The Market Forces of Demand and Supply

MARKET

- A *market* is a group of buyers and sellers of a particular good or service.

- The terms supply and demand refer to the behavior of people . . . as they interact with one another in markets.
- Markets are like the weather – sometimes stormy, sometimes calm, but always changing.

➢ To forecast prices and outputs in the individual markets, you must first master the analysis of supply and demand.

Example

- Why do hotels in hill stations charge more in summers than in winters?

- Why do cricket players earn more than hockey players in India?

Answer to these questions boil down to analysis of demand and supply in economics.

DEMAND

- *Quantity demand* indicates the quantity consumers are both willing and able to buy at each possible price during a given time period.

❖ Law of Demand

  - The *law of demand* states that, other things equal, the quantity demanded of a good falls when the price of the good rises.

The Demand Curve: The Relationship between Price and Quantity Demanded

- Demand Schedule
  - The *demand schedule* is a table that shows the relationship between the price of the good and the quantity demanded.

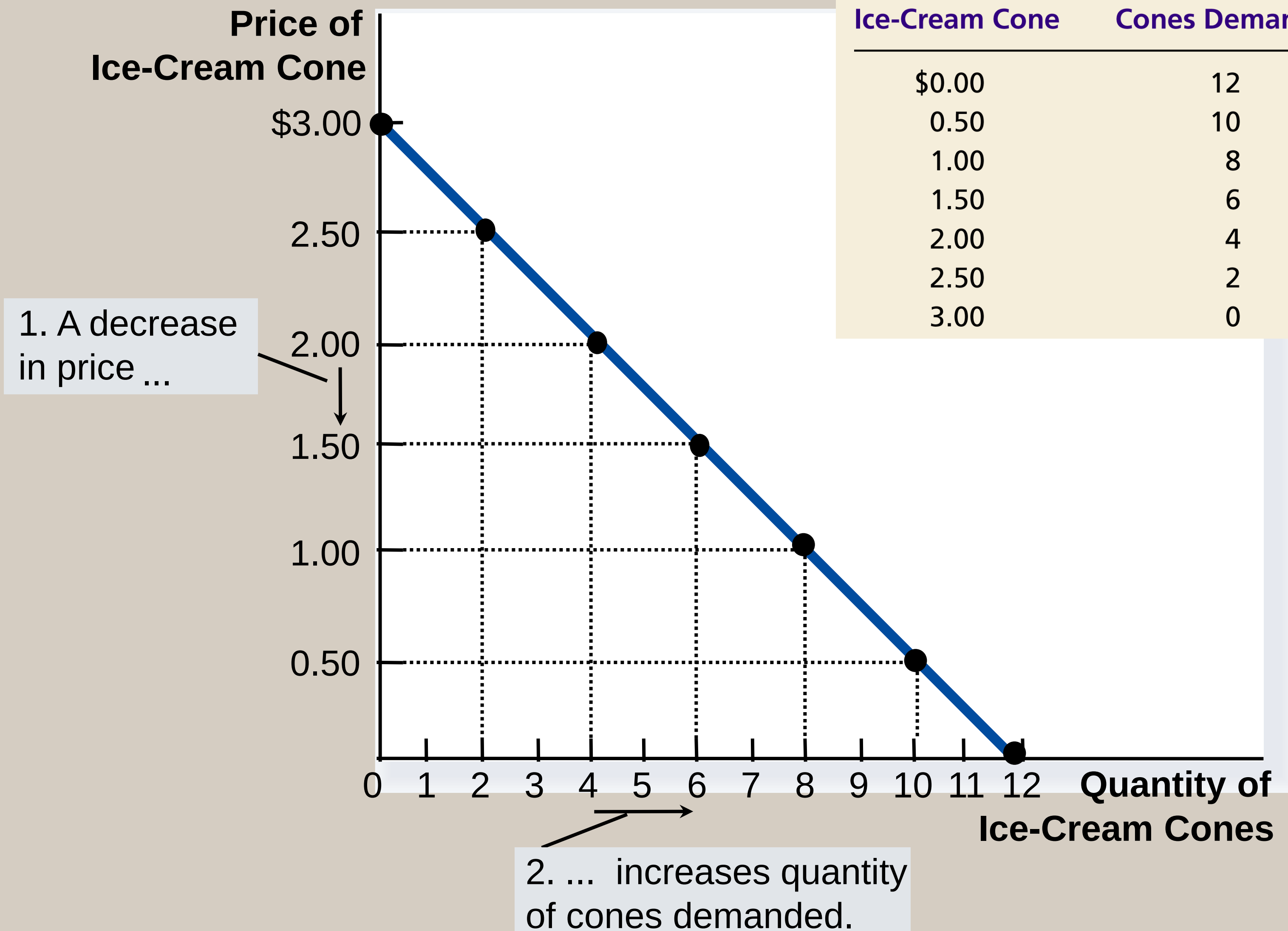
Individual Demand Schedule

Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	12
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

The Demand Curve: The Relationship between Price and Quantity Demanded

- Demand Curve
  - The *demand curve* is a graph of the relationship between the price of a good and the quantity demanded.

Figure 1: Demand Schedule and Demand Curve



Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	12
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

Market Demand versus Individual Demand

- Market demand refers to the sum of all individual demands for a particular good or service.
- Graphically, individual demand curves are summed horizontally to obtain the market demand curve.

Law of downward-sloping demand: Why it happens?

- When the price of commodity is raised (and other things are held constant), buyers tend to buy less of the commodity and vice-versa.

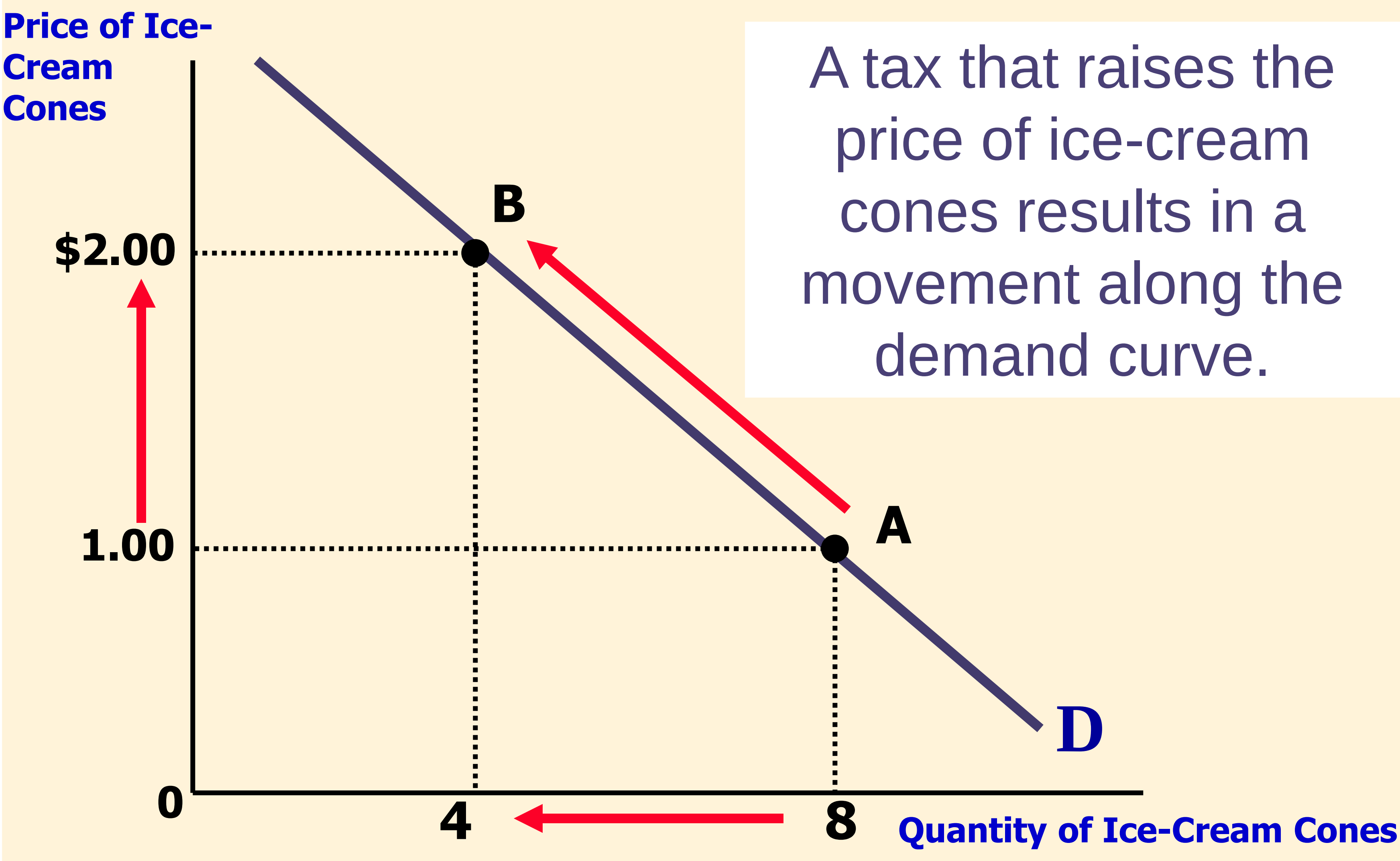
❖ Substitution effect (price of good A raises, people substitute goods B, C,D,…)

