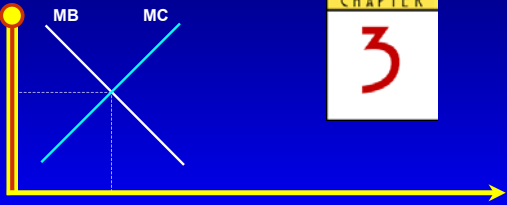


## Supply and Demand: An Introduction



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### What, How, and for Whom? Central Planning Versus the Market

- Three Problems All Economic Systems Must Address
  - What should be produced?
  - How should it be produced?
  - For whom will it be produced?

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### What, How, and for Whom? Central Planning Versus the Market

- Centralized Economic Organizations
  - Agrarian society
  - Former Soviet Union
  - Cuba, North Korea
  - China
  - Bureaucracy

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**What, How, and for Whom?  
Central Planning Versus the Market**

- A small number of individuals address
  - What
    - ◆ Establish production targets for factories and farms
  - How
    - ◆ Plan how to achieve the goals
  - For Whom
    - ◆ Distribute the goods and services produced

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**What, How, and for Whom?  
Central Planning Versus the Market**

- Free-Market or Capitalist Economic Systems
  - Individual choices determine
    - ◆ Which careers to pursue
    - ◆ Which products to produce or buy
    - ◆ When to start and shut-down a business
    - ◆ Who gets what, which is decided by individual preferences and purchasing power

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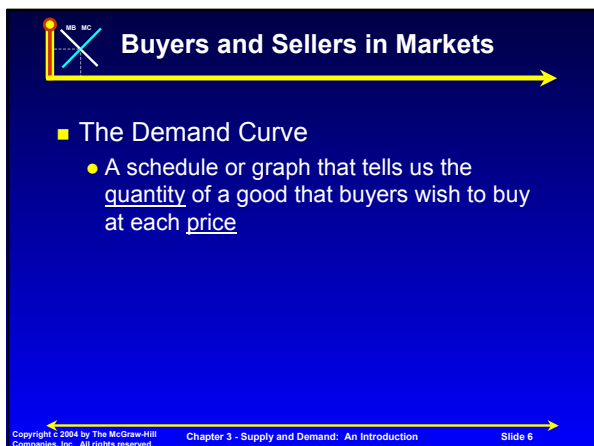
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**Buyers and Sellers in Markets**

- The Demand Curve
  - A schedule or graph that tells us the quantity of a good that buyers wish to buy at each price

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## Buyers and Sellers in Markets

- A Property of Demand
  - As price of a good or service goes down the quantity consumers wish to buy will increase
  - Therefore, the demand curve is downward-sloping

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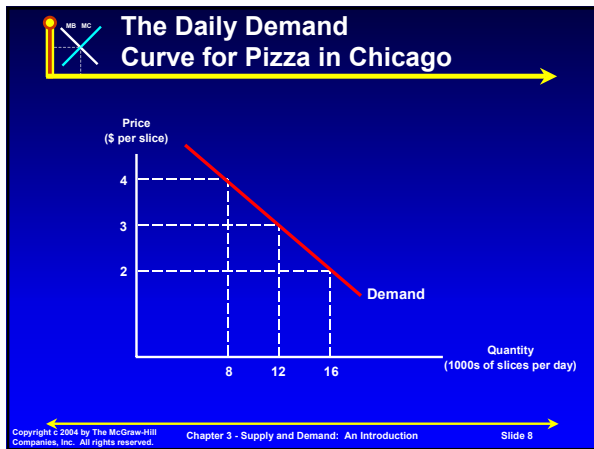
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## Buyers and i Markets

- The Demand Curve
  - Why do buyers purchase a greater quantity at lower prices and vice-versa?
    - ◆ The substitution effect
    - ◆ The income effect

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## Buyers and Sellers in Markets

- The Substitution Effect
  - The change in the quantity demanded of a good that results because buyers switch to substitutes when the price of the good changes

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## Buyers and Sellers in Markets

- The Income Effect
  - The change in the quantity demanded of a good that results because a change in the price of a good changes the buyer's purchasing power

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## Buyers and Sellers in Markets

