

chapter:

3

>> **Supply and Demand**

**Krugman/Wells
Economics**

Supply and Demand

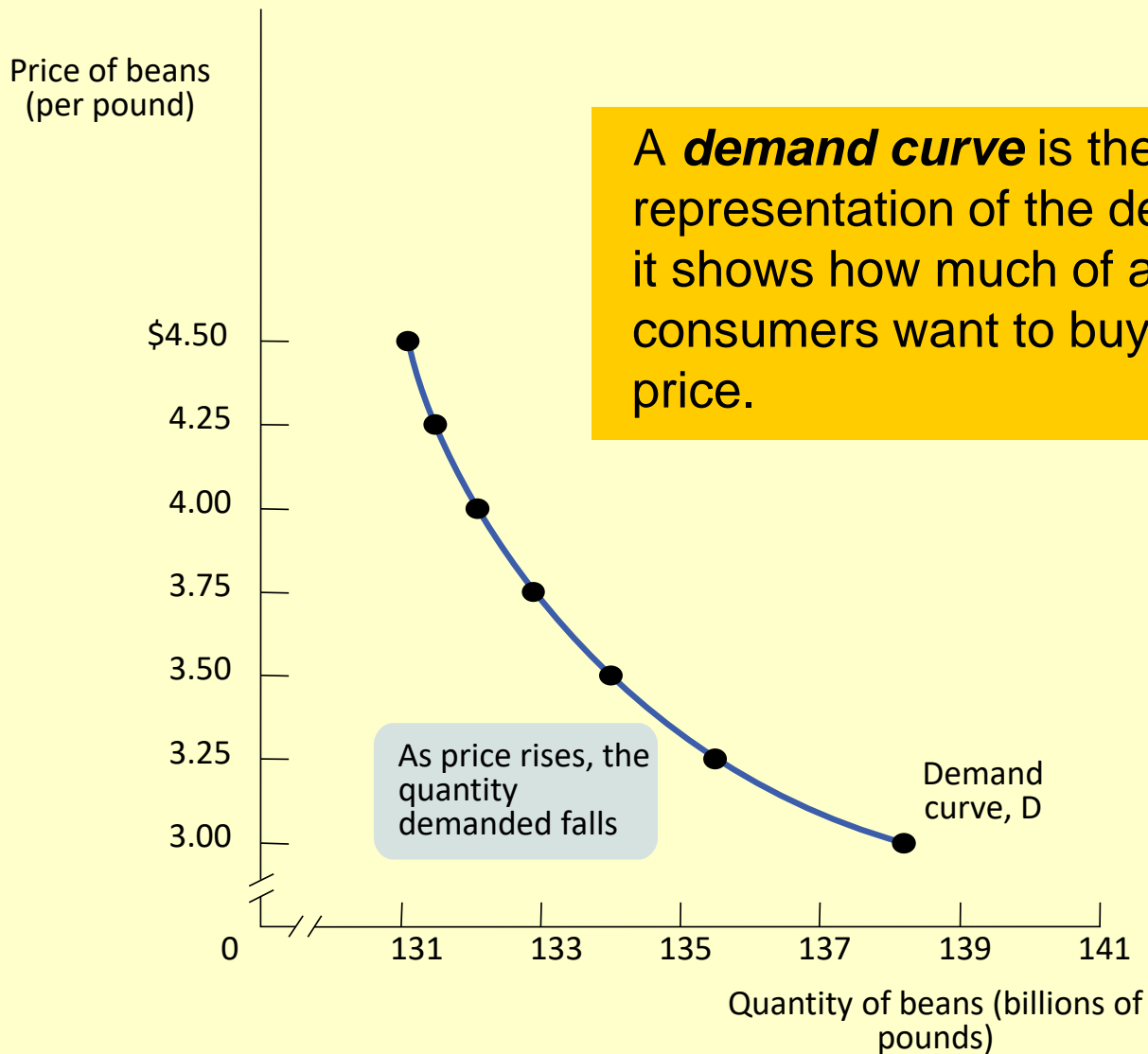
- A **competitive market**:
 - Many buyers and sellers
 - Same good or service
 - The **supply and demand model** is a model of how a competitive market works.
 - Five key elements:
 - Demand curve
 - Supply curve
 - Demand and supply curve shifts
 - Market equilibrium
 - Changes in the market equilibrium
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Demand Schedule

- A demand schedule shows how much of a good or service consumers will want to buy at different prices.

Demand Schedule for Coffee Beans	
Price of beans (per pound)	Quantity of beans demanded (billions of pounds)
\$4.50	126
4.25	128
4.00	130
3.75	132
3.50	134
3.25	136
3.00	138

Demand Curve



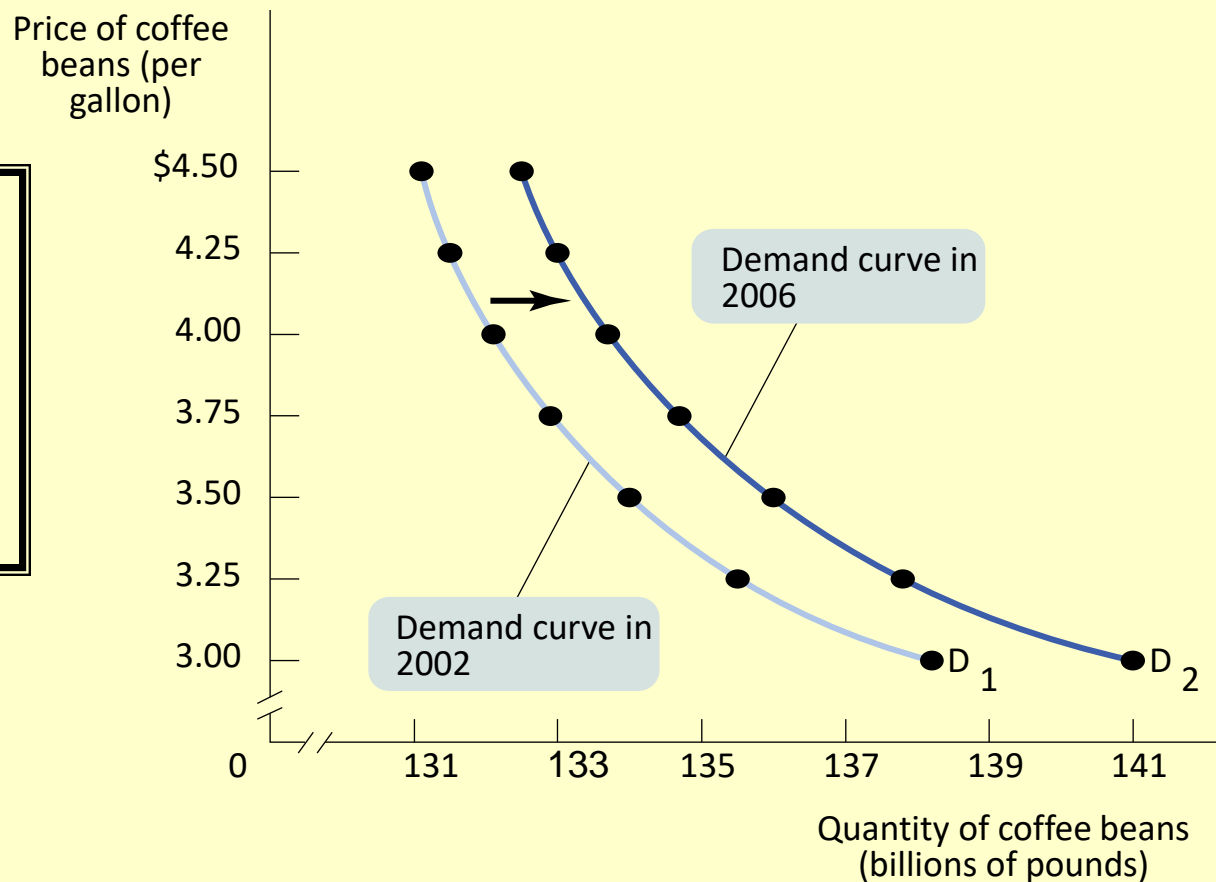
An Increase in Demand

- An increase in the population and other factors generate an increase in demand – a rise in the quantity demanded at any given price.
- This is represented by the two demand schedules - one showing demand in 2002, before the rise in population, the other showing demand in 2006, after the rise in population.

Demand Schedules for Coffee Beans		
Price of coffee beans (per pound)	Quantity of coffee beans demanded (billions of pounds)	
	in 2002	in 2006
\$4.50	126	128
4.25	128	130
4.00	130	132
3.75	132	134
3.50	134	136
3.25	136	138
3.00	138	140

