Demand & Supply Analysis

Liyang Hong(洪礼阳)
SOE and WISE, Xiamen University
04/29/2022

Content 目录

01 Perfectly Competitive Market

Competitive Market

- Market: A group of buyers and sellers of a particular good or service, and their interactions
- Buyers: Determine the demand for the product
- Sellers: Determine the supply of the product
- Competitve market is a special case of market

Competitive Market

- Market in which there are many buyers and many sellers
- Both buyers and sellers are price-taker (价格接受者)
  - Each has a negligible impact on market price, each takes price as given
- Price and quantity are determined by all buyers and sellers, as they interact in the marketplace

Competitive Market

- Goods offered for sale are all exactly the same (homogenous)
- Buyers and sellers are so numerous
- No single buyer or seller has any influence over the market price
- **Price takers**
- At the market price
- A buyer can buy all he or she wants
- A seller can sell all he or she wants

Competitive Market: examples

- The market for wheat: thousands of farmers selling wheat+ millions of consumers who use wheat and wheat product;
- The markets of most crops, like rice, coffee, soybean are used in econ textbooks to demonstrate perfectly competitive market.
- Can you name any examples?

02 Demand Analysis

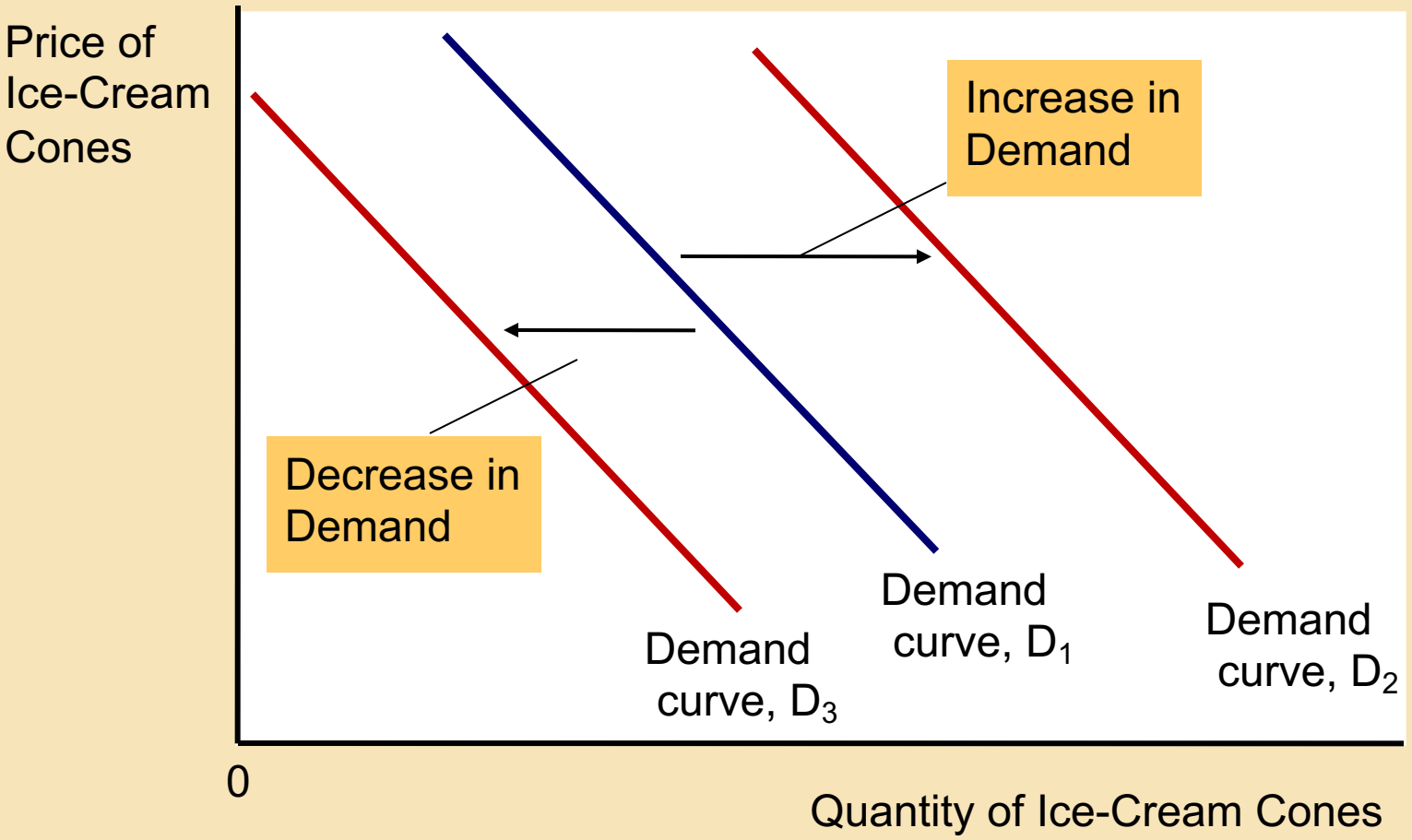
Demand Analysis

- **Quantity demanded**
- Amount of a good that buyers are willing (and able) to purchase at a certain price
- **Law of demand**
- Other things equal
- When the price of the good rises
- Quantity demanded of a good falls
- Why?

Shift in Demand Vs change in Quantity demanded

- Increase in demand
  - Any change that increases the quantity demanded **at every price**
  - Demand curve shifts right
- Decrease in demand
  - Any change that decreases the quantity demanded **at every price**
  - Demand curve shifts left

Shifts in the Demand Curve



