

How do Markets Work?

Market Equilibrium and the Price Mechanism

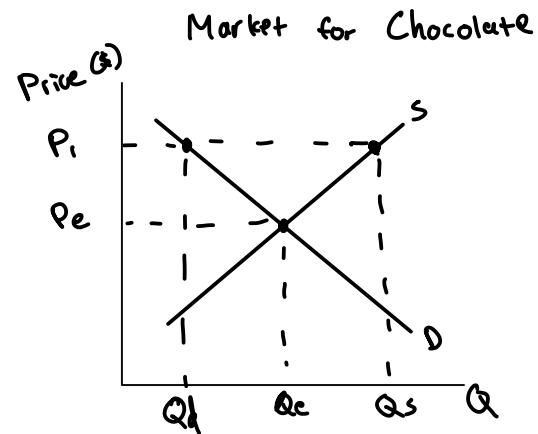
Notes

WHAT IS MARKET EQUILIBRIUM?

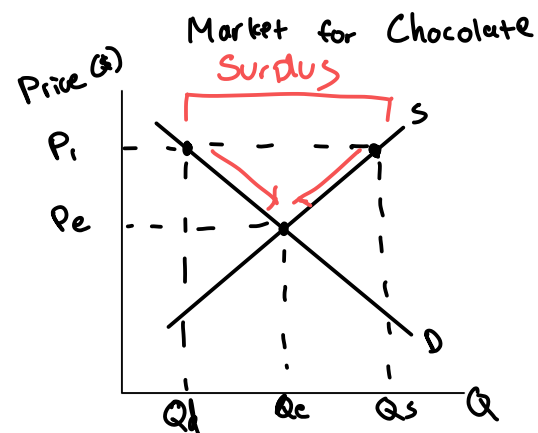
- **Market equilibrium:** when the forces of supply and demand are in balance; there is no tendency for the price to change.
- At the **equilibrium price**: the quantity consumers are willing and able to buy = quantity firms are willing and able to sell

MARKET TENDENCY TOWARD EQUILIBRIUM

- At any price other than equilibrium, there is... **market disequilibrium**
- In a competitive market or free market, disequilibrium cannot last
- Reason: Demand and supply force price to change until it reaches equilibrium.
- Equilibrium can be found where...
quantity demanded (Q_d) = quantity supplied (Q_s)



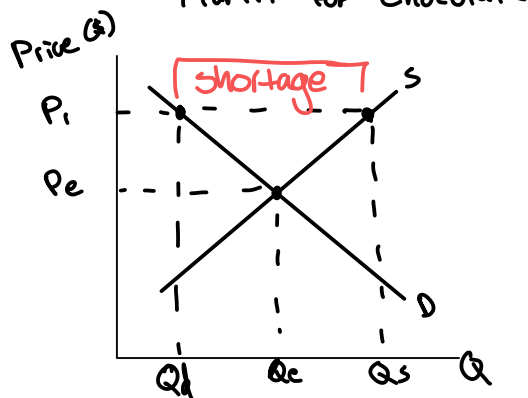
- If $P_1 > P_e$, then Q_s will be $> Q_d$.
- There will be **excess supply**, which creates a **surplus**.



- The surplus cannot persist though.
- Firms, wanting to make a profit and having excess supply, will reduce their prices.
- Q_d will \uparrow and Q_s will \downarrow .

- Prices will continually decrease until the market is... again at Q_e , P_e .

- Similarly, if $P_2 < P_e$, then Q_d will be $> Q_s$.



- There will be **excess demand**, which creates a **shortage**.
- The shortage cannot persist.
- Firms, knowing that consumers will pay more for the good, will increase their price.
- Q_d will \downarrow and Q_s will \uparrow

- Prices will continually increase until the market... is again at Q_e , P_e

CHANGES IN EQUILIBRIUM

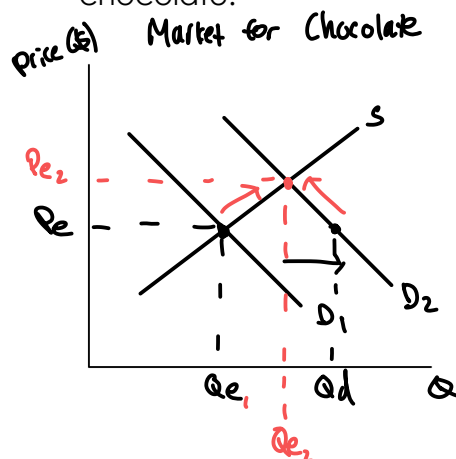
- At equilibrium: consumers and firms are satisfied and will not make it change, *ceteris paribus*
- But, if a non-price determinant of demand or supply changes, a shift in the curve results.