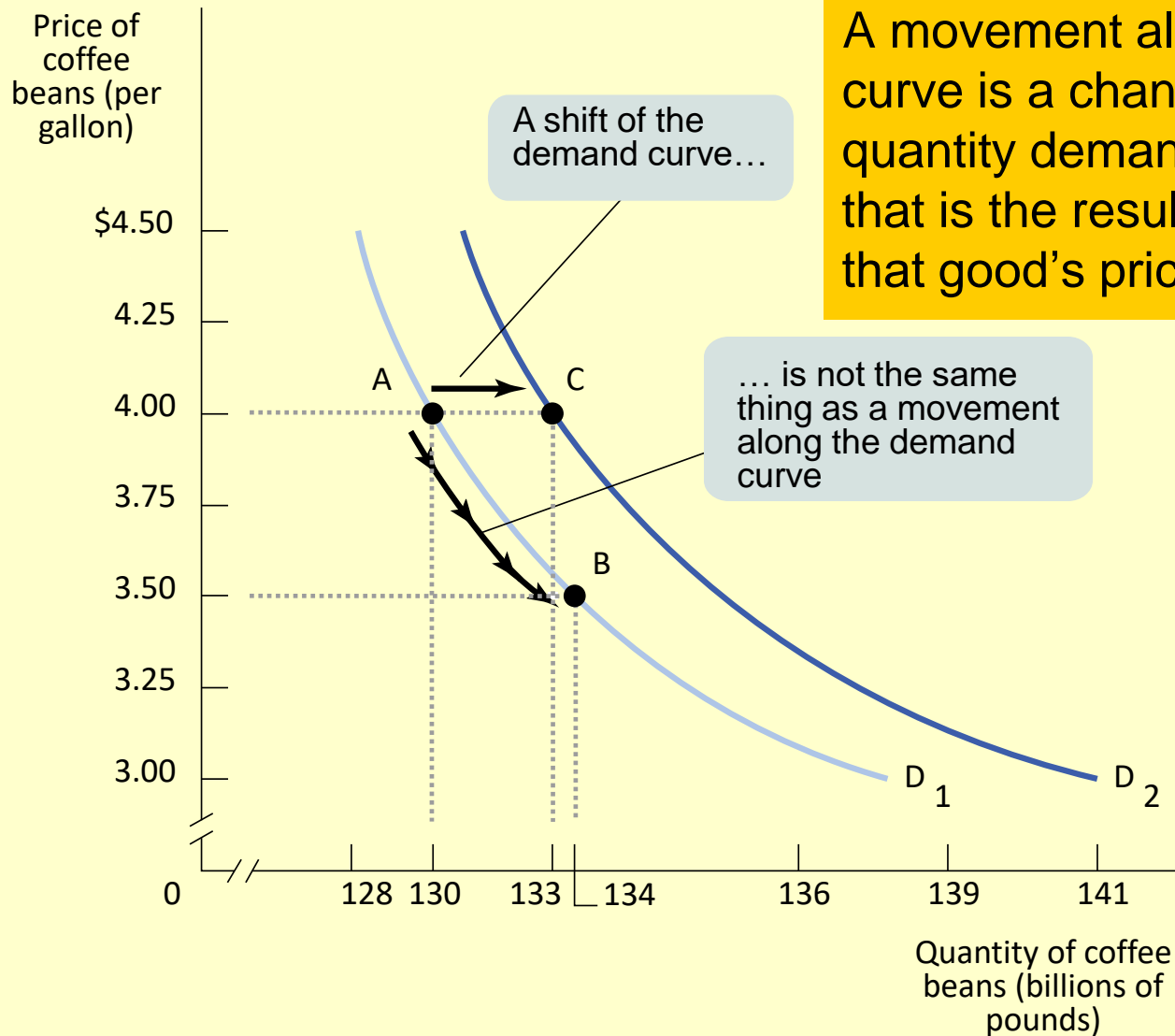
An Increase in Demand

**Increase in
population →
more coffee
drinkers**



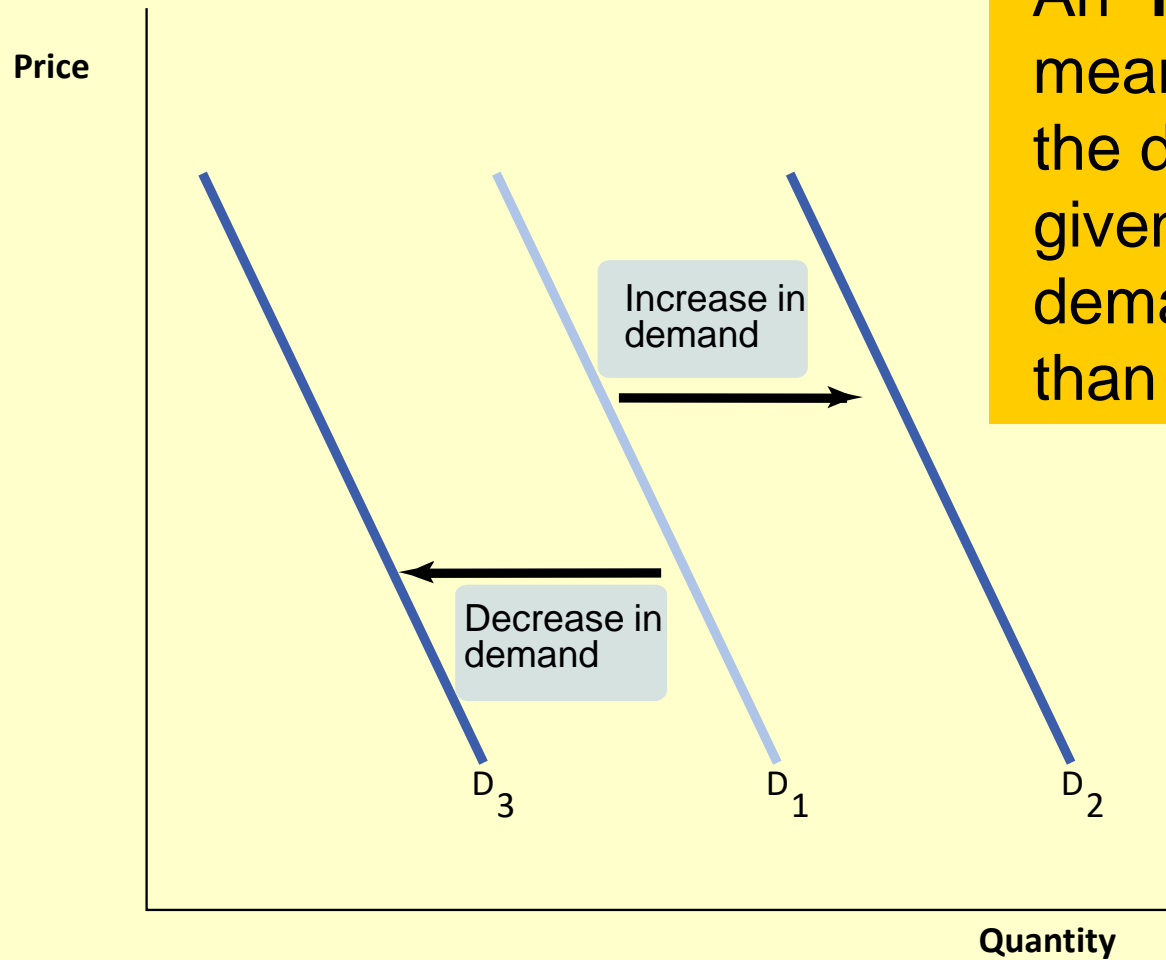
A **shift of the demand curve** is a change in the quantity demanded at any given price, represented by the change of the original demand curve to a new position, denoted by a new demand curve.

Movement Along the Demand Curve



A movement along the demand curve is a change in the quantity demanded of a good that is the result of a change in that good's price.

Shifts of the Demand Curve



An “**increase in demand**” means a *rightward* shift of the demand curve: at any given price, consumers demand a larger quantity than before. ($D_1 \rightarrow D_2$)

What Causes a Demand Curve to Shift?

- Changes in the Prices of Related Goods
 - **Substitutes:** *Two goods are **substitutes** if a fall in the price of one of the goods makes consumers less willing to buy the other good.*
 - **Complements:** *Two goods are **complements** if a fall in the price of one good makes people more willing to buy the other good.*
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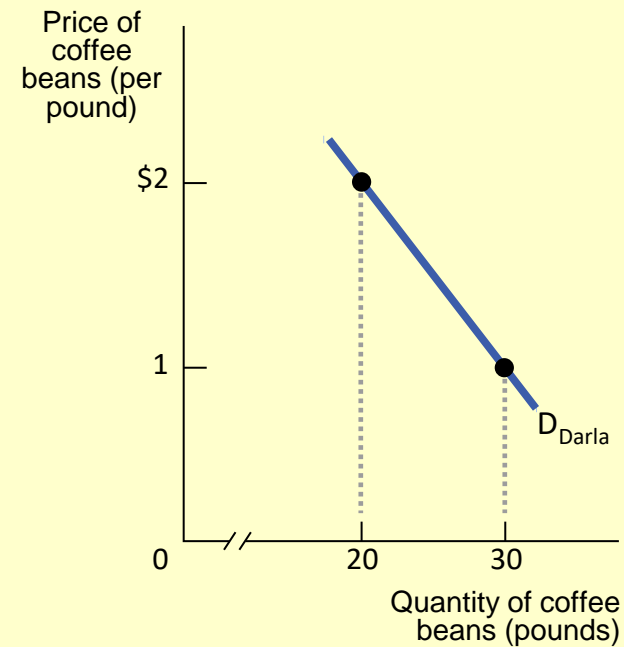
What Causes a Demand Curve to Shift?

