

# Introduction to Markets and Prices

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Demand and Supply

# Market

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- It is a setting where buyers and sellers to trade goods or services with each other.
- It can be a real physical place
- Or a non-physical market like ebay or Amazon

The eBay logo is displayed in its characteristic multi-colored font, with 'e' in red, 'b' in blue, 'a' in yellow, and 'y' in green.The Amazon logo is shown in black, featuring a lowercase 'a' with a yellow arrow pointing from the bottom of the 'a' to the right, symbolizing a smile or a path.

# Market

- Some markets are regulated with rules
- Others are relatively unregulated



# Where prices come from

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- In free markets buyers and sellers voluntarily interact and as a result we will have magical products that NO individual could produce, like a pencil.



- Also, as a result of these voluntary interactions, prices emerge.

# The Demand curve

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# Demand

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- Quantity demanded is the amount of a good that buyers are willing and able to purchase at a given price.
- Think of a good, like orange juice, and how many bottles you are willing and able to buy a week in your current situation at different prices.



# Demand schedule

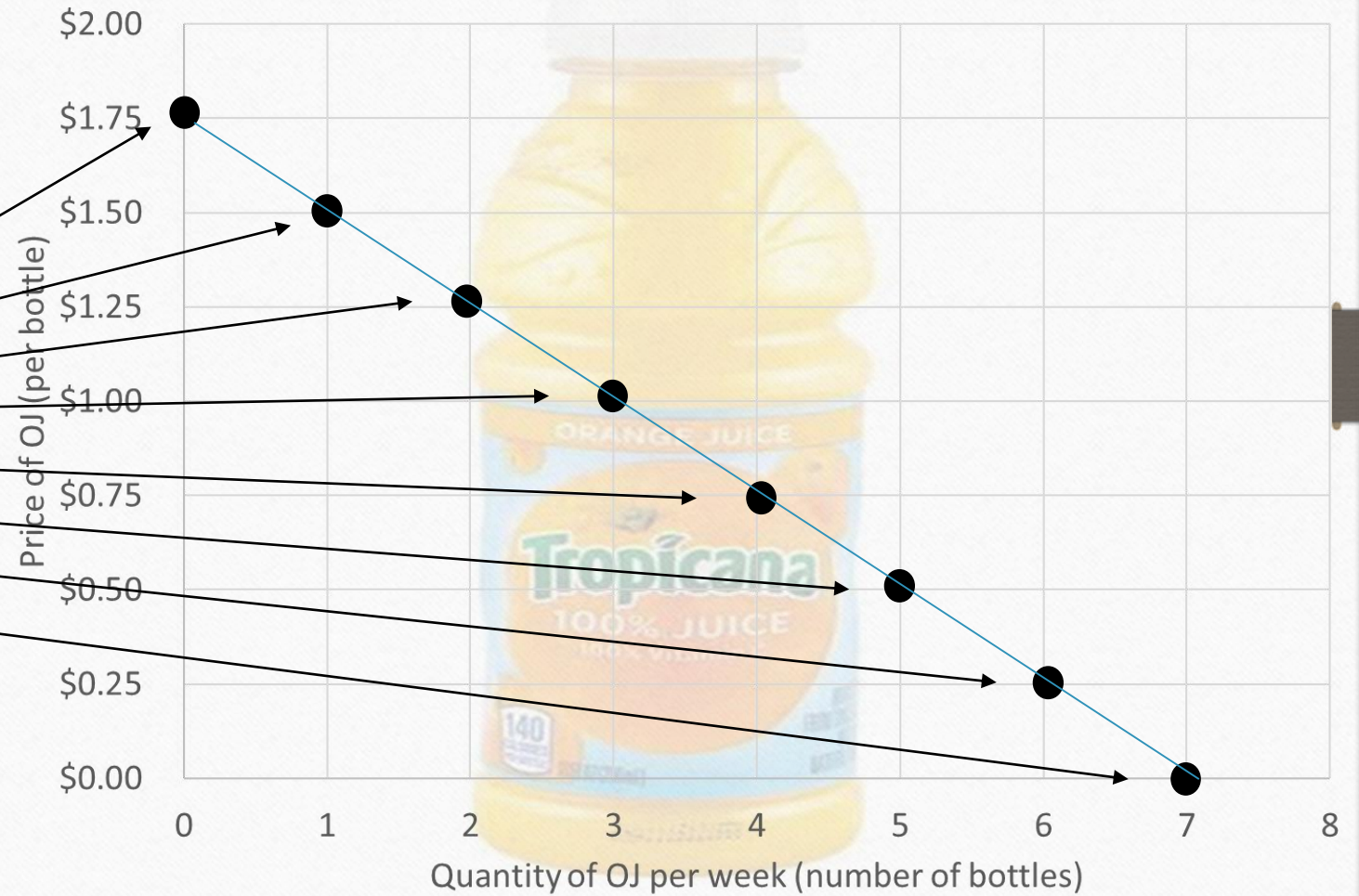


Demand schedule	
price of OJ per bottle	Quantity Demanded per week (bottle)
\$1.75	0
\$1.50	1
\$1.25	2
\$1.00	3
\$0.75	4
\$0.50	5
\$0.25	6
\$0.00	7

- Demand schedule is a table that shows the relationship between price of a product (or service) and the quantity demanded of the same product (or service).

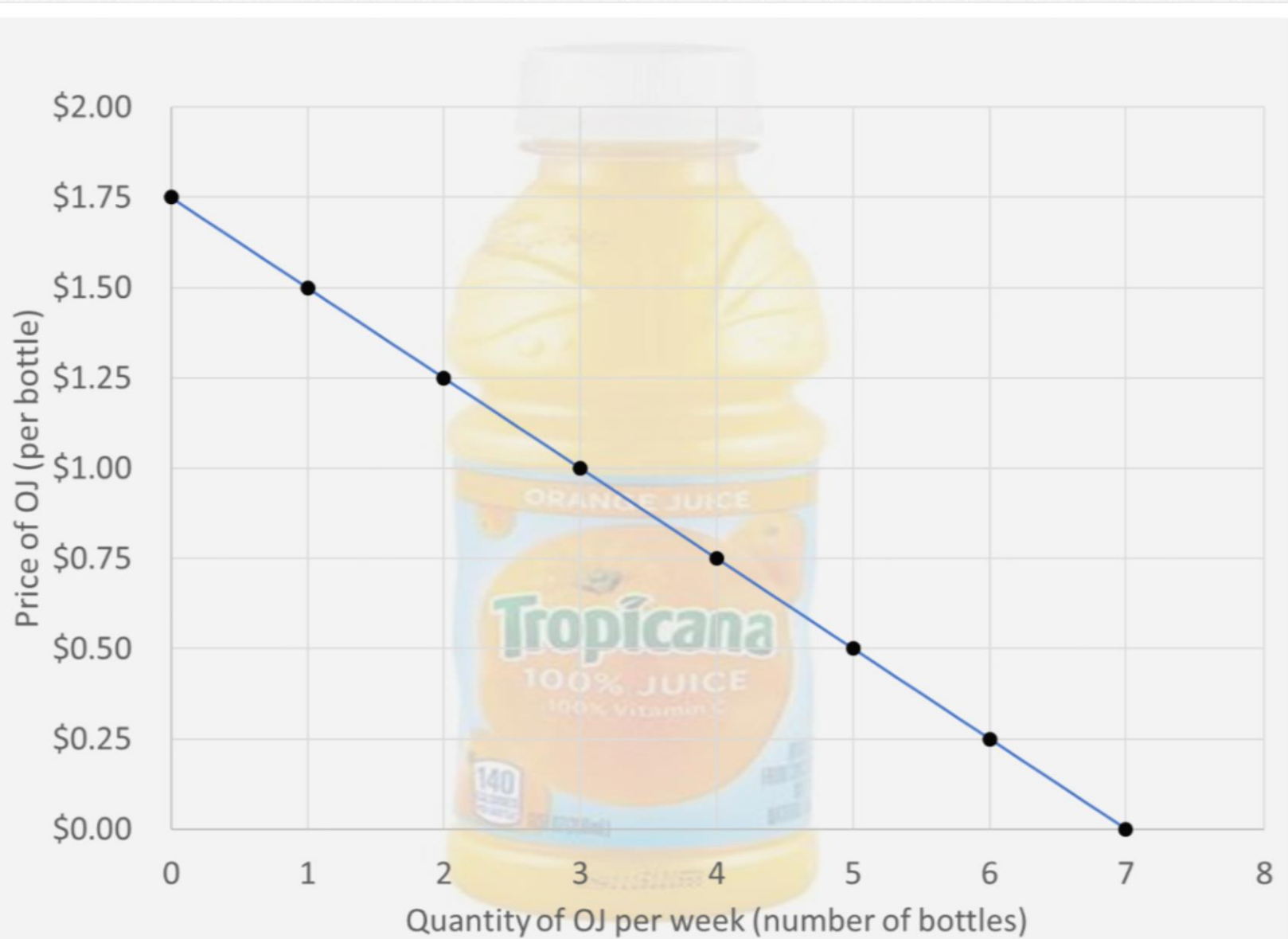
# Demand curve

Demand schedule	
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\$0.25	6
\$0.00	7





# Demand curve



# The law of demand

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# The law of demand

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- The law of demand states that there is an inverse relationship between price and quantity demanded.
- This means that we tend to buy more units when the per unit price is lower, ceteris paribus.
- Ceteris paribus means that we hold other things unchanged.
- So, if the price is the only thing we change (and nothing else changes), at lower per unit price we will buy more units.

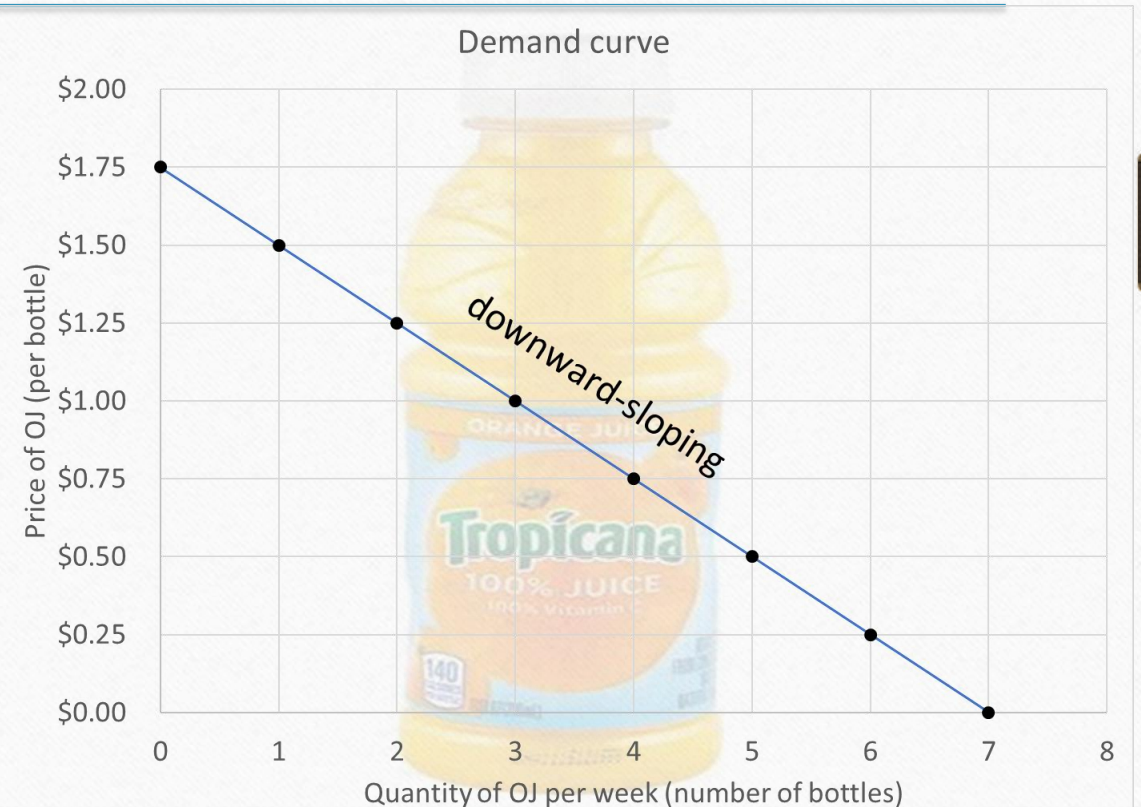
# Reason for *ceteris paribus*

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- When we state the law of demand we put the Latin phrase 'ceteris paribus' at the end of the sentence.
  - Why? Because there are other factors that determine demand, price is not the only one.
  - We say ceteris paribus meaning that these other determinants are not changing.
- Determinants of Demand
    - Price (own price)
    - Income
    - Price of related goods
    - Tastes and Preferences
    - Expectations about the future
    - Number of buyers

# The law of demand

- The law of demand means that the demand curve is a downward-sloping line.
- (We will see 2 exceptions to this, a horizontal demand and a vertical demand.)
- An upward-sloping demand would violate the law of demand.



# Reasons for downward-sloping demand curve

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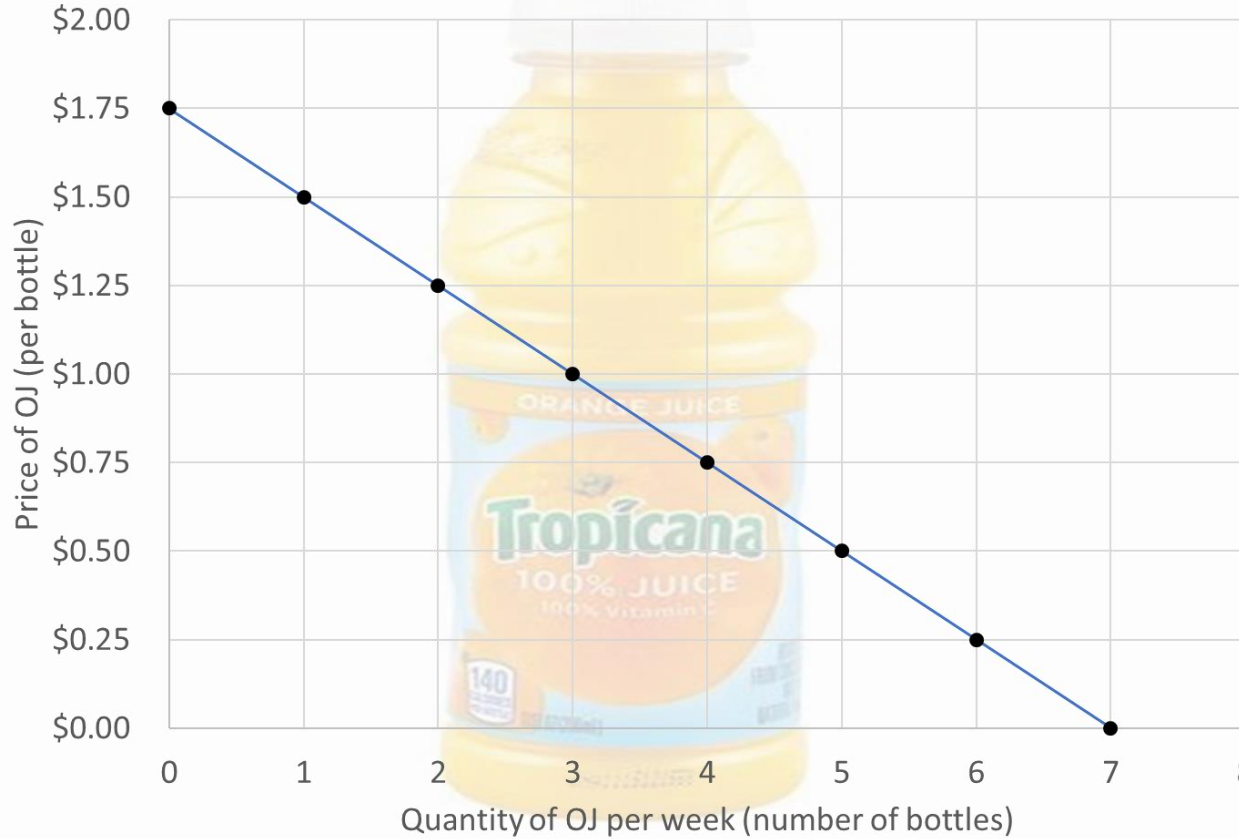
- Decreasing marginal benefit
  - As we buy more and more the marginal benefit of each extra unit is less and less.
- Substitution Effect
  - The change in quantity demanded that results from a change in price, that makes other substitutes relatively more desirable.
- Income Effect
  - The change in the quantity demanded of a good, service or resource that results from the effect of a change in price on the consumer's purchasing power.

# Market Demand

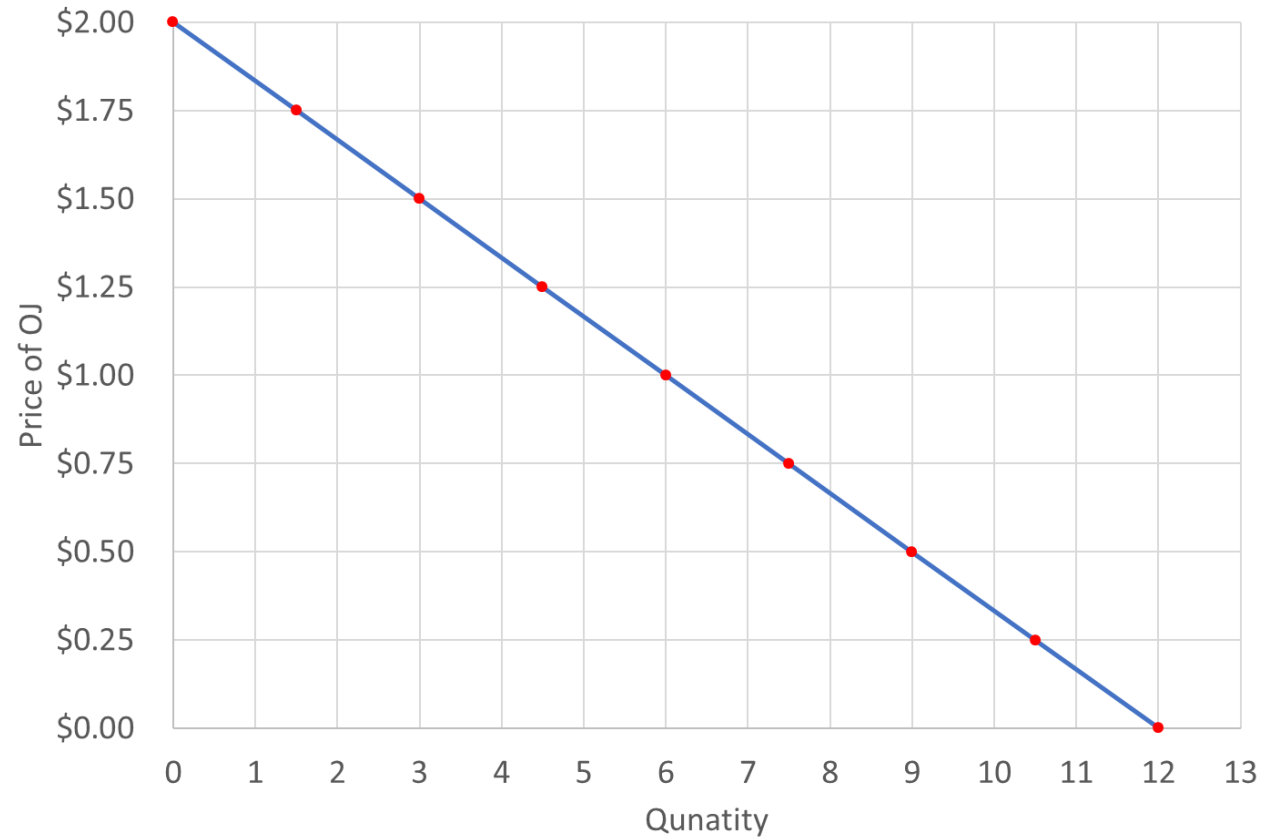
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# Individual demand(s)

The instructor's demand curve for Orange Juice

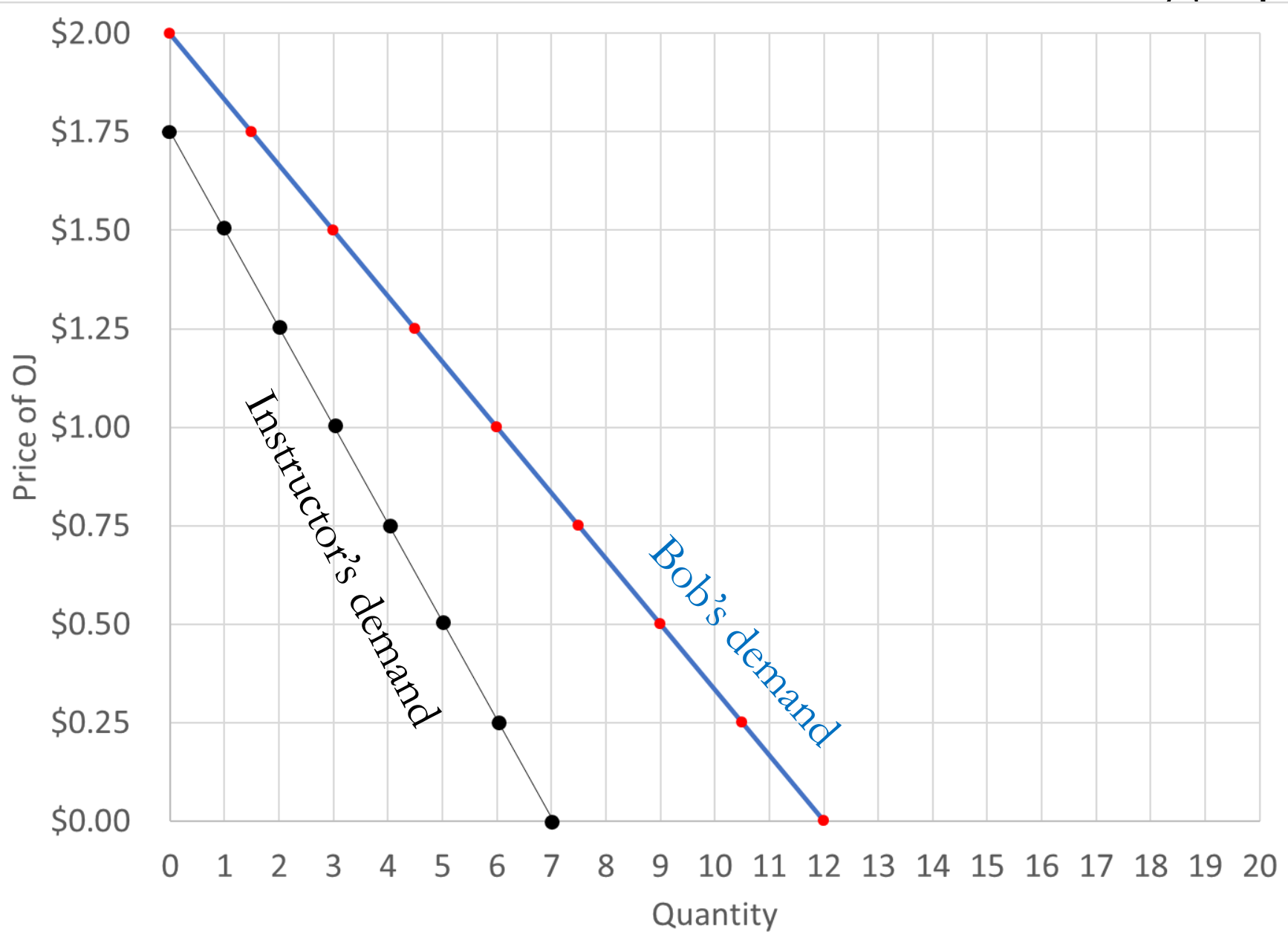


Bob's demand for Orange Juice

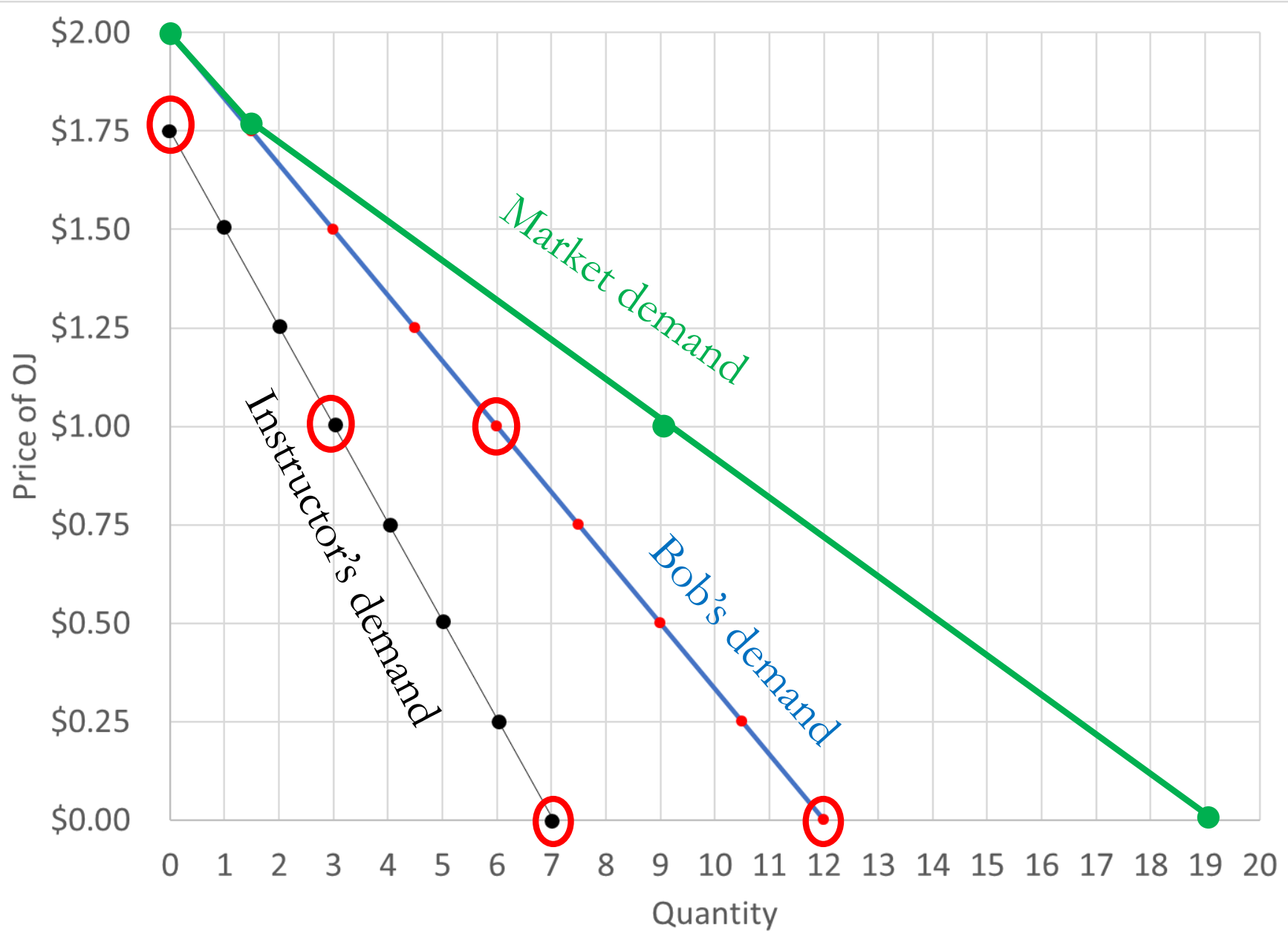




# Two individual demand curves on the same graph



# Market demand

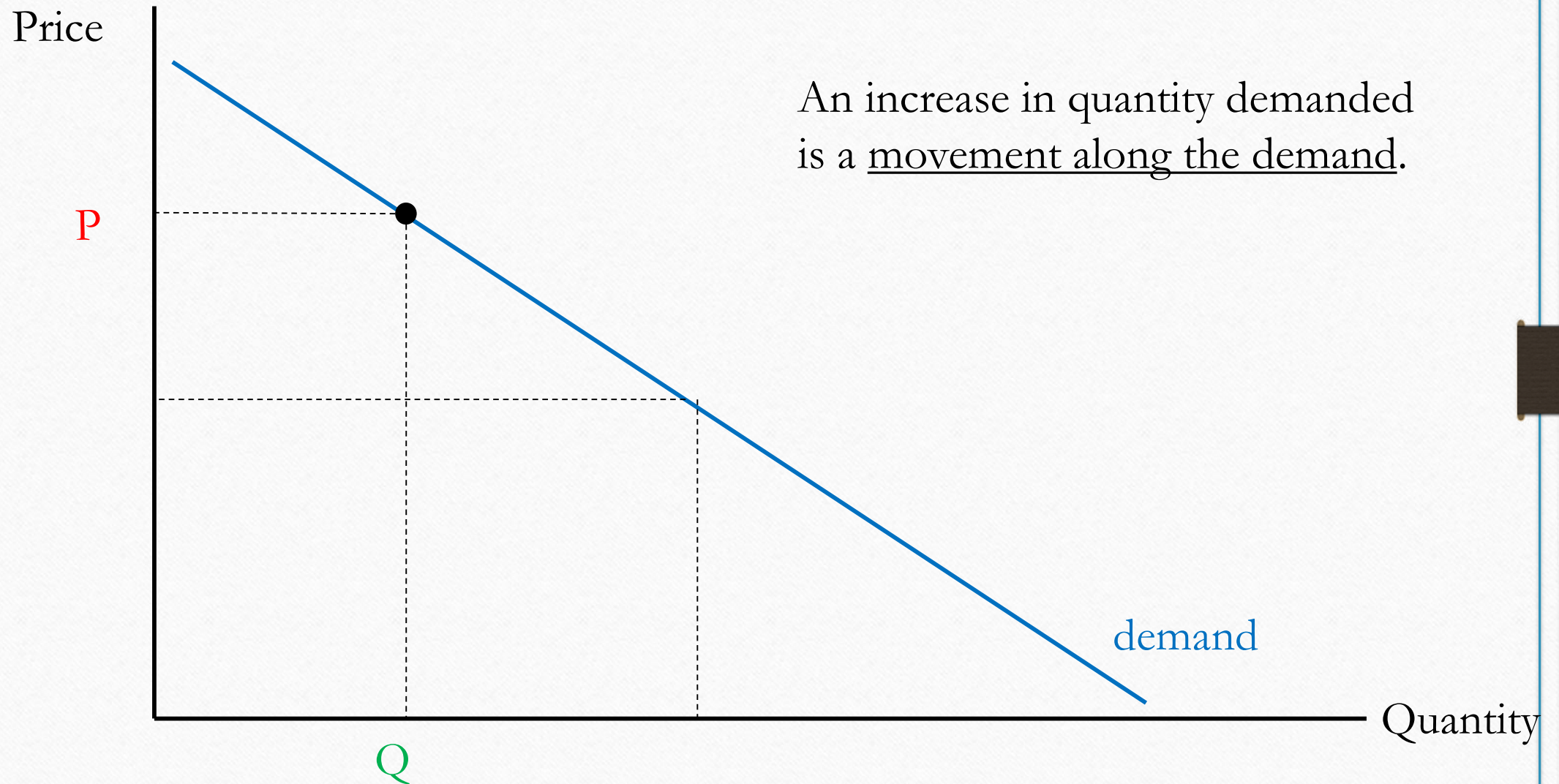


# Market demand

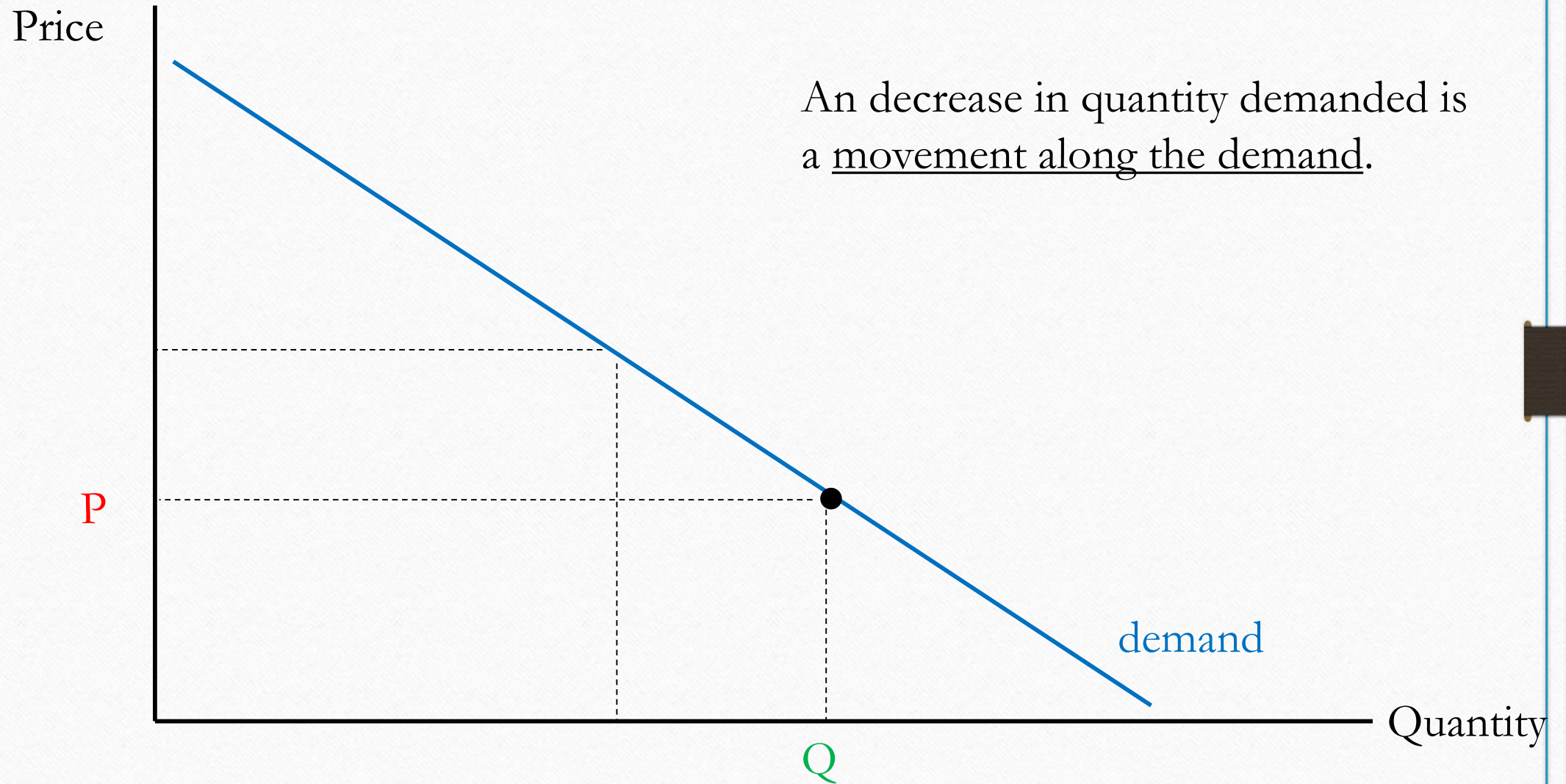
Price of OJ per bottle	Instructor's Quantity Demanded	Bob's $Q^d$	Market $Q^d$
\$2.00	0	0	
\$1.75	0	1.5	
\$1.50	1	3	
\$1.25	2	4.5	
\$1.00	3	6	
\$0.75	4	7.5	
\$0.50	5	9	
\$0.25	6	10.5	
\$0.00	7	12	

