2

SUPPLY AND DEMAND I: HOW MARKETS WORK

4

The Market Forces of Supply and Demand

- Supply and demand are the two words that economists use most often.
- Supply and demand are the forces that make market economies work.
- Modern microeconomics is about supply, demand, and market equilibrium.

MARKETS AND COMPETITION

- 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 AND COMPETITION

- Buyers determine *demand*.

- Sellers determine *supply*

Competitive Markets

- A *competitive market* is a market in which there are many buyers and sellers so that each has a negligible impact on the market price.

Competition: Perfect and Otherwise

- Perfect Competition
  - Products are the same
  - Numerous buyers and sellers so that each has no influence over price
  - Buyers and Sellers are price takers
- Monopoly
  - One seller, and seller controls price

Competition: Perfect and Otherwise

- Oligopoly
  - Few sellers
  - Not always aggressive competition
- Monopolistic Competition
  - Many sellers
  - Slightly differentiated products
  - Each seller may set price for its own product

DEMAND

- *Quantity demanded* is the amount of a good that buyers are willing and able to purchase.
- 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.

Catherine’s Demand Schedule

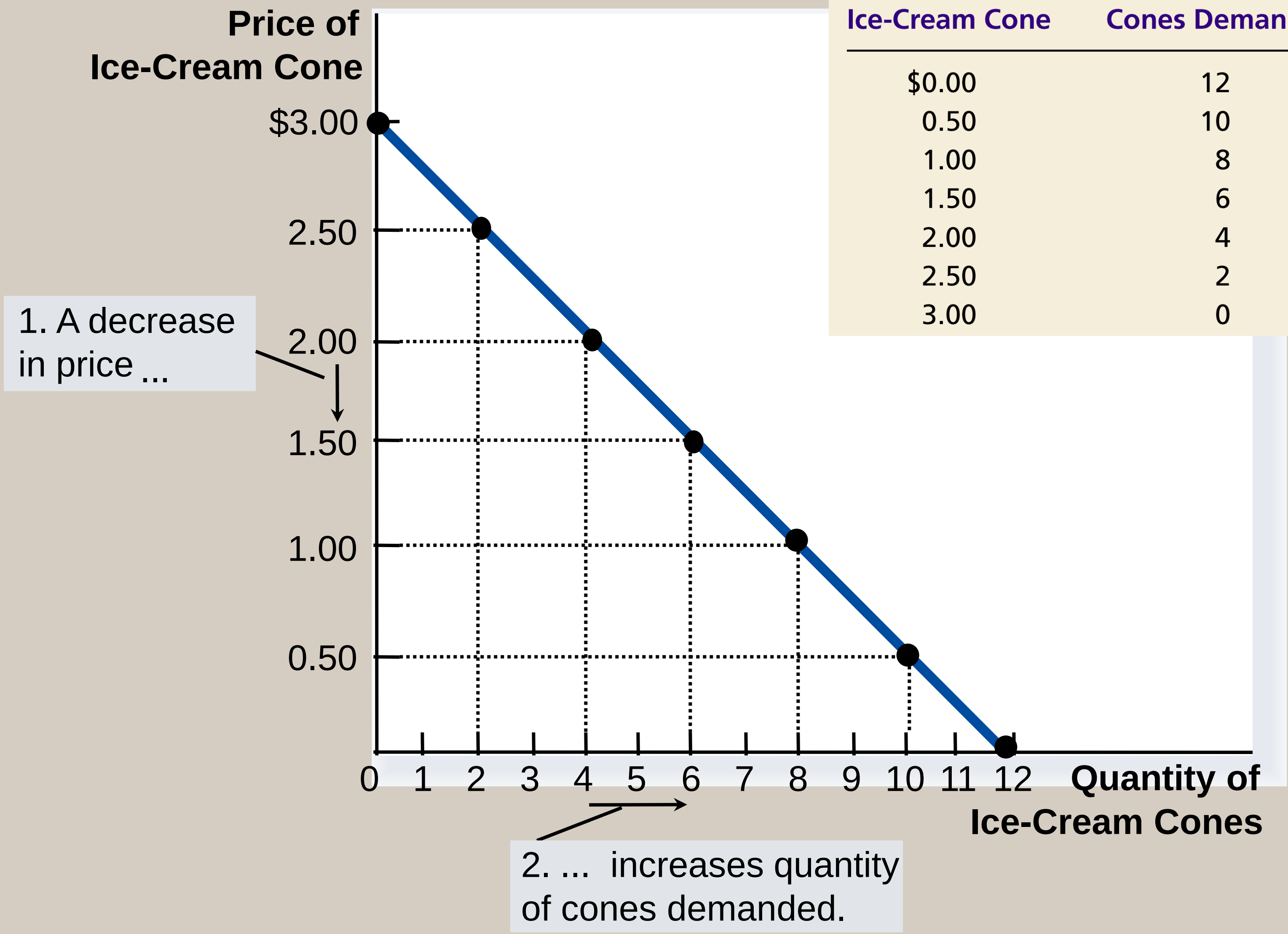
Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	12
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

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 Catherine's 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



