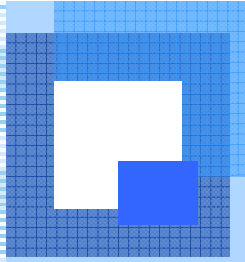


# Chapter 3

## Supply and Demand

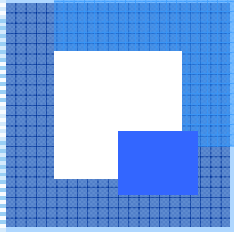
*Managerial Economics: Economic  
Tools for Today's Decision Makers, 4/e  
By Paul Keat and Philip Young*



# Supply and Demand

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- Market Demand
- Market Supply
- Market Equilibrium
- Comparative Statics Analysis
  - Short-run Analysis
  - Long-run Analysis
- Supply, Demand, and Managerial Decision Making

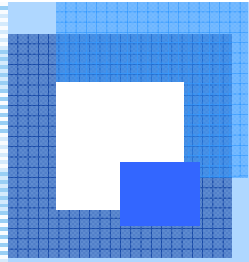


# Market Demand

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The **demand** for a good or service is defined as:

Quantities of a good or service that people are ready (willing and able) to buy at various prices within some given time period, other factors besides price held constant.



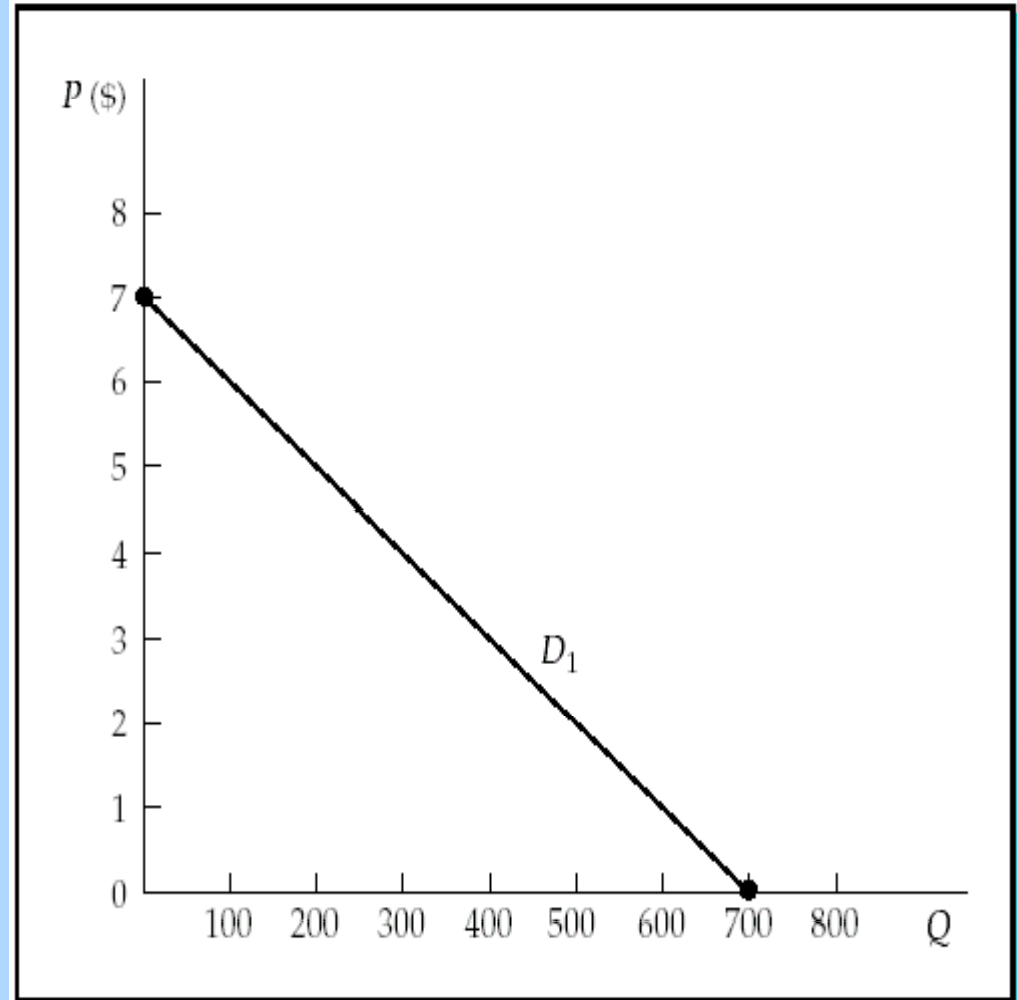
# Market Demand

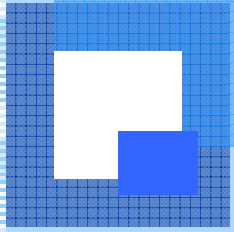
**Market demand** is the sum of all the individual demands.

PRICE (PER SLICE)	$Q_{D1}$	$Q_{D2}$	$Q_{D3}$	$Q_{DM}$
\$2.00	0	2	3	5
1.50	1	2	5	8
1.00	2	2	8	12
0.50	3	3	10	16
0.05	4	4	12	20

# Market Demand

The inverse relationship between price and the quantity demanded of a good or service is called the **Law of Demand**.



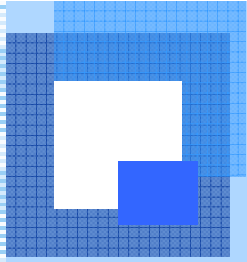


# Market Demand

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Changes in price result in changes in the quantity demanded.

This is shown as *movement* along the demand curve.

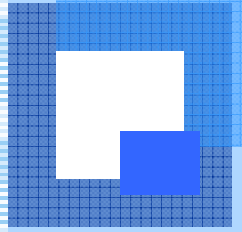


# Market Demand

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Changes in nonprice determinants result in changes in demand.

This is shown as a *shift* in the demand curve.

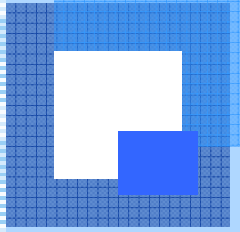


# Market Demand

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## Nonprice determinants of demand

1. Tastes and preferences
2. Income
3. Prices of related products
4. Future expectations
5. Number of buyers

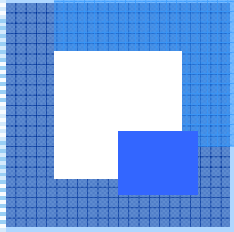


# Market Supply

---

The supply of a good or service is defined as:

Quantities of a good or service that people are ready to sell at various prices within some given time period, other factors besides price held constant.

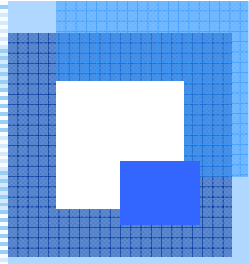


# Market Supply

---

Changes in price result in changes in the quantity supplied.

This is shown as *movement* along the supply curve.

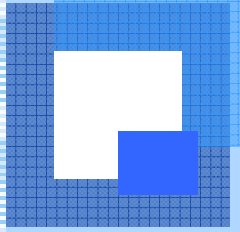


# Market Supply

---

Changes in nonprice determinants result in changes in supply.

This is shown as a *shift* in the supply curve.

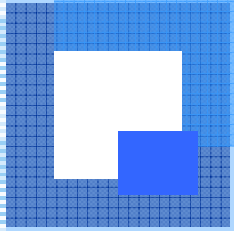


# Market Supply

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## Nonprice determinants of supply

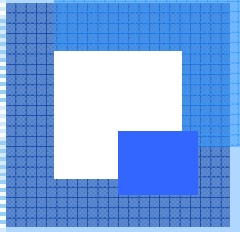
1. Costs and technology
2. Prices of other goods or services offered by the seller
3. Future expectations
4. Number of sellers
5. Weather conditions



# Market Equilibrium

We are now able to combine supply with demand into a complete analysis of the market.