Change in  $Q^d$  vs  
Change in Demand

# An increase of Quantity demanded

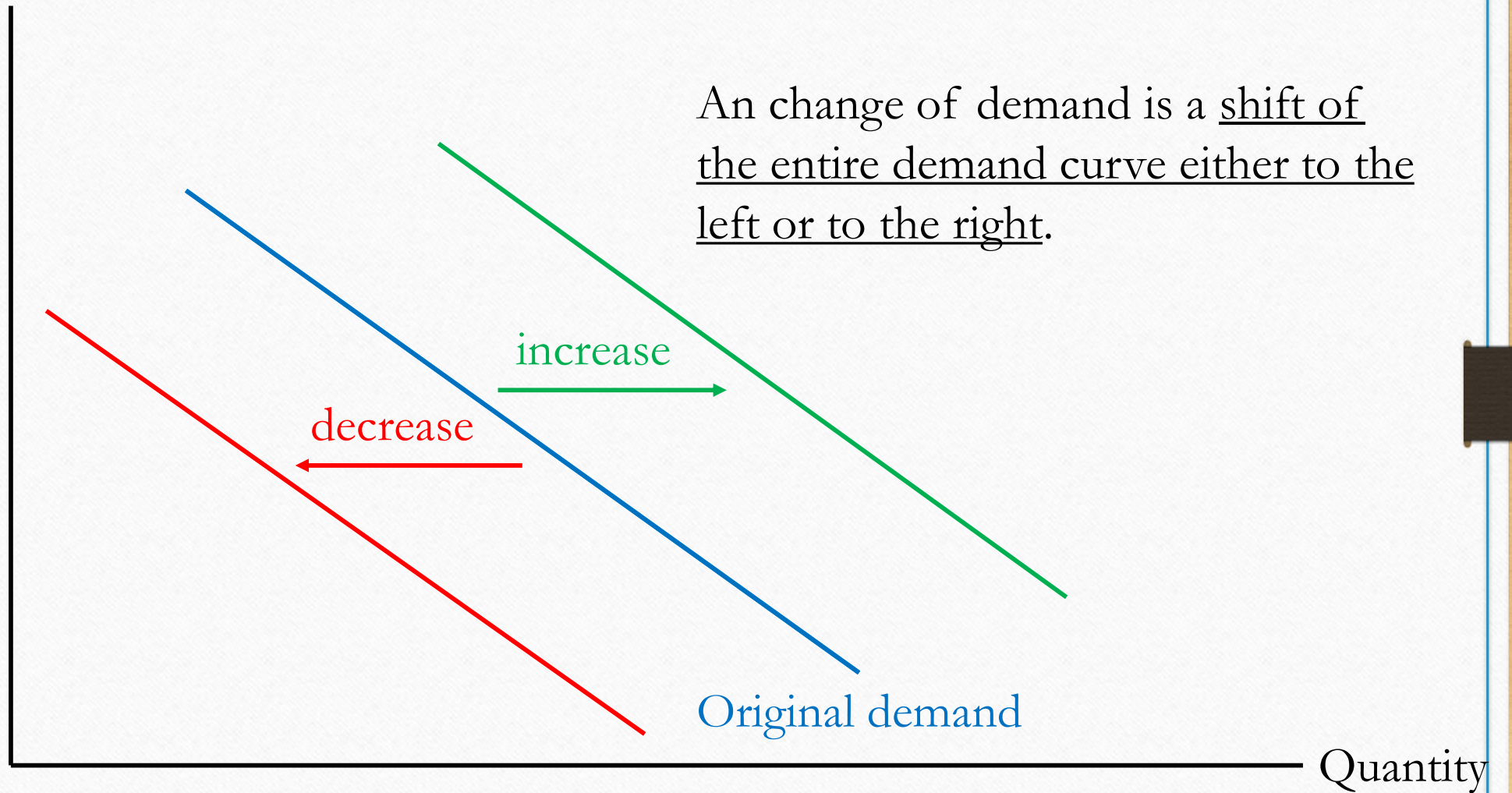


# A decrease of Quantity demanded



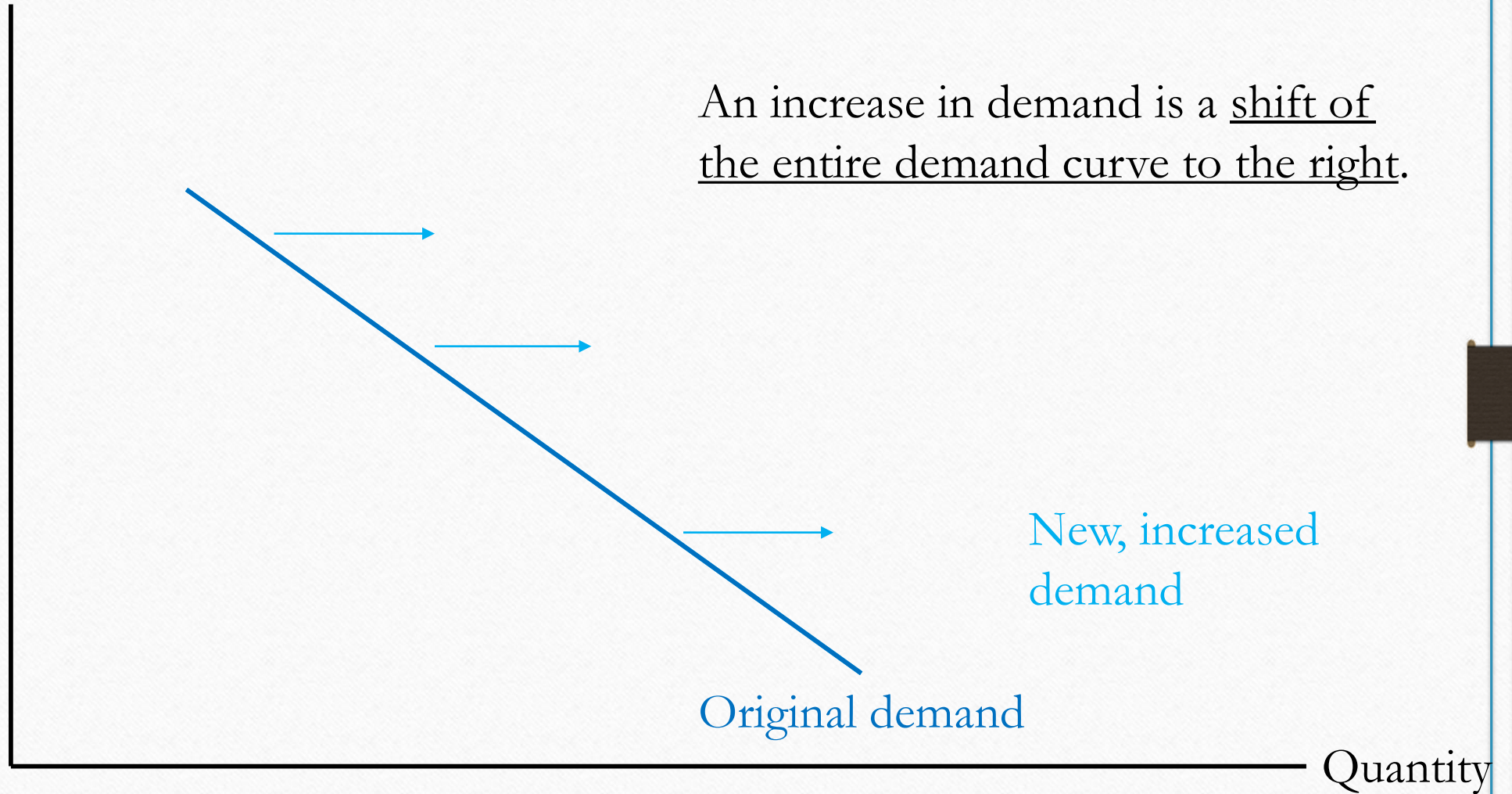
# An change of demand

Price



# An increase of demand

Price

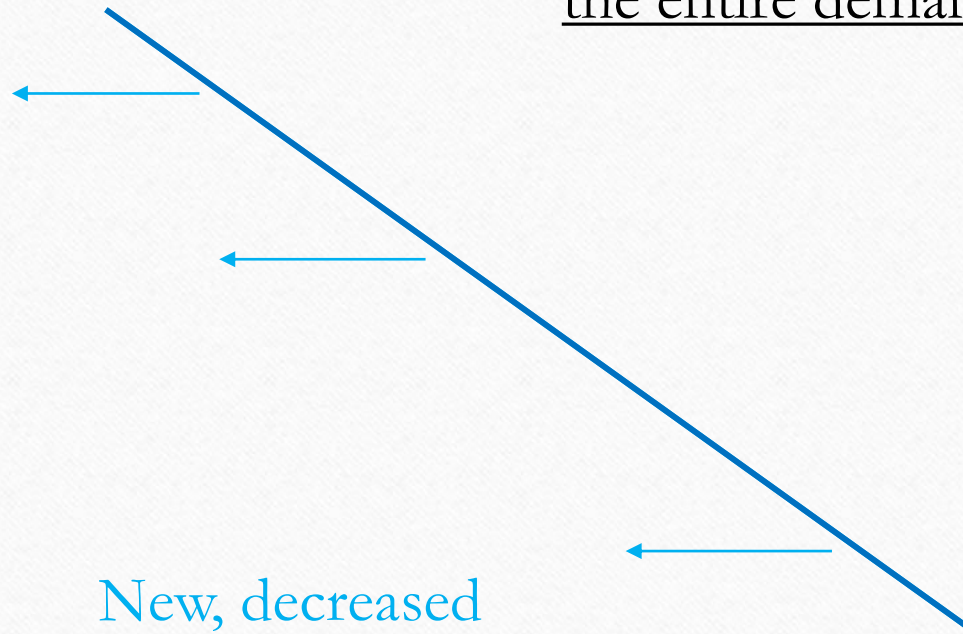




# A decrease of demand

Price

A decrease of demand is a shift of the entire demand curve to the left.



New, decreased demand

Original demand

Quantity

# Summary

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- A change of quantity demanded is a **MOVEMENT ALONG** the demand curve
  - Triggered by a change in own price
- A change of demand is a **SHIFT** of the entire demand curve.
  - Triggered by a change in a determinant other than own price.

# Determinants of Demand - Income

# Consumer Income

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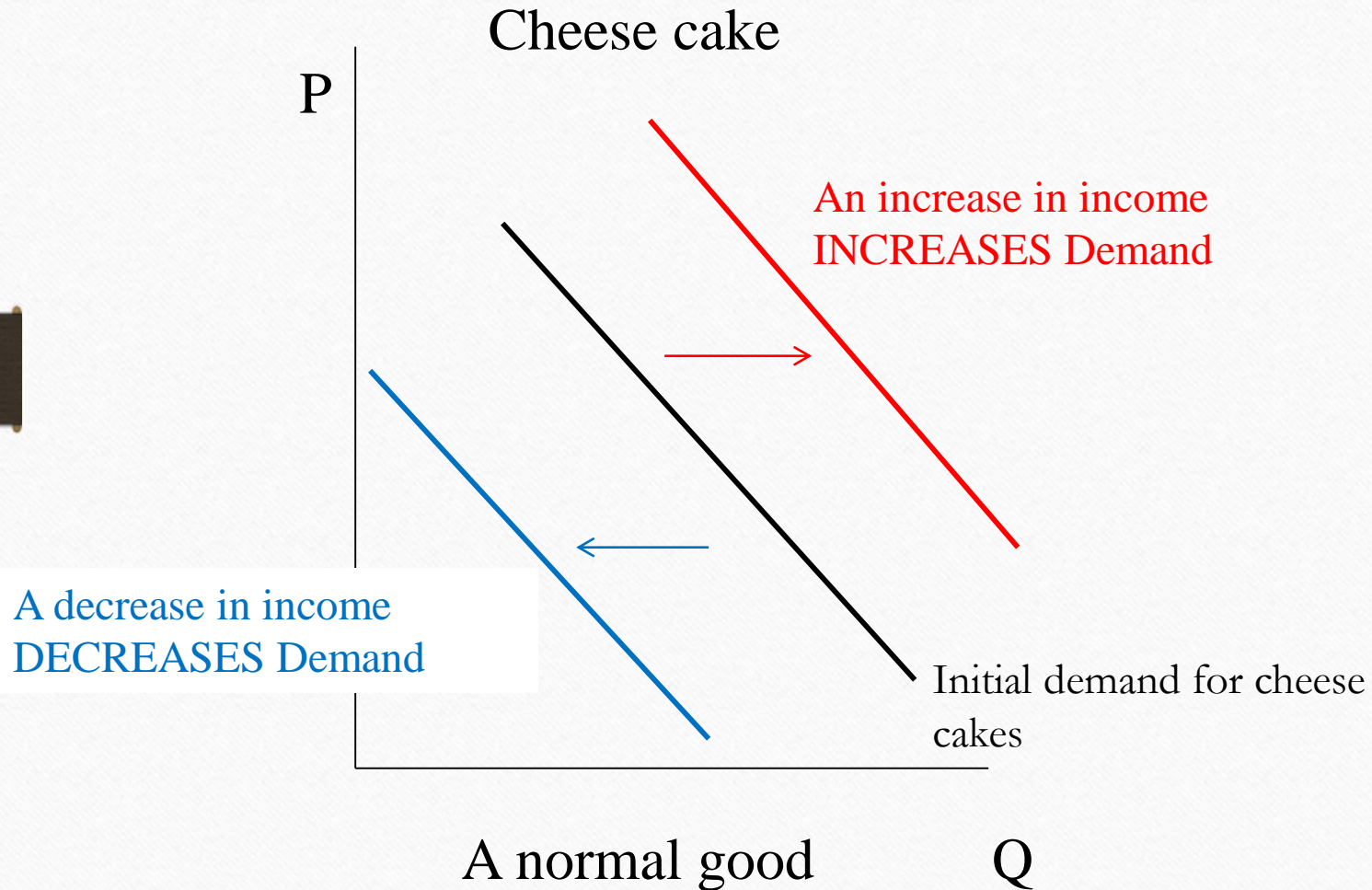
- We know that Income is a SHIFT factor – a determinant of demand that if it changes you need to shift demand.
- How would you need to change demand if incomes increase?

# Consumer Income

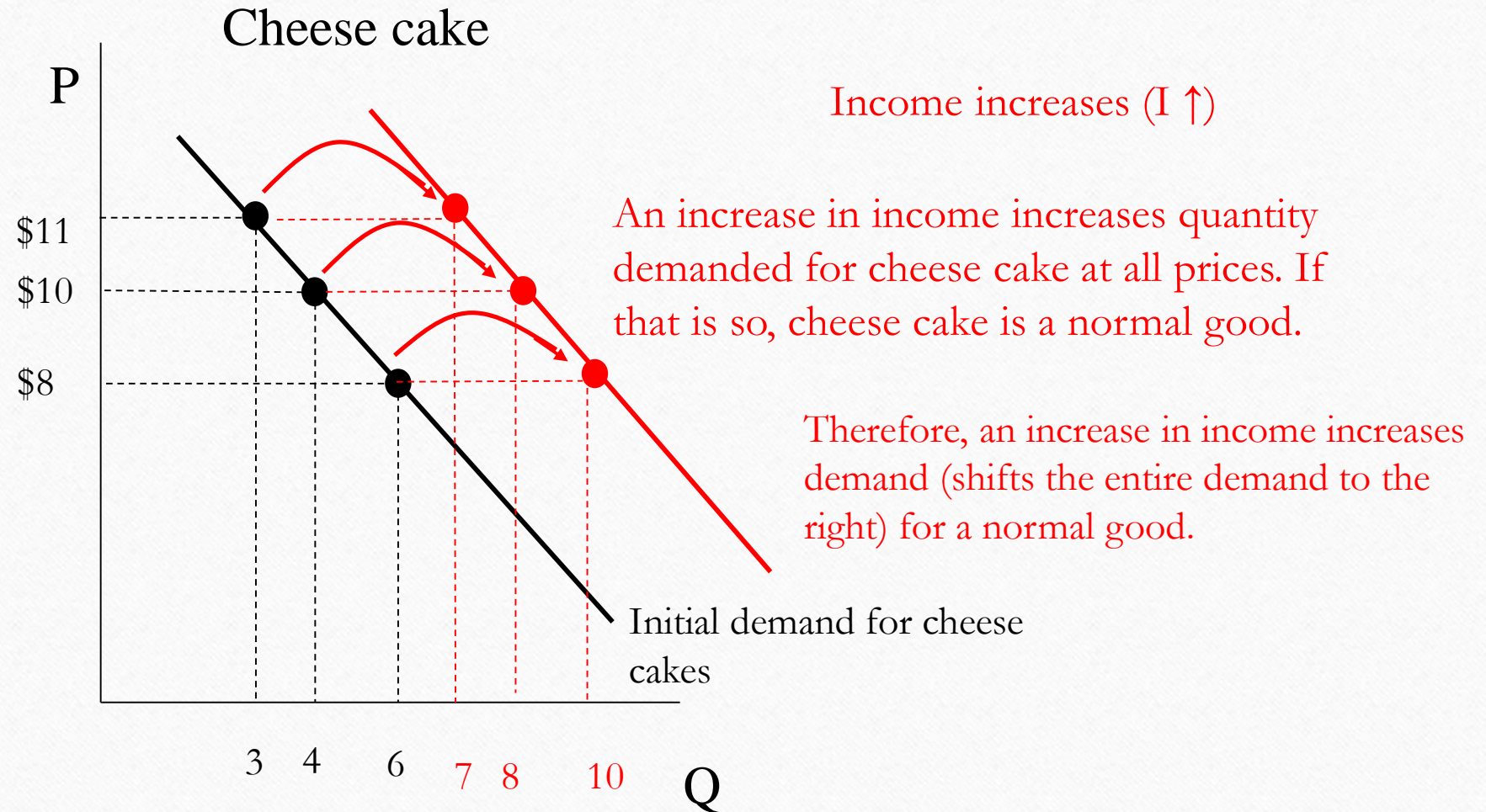
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- As income increases the demand for a normal good will **increase**.
- As income increases the demand for an inferior good will **decrease**.

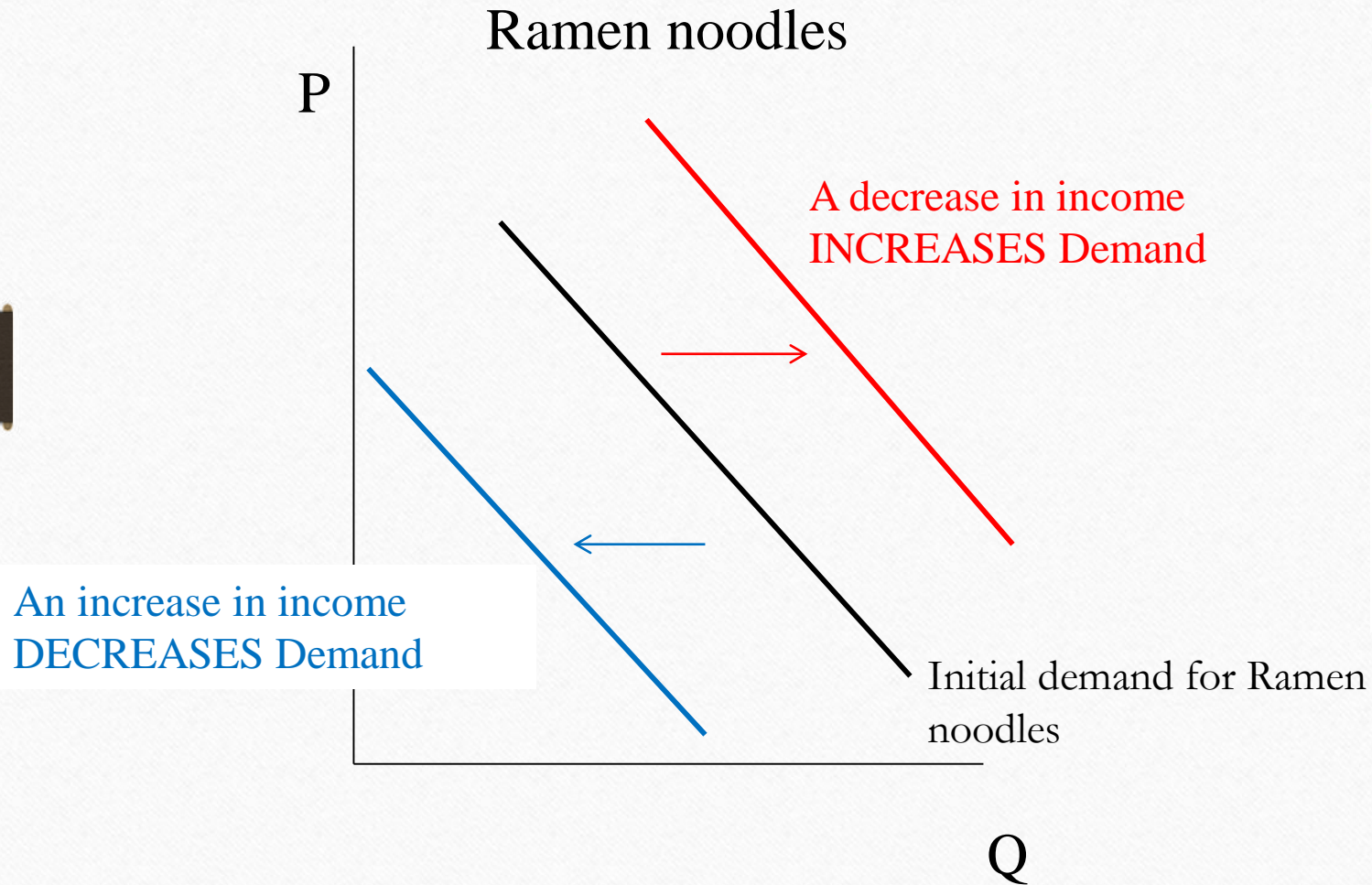
# Normal goods



# Normal goods & an increase in income

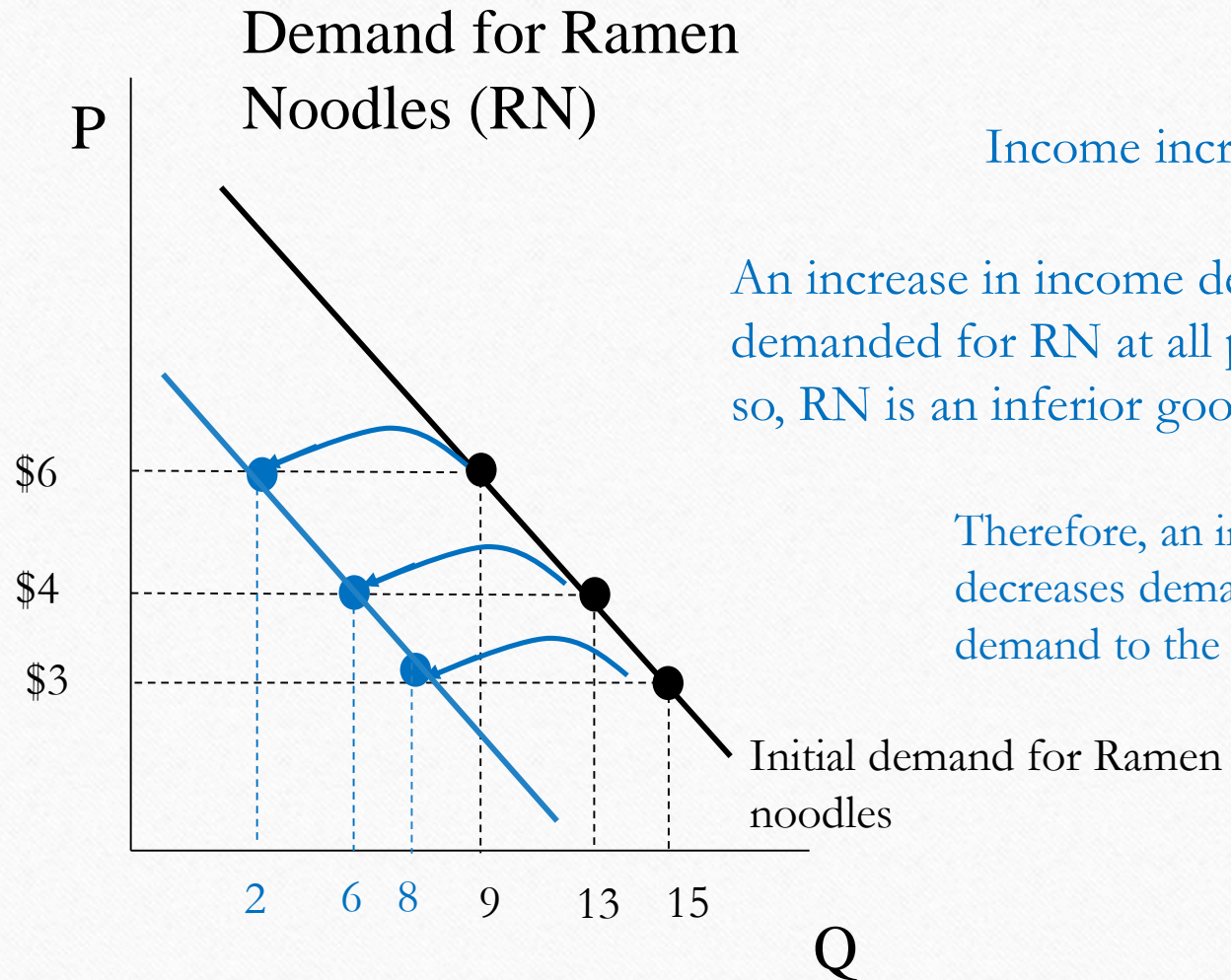


# Inferior goods





# Inferior goods & an increase in income



Determinants of Demand –  
Substitutes and Complements

# Prices of related goods

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- (This is not own price)
- In terms of price of related good we can classify goods as substitutes or complements.
- **Substitutes** are goods that we compete with each other for our business
  - Examples for substitutes: Coke and Pepsi, Papa John's and Domino's
- **Complements** are goods that we tend to consume together
  - Examples for complements: hot dog meat and hot dog bun, coffee and cream

# Substitutes & Complements

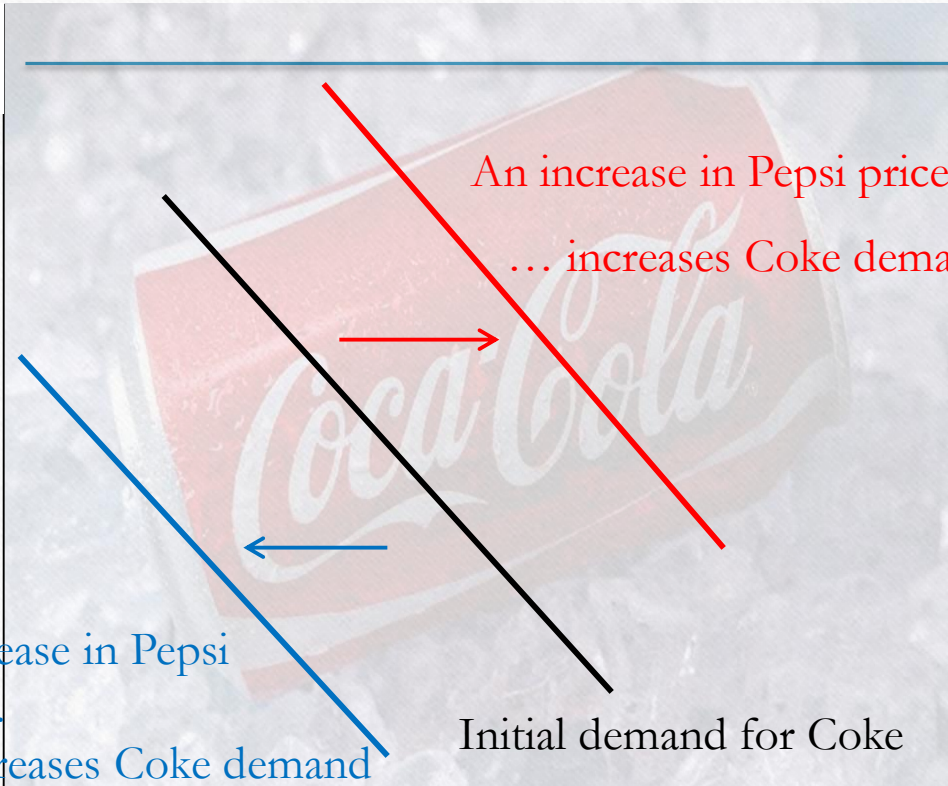
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- When a fall in the price of good A reduces the demand for good B, OR when the increase in the price of good A increases the demand for good B, the two goods are called **substitutes**.
- When a fall in the price of good X increases the demand for good Y, OR when the increase in the price of good X decreases the demand for good Y, the two goods are called **complements**.

