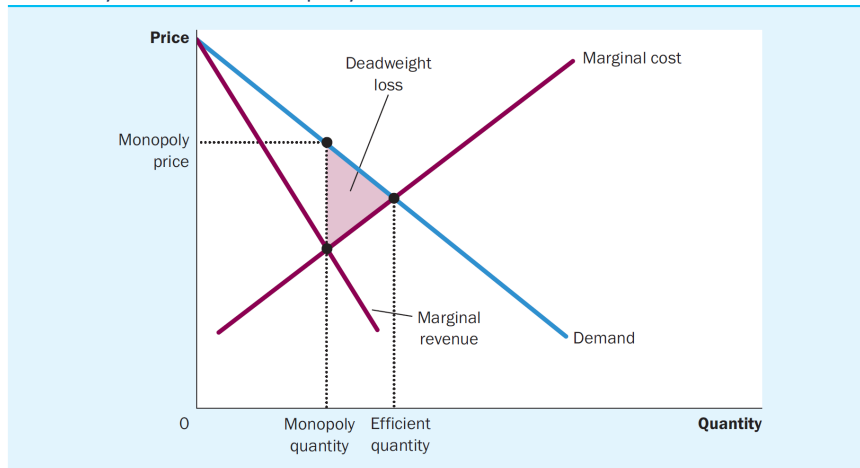


Welfare cost under monopoly

- What quantity would a benevolent social planner want the monopoly to produce?
- The demand curve reflects the value of the good to buyers, as measured by their willingness to pay for it.
- The marginal cost curve reflects the costs of the monopolist.

Allocative inefficiency under a monopoly

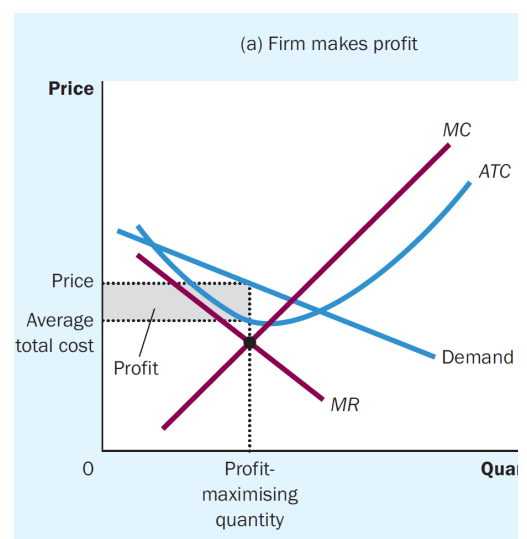


is a monopolist's profit a social cost?

- A monopolist's profit is not in itself necessarily a problem for society. After all, producer surplus is a part of the total surplus.
- Suppose, however, that a monopoly firm has to incur additional costs to maintain its monopoly position.
 - For example, a firm with a government created monopoly might need to hire lobbyists to convince politicians to continue its monopoly. If the monopoly uses up some of its monopoly profits paying for these additional costs, then these costs are a part of the social loss from monopoly.

Monopolistic competition

- There are many sellers under monopolistic competition
- Product differentiation
 - Each seller sells a differentiated product
 - The greater the differentiation the greater the switching costs – the less sensitive consumers will be to prices
 - Prices set above marginal cost
- Because its product is different from those offered by other firms, each firm in a monopolistically competitive market faces a downward sloping demand curve.
- The profit-maximising quantity is found at the intersection of the marginal revenue and marginal cost curves.
 - $Q_{\text{profit max}}: MR = MC$
 - $P > ATC$, so the firm makes a profit.



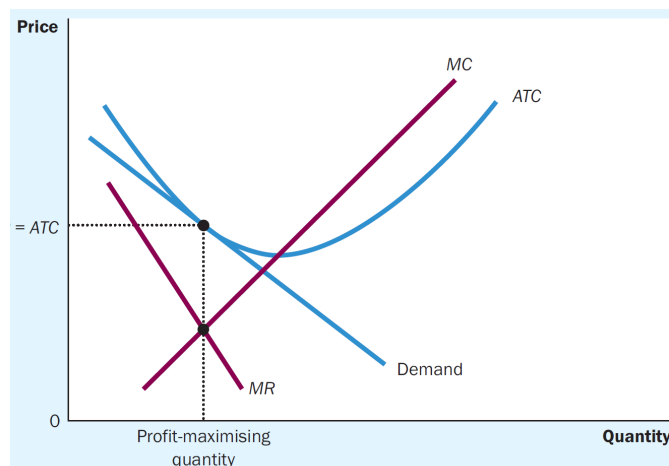
Short term profit under monopolistic competition