- The Cost-Benefit Principle
  - The reservation price is the benefit the buyer receives from the good
  - The cost of the good is its market price
  - If the reservation price (benefit) exceeds the market price (cost) the consumer will purchase the good

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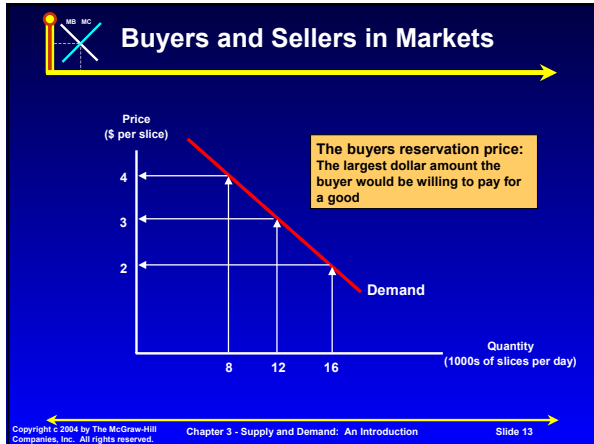
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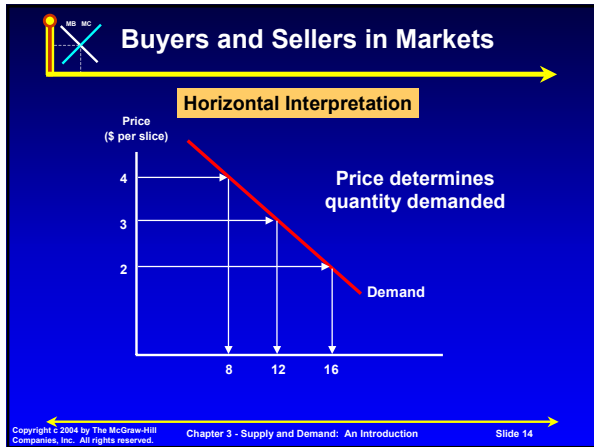
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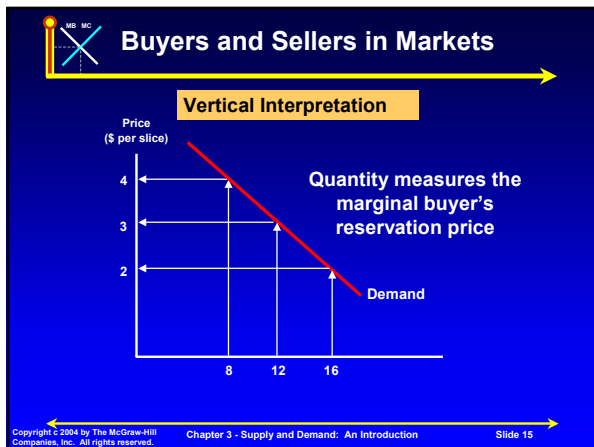
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 **Buyers and Sellers in Markets**

- **The Supply Curve**
  - A curve or schedule showing the quantity of a good that sellers wish to sell at each price

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 **Buyers and Sellers in Markets**

- **Question**
  - Will the opportunity cost of producing additional units of pizza increase or decrease?
    - ◆ Hint: Low-hanging-fruit principle (principle of increasing opportunity cost)

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 **Buyers and Sellers in Markets**

- **The Supply Curve**
  - Sellers must receive a higher price to produce additional units of a product to cover the higher opportunity costs of each additional unit