❖ Income effect (increase in price make the people poorer than was before)

Changes in Quantity Demanded vs. Change in Demand

- **Movement in Demand Curve**
- **Change in Demand Curve**

Changes in Quantity Demanded



A tax that raises the price of ice-cream cones results in a movement along the demand curve.

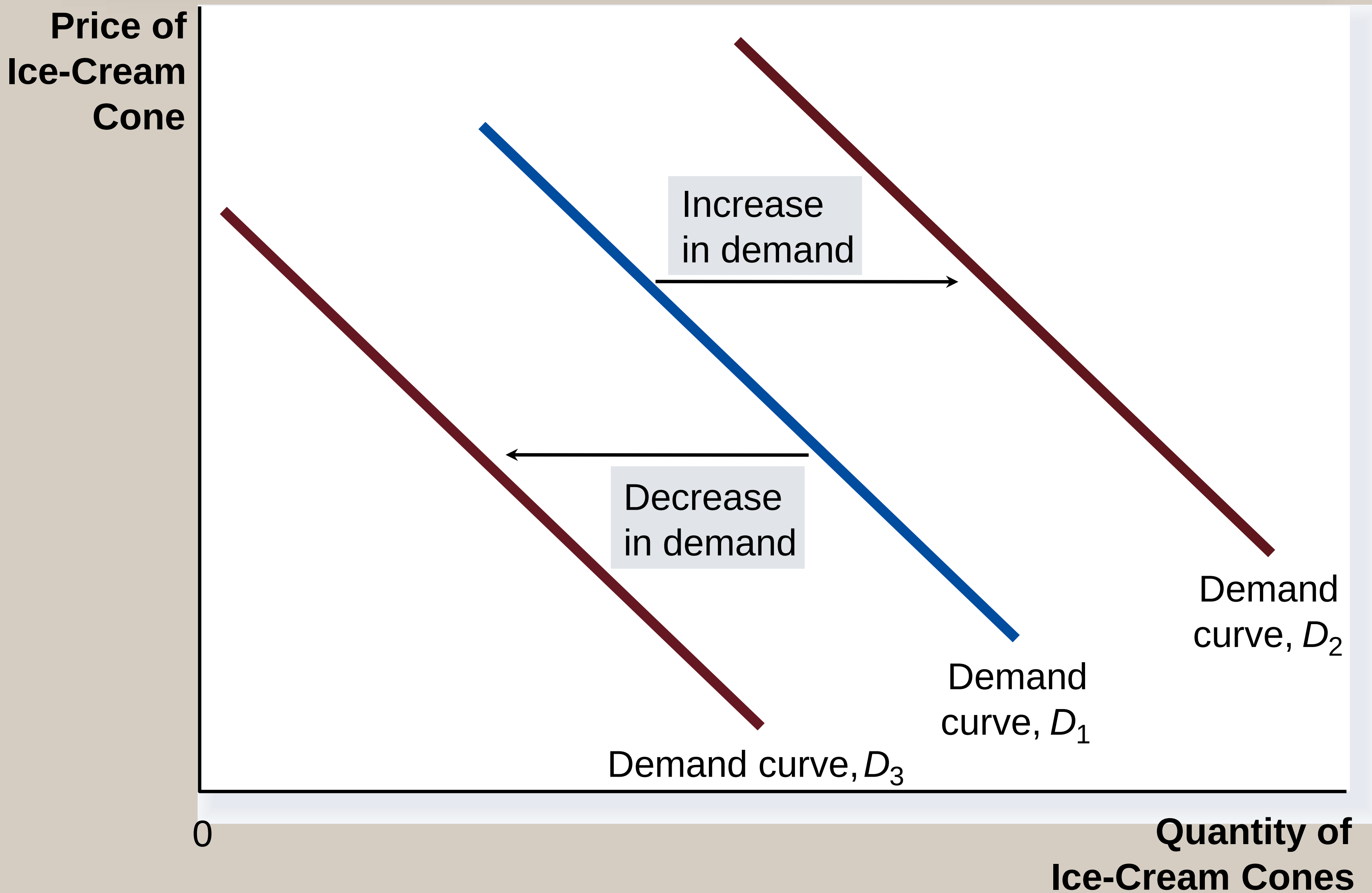
Forces behind the Demand Curve

- Average income of consumers
- Own prices
- Prices of related goods
- Size of the market
- Tastes or preferences
- Expectations

Shifts in the Demand Curve

- Change in Demand
  - A shift in the demand curve, either to the left or right.
  - Caused by any change that alters the quantity demanded at every price.