Any change that raises the quantity that buyers wish to purchase at any given price shifts the demand curve to the right. Any change that lowers the quantity that buyers wish to purchase at any given price shifts the demand curve to the left.

Variables that can **shift** the demand curve

- Income
- Prices of related goods
- Tastes
- Expectations
- Number of buyers
- How about price of own good? --- No, it is a move of point along the curve.

Variables that can shift the demand curve: income

- **Normal good**
- Other things constant
- An increase in income leads to an increase in demand (laptops, ipads, cars, houses,etc)
- **Inferior good**
- Other things constant
- An increase in income leads to a decrease in demand (Examples?)

Variables that shift the demand curve: price of related goods

- **Substitutes - two goods**
- An increase in the price of one
- Leads to an increase in the demand for the other
- **Complements – two goods**
- An increase in the price of one
- Leads to a decrease in the demand for the other

Variables that shifts the demand curve

- **Tastes**
- Change in tastes – changes the demand (e.g. BMW)
- **Expectations about the future**
- Expect an increase in income (save less)
- Increase in current demand
- **Expect higher prices**
- Increase in current demand
- **Number of buyers – increase**
- Market demand - increases

Variables That Influence Buyers

Variable	A Change in This Variable . . .
Price of the good itself	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

This table lists the variables that affect how much consumers choose to buy of any good. Notice the special role that the price of the good plays: A change in the good's price represents a movement along the demand curve, whereas a change in one of the other variables shifts the demand curve.

Example: two ways of reducing quantity of smoking demanded

- Public service announcements, Mandatory health warnings on cigarette packages, Prohibition of cigarette advertising on television
- Try to raise the price of cigarettes, by taxing the cigarette producer
- What is the difference???

