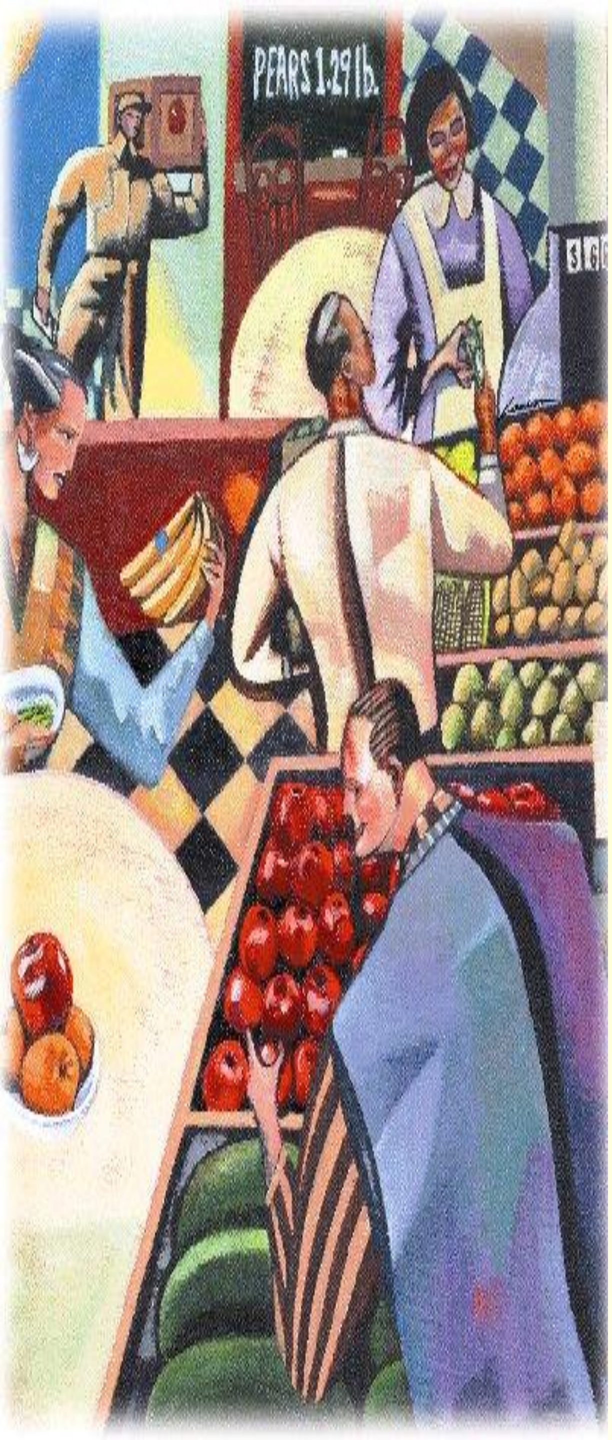


The Market Forces of Supply and Demand

Chapter 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

- 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

- Buyers determine **demand**.

- Sellers determine **supply**.

Market Type:
A Competitive Market

A competitive market is a market. . .

…with *many* buyers and sellers.

…that is not controlled by any one person.

…in which a *narrow range of prices* are established that buyers and sellers act upon.

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

Competition:
Perfect and Otherwise

- **Monopoly**
  - *One seller, and seller controls price*
- **Oligopoly**
  - *Few sellers*
  - *Not always aggressive competition*

Competition:
Perfect and Otherwise

- **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

<u>willing and able</u>

to purchase.

Law of Demand

The law of demand states that there is an *inverse 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.**

Demand Schedule

Price	Quantity
$0.00	12
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

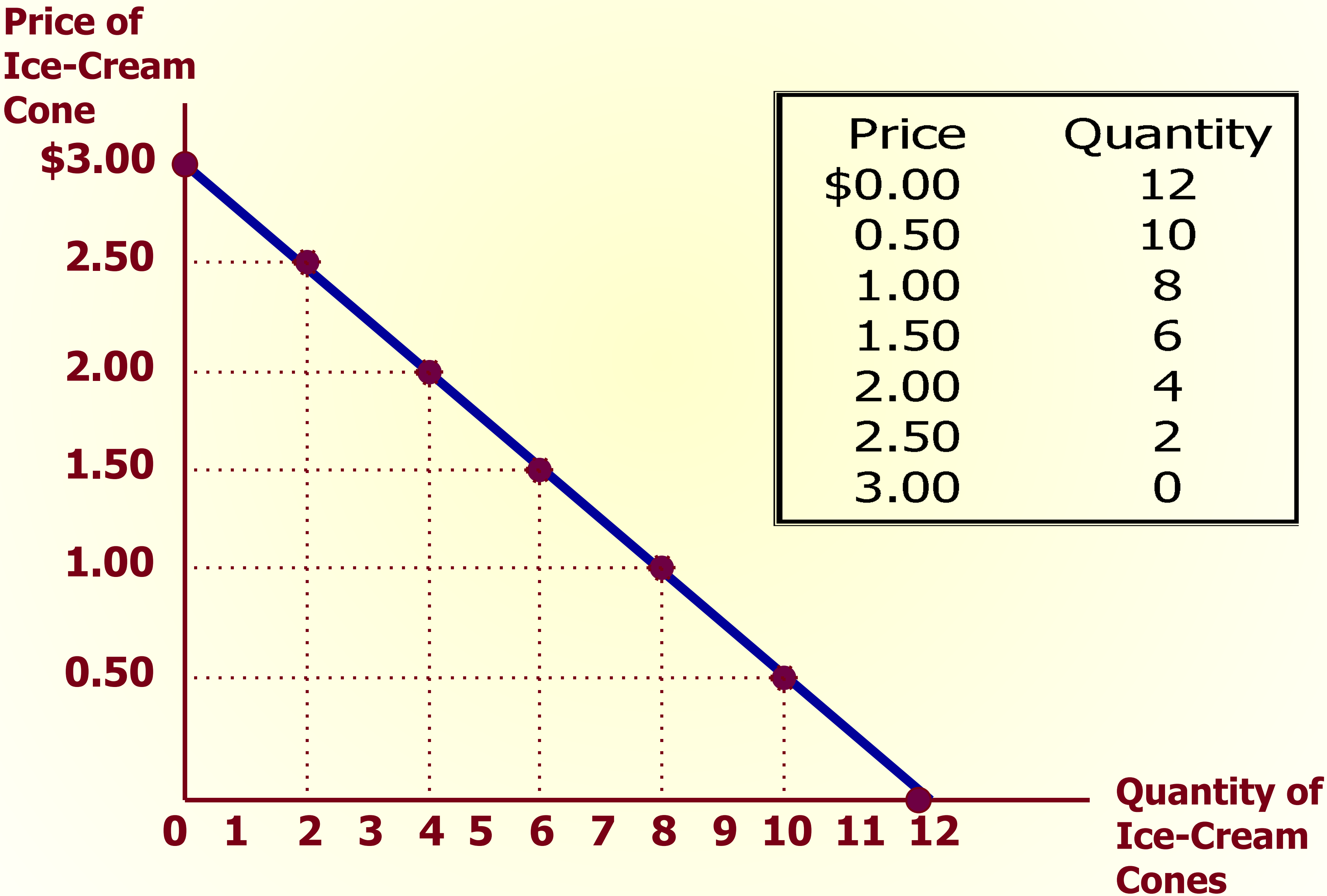
Determinants of Individual Demand

- Market price
- Consumer income
- Prices of related goods
- Tastes
- Expectations

Demand Curve

The demand curve is the downward-sloping line relating price to quantity demanded.

Demand Curve



Price	Quantity
$0.00	12
0.50	10
1.00	8
1.50	6
2.00	4
2.50	2
3.00	0

Ceteris Paribus

Ceteris paribus **is a Latin phrase that means all variables other than the ones being studied are assumed to be constant. Literally, *ceteris paribus* means "other things being equal."**

The demand curve slopes downward because, <u>ceteris paribus</u>, lower prices imply a greater quantity demanded!

Market 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.