- Changes in Income
 - **Normal Goods:** *When a rise in income increases the demand for a good - the normal case - we say that the good is a **normal good**.*
 - **Inferior Goods:** *When a rise in income decreases the demand for a good, it is an **inferior good**.*
 - Changes in Tastes
 - Changes in Expectations
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Individual Demand Curve and the Market Demand Curve

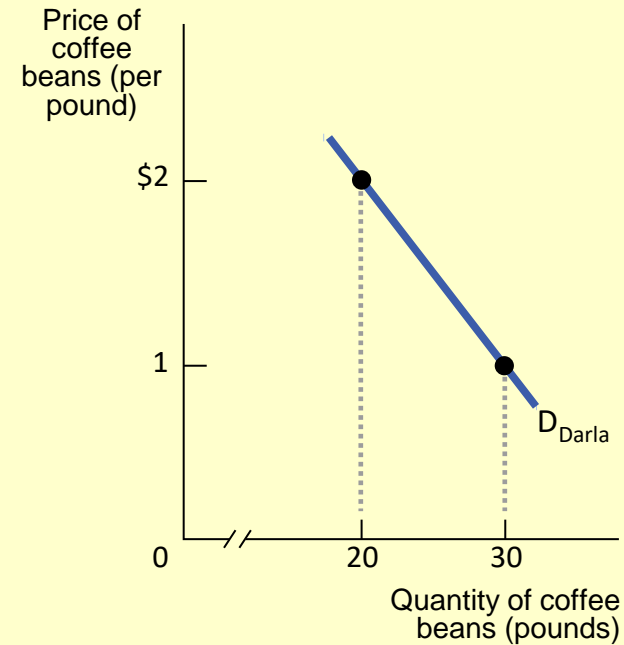
(a)

Darla's Individual
Demand Curve

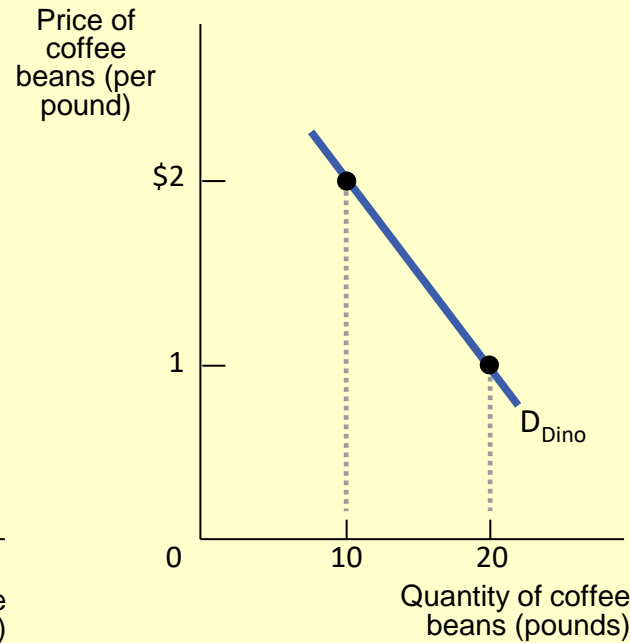


Individual Demand Curve and the Market Demand Curve

(a)
Darla's Individual
Demand Curve



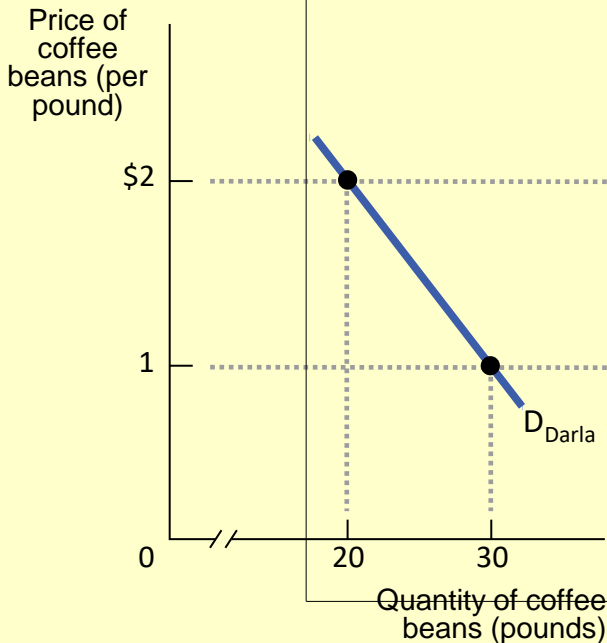
(b)
Dino's Individual
Demand Curve



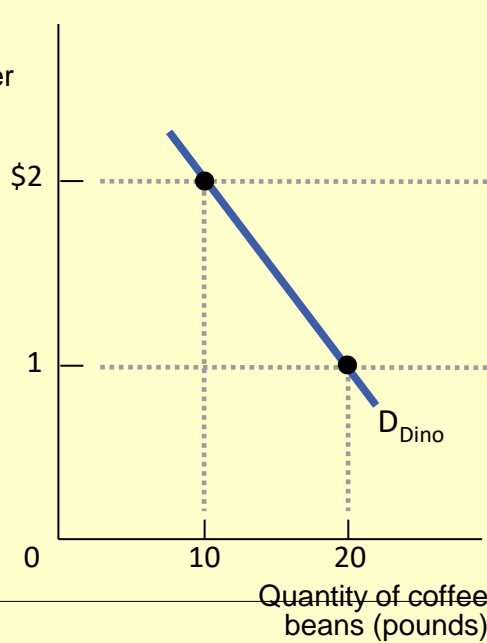
Individual Demand Curve and the Market Demand Curve

The market demand curve is the *horizontal sum* of the individual demand curves of all consumers in that market.

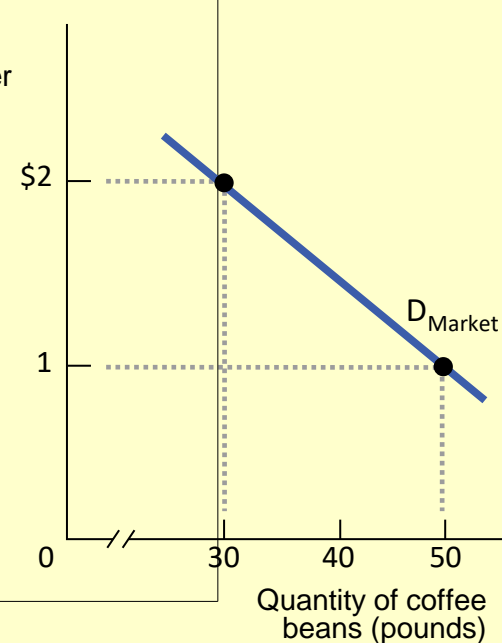
(a)
Darla's Individual
Demand Curve



(b)
Dino's Individual
Demand Curve



(c)
Market Demand Curve

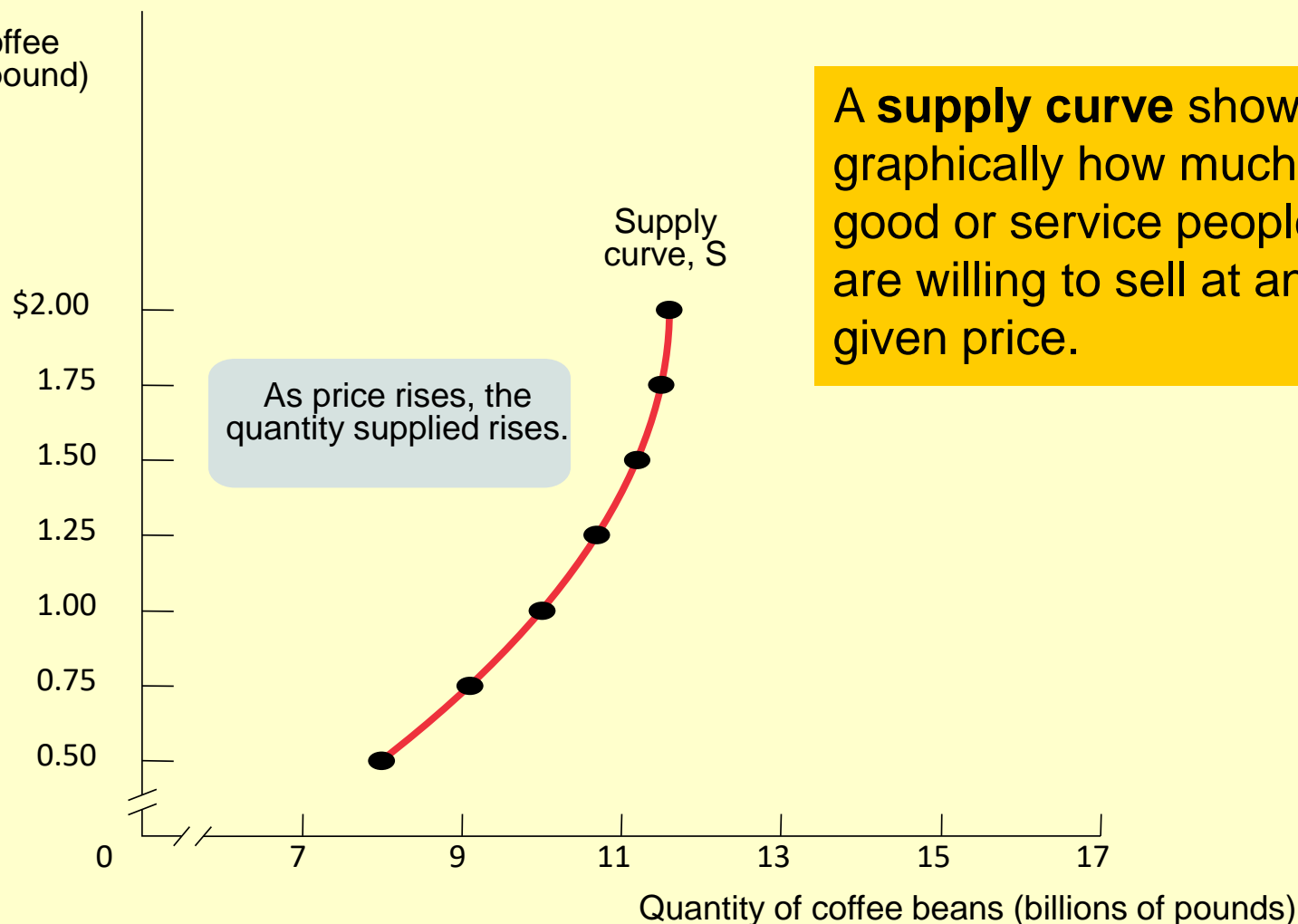


Supply Schedule

- A supply schedule shows how much of a good or service would be supplied at different prices.

