



Micro

McFadden

ECON

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CHAPTER
4 *Demand, Supply,
and Markets*

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Demand

- ◆ Demand
 - ◆ The quantity consumers are willing and able to buy at each possible price during a given time period, other things constant
- ◆ Amounts purchased per period
 - ◆ At each possible price
- ◆ Willing and able
- ◆ Specific period
- ◆ Other things constant



LO¹

Law of Demand

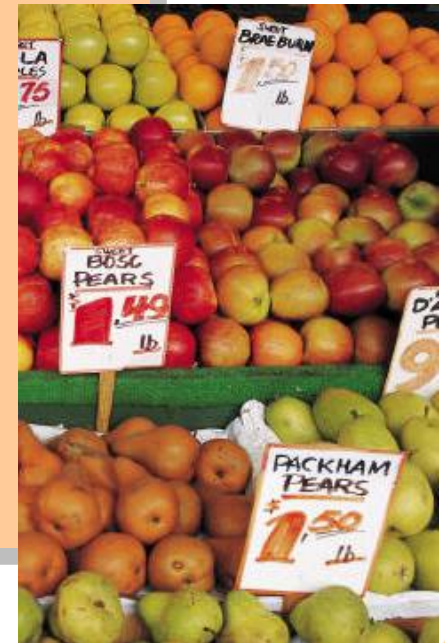
- ◆ Law of demand
 - ◆ Quantity demanded varies inversely with price, other things constant
 - ◆ Higher price: lower quantity demanded
- ◆ Consumer Demand
 - ◆ Not 'consumer wants'
 - ◆ Not 'consumer needs'



LO¹

Law of Demand

- ◆ Substitution effect
 - ◆ Relative price
 - ◆ Price of a good relative to the prices of other goods
- ◆ Lower price
 - ◆ Lower relative price
 - ◆ More willing to purchase the good



LO¹

Law of Demand

- ◆ Income effect
 - ◆ Money income
 - ◆ Real income
 - ◆ Measured in terms of what it can buy
 - ◆ Purchasing power
- ◆ Lower price
 - ◆ Greater real income
 - ◆ Increase ability to purchase all goods



LO¹

Demand Schedule and Demand Curve

- ◆ Demand schedule
 - ◆ Possible prices
 - ◆ Quantity demanded at each price
 - ◆ Law of demand
- ◆ Demand curve
 - ◆ Downward slope
 - ◆ Law of demand



LO¹

Demand

- ◆ Demand
 - ◆ Entire relationship between price and quantity demanded
- ◆ Quantity demanded at a particular price
 - ◆ A point on the demand curve



Demand

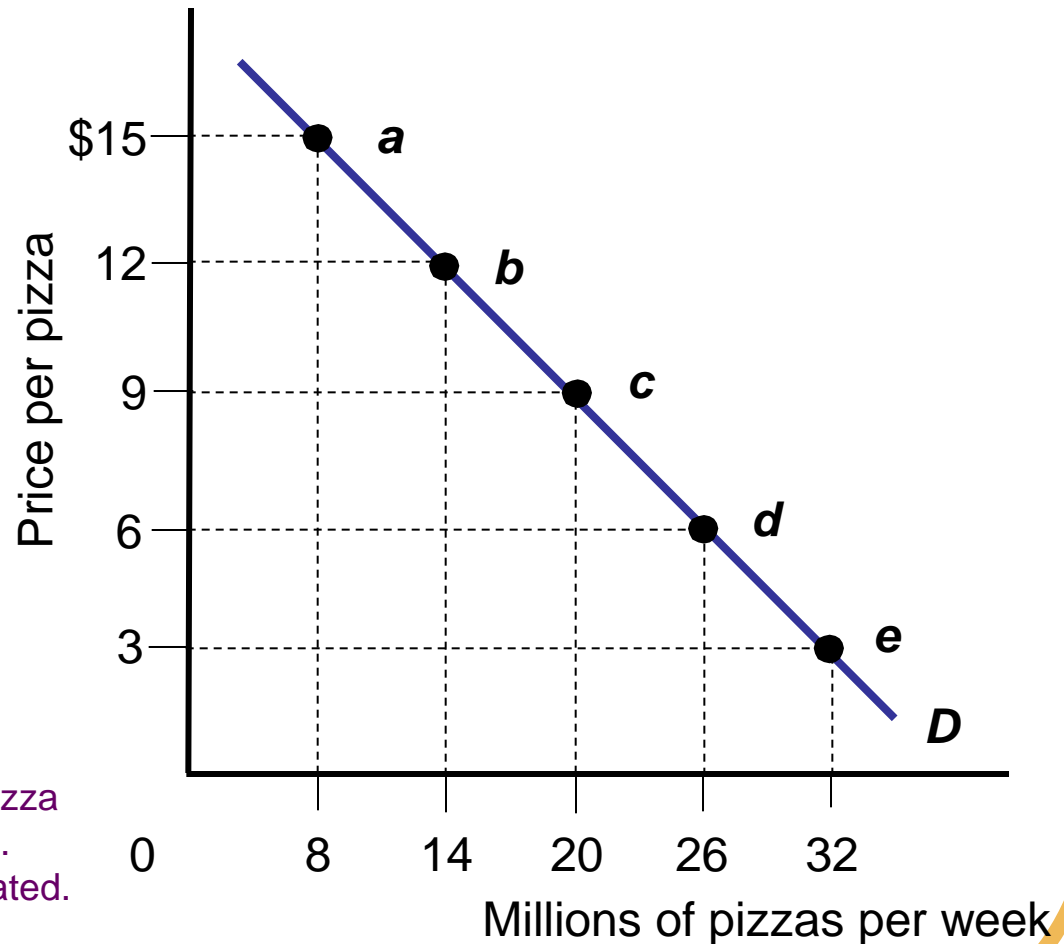
- ◆ Movement along the demand curve
 - ◆ Change in quantity demanded
 - ◆ Due to a change in price
- ◆ Individual demand
- ◆ Market demand



The Demand Schedule and Demand Curve for Pizza

(a) Demand schedule

	Price per pizza	Quantity Demanded Per week (millions)
a	\$15	8
b	12	14
c	9	20
d	6	26
e	3	32



The market demand *D* shows the quantity of pizza demanded, at various prices, by all consumers. Price and quantity demanded are inversely related.