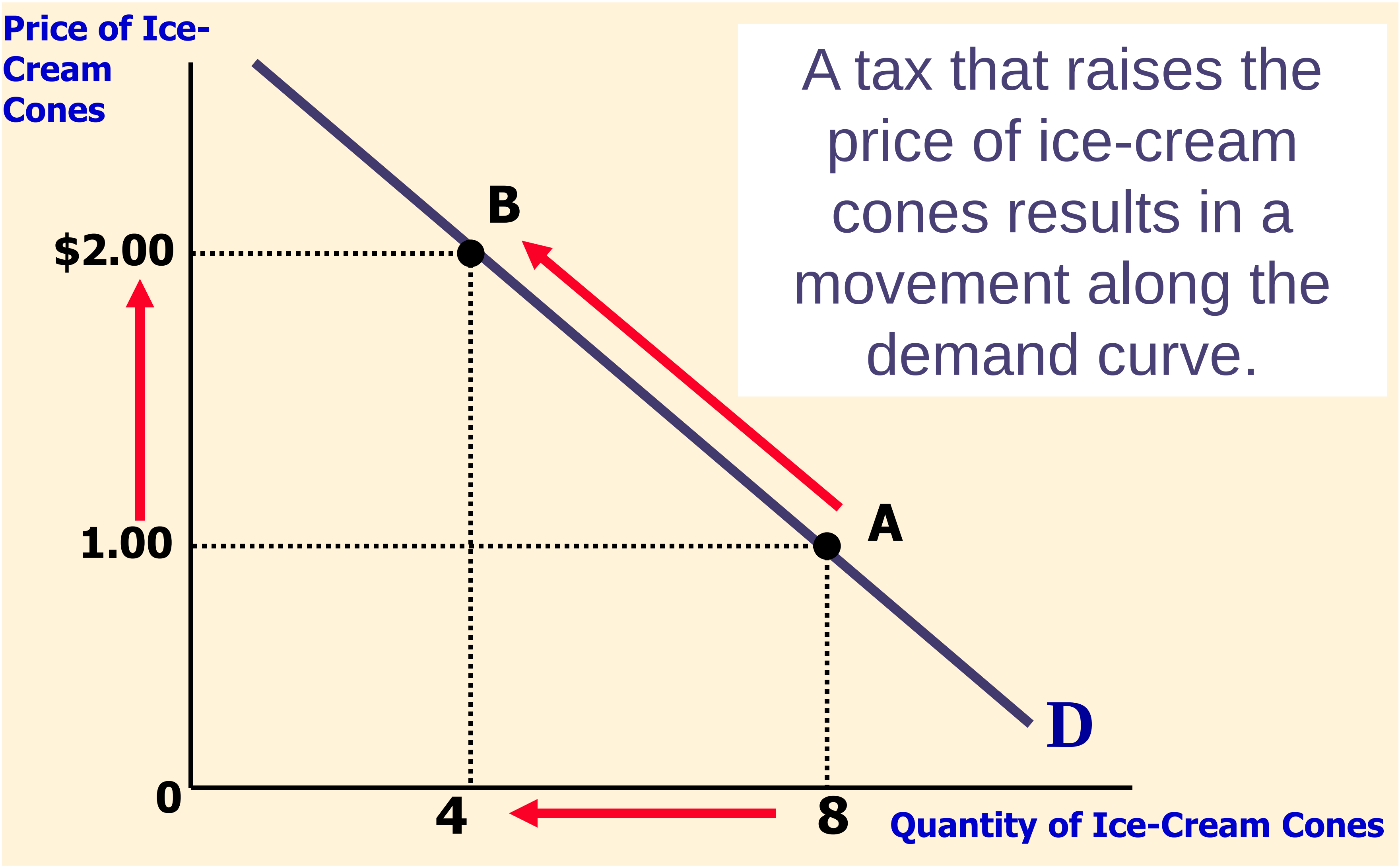
Market Demand versus Individual Demand

- 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.

Shifts in the Demand Curve

- Change in Quantity Demanded
  - Movement along the demand curve.
  - Caused by a change in the price of the product.

Changes in Quantity Demanded



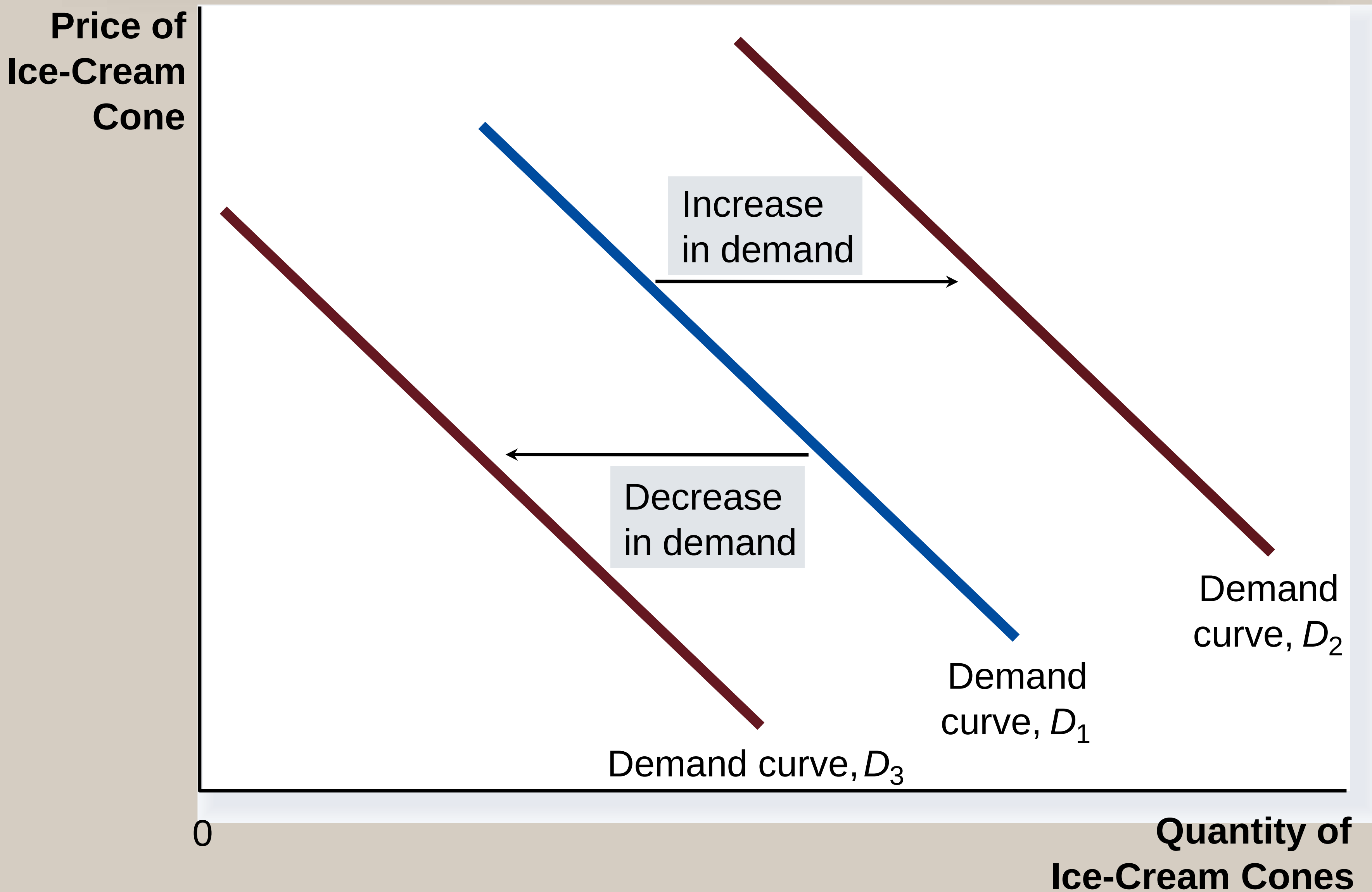
Shifts in the Demand Curve

- Consumer income
- Prices of related goods
- Tastes
- Expectations
- Number of buyers

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.