$P$	$Q_D$	$Q_S$
\$7	0	600
6	100	500
5	200	400
→4	300	300
3	400	200
2	500	100
1	600	0
0	700	0

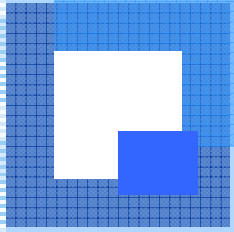


# Market Equilibrium

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**Equilibrium price:** The price that equates the quantity demanded with the quantity supplied.

**Equilibrium quantity:** The amount that people are willing to buy and sellers are willing to offer at the equilibrium price level.

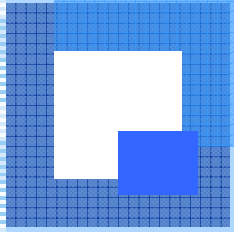


# Market Equilibrium

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**Shortage**: A market situation in which the quantity demanded exceeds the quantity supplied.

A shortage occurs at a price below the equilibrium level.

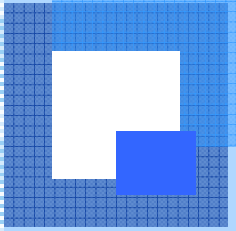


# Market Equilibrium

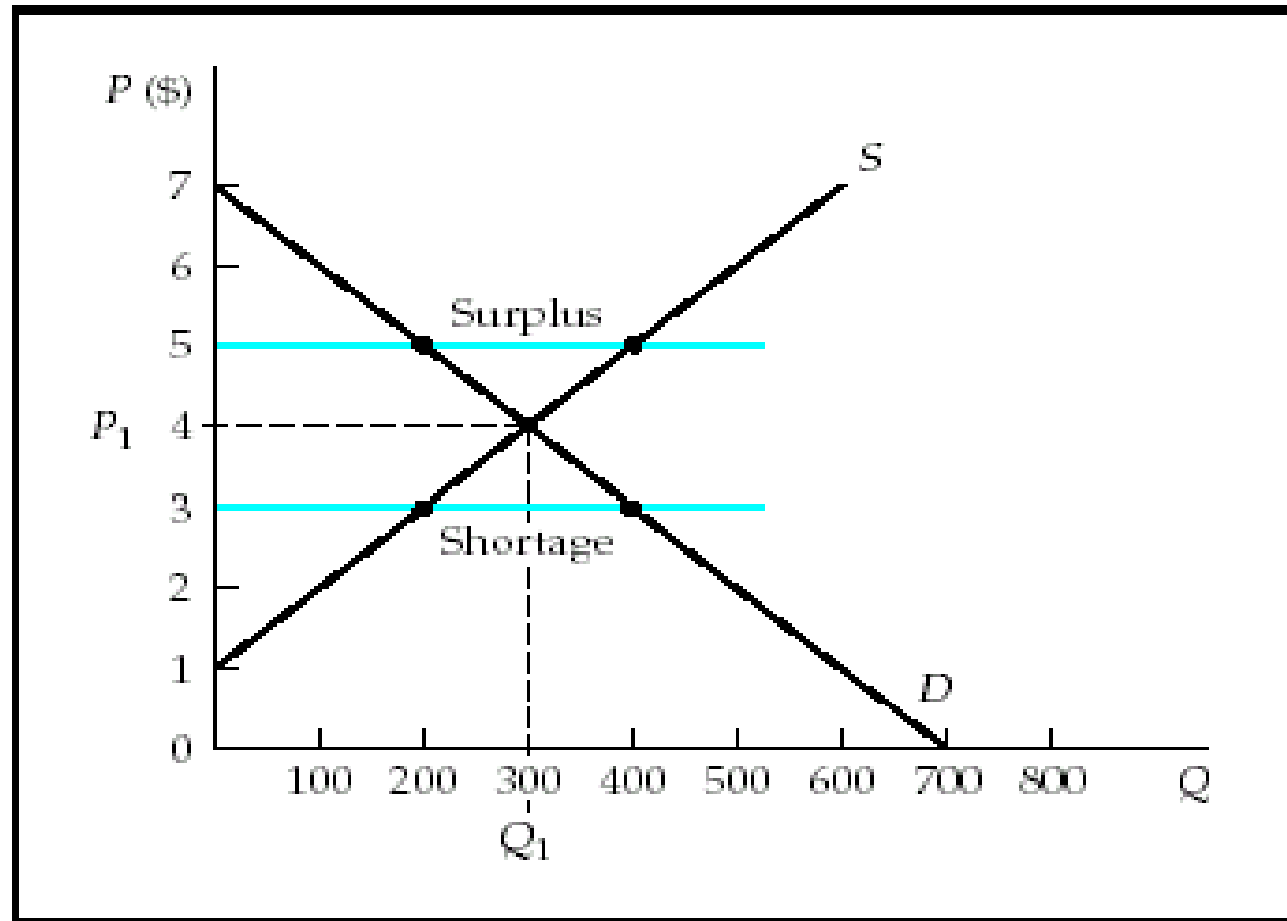
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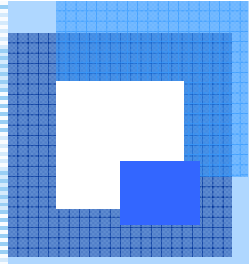
**Surplus**: A market situation in which the quantity supplied exceeds the quantity demanded.

A surplus occurs at a price above the equilibrium level.



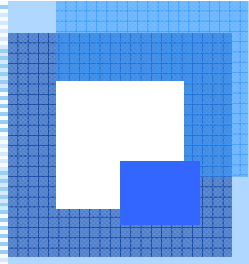
# Market Equilibrium





# Comparative Statics Analysis

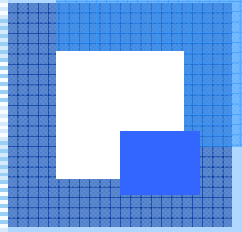
- A common method of economic analysis used to compare various points of equilibrium when certain factors change.
- A form of sensitivity or *what-if* analysis.



# Comparative Statics Analysis

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1. State all the assumptions needed to construct the model.
2. Begin by assuming that the model is in equilibrium.
3. Introduce a change in the model.  
In so doing, a condition of disequilibrium is created.