Derivation of Market Demand Curve

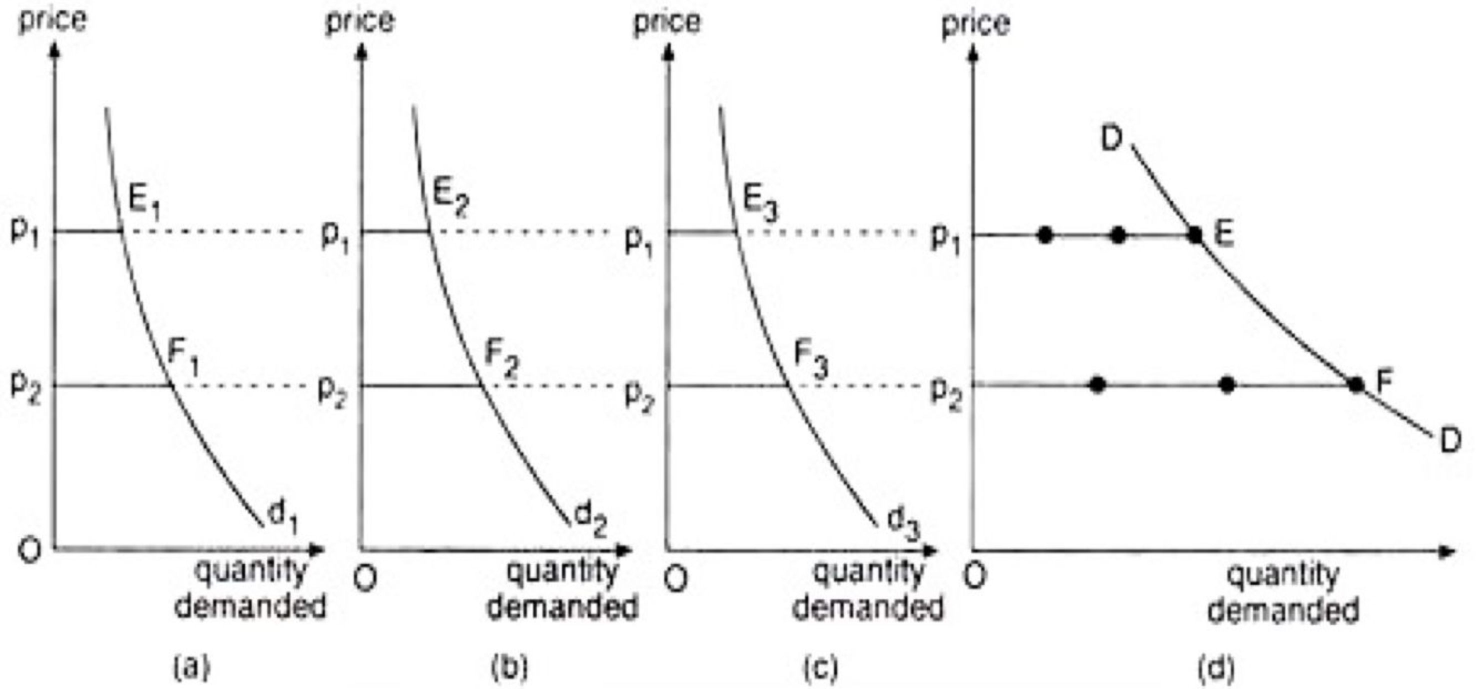


Fig. 1.4 Derivation of market demand curve from individual demand curves

Determinants of Market Demand

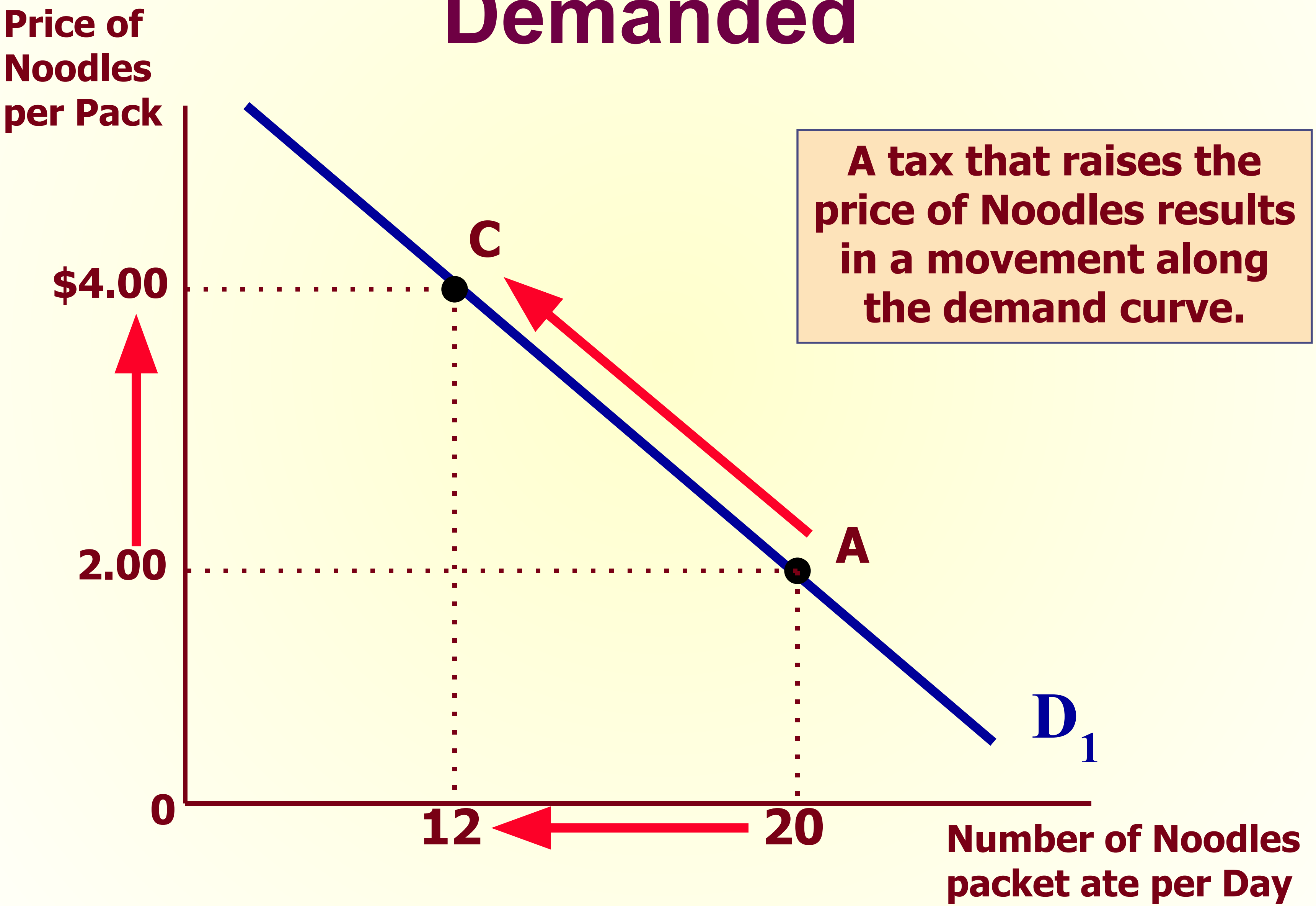
- Market price
- Consumer income
- Prices of related goods
- Tastes
- Expectations
- Number of consumers

Change in Quantity Demanded versus Change in Demand

Change in <u>Quantity Demanded</u>

- **Movement along the demand curve.**
- **Caused by a change in the *price* of the product.**