03 Supply analysis

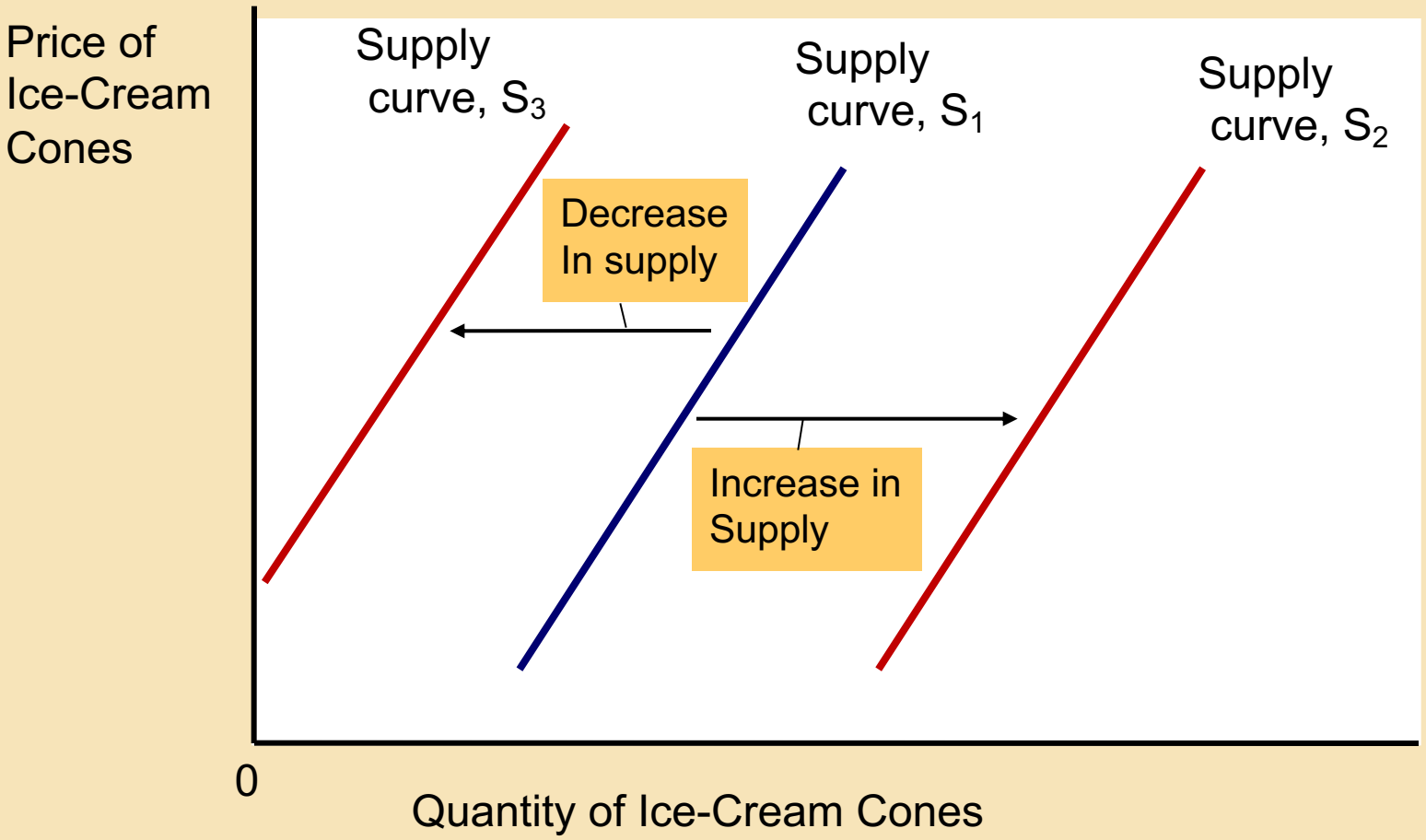
Supply Curve

- **Quantity supplied**
- Amount of a good
- Sellers are willing and able to sell at a certain price
- **Law of supply**
- Other things equal
- When the price of the good rises
- Quantity supplied of a good rises

Shift in Supply

- **Increase in supply**
  - Any change that increases the quantity supplied at every price
  - Supply curve shifts right
- **Decrease in supply**
  - Any change that decreases the quantity supplied at every price
  - Supply curve shifts left

Shifts in the Supply Curve



Any change that raises the quantity that sellers wish to produce at any given price shifts the supply curve to the right. Any change that lowers the quantity that sellers wish to produce at any given price shifts the supply curve to the left.