<i>Supply Schedule for Coffee Beans</i>	
Price of coffee beans (per pound)	Quantity of coffee beans supplied (billions of pounds)
\$2.00	11.6
1.75	11.5
1.50	11.2
1.25	10.7
1.00	10.0
0.75	9.1
0.50	8.0

Supply Curve



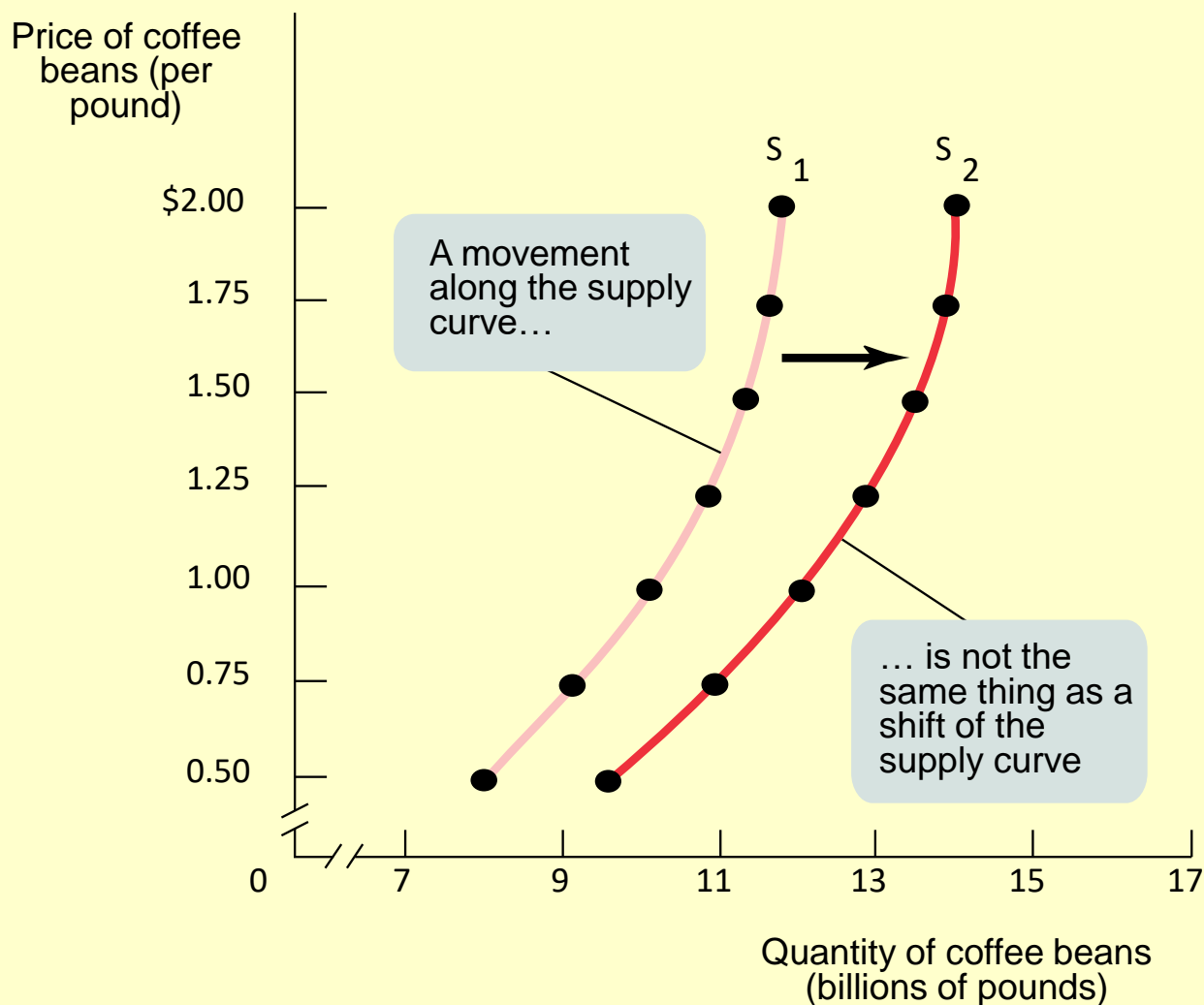
A **supply curve** shows graphically how much of a good or service people are willing to sell at any given price.

An Increase in Supply

- The entry of Vietnam into the coffee bean business generated an increase in supply—a rise in the quantity supplied at any given price.
- This event is represented by the two supply schedules—one showing supply before Vietnam's entry, the other showing supply after Vietnam came in.

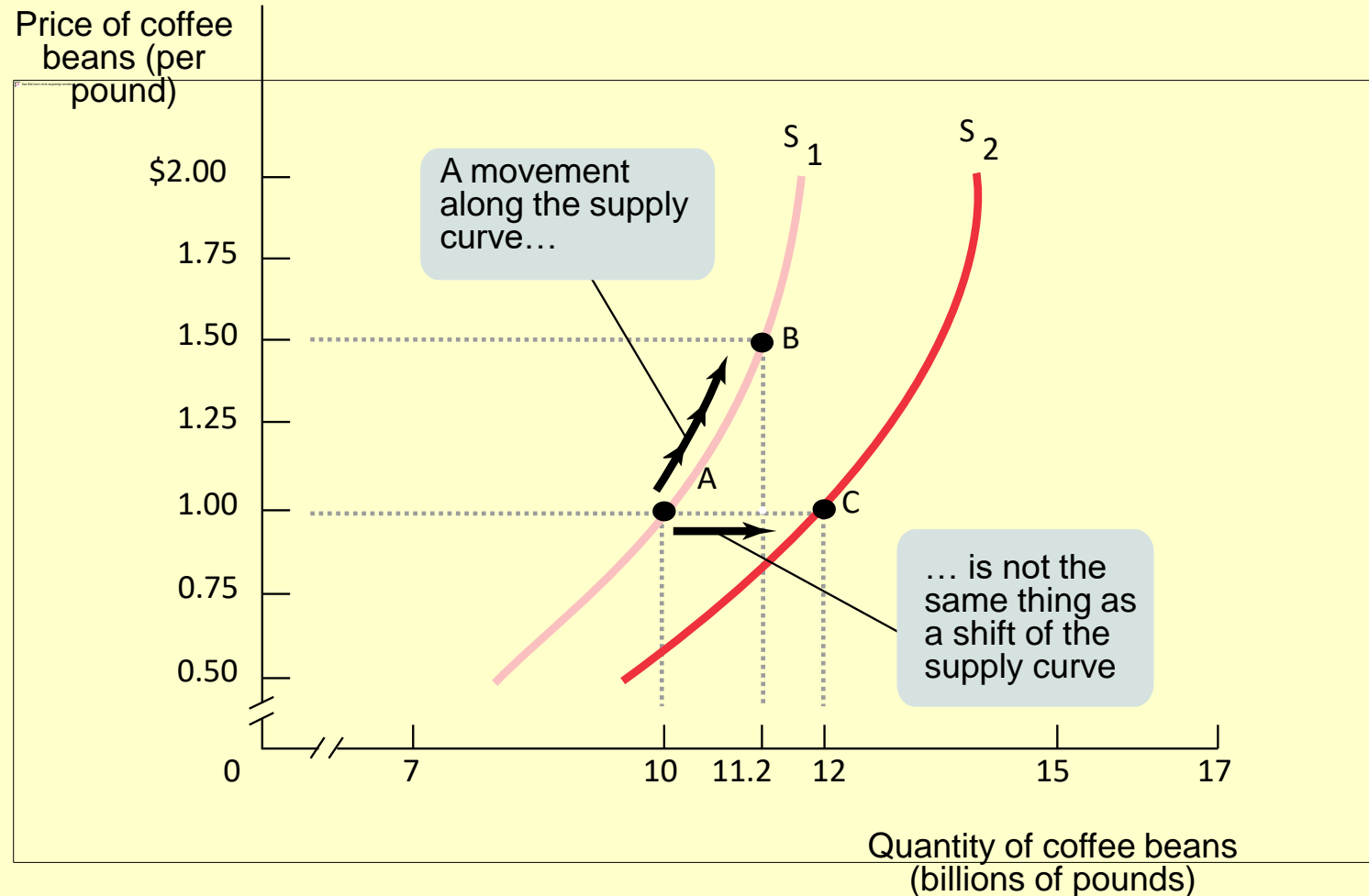
<i>Supply Schedule for Coffee Beans</i>		
Price of coffee beans (per pound)	Quantity of beans supplied (billions of pounds)	
	Before entry	After entry
\$2.00	11.6	13.9
1.75	11.5	13.8
1.50	11.2	13.4
1.25	10.7	12.8
1.00	10.0	12.0
0.75	9.1	10.9
0.50	8.0	9.6

