

Introduction to Economics

Lecture 4

MGM112
Market Equilibrium

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Market Equilibrium

Market equilibrium is a situation where *quantity demanded* and *quantity supplied* are *equal* and there is no price or quantity to change.

$$Q_{DD} = Q_{SS}$$

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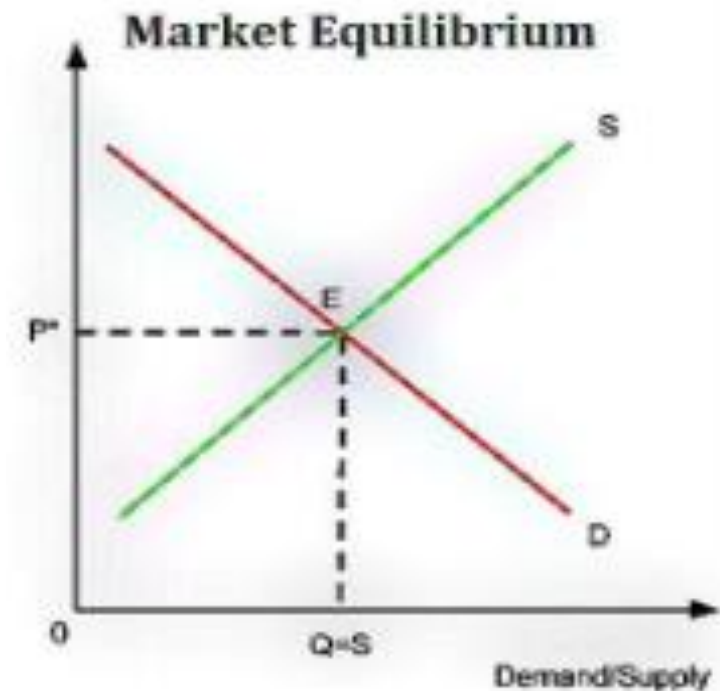
Market Equilibrium



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Market Equilibrium

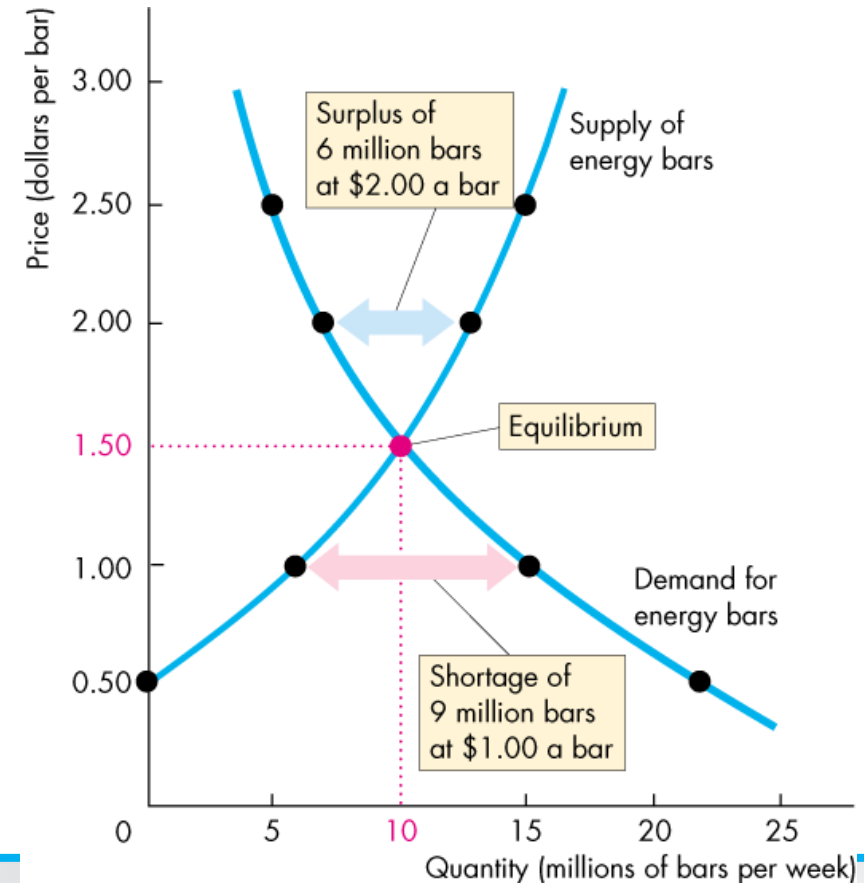
- **The equilibrium price** is the price at which the quantity demanded equals the quantity supplied.
- **The equilibrium quantity** is the quantity bought & sold at the equilibrium price .