Variables that can shift the supply curve

- Input Prices
- Technology
- Expectations about future
- Number of sellers

Variables that shift the supply curve

- **Input Prices**
  - Supply is negatively related to prices of inputs
  - Higher input prices – higher cost – lower willingness to produce – lower supply
- **Technology**
  - Advance in technology – increase in supply

Variable that shifts the supply curve

- **Expectations about future**
- Affect current supply
- Expected higher prices
- Decrease in current supply
- **Number of sellers – increase**
- Market supply - increase

Variables That Influence Sellers

Variable	A Change in This Variable . . .
Price of the good itself	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

This table lists the variables that affect how much producers choose to sell of any good. Notice the special role that the price of the good plays: A change in the good's price represents a movement along the supply curve, whereas a change in one of the other variables shifts the supply curve.

04 Equilibrium Analysis

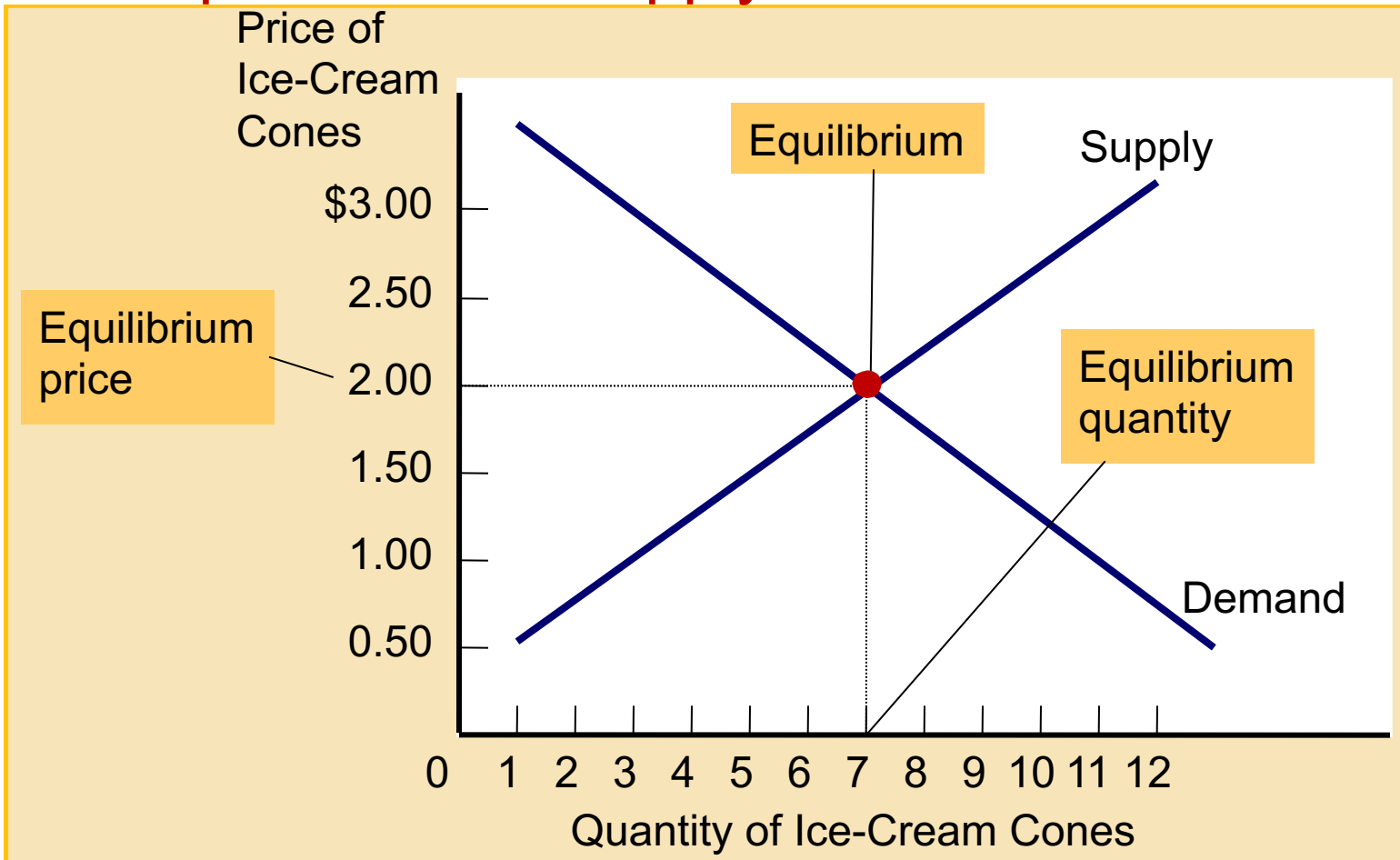
Equilibrium Analysis

- **Equilibrium**
- A situation in which market price has reached the level where
- Quantity supplied = quantity demanded
- Supply and demand curves intersect

Equilibrium Analysis

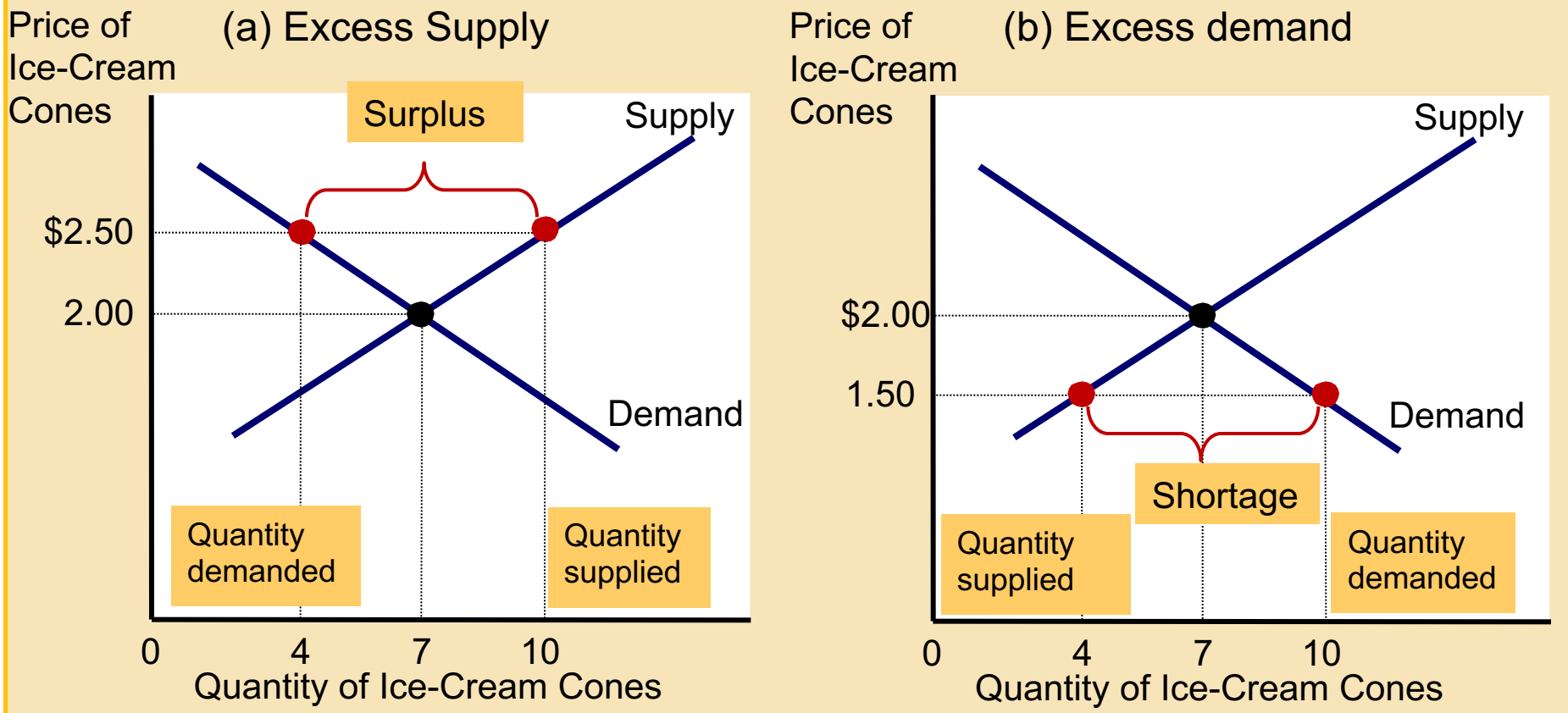
- **Equilibrium price**
- Balances quantity supplied and quantity demanded
- Market-clearing price
- **Equilibrium quantity**
- Quantity supplied and quantity demanded at the equilibrium price