An Increase in Supply



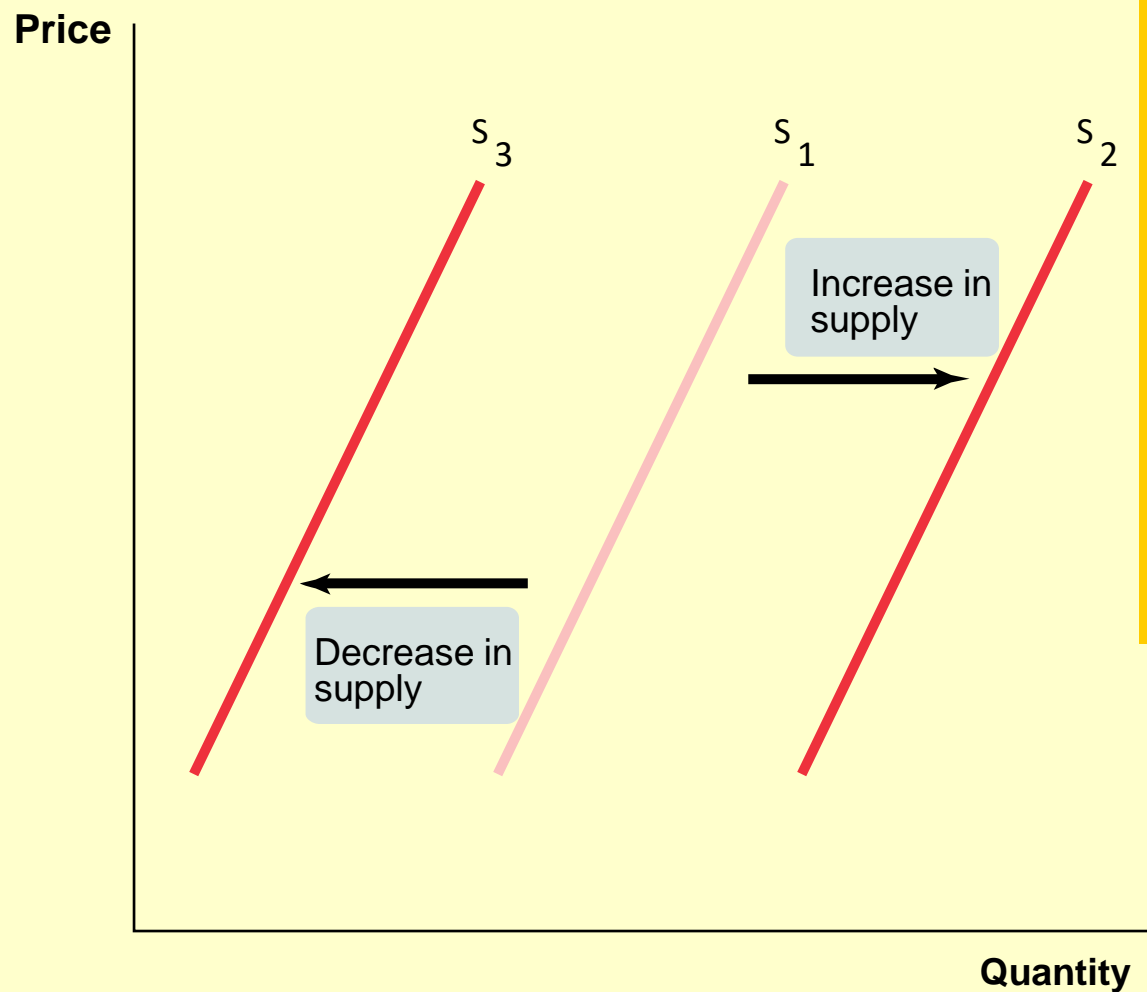
A shift of the supply curve is a change in the quantity supplied of a good at any given price.

Movement Along the Supply Curve



A movement along the supply curve is a change in the quantity supplied of a good that is the result of a change in that good's price.

Shifts of the Supply Curve



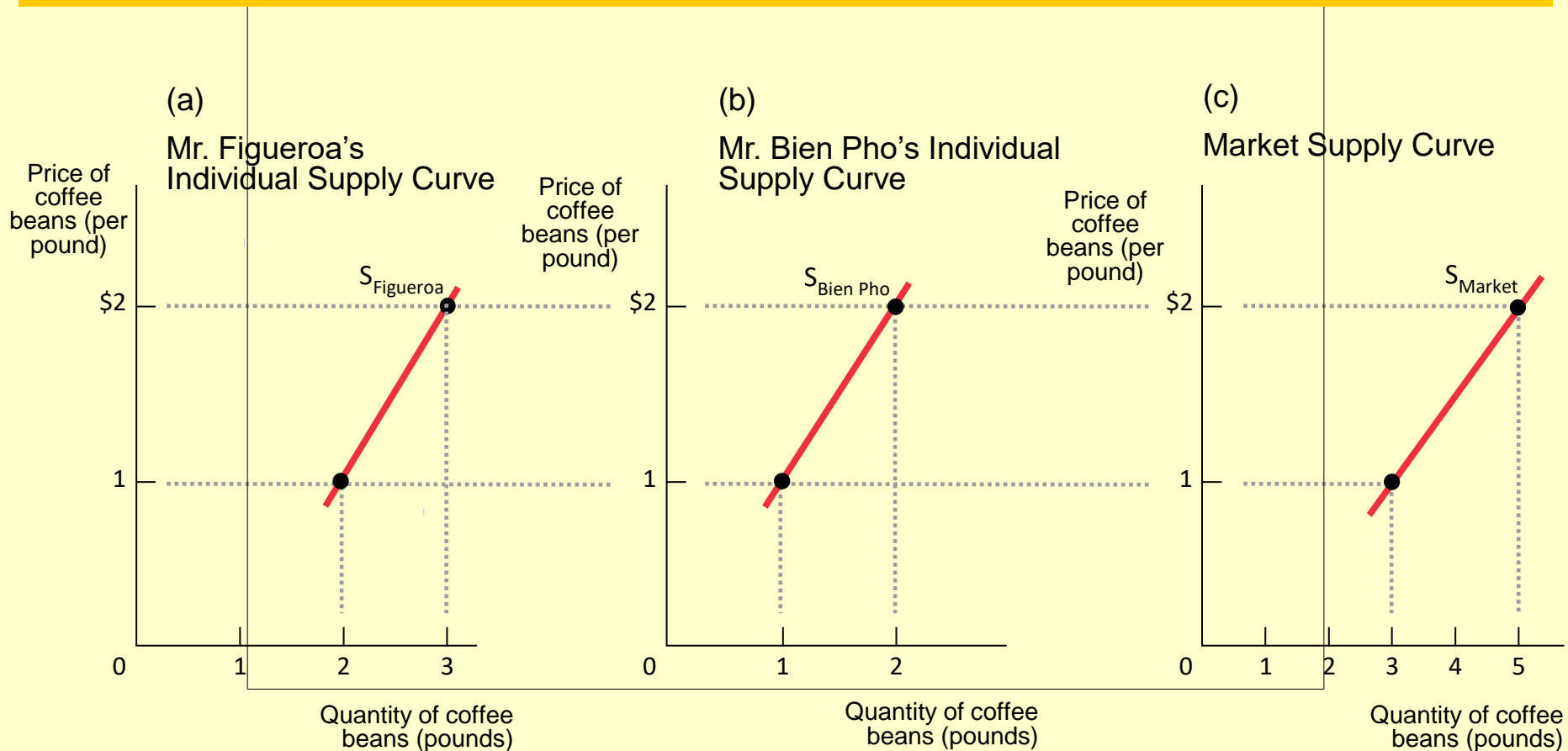
Any “**decrease in supply**” means a *leftward* shift of the supply curve: at any given price, there is a decrease in the quantity supplied. ($S_1 \rightarrow S_3$)

What Causes a Supply Curve to Shift?

- Changes in input prices
 - *An **input** is a good that is used to produce another good.*
 - Changes in the prices of related goods and services
 - Changes in technology
 - Changes in expectations
 - Changes in the number of producers
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Individual Supply Curve and the Market Supply Curve

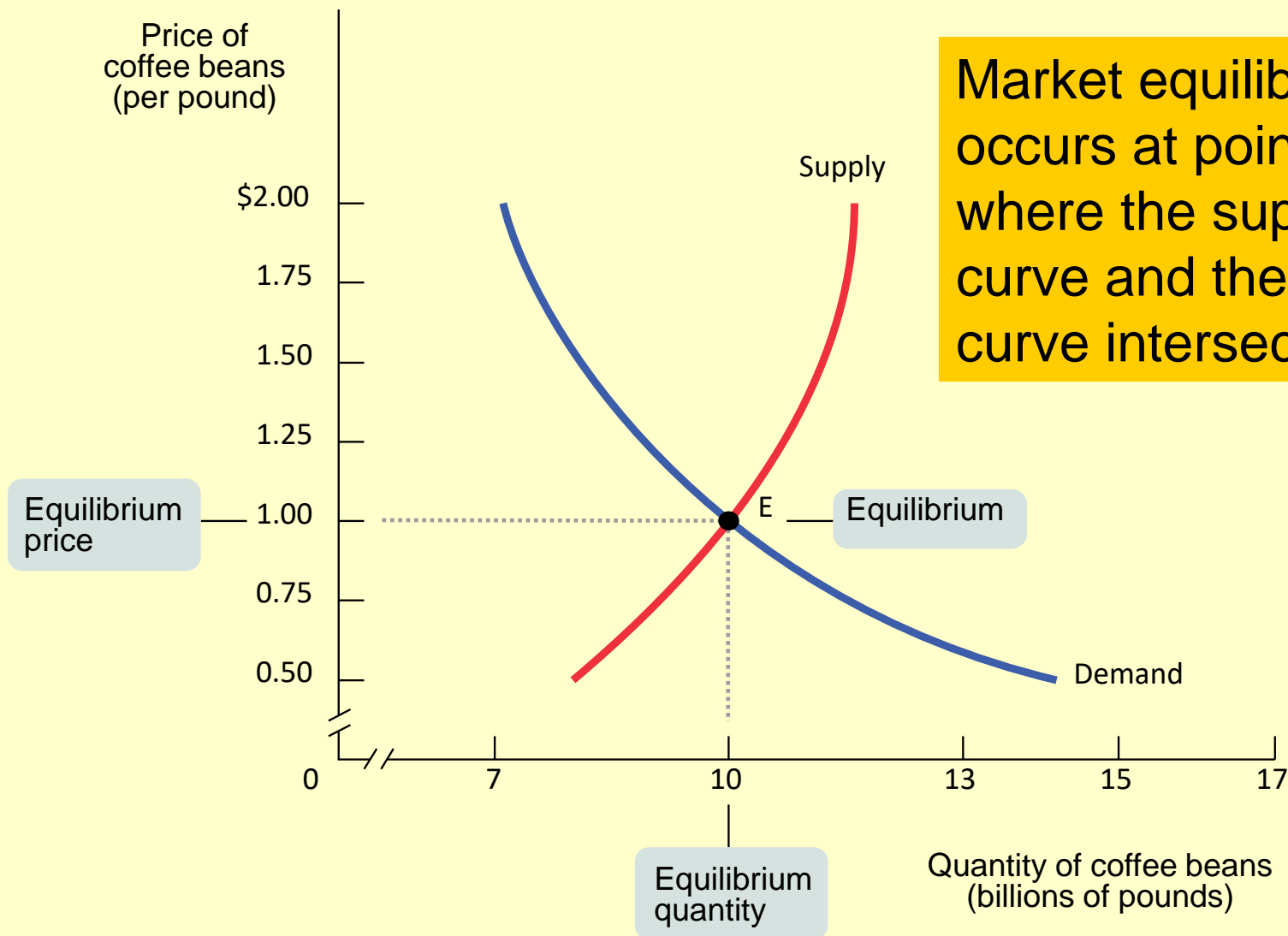
The market supply curve is the *horizontal sum* of the individual supply curves of all firms in that market.