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Market Equilibrium

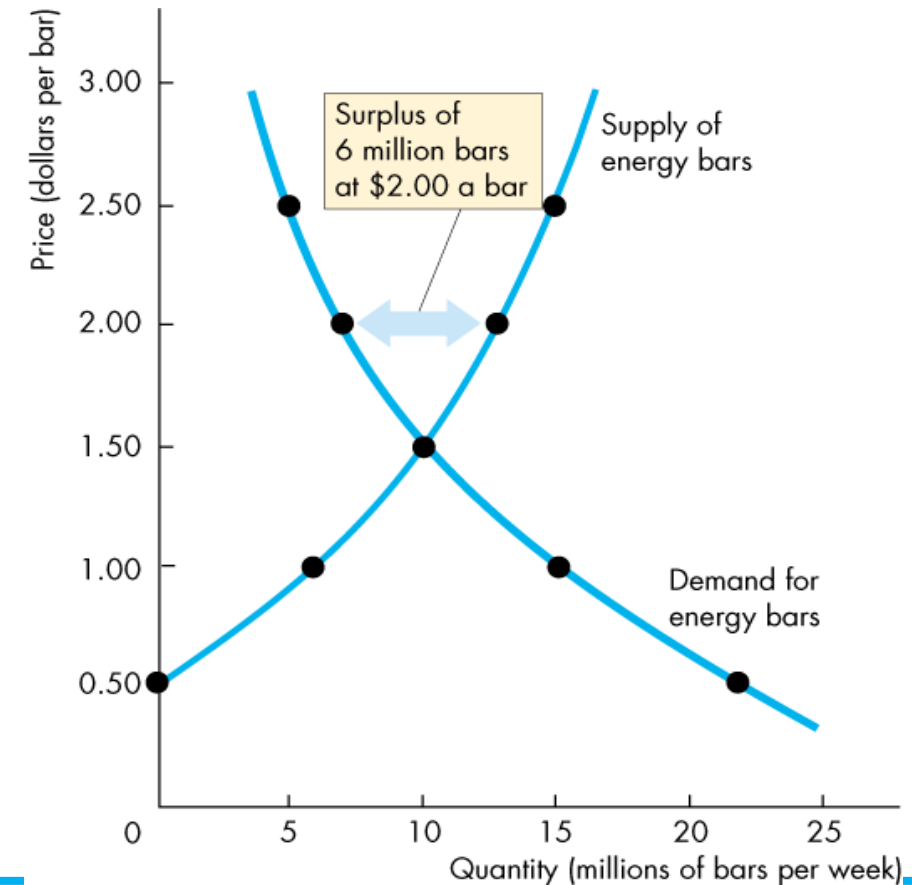
- If the price is \$1.50 a bar,
- the quantity demanded equals the quantity supplied. $Q_s = Q_d$
- There is neither a shortage nor a surplus of energy bars.
- At the equilibrium price, buyers' plans and sellers' plans agree and the price doesn't change until some event changes either demand or supply.



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Price as a Regulator

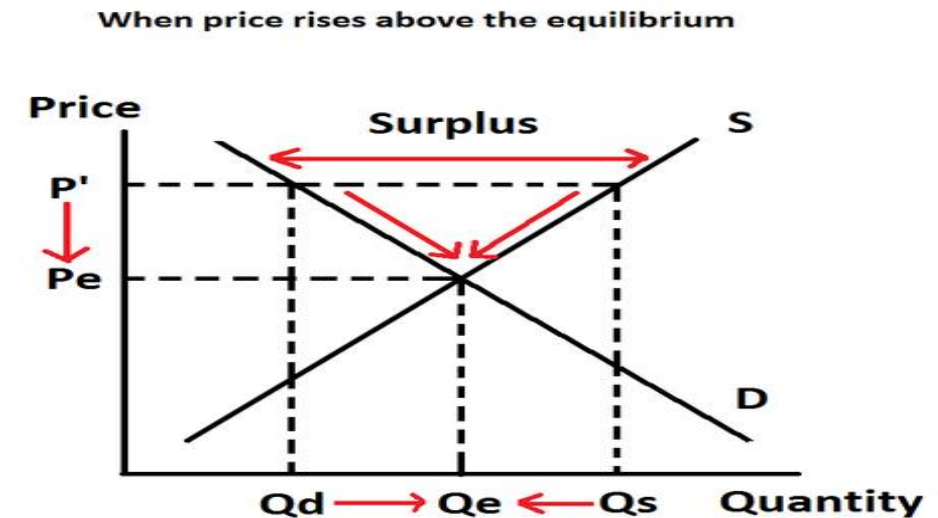
- If the price is \$2.00 (Above equilibrium price) a bar,
- the quantity supplied *exceeds* the quantity demanded. $Q_s > Q_d$
- There is a surplus of 6 million energy bars.



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Price Adjustments

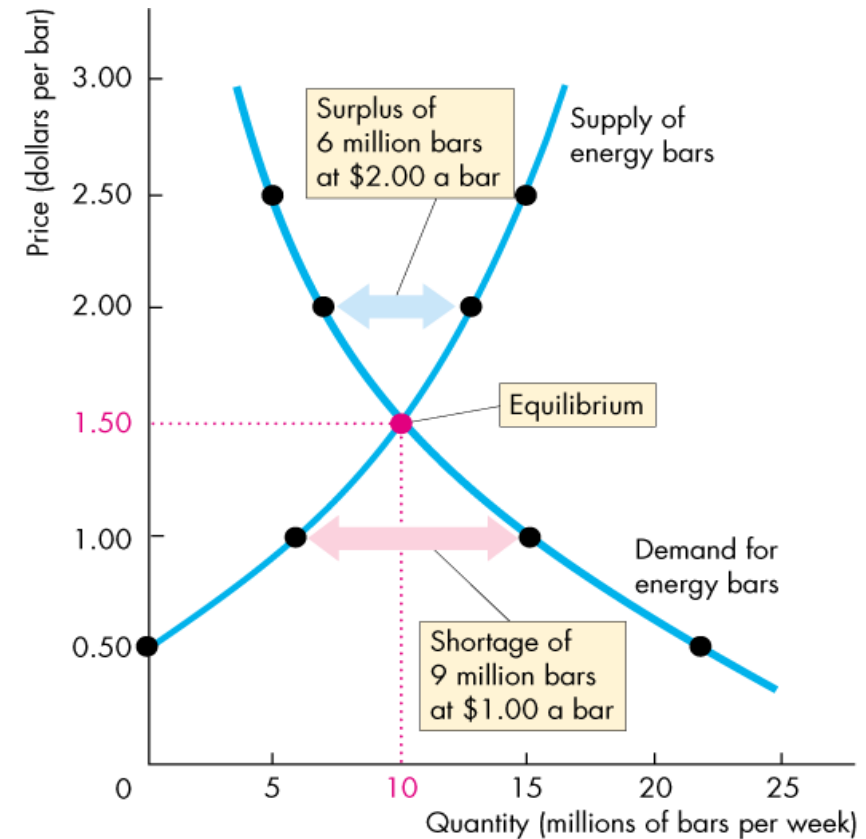
- **A surplus cause:**
 - the price to fall,
 - decreasing quantity supplied
 - increasing quantity demanded
- Until the equilibrium price is attained**