The Equilibrium of Supply and Demand



The equilibrium is found where the supply and demand curves intersect. At the equilibrium price, the quantity supplied equals the quantity demanded. Here the equilibrium price is $2.00: At this price, 7 ice-cream cones are supplied, and 7 ice-cream cones are demanded.

Markets Not in Equilibrium



In panel (a), there is a surplus. Because the market price of $2.50 is above the equilibrium price, the quantity supplied (10 cones) exceeds the quantity demanded (4 cones). Suppliers try to increase sales by cutting the price of a cone, and this moves the price toward its equilibrium level. In panel (b), there is a shortage. Because the market price of $1.50 is below the equilibrium price, the quantity demanded (10 cones) exceeds the quantity supplied (4 cones). With too many buyers chasing too few goods, suppliers can take advantage of the shortage by raising the price. Hence, in both cases, the price adjustment moves the market toward the equilibrium of supply and demand

Equilibrium Analysis

- The price of any good adjusts
- To bring the quantity supplied and the quantity demanded for that good into balance
- This is ensured by Law of supply and demand

- In most markets
- Surpluses and shortages are temporary

.

Terminology: Shifts vs. Movements along Curves

- **Shift in the supply curve**
- Change in supply
- **Movement along a fixed supply curve**
- Change in the quantity supplied
- **Shift in the demand curve**
- Change in demand
- **Movement along a fixed demand curve**
- Change in the quantity demanded

.

Three steps to analyzing changes in equilibrium

1. Decide whether the event shifts the supply curve, the demand curve, or, in some cases, both curves
2. Decide whether the curve shifts to the right or to the left
3. Use the supply-and-demand diagram
    - Compare the initial and the new equilibrium
    - Effects on equilibrium price and quantity