# Substitutes

Coke demand

$P_{\text{Coke}}$



An increase in Pepsi price...  
... increases Coke demand

A decrease in Pepsi price...  
... decreases Coke demand

$Q_{\text{Coke}}$

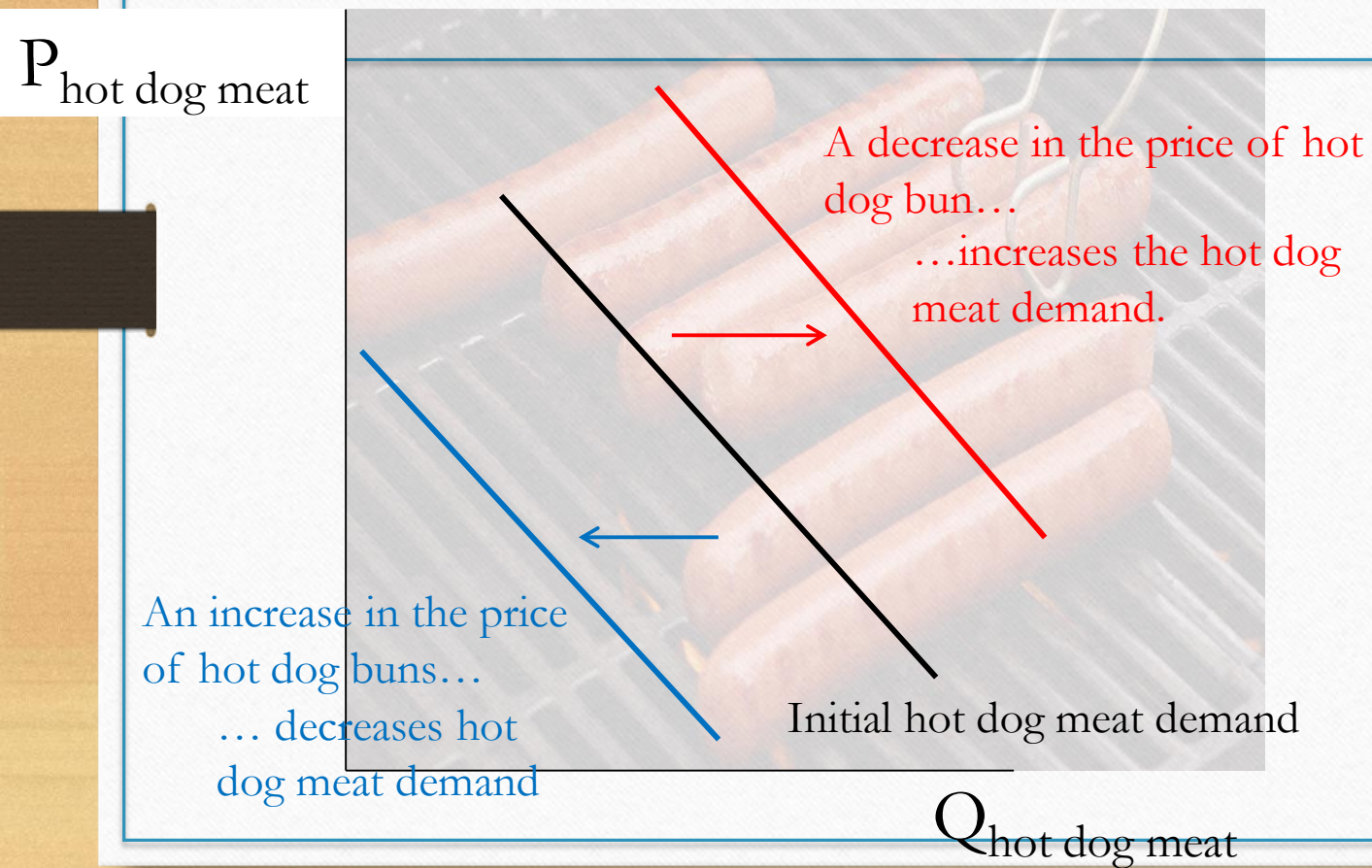


$P_{\text{Pepsi}} \uparrow$

$P_{\text{Pepsi}} \downarrow$

# Complements

## Hot dog meat demand



$P_{\text{hot dog bun}} \uparrow$



$P_{\text{hot dog bun}} \downarrow$

Determinants of Demand –  
Tastes, expectations, number  
of buyers

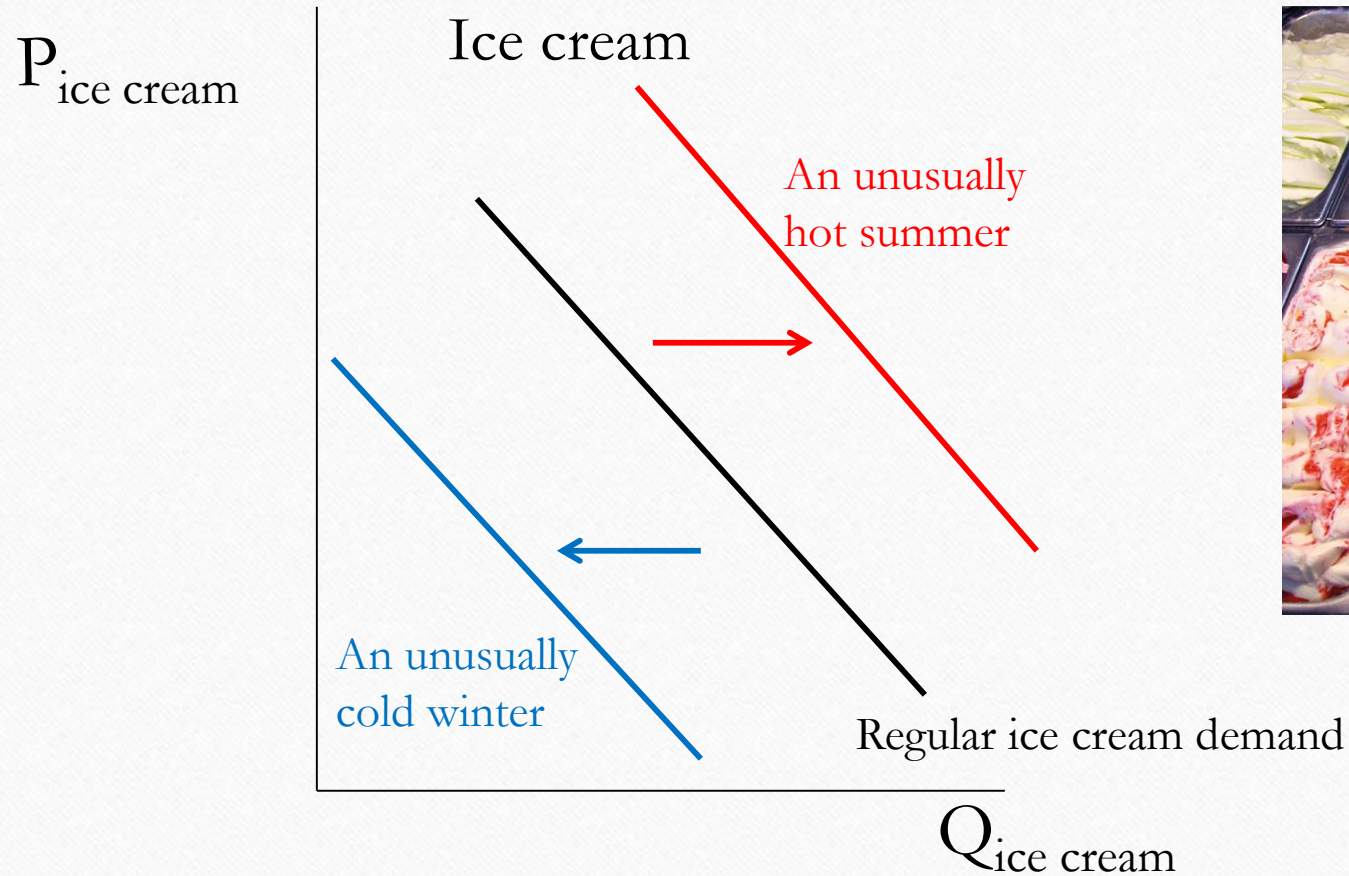
# Further shift factors of demand

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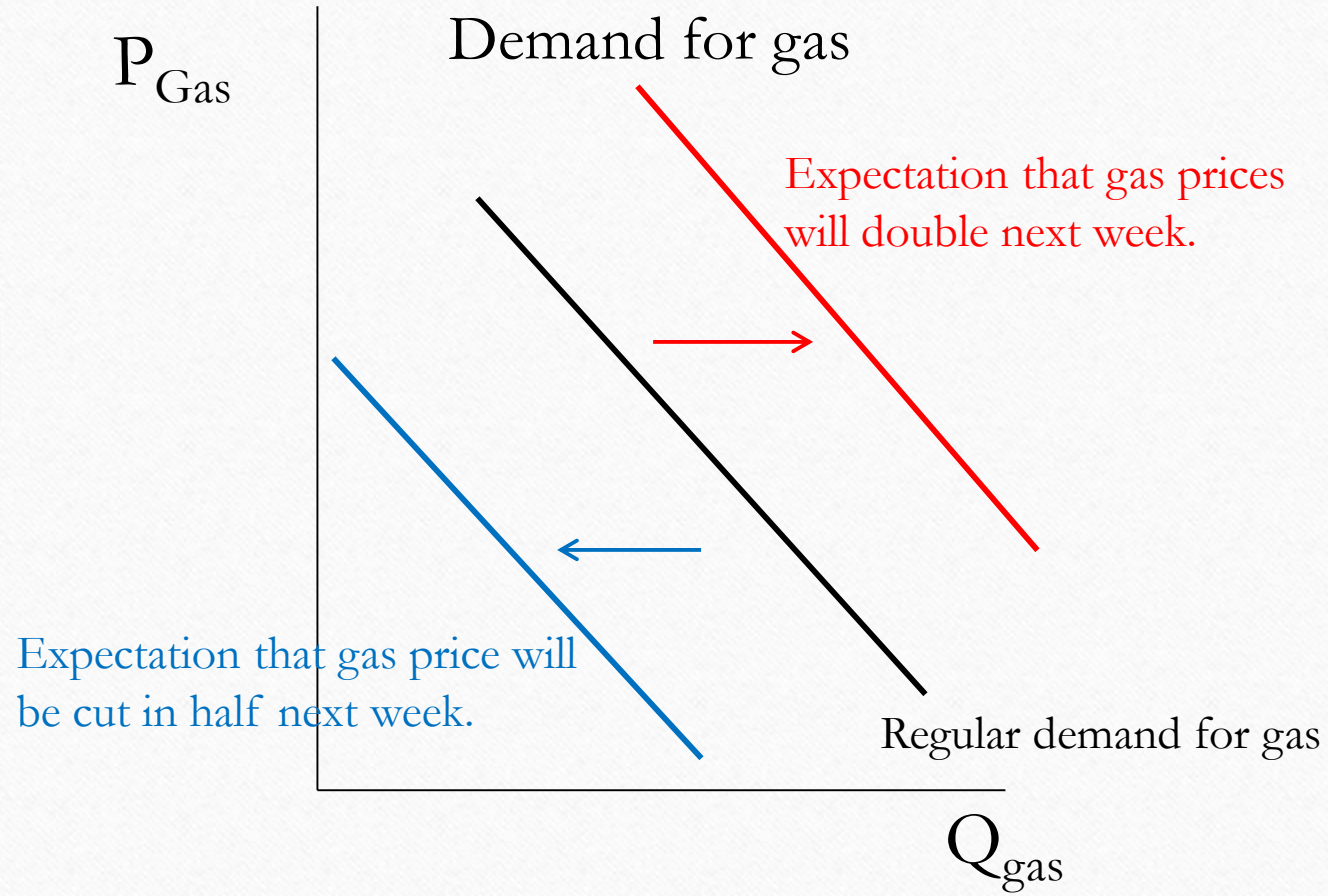
- Tastes and preferences
- Expectations about future prices
- Number of buyers



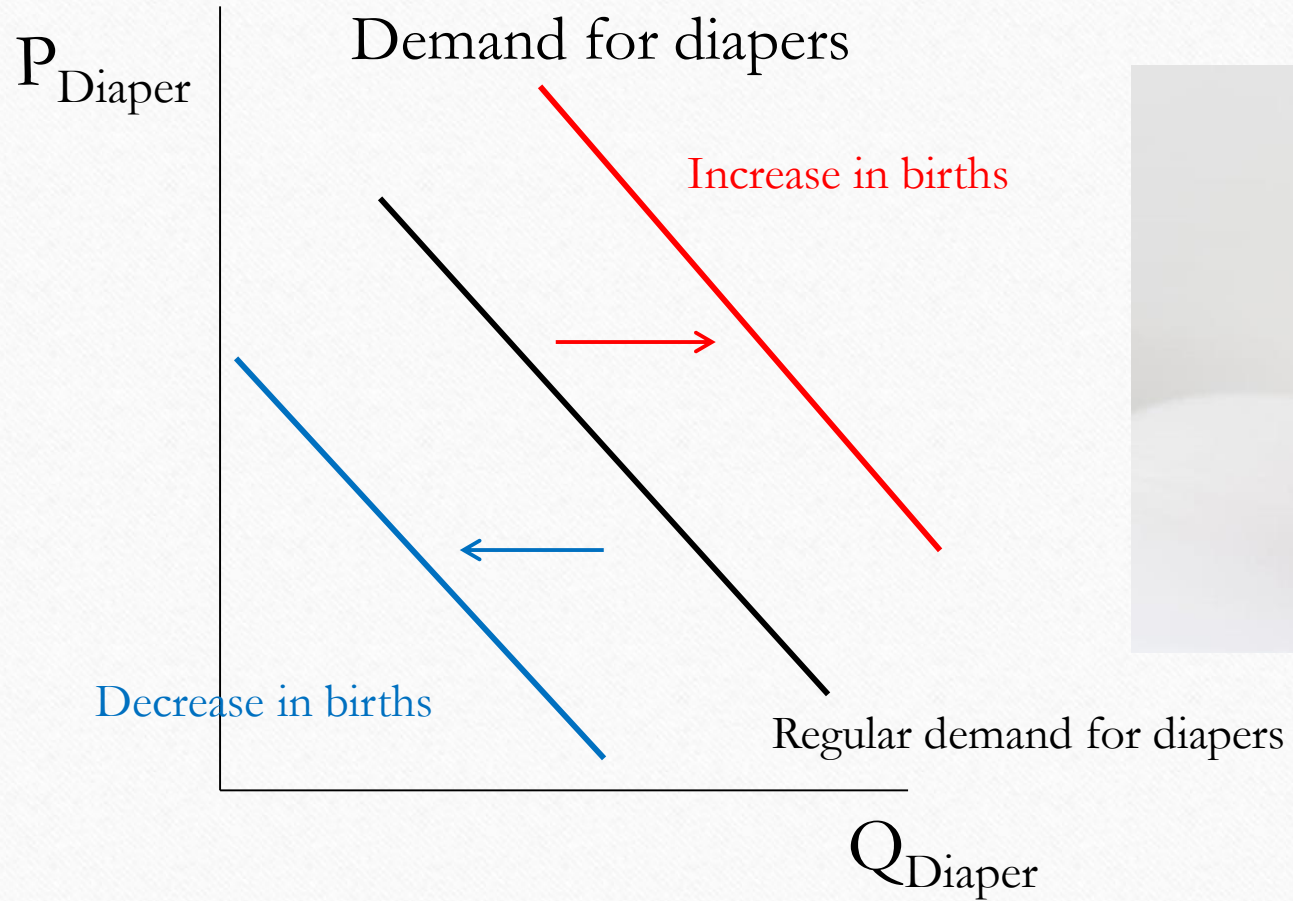
# What happens when there is a **change in tastes?**



# What happens when there is a **change in expectations?**



What happens when there is a **change in the number of buyers**?



# The Supply curve

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# Supply

- Quantity supplied is the amount of a good, service or resource that producers are willing and able to sell at a certain price.
- Think of running (driving) a Taco truck selling Tacos. Quantity supplied is the number of tacos you are willing and able to sell a week at different prices.



# Supply schedule

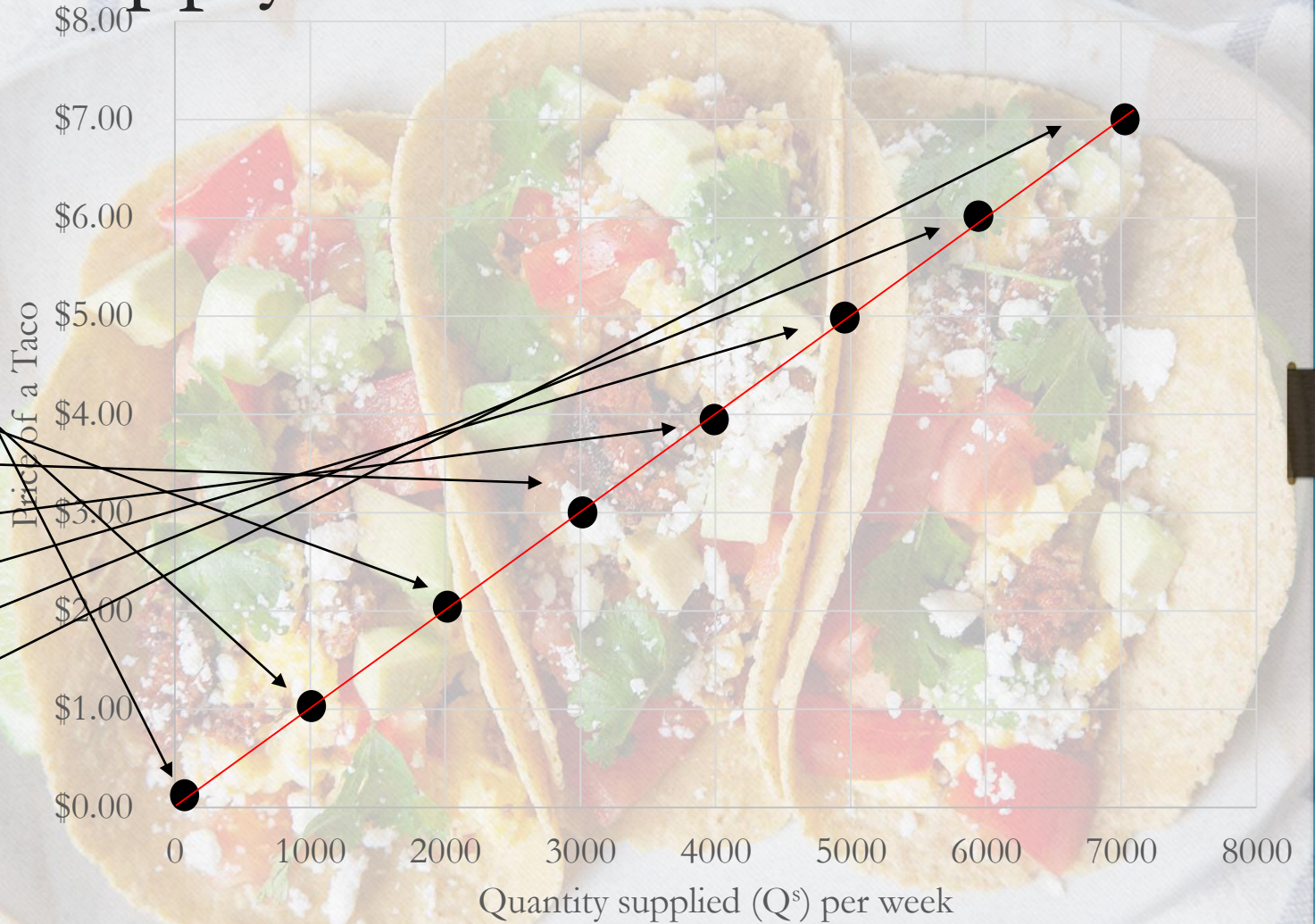


Supply schedule	
price of a taco	Quantity supplied per week (# of tacos)
\$0.00	0
\$1.00	1000
\$2.00	2000
\$3.00	3000
\$4.00	4000
\$5.00	5000
\$6.00	6000
\$7.00	7000

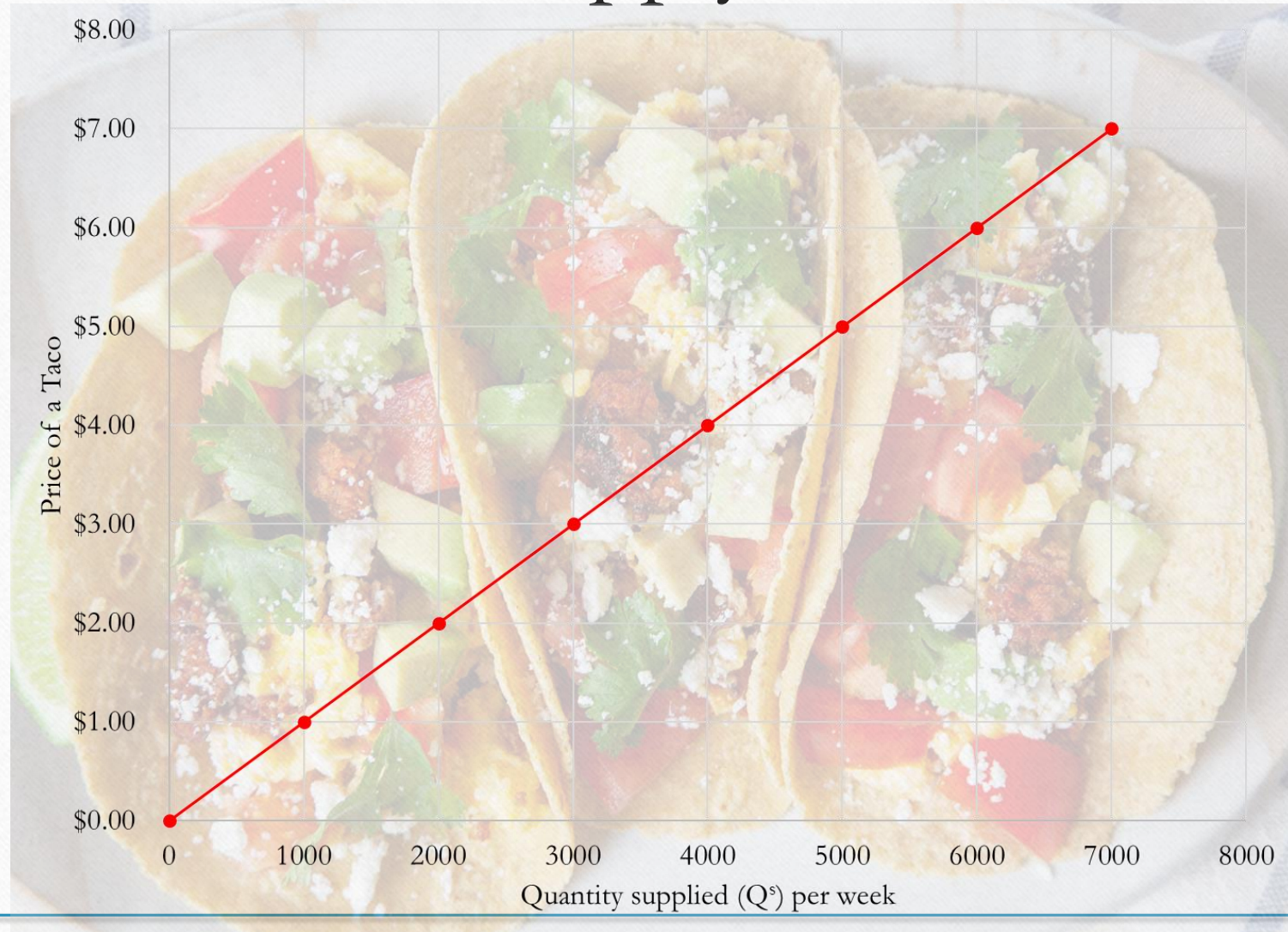
- Supply schedule is a table that shows the relationship between price of a product (or service) and the quantity supplied of the same product (or service).
- Why would you be willing and able to sell more at higher prices?

# Supply curve

Supply schedule	
price of a taco	Quantity supplied per week (# of tacos)
\$0.00	0
\$1.00	1000
\$2.00	2000
\$3.00	3000
\$4.00	4000
\$5.00	5000
\$6.00	6000
\$7.00	7000



# The Supply curve





# The law of supply

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# The law of supply

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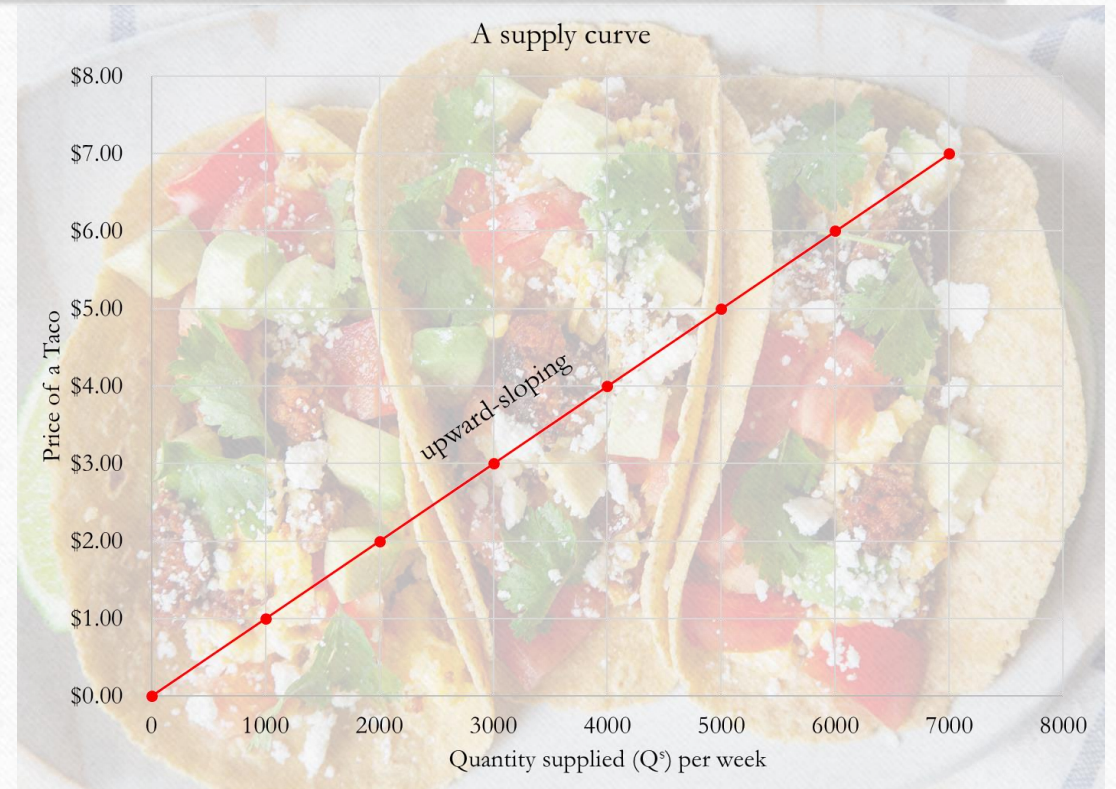
- The law of supply simply states that there is a direct relationship between price and quantity supplied.
- This means that producers tend to want to sell more units when the per unit price is higher, ceteris paribus.
- So, if the price is the only thing we change (and nothing else changes), at lower per unit price seller want to sell fewer units.

# Reason for *ceteris paribus*

- 
- When we state the law of supply we put the Latin phrase ‘*ceteris paribus*’ at the end of the sentence, just like we did for demand.
  - Again, this is so, because there are other factors that determine supply, price is not the only one.
  - We say *ceteris paribus* meaning that these other determinants are not changing along a supply curve.
- Determinants of Supply
    - Price (own price)
    - Input prices
    - Prices of substitutes in production
    - Technology and resources
    - Expectations about the future
    - Number of sellers
    - Taxes on sellers

# The law of supply

- The law of supply means that the supply curve is an upward-sloping line.
- (We will see 2 exceptions to this, a horizontal supply and a vertical supply.)
- An downward-sloping supply would violate the law of supply.

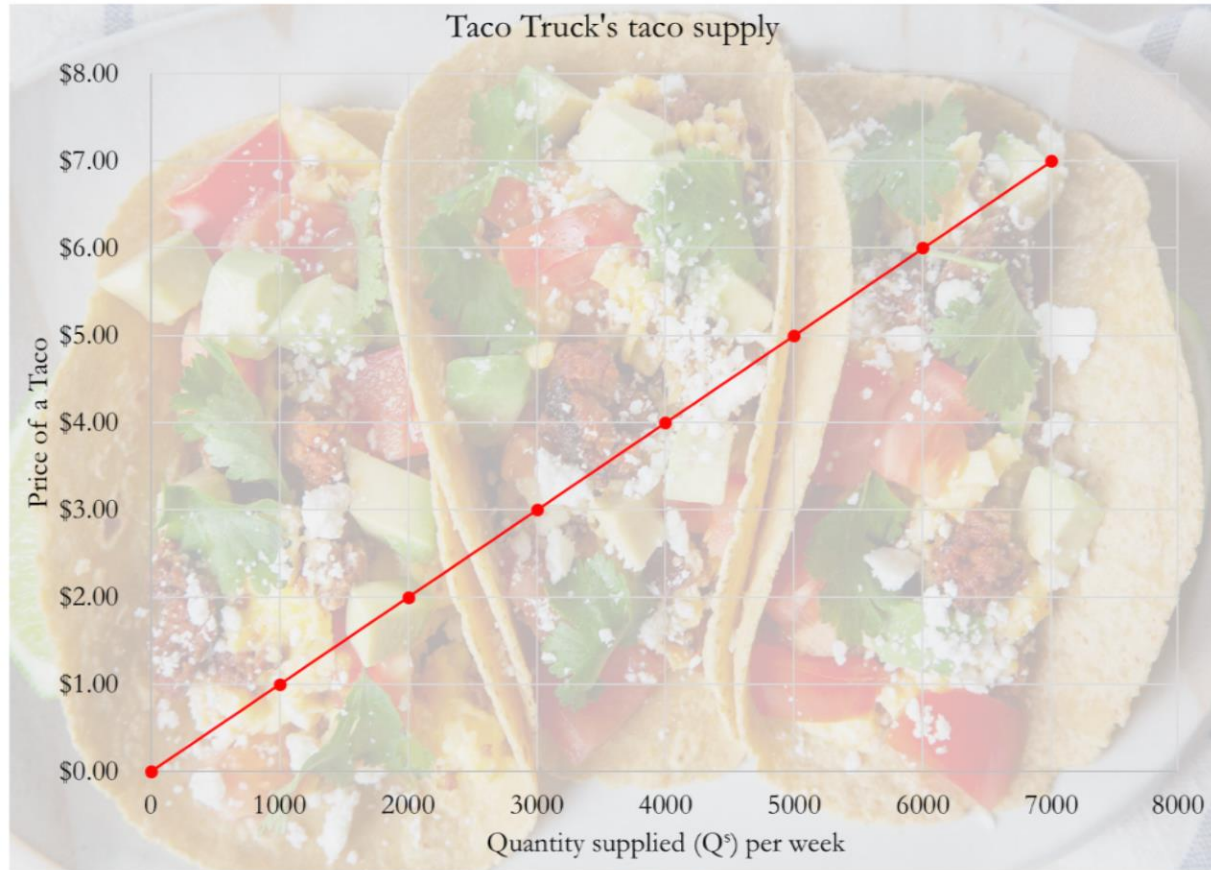


# Market Supply

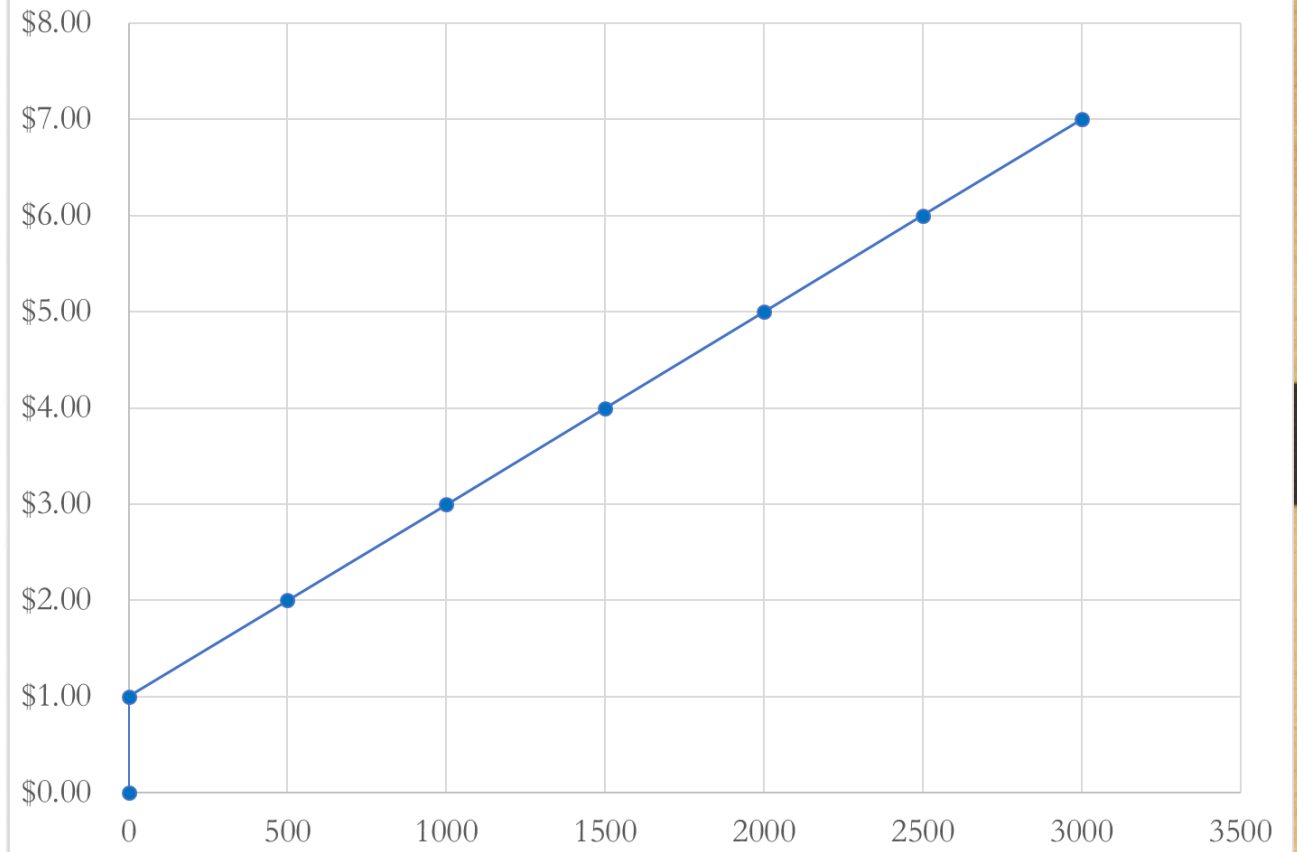
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# Individual supplies