Shifts of the Demand Curve

1. Money income of consumers
2. Prices of other goods
3. Consumer expectations
4. The number or composition of consumers in the market
5. Consumer tastes

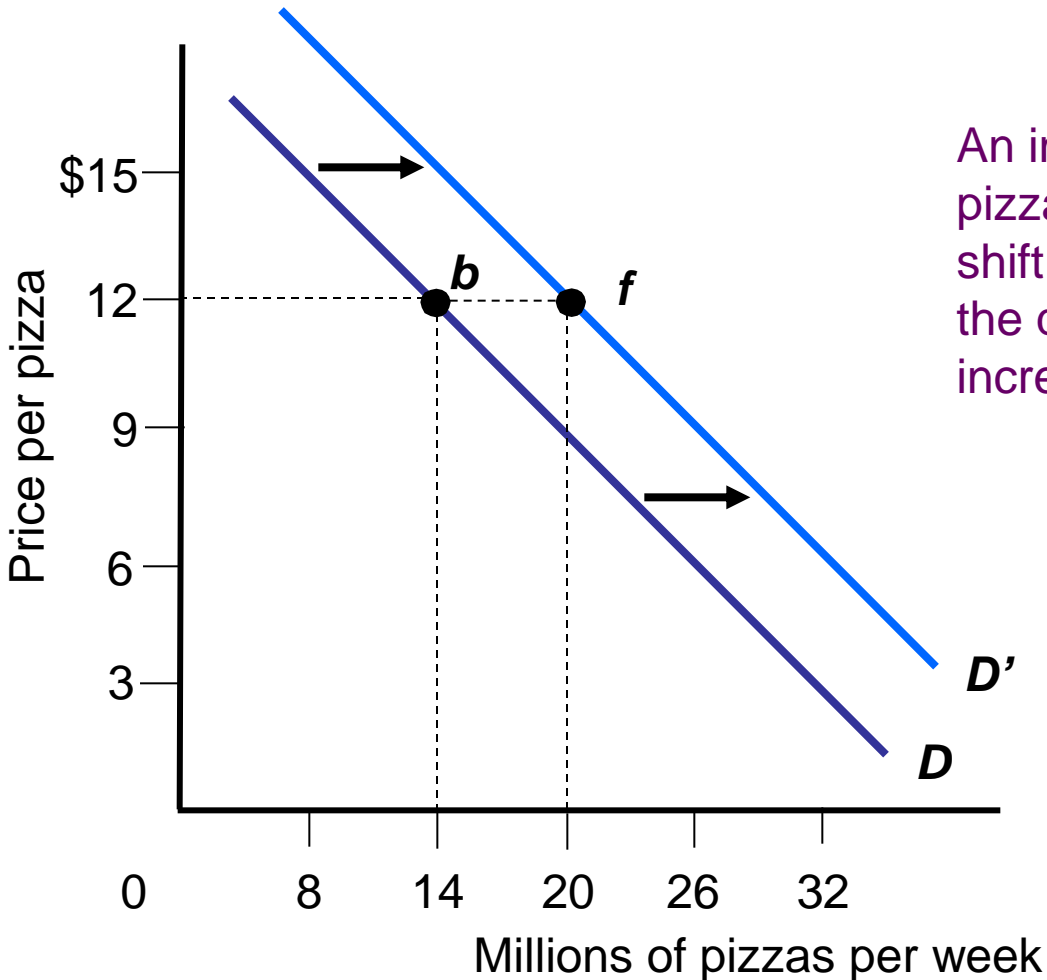


Changes in Consumer Income

- ◆ Increase in consumer income
 - ◆ Willing and able to buy more at each price
 - ◆ Increase in demand
 - ◆ Demand curve shifts rightward
- ◆ Normal good
 - ◆ Demand increases as income increases
- ◆ Inferior good
 - ◆ Demand decreases as income increases



An Increase in the Market Demand for Pizza



An increase in the demand for pizza is shown by a rightward shift of the demand curve, so the quantity demanded increases at each price.

Changes in the Prices of Other Goods

- ◆ **Substitutes**
 - ◆ An increase in the price of one good
 - ◆ Increases the demand for the other
 - ◆ Rightward shift
- ◆ **Complements – used in combination**
 - ◆ An increase in the price of one
 - ◆ Decreases the demand for the other
 - ◆ Leftward shift
- ◆ **Unrelated**



LO¹

Changes in Consumer Expectations

- ◆ Income expectations
 - ◆ Future income increase
 - ◆ Increase the current demand
- ◆ Price expectations
 - ◆ Future price increases
 - ◆ Increase current demand

LO¹



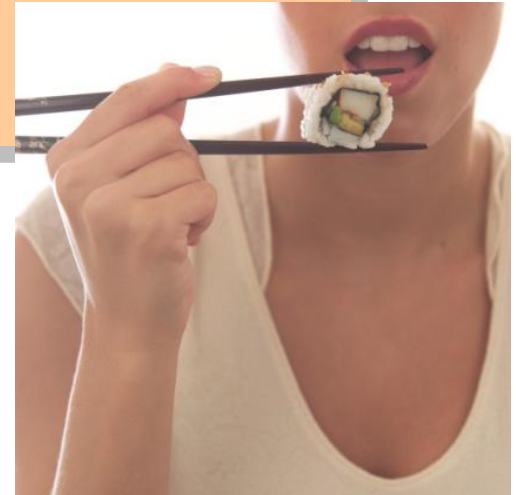
Number or Composition of Consumers

- ◆ Increase in number of consumers
 - ◆ Increases demand
 - ◆ Right shift
- ◆ Composition of the population
 - ◆ Shift the demand



Changes in Consumer Tastes

- ◆ Tastes
 - ◆ Likes and dislikes
 - ◆ Assumed given and relatively stable
- ◆ Change in tastes
 - ◆ May shift the demand



Demand: Summary

- ◆ Quantity demanded
- ◆ Demand
- ◆ Movement along the demand curve
- ◆ Shift in the demand curve



Supply



- ◆ **Supply**
 - ◆ **How much producers are willing and able to offer for sale per period at each possible price, other things constant**
 - ◆ **Willing and able**
 - ◆ **Specific period**
 - ◆ **Other things constant**



Law of Supply



- ◆ Law of supply
 - ◆ Quantity supplied is directly related to its price, other things constant
 - ◆ Higher price: higher quantity supplied
 - ◆ Higher reward, profit
 - ◆ More willing to increase quantity supplied
 - ◆ Can afford to cover the marginal costs
 - ◆ Increasing opportunity cost
 - ◆ More able to increase quantity supplied