Supply, Demand and Equilibrium

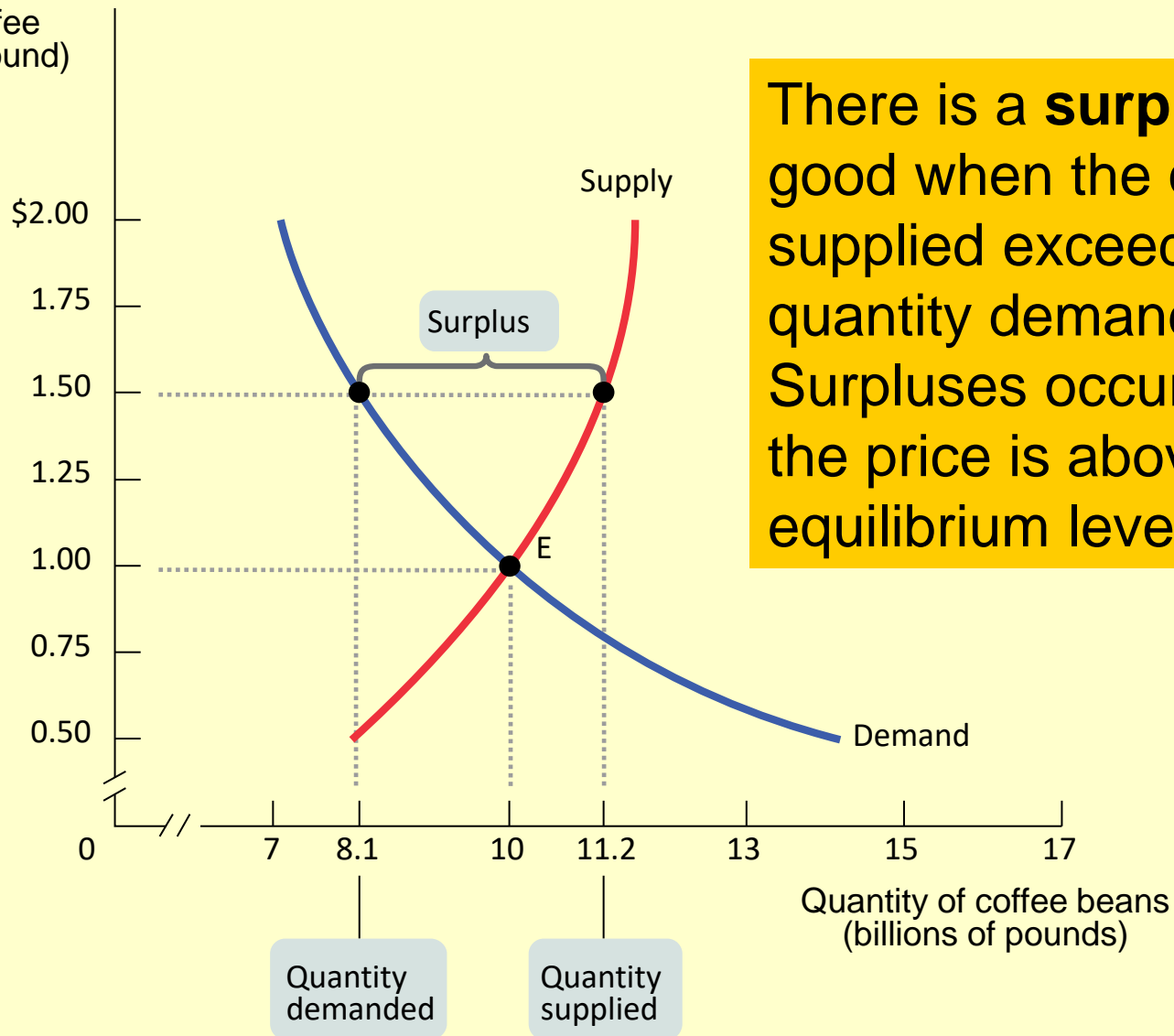
- **Equilibrium** in a competitive market: when the quantity demanded of a good equals the quantity supplied of that good.
 - The price at which this takes place is the **equilibrium price** (a.k.a. *market-clearing price*):
 - Every buyer finds a seller and vice versa.
 - The quantity of the good bought and sold at that price is the **equilibrium quantity**.
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Market Equilibrium



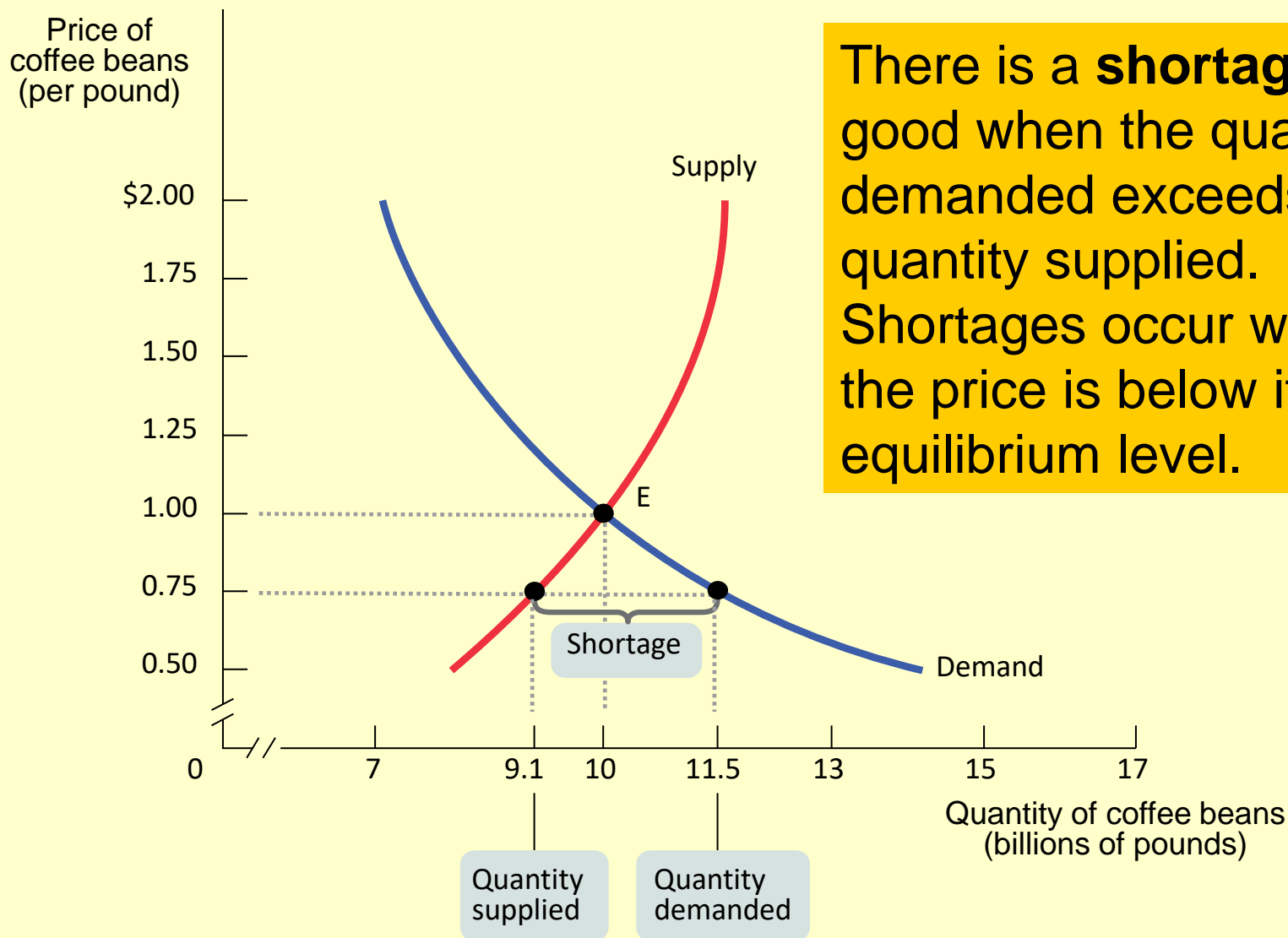
Surplus

Price of coffee beans (per pound)