Changes in Quantity Demanded

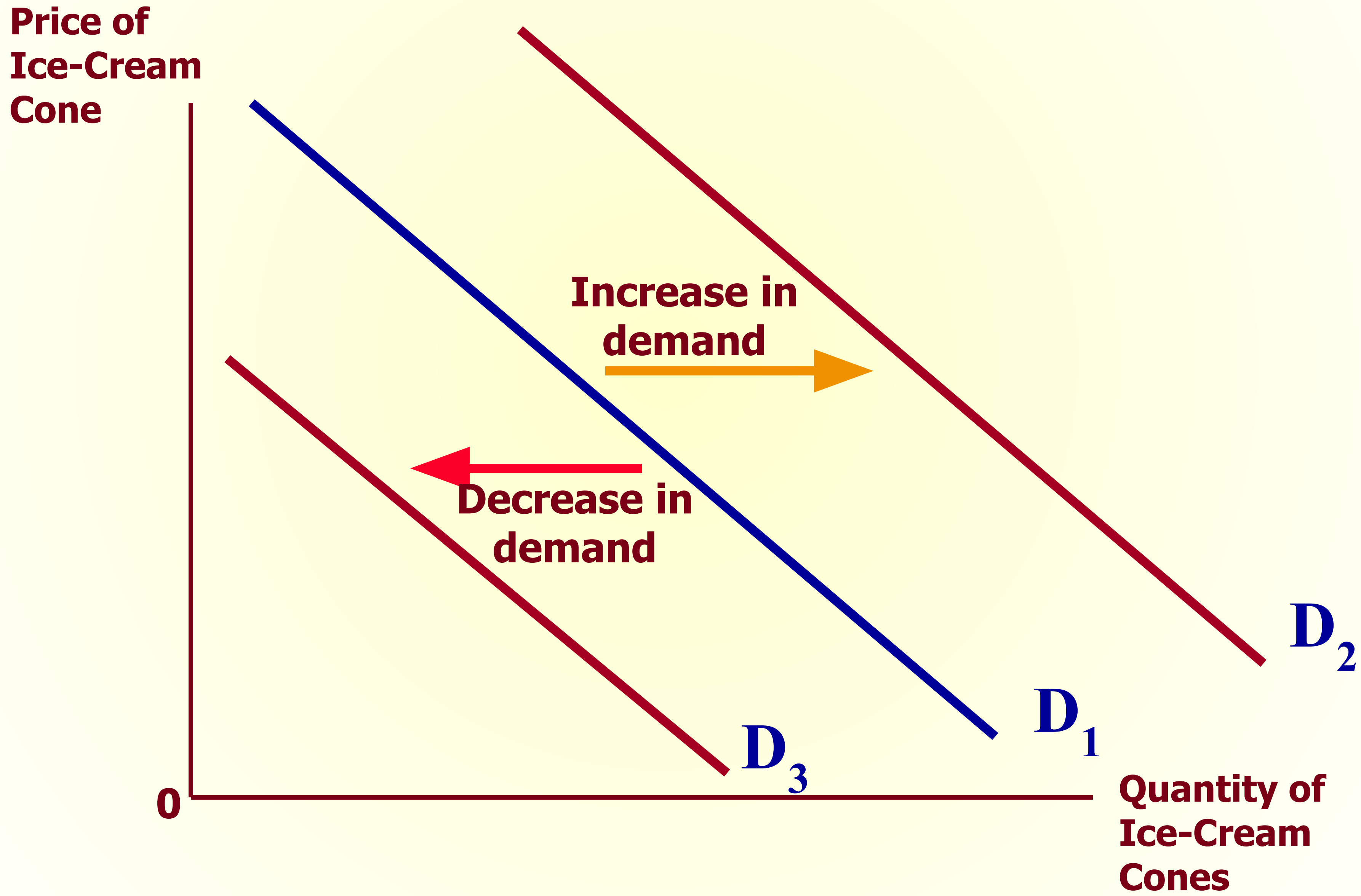


Change in Quantity Demanded versus Change in Demand

Change in Demand

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

Changes in Demand

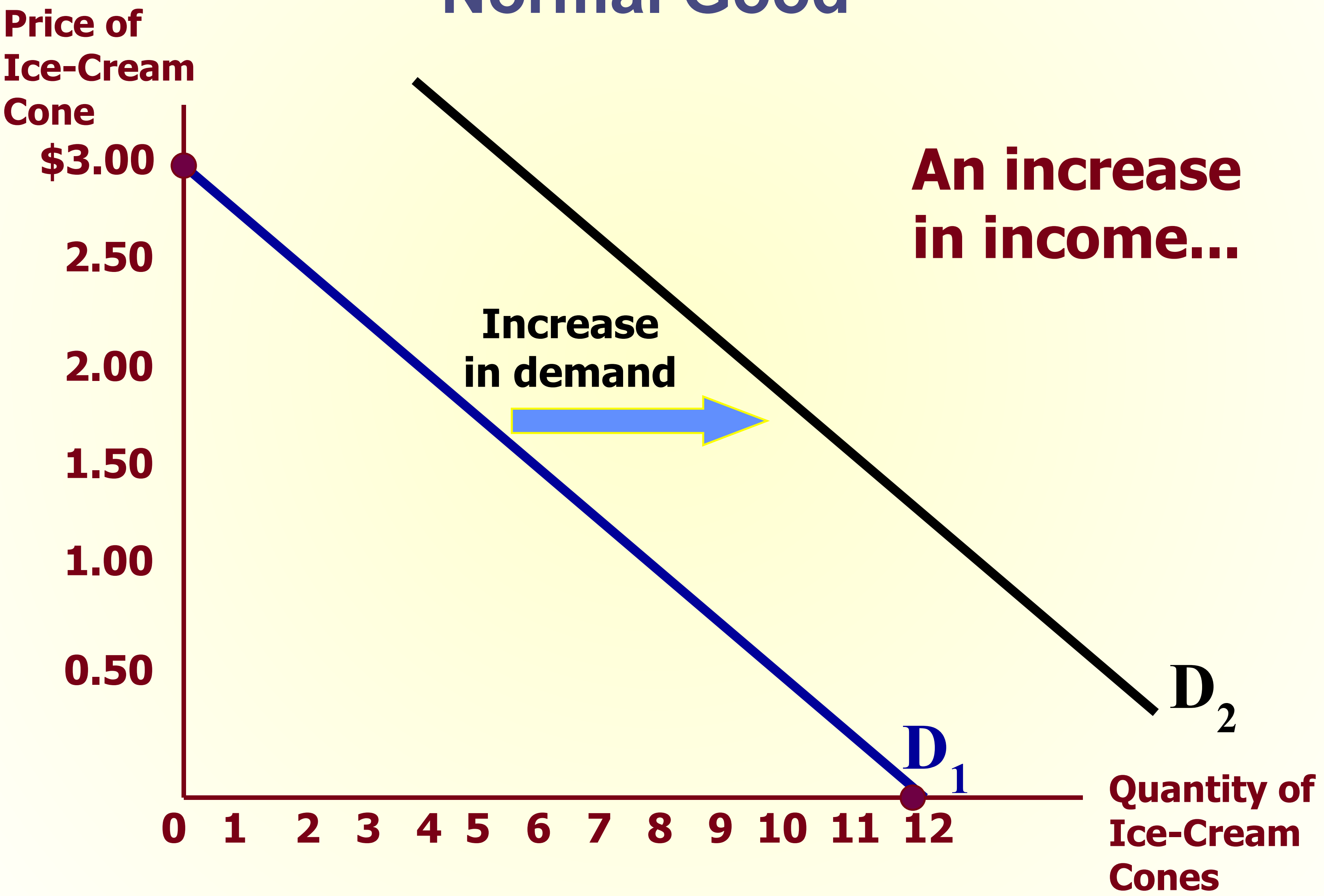


Consumer Income

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

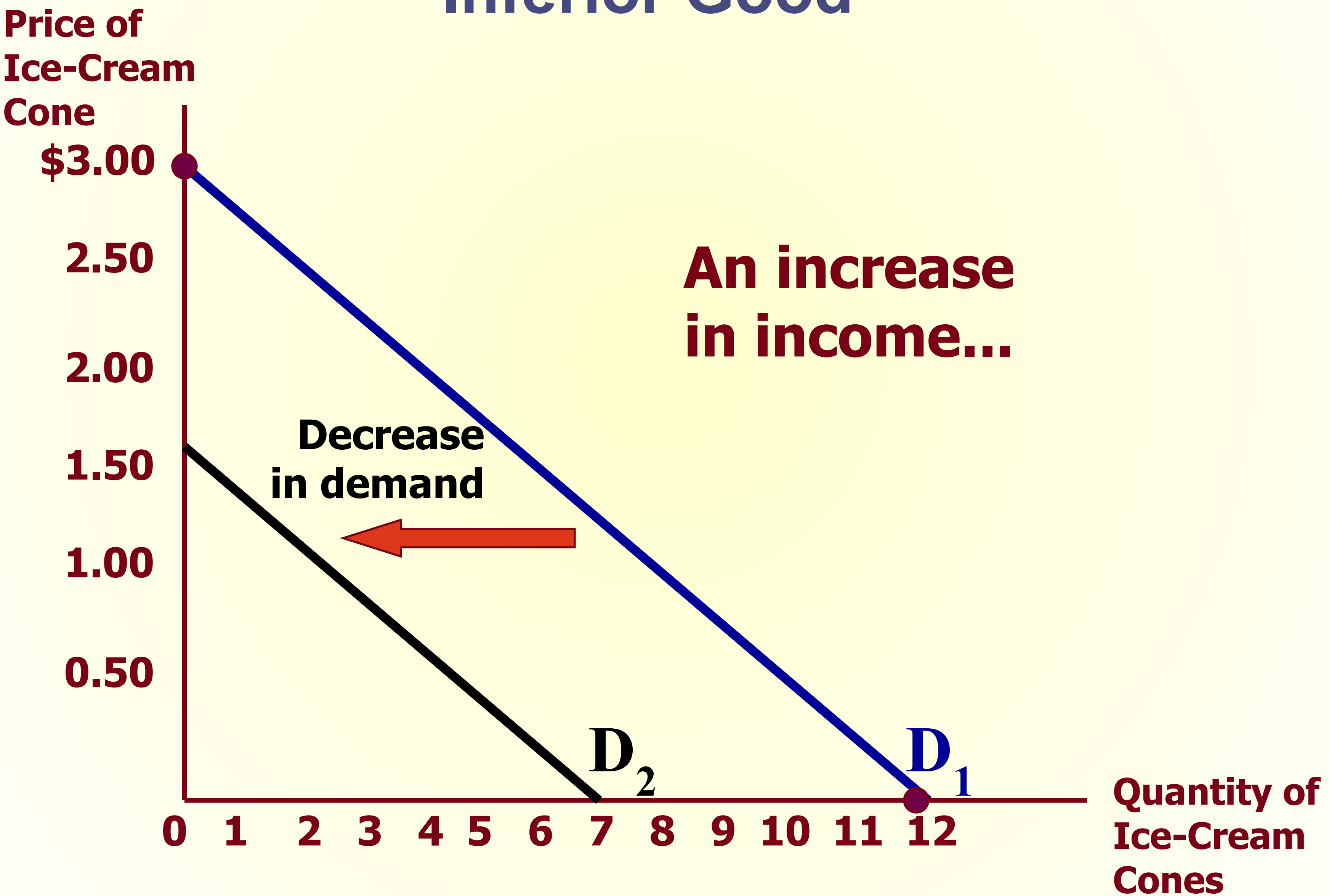
Consumer Income

Normal Good



Consumer Income

Inferior Good



Prices of Related Goods
Substitutes & Complements

- **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.**

Change in Quantity Demanded versus Change in Demand

Variables that Affect Quantity Demanded	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 there is a *direct (positive) relationship* between price and quantity supplied.