Figure 3 Shifts in the Demand Curve



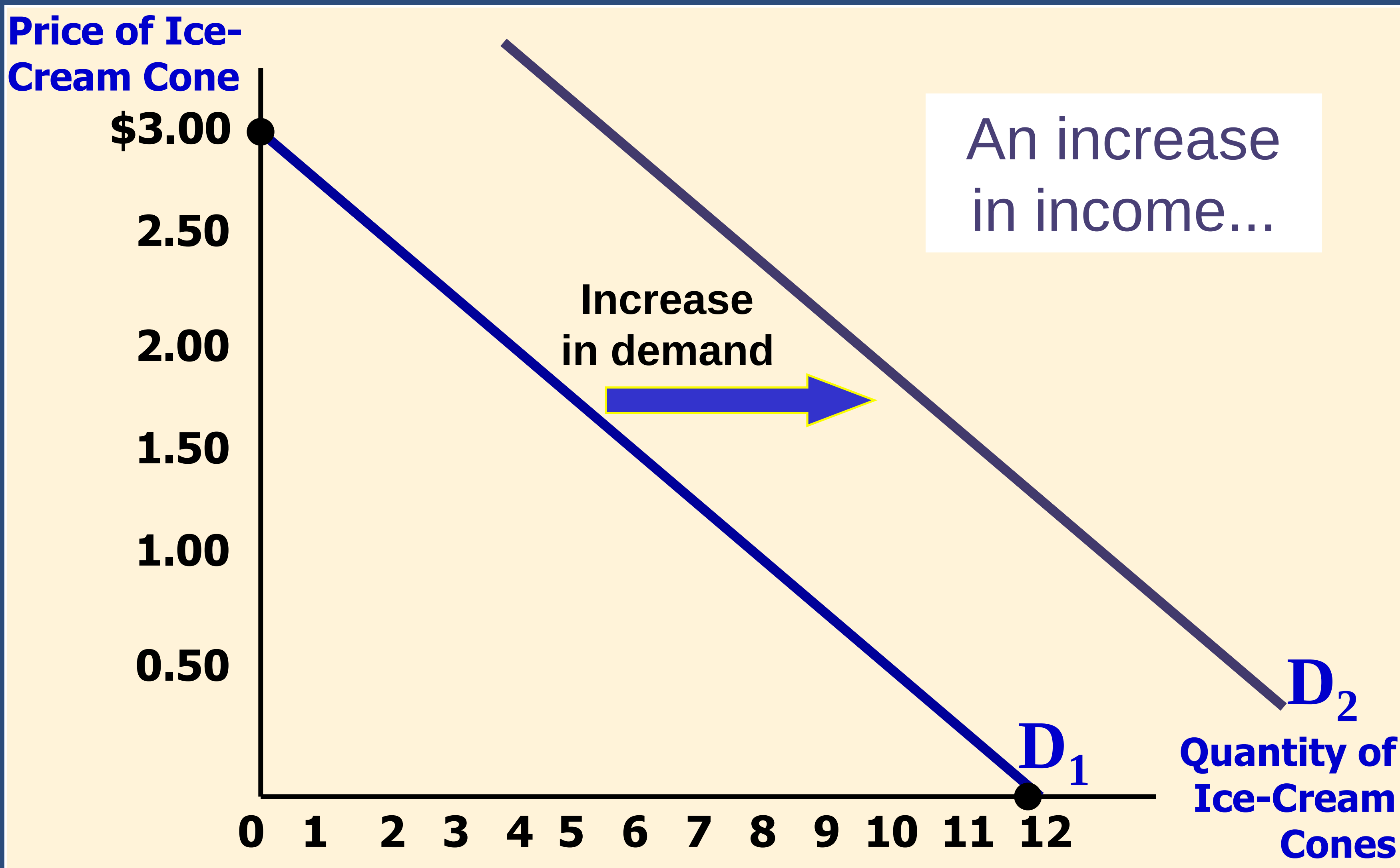
Shifts in the Demand Curve

- Consumer Income
  - As income increases the demand for a *normal good* will increase. (demand increases when income increases and vice-versa)
  - As income increases the demand for an *inferior good* will decrease. (when income rises, demand for inferior goods falls and vice-versa)
  - Examples: **Normal** – Food, clothing, etc.

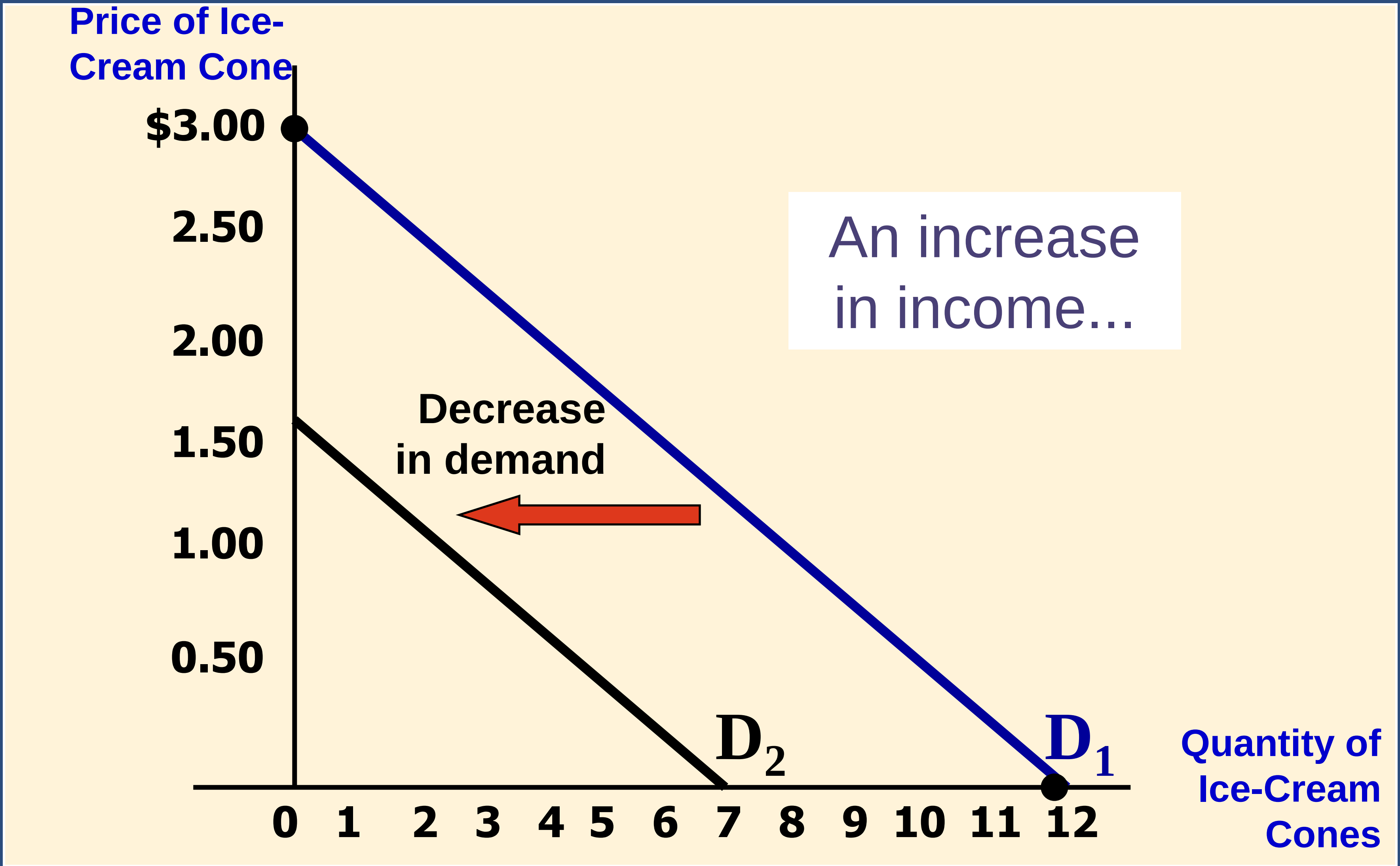
Inferior – generic food products, ride a bus, clothes from footpath market, etc.

Giffen goods: staple foods, bread, etc.

Consumer Income
Normal Good



Consumer Income
Inferior Good



Shifts in the Demand Curve

- Prices of Related Goods
  - When a increase in the price of one good increases the demand for another good, the two goods are called *substitutes*. (e.g. tea vs. coffee, red meat vs. chicken meat, variant of sedan cars, etc.)
  - When a increase in the price of one good decreases the demand for another good, the two goods are called *complements*. (e.g. shoes and shocks, tea and sugar, car and petrol, etc.)

SUPPLY

- *Supply* indicates how much producers are willing and able to sell per period at each possible price.
- Law of Supply
  - The *law of supply* states that, other things equal, the quantity supplied of a good rises when the price of the good rises.