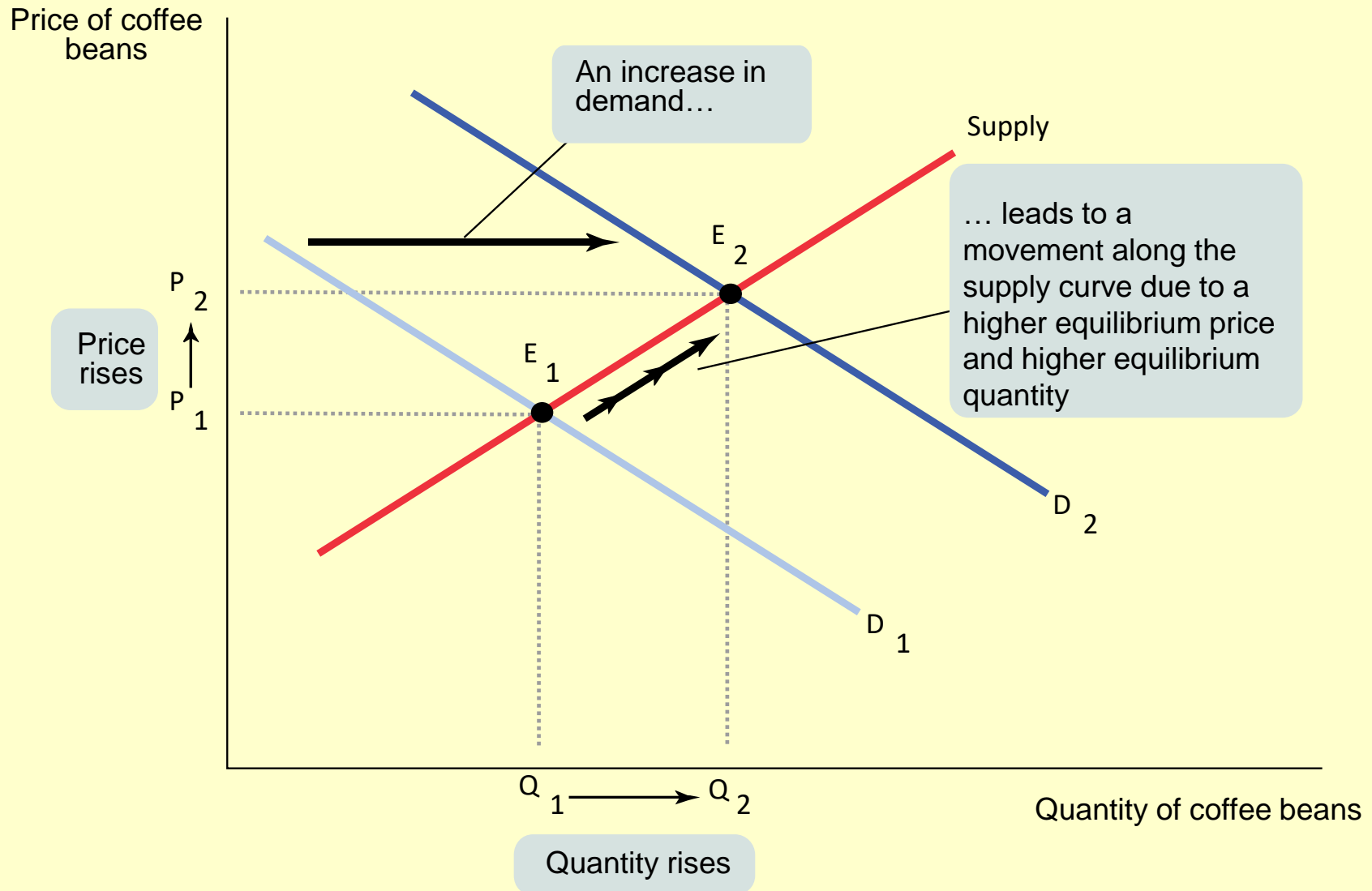
There is a **surplus** of a good when the quantity supplied exceeds the quantity demanded. Surpluses occur when the price is above its equilibrium level.

Shortage

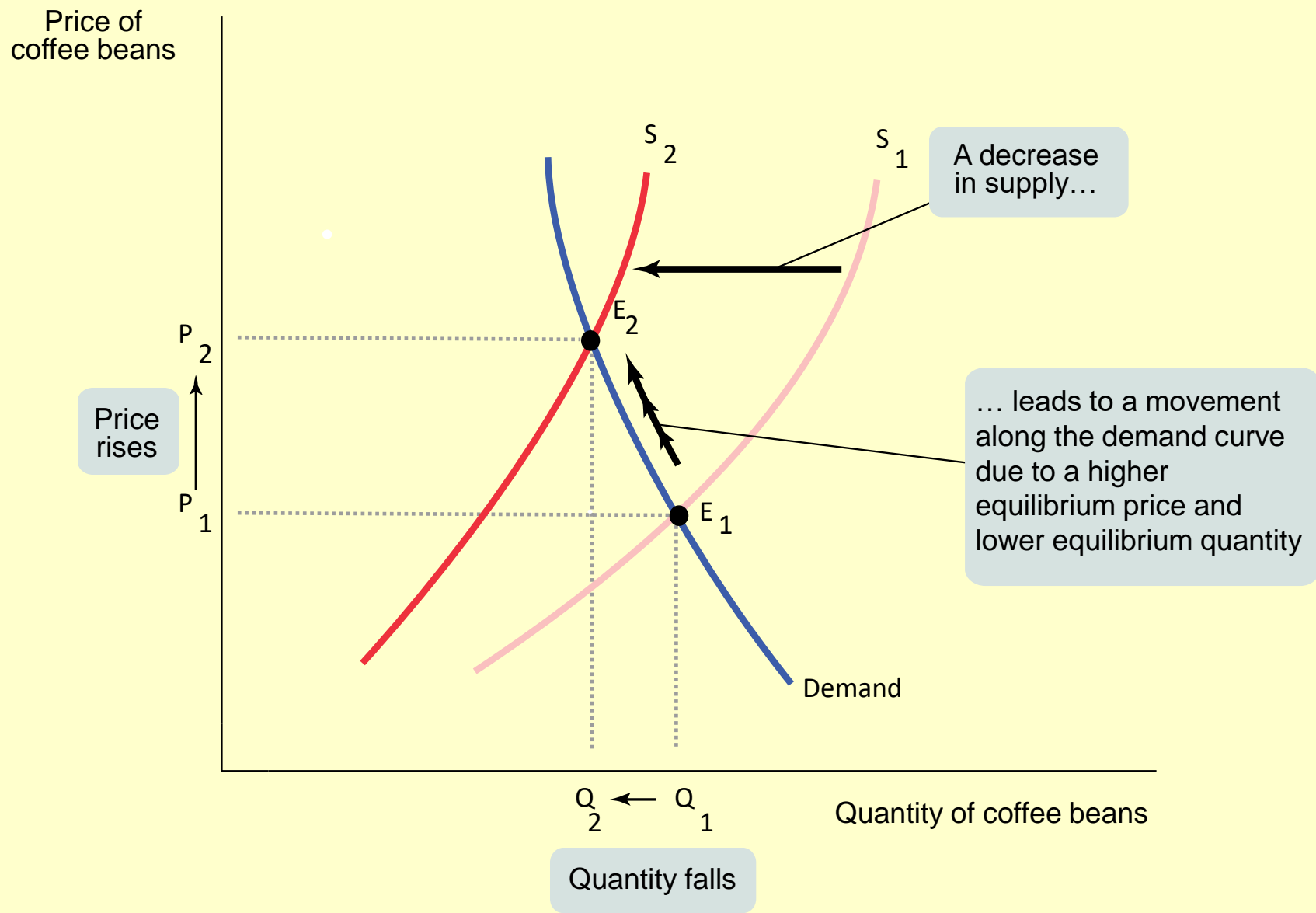


There is a **shortage** of a good when the quantity demanded exceeds the quantity supplied. Shortages occur when the price is below its equilibrium level.

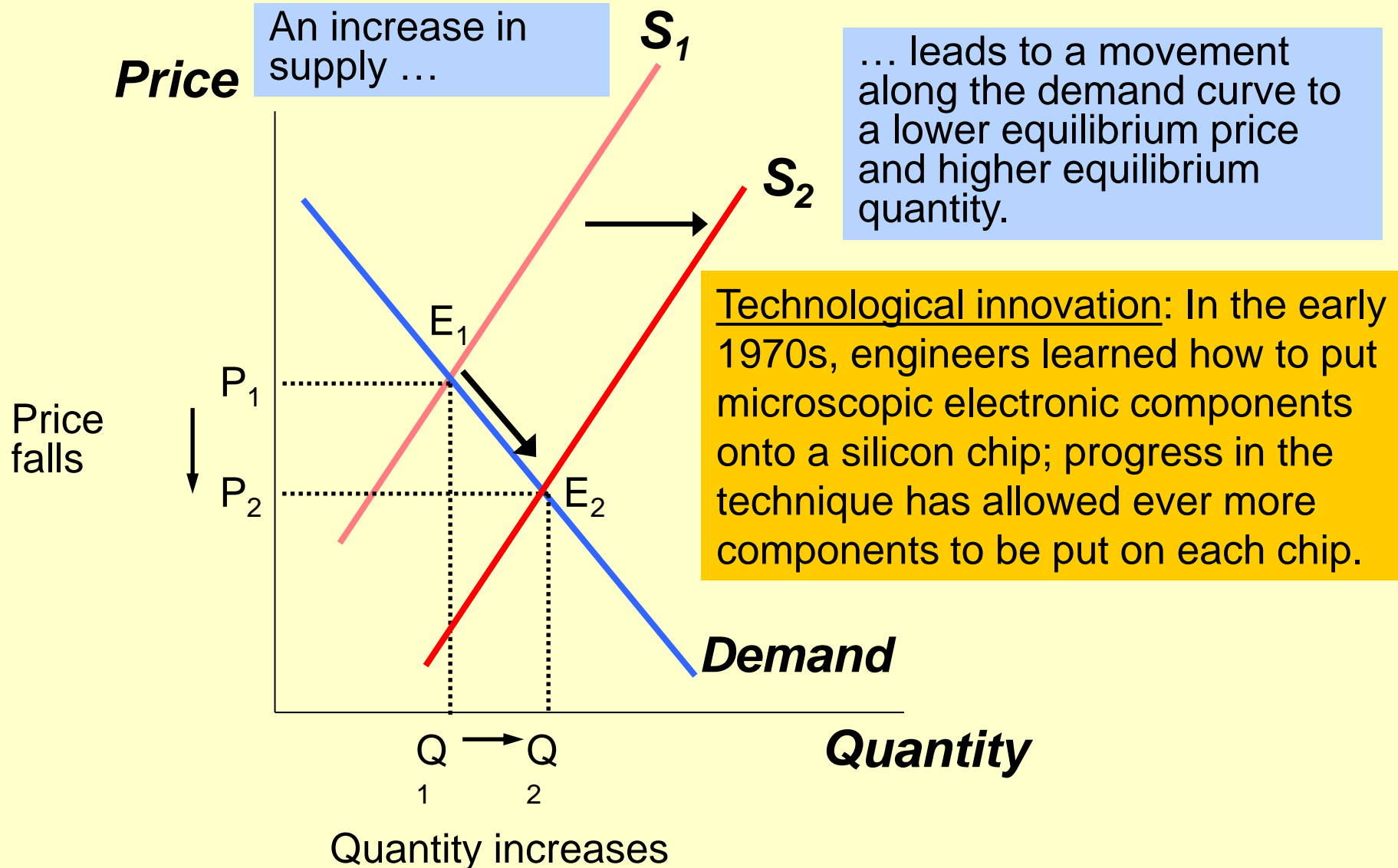
Equilibrium and Shifts of the Demand Curve