Supply Schedule and Supply Curve



- ◆ Supply schedule
 - ◆ Possible prices
 - ◆ Quantity supplied at each price
 - ◆ Law of supply
- ◆ Supply curve
 - ◆ Upward slope
 - ◆ Law of supply



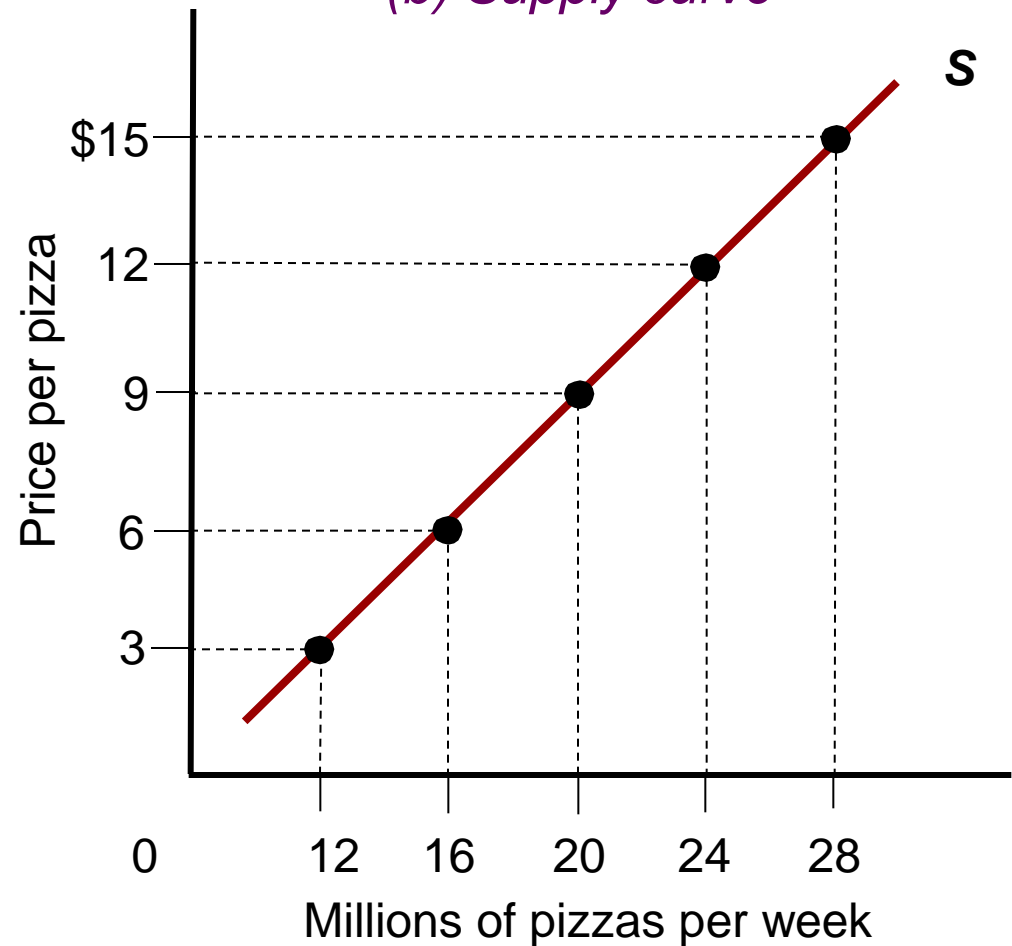
The Supply Schedule and Supply Curve for Pizza

(a) Supply schedule

Price per pizza	Quantity Supplied Per week (millions)
\$15	28
12	24
9	20
6	16
3	12

The market supply *S* shows the quantity of pizza supplied, at various prices, by all pizza makers. Price and quantity supplied are directly related.

(b) Supply curve



Supply



- ◆ **Supply**
 - ◆ **Entire relationship between price and quantity supplied**
- ◆ **Quantity supplied – at a particular price**
 - ◆ **A point on the supply curve**
- ◆ **Movement along the supply curve**
 - ◆ **Change in quantity supplied**
 - ◆ **Due to a change in price**
- ◆ **Individual supply**
- ◆ **Market supply**



Shifts of the Supply Curve



1. State of technology
2. Prices of relevant resources
3. Prices of alternative goods
4. Producer expectations
5. Number of producers in the market