- The market will have to adjust to the new equilibrium

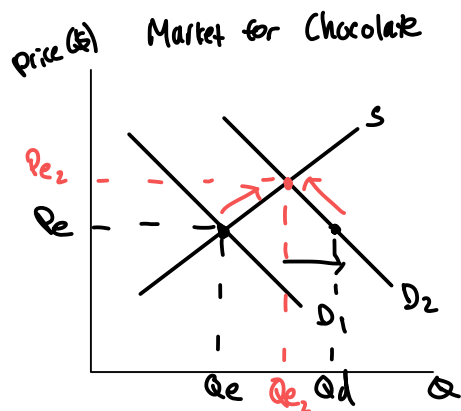
IMPACT OF A CHANGE IN DEMAND ON EQUILIBRIUM

For example:

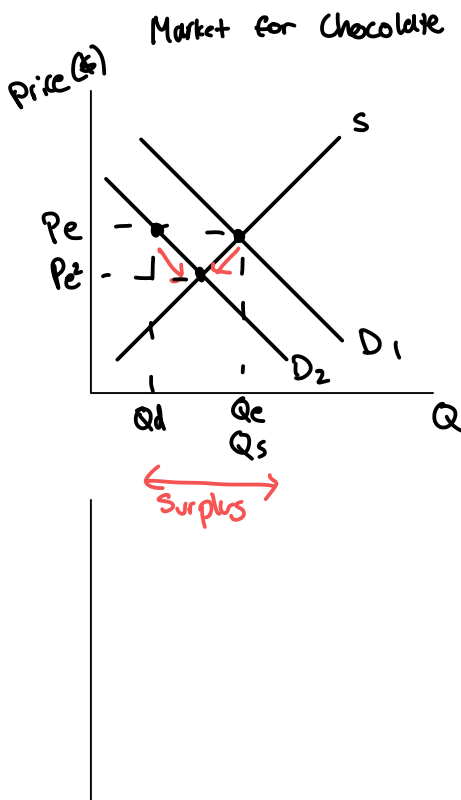
- Assume: a study is released saying eating chocolate makes you look "sexier."
- Demand increases from D to D_1 , due to a change in preferences for chocolate.



- If prices stay at P_e , Q_s will remain at Q_e , but Q_d will increase.
- There will be: a temporary disequilibrium, with a shortage
- Price then begins to increase: $Q_s \uparrow$ and $Q_d \downarrow$
- This will happen until a new equilibrium is reached at Q_{e1} , P_{e1} .

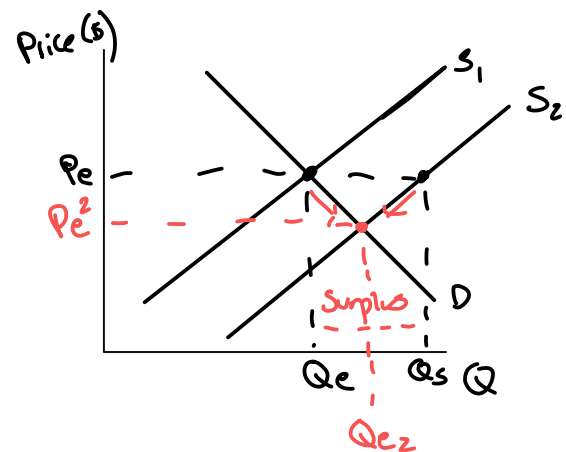


- The end result of the demand shift?
- Equilibrium price increases and quantity exchanged increased
- In the case of a demand shift leftward: a surplus is created, then price decreases until equilibrium is restored.

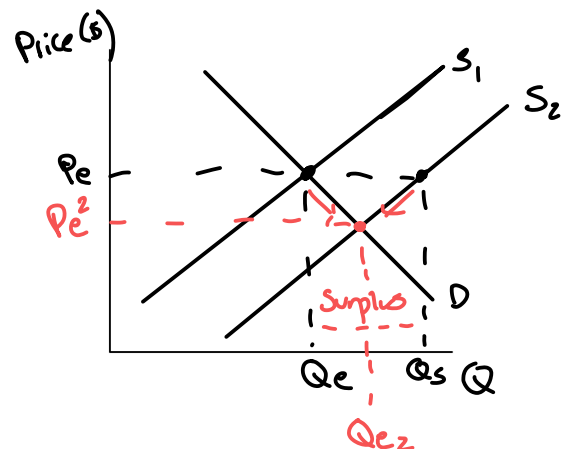


IMPACT OF A CHANGE IN SUPPLY ON EQUILIBRIUM

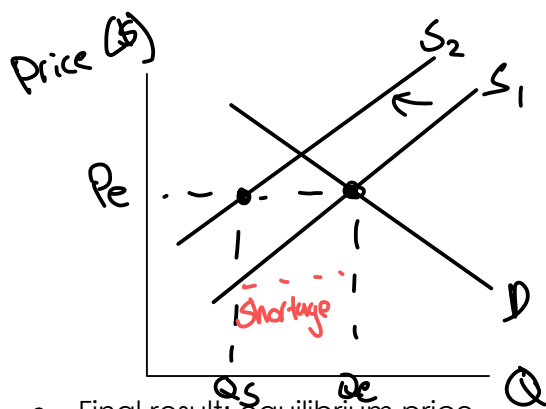
- When supply changes, the effect on equilibrium is similar.
- Assume: more suppliers enter the chocolate market.