## Comparative Statics Analysis

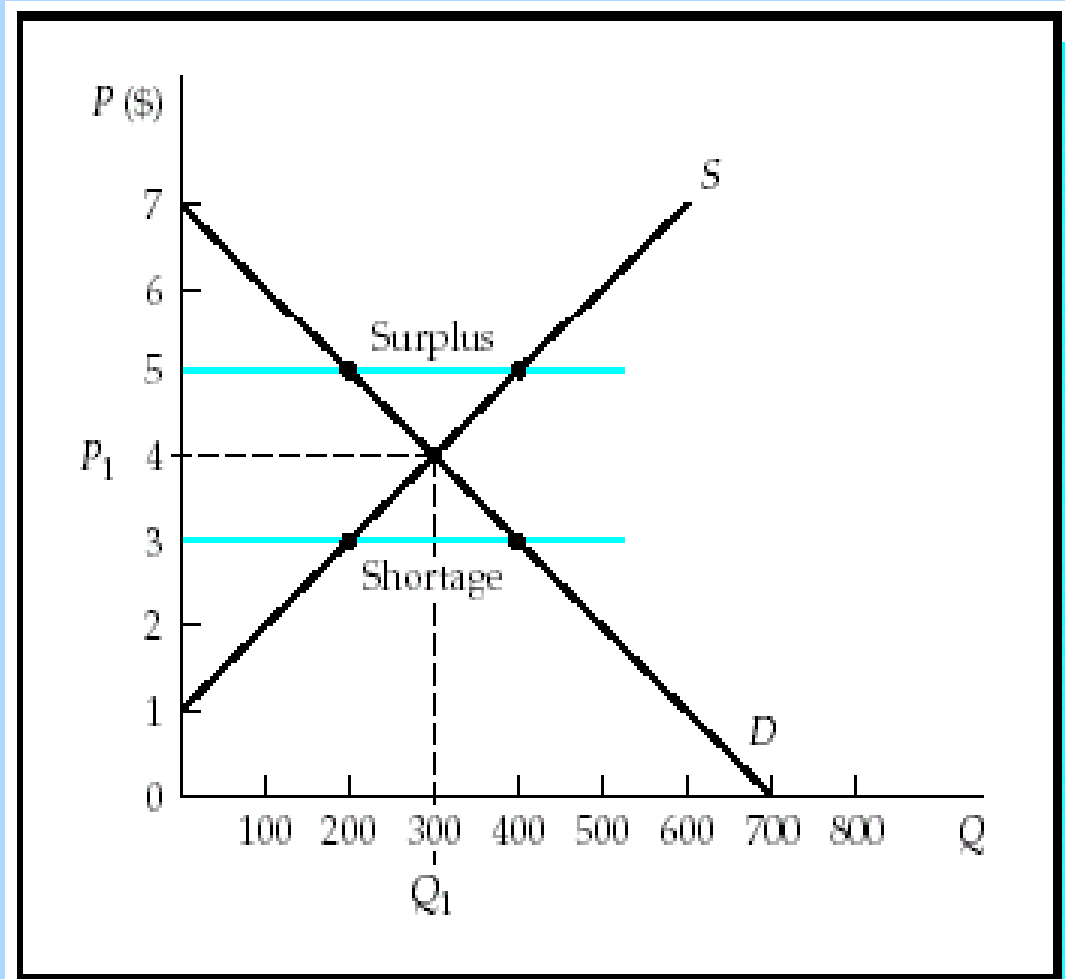
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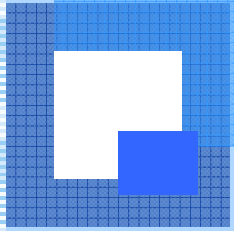
4. Find the new point at which equilibrium is restored.
5. Compare the new equilibrium point with the original one.

# Comparative Statics: Example

## Step 1

- Assume that all factors except the price of pizza are held constant.
- Buyers' demand and sellers' supply are represented by lines shown.

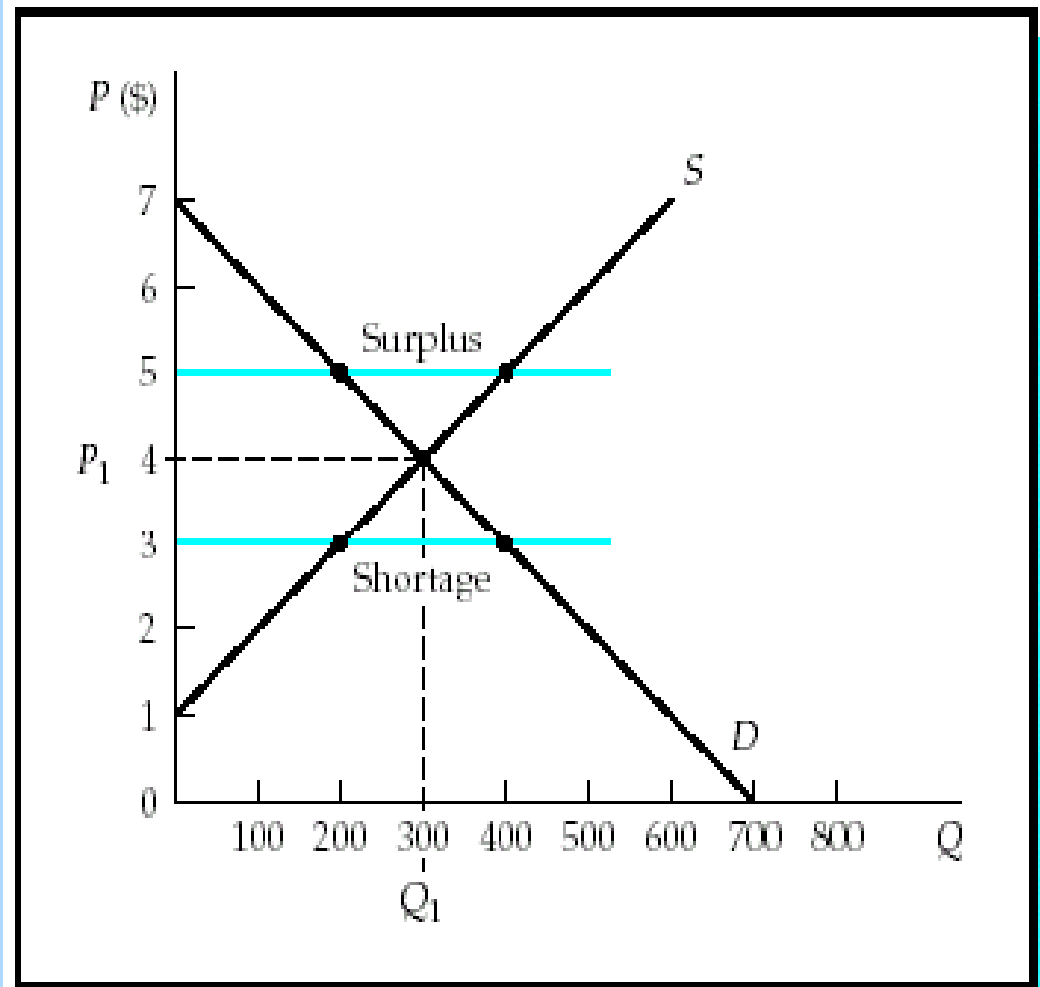


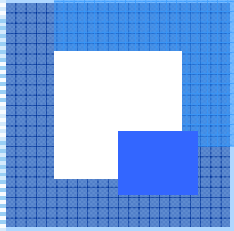


# Comparative Statics: Example

## Step 2

- Begin the analysis in equilibrium as shown by  $Q_1$  and  $P_1$ .