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Price as a Regulator

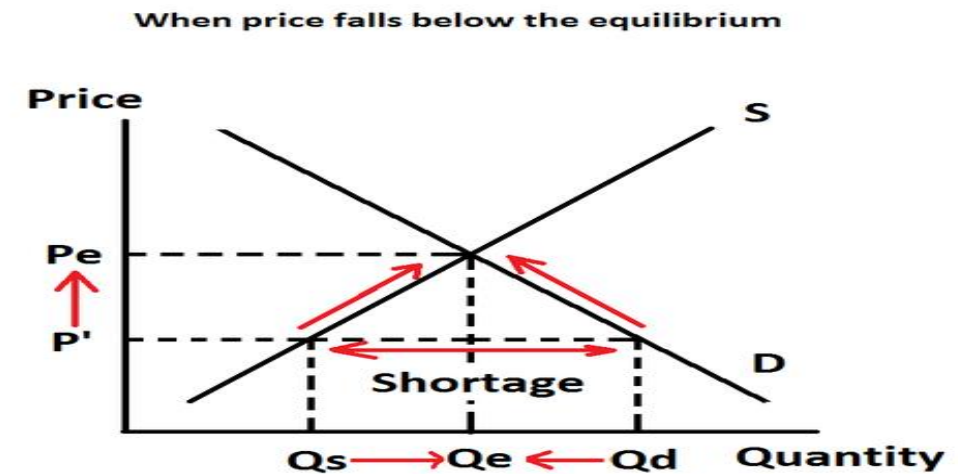
- If the price is \$1.00 (below equilibrium price) a bar,
- the quantity demanded exceeds the quantity supplied. $Q_s < Q_d$
- There is a shortage of 9 million energy bars.



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Price Adjustments

- A shortage cause:
 - the price to rise,
 - decreasing quantity demanded
 - increasing quantity supplied
- Until the equilibrium price is attained**



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Price adjustment / Price as a regulator

Over what range of prices does a surplus arise?
What happens to the price when there is a surplus (price adjustment / Price as a regulator)?

- A surplus arises at market prices above the equilibrium price.
- A surplus cause:
 - the price to fall,
 - decreasing quantity supplied
 - increasing quantity demanded

Until the equilibrium price is attained

Over what range of prices does a shortage arise?
What happens to the price when there is a shortage (price adjustment/ Price as a regulator)?

- A shortage arises at market prices below the equilibrium price.
- A shortage cause:
 - the price to rise,
 - decreasing quantity demanded
 - increasing quantity supplied

Until the equilibrium price is attained.

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Change in Market Equilibrium

- **When does the equilibrium price and equilibrium quantity change?**

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Change in Market Equilibrium

- When does the equilibrium price and equilibrium quantity change?

 ΔD only ΔS only ΔD & ΔS

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Change in Market Equilibrium

Effects of change of the demand or supply

Change in D	Change in S	Effect on P_e	Effect on Q_e
Increase	Fixed	↑	↑
Decrease	Fixed	↓	↓
Fixed	Increase	↓	↑
Fixed	Decrease	↑	↓

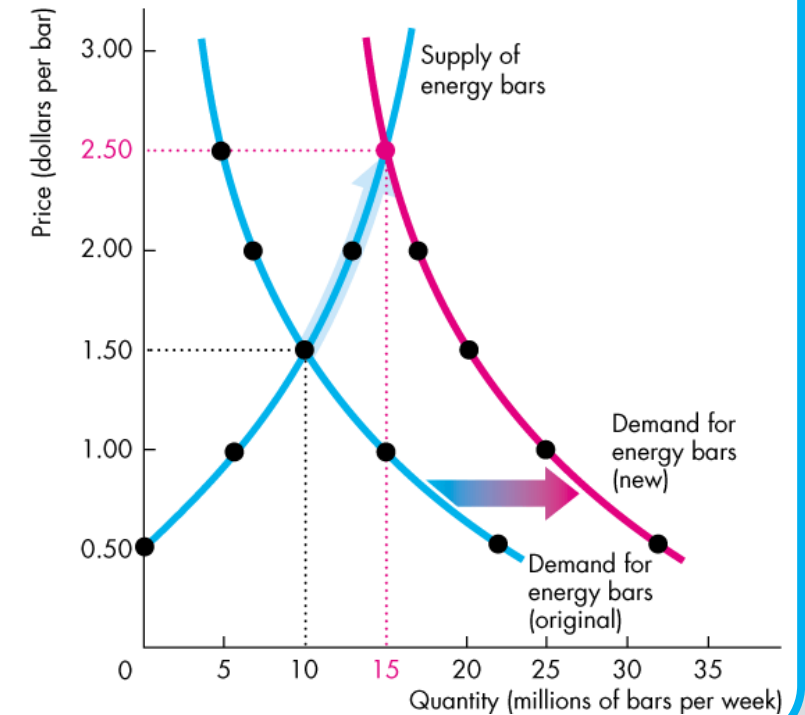
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Change in Market Equilibrium

Effects of change of the demand or supply

An Increase in Demand

- when **demand increases** the demand curve shifts rightward.
- **Supply remains unchanged**; there is a movement up along the supply curve.
 - The **equilibrium price of increases**
 - The **equilibrium quantity increases**.



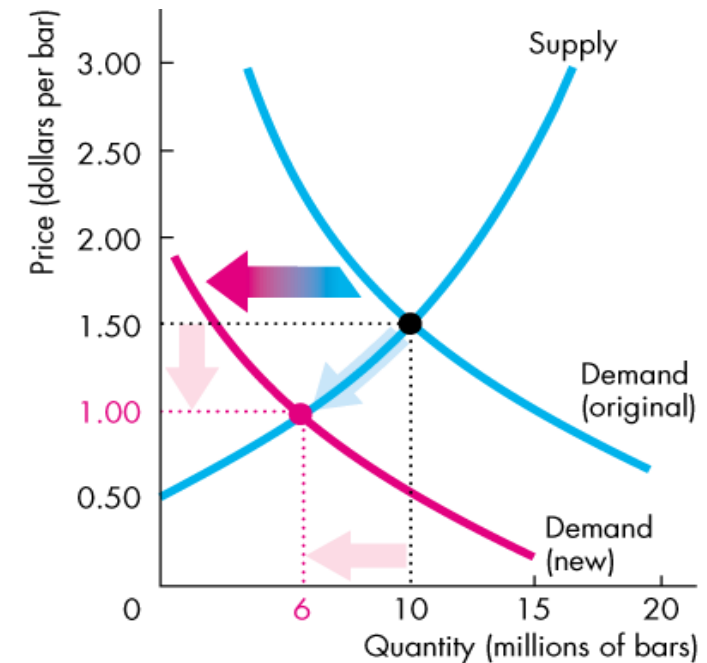
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Change in Market Equilibrium

Effects of change of the demand or supply

A decrease in Demand

- when **demand increases** the demand curve shifts leftward.
- **Supply remains unchanged**; there is a movement down along the supply curve.
 - The **equilibrium price of decreases**
 - The **equilibrium quantity decreases**.