The Supply Curve: The Relationship between Price and Quantity Supplied

- Supply Schedule
  - The *supply schedule* is a table that shows the relationship between the price of the good and the quantity supplied.

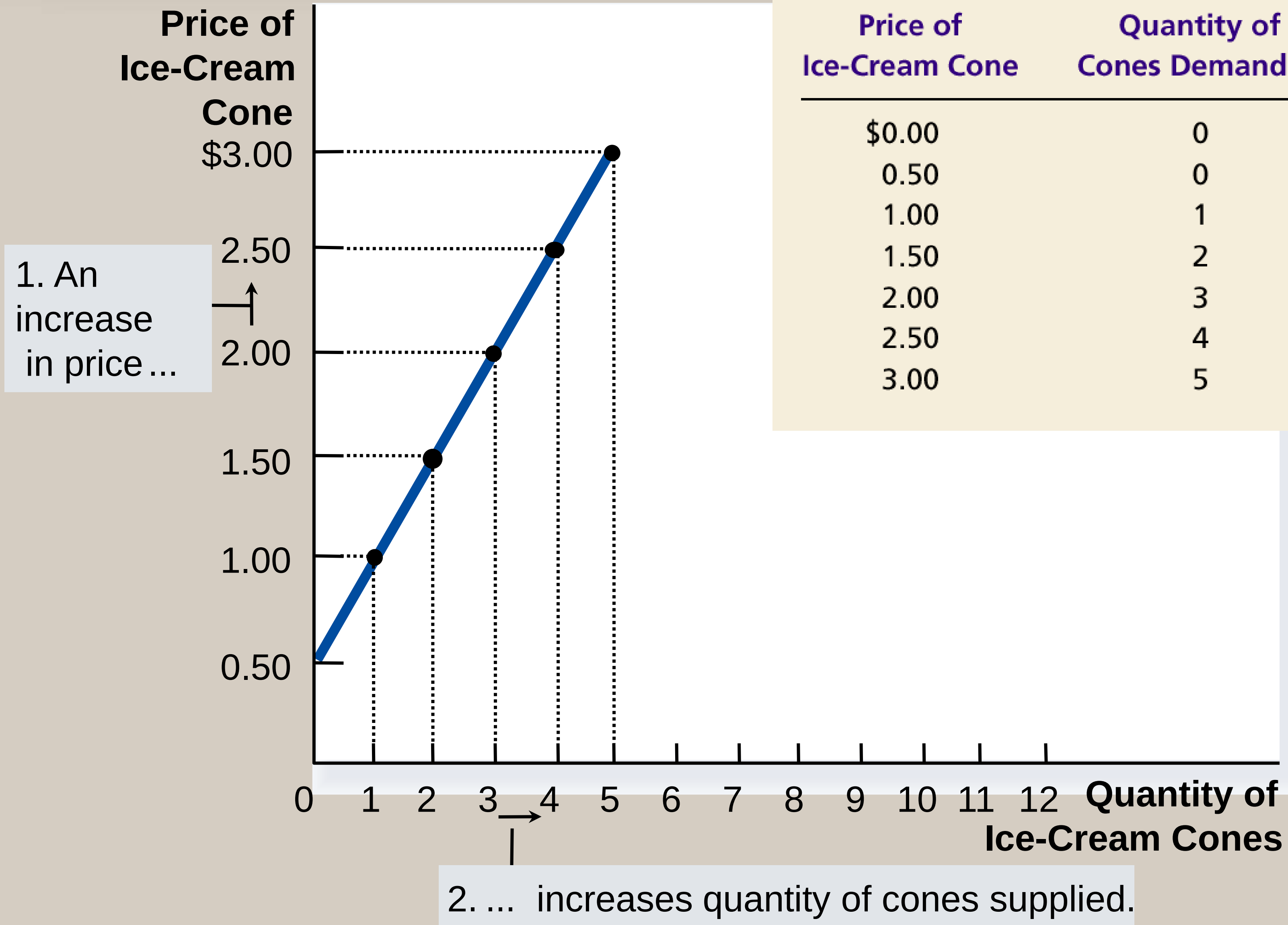
Individual Supply Schedule

Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	0
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

The Supply Curve: The Relationship between Price and Quantity Supplied

- Supply Curve
  - The *supply curve* is the graph of the relationship between the price of a good and the quantity supplied.

Alok’s Supply Schedule and Supply Curve



Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	0
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

Market Supply versus Individual Supply

- Market supply refers to the sum of all individual supplies for all sellers of a particular good or service.
- Graphically, individual supply curves are summed horizontally to obtain the market supply curve.

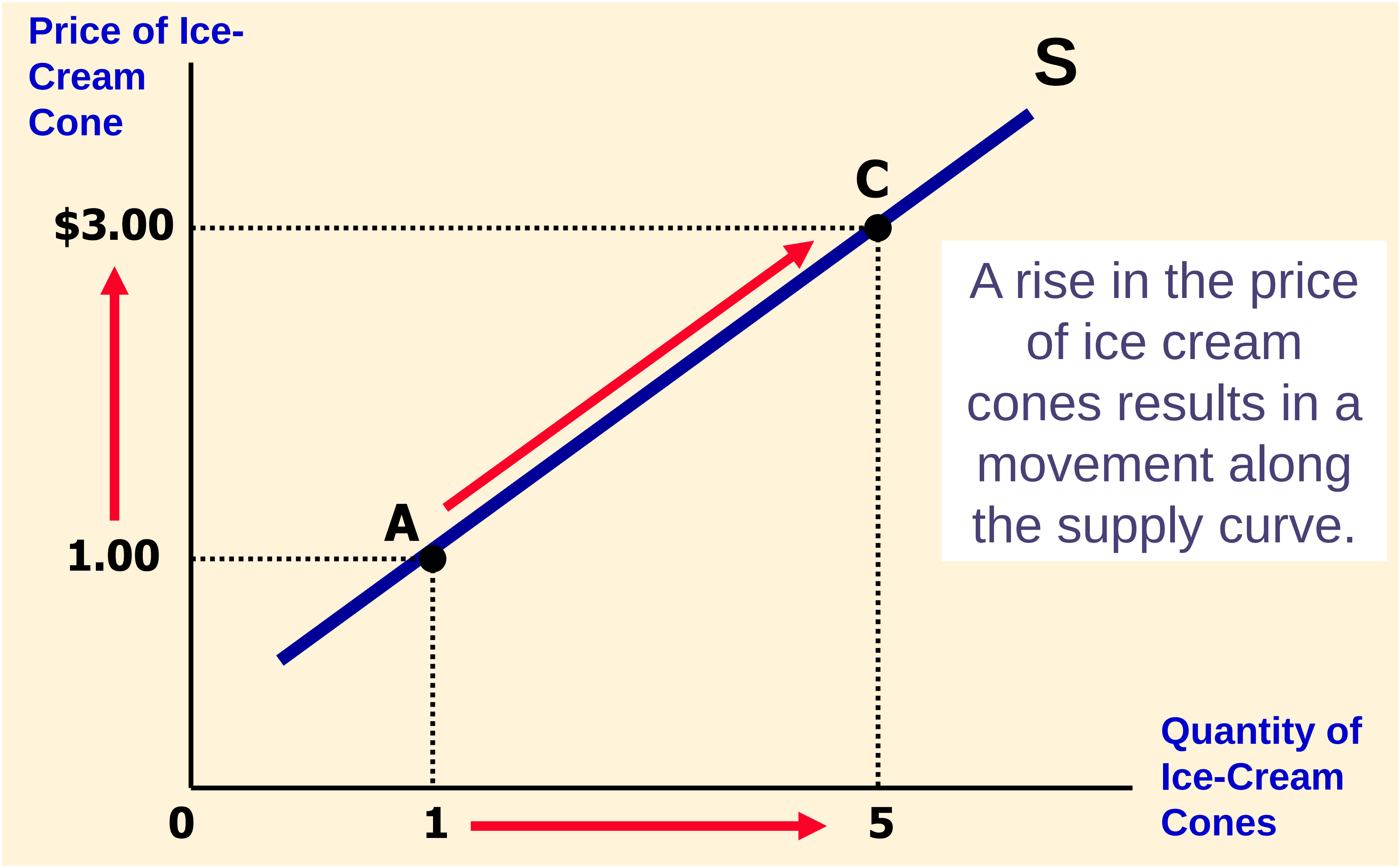
Shifts in the Supply Curve

- Input prices
- Technology
- Expectations
- Number of sellers

Shifts in the Supply Curve

- Change in Quantity Supplied
  - Movement along the supply curve.
  - Caused by a change in anything that alters the quantity supplied at each price.