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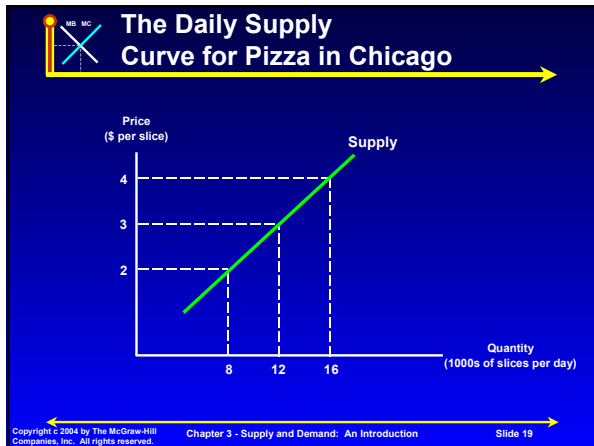
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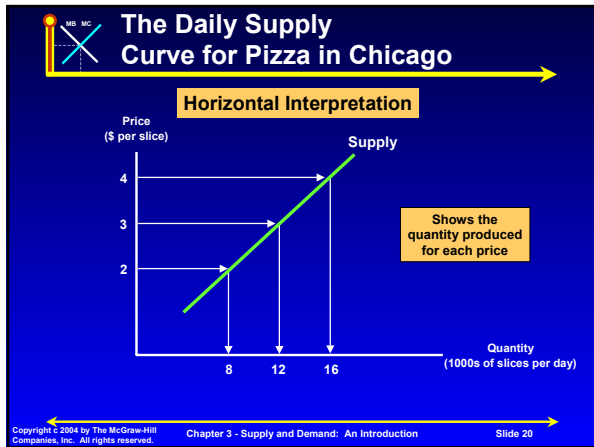
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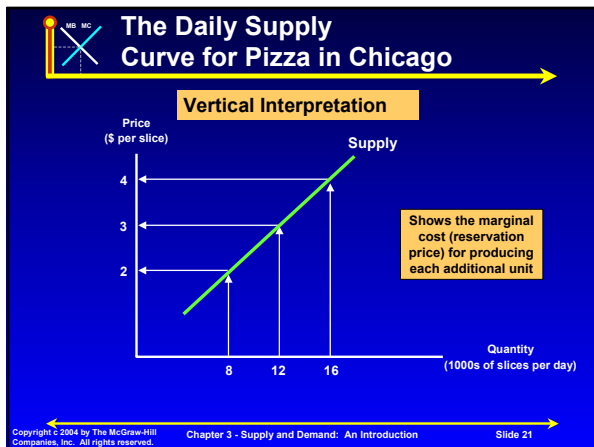
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## Market Equilibrium

- Seller's Reservation Price
  - The smallest dollar amount for which a seller would be willing to sell an additional unit, generally equal to marginal cost

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## Market Equilibrium

- Equilibrium
  - A system is in equilibrium when there is no tendency for it to change
- Market Equilibrium
  - Occurs in a market when all buyers and sellers are satisfied with their respective quantities at the market price

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## The Equilibrium Price and Quantity of Pizza in Chicago

Equilibrium at \$3  
Quantity Demanded =  
Quantity Supplied

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## Market Equilibrium

- Equilibrium Price and Equilibrium Quantity
  - The values of price and quantity for which quantity supplied and quantity demanded are equal

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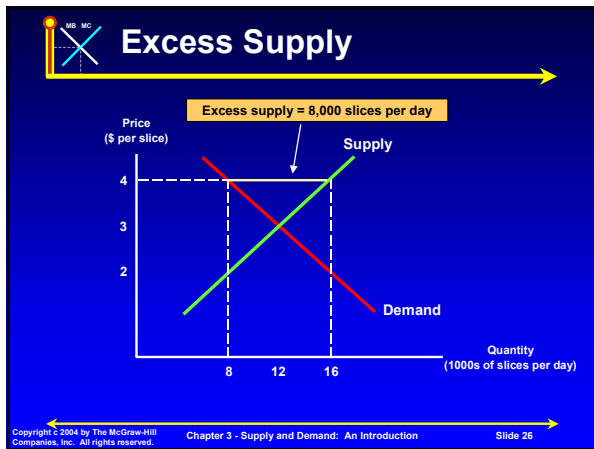
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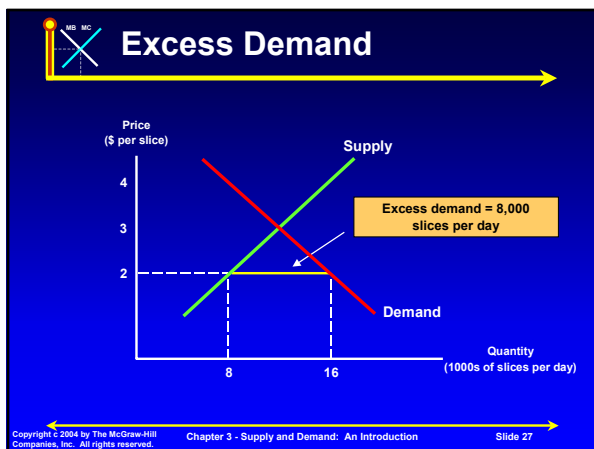
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### Points Along the Demand and Supply Curves of a Pizza Market