Determinants of Individual Supply

- Market price
- Input prices
- Technology
- Expectations

Supply Schedule

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

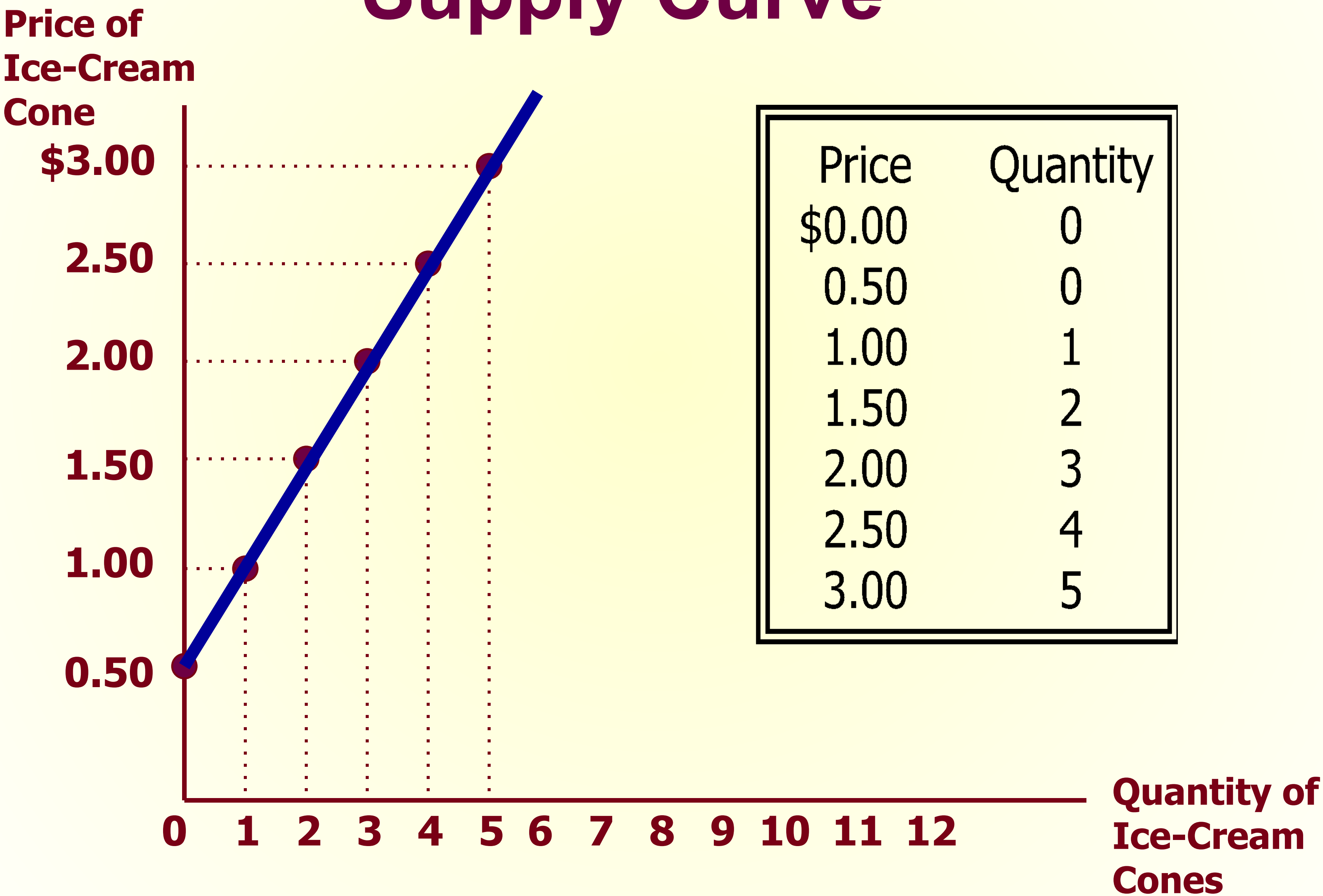
Supply Schedule

Price	Quantity
$0.00	0
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

Supply Curve

The supply curve is the upward-sloping line relating price to quantity supplied.

Supply Curve



Price	Quantity
$0.00	0
0.50	0
1.00	1
1.50	2
2.00	3
2.50	4
3.00	5

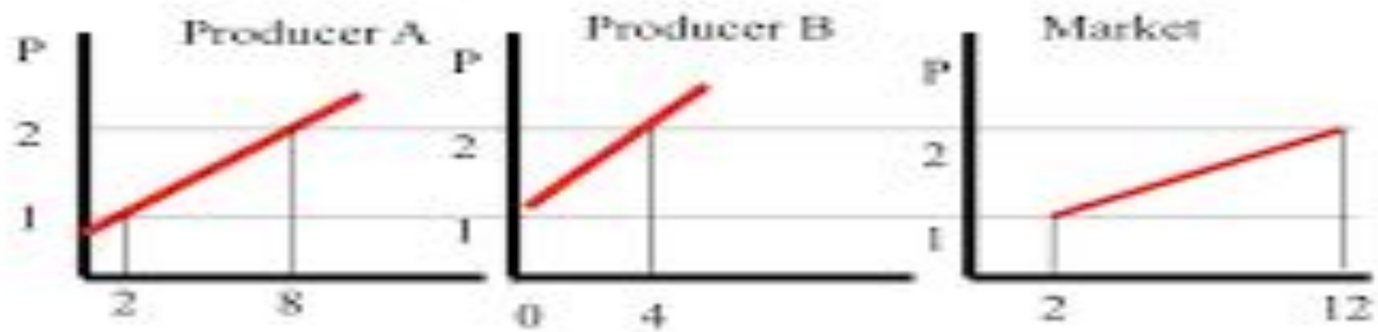
Market Supply

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

Derivation of Market Supply Curve

Market Supply

- Horizontal sum of the quantity supplied by each individual producer.