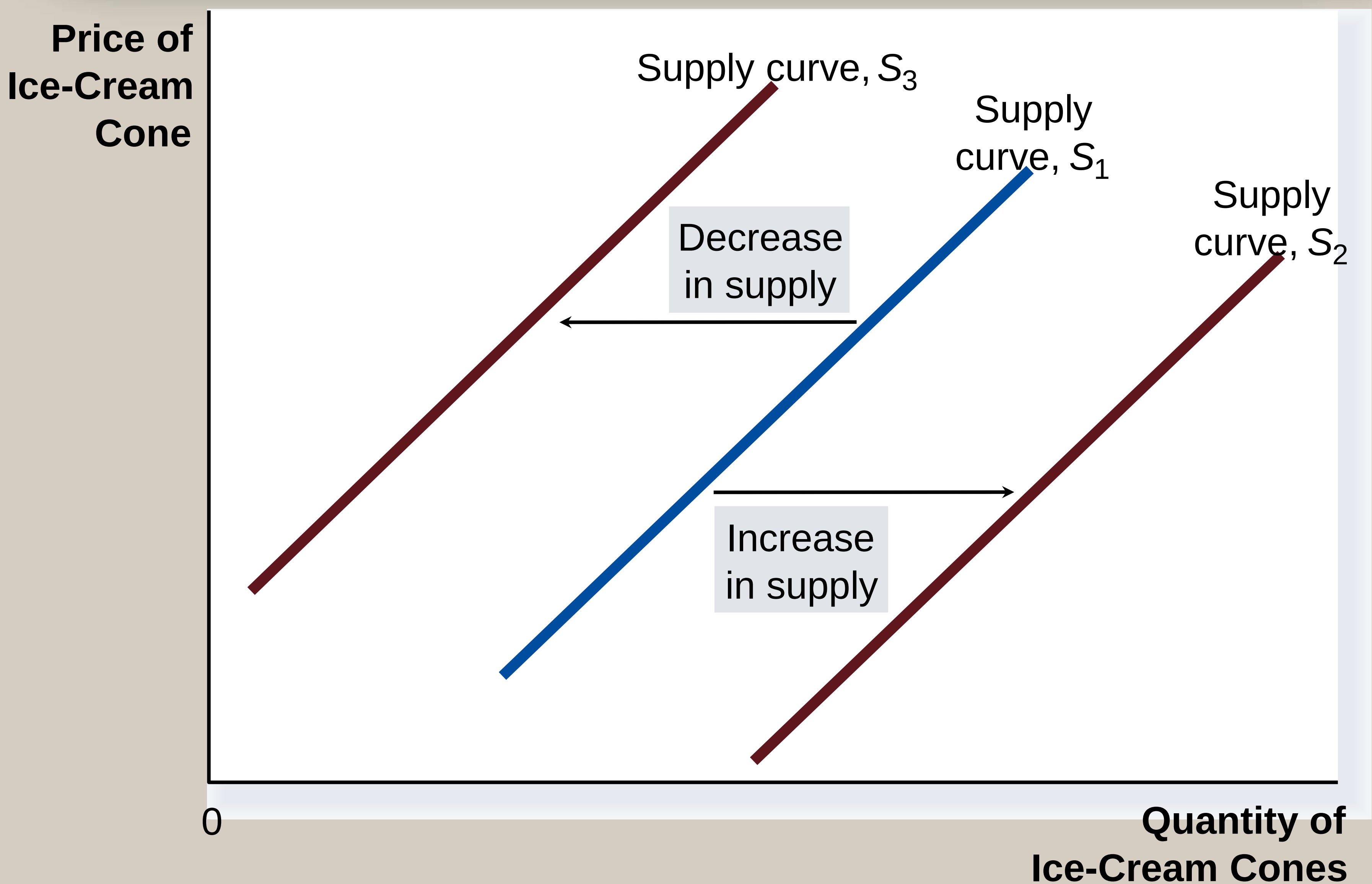
Change in Quantity Supplied



Shifts in the Supply Curve

- Change in Supply
  - A shift in the supply curve, either to the left or right.
  - Caused by a change in a determinant other than price.

Figure 7 Shifts in the Supply Curve



SUPPLY AND DEMAND TOGETHER

Equilibrium refers to a situation in which the price has reached the level where quantity supplied equals quantity demanded.

SUPPLY AND DEMAND TOGETHER

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

SUPPLY AND DEMAND TOGETHER

Demand Schedule

Price of Ice-Cream Cone	Market
$0.00	19
0.50	16
1.00	13
1.50	10
2.00	7
2.50	4
3.00	1

Supply Schedule

Price of Ice-Cream Cone	Market
$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!