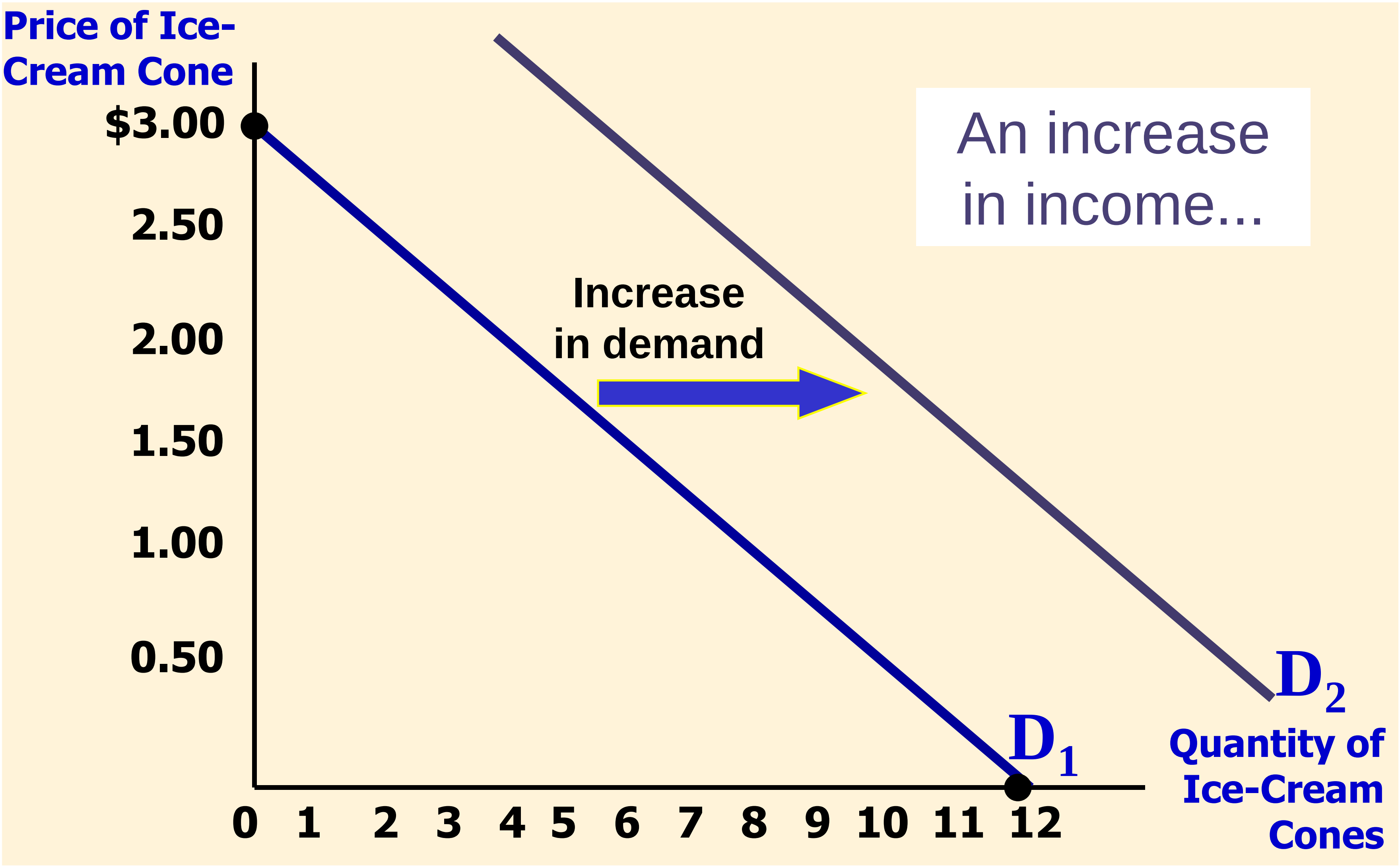
Figure 3 Shifts in the Demand Curve



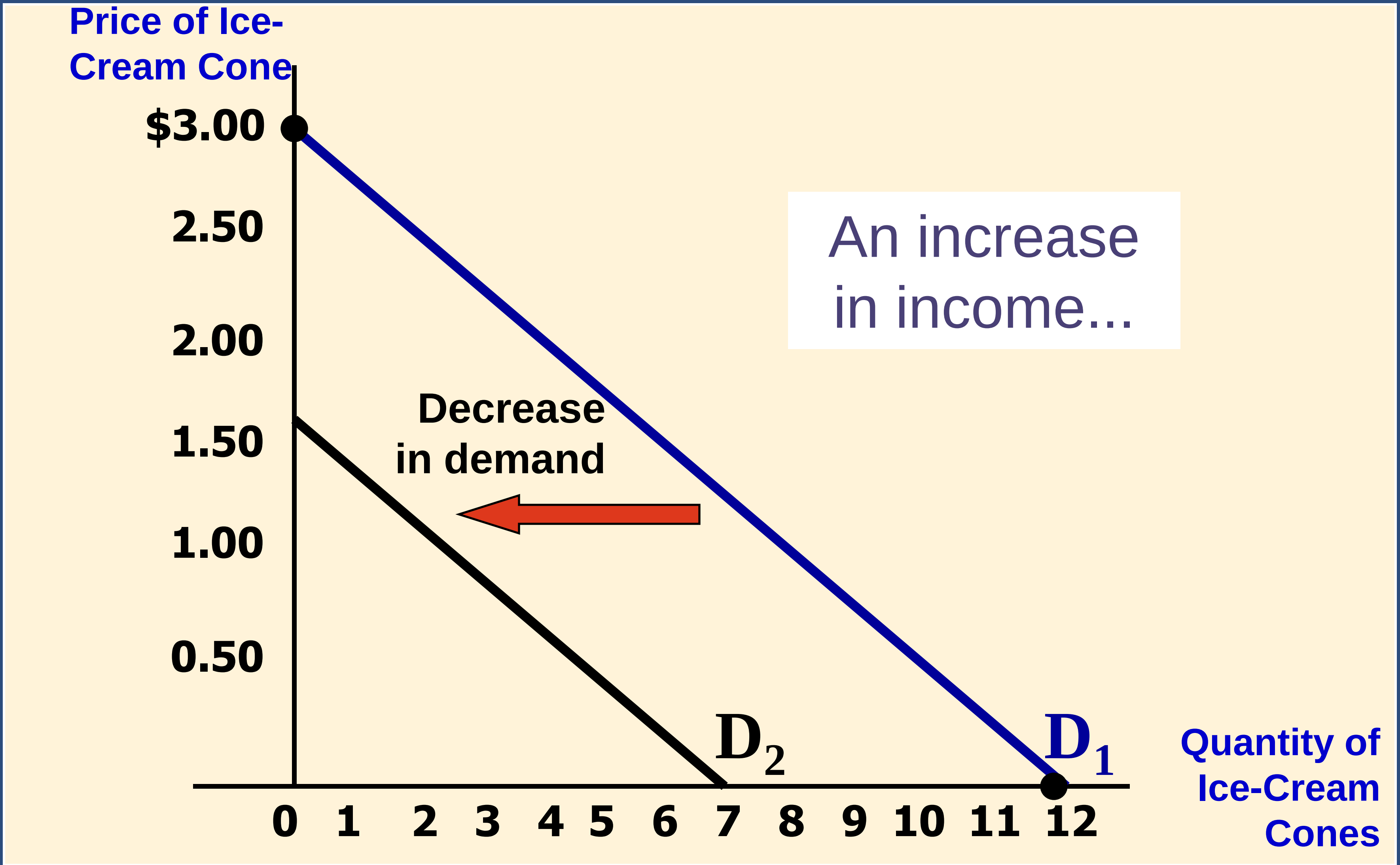
Shifts in the Demand Curve

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

Consumer Income
Normal Good



Consumer Income
Inferior Good



Shifts in the Demand Curve

- Prices of Related Goods
  - When a fall in the price of one good reduces the demand for another good, the two goods are called *substitutes*.
  - When a fall in the price of one good increases the demand for another good, the two goods are called *complements*.