Demand for pizza		Supply of pizza	
Price (\$/slice)	Quantity demanded (1000s of slices/day)	Price (\$/slice)	Quantity supplied (1000s of slices/day)
1	8	1	2
2	6	2	4
3	4	3	6
4	2	4	8

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### Graphing Supply and Demand and Finding the Equilibrium Price and Quantity

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### An Unregulated Housing Market

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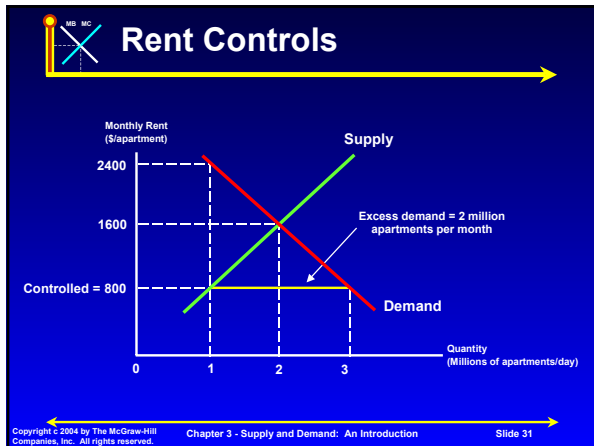
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- ## Market Equilibrium
- ### ■ Rent Controls Reconsidered
- Other consequences of rent controls
    - ◆ Maintenance will decline and housing quality will fall
    - ◆ Illegal payments
    - ◆ Creation of co-ops and conversion to condominiums
    - ◆ Reduction in household mobility
    - ◆ Discrimination
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- ## Market Equilibrium
- ### ■ What do you think?
- How can we make housing affordable for poor people without using rent ceilings?
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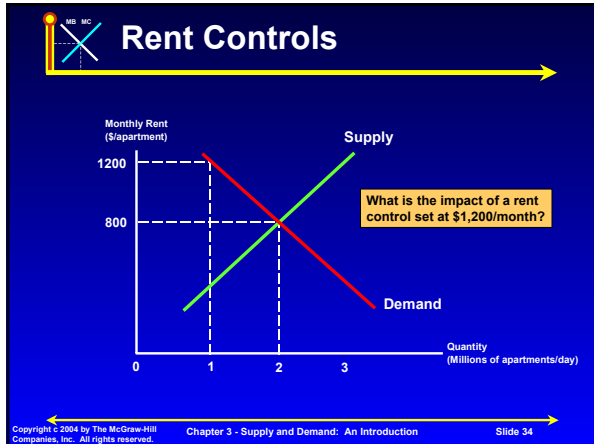