(c) Decrease in demand

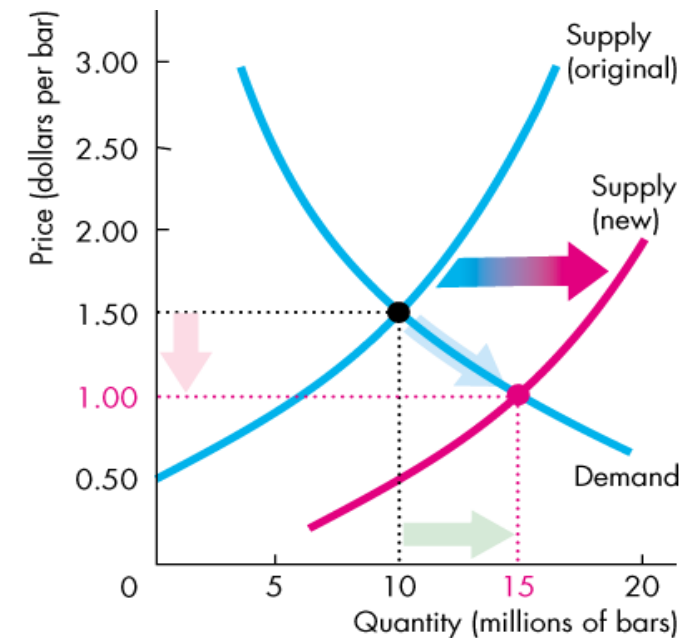
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Change in Market Equilibrium

Effects of change of the demand or supply

An Increase in Supply

- When **supply increases** the supply curve shifts rightward.
- **Demand remains unchanged**; there is a movement down along the demand curve.
 - The **equilibrium price of falls**
 - The **equilibrium quantity increases**.



(d) Increase in supply

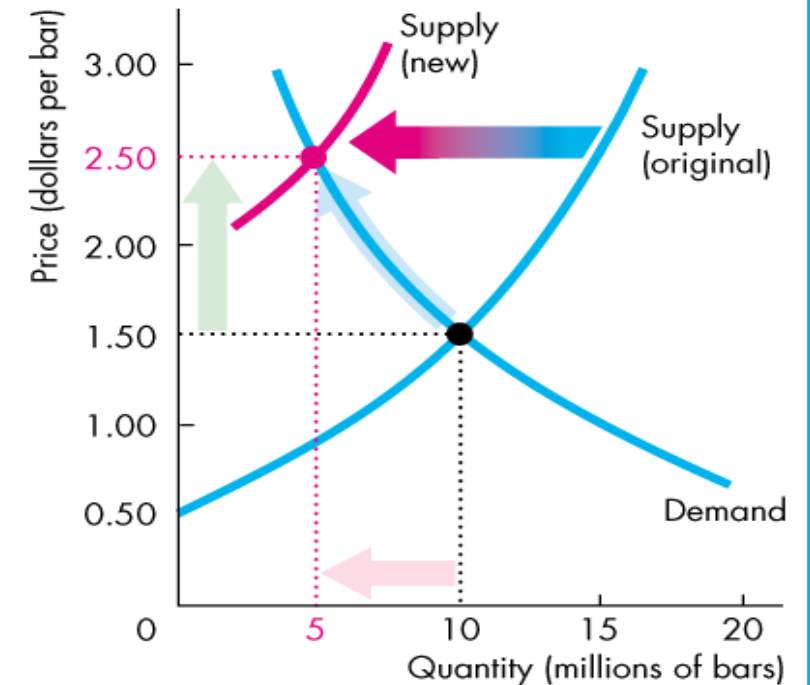
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Change in Market Equilibrium

Effects of change of the demand or supply

A decrease in Supply

- When **supply decreases** the supply curve shifts leftward.
- **Demand remains unchanged**; there is a movement up along the demand curve.
 - The **equilibrium price of increases**
 - The **equilibrium quantity decreases**.



(g) Decrease in supply

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Change in Market Equilibrium

Effects of change both demand and supply at the same direction

Change in D	Change in S	Effect on P_e	Effect on Q_e
Increase	Increase	Uncertain	↑
Decrease	Decrease	Uncertain	↓

- ✓ As D & S curves change at same directions → the equilibrium price is uncertain

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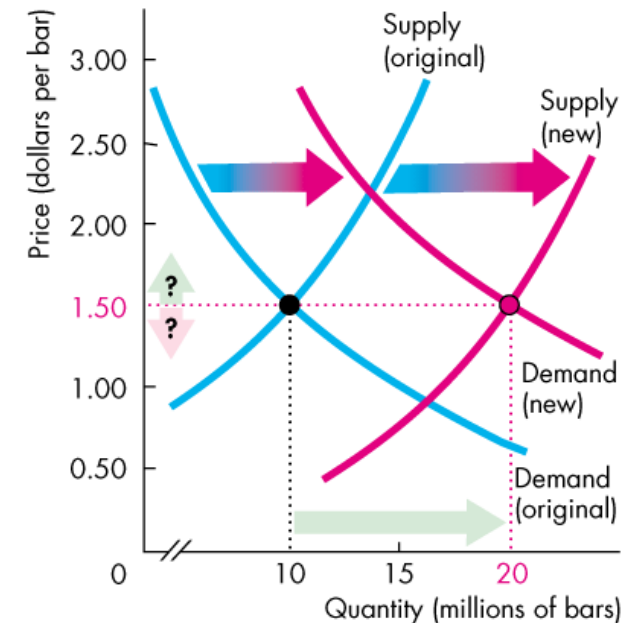
Change in Market Equilibrium

Effects of change both demand and supply at the same direction

Increase in Both Demand and Supply

An increase in demand and an increase in supply **increase the equilibrium quantity**.