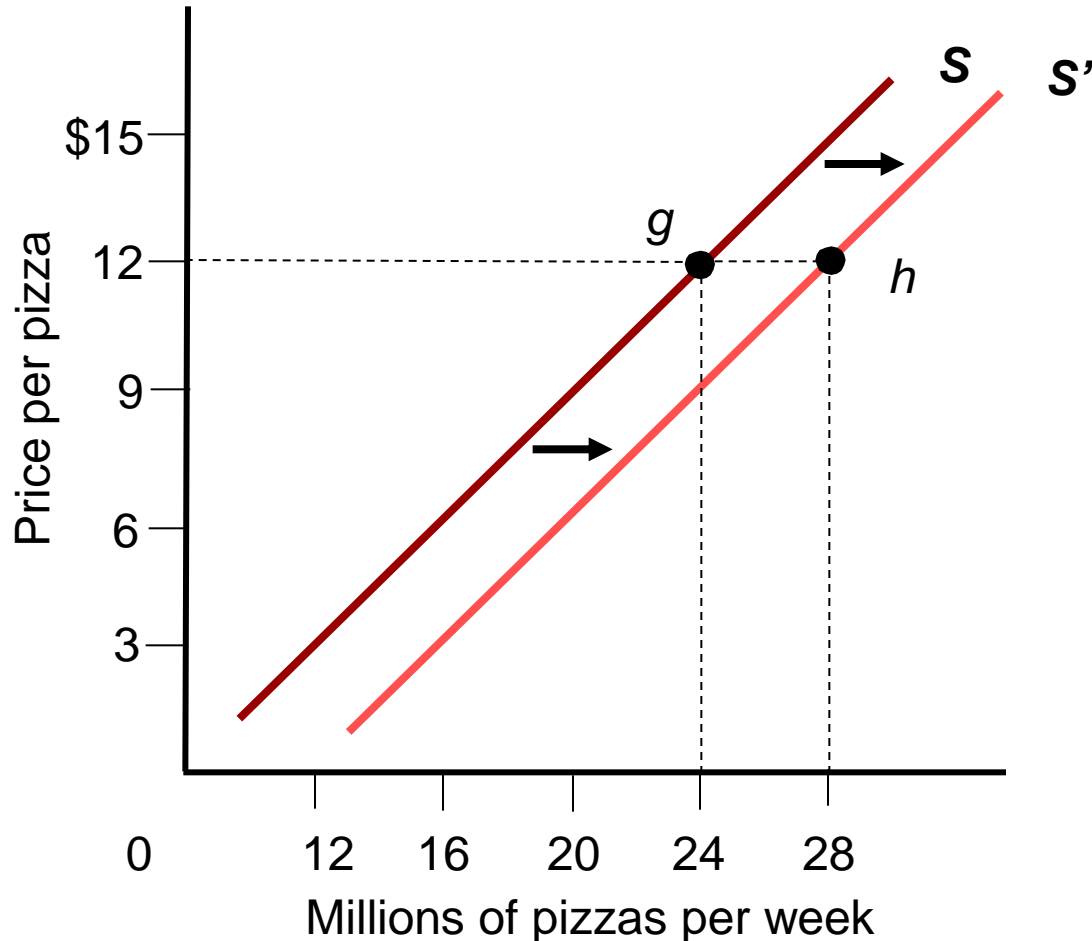
Changes in Technology



- ◆ Better technology
 - ◆ Production costs decrease
 - ◆ Increase quantity supplied at each price
 - ◆ Increase supply
 - ◆ Rightward shift



An Increase in the Supply of Pizza



An increase in the supply of pizza is reflected by a rightward shift of the supply curve, from S to S' .

Quantity supplied increases at each price level.

Prices of Relevant Resources



- ◆ Relevant resources
 - ◆ Employed in the production
- ◆ Decrease in the production of relevant resources
 - ◆ Production costs decrease
 - ◆ Increase supply
 - ◆ Rightward shift



Prices of Alternative Goods



- ◆ Resources
 - ◆ Alternative uses
- ◆ Alternative goods
 - ◆ Use some resources employed to produce the good
- ◆ Decrease in price of alternative goods
 - ◆ Increase supply
 - ◆ Rightward shift



Changes in Producer Expectations



- ◆ Higher prices in the future
 - ◆ Future profits
 - ◆ May increase the current supply
 - ◆ Easily stored goods
 - ◆ Reduce current supply



Changes in the Number of Producers



- ◆ Market supply
 - ◆ Amount supplied
 - ◆ At each price
 - ◆ By all producers
- ◆ Number of producers increase
 - ◆ Increase supply
 - ◆ Rightward shift



Supply: Summary



- ◆ Quantity supplied
- ◆ Supply
- ◆ Movement along the supply curve
- ◆ Shift in the supply curve



Demand and Supply Create a Market

- ◆ **Markets**
 - ◆ Sort out differences between demanders and suppliers
 - ◆ Reduce transaction costs
- ◆ **Adam Smith**
 - ◆ The “invisible hand”



LO³

Market Equilibrium

- ◆ **Surplus: excess quantity supplied**
 - ◆ **Downward pressure on price**
 - ◆ **Decrease quantity supplied**
 - ◆ **Increase quantity demanded**

- ◆ **Shortage: excess quantity demanded**
 - ◆ **Upward pressure on price**
 - ◆ **Increase quantity supplied**
 - ◆ **Decrease quantity demanded**

LO³

Market Equilibrium

- ◆ Quantity demanded = Quantity Supplied
- ◆ Plans of buyers and sellers match
- ◆ Equilibrium point
- ◆ Equilibrium quantity
- ◆ Equilibrium price
- ◆ Market clears
- ◆ No pressure on price
- ◆ 'X marks the spot'



LO³

Equilibrium in the Pizza Market

(a) Market schedules

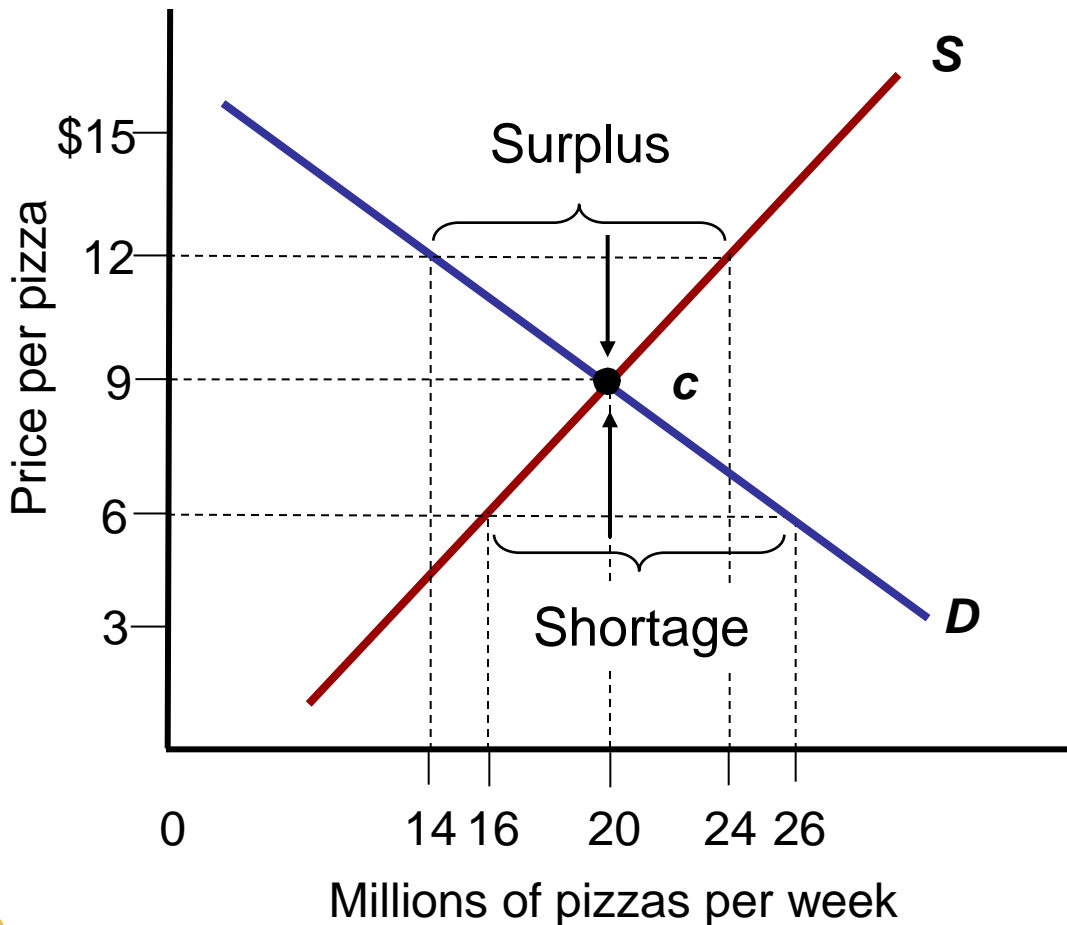
Millions of pizzas per Week

Price per pizza	Quantity Demanded	Quantity Supplied	Surplus or Shortage	Effect on Price
\$15	8	28	Surplus of 20	Falls
12	14	24	Surplus of 10	Falls
9	20	20	Equilibrium	Remains the same
6	26	16	Shortage of 10	Rises
3	32	12	Shortage of 20	Rises