Figure 8 The Equilibrium of Supply and Demand

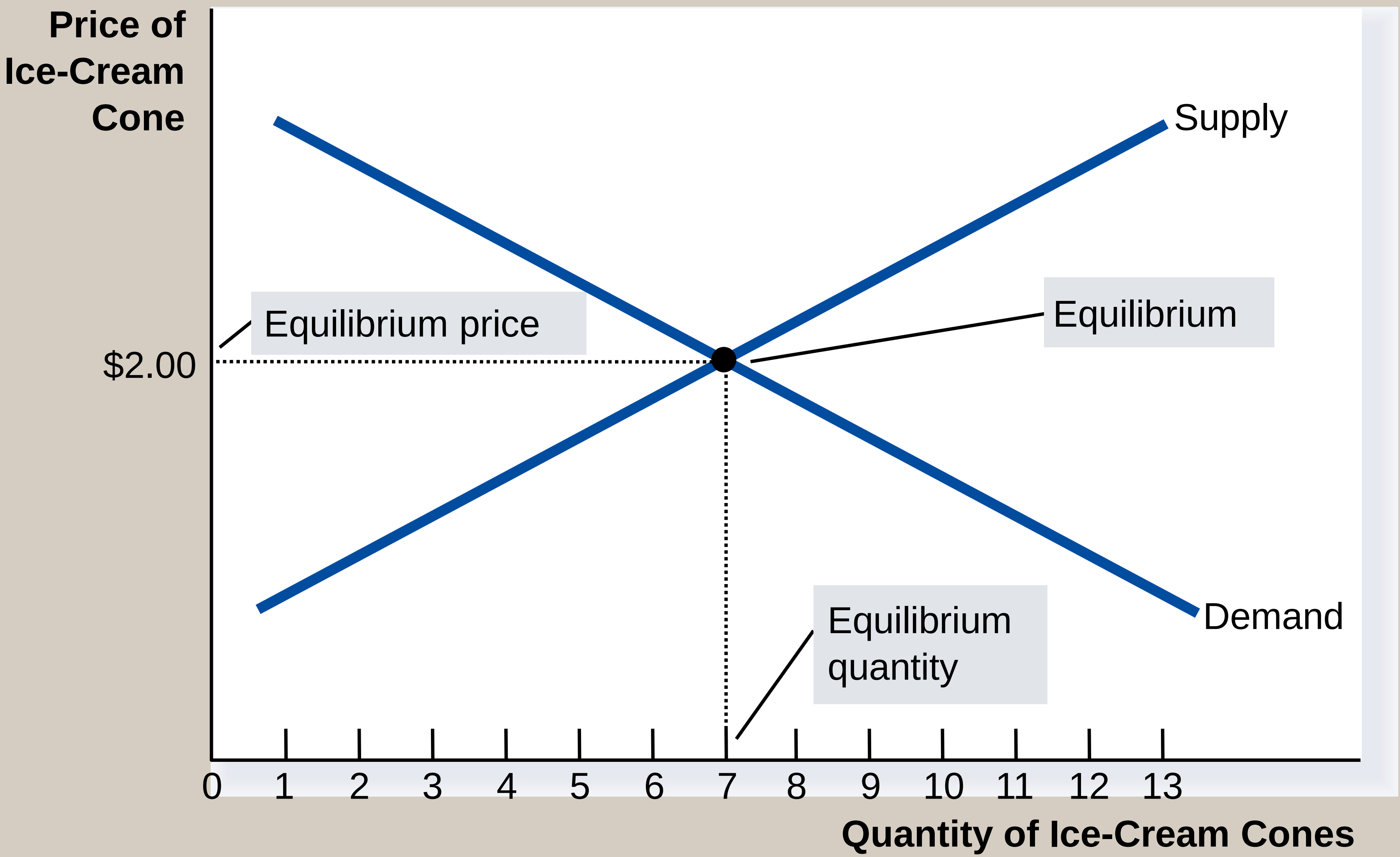
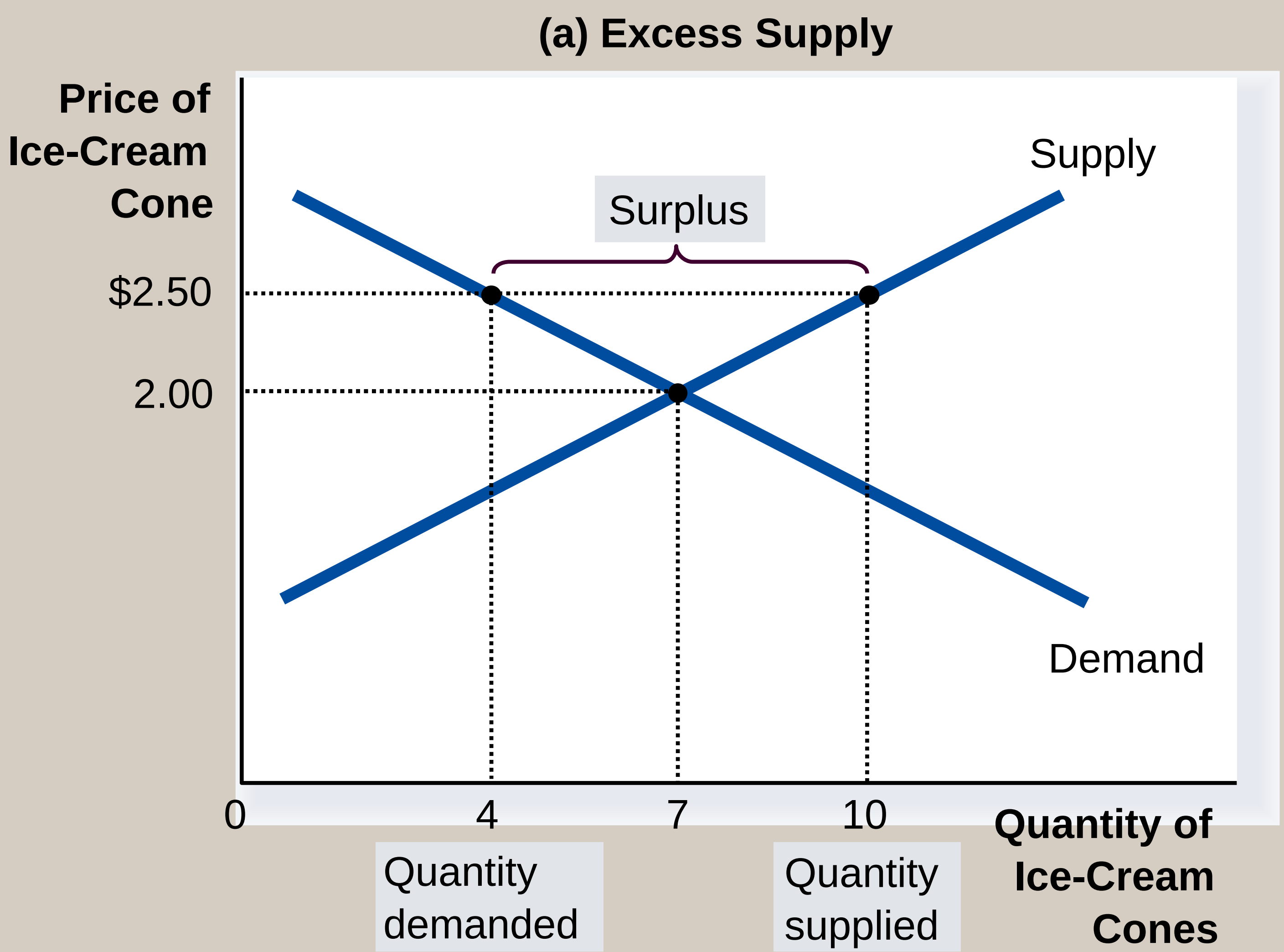