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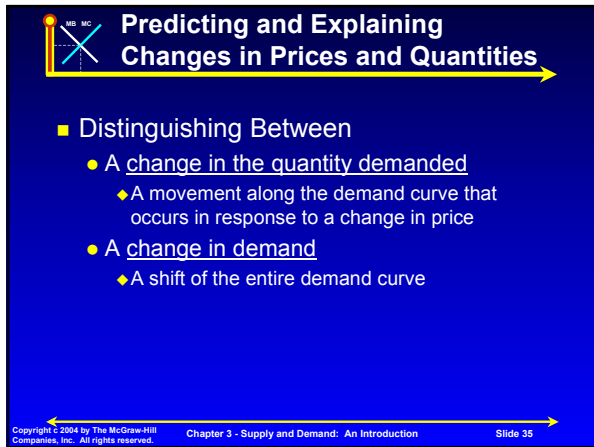
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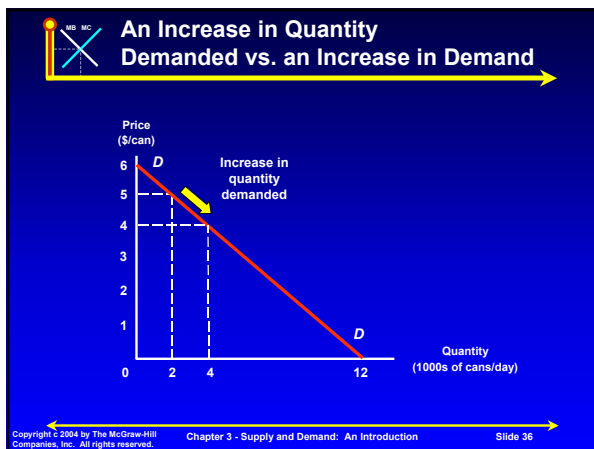
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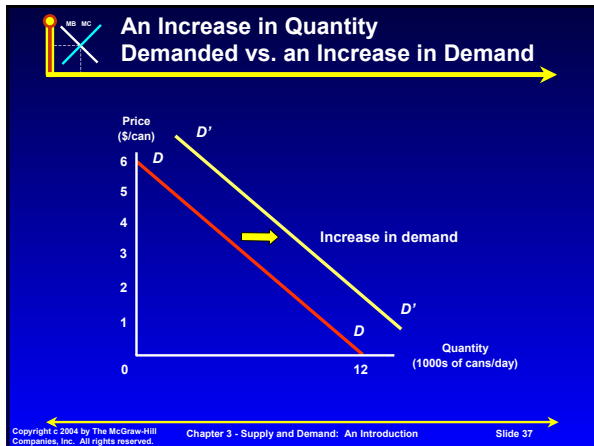
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- ### Predicting and Explaining Changes in Prices and Quantities
- Change in the quantity supplied
    - A movement along the supply curve that occurs in response to a change in price
  - Change in supply
    - A shift of the entire supply curve
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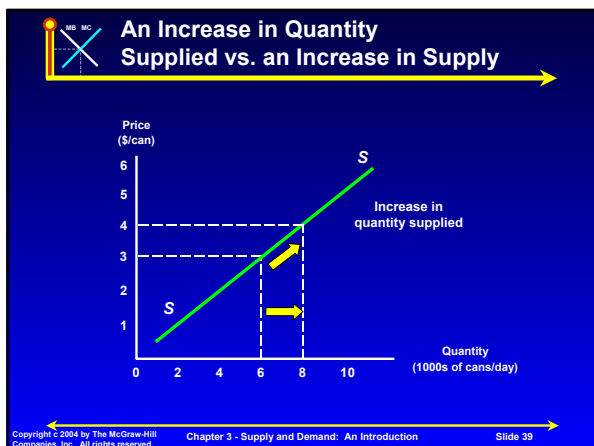
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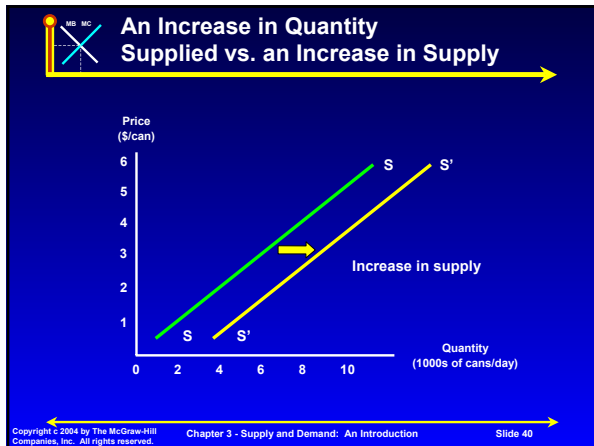
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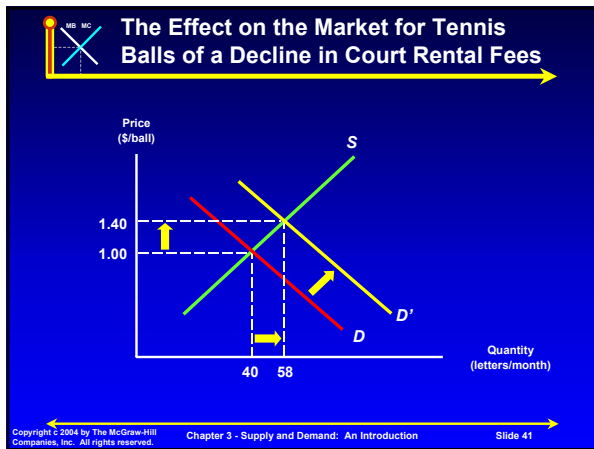
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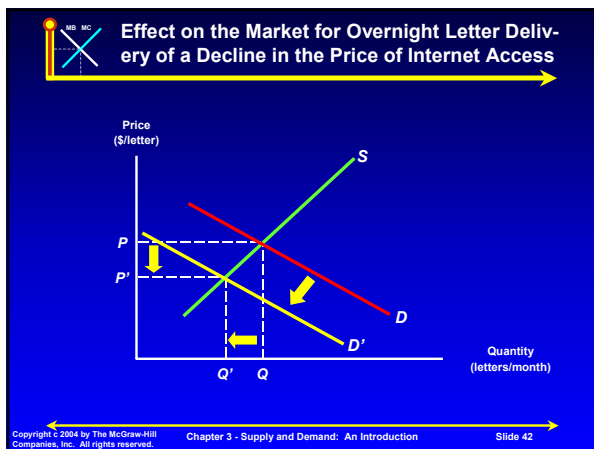
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**Predicting and Explaining Changes in Prices and Quantities**