Exhibit 5 (b)

Equilibrium in the Pizza Market

(b) Market curves



Market equilibrium occurs at:
Price where $Q_D=Q_S$; Point c

Above the equilibrium price:
 $Q_S > Q_D$;
Surplus;
Downward pressure on P

Below the equilibrium price:
 $Q_D > Q_S$;
Shortage;
Upward pressure on P

Shifts of the Demand Curve

Determinants of demand

1. Money income of consumers
2. Price of a substitute or a complement
3. Consumer expectations
4. Number of consumers
5. Consumer tastes

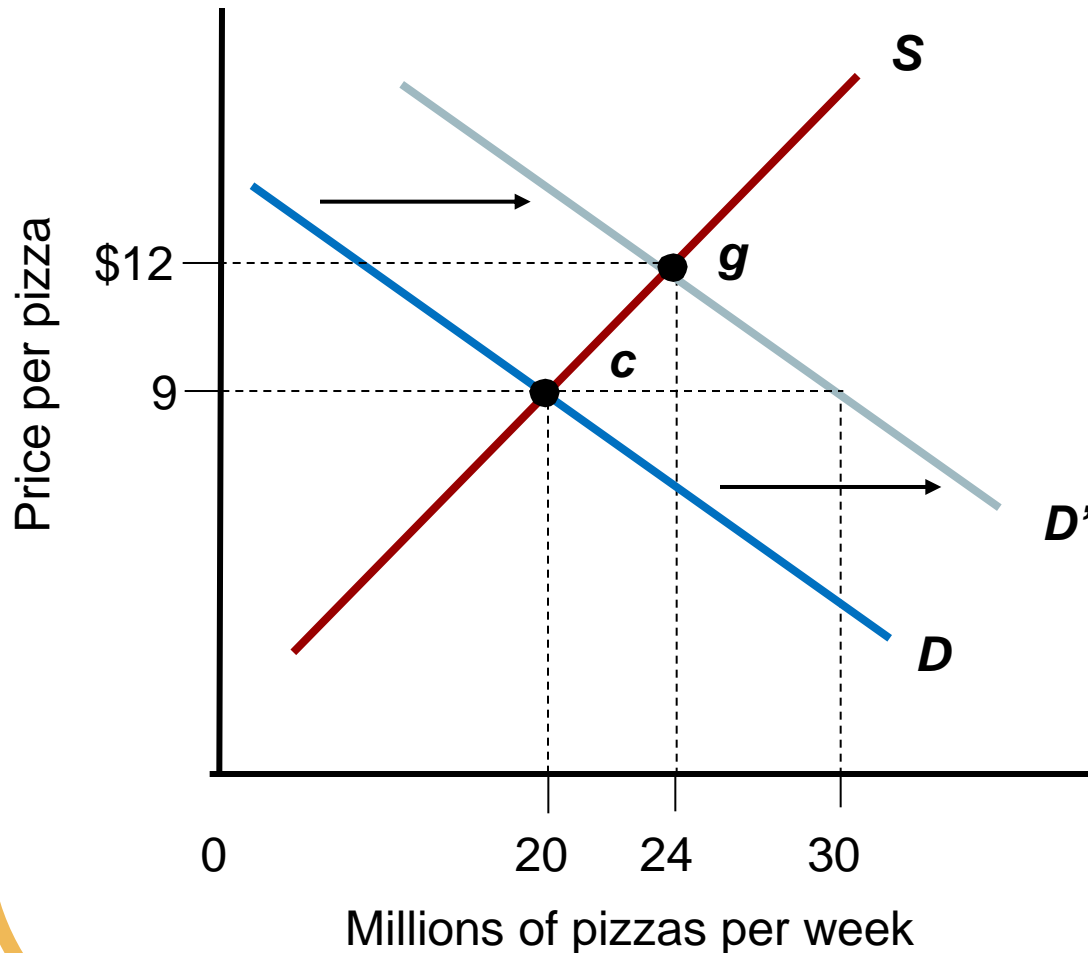


Shifts of the Demand Curve

- ◆ **Increase in demand**
 - ◆ **Rightward shift of D curve**
 - ◆ **Shortage; Upward pressure on P**
 - ◆ **Q_D decreases; Q_S increase**
 - ◆ **New equilibrium: Increase in P and Q**

- ◆ **Decrease in demand**
 - ◆ **Surplus; Downward pressure on P**
 - ◆ **New equilibrium: Decrease in P and Q**

Effects of an Increase in Demand



Increase in demand:

Rightward shift to D'

At P=\$9: $Q_D > Q_S$; shortage

Upward pressure on P

Q_D decreases

Q_S increases

New equilibrium g

Higher P

Higher Q

Shifts in the Supply Curve

Determinants of supply

1. Technological change
2. Price of a relevant resource
3. Price of an alternative good
4. Producers expectations
5. Number of producers