Table 1 Variables That Influence Buyers

Variable	A Change in This Variable . . .
Price	Represents a movement along the demand curve
Income	Shifts the demand curve
Prices of related goods	Shifts the demand curve
Tastes	Shifts the demand curve
Expectations	Shifts the demand curve
Number of buyers	Shifts the demand curve

SUPPLY

- *Quantity supplied* is the amount of a good that sellers are willing and able to sell.
- 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.

Ben's Supply Schedule

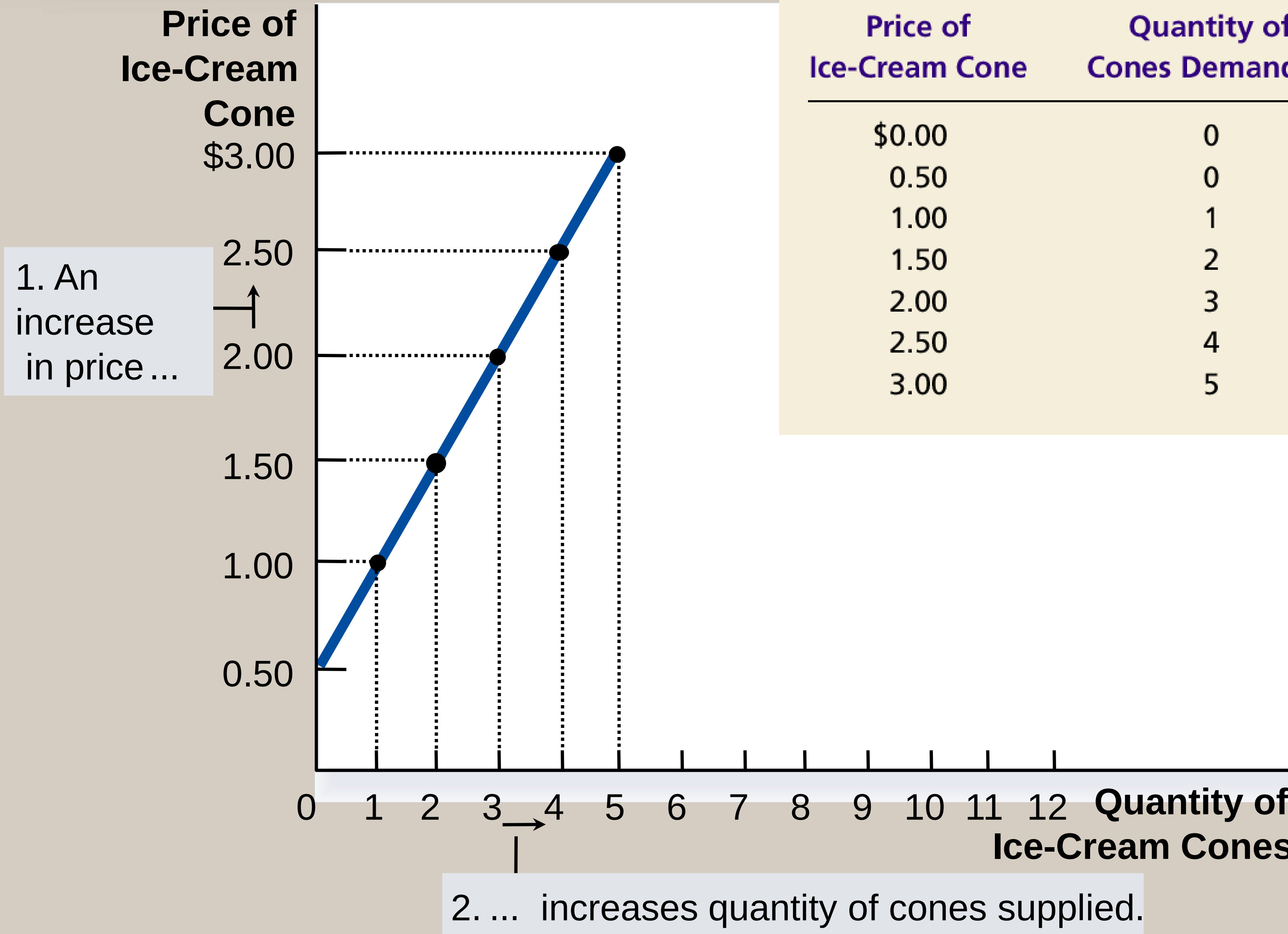
Price of Ice-Cream Cone	Quantity of Cones Demanded
$0.00	0
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

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.

Figure 5 Ben'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.