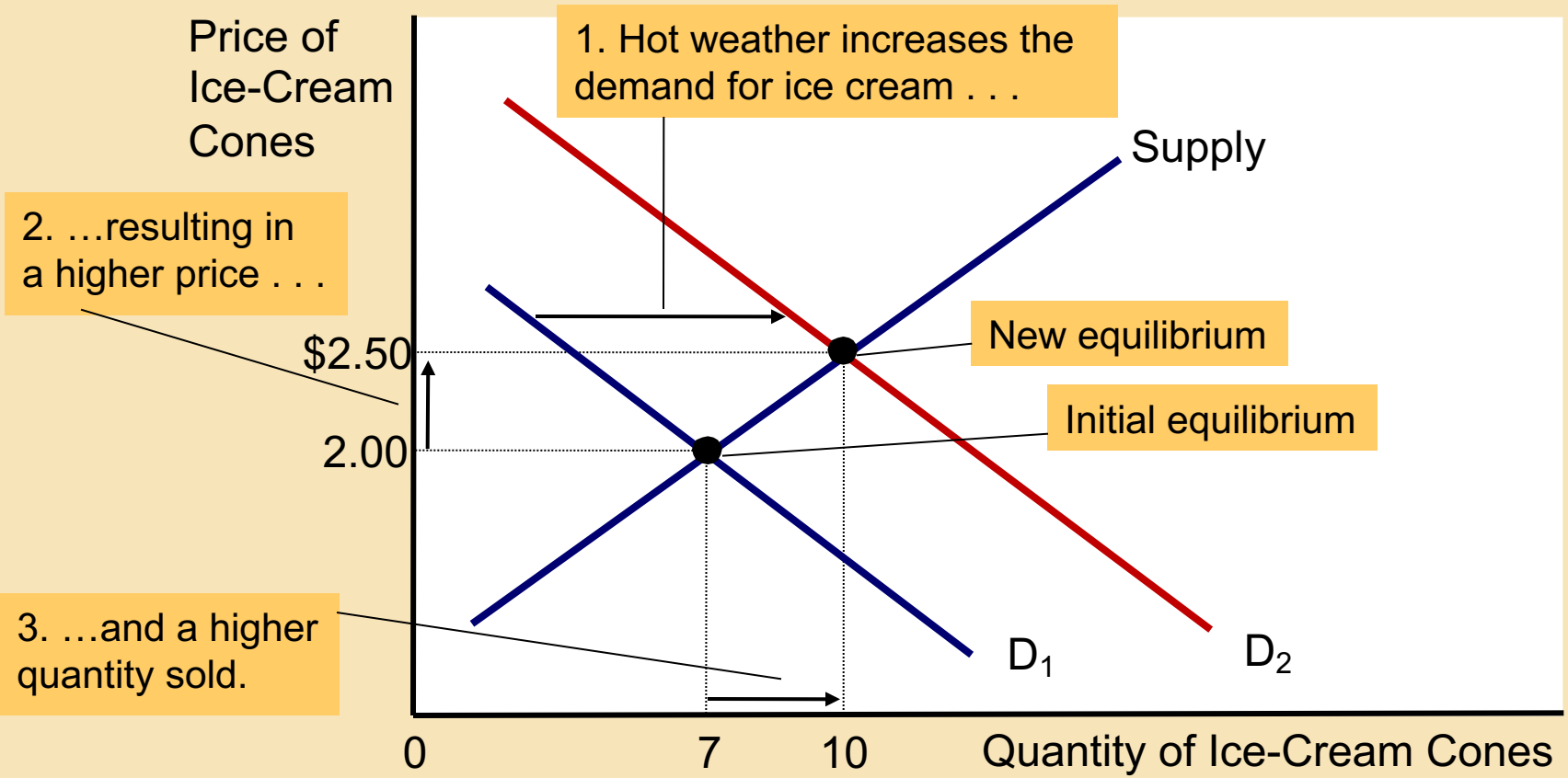
.

Example: A change in market equilibrium due to a shift in demand

- One summer - very hot weather
- Effect on the market for ice cream?

1. Hot weather – shifts the demand curve (tastes)
2. Demand curve shifts to the right
3. Higher equilibrium price; higher equilibrium quantity