Figure 9 Markets Not in Equilibrium



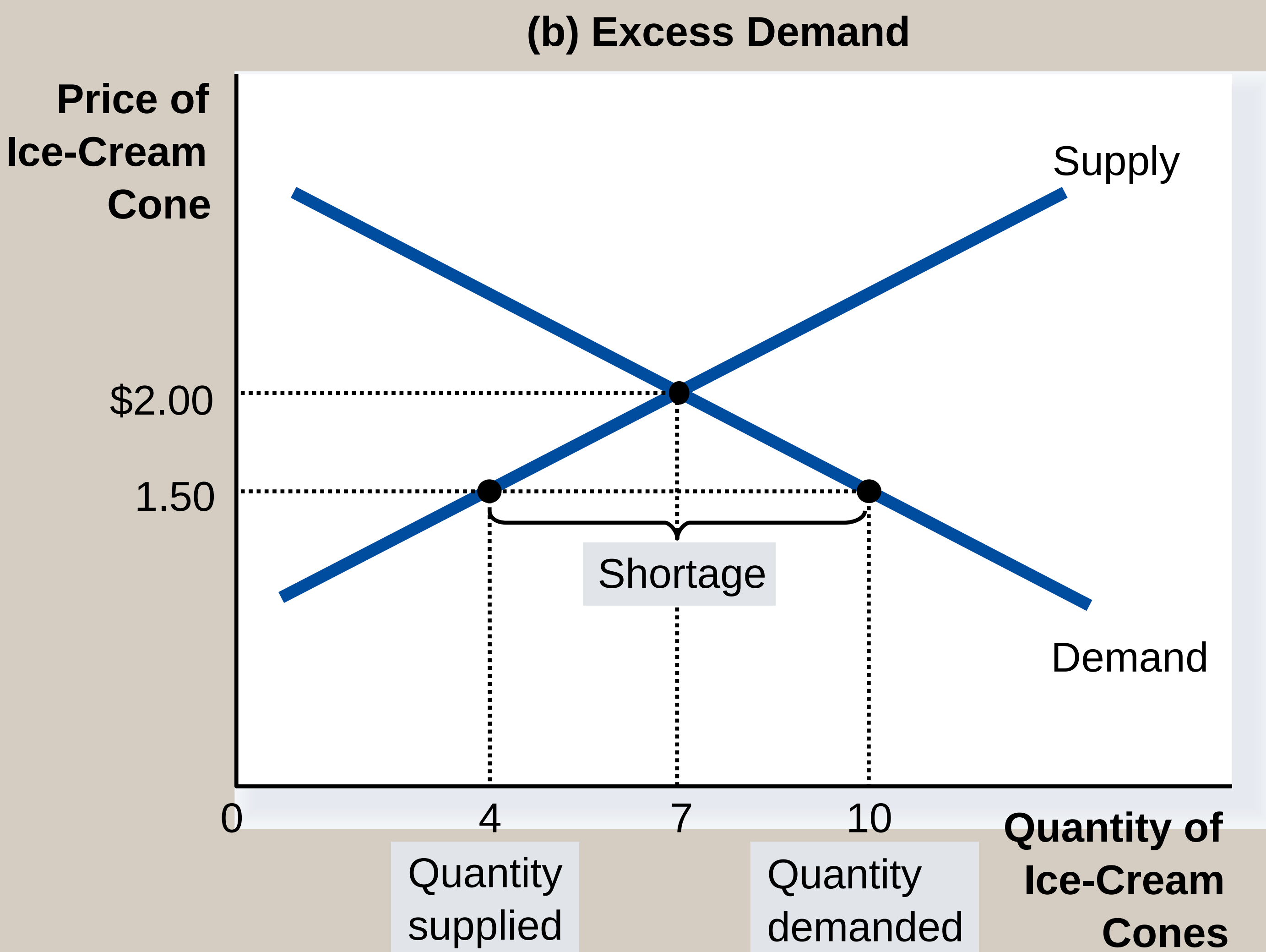
Equilibrium

- *Surplus*
  - When price > equilibrium price, then quantity supplied > quantity demanded.
    - There is excess supply or a surplus.
    - Suppliers will lower the price to increase sales, thereby moving toward equilibrium.

Equilibrium

- *Shortage*
  - When price < equilibrium price, then quantity demanded > the quantity supplied.
    - There is excess demand or a shortage.
    - Suppliers will raise the price due to too many buyers chasing too few goods, thereby moving toward equilibrium.

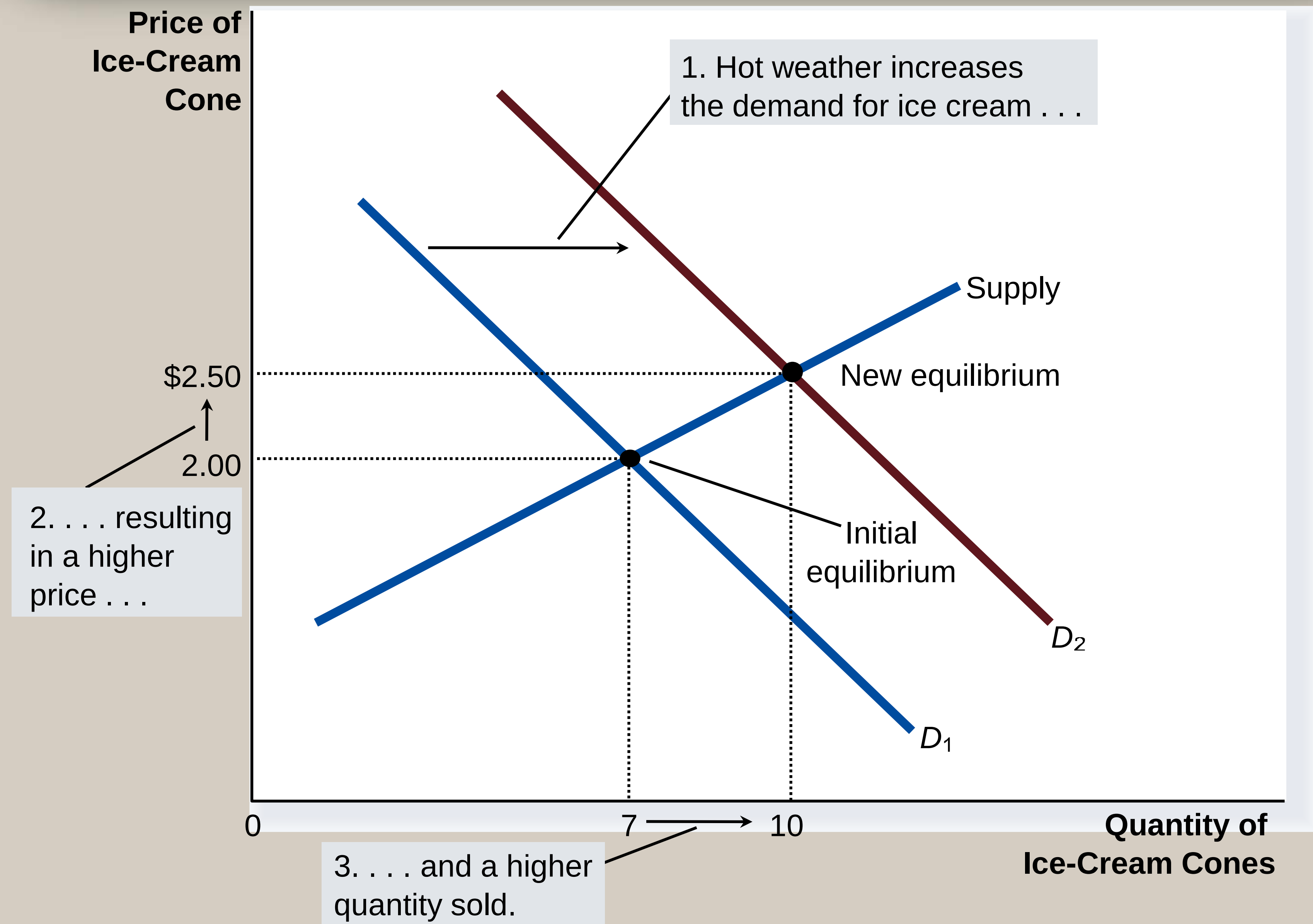
Figure 9 Markets Not in Equilibrium



Three Steps to Analyzing Changes in Equilibrium

- Decide whether the event shifts the supply or demand curve (or both).
- Decide whether the curve(s) shift(s) to the left or to the right.
- Use the supply-and-demand diagram to see how the shift affects equilibrium price and quantity.