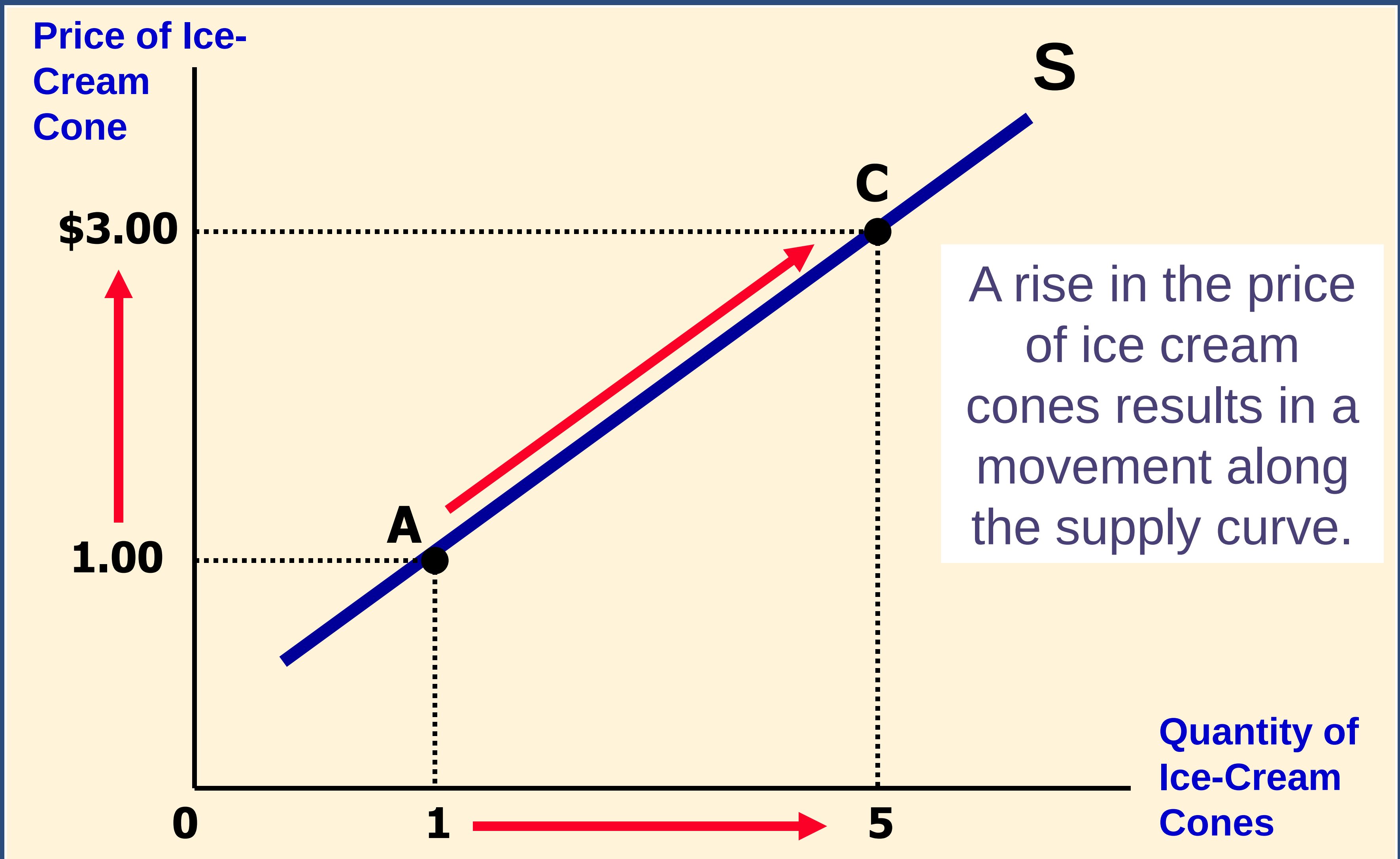
Shifts in the Supply Curve

- 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

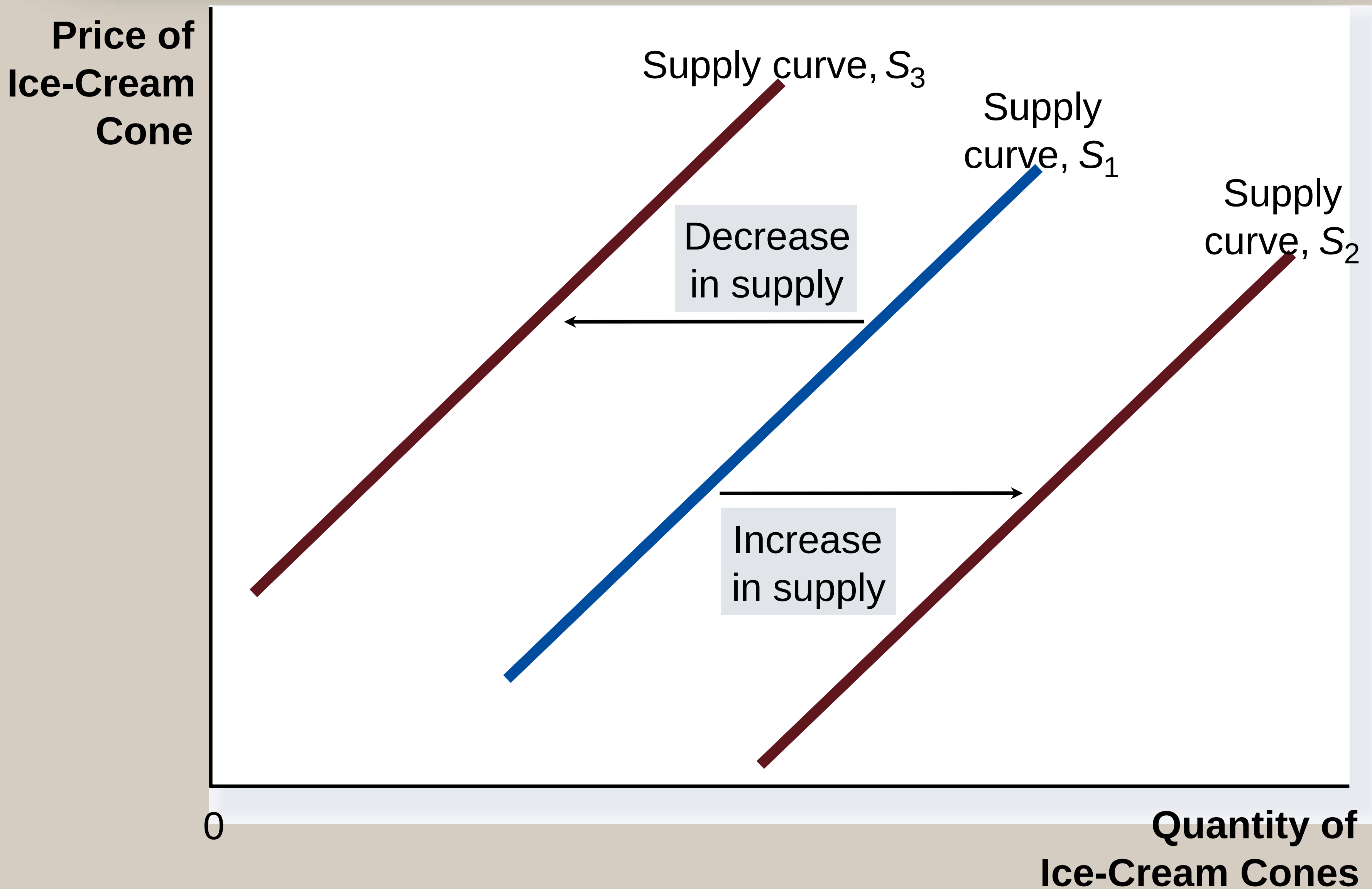


Table 2 Variables That Influence Sellers

Variable	A Change in This Variable . . .
Price	Represents a movement along the supply curve
Input prices	Shifts the supply curve
Technology	Shifts the supply curve
Expectations	Shifts the supply curve
Number of sellers	Shifts 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