The change in **equilibrium price is uncertain** because the increase in demand raises the equilibrium price and the increase in supply lowers it.



(e) Increase in both demand and supply

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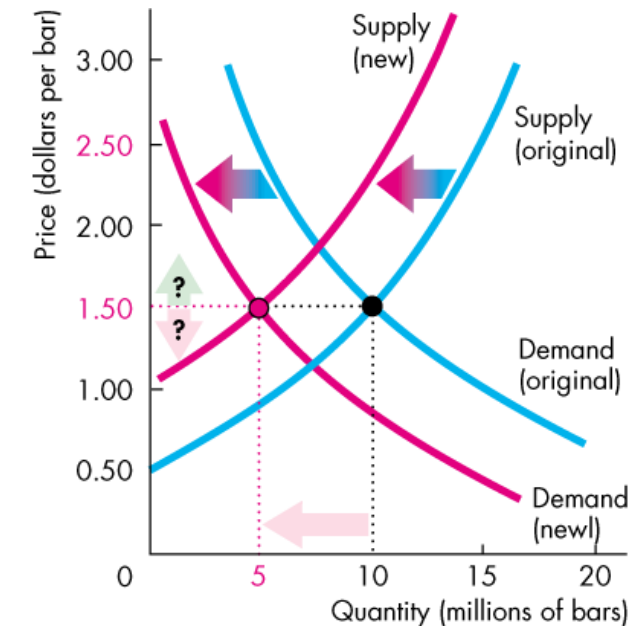
Change in Market Equilibrium

Effects of change both demand and supply at the same direction

Decrease in Both Demand and Supply

A decrease in both demand and supply **decreases the equilibrium quantity**.

The change in **equilibrium price is uncertain** because the decrease in demand lowers the equilibrium price and the decrease in supply raises it.



(i) Decrease in both demand and supply

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Change in Market Equilibrium

Effects of change both demand and supply at opposite direction

Change in D	Change in S	Effect on P_e	Effect on Q_e
Decrease	Increase	↓	Uncertain
Increase	Decrease	↑	Uncertain

- ✓ As D & S curves change at opposite directions → the equilibrium quantity is uncertain

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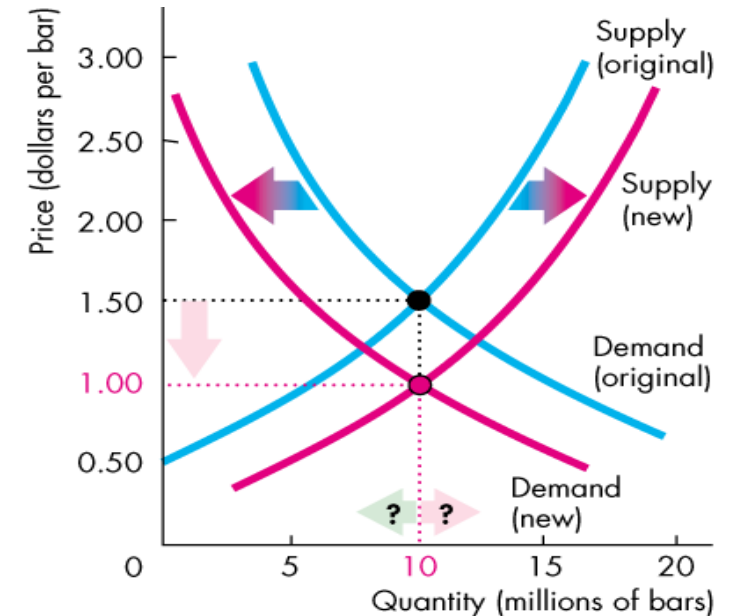
Change in Market Equilibrium

Effects of change both demand and supply at opposite direction

Decrease in Demand and Increase in Supply

A decrease in demand and an increase in supply **lowers the equilibrium price**.

The change in **equilibrium quantity is uncertain** because the decrease in demand decreases the equilibrium quantity and the increase in supply increases it.



(f) Decrease in demand and increase in supply

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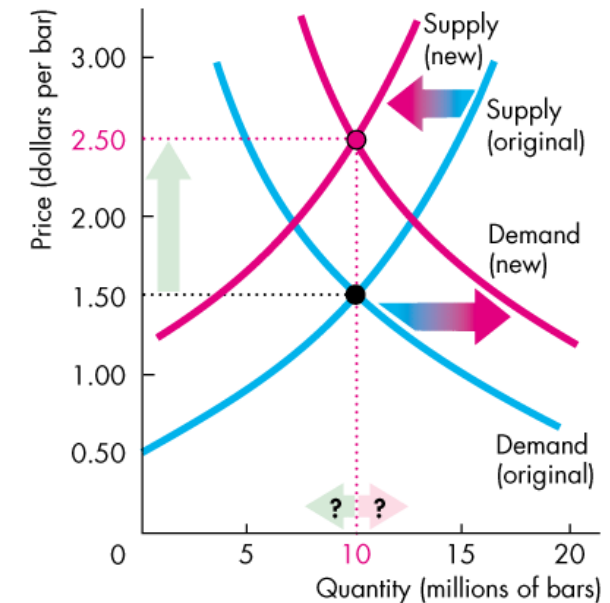
Change in Market Equilibrium

Effects of change both demand and supply at opposite direction

Increase in Demand and Decrease in Supply

An increase in demand and a decrease in supply **raises the equilibrium price**.

The change in **equilibrium quantity is uncertain** because the increase in demand increases the equilibrium quantity and the decrease in supply decreases it.

