

4.1 - Introduction to Imperfectly Competitive Markets

- Firms are able to make an increased profit in the long run if there is less competition since firms are considered to be price makers. There are stricter **barriers to entry** in imperfect competition (Governmental, economies of scale, geography, and so on)
 - Common barriers to entry: control of scarce resources, legal barriers, high startup costs

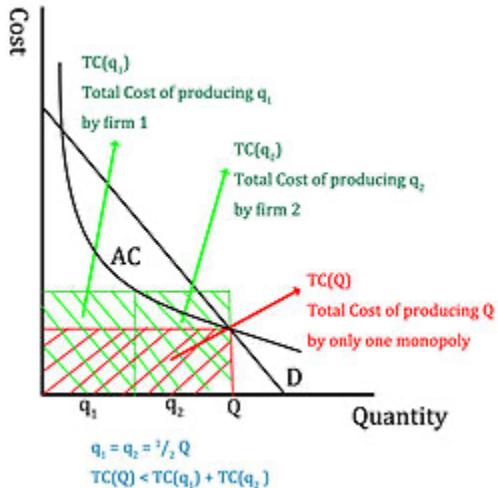
| | Perfect Competition | Monopolistic Competition | Monopoly | Oligopoly |
|-------------------|---------------------|--------------------------|----------|-----------------------|
| # of firms | Many | Many | 1 | Few |
| Type of product | Standard | Differentiated | Unique | Standard or different |
| Price control | None | Little | Yes | Some |
| Barriers to entry | None | None (few) | High | High |

4.2 - Monopolies

- **Monopoly**: market structure where there is only one firm producing a product
 - Only producer of a good, has no close substitutes
 - On the graph, there is a downward sloping demand curve
- Quantity is produced : at $MR = MC$
 - Price is : $MR=MC$, up to demand
- Supply curve : where $MC > AVC$
 - **Allocatively efficient** due to them producing at $MR=MC$
 - **Productively inefficient** because they don't produce at the minimum of the ATC



- **Natural monopoly**: has large fixed costs, and long economies of scale, has downward sloping ATC curve
- Natural monopoly production point : $MR=MC$
- Government will correct by forcing them to set price : at $ATC=D$