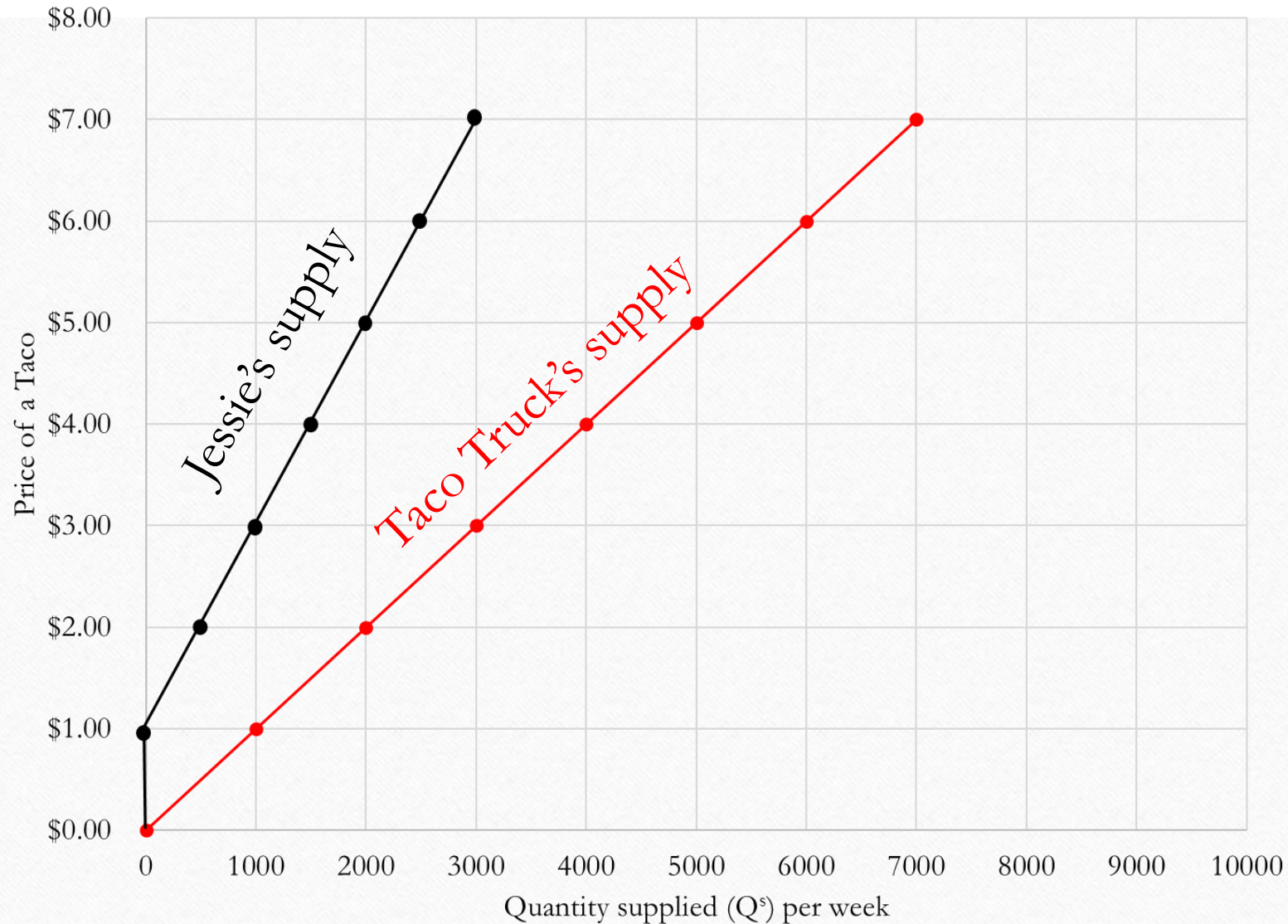
Taco Truck's taco supply



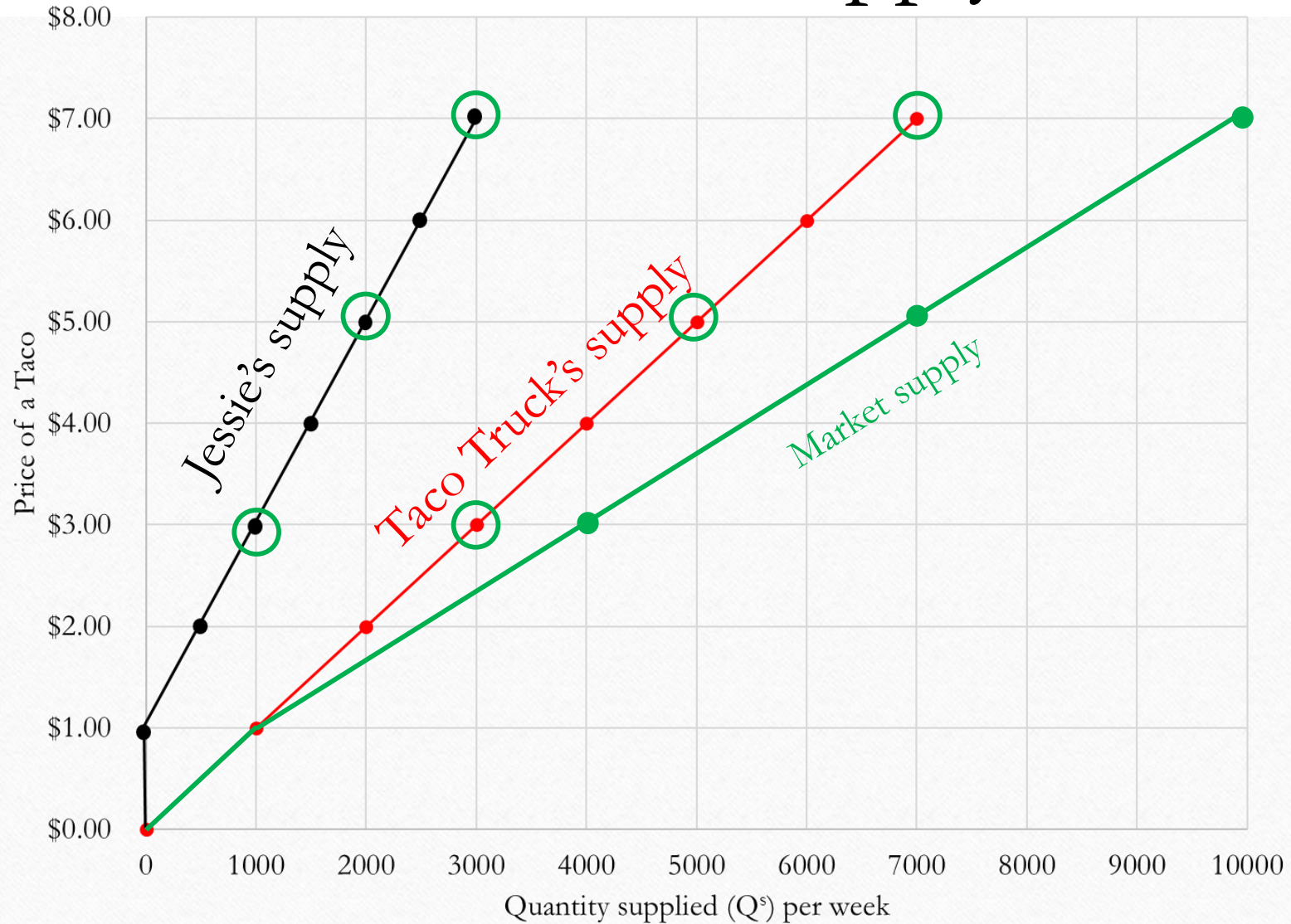
Jessie's supply



# Two individual supply curves on the same graph



# Market supply





# Market supply

price of a taco	Taco Truck's weekly $Q^s$ (# of tacos)	Jessie's weekly $Q^s$	Market $Q^s$
\$0.00	0	0	
\$1.00	1000	0	
\$2.00	2000	500	
\$3.00	3000	1000	
\$4.00	4000	1500	
\$5.00	5000	2000	
\$6.00	6000	2500	
\$7.00	7000	3000	

Change in  $Q^s$  vs  
Change in Supply

# A change of $Q^s$

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- If price changes, it triggers a change in quantity supplied, which is a movement along the supply curve.
- This is so because price is on the vertical axis.
- We drew the supply curve by connecting different quantities supplied at different prices.
- If there is a change in the price, the supply curve already has a quantity supplied for that. We do not need to draw a new supply.

# An increase of Quantity supplied

Price

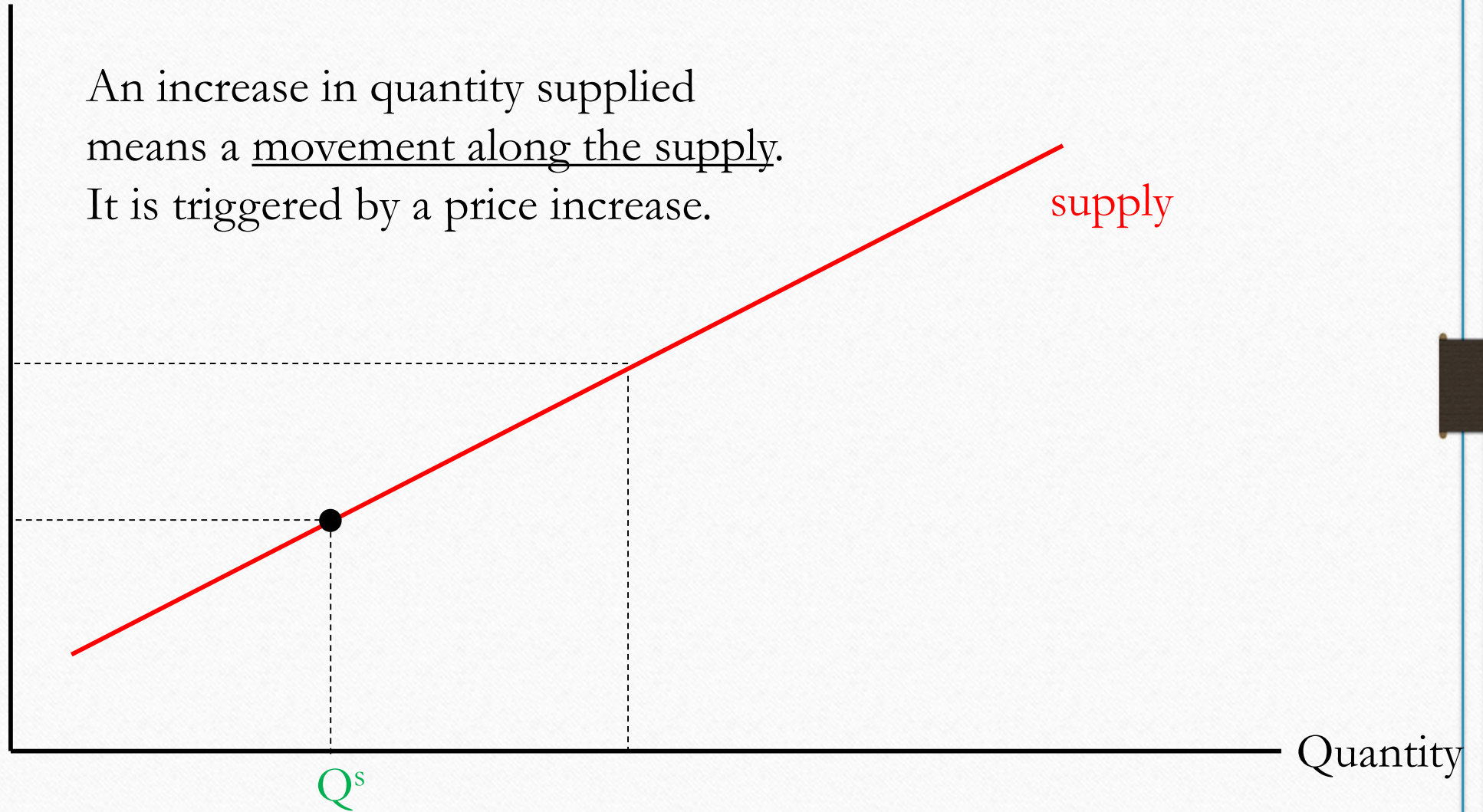
An increase in quantity supplied means a movement along the supply. It is triggered by a price increase.

P

$Q^s$

supply

Quantity



# A decrease of Quantity supplied

Price

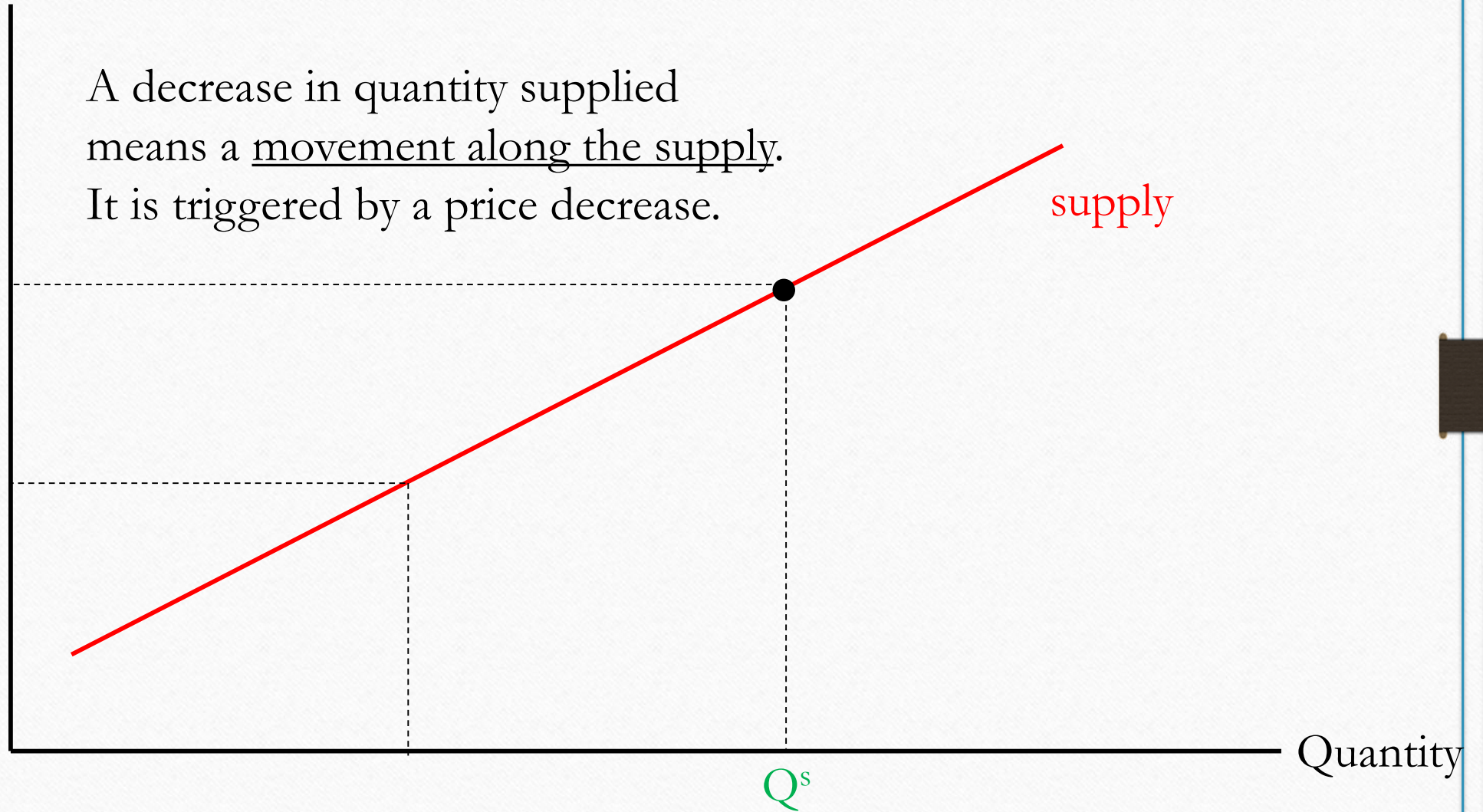
A decrease in quantity supplied means a movement along the supply. It is triggered by a price decrease.

P

supply

$Q^s$

Quantity

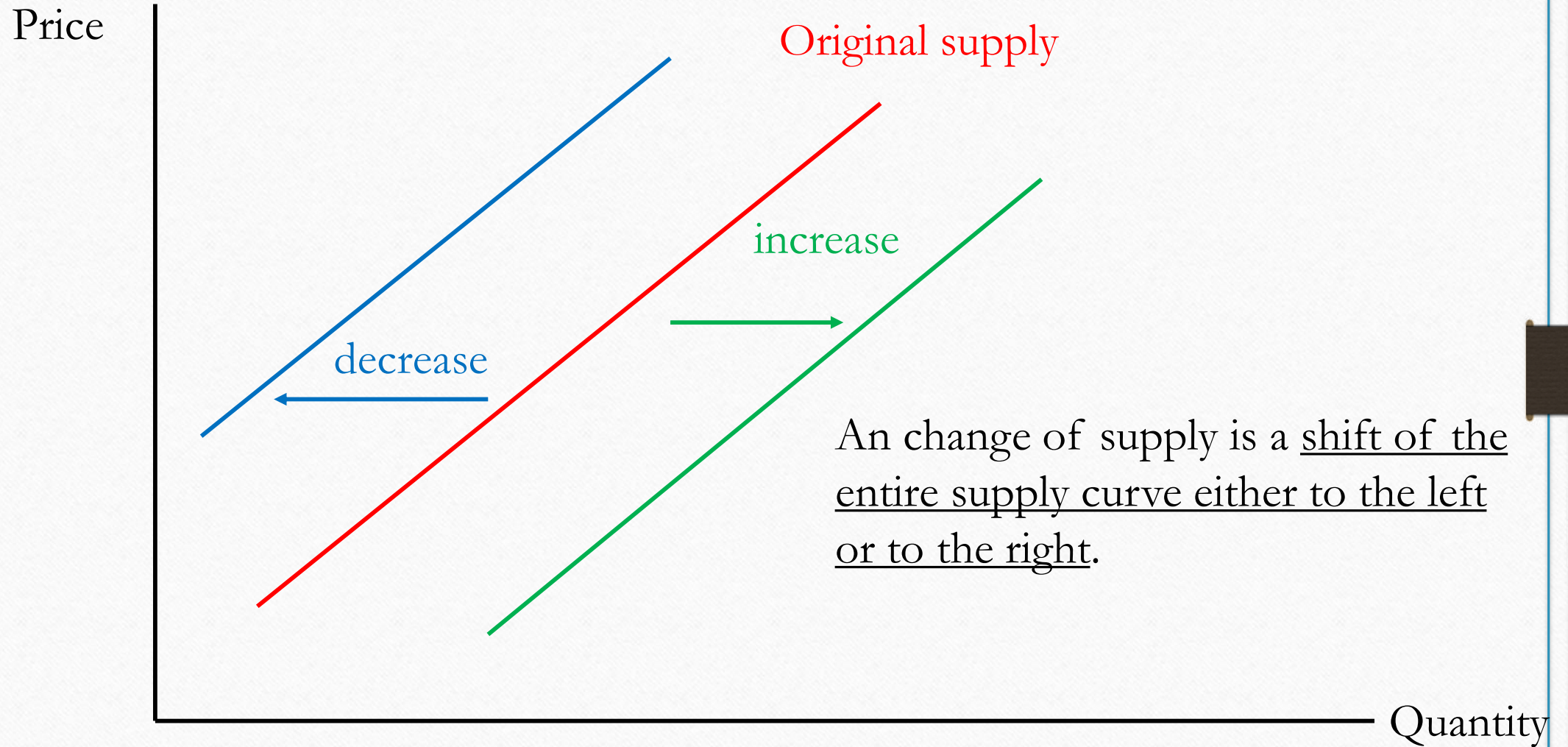


# A change of supply

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- A change of supply is a SHIFT of the overall supply curve.
- An **increase** of supply is a shift to the **right**.
- An **decrease** of supply is a shift to the **left**.
- Such changes are triggered by a change in one of the non-own price determinants of supply.
  - These are Input prices, Technology & Resources, Prices of substitutes in production, expectations about future prices, number of producers, and taxes on sellers.

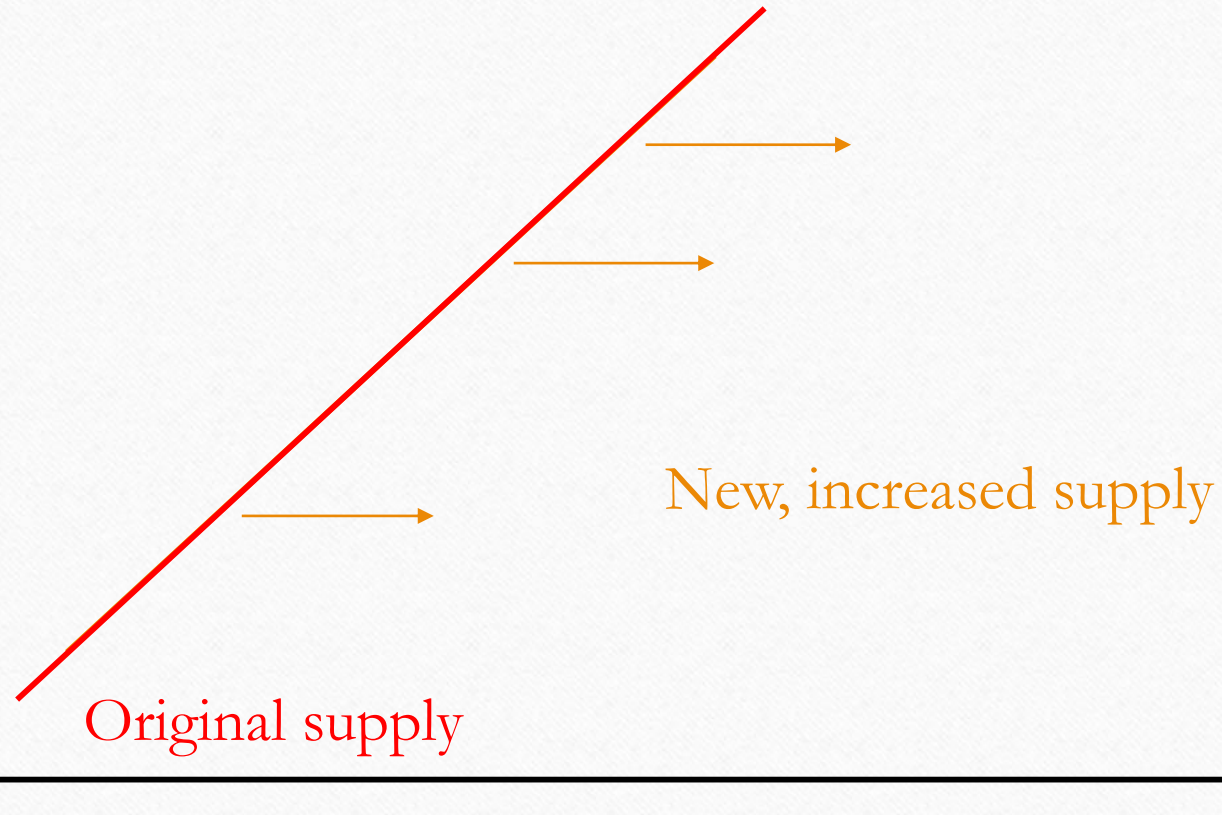
# An change of supply



# An increase of supply

Price

An increase of supply is a shift of the entire supply curve to the right.



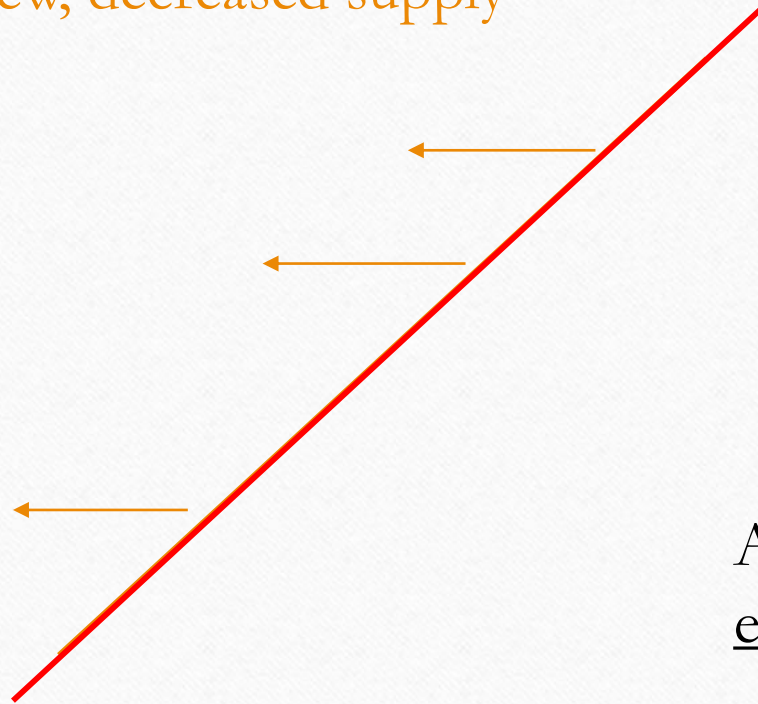


# A decrease of supply

Price

New, decreased supply

Original supply



A decrease of supply is a shift of the entire supply curve to the left.

Quantity

# Determinants of supply

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- Input prices

# Input prices

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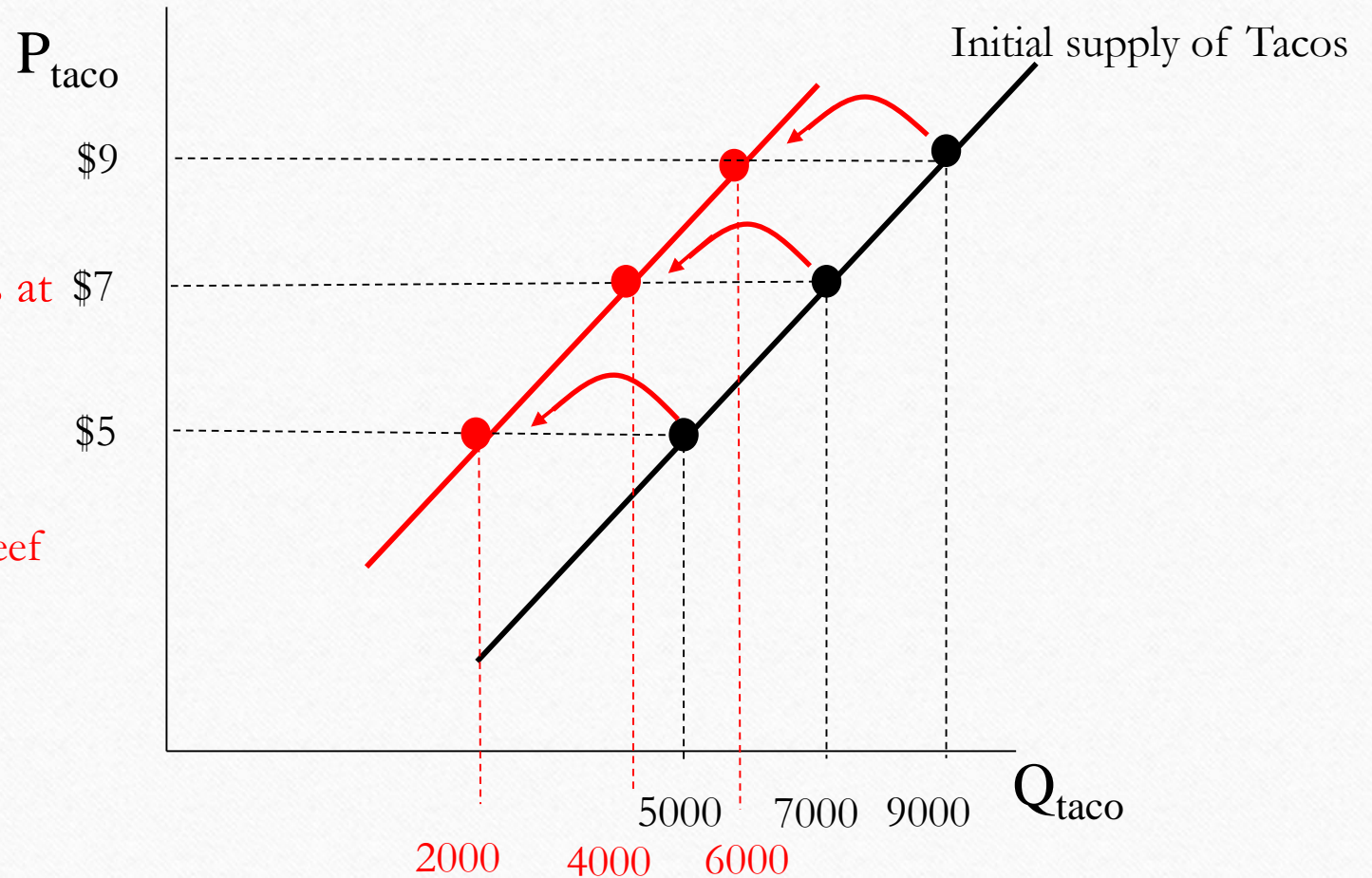
- Input price is one of the SHIFT factors of supply
- If there is a change in the price of an input, you need to shift the supply curve (either to the left or to the right).
- What are input prices?
  - Wages of the workers the producer employs
  - Price of electricity (the business uses)
  - Price of the raw materials (ingredients) the business uses.

# What happens to supply of tacos if the price of beef increases?

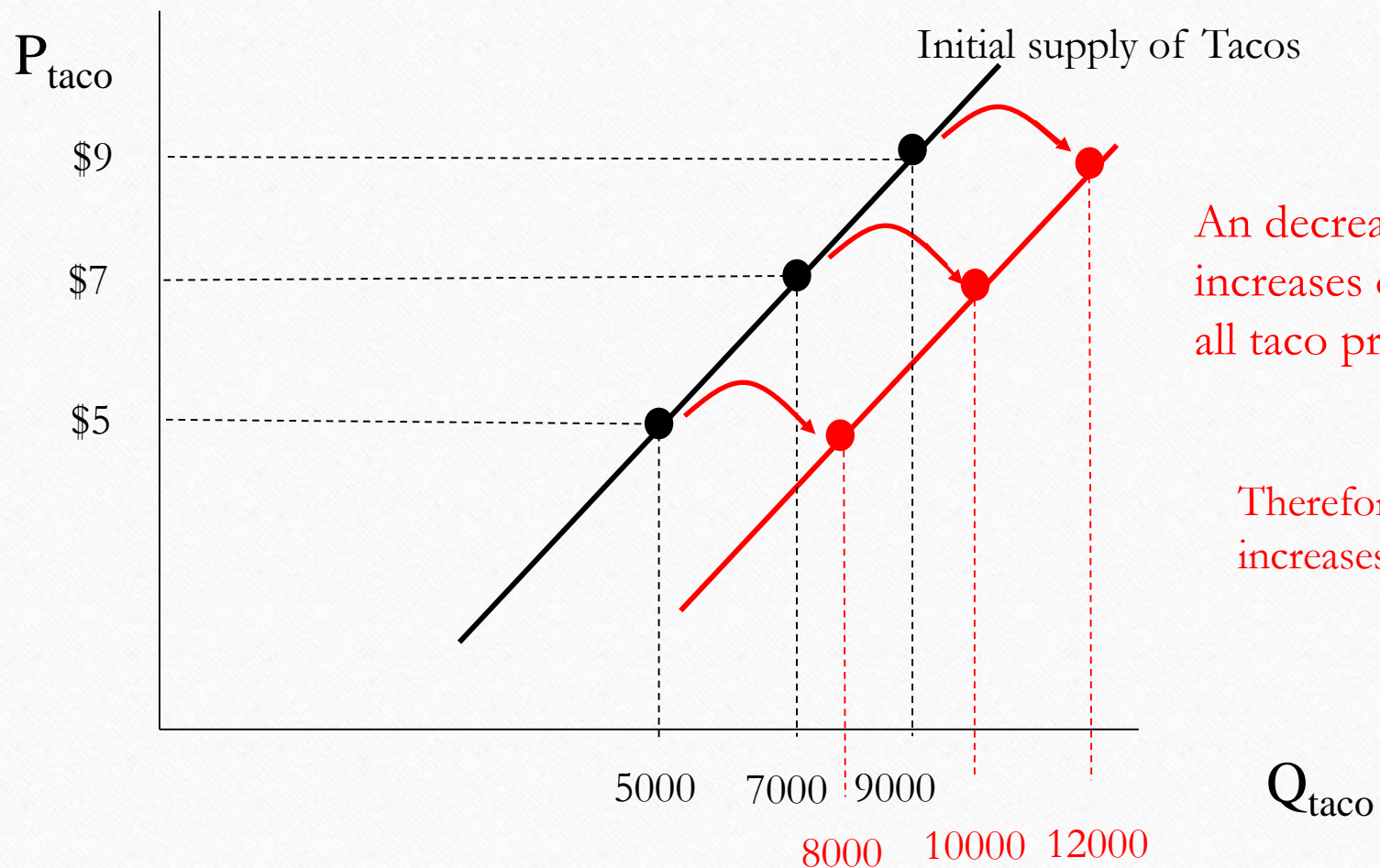
Price of beef (which is an input for your business) increases

An increase in the price of beef decreases quantity supplied of tacos at all taco prices.

Therefore, an increase in the price of beef decreases the supply of tacos.



# What happens to supply of tacos if the price of beef drops?



Price of beef (which is an input for your business) drops

An decrease in the price of beef increases quantity supplied of tacos at all taco prices.

Therefore, a decrease in the price of beef increases the supply of tacos.