Equilibrium and Shifts of the Supply Curve

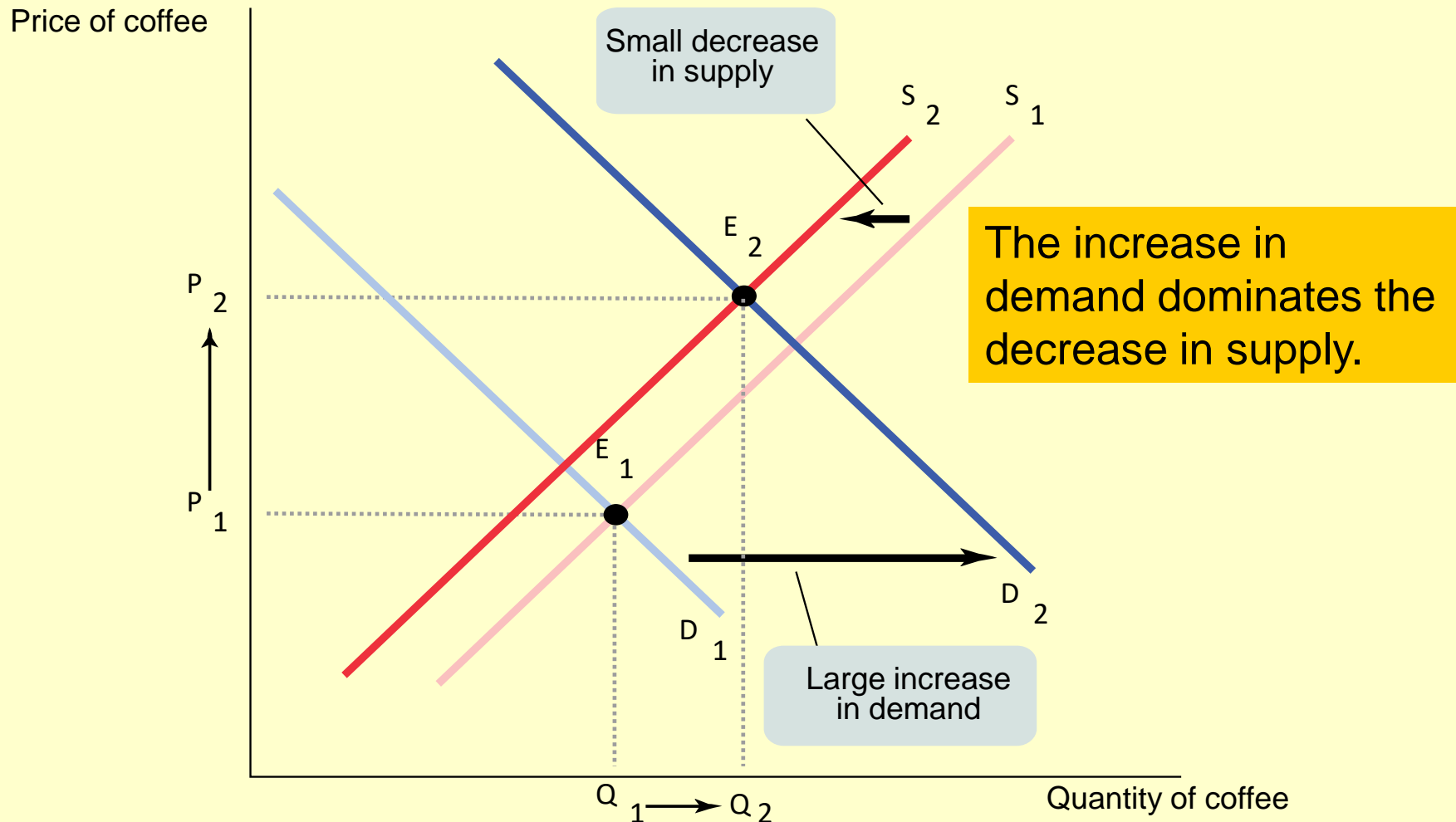


Technology Shifts of the Supply Curve



Simultaneous Shifts of Supply and Demand

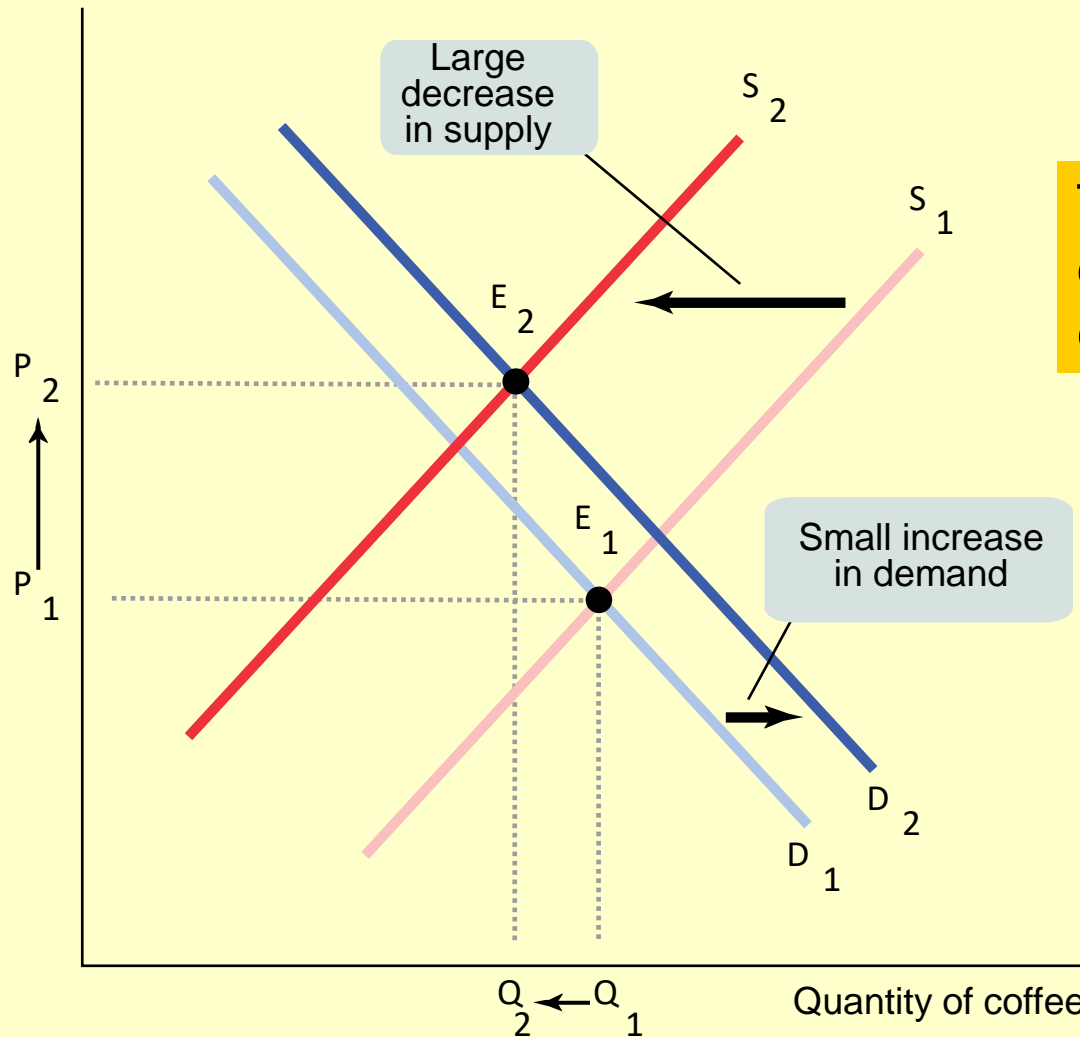
(a) One possible outcome: Price Rises, Quantity Rises



Simultaneous Shifts of Supply and Demand

(b) Another Possibility Outcome: Price Rises, Quantity Falls

Price of coffee



Two opposing forces determining the equilibrium quantity.

Simultaneous Shifts of Supply and Demand

We can make the following predictions about the outcome when the supply and demand curves shift simultaneously:

<i>Simultaneous Shifts of Supply and Demand</i>	Supply Increases	Supply Decreases
Demand Increases	<u>Price</u> : ambiguous <u>Quantity</u> : up	<u>Price</u> : up <u>Quantity</u> : ambiguous
Demand Decreases	<u>Price</u> : down <u>Quantity</u> : ambiguous	<u>Price</u> : ambiguous <u>Quantity</u> : down