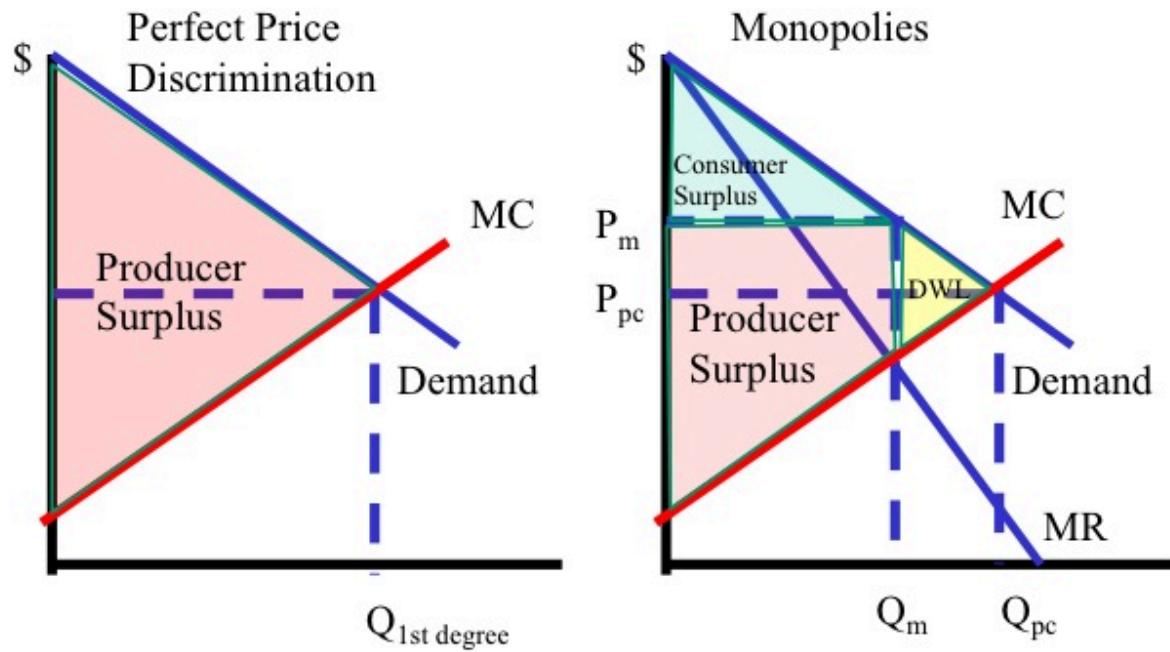


4.3 - Price Discrimination

- **Price discrimination** occurs in specific industries as consumers pay a different price for the same good.
 - To be able to price discriminate, you need market power
- **Imperfect price discrimination** : charging consumers different prices based on the buyer's willingness to pay
- **Perfect price discrimination** : charges all consumers the maximum they are willing to pay, no deadweight loss, produce at $P=MC$

- Example : resellers, coupons, bulk buying (costco), etc.

First Degree or Perfect Price Discrimination



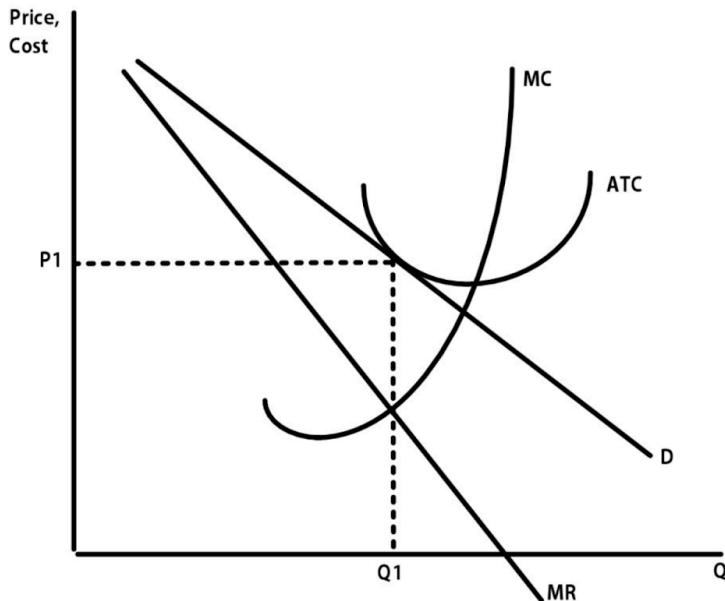
- In price discrimination, there is no deadweight loss and no consumer surplus as well, only producer surplus.

4.4 - Monopolistic Competition

- **Monopolistic competition:** is another term for imperfect competition, and occurs when many companies offer competing products which are similar but not perfect substitutes.
 - **Characteristics:**
 - Combines features of both a monopoly and perfect competition
 - Many sellers and differentiated products
 - Will use advertising to make demand more inelastic + differentiate product
 - Makes profit in short run, normal profit in long run
 - Allocatively inefficient (P does not equal MC)
 - Productively inefficient (does not produce @ minimum of ATC, until long run)
 - Downwards sloping demand curve
 - Produce at $MR = MC$, price is $MR = MC$ up to demand

- **Long Run**
 - Normal profit in long run
 - Short run profits will attract new firms to join, which decreases the demand until the demand Curve is tangent to ATC, causing normal profits in long run
 - In long run, they produce in region where economies of scales exist, because they produce in declining portion of ATC

Key Graph 36: Monopolistic Competition Long-Run Equilibrium



Monopolistic Competition firm in long-run equilibrium. The ATC curve is tangent to the Demand curve. Profit-maximizing quantity is determined, as always, by $MR=MC$. The firm is operating at zero economic profit, or normal economic profit.

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4.5 - Oligopoly and Game theory

- **Oligopoly Characteristics**
 - Small number of firms, standard or differentiated product
 - **Interdependent** : all the actions that a firm takes will affect the other firms in the oligopoly (if They ask why the market is an oligopoly, say it's because they're interdependent)
 - **Cartels** : a group that agrees to control the price and output of a product (often form in oligopoly)
 - **Collusion** : working together to maximize profit

- Graph is almost identical to monopoly (you will never be asked to draw them)
 - Also produce same quantity and price of monopoly
- **Game Theory**
 - **Payoff matrix** : represents the payoff to each player to show combinations of given strategies
 - **Dominant strategy** : the strategy that has a better payoff regardless of what strategy the opponent chooses
 - **Nash equilibrium** : point where both players can do no better than the other given the choice of their opponent