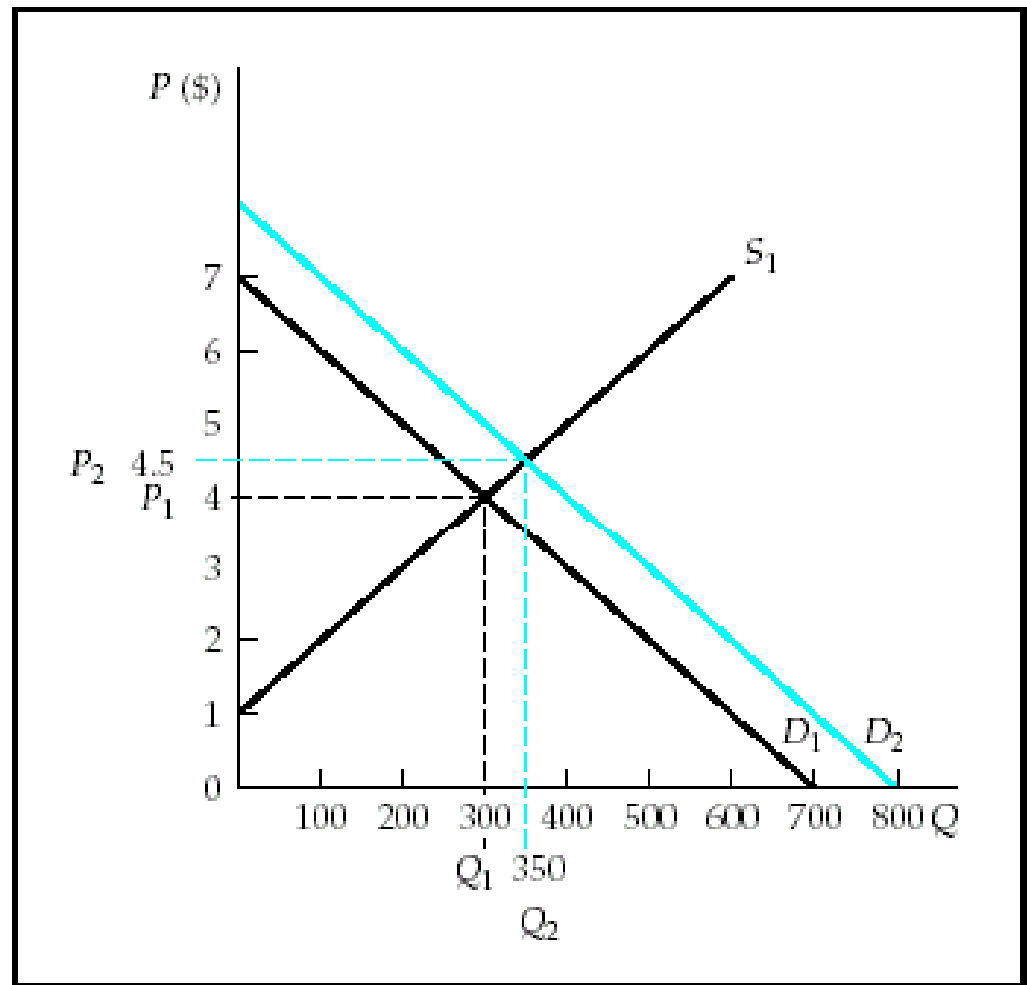


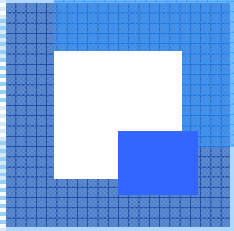


# Comparative Statics: Example

## Step 3

- Assume that a new government study shows pizza to be the most nutritious of all fast foods.
- Consumers increase their demand for pizza as a result.

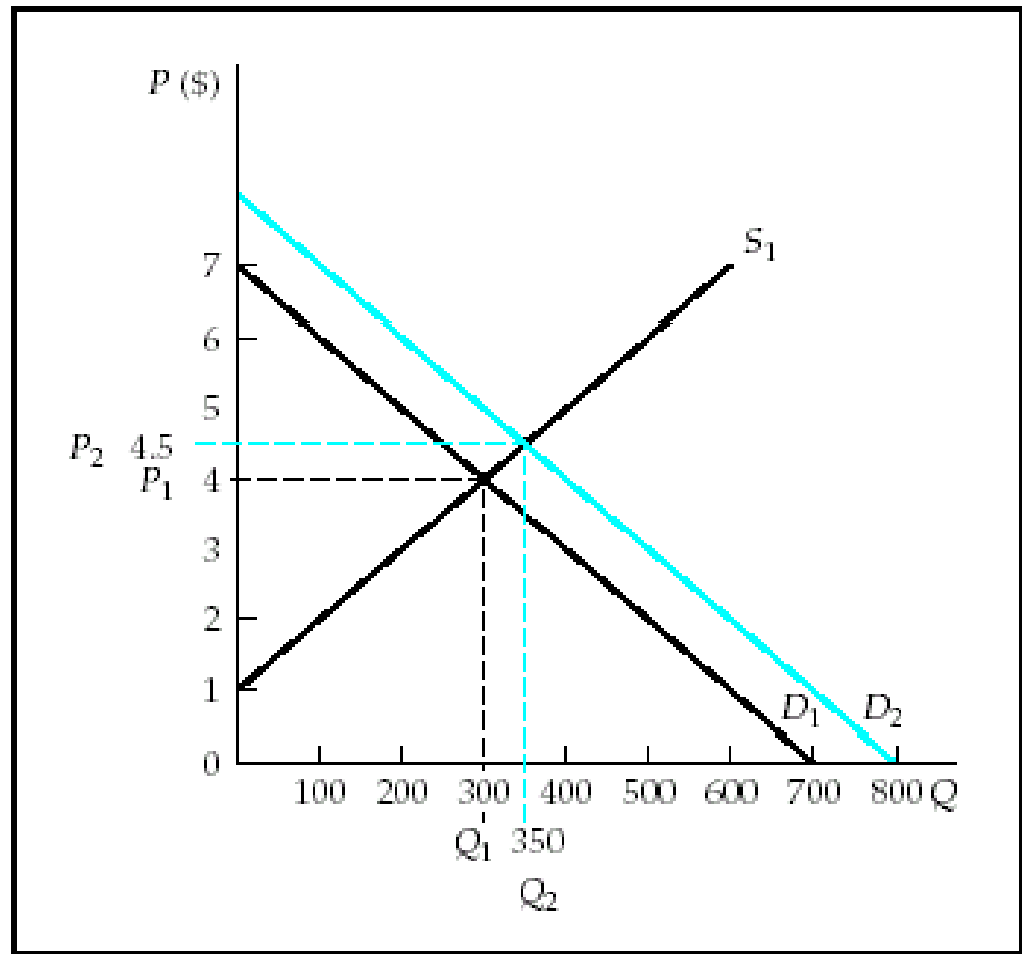


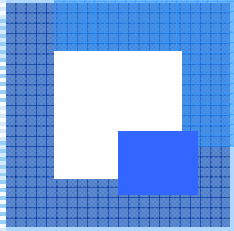


# Comparative Statics: Example

## Step 4

- The shift in demand results in a new equilibrium price,  $P_2$ , and quantity,  $Q_2$ .