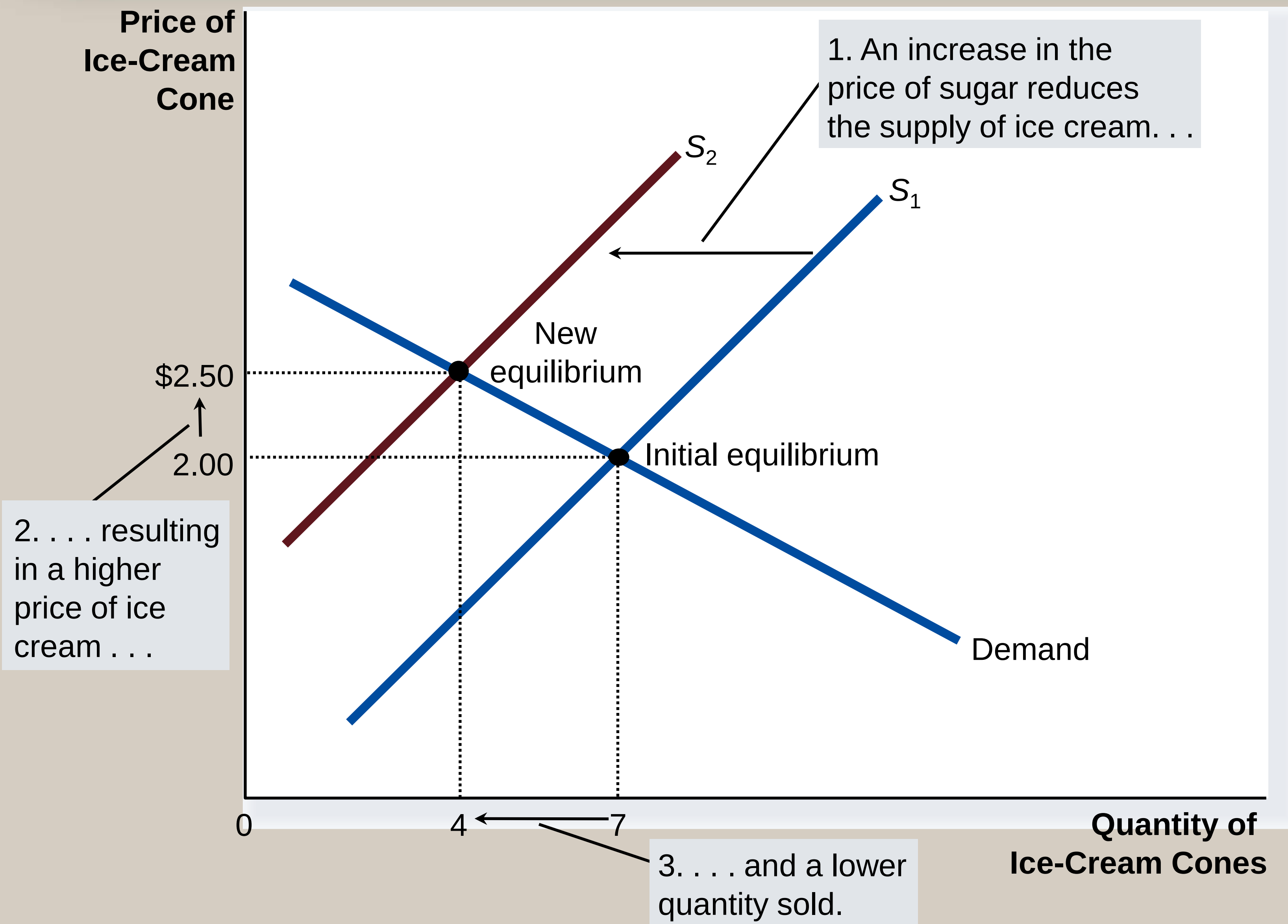
Figure 10 How an Increase in Demand Affects the Equilibrium



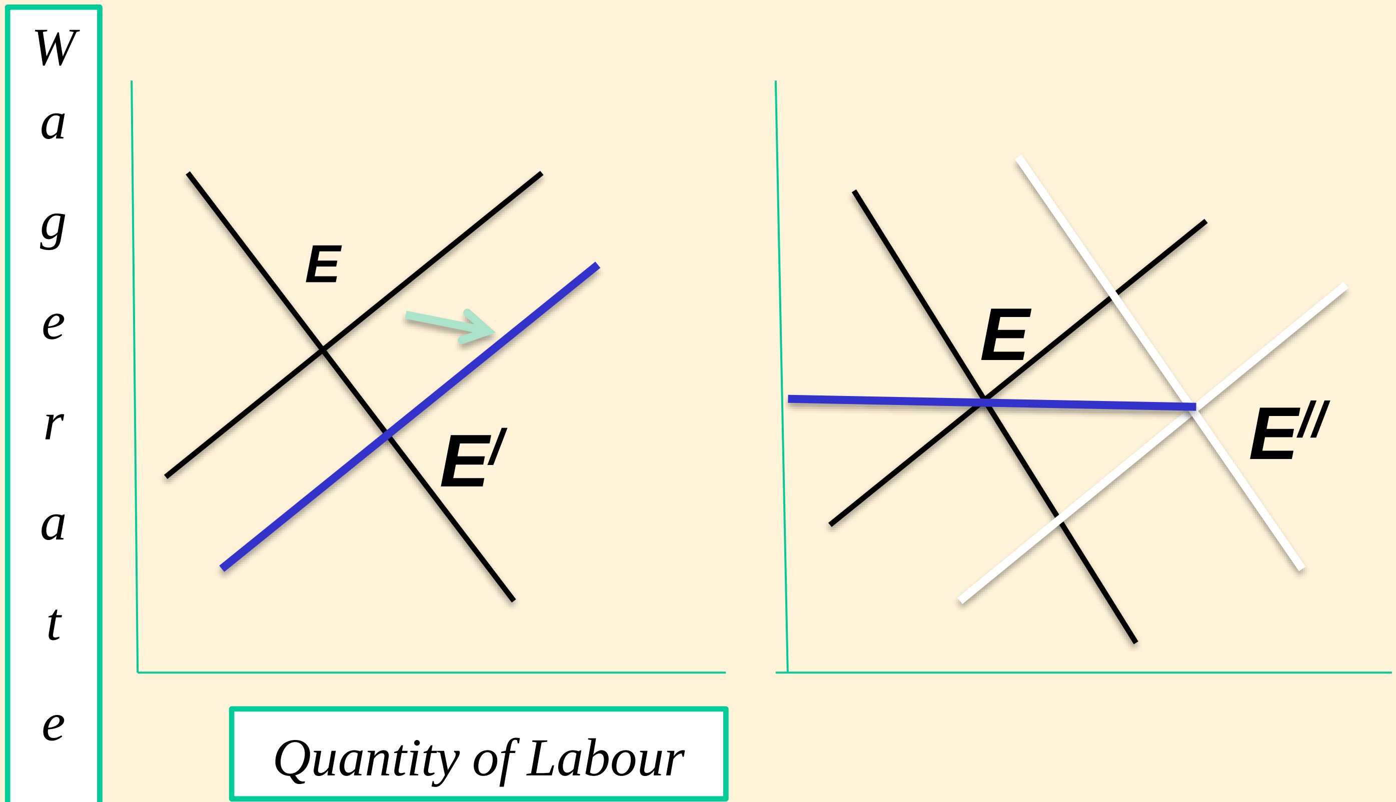
Three Steps to Analyzing Changes in Equilibrium

- Shifts in Curves versus Movements along Curves
  - A shift in the supply curve is called a change in supply.
  - A movement along a fixed supply curve is called a change in quantity supplied.
  - A shift in the demand curve is called a change in demand.
  - A movement along a fixed demand curve is called a change in quantity demanded.

Figure 11 How a Decrease in Supply Affects the Equilibrium



A change in both Supply and Demand (e.g. Immigration)



(a) *Immigration Alone*

(b) *Immigration to growing cities*

Table 4 What Happens to Price and Quantity When Supply or Demand Shifts?

	No Change in Supply	An Increase in Supply	A Decrease in Supply
No Change in Demand	*P* same *Q* same	*P* down *Q* up	*P* up *Q* down
An Increase in Demand	*P* up *Q* up	*P* ambiguous *Q* up	*P* up *Q* ambiguous
A Decrease in Demand	*P* down *Q* down	*P* down *Q* ambiguous	*P* ambiguous *Q* down