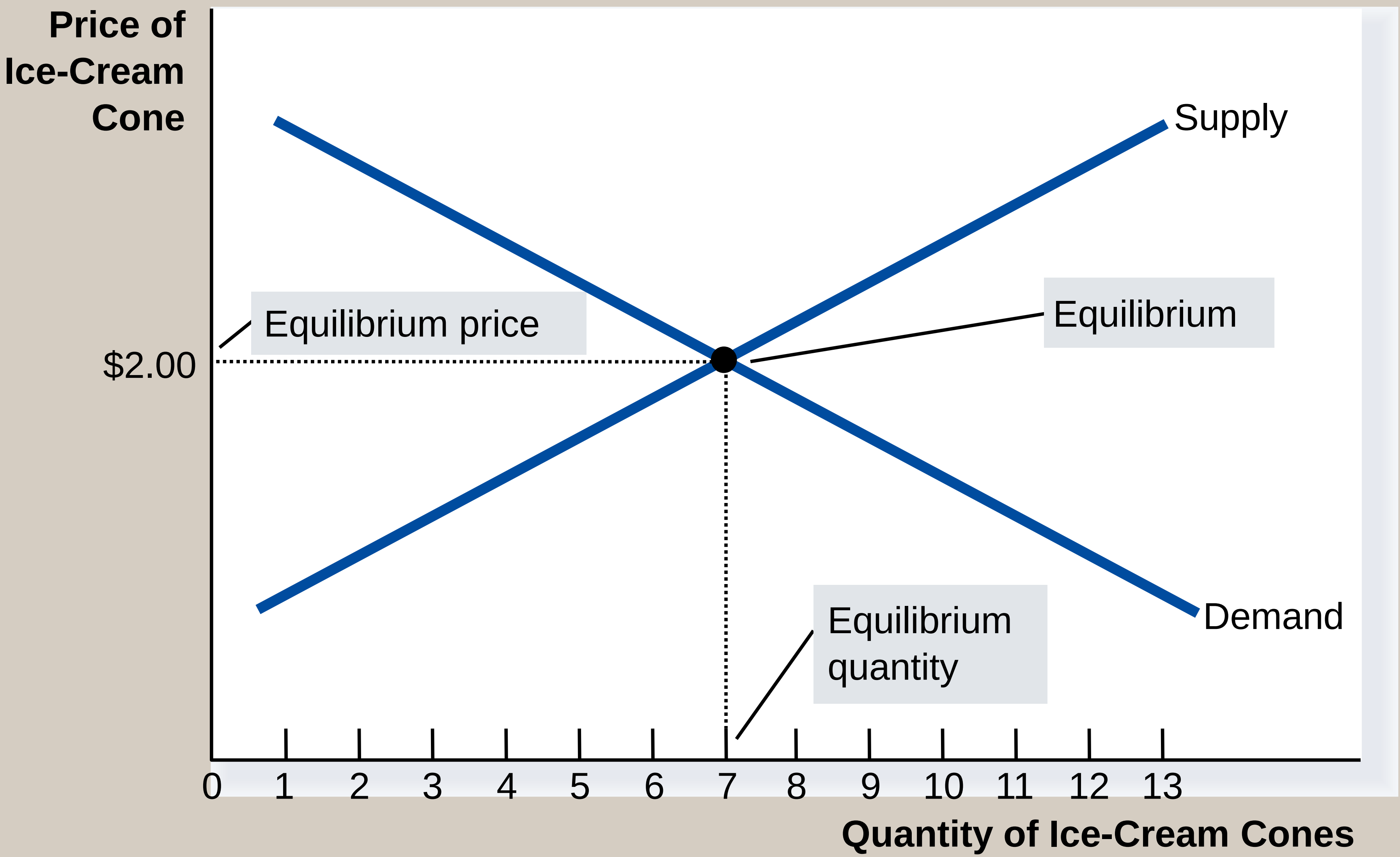
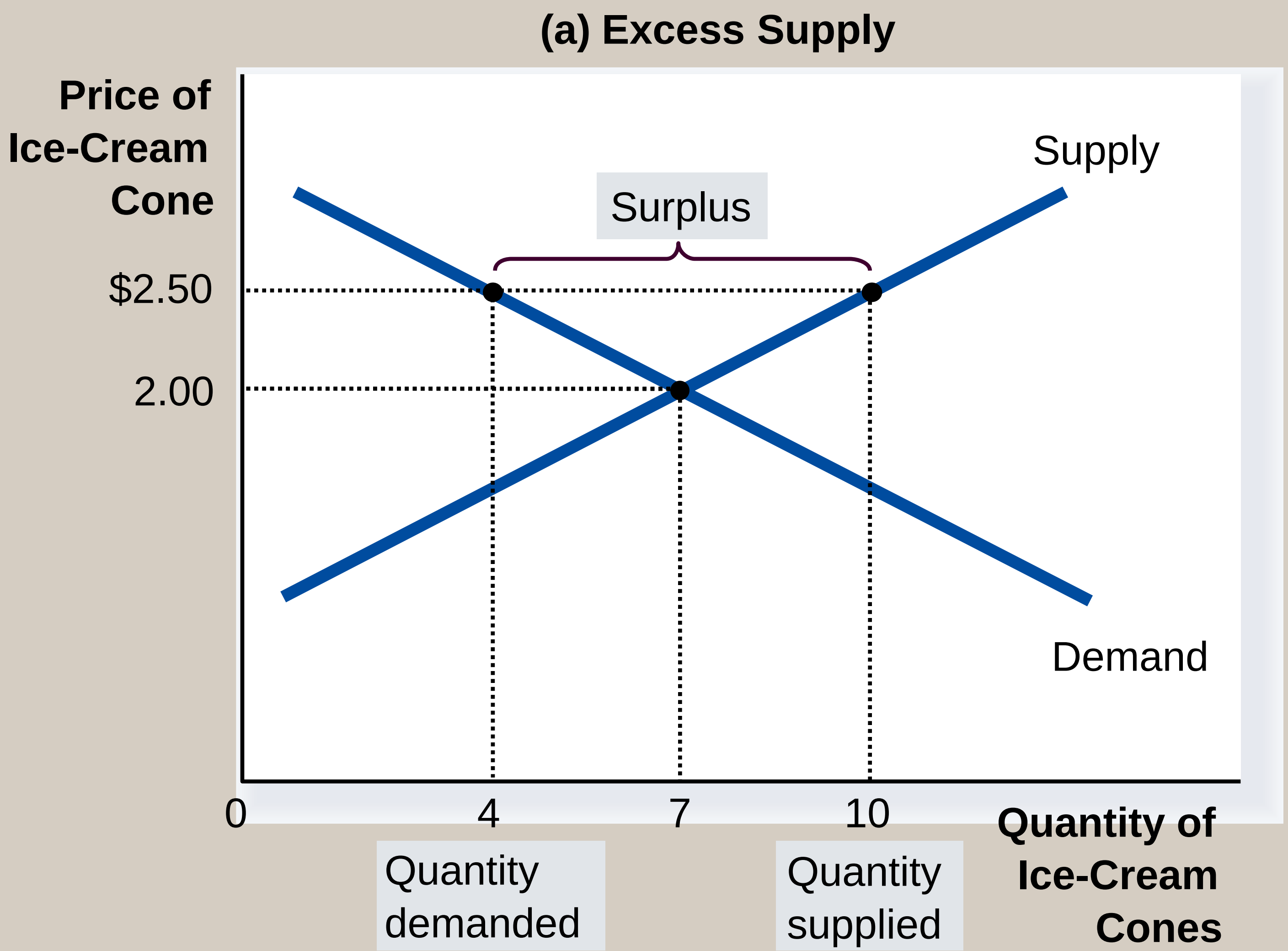