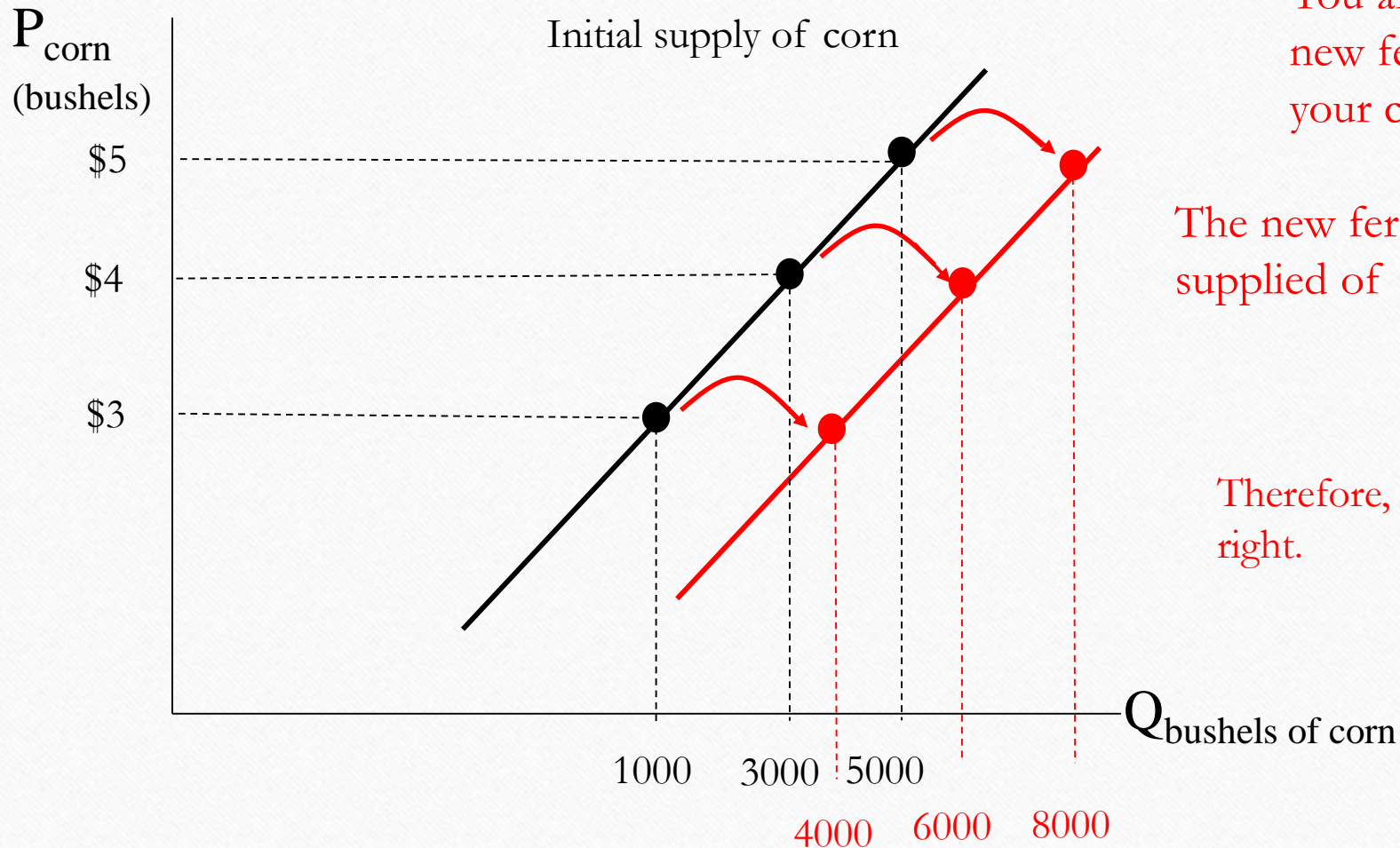
Determinants of supply –  
Technology and resources

# Technology and resources

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- Changes in technology and resources used in the production will SHIFT supply
- What kind of changes are we talking about?
  - Improvement in technology
    - The invention of computers, the internet, etc. had a huge impact on many industries, making it easier to produce goods or services
  - One of your workers invents a more efficient production method
  - But it could also be a natural disaster that destroys factories

# A new fertilizer results in increased corn yield I.



You are a farmer and invent a new fertilizer which increases your corn yield

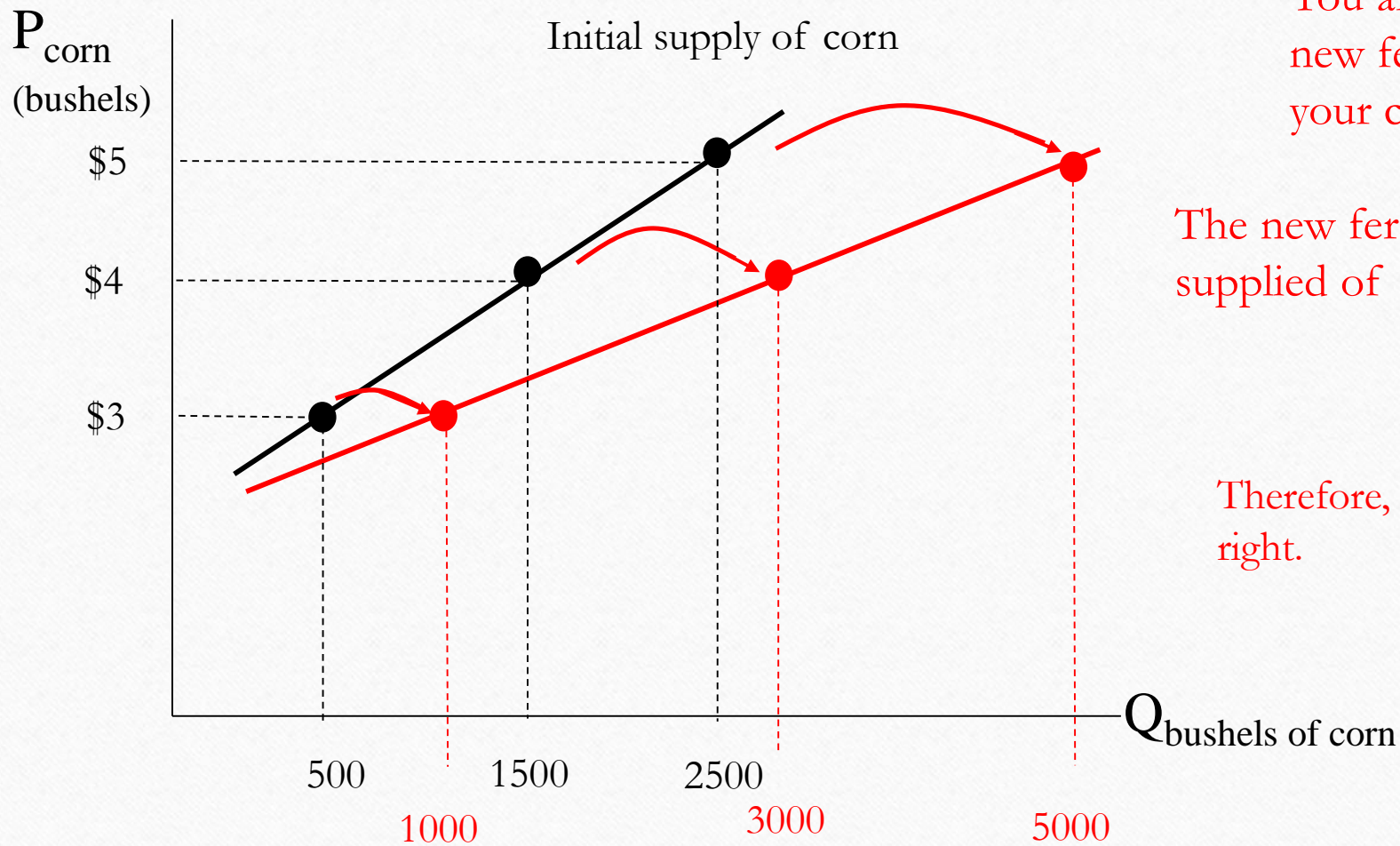
The new fertilizer increases the quantity supplied of corn at all corn prices.

Therefore, the supply of corn shifts to the right.





# A new fertilizer results in increased corn yield II.



You are a farmer and invent a new fertilizer which increases your corn yield

The new fertilizer increases the quantity supplied of corn at all corn prices.

Therefore, the supply of corn shifts to the right.



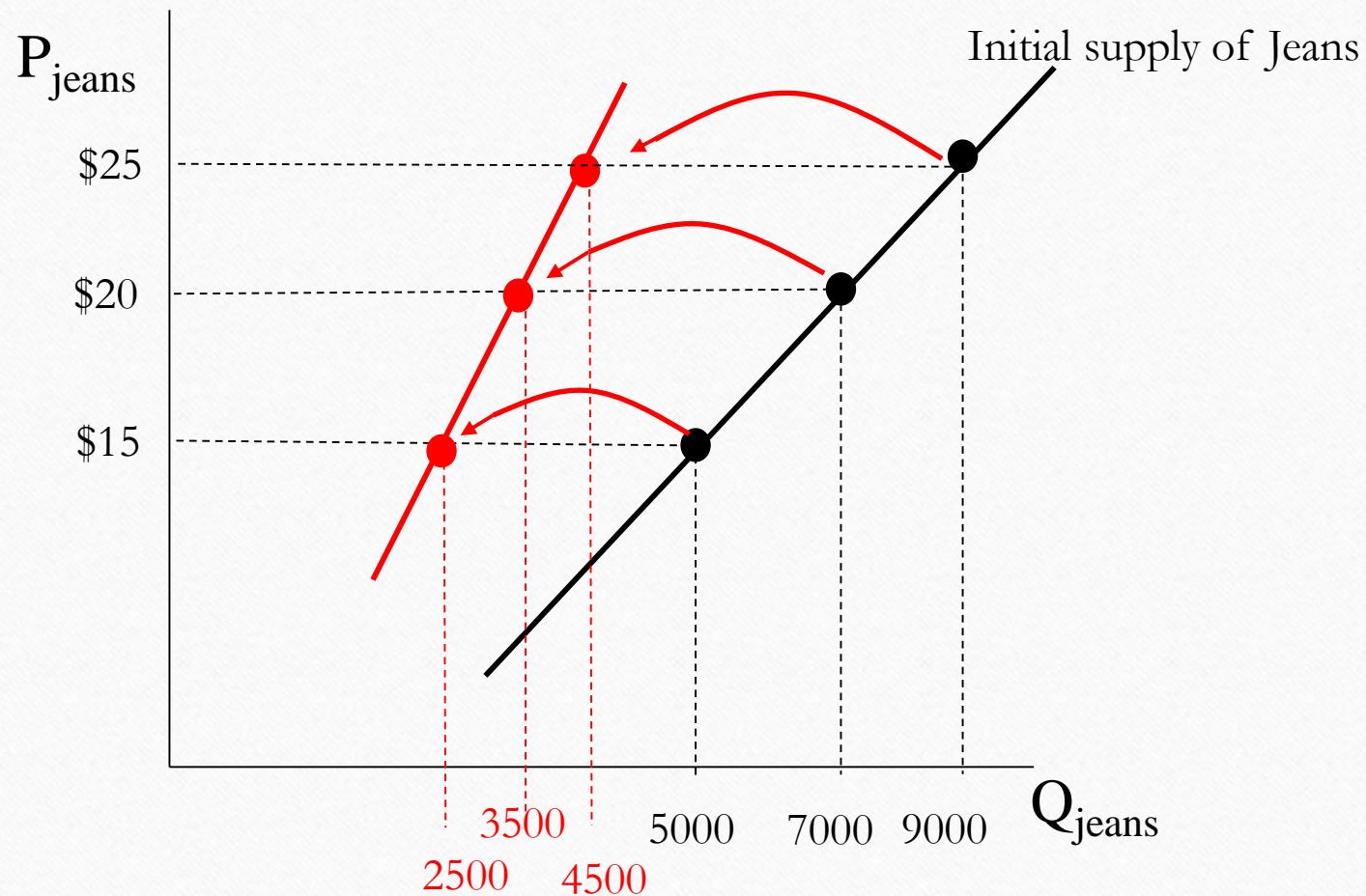
# Bad weather destroys some of our production facilities

Bad weather



One factory has to temporarily shut down due to serious damages.

Therefore, supply decreases (or quantity supplied decreases at every price).



Determinants of supply –  
expectations, number of  
sellers

# Expectations about future prices

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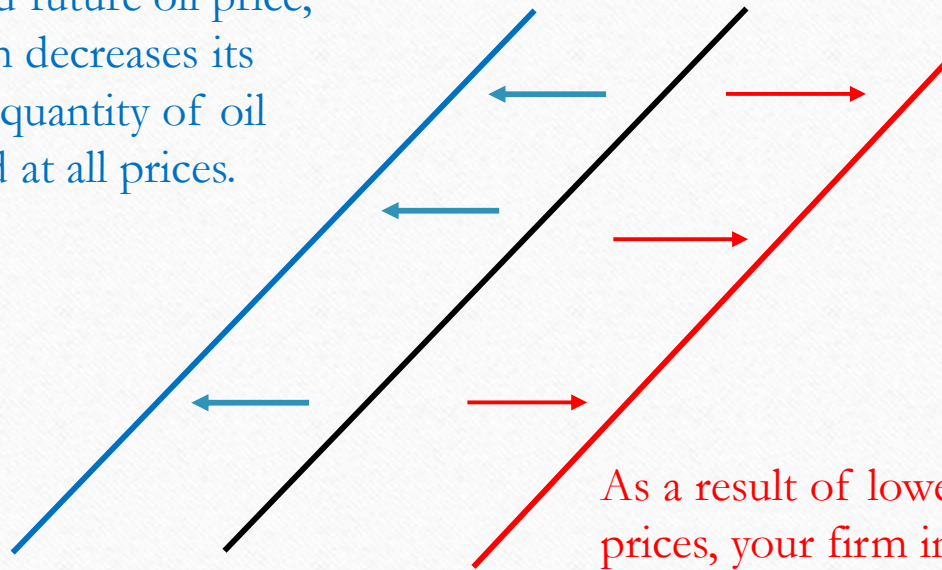
- Expectations are quite important to producers as well (not just consumers)
- Producers may slow down or ramp up production based on what they anticipate the future brings

# Expectation about future prices

$P_{\text{current}}$   
oil price  
(per  
barrels)

As a result of the higher expected future oil price, you firm decreases its current quantity of oil supplied at all prices.

Initial (current) supply of oil



You believe future oil prices will be higher



You believe future oil prices will be lower

As a result of lower expected future oil prices, your firm increases current quantity of oil supplied at every current price.

$Q_{\text{barrels of oil}}$

# Number of sellers

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- Number of producers is also a determinant whose change SHIFTS supply.
- New firms are created and cease to exist every day.

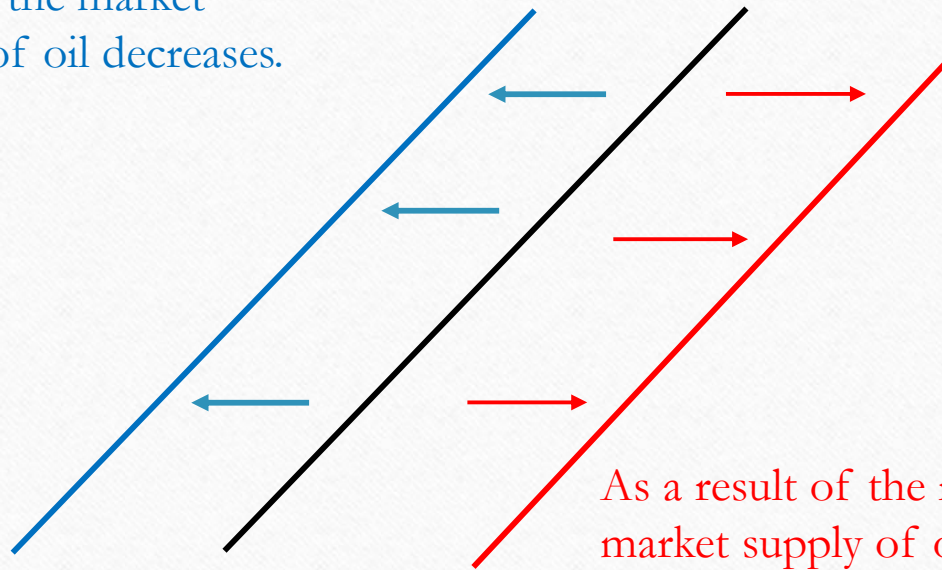
# A change in the number of sellers

$P_{\text{oil price}}$   
(per barrel)

As a result of some firms folding, the market supply of oil decreases.

Initial market supply of oil

New firms start drilling and producing oil



Some oil producers close down the business.

As a result of the new producers the market supply of oil shifts to the right.

$Q_{\text{barrels of oil}}$

# Demand & Supply – Equilibrium



# Supply and Demand Together

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- Equilibrium Price: The price that balances supply and demand. On a graph, it is the price at which the supply and demand curves intersect.
- Equilibrium Quantity: The quantity that balances supply and demand. On a graph it is the quantity at which the supply and demand curves intersect.

# Supply and Demand Together

**Demand Schedule**

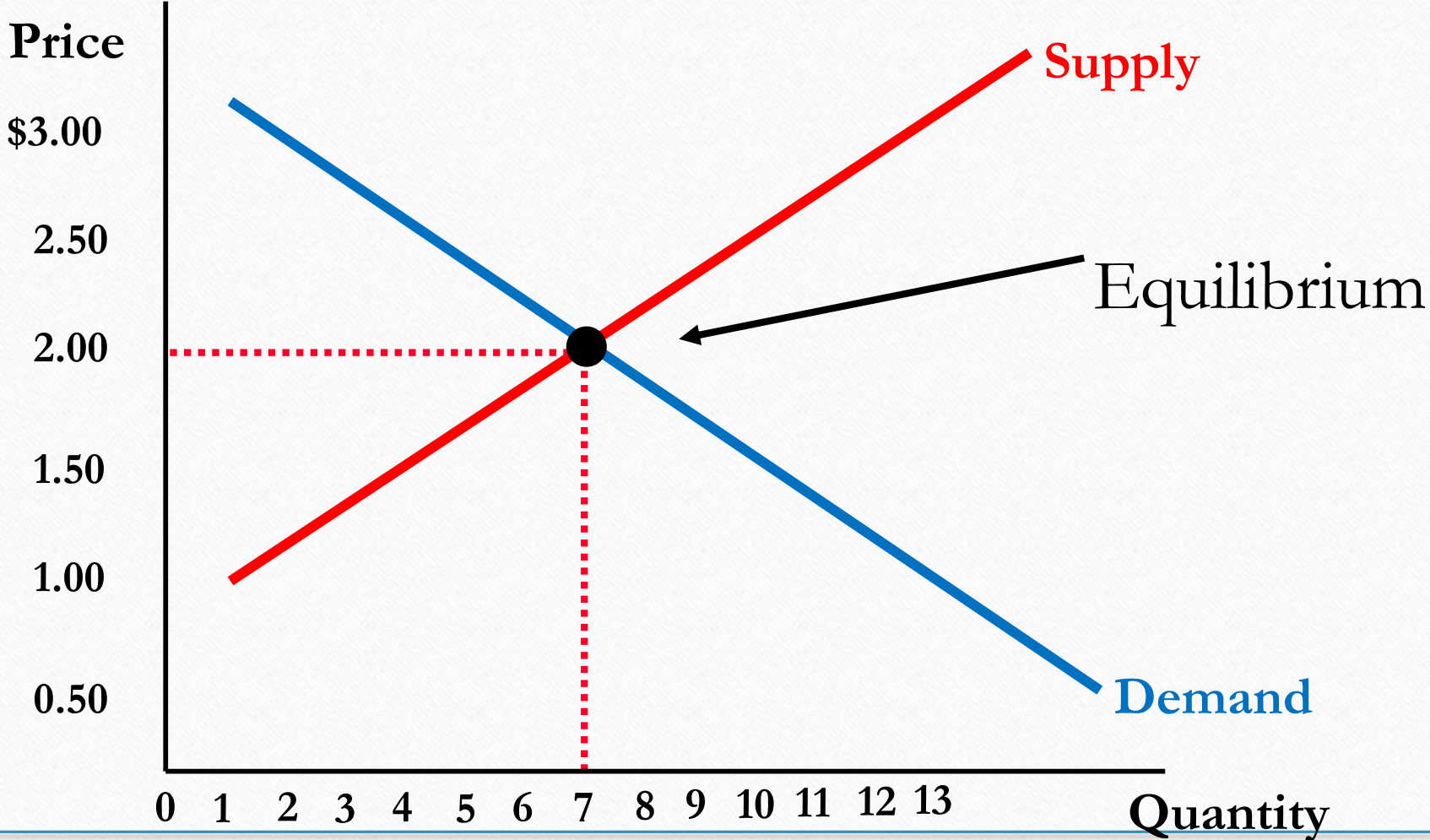
Price	$Q^d$
\$0.00	19
\$0.50	16
\$1.00	13
\$1.50	10
\$2.00	7
\$2.50	4
\$3.00	1

**Supply Schedule**

Price	$Q^s$
\$0.00	0
\$0.50	0
\$1.00	1
\$1.50	4
\$2.00	7
\$2.50	10
\$3.00	13

**At \$2.00, the quantity demanded is equal to the quantity supplied!**

# Market Equilibrium



Disequilibrium:  

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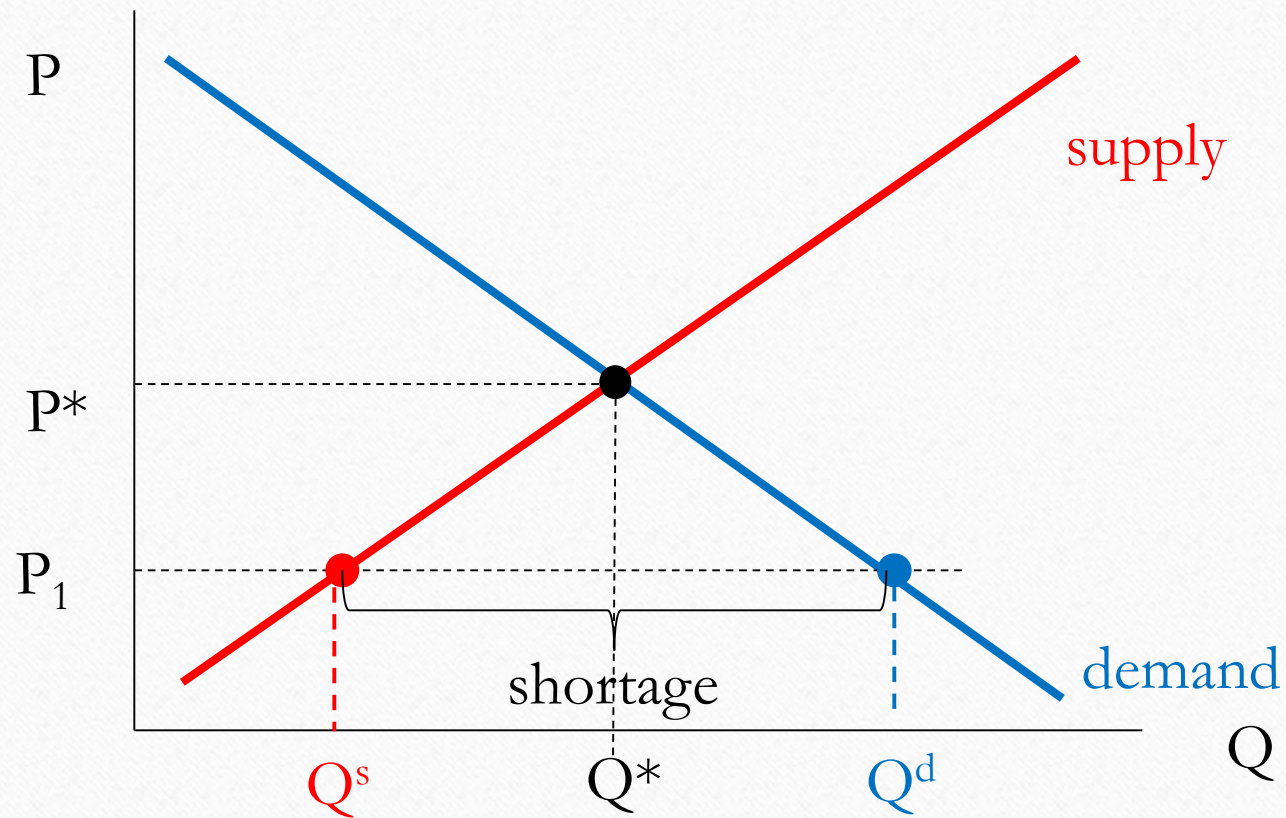
Shortages

# Shortage

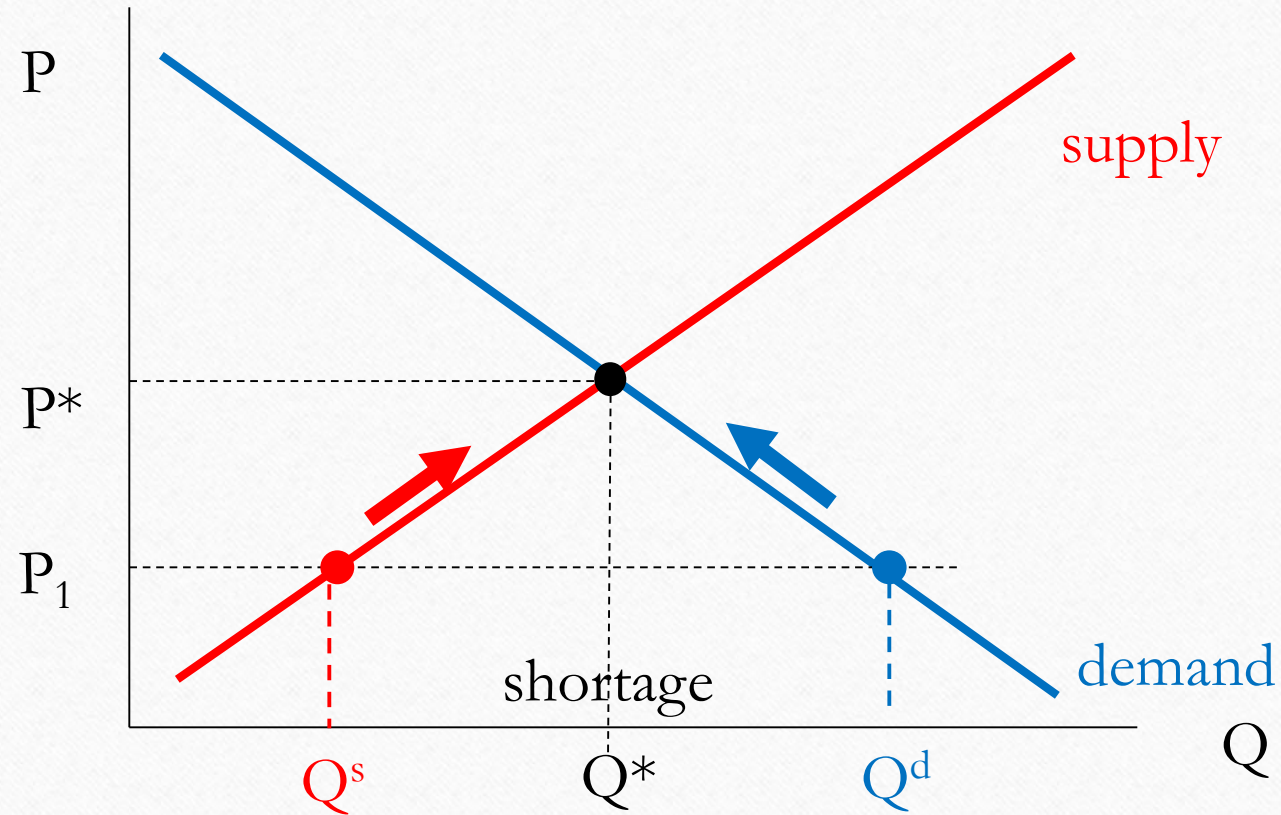
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- When the price is **below** the equilibrium price, the quantity demanded **exceeds** the quantity supplied. There is what we call excess demand or a **shortage**.

# Draw a graph with a shortage



What happens when there is a shortage and the market is left on its own?



Disequilibrium: Surplus

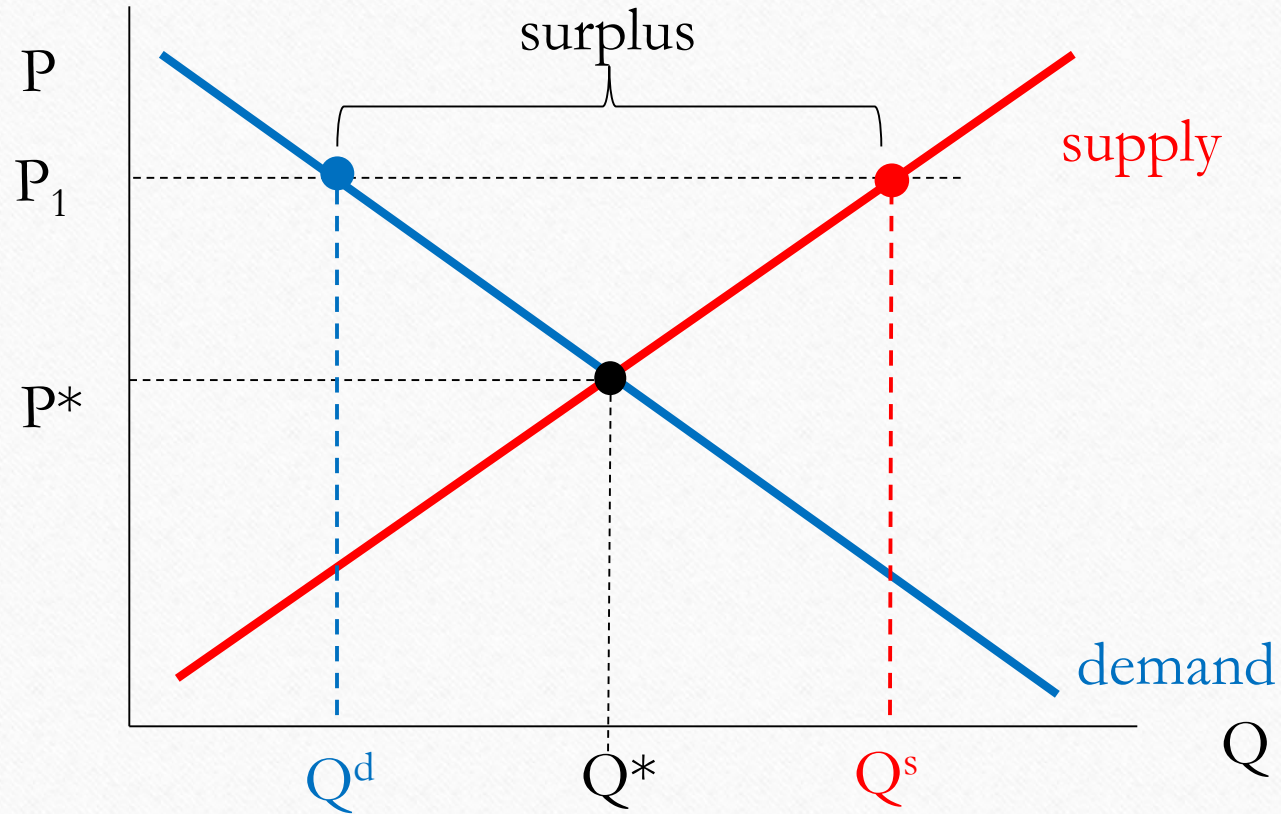


# Surplus

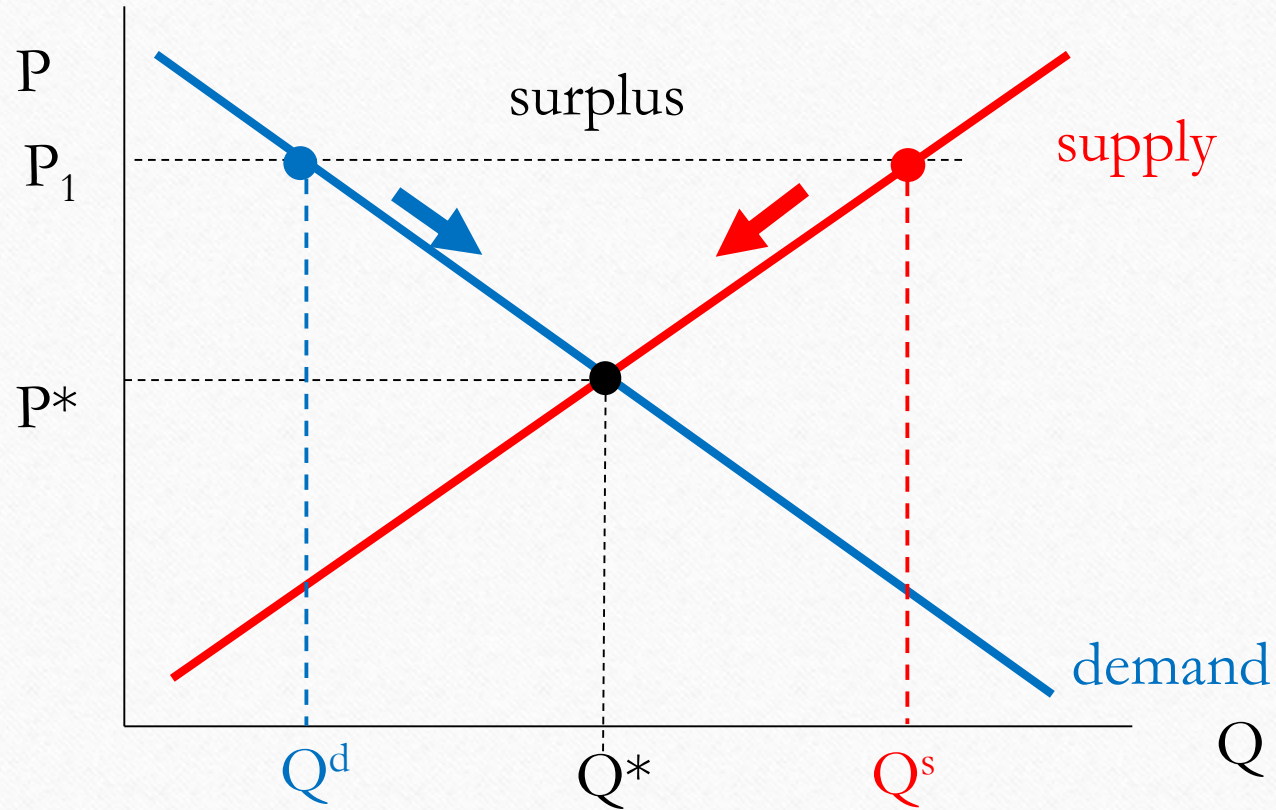
---

- When the price is **above** the equilibrium price, the quantity supplied **exceeds** the quantity demanded. This is what we call excess supply or a **surplus**.

# Draw a graph with a surplus



What happens when there is a shortage and the market is left on its own?