- Shifts in Demand
  - Complements
    - ◆ Two goods are complements in consumption if an increase (decrease) in the price of one cause a decrease (increase) in the demand for the other

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**Predicting and Explaining Changes in Prices and Quantities**

- Shifts in Demand
  - Substitutes
    - ◆ Two goods are substitutes in consumption if an increase (decrease) in the price of one causes an increase (decrease) in the demand for the other

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**Predicting and Explaining Changes in Prices and Quantities**

- Shifts in Demand
  - Changes In Demand
    - ◆ An increase (decrease) in the demand for a good will shift the demand curve to the right (left)

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**Predicting and Explaining Changes in Prices and Quantities**

- A Change In Income
  - Normal Good
    - ◆ One whose demand increases (decreases) when the incomes of buyers increase (decrease)

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**Predicting and Explaining Changes in Prices and Quantities**

- A Change In Income
  - Inferior Good
    - ◆ One whose demand decreases (increases) when the incomes of buyers increase (decrease)

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**Predicting and Explaining Changes in Prices and Quantities**

- Other determinants of supply
  - Weather
  - Expectations
  - Number of sellers

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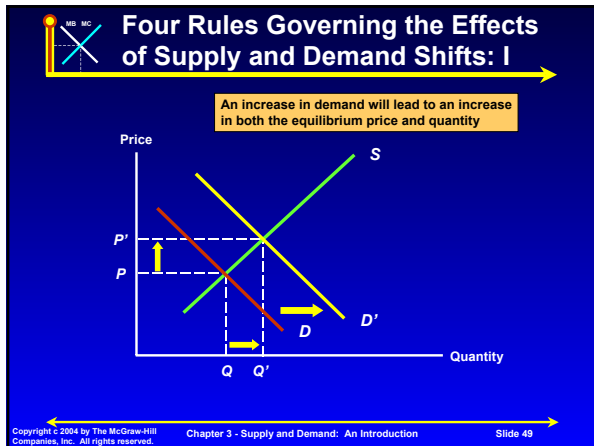
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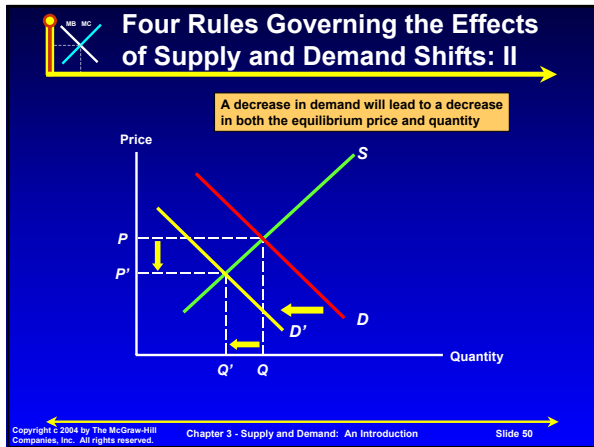
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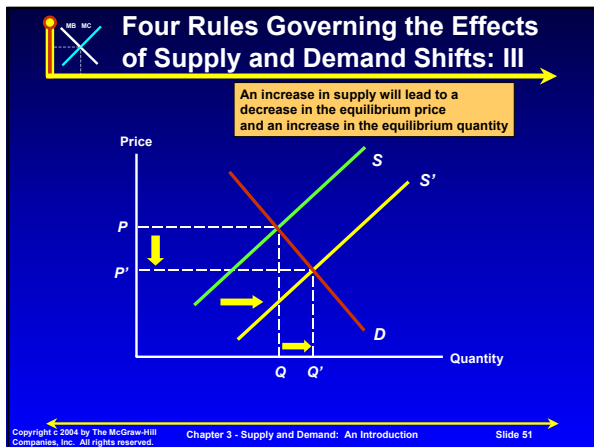
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### Four Rules Governing the Effects of Supply and Demand Shifts: IV