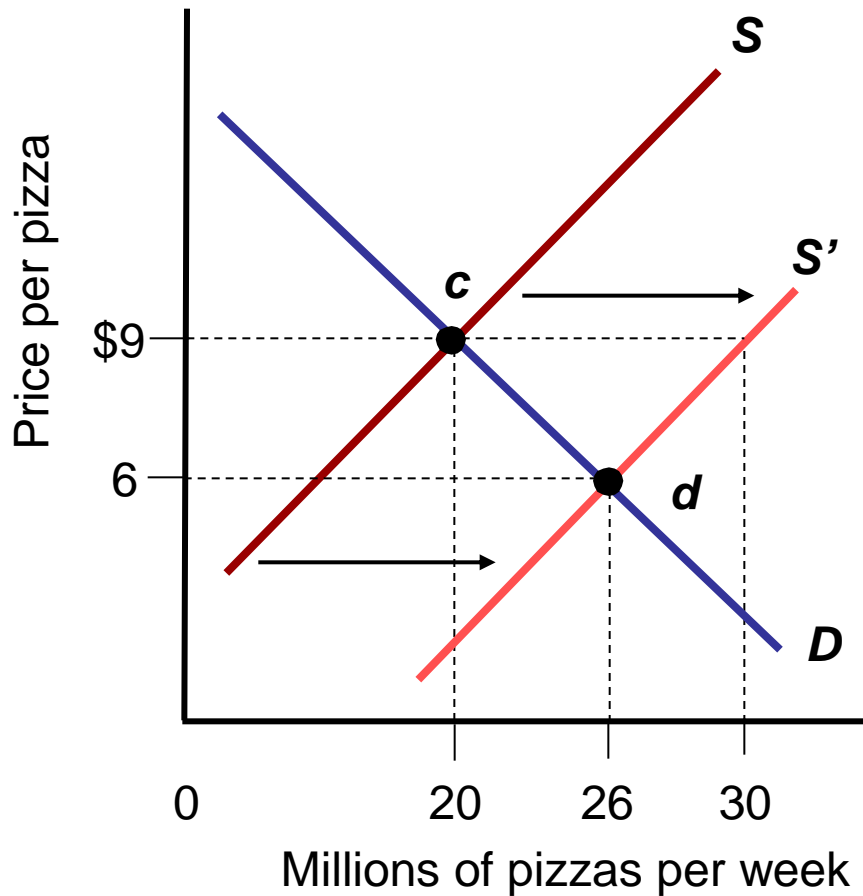
LO⁴

Shifts in the Supply Curve

- ◆ Increase in supply
 - ◆ Rightward shift of S curve
 - ◆ Surplus; Downward pressure on P
 - ◆ Q_D increases; Q_S decreases
 - ◆ New equilibrium:
 - ◆ P decreases; Q increases

- ◆ Decrease in supply
 - ◆ New equilibrium:
 - ◆ P increase; Q decreases

Effects of an Increase in Supply



Increase in supply:
 Rightward shift to S'
 At $P=\$9$: $Q_S > Q_D$; surplus
 Downward pressure on P
 Q_D increases
 Q_S decreases
 New equilibrium d
 Higher Q
 Lower P

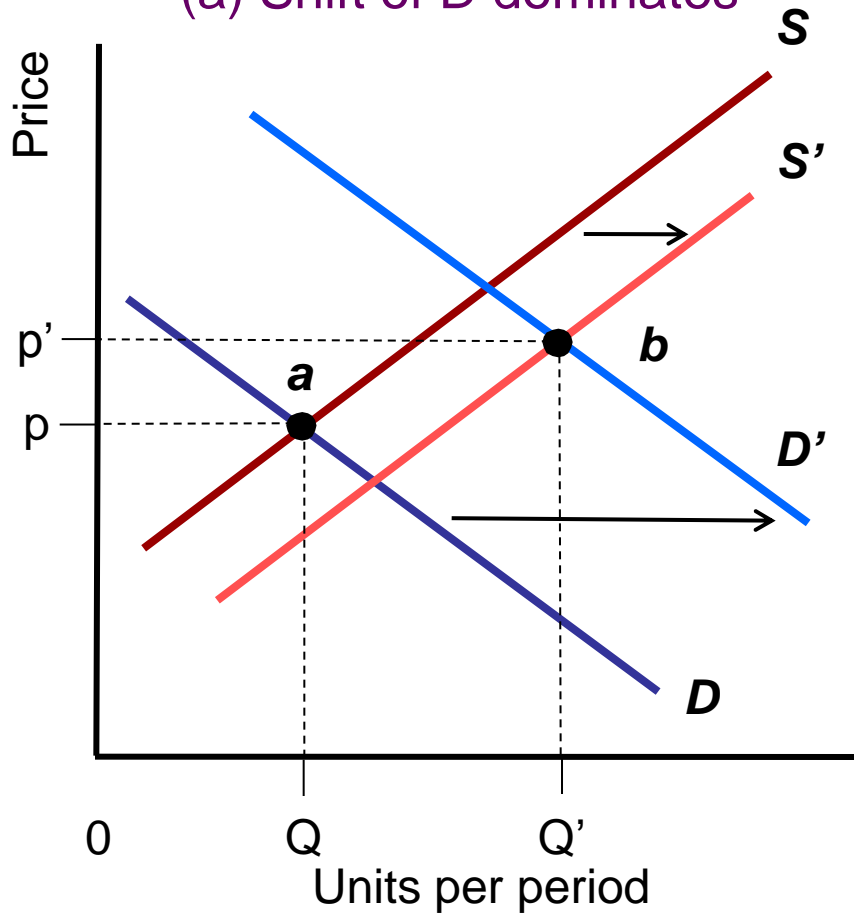
Simultaneous Shifts of D and S curves

- ◆ Both S and D increase;
 - ◆ Q increases
 - ◆ D shifts more: P increases
 - ◆ S shifts more: P decreases
- ◆ Both S and D decrease:
 - ◆ Q decreases
 - ◆ D shifts more: P decreases
 - ◆ S Shifts more: P increases