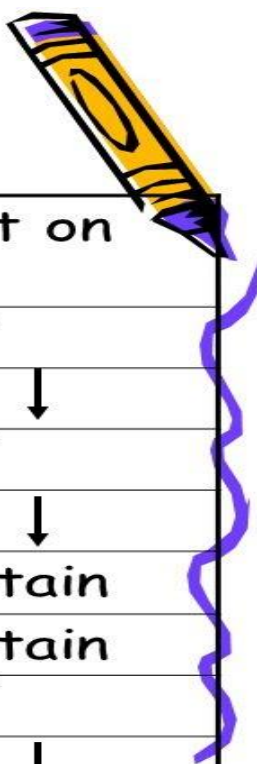


(h) Increase in demand and decrease in supply

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Change in Market Equilibrium

Effects of changes in demand and supply



Change in D	Change in S	Effect on P_e	Effect on Q_e
Increase	Fixed	↑	↑
Decrease	Fixed	↓	↓
Fixed	Increase	↓	↑
Fixed	Decrease	↑	↓
Decrease	Increase	↓	Uncertain
Increase	Decrease	↑	Uncertain
Increase	Increase	Uncertain	↑
Decrease	Decrease	Uncertain	↓

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Problem Questions

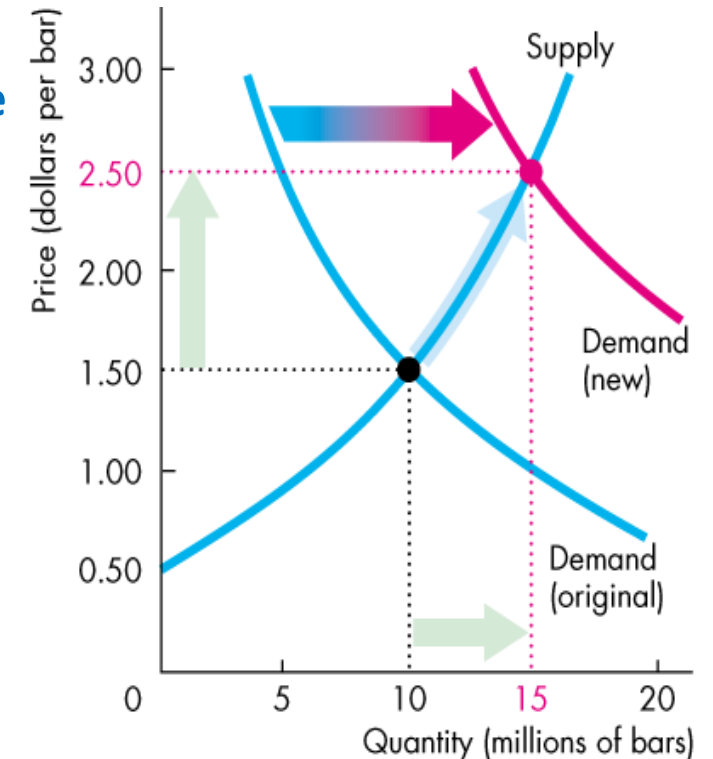


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Think

What is the effect on the Eq.price and Eq.quantity of Coffee if The price of a Tea rises? (Draw the diagrams!)

- As tea is a *substitute* for a coffee:
 - A rise in the price of a tea increases the demand for coffee
 - The demand curve for coffee shifts rightward,
 - Supply remains unchanged; there is a movement up along the supply curve.
 - The equilibrium price of a coffee rises
 - The equilibrium quantity of coffee increases.



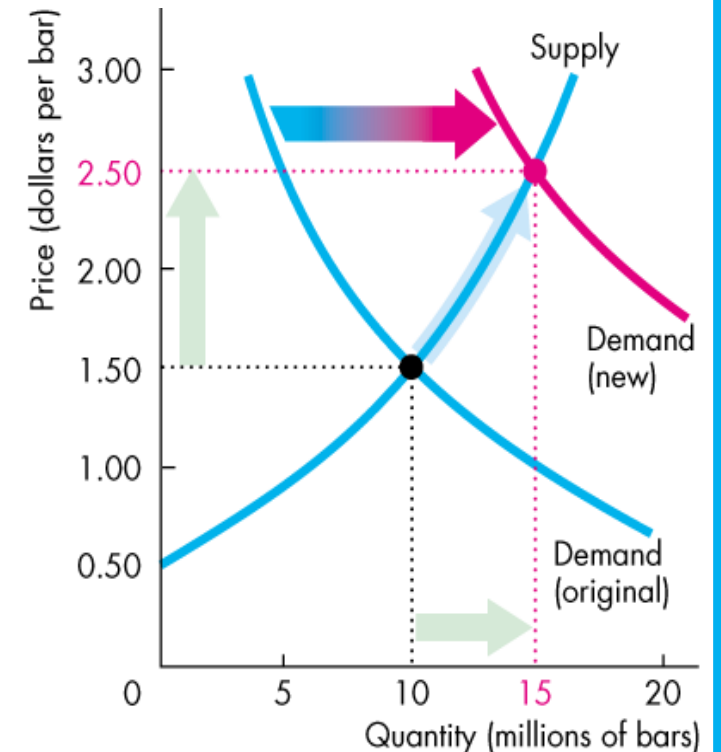
(b) Increase in demand

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Think

What is the effect on the Eq.price and Eq.quantity of Coffee if the price of a Sugar falls? (Draw the diagrams!)

- **A sugar is a complement of a coffee**
 - A fall in the price of sugar increases the demand for coffee
 - The demand curve for coffee shifts rightward.
 - Supply remains unchanged; there is a movement up along the supply curve.
 - The equilibrium price of a coffee rises
 - The equilibrium quantity of coffee increases.