Determinants of Market Supply

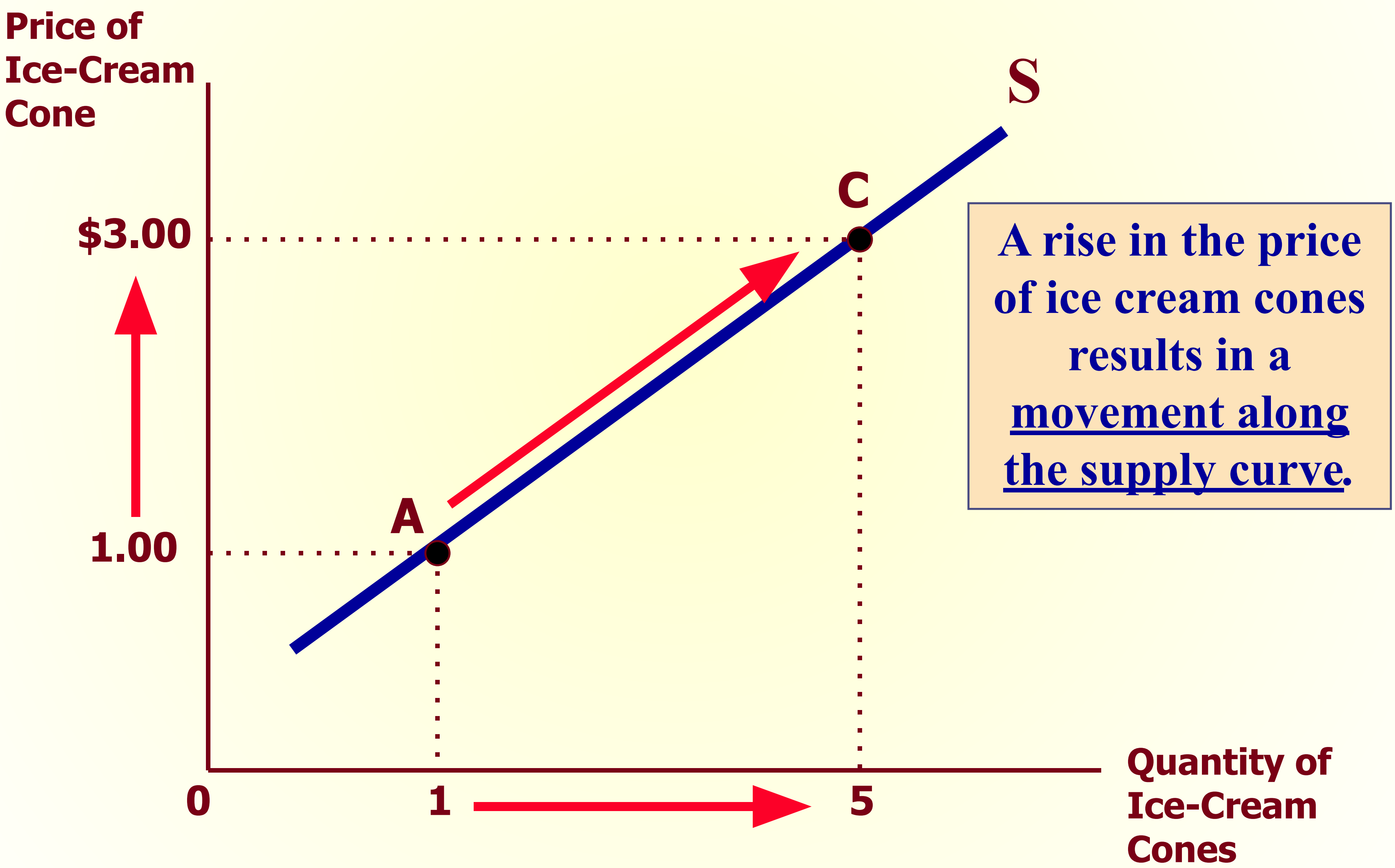
- Market price
- Input prices
- Technology
- Expectations
- Number of producers

Change in Quantity Supplied versus Change in Supply

Change in Quantity Supplied

- **Movement along the supply curve.**
- **Caused by a change in the market price of the product.**

Change in Quantity Supplied

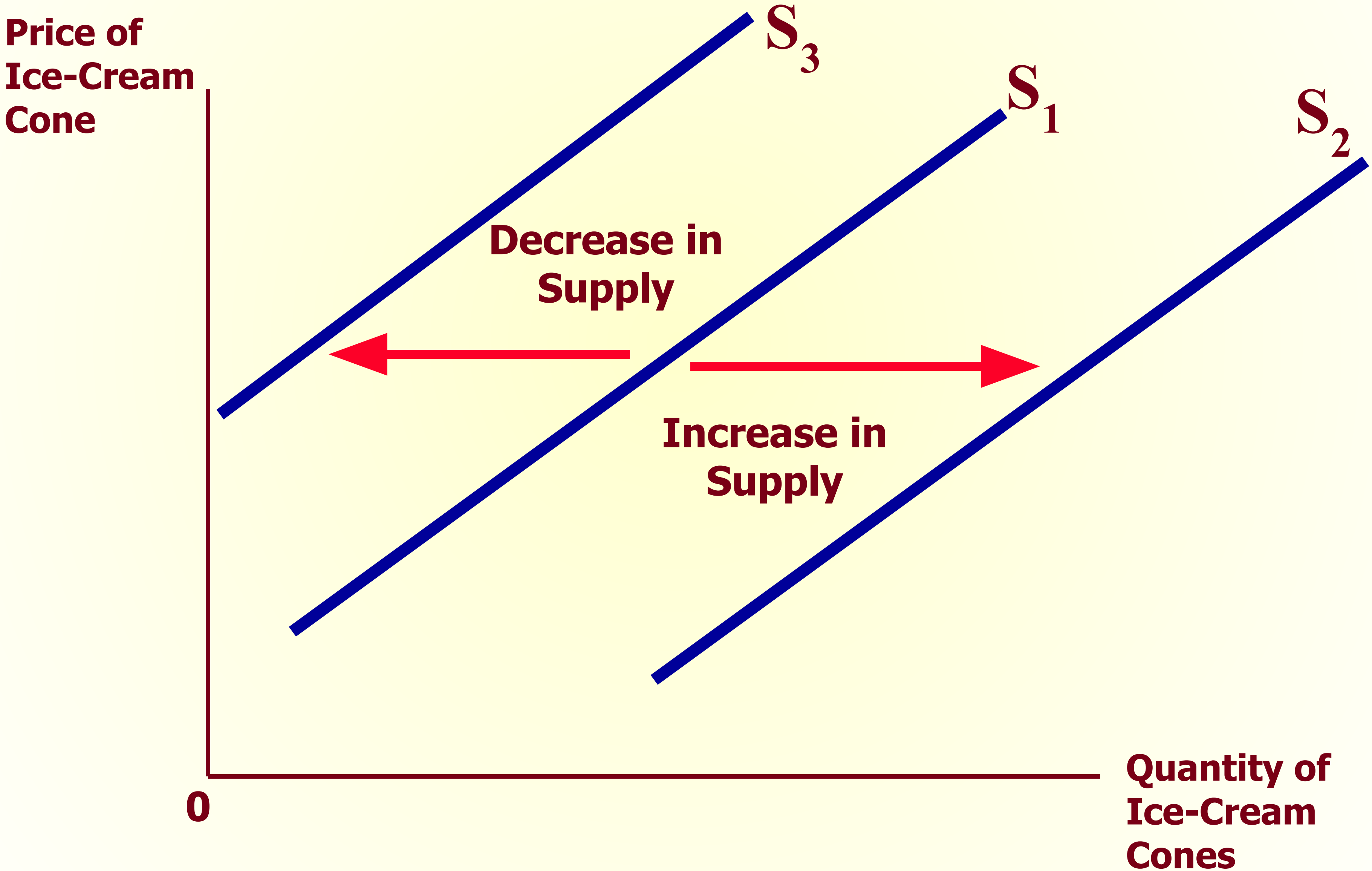


Change in Quantity Supplied versus Change in Supply

Change in Supply

- A <u>shift</u> in the supply curve, either to the left or right.
- Caused by a change in a determinant other than price.

Change in Supply



Change in Quantity Supplied versus Change in Supply

Variables that Affect Quantity Supplied	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 Price

- The price that balances supply and demand. On a graph, it is the price at which the market supply and market 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