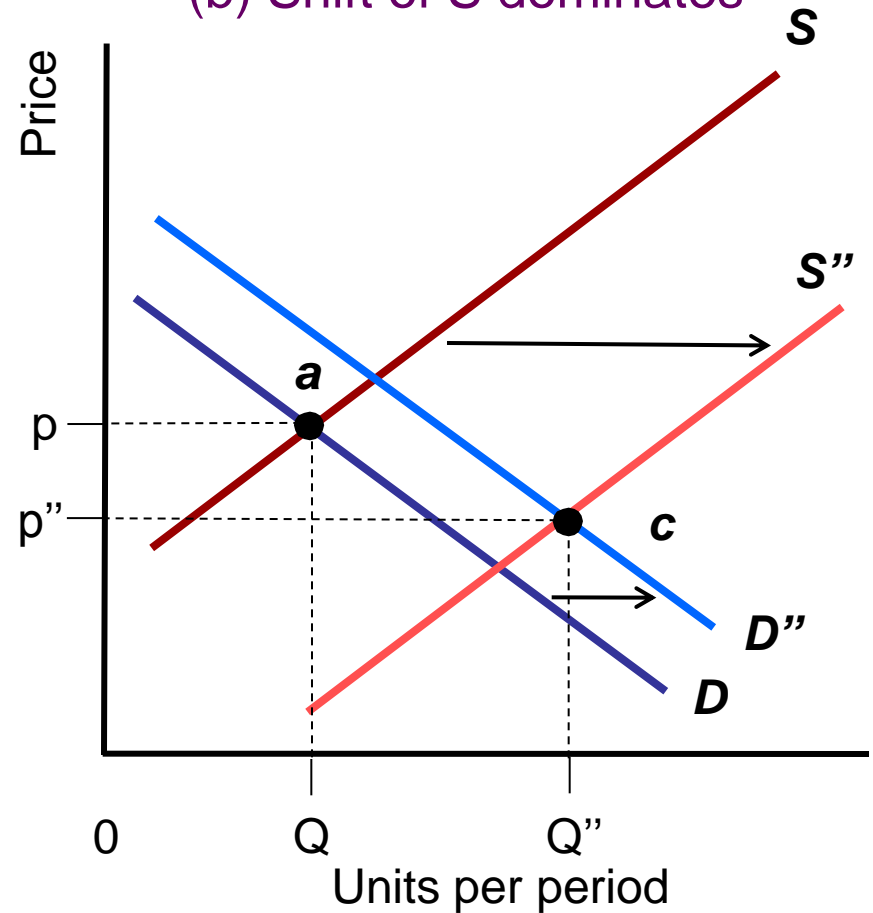


Indeterminate Effect of an Increase in Both Demand and Supply

(a) Shift of D dominates



(b) Shift of S dominates



Simultaneous Shifts of D and S curves

- ◆ S increases; D decreases
 - ◆ P decreases
 - ◆ D shifts more: Q decreases
 - ◆ S shifts more: Q increases

- ◆ S decreases; D increases
 - ◆ P increases
 - ◆ D shifts more: Q increases
 - ◆ S shifts more: Q decreases



Effects of Shifts of Both Demand and Supply

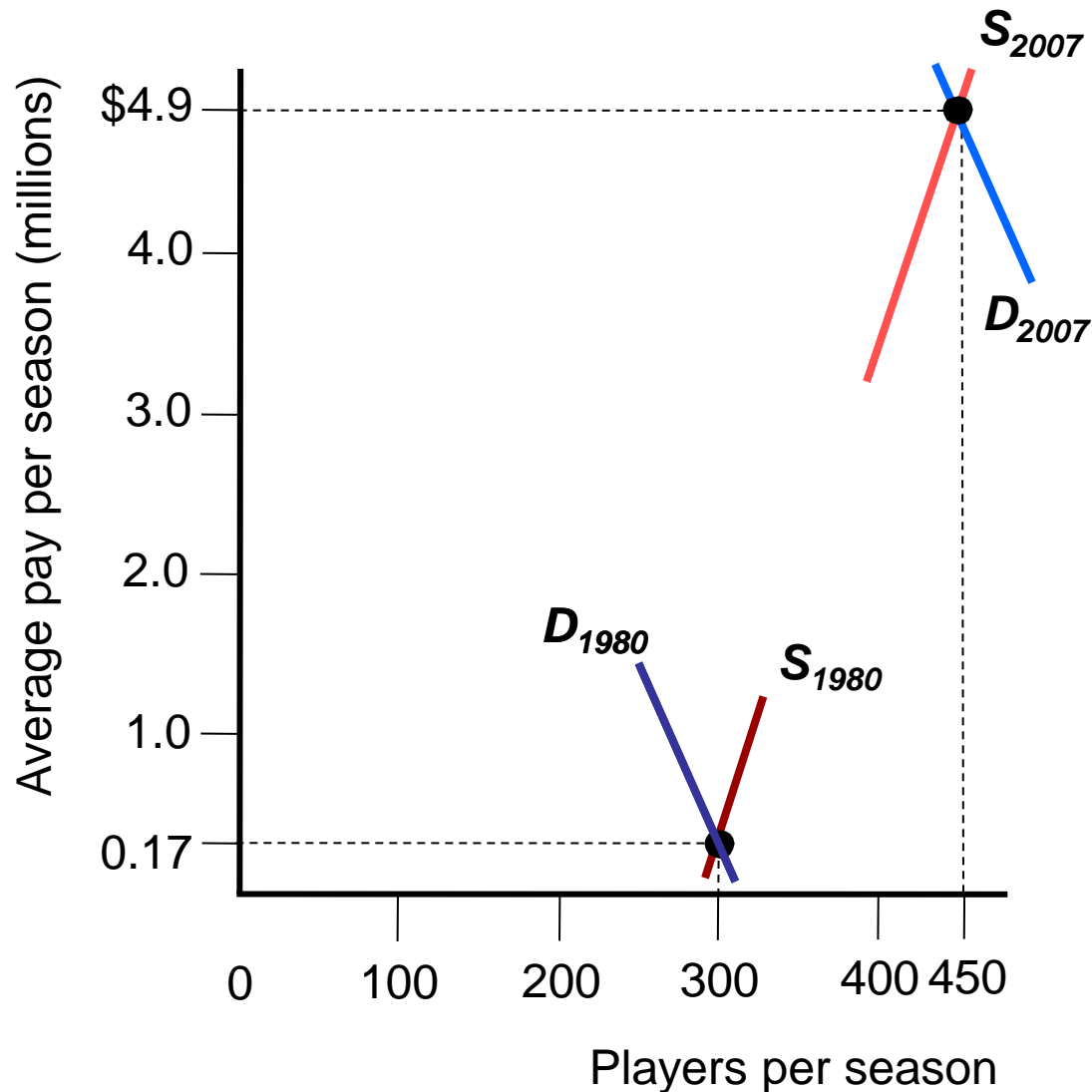
		Change in demand	
		Demand increases	Demand decreases
Change in supply	Supply increases	<p>Equilibrium price change is indeterminate.</p> <p>Equilibrium quantity increases.</p>	<p>Equilibrium price falls.</p> <p>Equilibrium quantity change is indeterminate.</p>
	Supply decreases	<p>Equilibrium price rises.</p> <p>Equilibrium quantity change is indeterminate.</p>	<p>Equilibrium price change is indeterminate.</p> <p>Equilibrium quantity decreases.</p>

The Market for Professional Basketball

- ◆ 1970s, NBA – brink of collapse
- ◆ Since 1980s
 - ◆ More teams; superstars; high popularity
 - ◆ International players; marketing
- ◆ Increase in D; S – relatively fixed
 - ◆ Increase in pay
 - ◆ Attracts younger players



Exhibit 10



NBA Pay Leaps

- S – relatively fixed
- Big jump in D
- Average pay increased from \$170,000 in 1980 to 4,900,000 in 2007.
- Number of teams in NBA increased
- Number of players increased from 300 to 450.