Change in Equilibrium:  

---

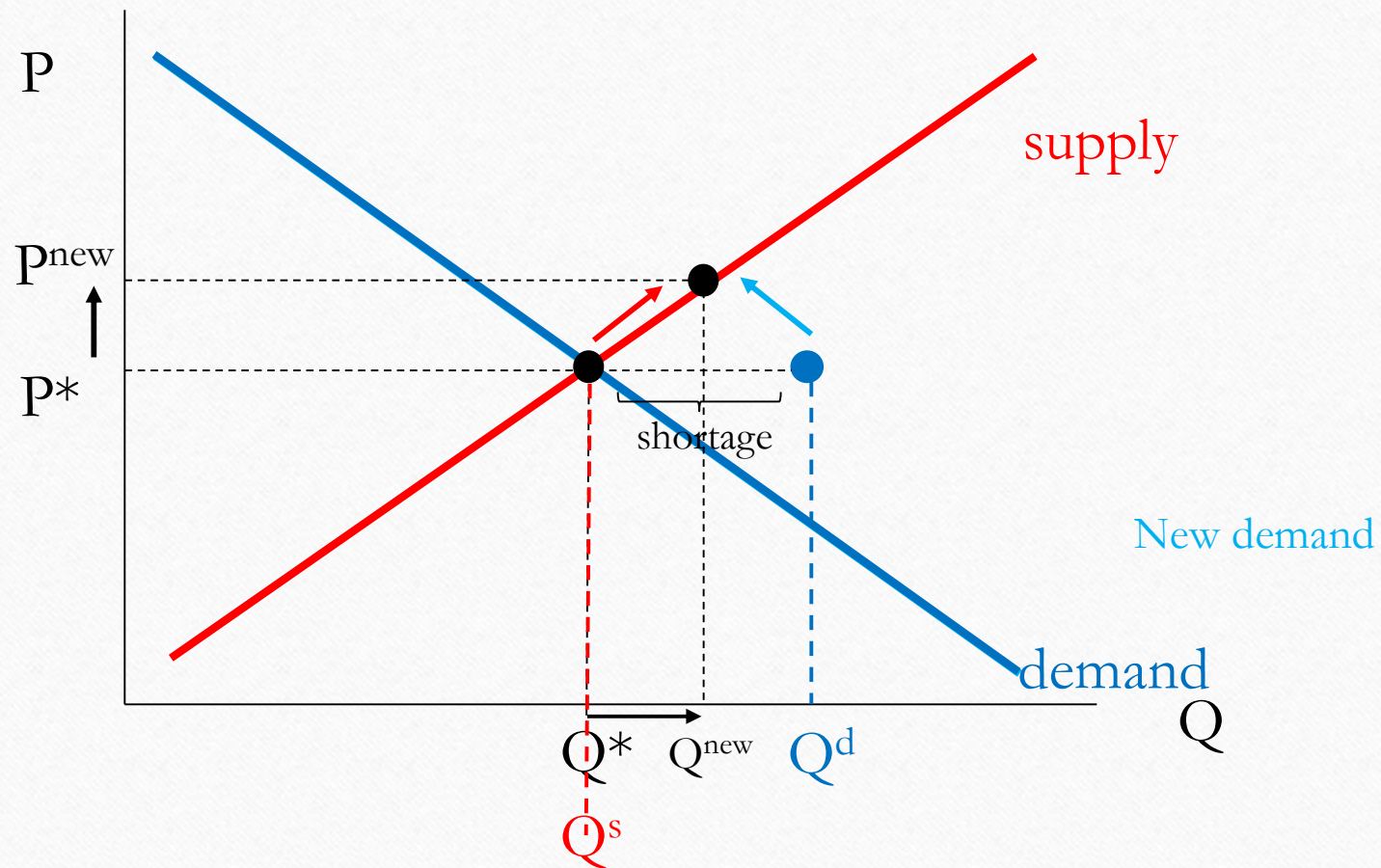
Change in Demand

# Change of Demand

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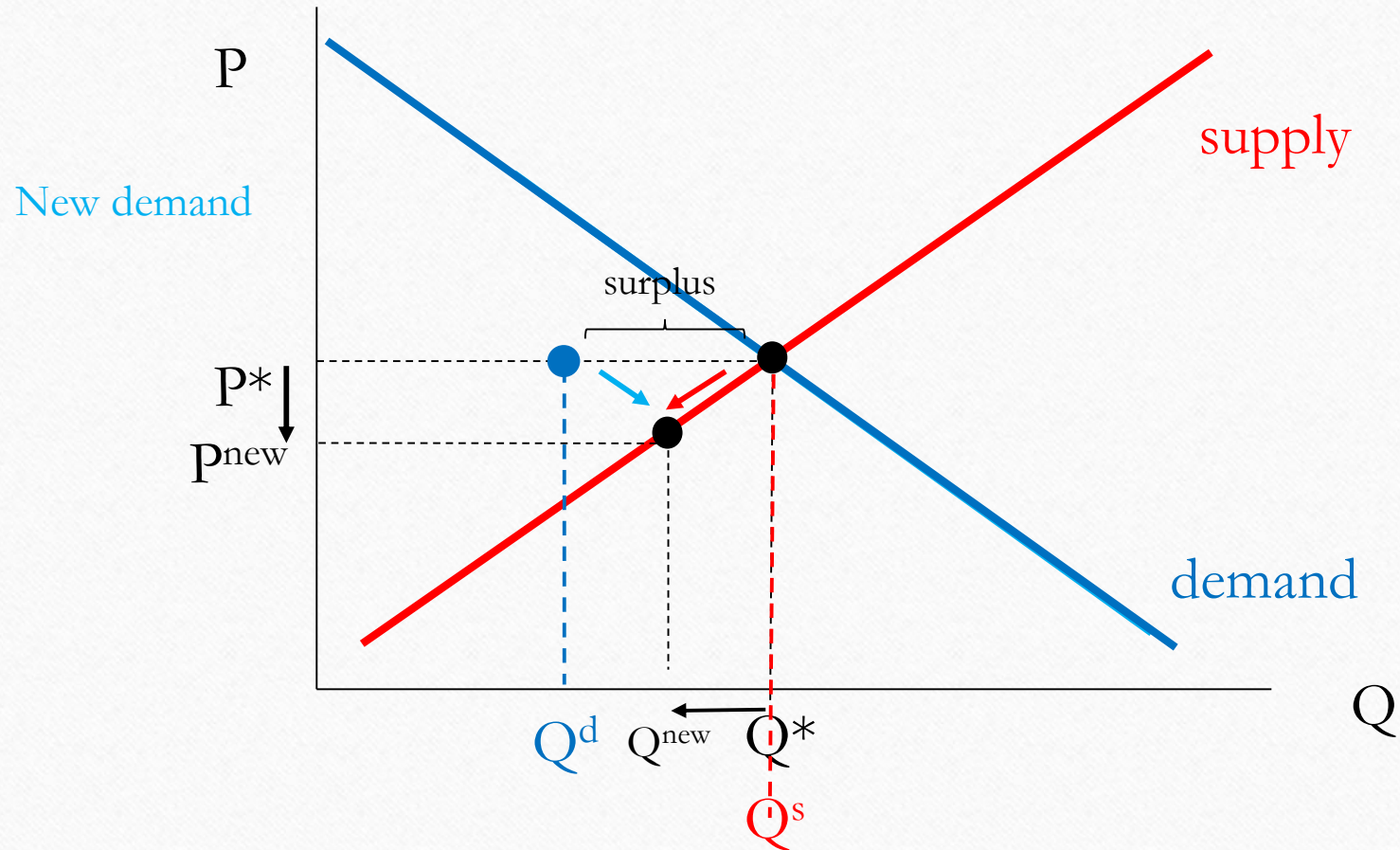
- Imagine that the market starts out in equilibrium and then, there is a change in demand.
- If that change in demand is instantaneous, the market will be out of the old equilibrium and will gravitate toward a new equilibrium.

# An increase of demand



	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*		
Demand Increases	P increases Q increases		
Demand Decreases			

# A decrease of demand





	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*		
Demand Increases	P increases Q increases		
Demand Decreases	P decreases Q decreases		

Change in Equilibrium:

---

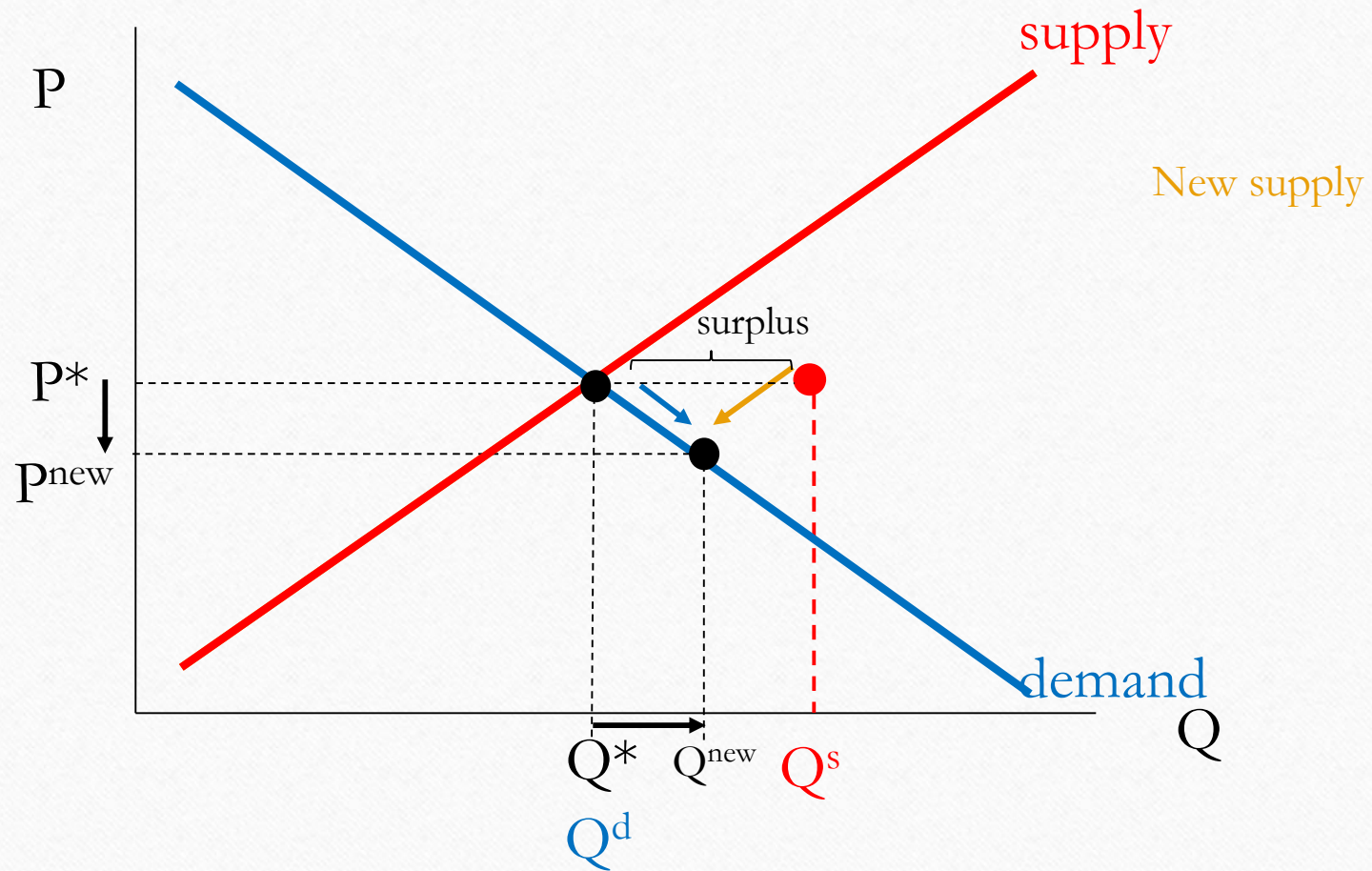
Change in Supply

# Change of Supply

---

- Imagine that the market starts out in equilibrium and then, there is a change in supply.
- If that change in supply is instantaneous, the market will be out of the old equilibrium and either have a surplus or a shortage (depending what the change in supply was).
- With time, if the market is left on its own, it will gravitate toward a new equilibrium.

# An increase of supply



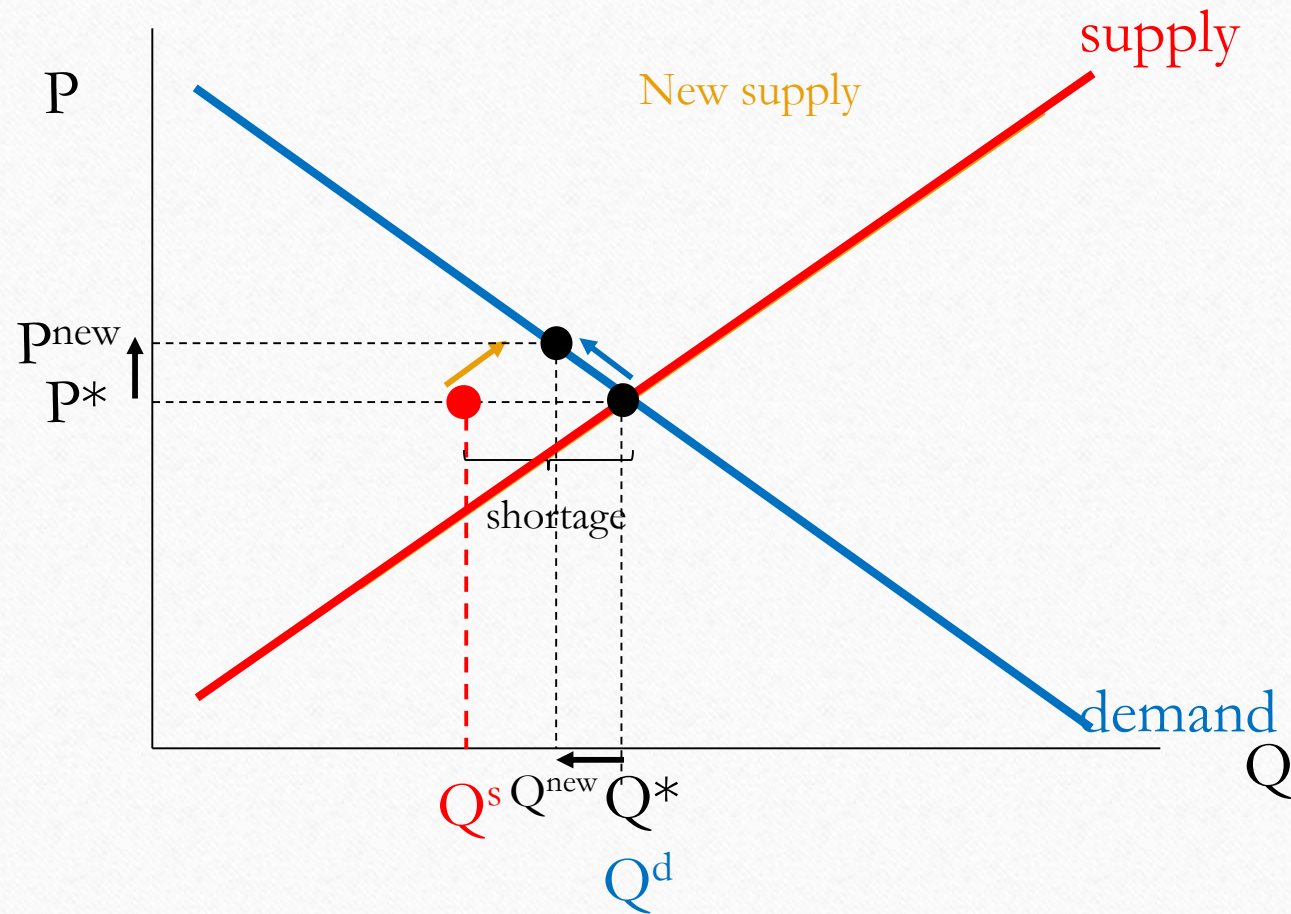
	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	
Demand Increases	P increases Q increases		
Demand Decreases	P decreases Q decreases		

# What can cause an increase of Supply?

---

- A decrease in the price of an input
- Technological improvement (or extra resources)
- Sellers expect future prices to drop
- A decrease in the price of a substitute in production
- An increase in the number of sellers

# An decrease of supply



	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	P increases Q decreases
Demand Increases	P increases Q increases		
Demand Decreases	P decreases Q decreases		



# What can cause a decrease of Supply?

---

- An increase in the price of an input
- Technological deterioration (or resources are destroyed)
- Sellers expect future prices to increase
- An increase in the price of a substitute in production
- A decrease in the number of sellers

Change in Equilibrium:

---

Complex changes

# Complex changes

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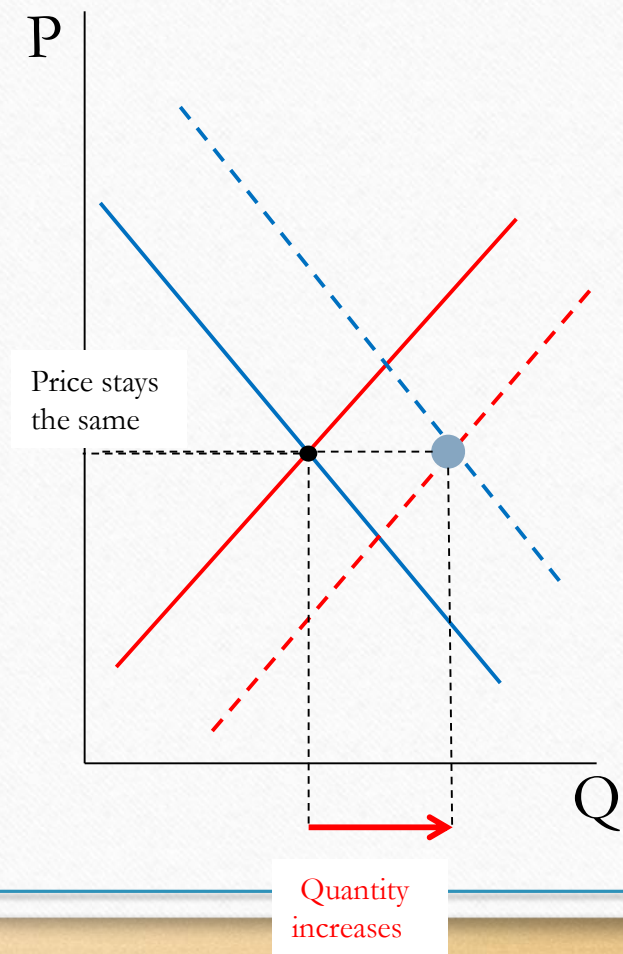
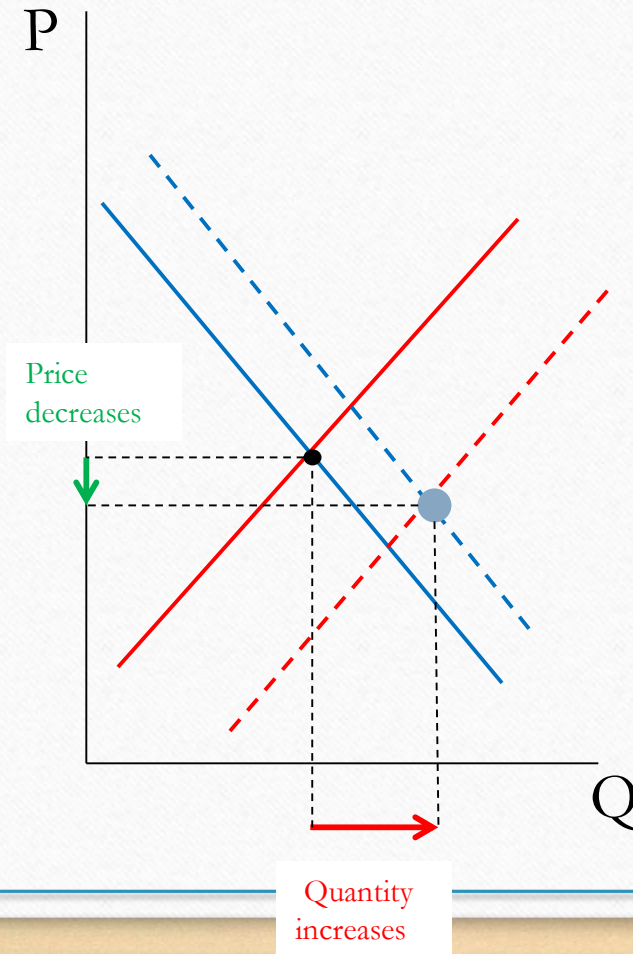
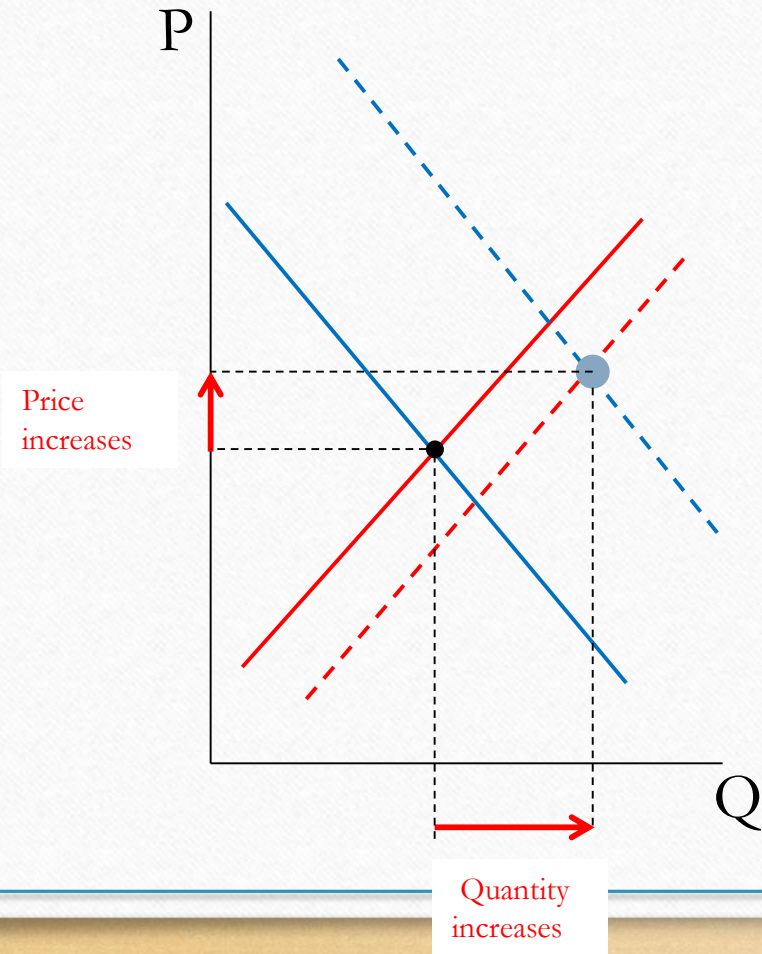
- We are analyzing the impact when both the demand and the supply change simultaneously.
- 1) Demand increases, Supply increases
- 2) Demand increases, Supply decreases
- 1) Demand decreases, Supply increases
- 1) Demand decreases, Supply decreases

# Increase of Demand, Increase of Supply

A

B

C



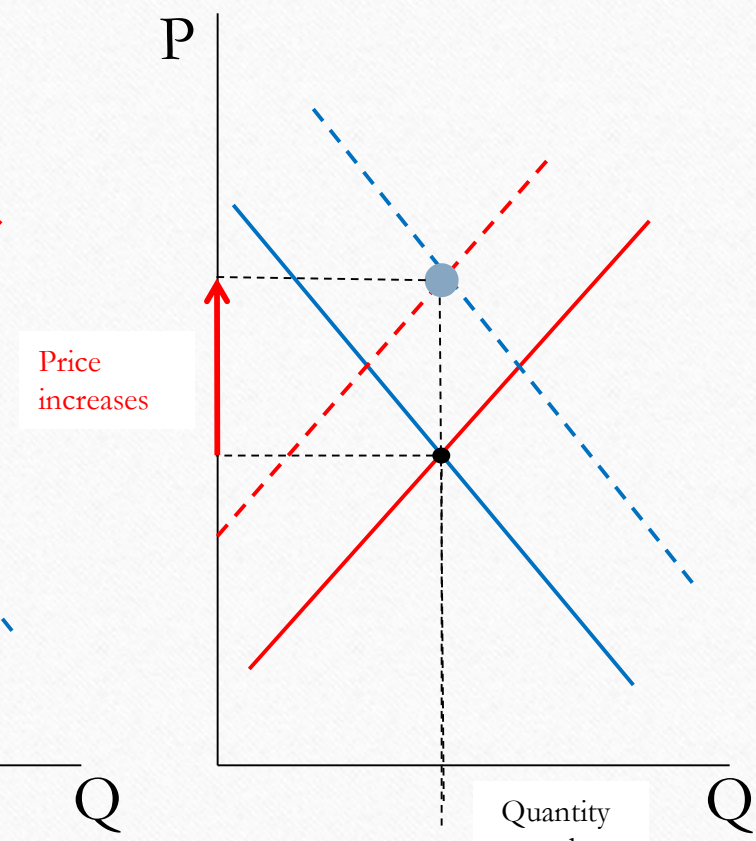
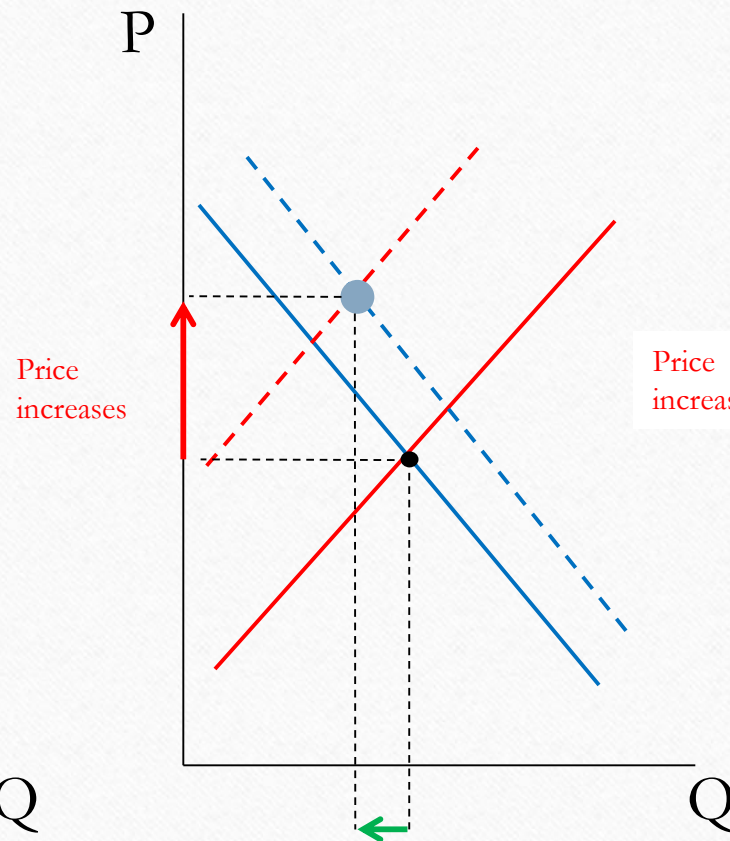
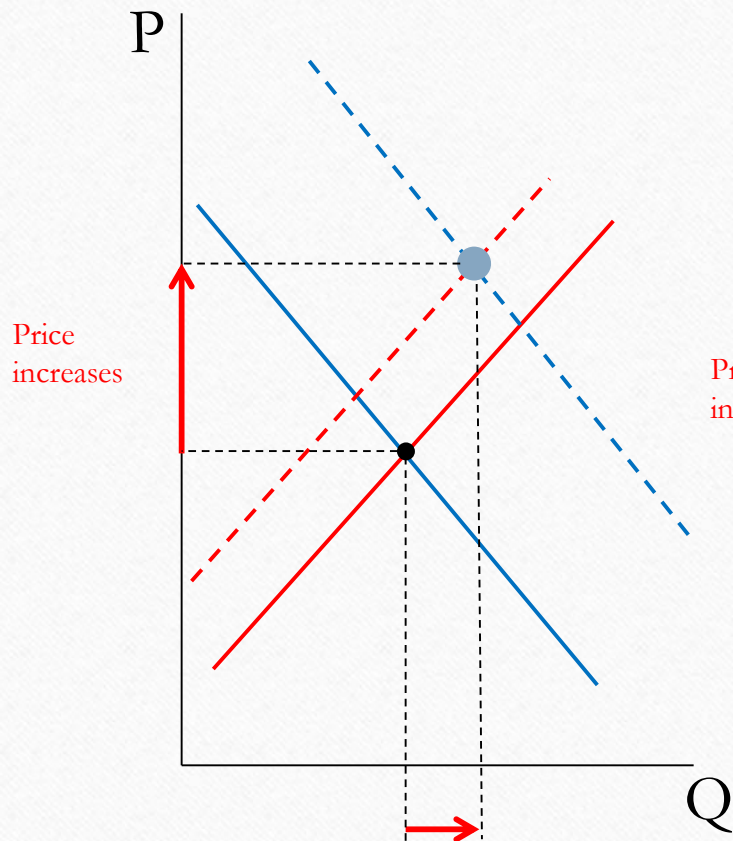
	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	P increases Q decreases
Demand Increases	P increases Q increases	P uncertain Q increases	
Demand Decreases	P decreases Q decreases		

# Increase of Demand, Decrease of Supply

A

B

C



Quantity increases

Quantity decreases

Quantity stays the same

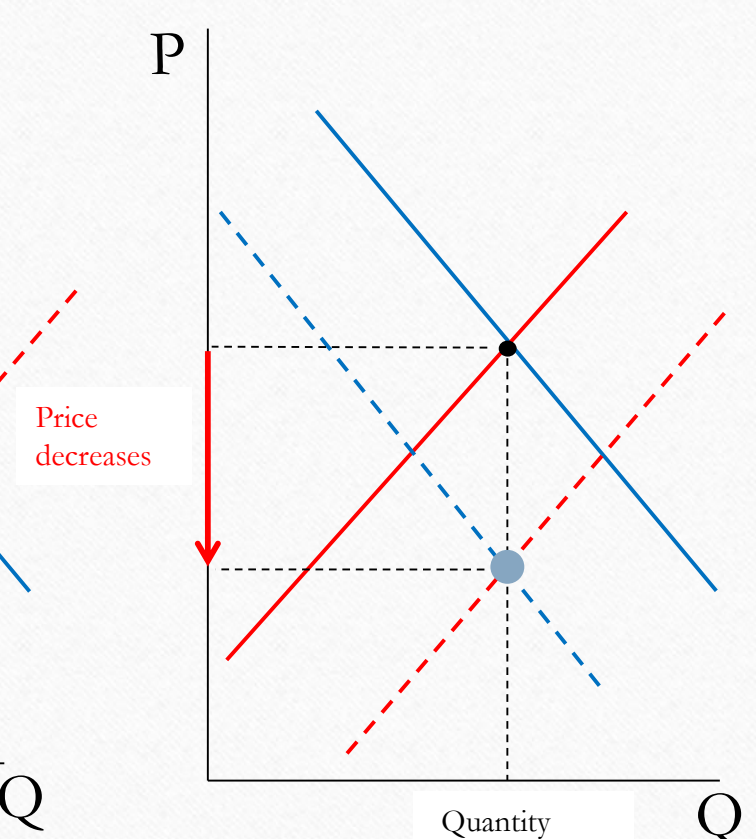
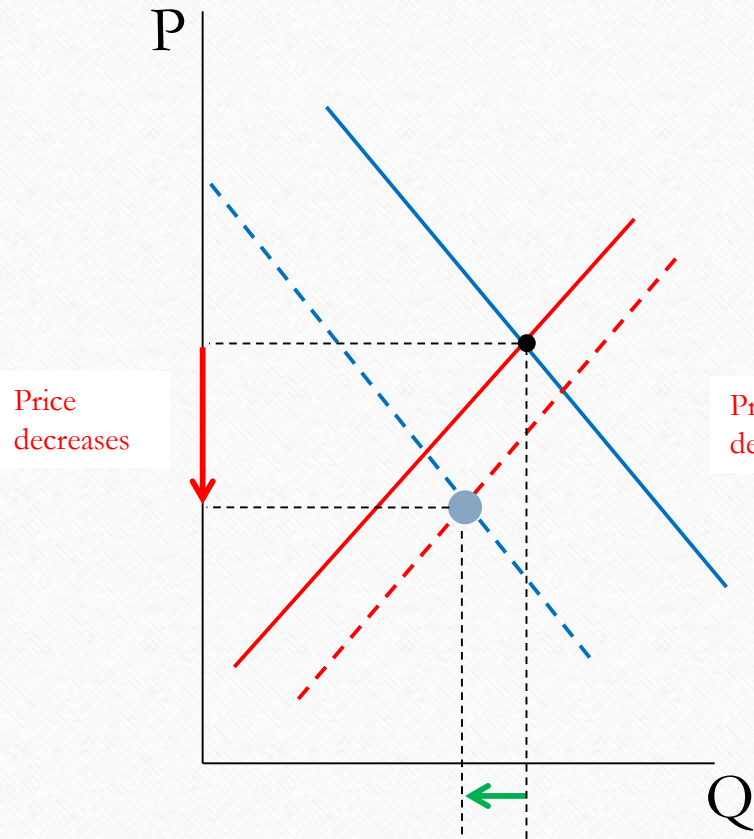
	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	P increases Q decreases
Demand Increases	P increases Q increases	P uncertain Q increases	P increases Q uncertain
Demand Decreases	P decreases Q decreases		

# Decrease in Demand, Increase in Supply

A

B

C



Quantity decreases

Quantity increases

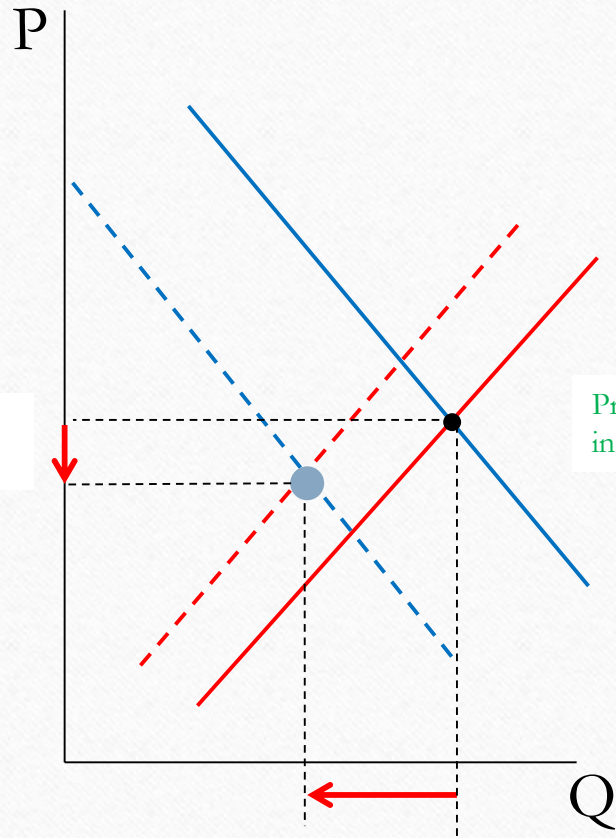
Quantity stays the same



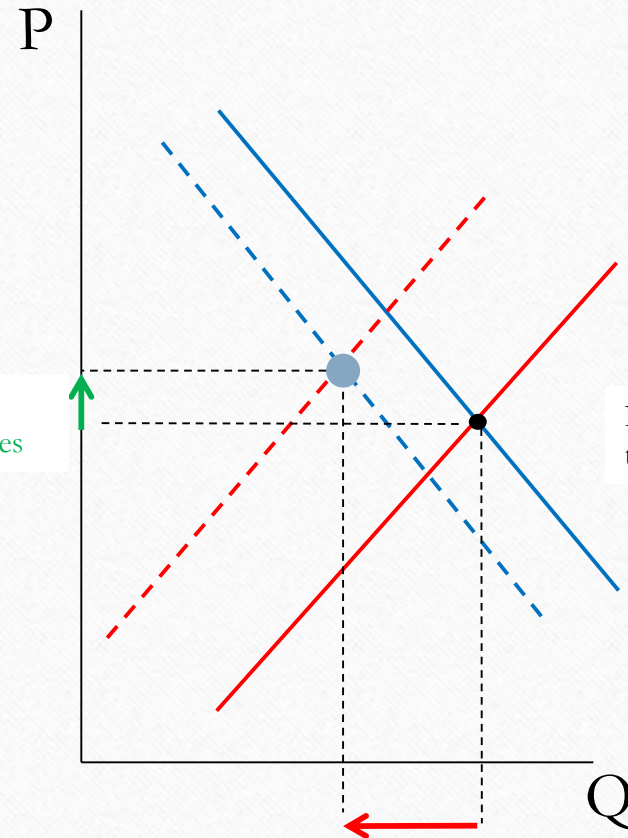
	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	P increases Q decreases
Demand Increases	P increases Q increases	P uncertain Q increases	P increases Q uncertain
Demand Decreases	P decreases Q decreases	P decreases Q uncertain	