How an increase in demand affects the equilibrium



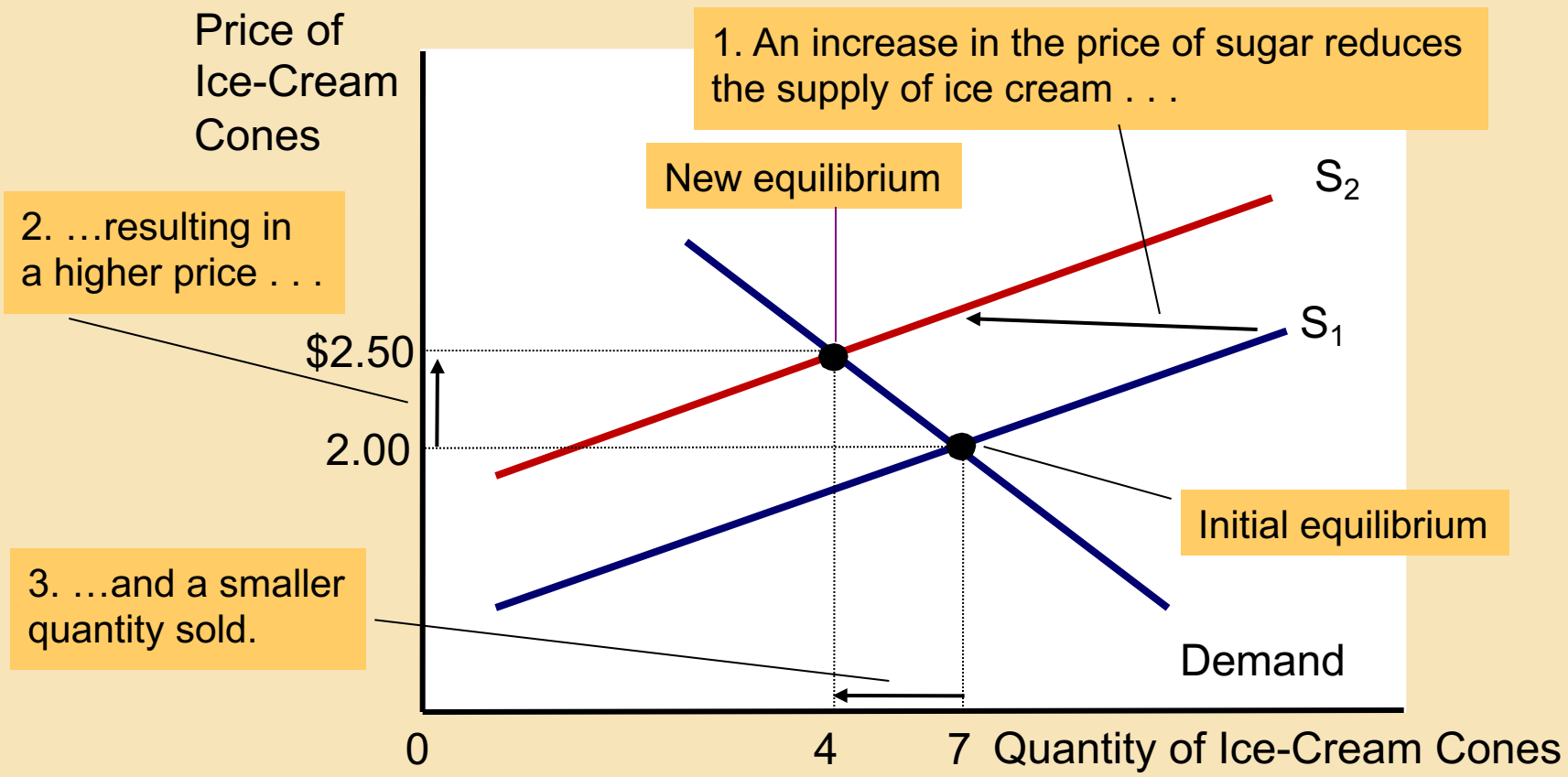
An event that raises quantity demanded at any given price shifts the demand curve to the right. The equilibrium price and the equilibrium quantity both rise. Here an abnormally hot summer causes buyers to demand more ice cream. The demand curve shifts from D_1 to D_2, which causes the equilibrium price to rise from $2.00 to $2.50 and the equilibrium quantity to rise from 7 to 10 cones.

Example: A change in market equilibrium due to a shift in supply

- One summer - a hurricane destroys part of the sugarcane crop: higher price of sugar
- Effect on the market for ice cream?

1. Change in price of sugar - supply curve
2. Supply curve - shifts to the left
3. Higher equilibrium price; lower equilibrium quantity

How a Decrease in Supply Affects the Equilibrium



An event that reduces quantity supplied at any given price shifts the supply curve to the left. The equilibrium price rises, and the equilibrium quantity falls. Here an increase in the price of sugar (an input) causes sellers to supply less ice cream. The supply curve shifts from S_1 to S_2, which causes the equilibrium price of ice cream to rise from $2.00 to $2.50 and the equilibrium quantity to fall from 7 to 4 cones.


谢谢！
THANK YOU!