Figure 9 Markets Not in Equilibrium



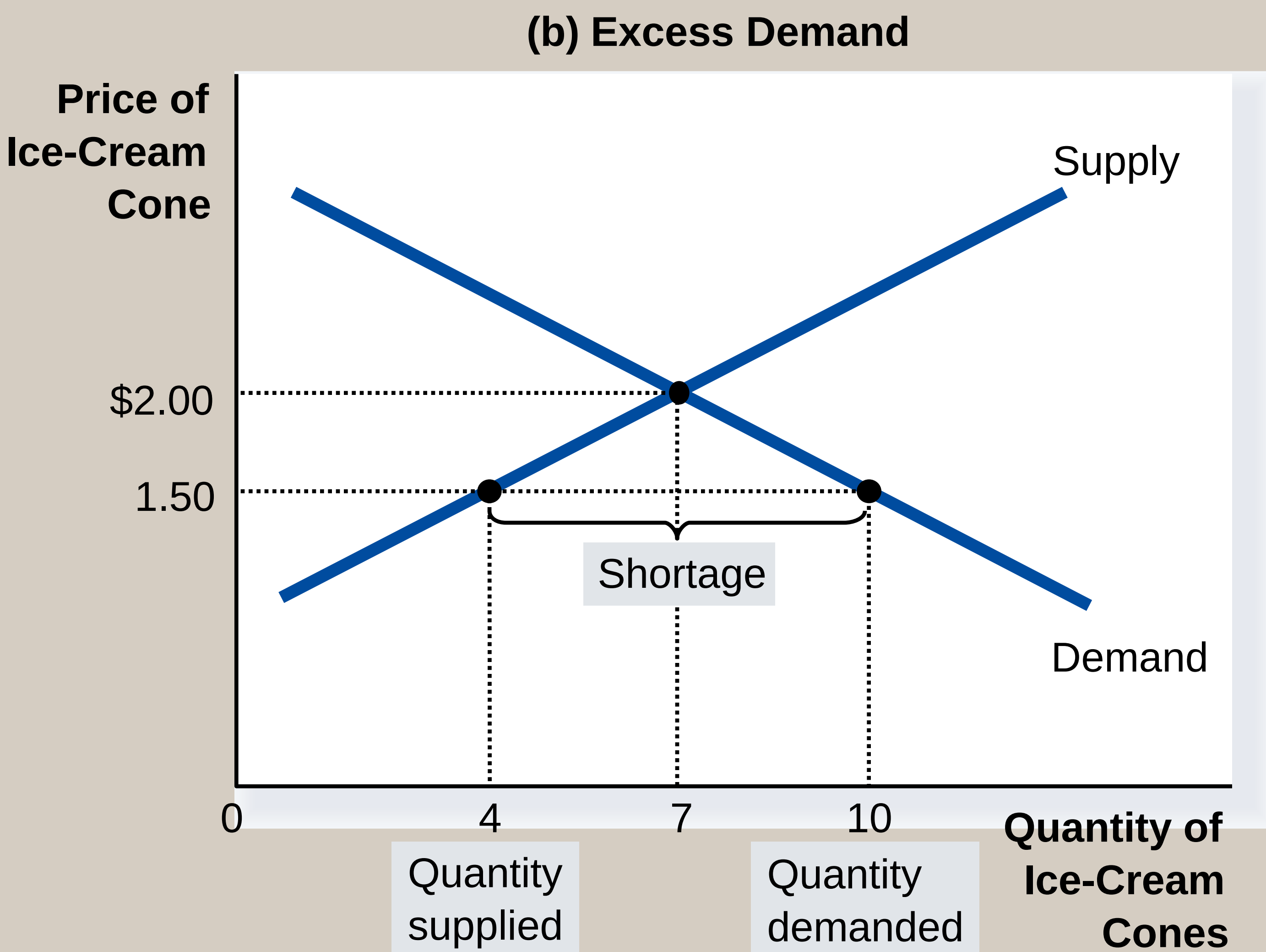
Equilibrium

- *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



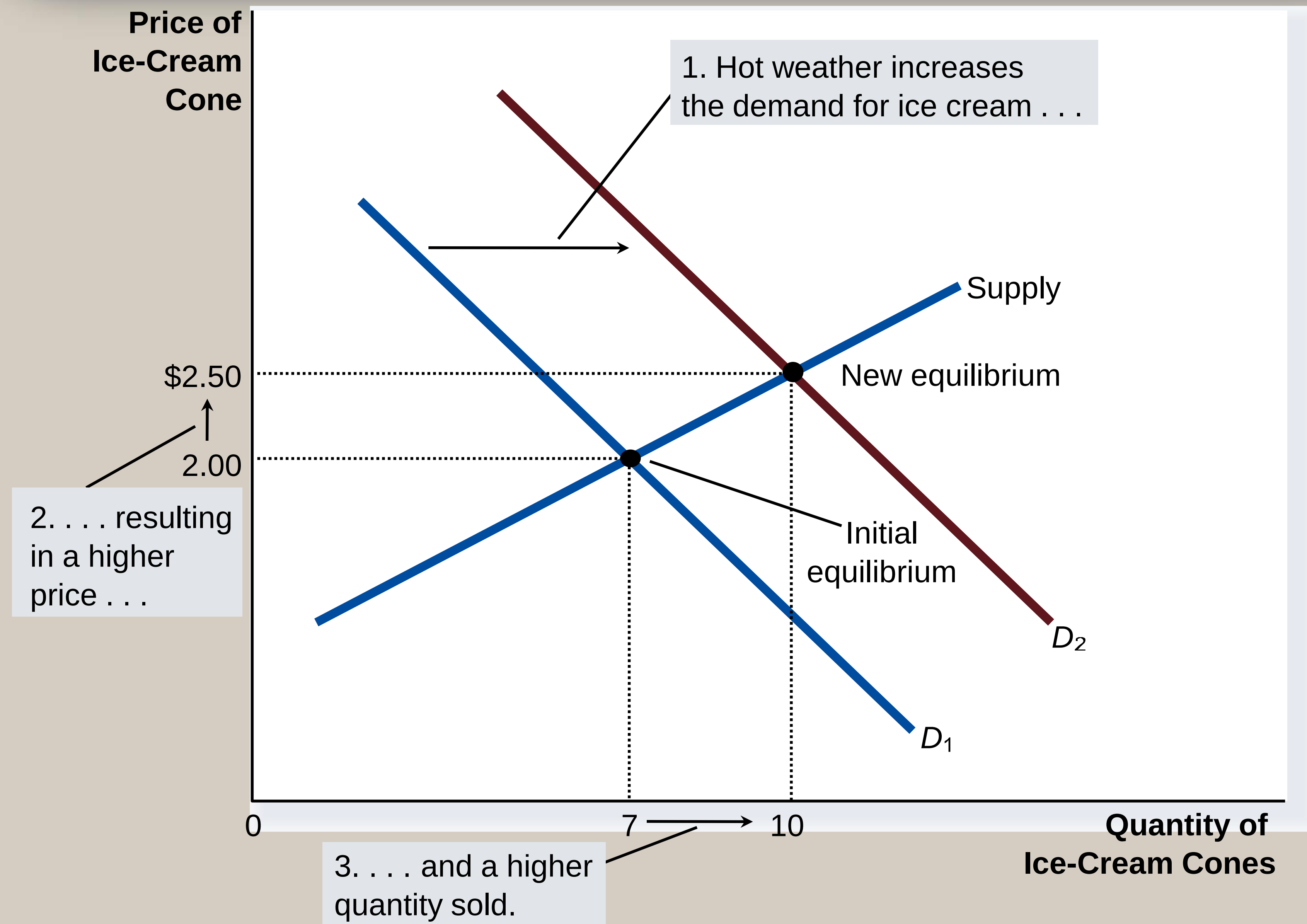
Equilibrium

- *Law of supply and demand*
  - The claim that the price of any good adjusts to bring the quantity supplied and the quantity demanded for that good into balance.

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

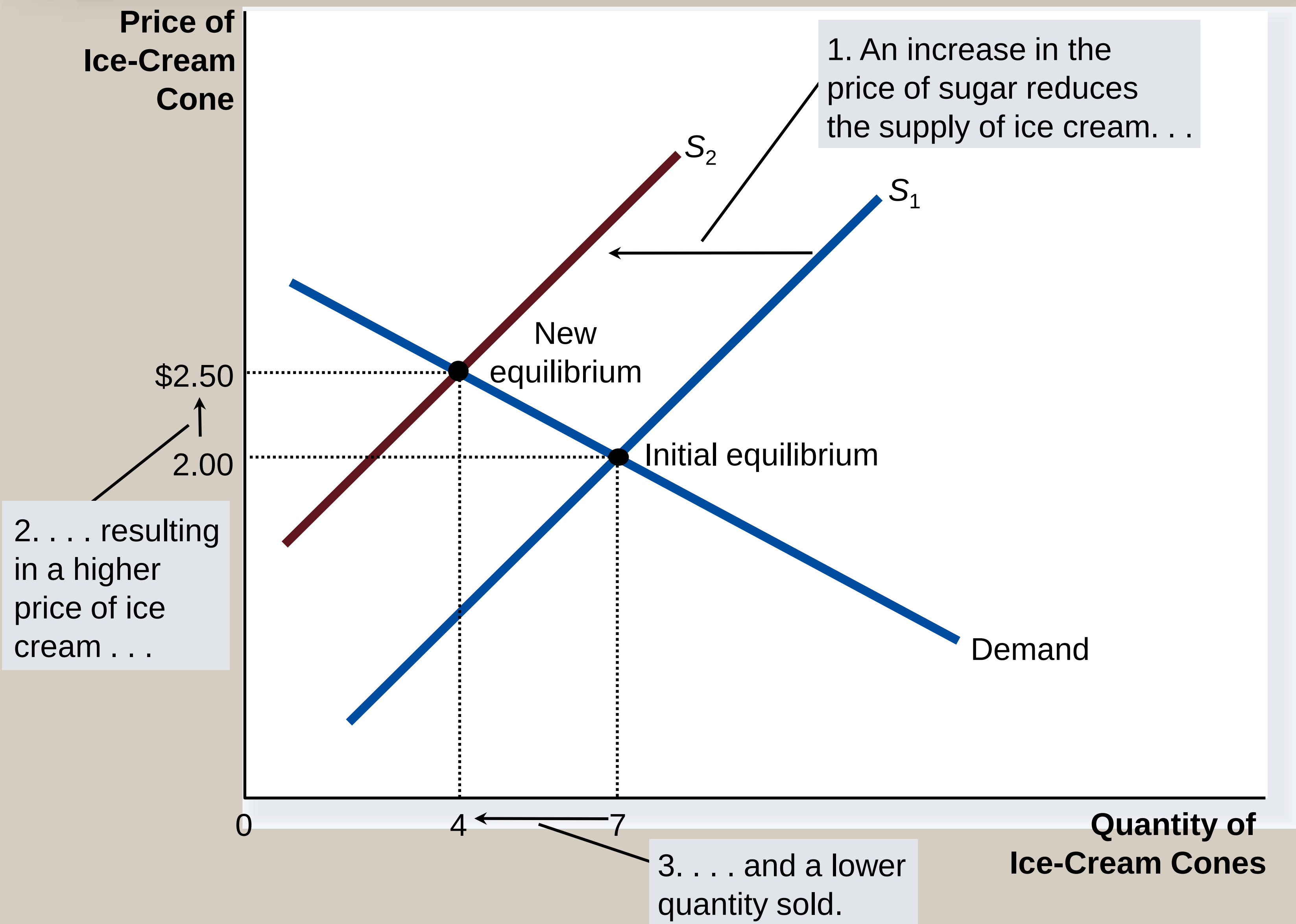


Table 4 What Happens to Price and Quantity When Supply or Demand Shifts?

	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

Summary

- Economists use the model of supply and demand to analyze competitive markets.
- In a competitive market, there are many buyers and sellers, each of whom has little or no influence on the market price.

Summary

- The demand curve shows how the quantity of a good depends upon the price.
  - According to the law of demand, as the price of a good falls, the quantity demanded rises. Therefore, the demand curve slopes downward.
  - In addition to price, other determinants of how much consumers want to buy include income, the prices of complements and substitutes, tastes, expectations, and the number of buyers.
  - If one of these factors changes, the demand curve shifts.

Summary

- The supply curve shows how the quantity of a good supplied depends upon the price.
  - According to the law of supply, as the price of a good rises, the quantity supplied rises. Therefore, the supply curve slopes upward.
  - In addition to price, other determinants of how much producers want to sell include input prices, technology, expectations, and the number of sellers.
  - If one of these factors changes, the supply curve shifts.

Summary

- Market equilibrium is determined by the intersection of the supply and demand curves.
- At the equilibrium price, the quantity demanded equals the quantity supplied.
- The behavior of buyers and sellers naturally drives markets toward their equilibrium.

Summary

- To analyze how any event influences a market, we use the supply-and-demand diagram to examine how the even affects the equilibrium price and quantity.
- In market economies, prices are the signals that guide economic decisions and thereby allocate resources.