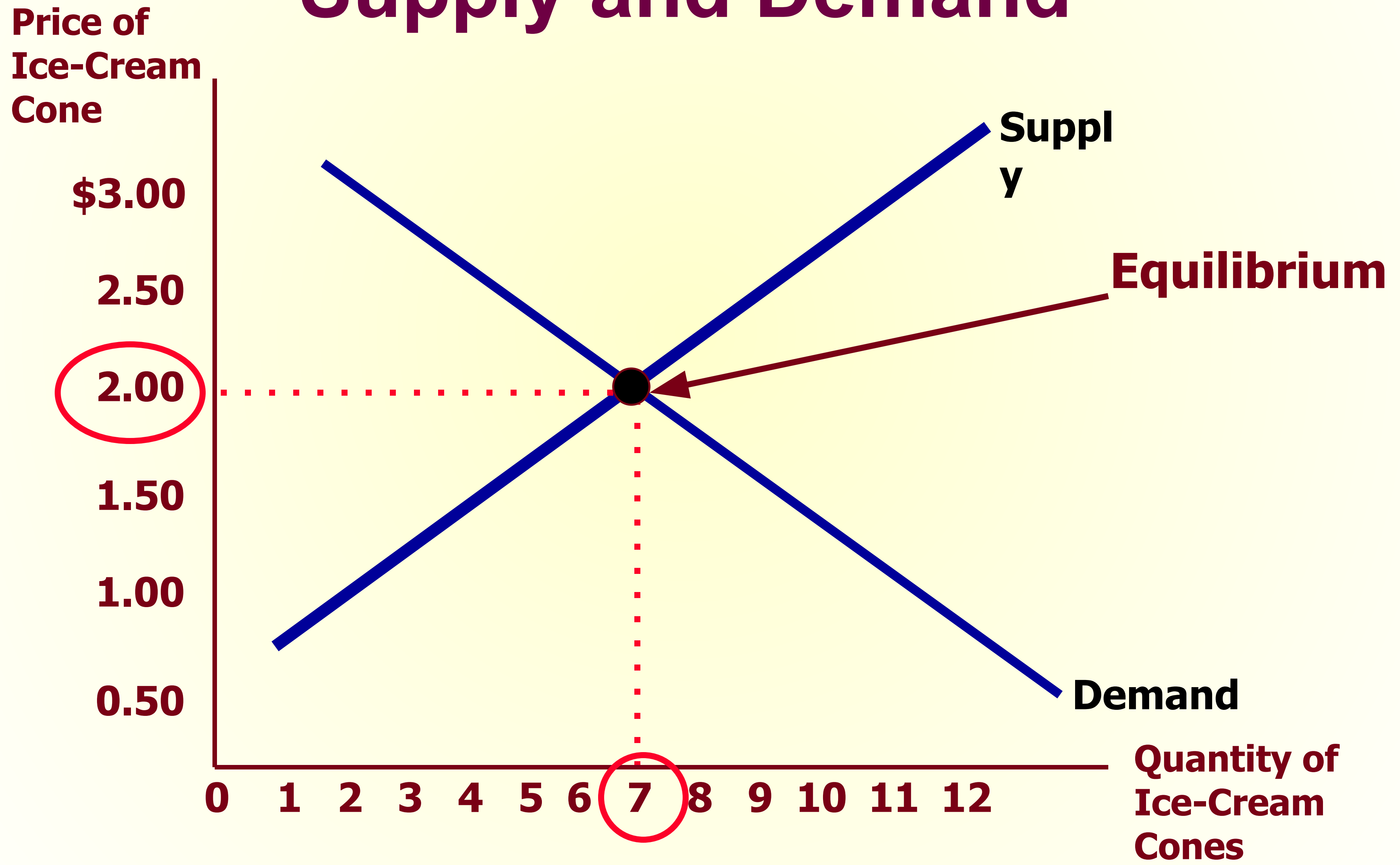
Price	Quantity
$0.00	19
0.50	16
1.00	13
1.50	10
2.00	7
2.50	4
3.00	1

Supply Schedule

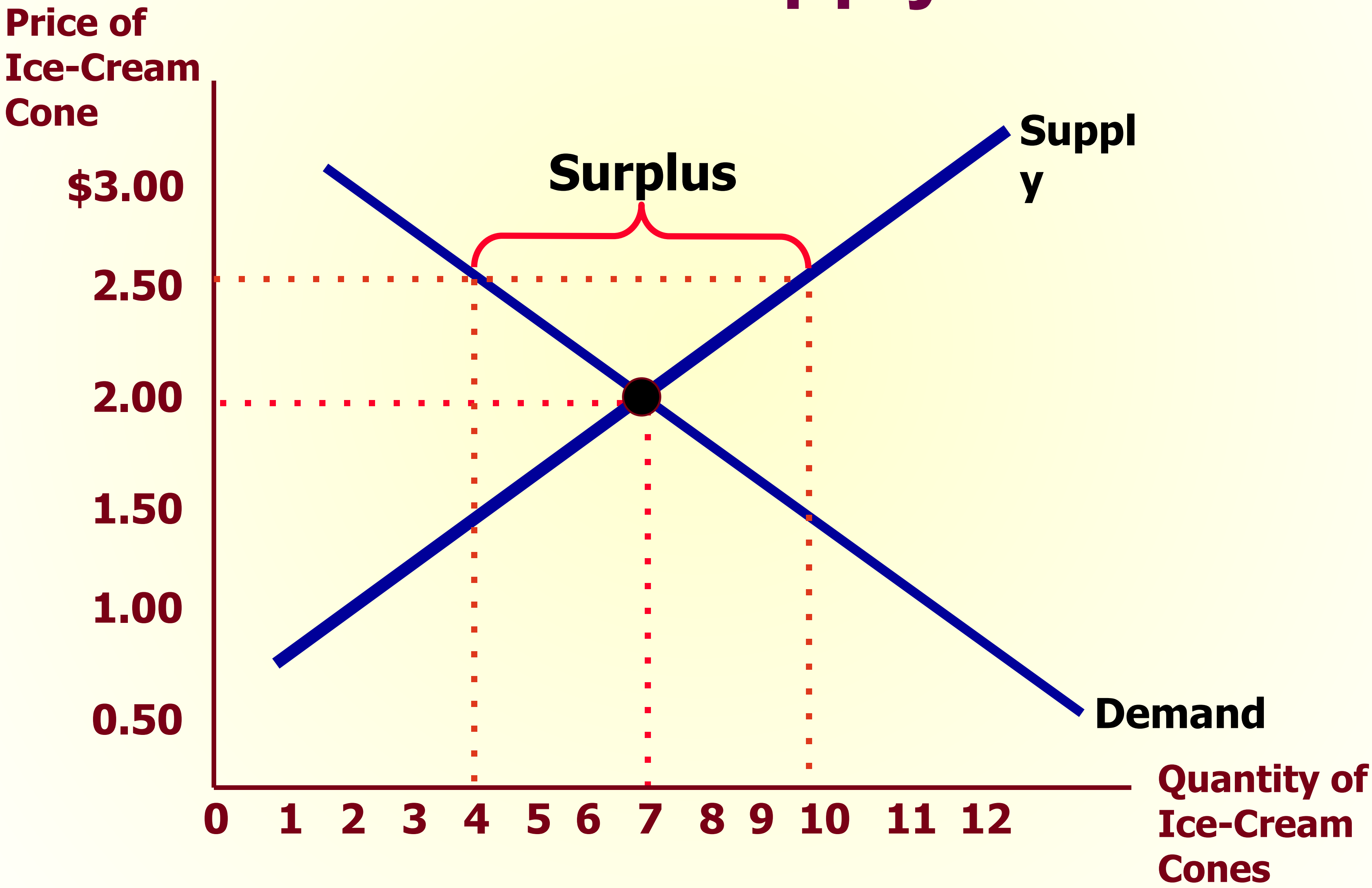
Price	Quantity
$0.00	0
0.50	0
1.00	1
1.50	4
2.00	7
2.50	10
3.00	13