Long run equilibrium & monopolistic competition

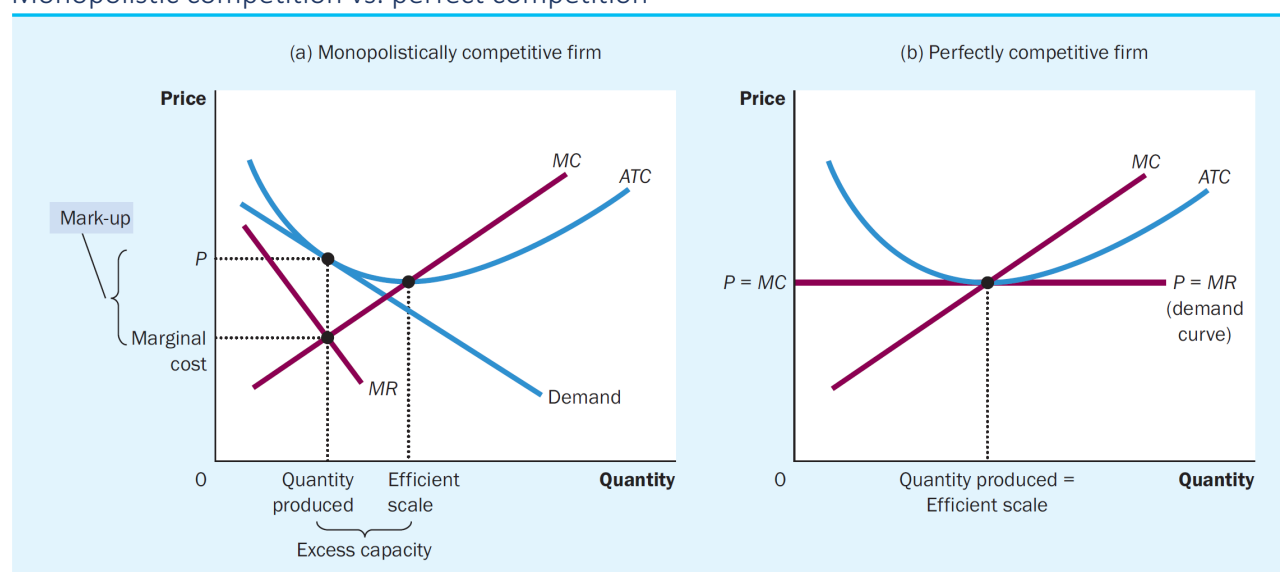
When firms are making profits	new firms have an incentive to enter the market	↑ the number of products customers can choose from	reduces the demand faced by each firm already in the market
when firms are making losses	firms in the market have an incentive to exit	↓ the number of products customers can choose from	expands the demand faced by those firms that remain in the market
Long run equilibrium: price = average total cost The firm earns zero profit			

Monopolistic competitors in the long run

- In the long run equilibrium, price = average total cost & the firm earns zero profit.
- Notice that the demand curve just barely touches the average total cost curve. The two curves are tangential to each other.
 - This point of tangency occurs at the same quantity: $MR = MC$



Monopolistic competition vs. perfect competition



Allocative & productive inefficiency under monopolistic competition

- **Allocative inefficiency:** mark-up of price over marginal cost. Buyers who value the good at more than the marginal cost of production, but less than the price, will be deterred from buying it, creating a deadweight loss.
- **Productively inefficient** in the long run (i.e. equilibrium level of output is less than minimum efficient scale).
- However, it is more efficient in terms of **dynamic efficiency**. Consumers are able to purchase a product that is differentiated and more closely suited to their tastes.

Week 11 Oligopoly & Business Strategy

- **Oligopoly:** A market structure in which a small number of interdependent firms compete

The Nash Equilibrium	A situation in which economic actors interacting with one another each choose their <u>best strategy (dominant strategy)</u> given the strategies that all the other actors have chosen (<u>non-cooperate equilibrium</u>) <ul style="list-style-type: none"> • U only need one player with a dominant strategy to have a Nash equilibrium
Game Theory: the approach used to analyze competition among oligopolists	
Rules	That determine what actions are allowable
Strategies	That players employ to attain their objectives in the game (such as maximizing profits with respect to business strategy)
Payoffs	That are the results of the interaction among the players' strategies
Possible equilibrium	
Cooperative equilibrium	An equilibrium in a game in which <u>players cooperate</u> to increase their mutual payoff
Non-cooperative equilibrium	An equilibrium in a game in which <u>players do not cooperate</u> but pursue their own self-interest (a <u>Nash Equilibrium</u>)

The Prisoner's Dilemma

- The game that oligopolists play is similar to the prisoners' dilemma: A game where pursuing dominant strategies results in non-cooperation that leaves everyone worse off

		Jack's decision		
		Sell 40 litres	Sell 30 litres	
Jill's decision	Sell 40 litres	<ul style="list-style-type: none"> • Jack gets \$1600 profit • Jill gets \$1600 profit 	<ul style="list-style-type: none"> • Jack gets \$1500 profit • Jill gets \$2000 profit 	The Payoff Matrix
	Sell 30 litres	<ul style="list-style-type: none"> • Jack gets \$2000 profit • Jill gets \$1500 profit 	<ul style="list-style-type: none"> • Jack gets \$1800 profit • Jill gets \$1800 profit 	

- **Dominant Strategy:** *strategy* is a strategy that is best for a player in a game regardless of the strategies chosen by the other players
 - It is a Nash equilibrium for every player to choose their respective dominant strategy (if they have one).
 - Producing 40 litres is a dominant strategy for Jack.
 - Jill's situation is identical, so producing 40 litres is also a dominant strategy for Jill.
- **Can firms escape the prisoner's dilemma?**
 - Losses for not cooperating are greater in a repeated game.
 - Retaliation strategies can be used against those who don't cooperate
 - Are more likely to see cooperative behaviour in repeated games.