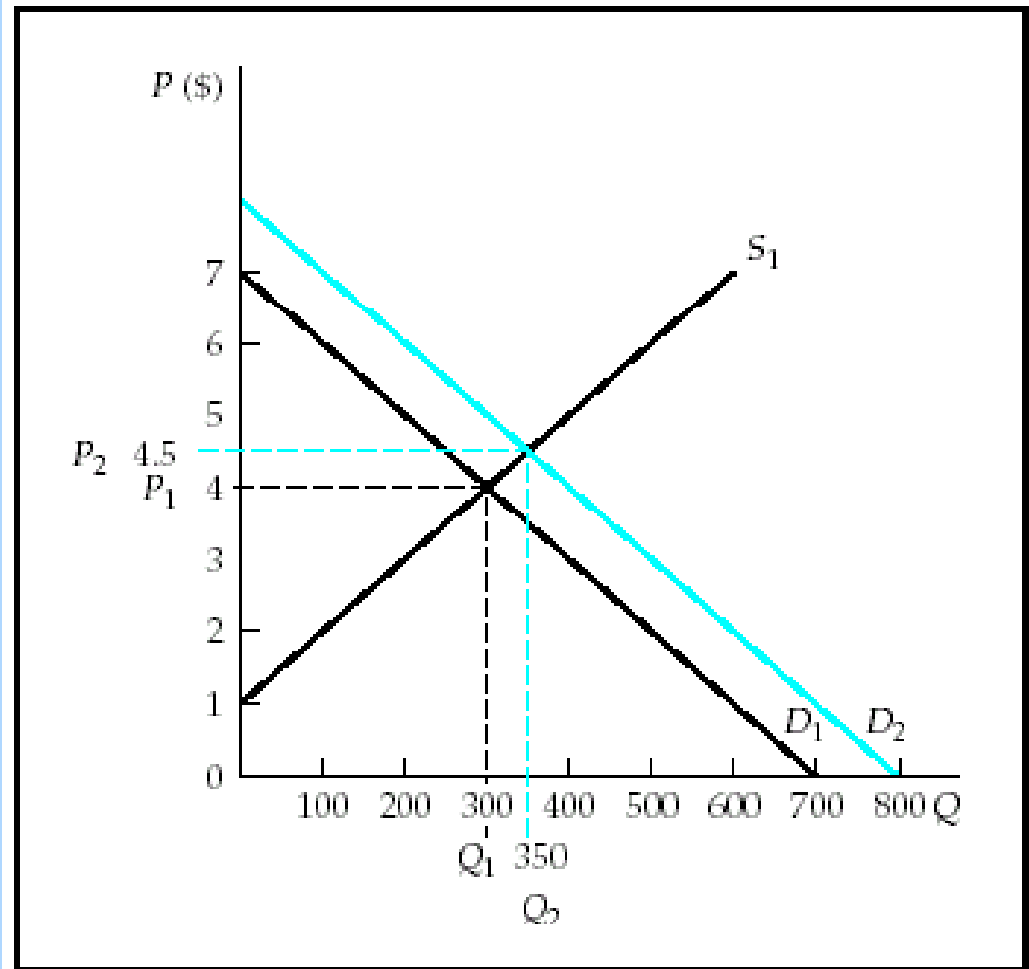


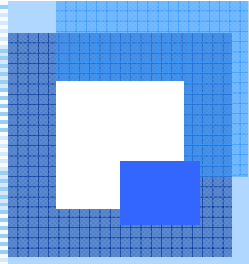


# Comparative Statics: Example

## Step 5

- Comparing the new equilibrium point with the original one we see that both equilibrium price and quantity have increased.

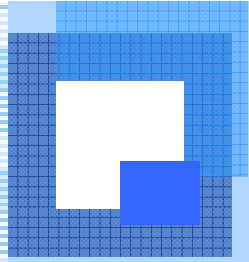




# Comparative Statics Analysis

The **short run** is the period of time in which:

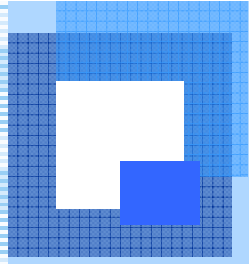
- sellers already in the market respond to a change in equilibrium price by adjusting *variable inputs*.



# Comparative Statics Analysis

The **short run** is the period of time in which:

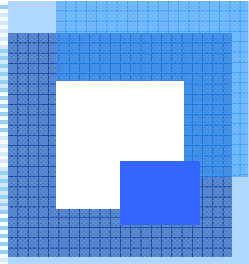
- buyers already in the market respond to changes in equilibrium price by adjusting the *quantity demanded* for the good or service.



# Comparative Statics Analysis

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The **rationing function of price** is the increase or decrease in price to clear the market of any shortage or surplus.



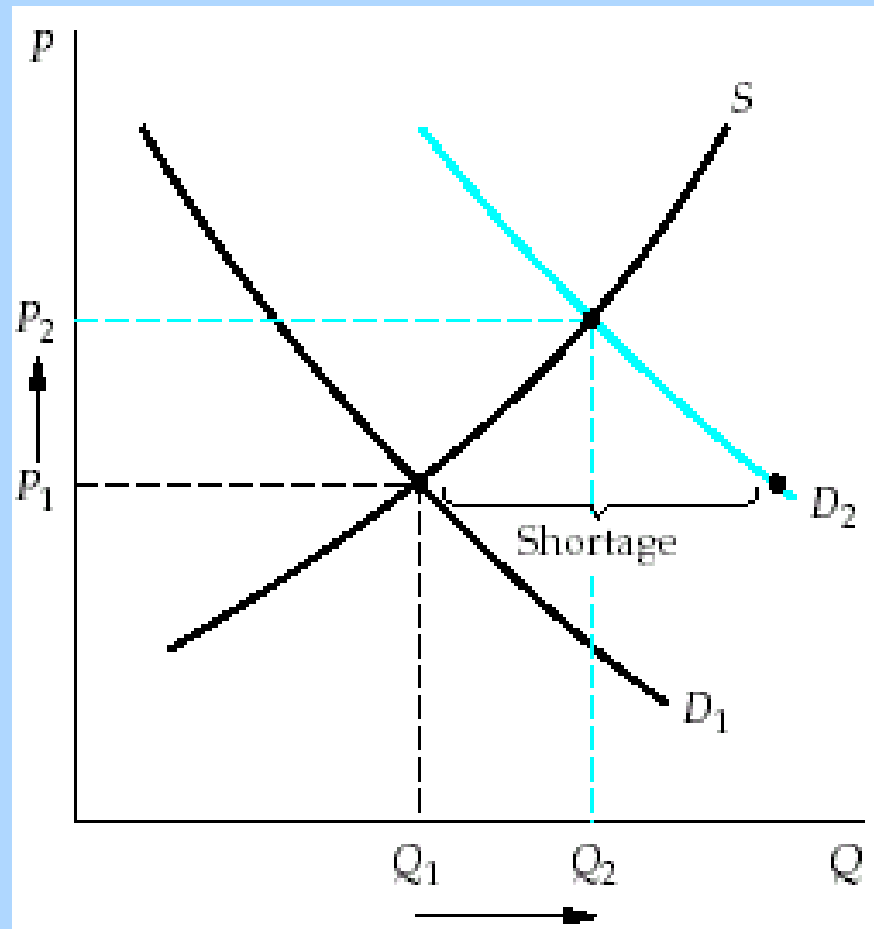
# Comparative Statics Analysis

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- Rationing is a short run function of price.
- Short run adjustments are represented as movements along given supply or demand curves.

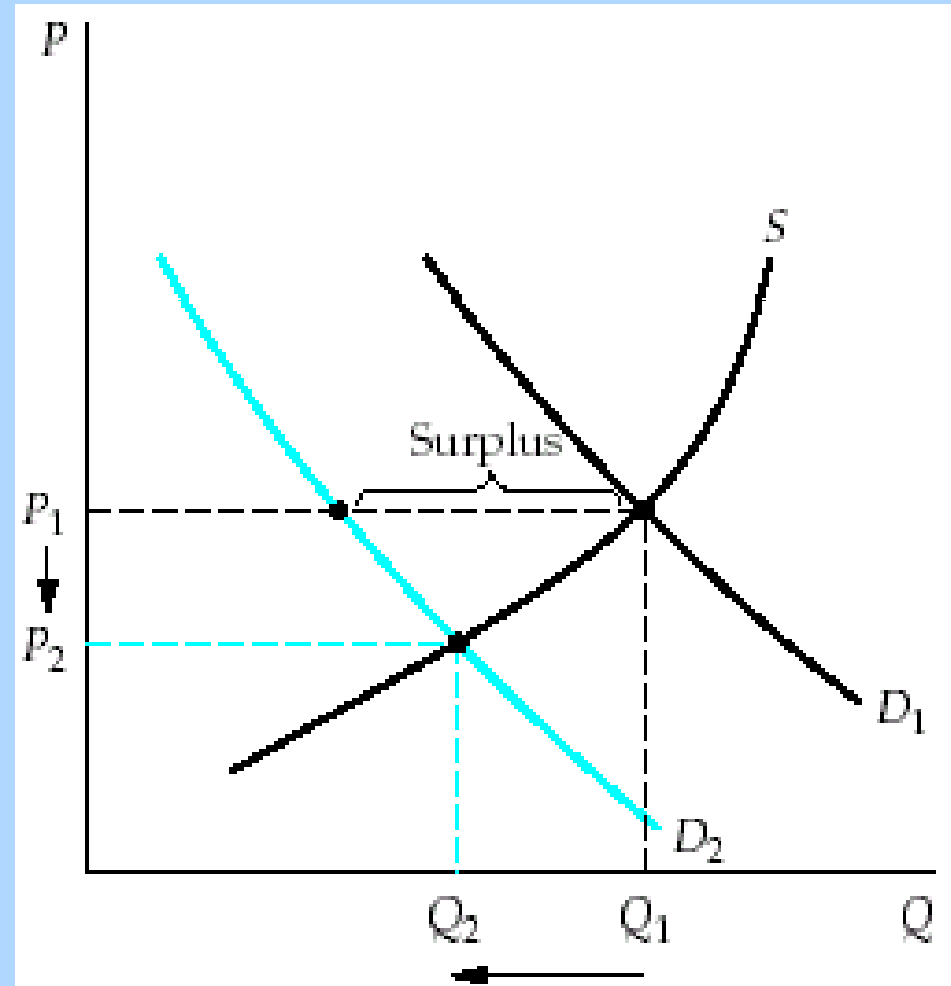
# Short-run Analysis

- An increase in demand causes equilibrium price and quantity to rise.