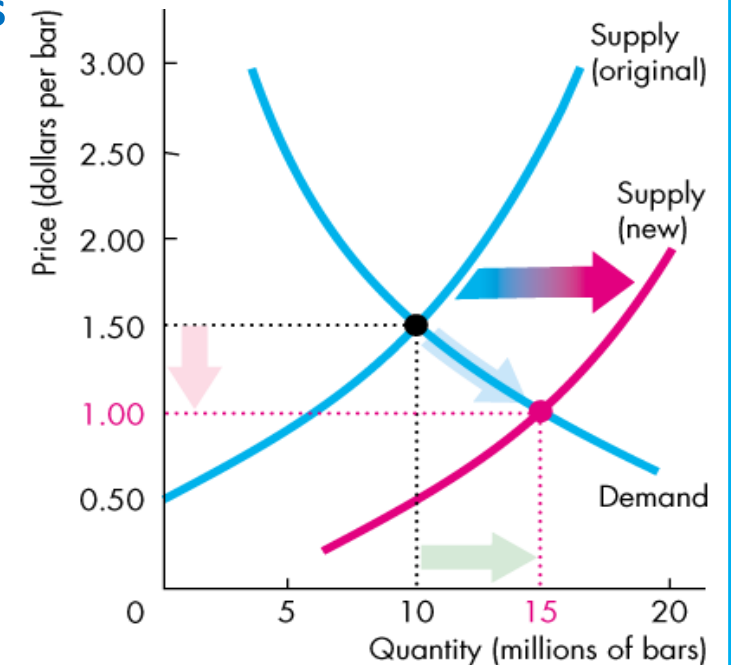
(b) Increase in demand

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Think

What is the effect on the Eq.price and Eq.quantity more firms produce coffee? (Draw the diagrams!)

- Increase the supply of coffee
- The supply curve of coffee increases and shifts rightward.
- Demand remains unchanged; there is a movement down along the demand curve.
 - The equilibrium price of a coffee falls
 - The equilibrium quantity of coffee increases.



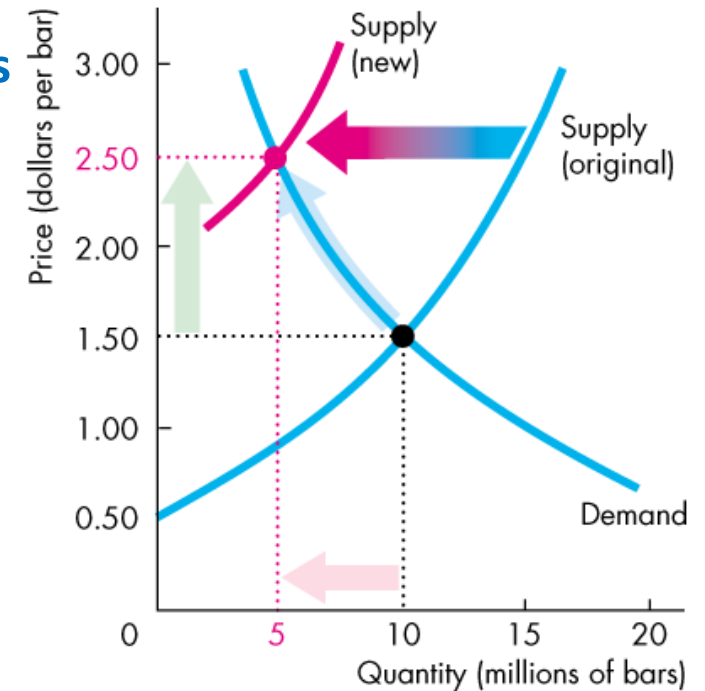
(d) Increase in supply

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Think

What is the effect on the Eq.price and Eq.quantity workers' wages rise? (Draw the diagrams!)

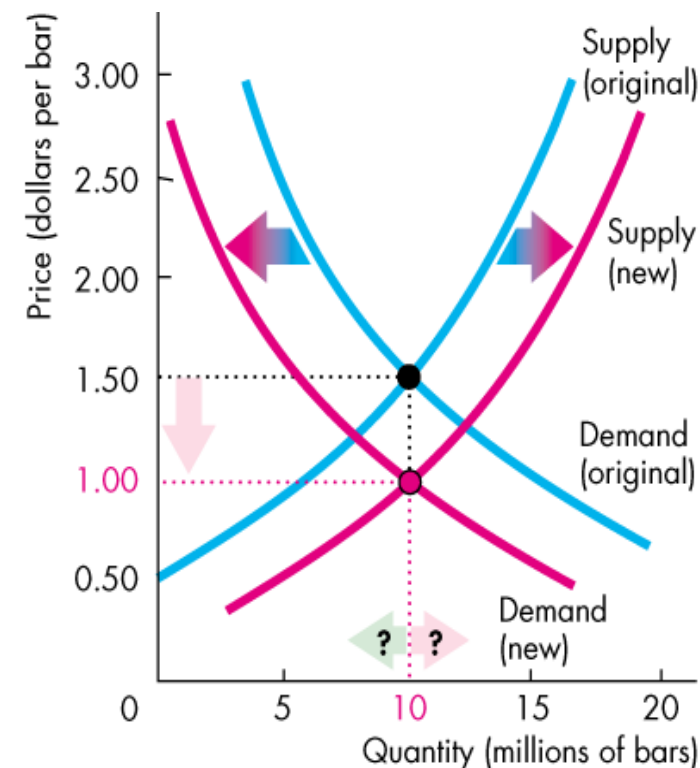
- **An increase in the wages of workers leads to:**
- Increase the cost of producing coffee.
- The supply curve of coffee decreases and shifts leftward.
- Demand remains unchanged; there is a movement up along the demand curve.
 - The equilibrium price of a coffee rises
 - The equilibrium quantity of coffee decreases



(g) Decrease in supply

What is the effect on the Eq.price and Eq.quantity if the price of a tea falls and more firms produce coffee? (Draw the diagrams!)