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

Equilibrium of Supply and Demand



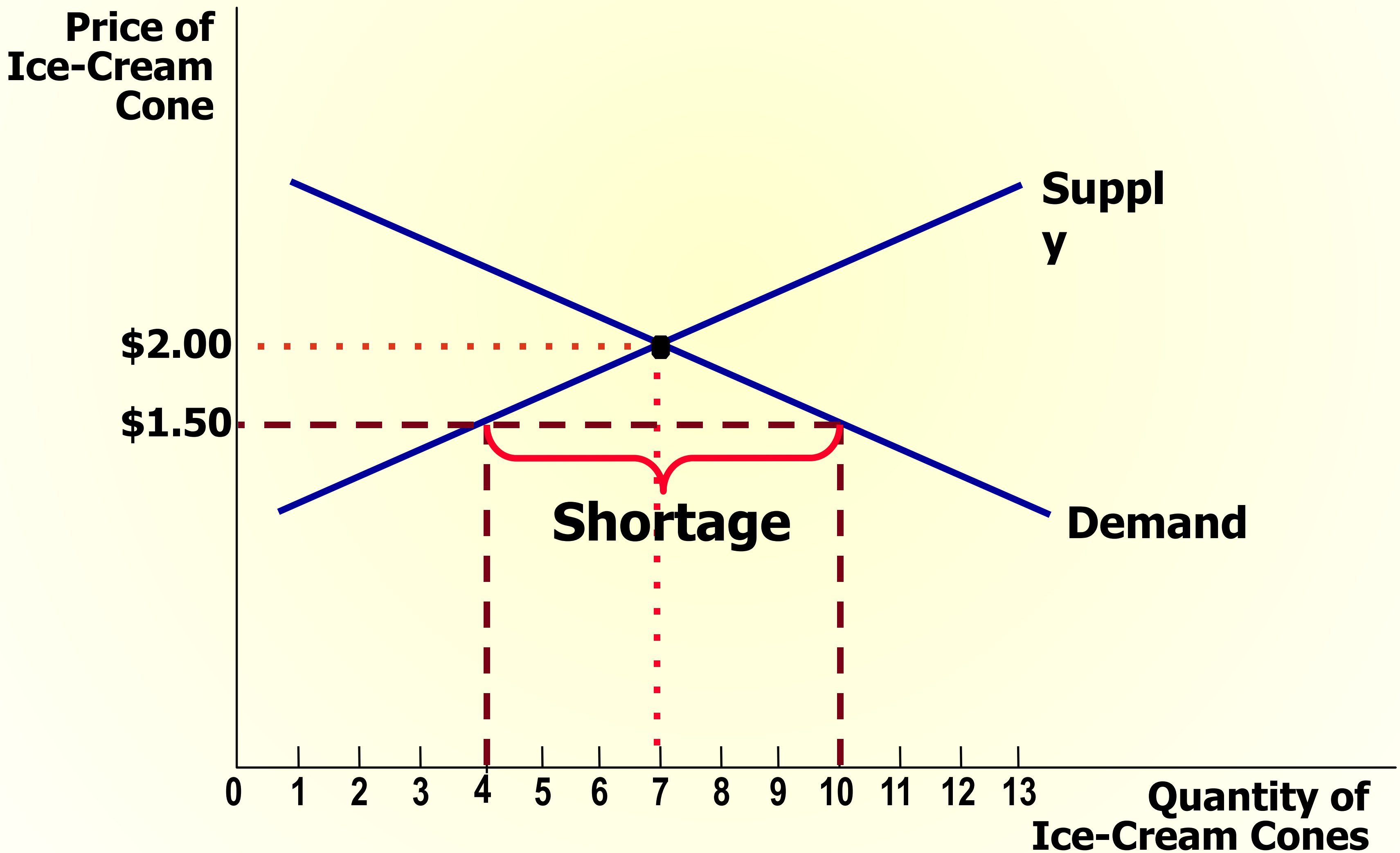
Excess Supply



Surplus

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

Excess Demand



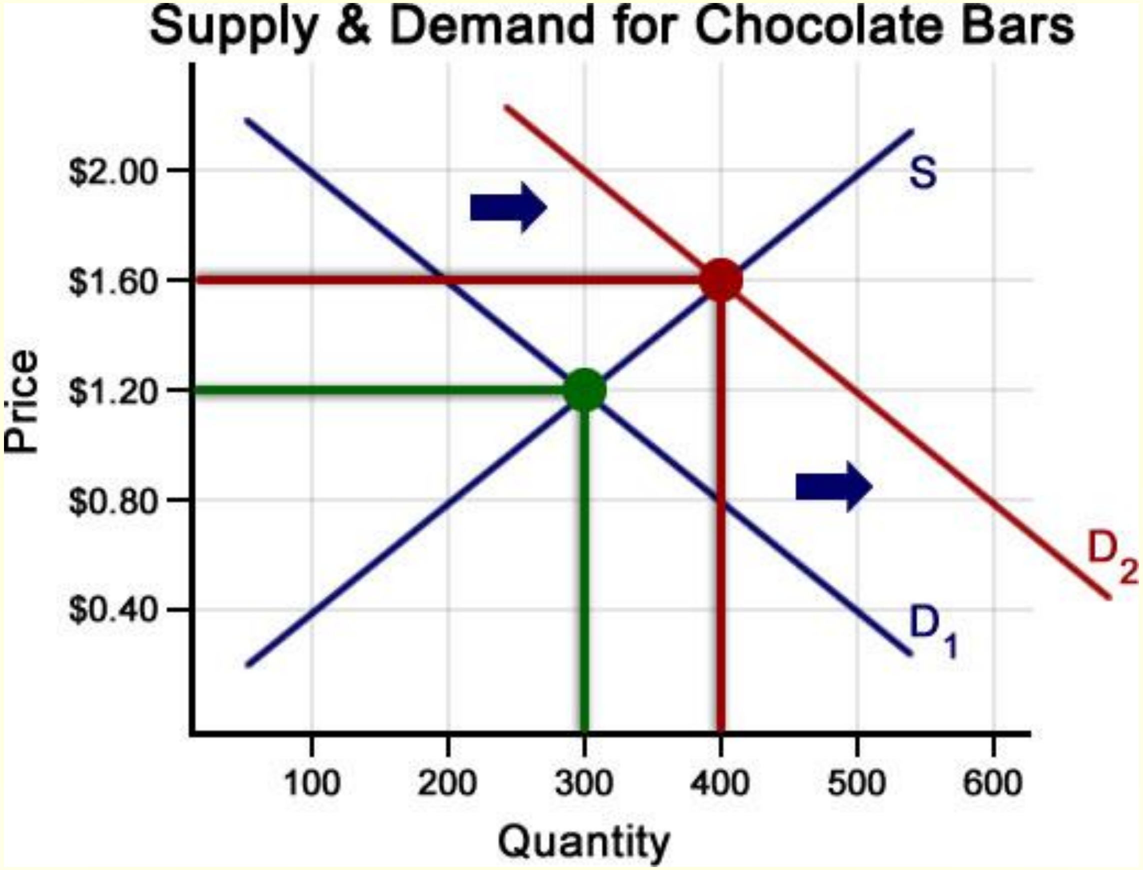
Shortage

When the price is *below* the equilibrium price, the quantity demanded exceeds 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.

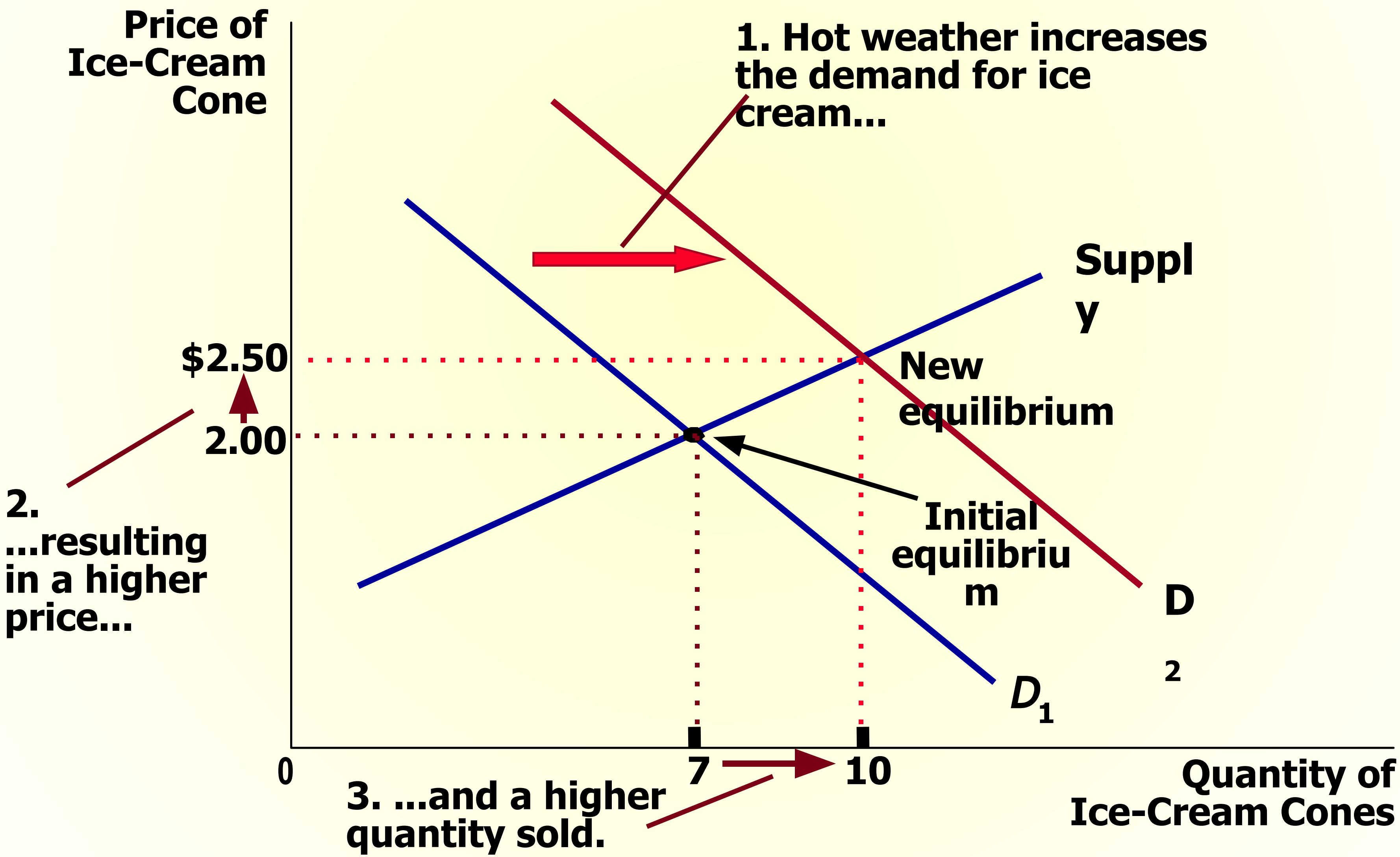
Three Steps To Analyzing Changes in Equilibrium

- 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.
- Examine how the shift affects equilibrium price and quantity.