# Decrease in Demand, Decrease in Supply

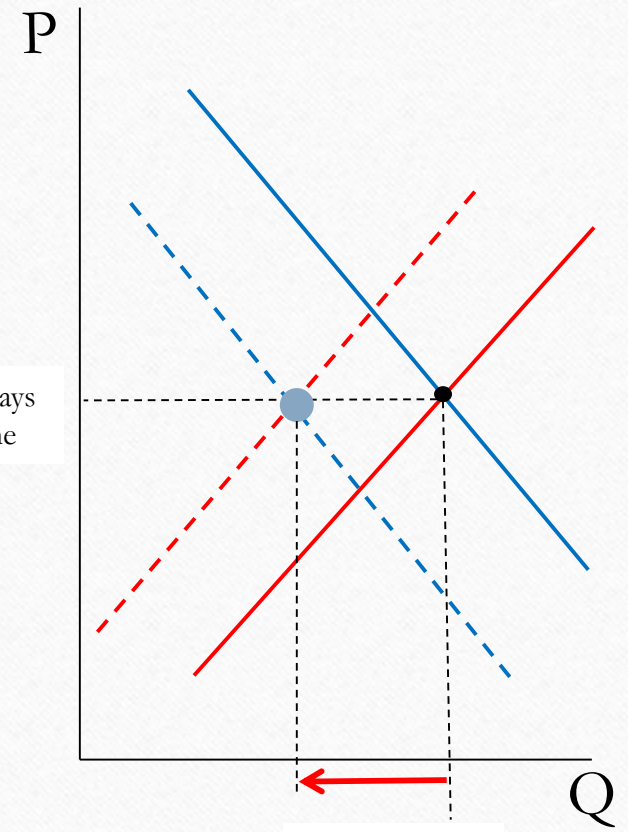
A



B



C



Price decreases

Price increases

Price stays the same

Quantity decreases

Quantity decreases

Quantity decreases

	No change of Supply	Supply Increases	Supply Decreases
No change of Demand	P* Q*	P decreases Q increases	P increases Q decreases
Demand Increases	P increases Q increases	P uncertain Q increases	P increases Q uncertain
Demand Decreases	P decreases Q decreases	P decreases Q uncertain	P uncertain Q decreases



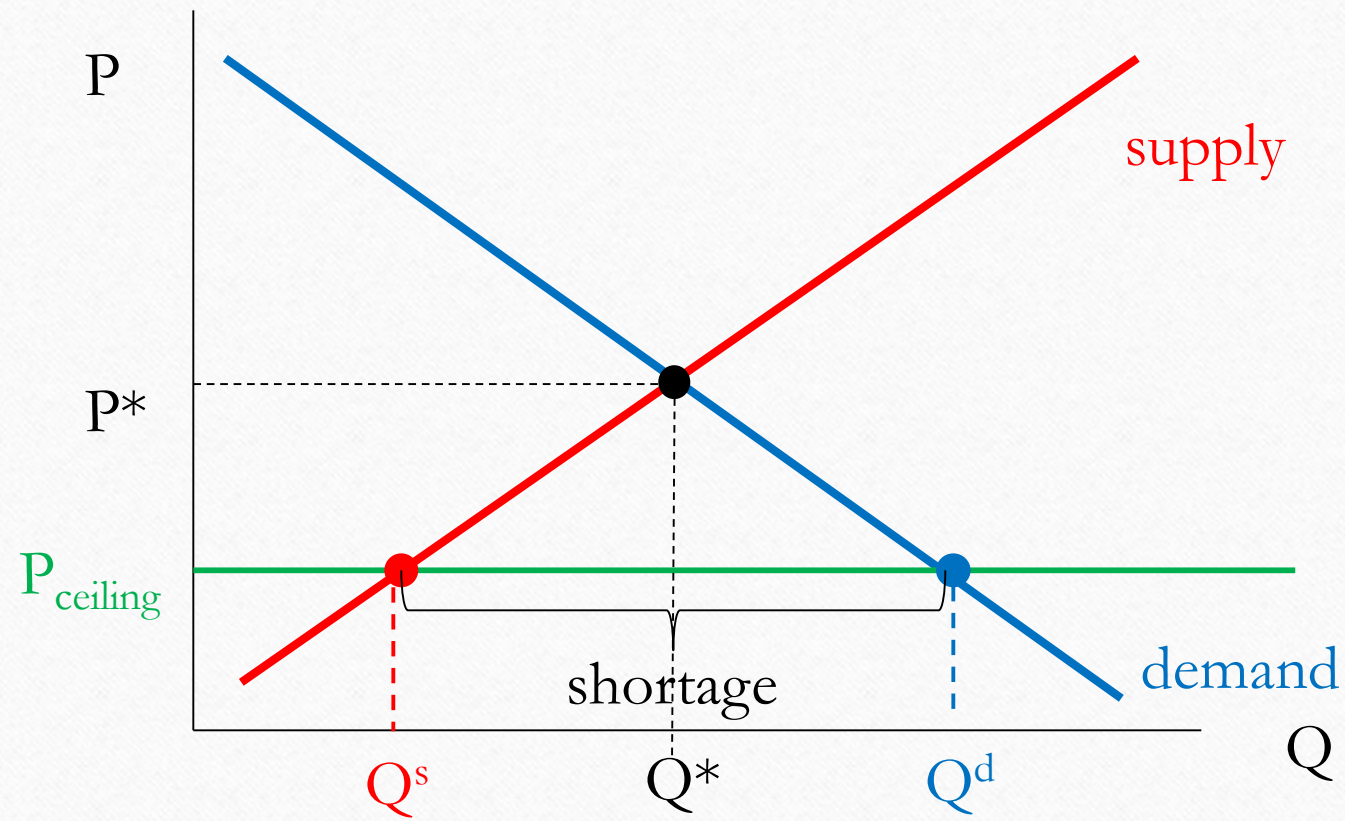
Price ceiling

# Price ceiling

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- Price ceiling is a type of government regulation when the government sets the maximum allowable price at which goods or services can be exchanged.
- If the price ceiling is set below the equilibrium price, it results in a shortage.
- The market will **NOT** be able to reach equilibrium because of the government intervention – in the form of the price ceiling.

# Price ceiling



# Examples for Price ceiling

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- Rent control: New York city, San Francisco, and some other large cities have rent controls in certain areas. In rent-controlled buildings landlords are not allowed to ask for market price.
- The goal of the government is to protect renters of lower means.
- What do you think is the impact of rent control?



# Binding vs non-binding Price ceiling

---

- What is the difference?
- A binding price ceiling is below the equilibrium price.
- A non-binding price ceiling is one that is set *ABOVE* the equilibrium price. A price ceiling set above the equilibrium price has no impact whatsoever.
- **ONLY** a price ceiling set below the equilibrium price matters!



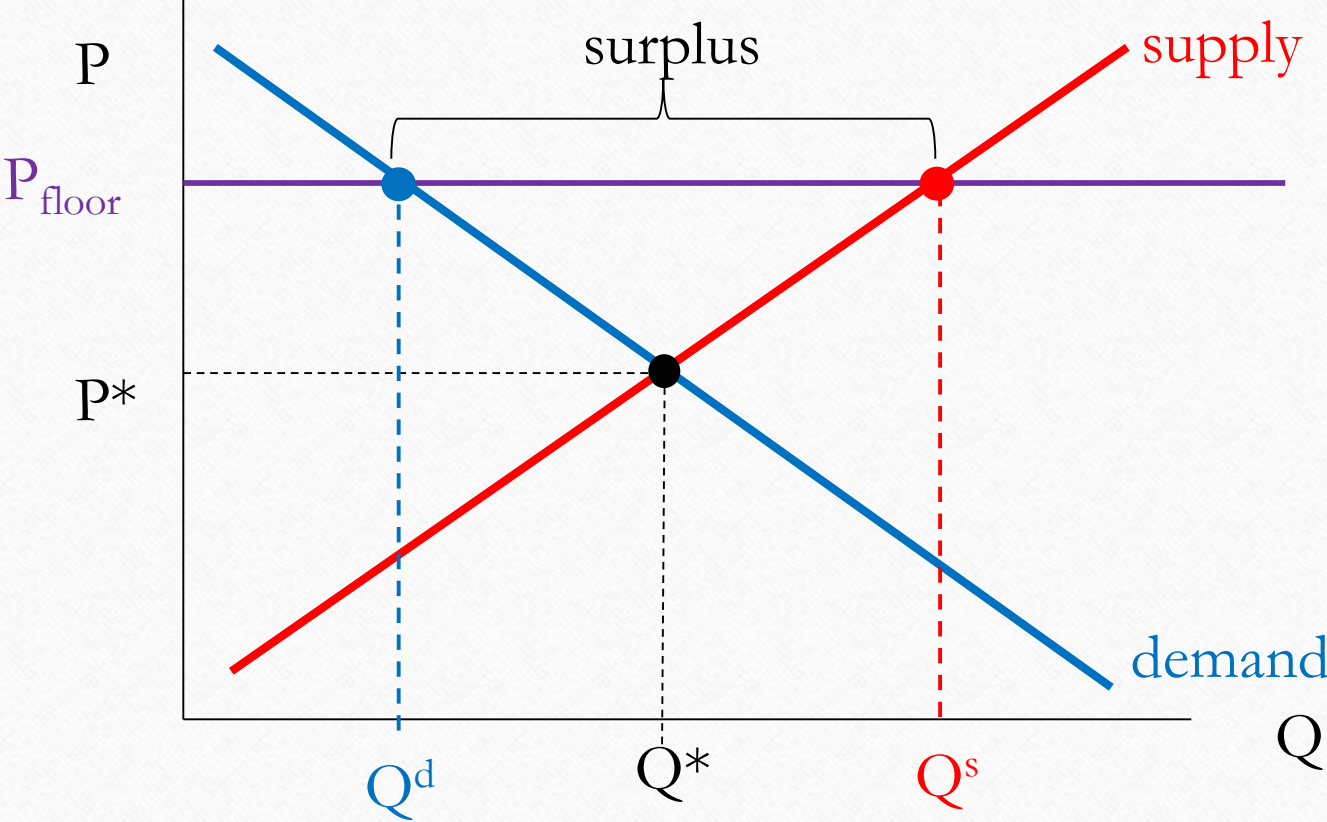
Price floor

# Price floor

---

- Price floor is a type of government regulation when the government sets the minimum allowable price at which goods or services can be exchanged.
- If the price floor is set above the equilibrium price, it results in a surplus.
- The market will **NOT** be able to reach equilibrium because of the government intervention – in the form of the price floor.

# Price floor



# Examples for Price floor

---

- Minimum wage: We have minimum wage at the federal, State level and even in some cities, etc.
- If a job is covered by the law, it is illegal to pay less than a certain \$\$\$ per hour.
- The state with the highest minimum wage (in 2020) is Washington with \$13 per hour.
- Georgia's minimum wage is \$5.15 (in 2020), but the federal minimum wage of \$7.25 supersedes it for jobs covered by the Fair Labor Standards Act.



# Binding vs non-binding Price floor

---

- What is the difference?
- A binding price floor is above the equilibrium price.
- A non-binding price floor is one that is set **BELOW** the equilibrium price. A price floor set below the equilibrium price has no impact whatsoever.
- **ONLY a price floor set above the equilibrium price matters!**

Tax (imposed on sellers)

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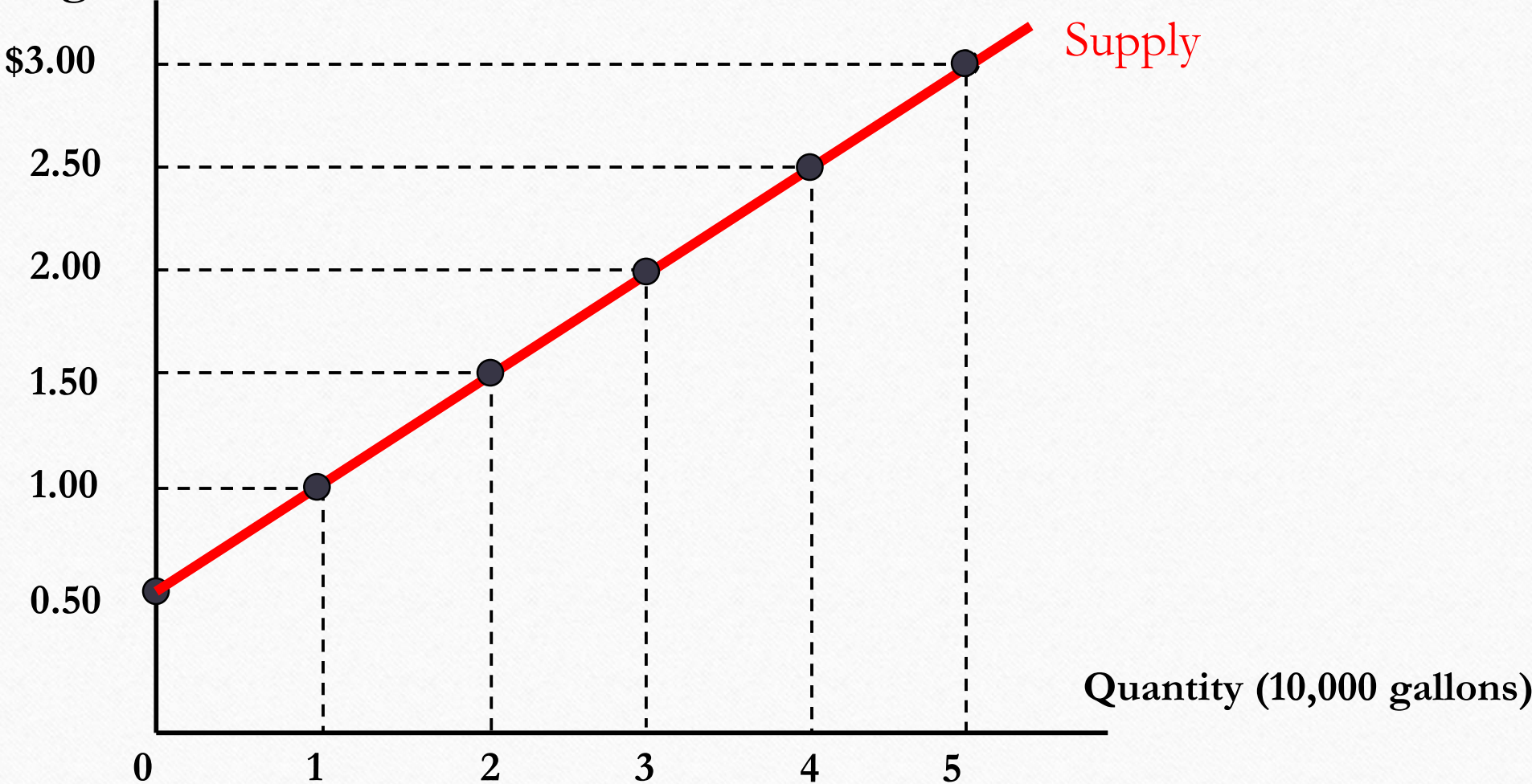
# Government Intervention: Taxes

---

- We will consider excise tax (even though the government imposes all kinds of taxes see the Wikipedia site [here](#)).
- For simplicity let's assume that the tax we consider is a per unit tax. For instance, let's say the government imposes \$0.50 after each gallon of gas purchased.

# Gasoline supply

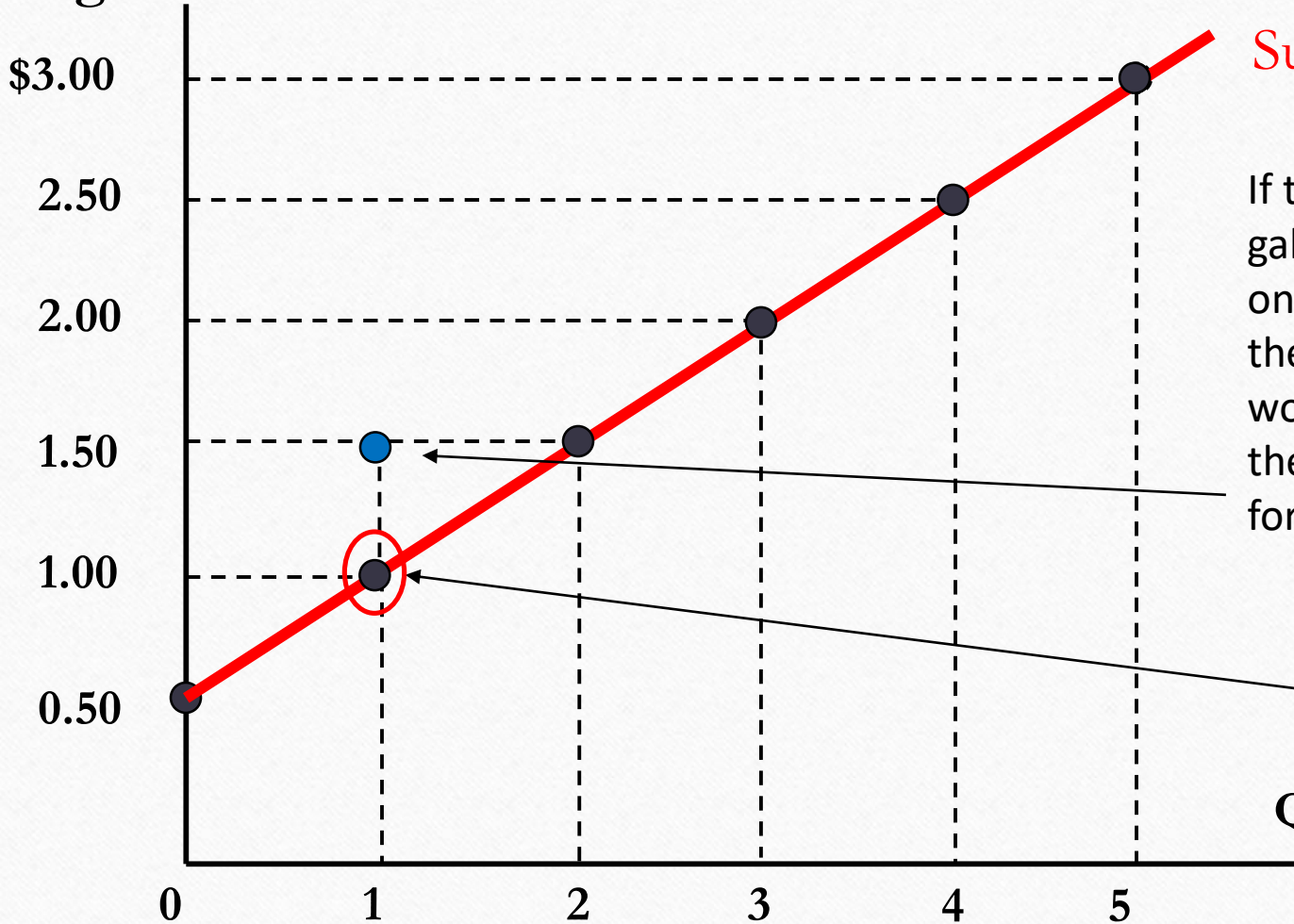
Price  
of gas





# Gasoline supply after tax

Price of gas



Supply

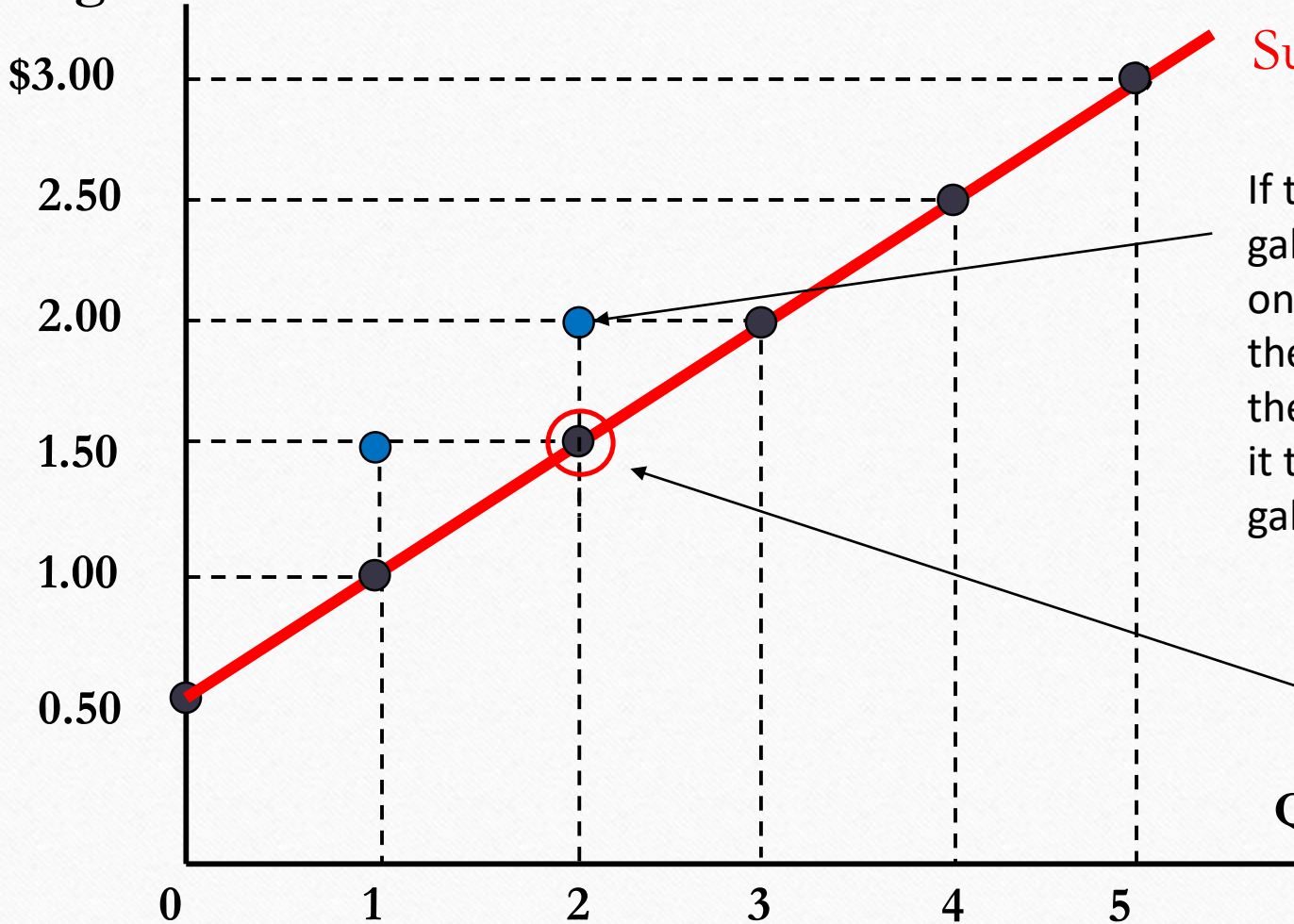
If they need to send \$0.50 after each gallon sold to the government, they will only keep supplying 10,000 gallons if the price is \$1.50 per gallon (of which they would take \$0.50 per gallon and send it to the government and keep \$1.00 per gallon for themselves).

Sellers are willing to provide 10,000 gallons of gas if they get (in their pocket) \$1 per gallon.

Quantity (10,000 gallons)

# Gasoline supply after tax

Price of gas



Supply

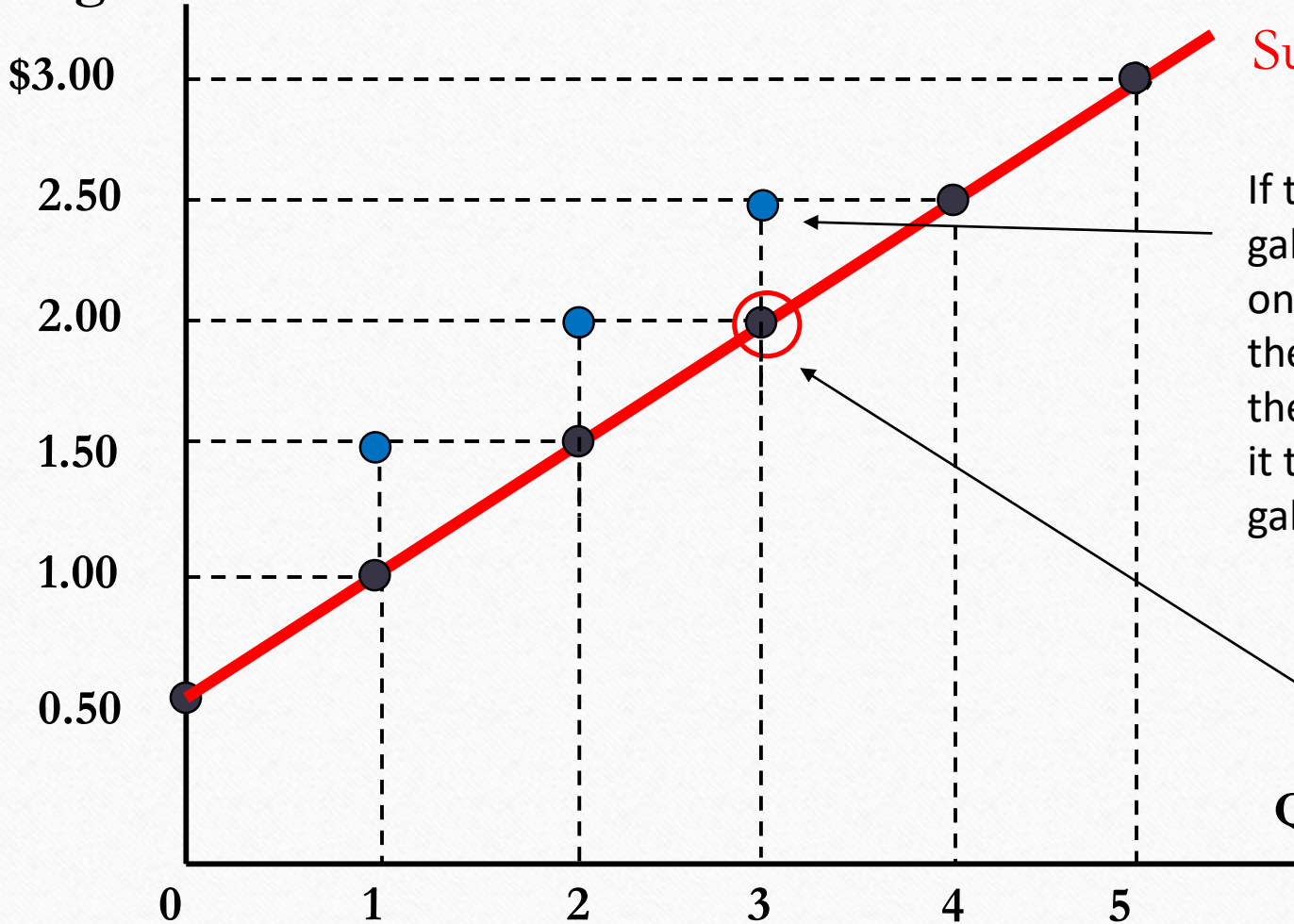
If they need to send \$0.50 after each gallon sold to the government, they will only keep supplying the 20,000 gallons if they the price is \$2.00 per gallon (of which they would take \$0.50 per gallon and send it to the government and keep \$1.50 per gallon for themselves).

Sellers are willing to provide 20,000 gallons of gas if they get (in their pocket) \$1.50 per gallon.

Quantity (10,000 gallons)

# Gasoline supply after tax

Price of gas



Supply

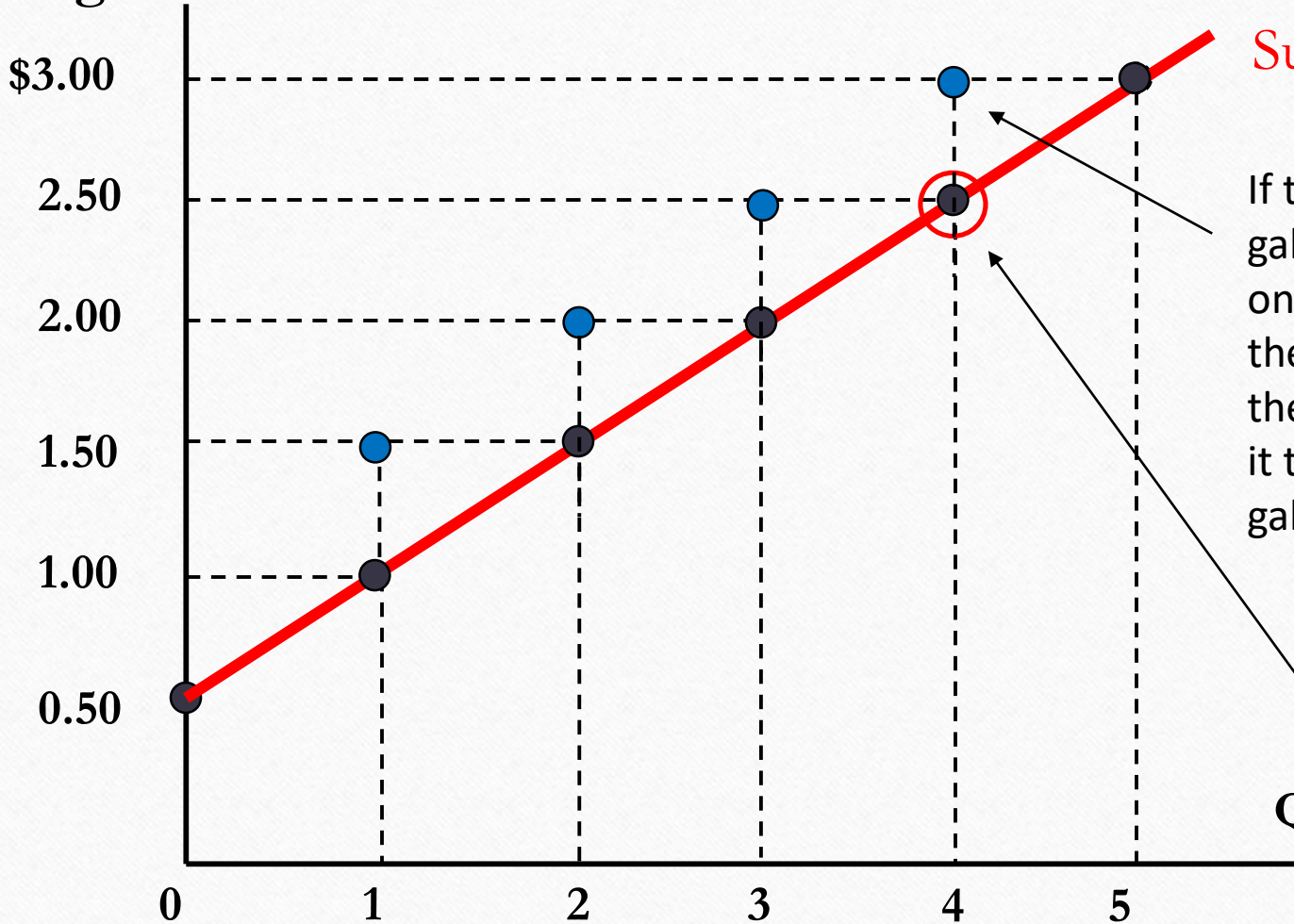
If they need to send \$0.50 after each gallon sold to the government, they will only keep supplying the 30,000 gallons if they the price is \$2.50 per gallon (of which they would take \$0.50 per gallon and send it to the government and keep \$2.00 per gallon for themselves).

Sellers are willing to provide 30,000 gallons of gas if they get (in their pocket) \$2.00 per gallon.