An decrease in supply will lead to an increase in the equilibrium price and a decrease in the equilibrium quantity

The graph shows a downward-sloping demand curve (D) and two upward-sloping supply curves (S and S'). The initial equilibrium is at the intersection of S and D, with price P and quantity Q. A leftward shift to S' results in a new equilibrium at the intersection of S' and D, with a higher price P' and a lower quantity Q'. Yellow arrows indicate the shift in the supply curve and the resulting changes in price and quantity.

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### Predicting and Explaining Changes in Prices and Demand

- Factors That Cause an Increase (rightward or upward shift) in Demand
  1. A decrease in the price of complements to the good or service
  2. An increase in the price of substitutes for the good or service
  3. An increase in income (for a normal good)

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### Predicting and Explaining Changes in Prices and Demand

- Factors That Cause an Increase (rightward or upward shift) in Demand
  4. An increased preference by demanders for the good or service
  5. An increase in the population of potential buyers
  6. An expectation of higher prices in the future

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### Predicting and Explaining Changes in Prices and Demand

- Factors That Cause an Increase (rightward or upward shift) in Supply
  - A decrease in the cost of materials, labor, or other inputs used in the production of the good or service
  - An improvement in technology that reduces the cost of producing the good or service

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### Predicting and Explaining Changes in Prices and Demand

- Factors That Cause an Increase (rightward or upward shift) in Supply
  - An improvement in the weather, especially for agricultural products
  - An increase in the number of suppliers
  - An expectation of lower prices in the future

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### The Effects of Simultaneous Shifts in Supply and Demand

The Market for Corn Tortilla Chips

The graph shows the market for corn tortilla chips. The vertical axis is Price (\$/bag) and the horizontal axis is Millions of bags per month. The initial equilibrium is at price P and quantity Q, where supply curve S intersects demand curve D. A reduction in the price of corn harvesting equipment shifts the supply curve rightward to S', and a discovery that oils are harmful to people's health shifts the demand curve leftward to D'. The new equilibrium is at price P' and quantity Q'. The price decreases from P to P', and the quantity decreases from Q to Q'.

S' after reduction in price of corn harvesting equipment  
 D' after discovery that oils are harmful to people's health

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## Markets and Social Welfare

- What Do You Think?
  - When are the prices and quantities determined in market equilibrium socially optimal, in the sense of maximizing total economic surplus?

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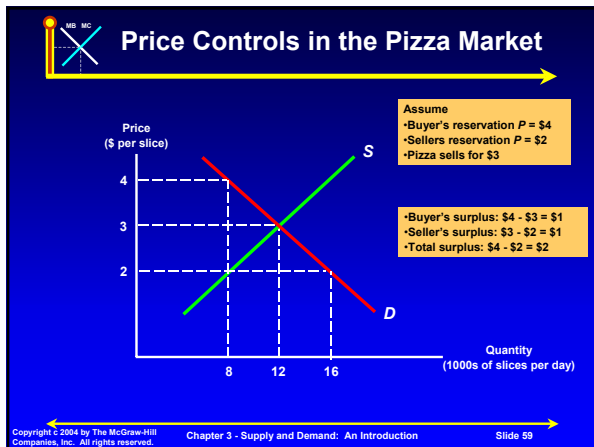
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## Markets and Social Welfare

- When is the market equilibrium efficient?
  - ◆ When all costs of producing the good or service are borne directly by the seller
  - ◆ When all benefits from the good or service accrue directly to buyers

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