Example: Impact on chocolate market



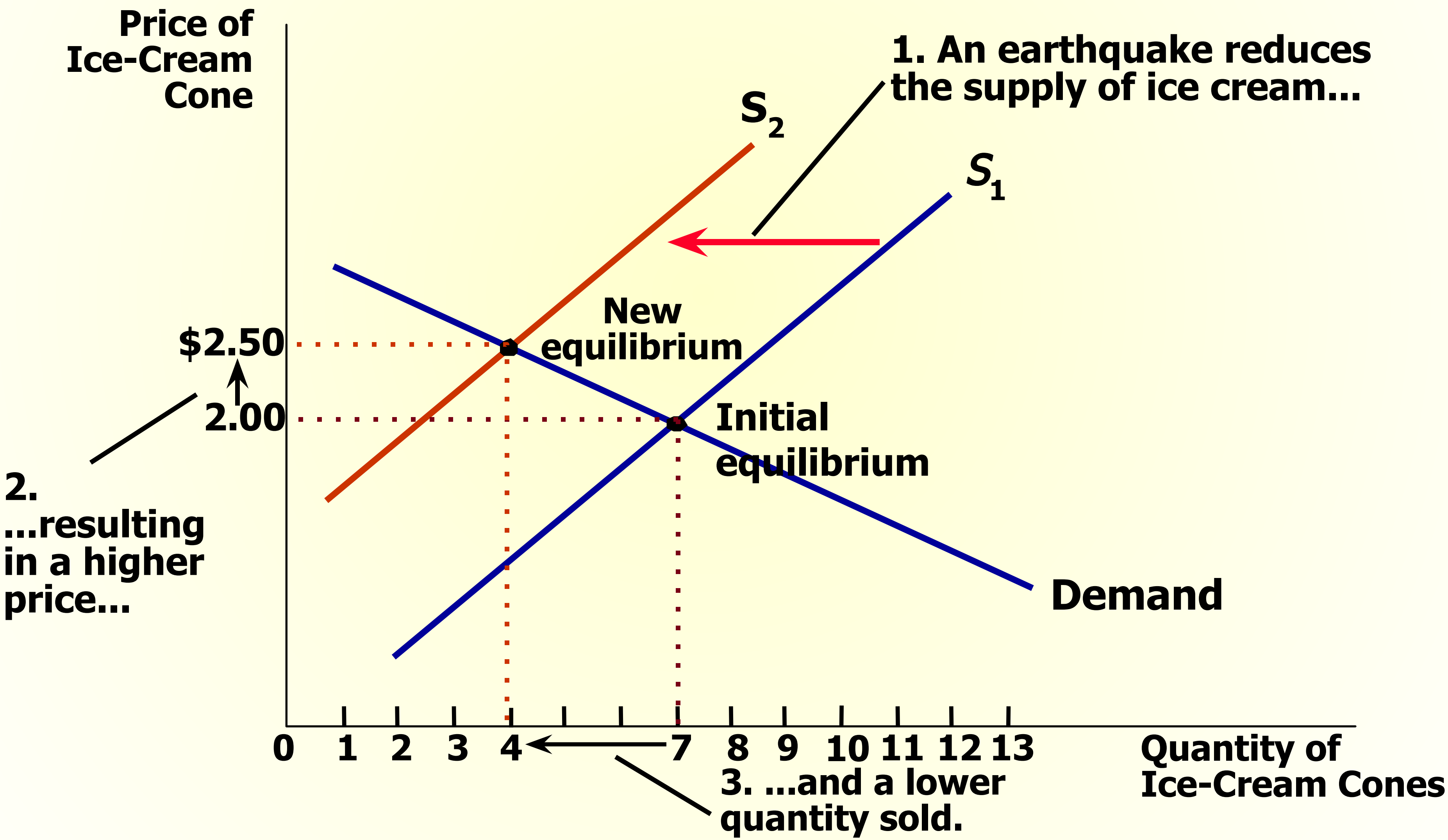
How an Increase in Demand Affects the Equilibrium



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 <u>quantity</u> 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 <u>quantity</u> demanded*.**

How a Decrease in Supply Affects the Equilibrium



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

Both Demand and Supply increase simultaneously

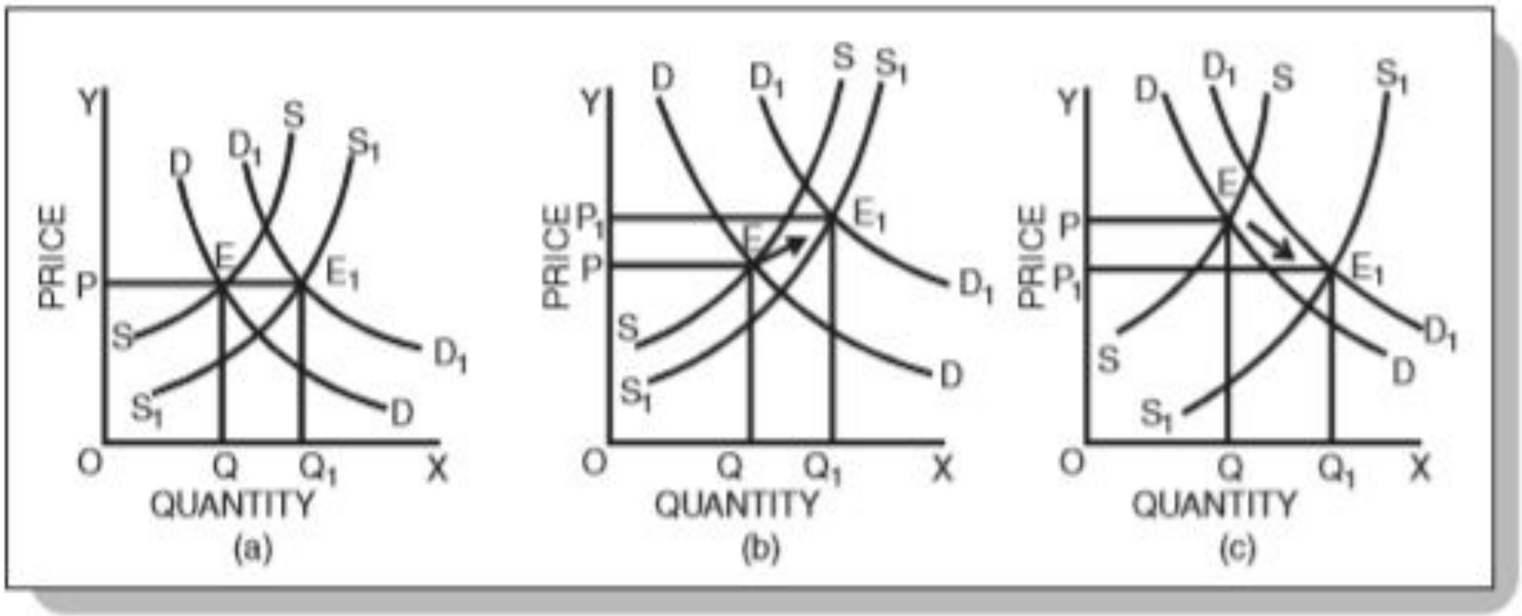


Fig. 1 : Simultaneous Change in Demand and Supply

Summary

- Economists use the model of supply and demand to analyze competitive markets.
- The demand curve shows how the quantity of a good depends upon the price.

Summary

- **According to the law of demand, as the price of a good rises, the quantity demanded falls.**
- **In addition to price, other determinants of quantity demanded include income, tastes, expectations, and the prices of complements and substitutes.**

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.

Summary

- In addition to price, other determinants of quantity supplied include input prices, technology, and expectations.
- Market equilibrium is determined by the intersection of the supply and demand curves.

Summary

- **Supply and demand together determine the prices of the economy's goods and services.**
- **In market economies, prices are the signals that guide the allocation of resources.**