Disequilibrium

- ◆ **Surplus**
 - ◆ **Downward pressure on P**

- ◆ **Shortage**
 - ◆ **Upward pressure on P**

- ◆ **Disequilibrium**
 - ◆ **Temporary, or**
 - ◆ **Result of government intervention**
 - ◆ **Price floors**
 - ◆ **Price ceilings**



Disequilibrium

- ◆ **Price Floors**
 - ◆ **Set above equilibrium P**
 - ◆ **Minimum selling P**
 - ◆ **Surplus**
 - ◆ **Distort markets**
 - ◆ **Reduce economic welfare**



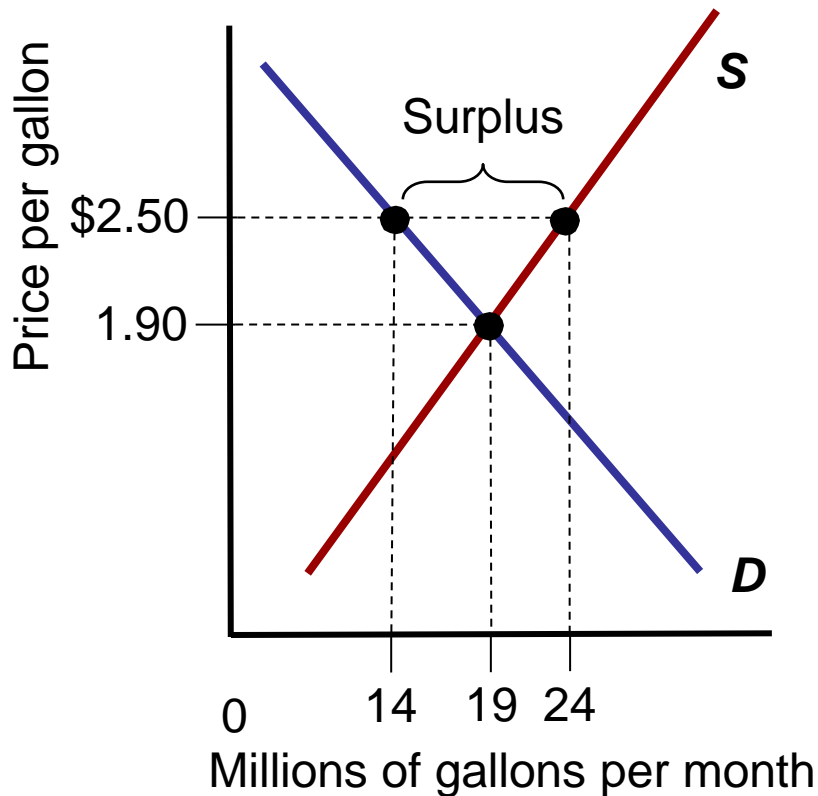
Disequilibrium

- ◆ **Price Ceilings**
 - ◆ **Set below the equilibrium P**
 - ◆ **Maximum selling P**
 - ◆ **Shortage**
 - ◆ **Distort markets**
 - ◆ **Reduce economic welfare**



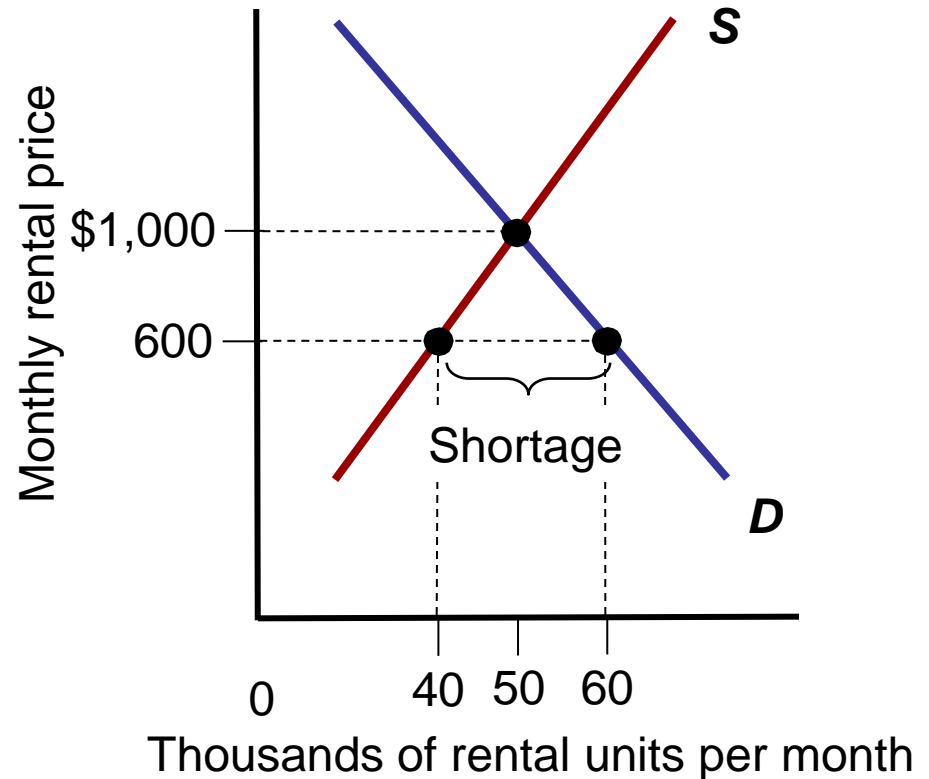
Price Floors and Price Ceilings

(a) Price floor for milk



No effect if price floor is set at or below equilibrium P

(b) Price ceiling for rent



No effect if price ceiling is set at or above equilibrium P

Rent Ceilings in New York City

- ◆ Rent ceilings
 - ◆ Housing shortage; excess demand
 - ◆ Drop in new construction
 - ◆ Decrease in quality
- ◆ Increased demand in free-market sector
 - ◆ Higher rent
 - ◆ Manhattan, three-bedroom apartment
 - ◆ \$750 if rent controlled
 - ◆ \$12,000 on the open market