- When the price of a tea falls → this affects demand curve, demand decreases and shift leftward
- When more firms produce coffee → this affects supply curve, supply increases and shift rightward
 - The equilibrium price of a coffee falls
 - The equilibrium quantity of coffee is **uncertain** because
 - The decrease in demand → decreases the equilibrium quantity
 - The increase in supply → increases the equilibrium quantity
 - So, the equilibrium quantity might increase, decrease, or not change



(f) Decrease in demand and increase in supply

Think

The equilibrium quantity will decrease, and the price might rise, fall, or stay the same when the

- A) demand and the supply of a good both increases.
- B) demand for a good increase and the supply of it decreases.
- C) demand for a good decrease and the supply of it increases.
- D) demand and the supply of a good both decreases.**



Think

When supply and demand both increases, the

- A) quantity definitely decreases.
- B) quantity definitely increases.**
- C) price definitely increases.
- D) price definitely decreases



Think

When a market is in equilibrium,

- A) everyone has all they want of the commodity in question.
- B) there is no shortage and no surplus at the equilibrium price.**
- C) the number of buyers is exactly equal to the number of sellers.
- D) the supply curve has the same slope as the demand curve.



Think

If the price of a video download is below its equilibrium price, the quantity supplied is _____ than the quantity demanded. If the price of a video download is above its equilibrium price, the quantity supplied is _____ than the quantity demanded.

A) less; greater

B) greater; less

C) less; less

D) greater; greater



Think

If the price of a CD is equal to the equilibrium price, there will be _____ of CDs and the price will _____.

- A) surplus; rise
- B) surplus; fall
- C) shortage; fall
- D) neither a shortage nor surplus; not change**

If the quantity demanded exceeds the quantity supplied, then there is

- A) a shortage and the price is below the equilibrium price.**
- B) a shortage and the price is above the equilibrium price.
- C) a surplus and the price is below the equilibrium price.
- D) a surplus and the price is above the equilibrium price.



Think

If the quantity supplied exceeds the quantity demanded, then there is

- A) a shortage and the price is below the equilibrium price.
- B) a shortage and the price is above the equilibrium price.
- C) a surplus and the price is below the equilibrium price.
- D) a surplus and the price is above the equilibrium price.**



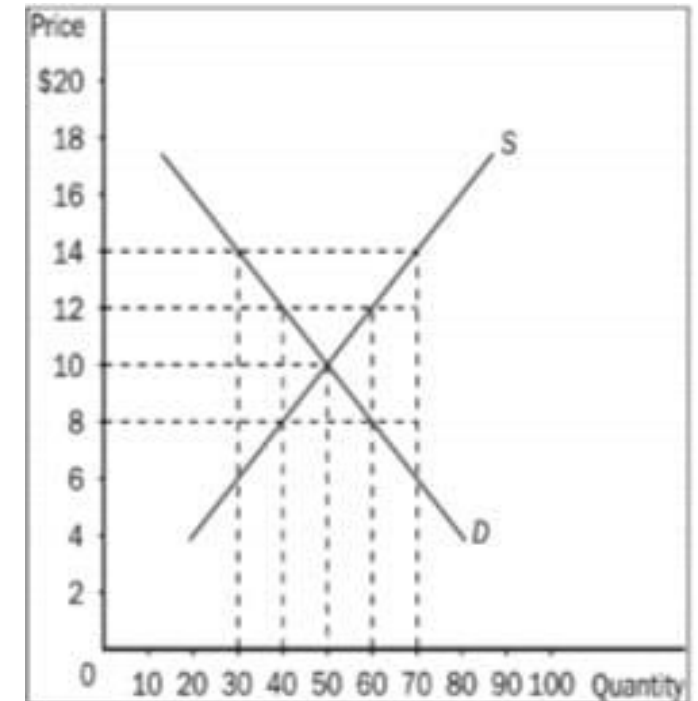
Think

In this market, Equilibrium price and Equilibrium quantity would be

- A) 14\$, 70
- B) 12\$, 40
- C) **10\$, 50**
- D) 8\$, 50

If Price in this market is currently 14\$, there would be

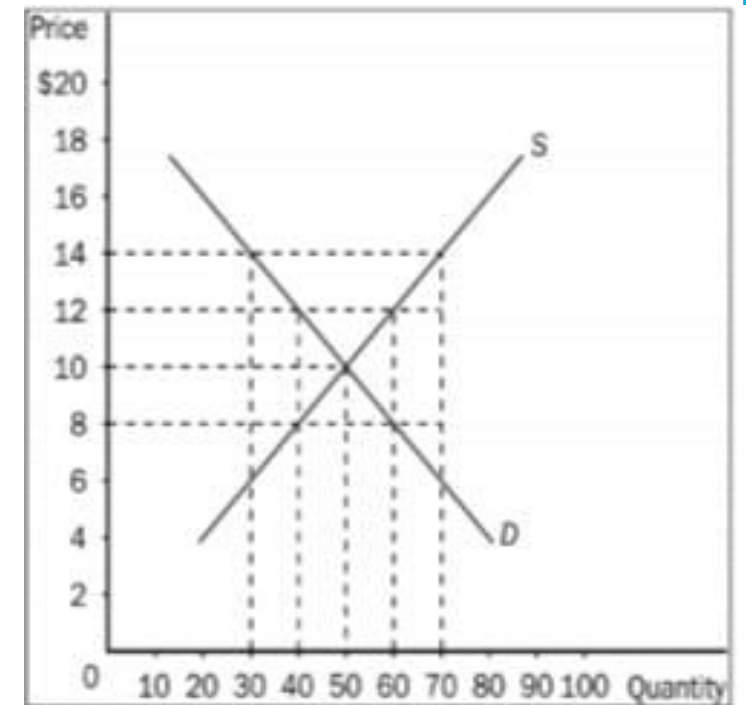
- A) Shortage of 20 units and price would tend to rise
- B) Surplus of 20 units and price would tend to fall
- C) Shortage of 40 units and price would tend to rise
- D) **Surplus of 40 units and price would tend to fall** (70-30)



Think

If Price in this market is currently 8 \$, the quantity supplies would be

- A. 40 and quantity demanded would be 60
- B. 60 and quantity demanded would be 40
- C. 50 and quantity demanded would be 50
- D. 70 and quantity demanded would be 30



Summary outlines

1. Market Equilibrium
2. Price as a Regulator
3. Price Adjustments
4. Change in Market Equilibrium



Thank You