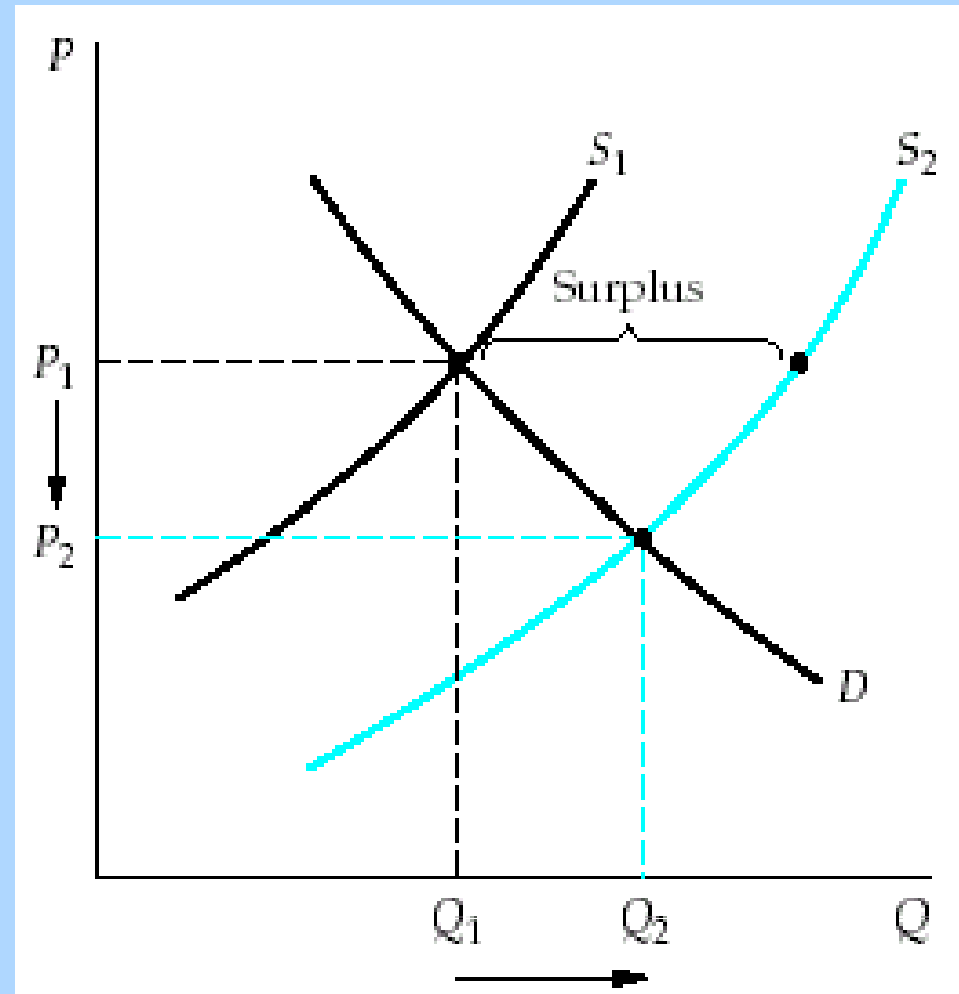
# Short-run Analysis

- A decrease in demand causes equilibrium price and quantity to fall.



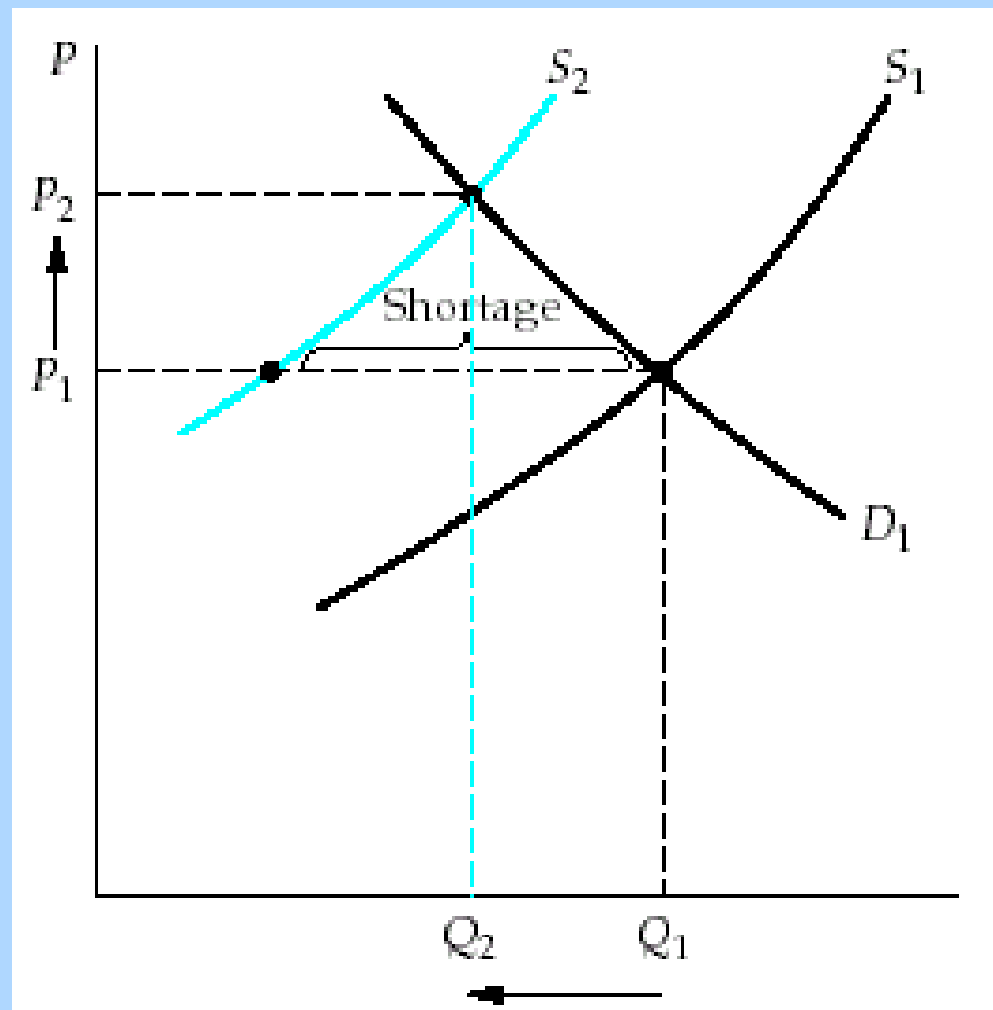
# Short-run Analysis

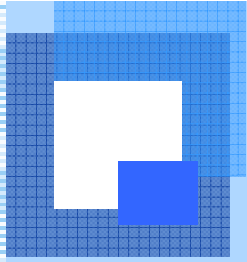
- An increase in supply causes equilibrium price to fall and equilibrium quantity to rise.



# Short-run Analysis

- A decrease in supply causes equilibrium price to rise and equilibrium quantity to fall.