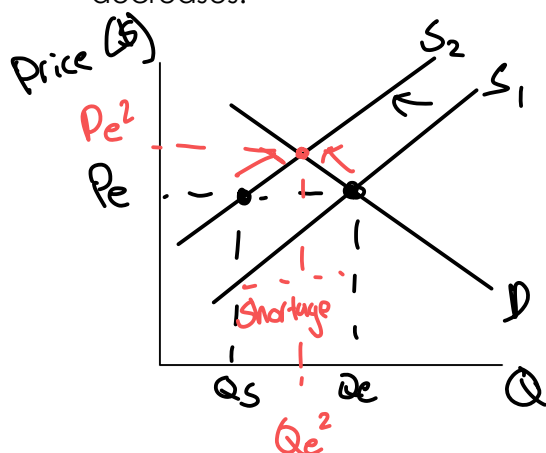
- The surplus will encourage firms to lower prices until $Q_d = Q_s$.
- Final result: equilibrium price decreases and quantity exchanged increases.



In the case of a supply shift leftward: a shortage is created, then price increases until equilibrium is restored.



- Final result: equilibrium price increases and quantity exchanged decreases.



THE PRICE MECHANISM

- The forces of supply and demand, which move markets toward equilibrium, are also known as the **price mechanism**.
- The price mechanism helps the market address the basic economic problem: scarcity
- Resources are allocated, and re-allocated, in response to changes in price
- The key to the market's ability to allocate resources through price can be found in three roles:

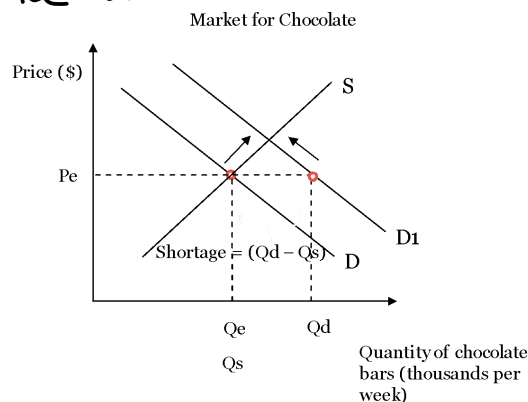
1. Price acts a signal

2. Price acts an incentive

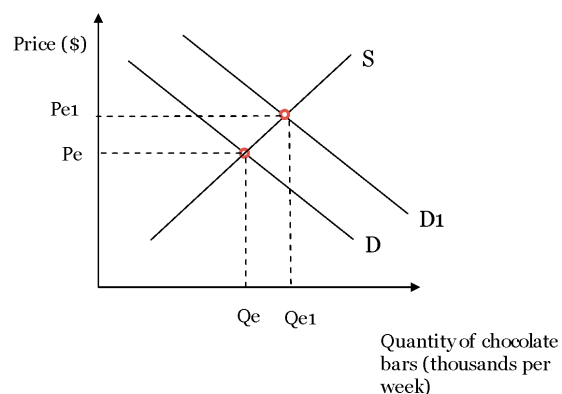
3. Price as a rationing mechanism

PRICE MECHANISM EXAMPLE

- When D increases to D₁, Q_d > Q_s and there is a shortage
- Price will rise



- The price increase sends a signal to producers and consumers that there is a shortage, and provides an incentive to produce more chocolate.



- This allows for...

- When D increase to D_1 ,
- $Q_d > Q_s$ and there is a shortage
 - Price will rise

VERSION A-Market Equilibrium Practice

Market and Event	Diagram	Explanation
<p>1. Housing Market</p> <p>Event: Toronto is a popular destination for newly arrived immigrants to Canada.</p>		<p>Reason for the shift: increase in demand</p> <p>Final result:</p> <ul style="list-style-type: none"> - Equilibrium price: Increase - Quantity exchanged: Increase
<p>2. Cheese Market</p> <p>Event: Media reports cheese is high in so-called “bad” cholesterol.</p>		<p>Reason for the shift:</p> <p>Final result:</p> <ul style="list-style-type: none"> - Equilibrium price: - Quantity exchanged:
<p>3. Bacon Market</p> <p>Event: The price of pork chops increases.</p>		<p>Reason for the shift:</p> <p>Final result:</p> <ul style="list-style-type: none"> - Equilibrium price: - Quantity exchanged:
<p>4. Fast Food Market</p> <p>Event: Minimum wage is increased.</p>		<p>Reason for the shift:</p> <p>Final result:</p> <ul style="list-style-type: none"> - Equilibrium price: - Quantity exchanged:

Market Efficiency

Notes

EFFICIENCY IN COMPETITIVE MARKETS

- Reminder: **productive efficiency**
 - a situation when goods and services are produced by using the fewest possible resources (producing at the lowest cost).
- **Allocative efficiency**: is a state in which society's production of goods and services best represents consumer preferences
- Situation when no one can become off without someone becoming worse off

RELATIONSHIP BETWEEN PRODUCTIVE AND ALLOCATIVE EFFICIENCY

- Allocative efficiency must have productive efficiency.
- Why?
 - If there is productive inefficiency, some firms are wasting resources.
 - By getting rid of these firms or making them more efficient, you could make some consumers better off without making others worse off.

CONCEPTS IN EFFICIENCY ANALYSIS

Consumer surplus

- Highest price consumers are willing and able to pay for a good or service minus the actual price paid
- Extra utility gained for paying a price that was below the maximum they were willing and able to pay.

Producer Surplus

- Price producers received for a good or service minus the lowest price they were willing and able to accept to produce the good
- Extra utility gained for receiving a price that was above the minimum they were willing and able to accept.

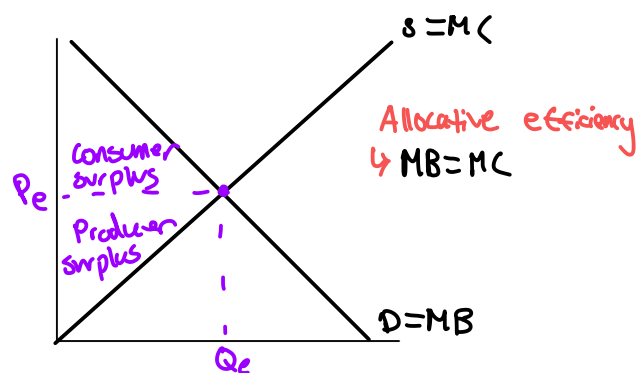
Marginal Benefit (MB)

- Extra utility or benefit from consuming one more of a good or service.
- The MB curve is also the demand curve.

Marginal Cost (MC)

- Extra cost of producing one more of a good or service
- Supply curve is MC
- The reason: the lowest price the firm is willing and able to accept must be just enough to cover the cost of producing each extra unit (or it wouldn't produce).

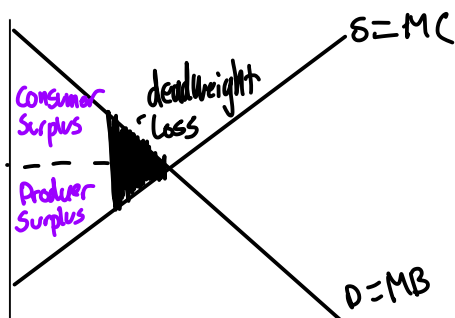
FINDING ALLOCATIVE EFFICIENCY



- $MB = MC$ at equilibrium
- The extra benefit to society (MB) of getting one more unit of a good or service is equal to the extra cost to society of producing it.
- Society has allocated the “right” amount of resources to... produce the quantity of a good/service that consumers want - allocative efficiency.
- Another way to look at this: is when the sum of consumer and producer surplus (called community surplus) is maximized, the market is at equilibrium or $MC = MB$.
- From graph, no one can be made better off without making someone worse off - allocative efficiency.

LOST EFFICIENCY

- Deadweight loss: A loss of allocative efficiency or community surplus.



Economics
Equilibrium and the Price Mechanism
Activity Set

1. Identify the three roles/functions of the price mechanism.
2. For each of the following scenarios, draw a diagram and explain how the price mechanism works to re-establish equilibrium:
 - a. In the market for cars, more consumers decide to take public transit.
 - b. In the market for pumpkins, wet weather spoils the crop.
3. What is the difference between consumer surplus and producer surplus?
4. What is allocative efficiency? How do you find allocative efficiency?
5. Draw a diagram showing allocative efficiency in the market for apples. Show what would happen to consumer surplus, producer surplus and deadweight loss if the sellers decided to collectively set the price ABOVE equilibrium?
6. Draw a diagram showing allocative efficiency in the market for apples. Show what would happen to consumer surplus, producer surplus and deadweight loss if the sellers decided to collectively set the price BELOW equilibrium?

Price Mechanism Activity Set

①

1. Signal information to producers and consumers (Signaling function)
2. Ration scarce resources (the rationing function)
3. To give incentives to consumers and producers (incentive function)

②

Car market when consumers take more public transit:

