Profit maximizing ***quantity*** is Q_M
  - ***Price*** p_M is given by the demand curve at *B*.
* If this was a PC market, profit maximization would occur when $p = MC$

* ***Profit*** in monopoly will always be ***higher***
* ***Price*** in monopoly will always be ***higher***
* ***Quantity*** in monopoly will always be ***lower***



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How real firms set prices

- $MR = MC$ is quite ***impractical*** to use in the ***real world***
- There is a much ***simpler expression***, mathematically ***equivalent*** to $MR = MC$:

$$p = MC \cdot \left[1 + \frac{-1}{1 + \varepsilon_d}\right]$$

markup as % of MC

the seller maximizes profit when ***MC is marked up*** by $\frac{-1}{1+\varepsilon_d}$

- The markup is ***determined solely*** by ε_d

  the ***more inelastic*** the good, the ***higher the markup***

- ***For instance***, a markup of 30% implies that $\varepsilon_d = -4.333$

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Assessing market power

- Market power is ***NOT an abstract*** notion

  it is clearly defined as the extent to which ***price can exceed the MC***

- Market power can even exist in industries with ***more than one firms***

  as long as products are ***not perfect substitutes***

- Firms in such markets can still use the ***markup rule*** to maximize profit

$$p = MC \cdot \left[1 + \frac{-1}{1 + \varepsilon_d}\right]$$

in this case, ε_d refers to elasticity of demand ***for the firm's brand***, not for the product in general

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Market power & Profit

- Market power ***does NOT necessarily imply*** profit
- If ***demand*** is weak and ***costs*** are high, a monopoly can have ***losses***
- Market power is the extend to which ***price*** exceeds ***MC***
- Profit depends on volume of ***sales*** and the difference between ***price*** and ***AC***
- For ***instance***:
  - ***Amazon.com*** has a 0.5-3% markup but makes billions in profit
  - ***Cafés*** have 300%+ markup but small profit

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Sources of market power

Market power for a brand ***originates*** in its ***elasticity of demand***

1. A brand's elasticity is ***positively*** affected by the ***elasticity of the product***
   - If the demand of ***cars*** becomes less elastic, ***VW cars*** will also become less elastic
2. A brand's elasticity is ***negatively*** affected by ***entry*** of new firms:
   - Consumers are offered more chances for ***substituting*** the product
3. A brand's elasticity is ***negatively*** affected by the ***intensity of competition*** among brands:
   - When firms compete ***aggressively,*** prices fall closer to *MC*
   - If firms agree to ***moderate*** competition and ***co-exist***, prices may stay way above *MC*

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How to create market power

1. ***Work*** on your product
   innovate or ***differentiate*** so that consumers cannot ***substitute*** you
2. ***Show*** the world
   communicate why you are better
3. ***Close the door*** behind you
   create ***barriers*** so that potential entrants will keep out of your profits
4. ***"Kill"*** the competition
   make it ***harder*** for the competition to keep up with you

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Thank you!

(you are welcomed to stay for *consultation* or *discussion*)

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WARNING!

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