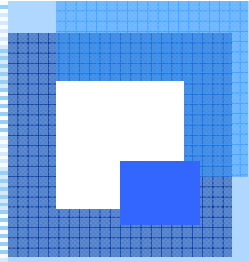


# Comparative Statics Analysis

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The **long run** is the period of time in which:

- New sellers may enter a market
- Existing sellers may exit from a market

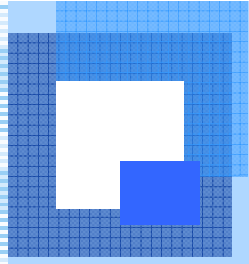


# Comparative Statics Analysis

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The **long run** is the period of time in which:

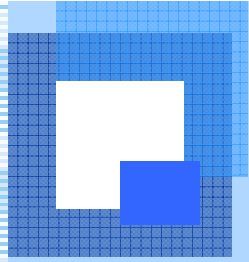
- Existing sellers may adjust fixed inputs
- Buyers may react to a change in equilibrium price by changing their tastes and preferences.



# Comparative Statics Analysis

---

The **guiding or allocating function of price** is the movement of resources into or out of markets as a result of changes in the equilibrium market price.



# Comparative Statics Analysis

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- Guiding is a long run function of price.
- Long run adjustments are represented as shifts in given supply or demand curves.

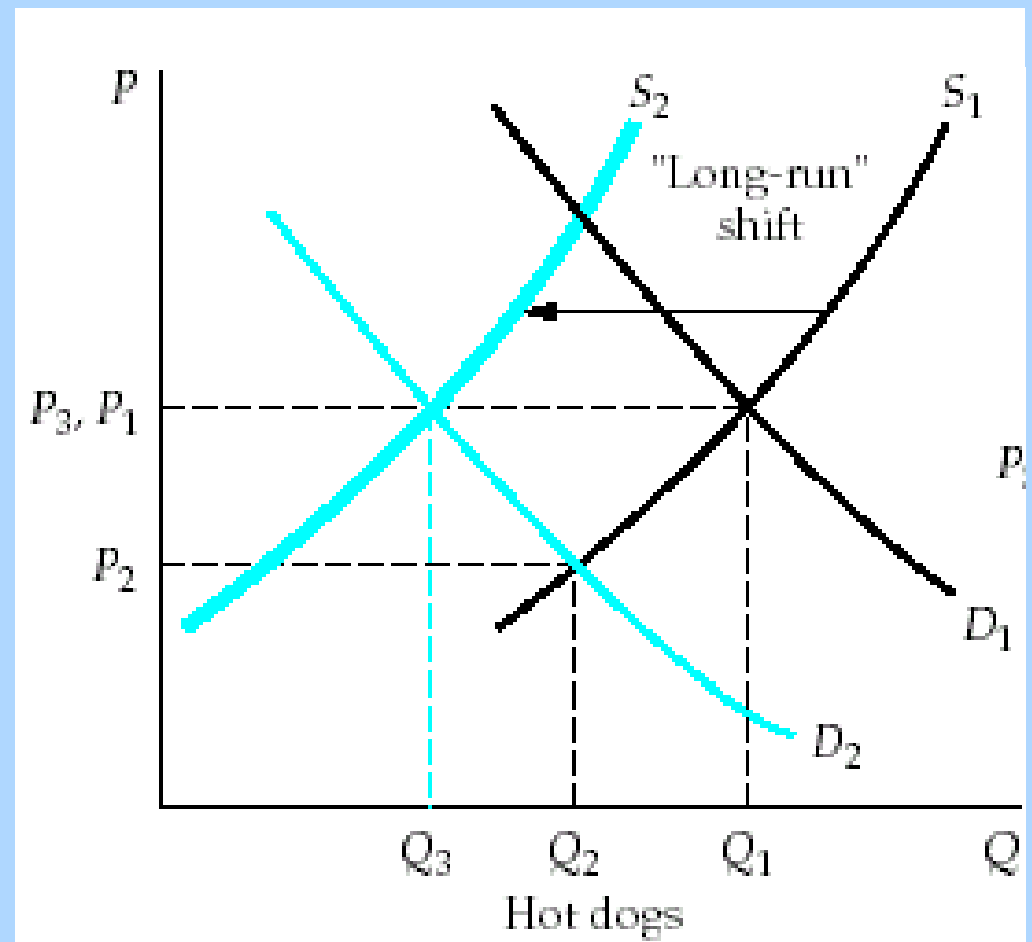
# Long-run Analysis

Initial change:

- decrease in demand

Result:

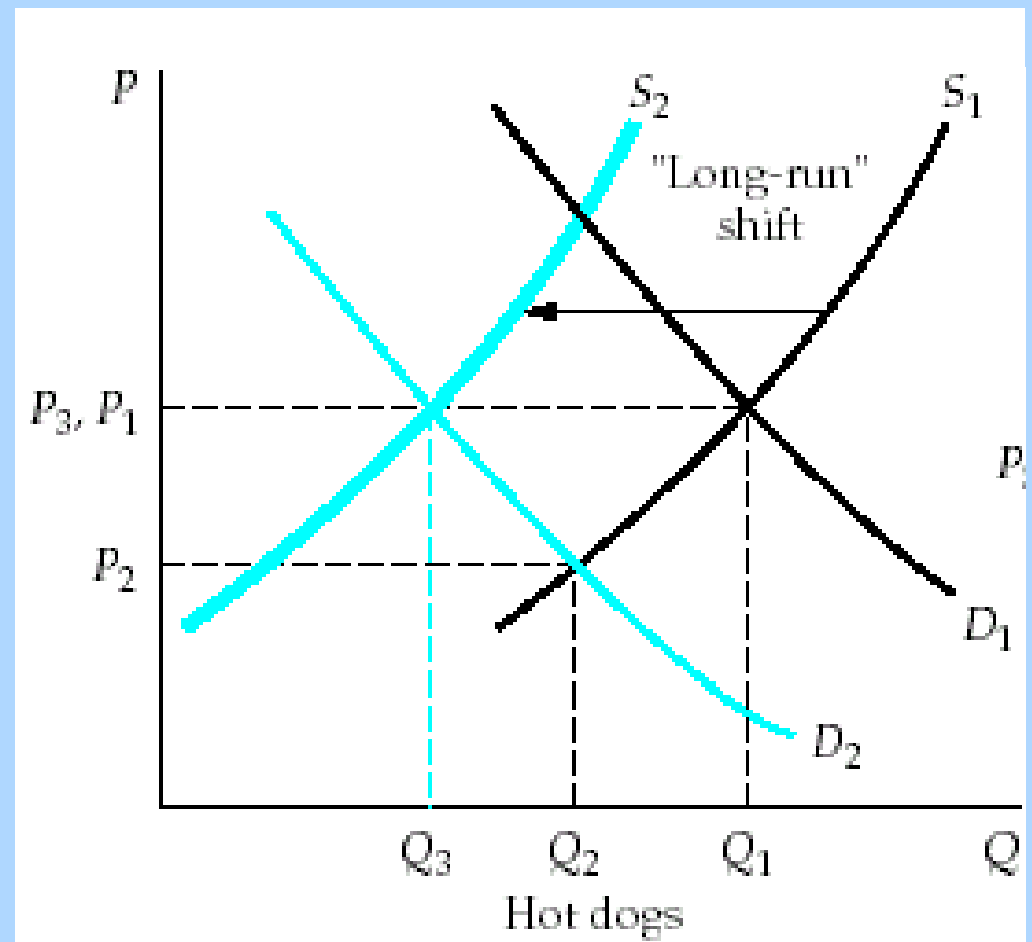
- reduction in equilibrium price



# Long-run Analysis

*Follow-on*  
adjustment:

- movement of resources out of the market
- leftward shift in the supply curve



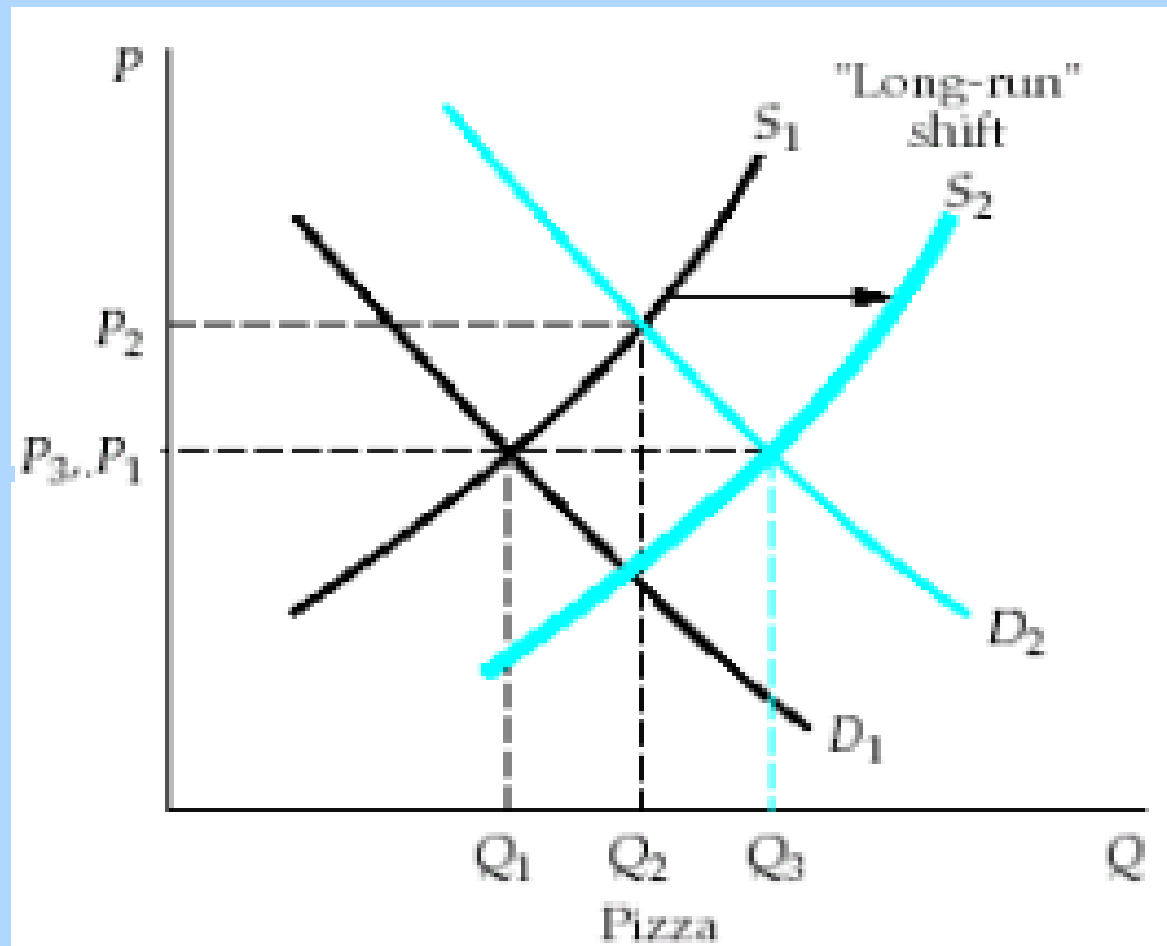
# Long-run Analysis

Initial change:

- increase in demand

Result:

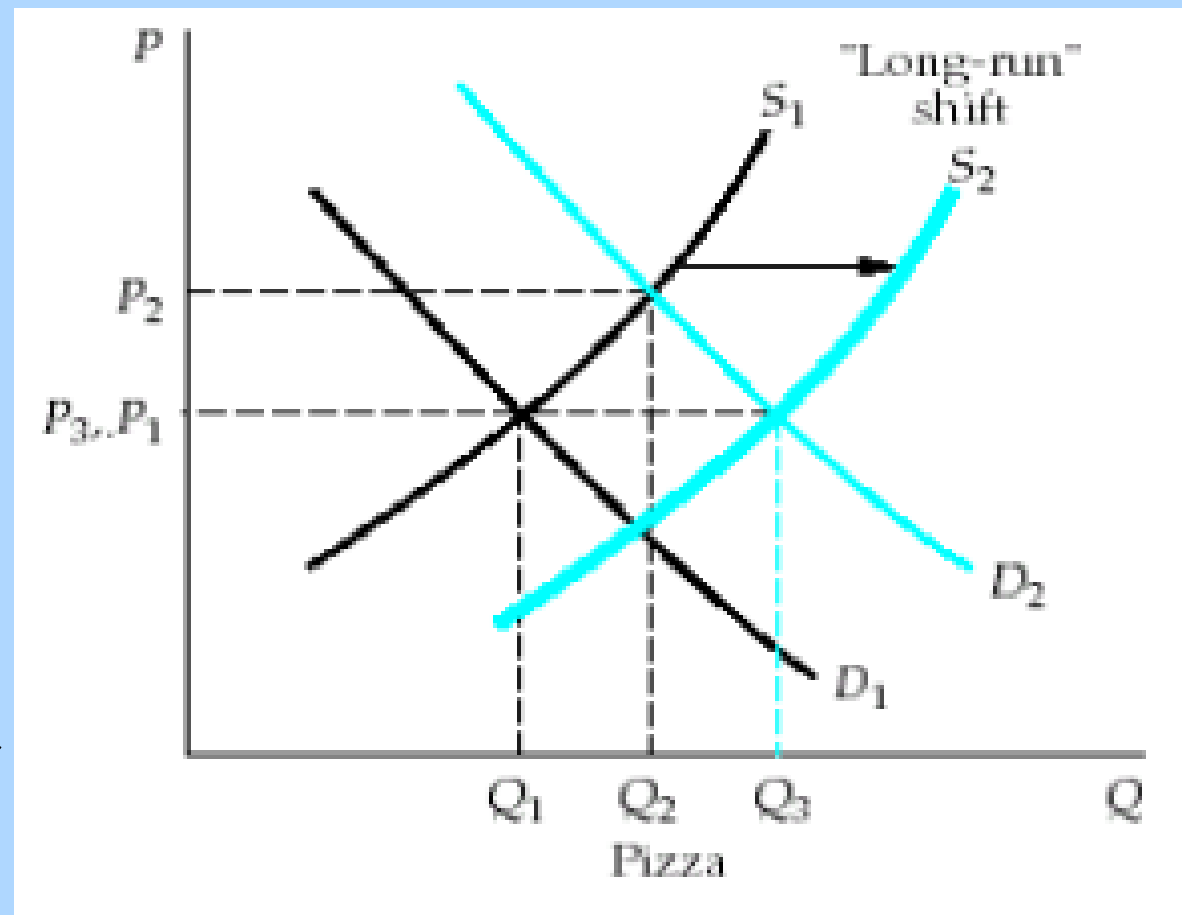
- increase in equilibrium price

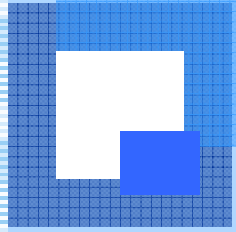


# Long-run Analysis

*Follow-on*  
adjustment:

- movement of resources into the market
- rightward shift in the supply curve





# Supply, Demand and Managerial Decision Making

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In the extreme case, the forces of supply and demand are the sole determinants of the market price.

In other markets, individual firms can exert market power over their price because of their:

- dominant size.
- ability to differentiate their product.