Quantity (10,000 gallons)

# Gasoline supply after tax

Price of gas



Supply

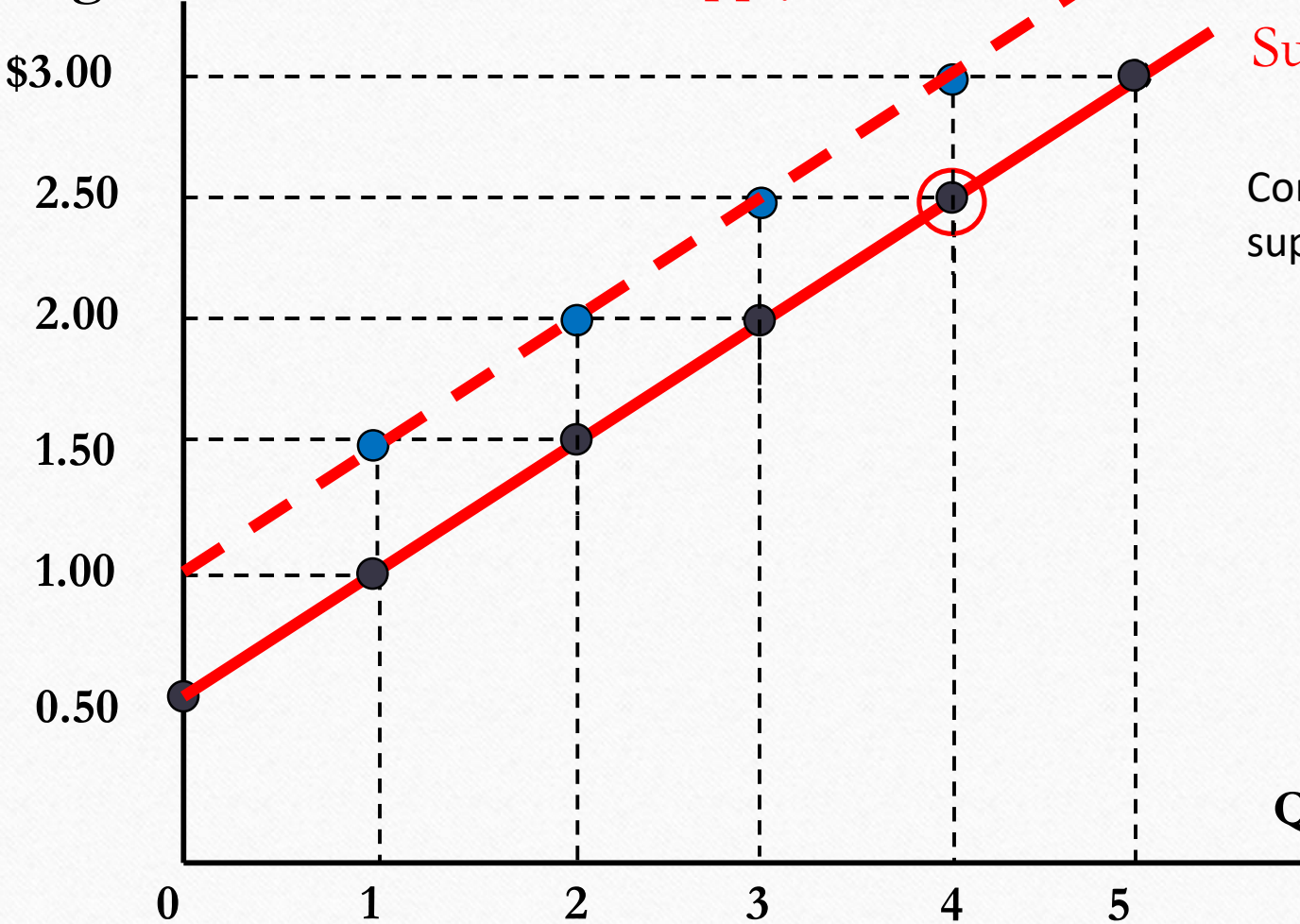
If they need to send \$0.50 after each gallon sold to the government, they will only keep supplying the 40,000 gallons if they the price is \$3.00 per gallon (of which they would take \$0.50 per gallon and send it to the government and keep \$2.50 per gallon for themselves).

Sellers are willing to provide 40,000 gallons of gas if they get (in their pocket) \$2.50 per gallon.

Quantity (10,000 gallons)

# Gasoline supply after tax

Price  
of gas



Supply

Connecting the blue dots will get us the supply after the tax.

Quantity (10,000 gallons)

# The Impact of Tax on Supply

Price  
of gas

\$3.00

2.50

2.00

1.50

1.00

0.50

0

1

2

3

4

5

Supply + tax

Supply

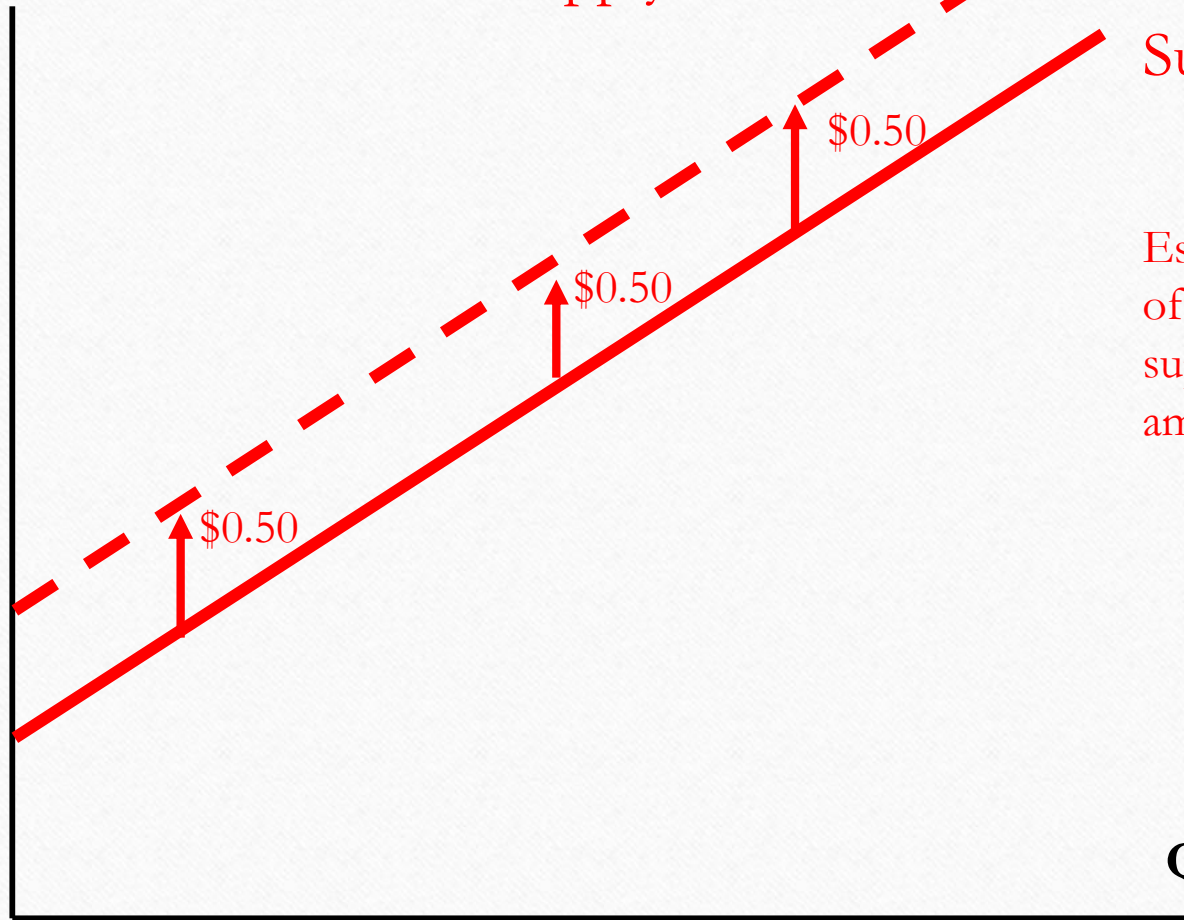
\$0.50

\$0.50

\$0.50

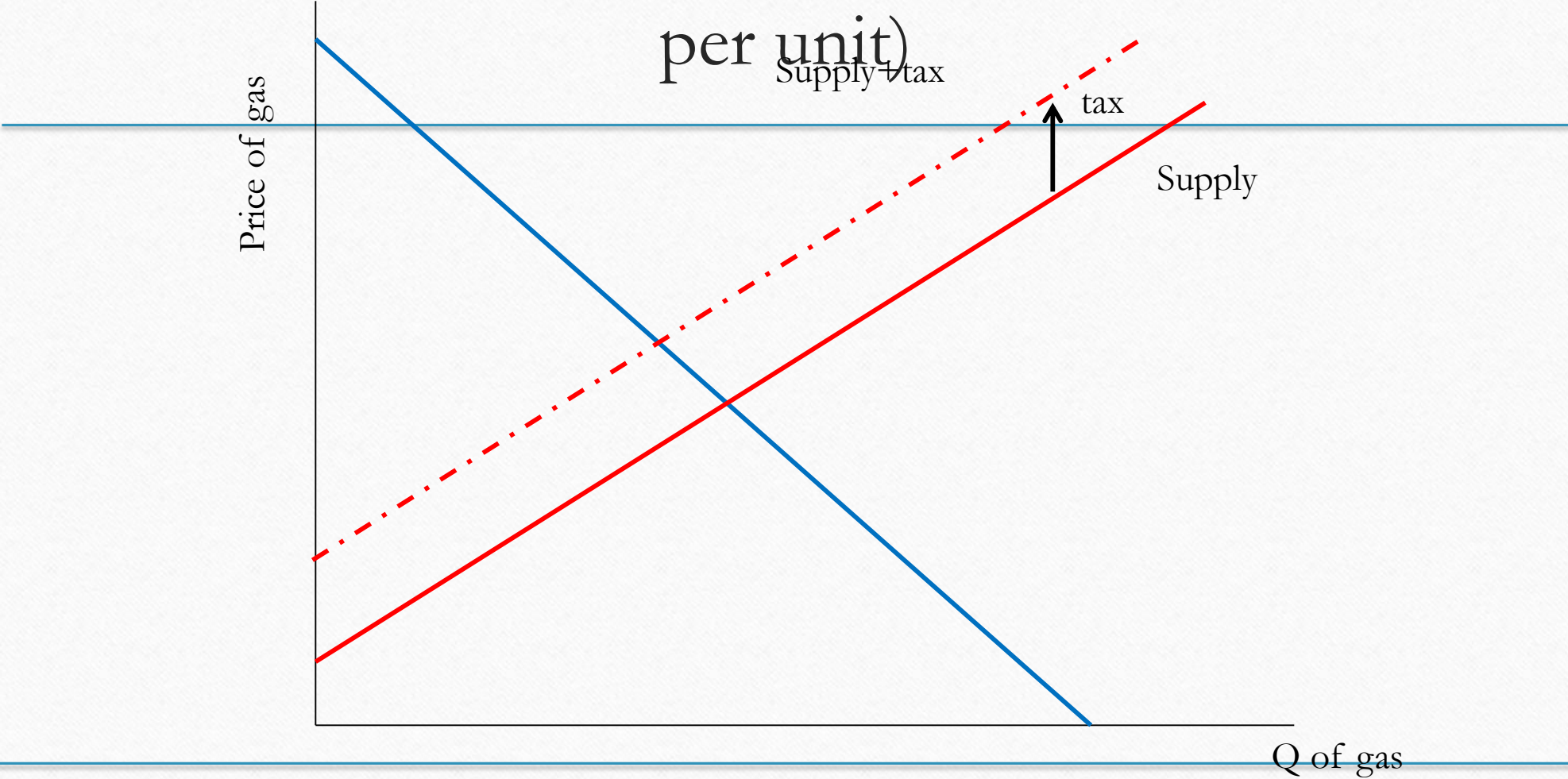
Essentially, we observe the impact of a tax on the supply as if the supply were SHIFTED UP by the amount of the tax.

Quantity (10,000 gallons)

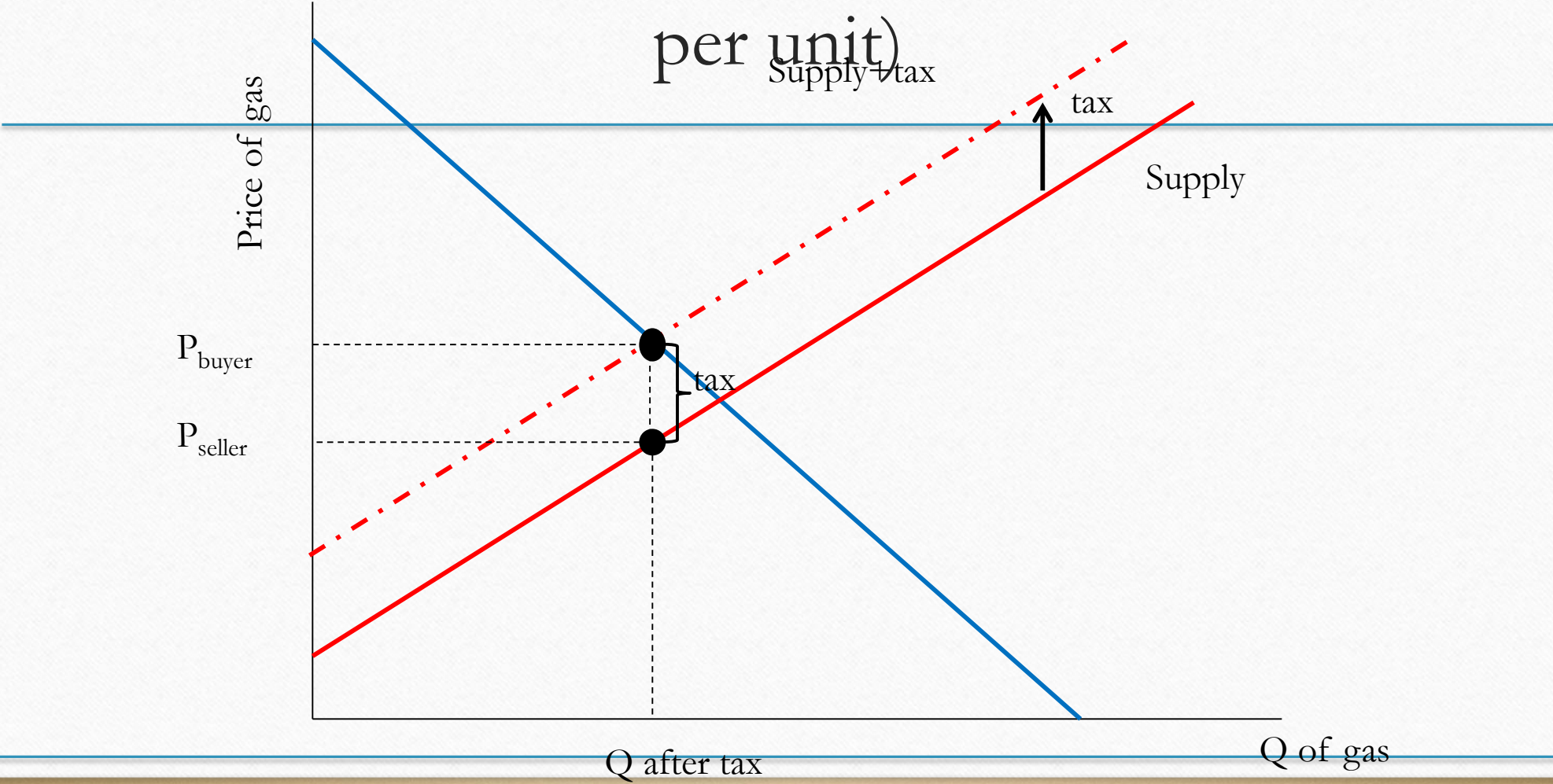


Draw a graph showing the impact of a tax (of \$0.50

per unit)

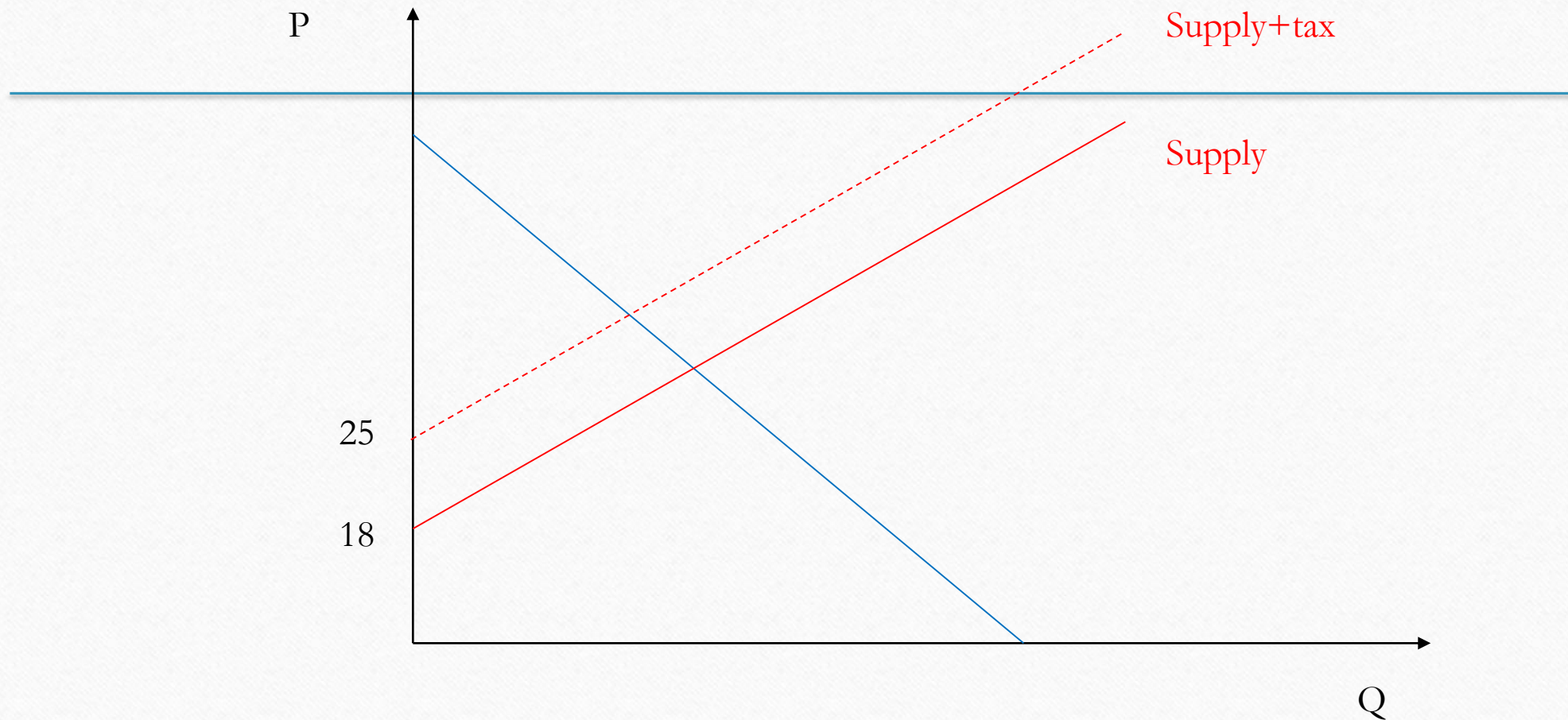


Draw a graph showing the impact of a tax (of \$0.50





How do we know what the amount of the tax is?



# Price floor

---

- Price floor is a type of government regulation when the government sets the minimum allowable price at which goods or services can be exchanged.
- If the price floor is set above the equilibrium price, it results in a surplus.
- The market will **NOT** be able to reach equilibrium because of the government intervention – in the form of the price floor.

The market impact of  

---

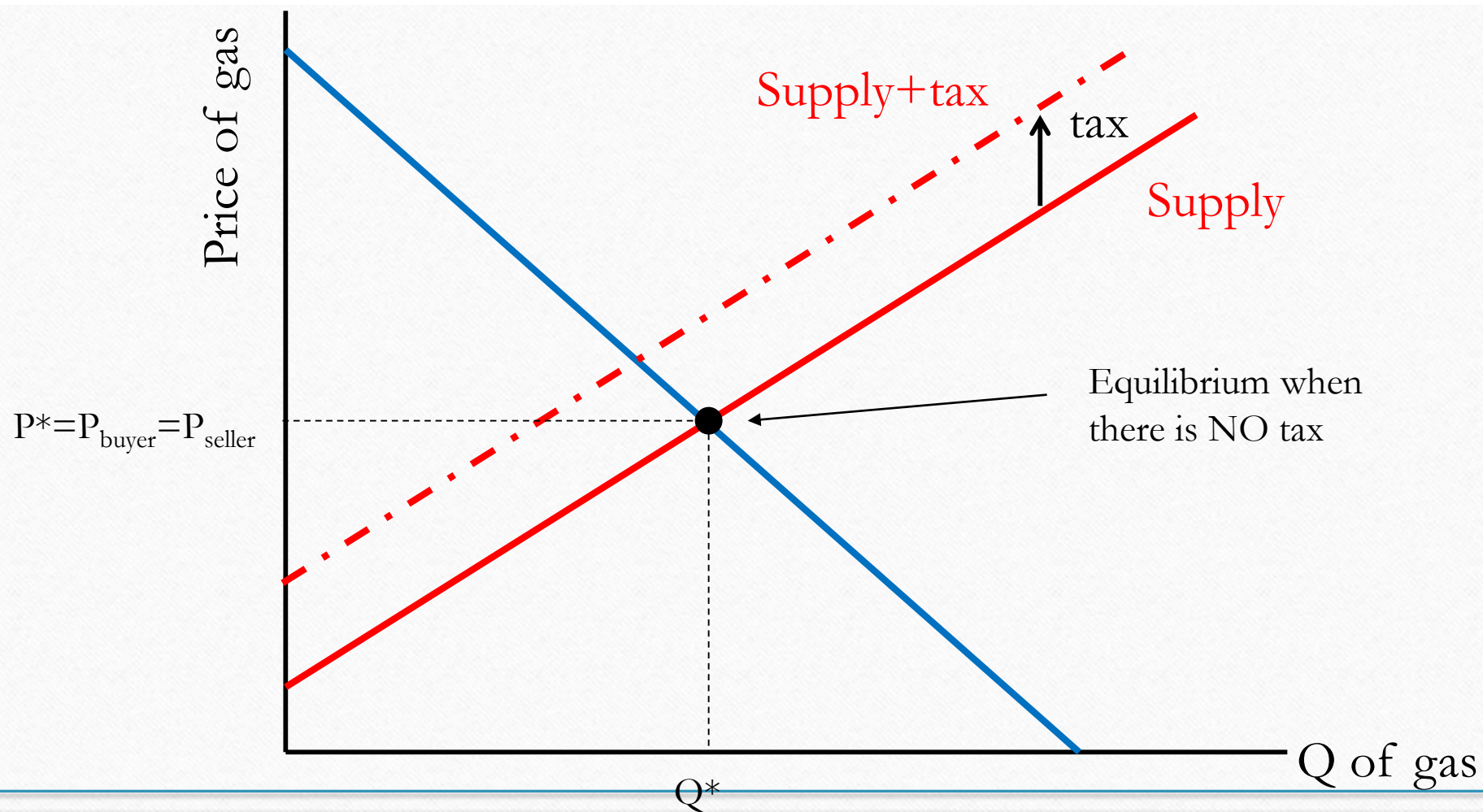
Tax (imposed on sellers)

# The impact of Taxes

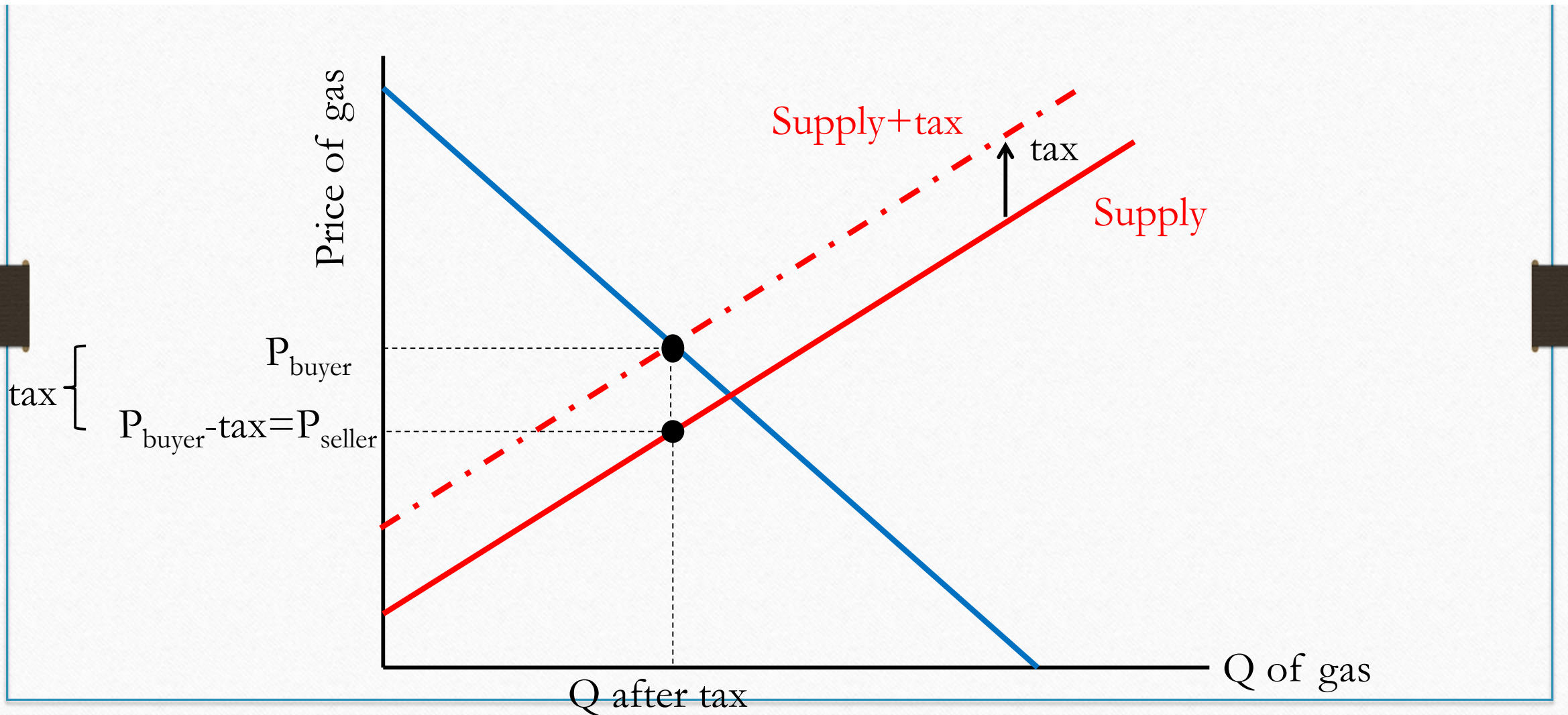
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- Taxes will separate the price that buyers pay and the price sellers get to keep.
- Buyers have to pay more than what the equilibrium price would be if there were no tax imposed.
- Sellers keep less than what the equilibrium price would be if there were no tax imposed.
- The quantity exchanged will be less than what it would be without the taxes.

What is the impact of a tax (of \$0.50 per unit) on the market?



Draw a graph showing the impact of a tax (of \$0.50 per unit)



# Tax incidence

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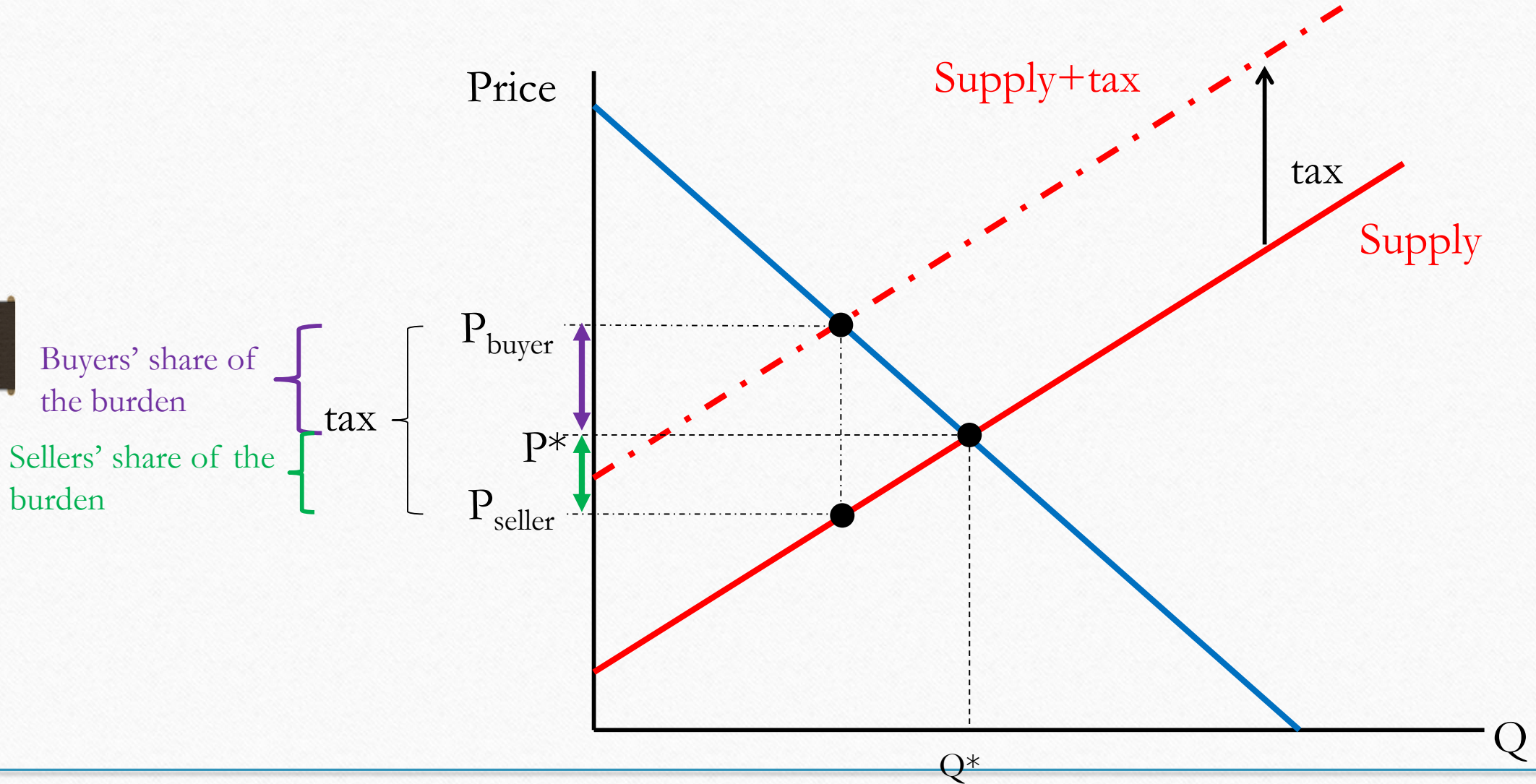
# Tax incidence

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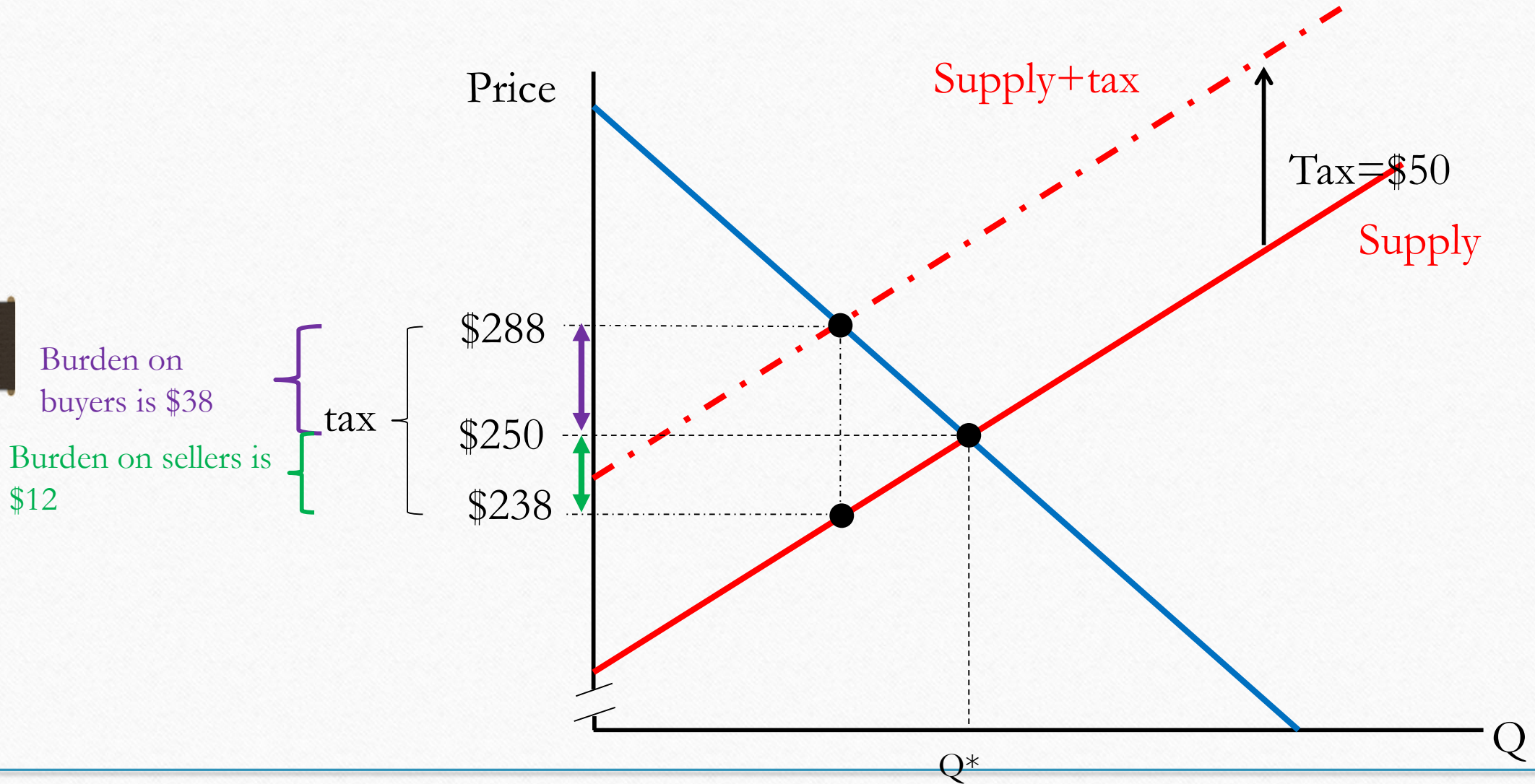
- Tax incidence is the economic analysis that tries to determine how the burden of the tax is shared between the buyer and the seller.
- In other words, what portion of the tax falls on buyers; and what portion of the tax falls on sellers.



# Tax incidence



# Practice - Tax incidence



Burden on buyers is \$38

Burden on sellers is \$12

tax

Supply+tax

Tax=\$50

Supply

Price

\$288

\$250

\$238

$Q^*$

Q

# Practice problem

