The Market System
Economic Systems

A social system used to coordinate the production of goods & services that align with the desires of the individuals in society.

Direct-Use Production
- No System Necessary

Exchange Production
- Economic System Necessary

Potential misalignment.
1. Who answers the three economic questions of production
   - Central Planning
   - Market
   - Mixed

2. Who Controls the Resources
   - Capitalism
   - Socialism
   - Mixed
Economic & Political Systems

**Economic**
A social system used to describe how a society deals with the economic problem of scarcity.
- Central Planning or Market
- Socialist or Capitalist

**Political**
A social system used to describe the governing authority
- Autocracy
  - “One person”
- Democracy (Direct or Indirect)
  - “Many persons”
- Aristocracy
  - “Best persons”
Real World Economic Systems

Capitalist /Market
- Singapore ($59,900)
- Hong Kong ($49,300)
- US ($48,100)
- Australia ($40,800)
- Canada ($40,300)

Socialist /Central-Planning
- Cuba ($9,900)
- China ($8,400)
- North Korea ($1,800)
- Zimbabwe ($500)

(GDP per capita 2011, PPP, CIA website)

Why the difference in productivity?
What is a Market

A forum where exchange takes place between Buyers & Sellers

- **Participants:**
  - Buyers (Consumers, Demanders)
  - Sellers (Producers, Suppliers)

- **Forum:**
  - A physical place
  - An abstract concept
  - Cyberspace

- **Scope:**
  - Régional
  - National
  - Global

- **Involves Exchange of:**
  - Goods & Services (Output, Products)
  - Resources (Inputs, Factors)

- **Can involve Barter or Money**

- **Markets are Interrelated:**
  - Buyers in one market are sellers in another.
  - Sellers in one market are buyers in another.
Test your understanding:
Imagine you are a buyer in a market.

1. Choose a product to buy.

2. What is the maximum price you are willing to pay? That is, what is the true dollar value to you?

3. What price do you actually pay?
How Markets Work

Sellers in Markets
(Producers, Suppliers)

Test your understanding:
Imagine you are a seller in a market.

1. Choose a product to sell.

2. What’s the minimum price (Reserve) you will accept?

3. What price do you actually receive?
How Markets Work

Principle of Voluntary Exchange

- When an exchange takes place in a market and is voluntarily performed by the participants, both parties are better off after the exchange than before.

- **How is the Seller made better off?**
  - Net Benefits
  - Producer Surplus

- **How is the Buyer made better off?**
  - Net Benefits
  - Consumer Surplus

“ Invisible Hand”
“Laissez Faire”
How Markets Work

Markets answers the three economic questions and resolve the matching problem

What to produce?
• Producers produce goods & services they expect consumers will value.
  – Consumer Sovereignty

How to produce?
• Producers utilize resources in the most efficient (lowest cost) manner to maximize profits.

Who to produce for?
• Those that are willing and able to pay for a product have access to it.
  – Rationing Device
• A curve or schedule that shows the relationship between the price of a good and quantity demanded by an individual buyer, *ceteris paribus*.

• Marginal Benefits

**Law of Demand**
- *As P ↑ → Q_D ↓ and as P ↓ → Q_D ↑*
- **Diminishing Marginal Benefits**
- **Two simultaneous effects:**
  - **Substitution Effect**
    - A change in quantity demanded due to a change in the goods relative price compared to other goods.
  - **Income Effect**
    - A change in quantity demanded due to a change in the goods price on the consumers purchasing power.

**AL’S DEMAND SCHEDULE FOR PIZZAS**

<table>
<thead>
<tr>
<th>Point</th>
<th>Price</th>
<th>Quantity of Pizzas per Month</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>$10</td>
<td>1</td>
</tr>
<tr>
<td>b</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>c</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>d</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>e</td>
<td>2</td>
<td>13</td>
</tr>
</tbody>
</table>
A curve or schedule that shows the relationship between the price of a good and quantity demanded by all individual buyers, *ceteris paribus*.

**“Horizontal Summation”**

(A) Al’s Demand  +  (B) Bea’s Demand  =  (C) Market Demand

<table>
<thead>
<tr>
<th>QUANTITY OF PIZZA DEMANDED</th>
<th>Price</th>
<th>Al</th>
<th>Bea</th>
<th>Market Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>$8</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
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<td>4</td>
<td>11</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>10</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>13</td>
<td>8</td>
<td>21</td>
</tr>
</tbody>
</table>
Demand-Consumer Choice
Non-Price Determinants & Shifting the Demand Curve

**Income**
- Normal Goods
- Inferior Goods

**Price of Substitutes in Consumption**

**Price of Compliments in Consumption**

**Tastes & Preferences**

**Number of Buyers**
- Population
- Demographics

**Price Expectations**

[Graphs showing demand curves: An increase in demand and a decrease in demand]
Demand-Consumer Choice
Changes in “Demand” vs. “Quantity Demanded”

Price Changes → Change in “Quantity Demanded” (movement along the curve)
Non-Price Determinant Changes → Change in “Demand” (shifting the curve)

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity @ $50,000 Income/year</th>
<th>Quantity @ $40,000 Income/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.80</td>
<td>3000</td>
<td>1000</td>
</tr>
<tr>
<td><strong>3.70</strong></td>
<td><strong>4000</strong></td>
<td>2000</td>
</tr>
<tr>
<td>3.60</td>
<td>5000</td>
<td>3000</td>
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<tr>
<td><strong>3.50</strong></td>
<td><strong>6000</strong></td>
<td><strong>4000</strong></td>
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<tr>
<td>3.40</td>
<td>7000</td>
<td>5000</td>
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<tr>
<td>3.30</td>
<td>8000</td>
<td>6000</td>
</tr>
<tr>
<td>3.20</td>
<td>9000</td>
<td>7000</td>
</tr>
</tbody>
</table>
Supply-Producer Choice
Individual Supply Curve & Schedule

- A curve or schedule that shows the relationship between the price of a good and quantity supplied by an individual seller, *ceteris paribus*.

- Marginal Costs

- Ex-Ante vs. Ex-Post Supply

<table>
<thead>
<tr>
<th>Price</th>
<th>Firm Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>100</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
</tr>
<tr>
<td>8</td>
<td>300</td>
</tr>
<tr>
<td>10</td>
<td>400</td>
</tr>
<tr>
<td>12</td>
<td>500</td>
</tr>
</tbody>
</table>

- **Law of Supply**
  - As $P \uparrow \rightarrow Q_s \uparrow$ and as $P \downarrow \rightarrow Q_s \downarrow$
  - Increasing Marginal Costs

![Graph](A) Supply of Individual Firm
**Supply-Producer Choice**

**Market Supply Curve & Schedule**

- A curve or schedule that shows the relationship between the price of a good and quantity supplied by all individual sellers, *ceteris paribus*.

**“Horizontal Summation”**

Assuming there are 100 identical pizza firms

<table>
<thead>
<tr>
<th>Price</th>
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<th>Market Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>100</td>
<td>10,000</td>
</tr>
<tr>
<td>6</td>
<td>200</td>
<td>20,000</td>
</tr>
<tr>
<td>8</td>
<td>300</td>
<td>30,000</td>
</tr>
<tr>
<td>10</td>
<td>400</td>
<td>40,000</td>
</tr>
<tr>
<td>12</td>
<td>500</td>
<td>50,000</td>
</tr>
</tbody>
</table>
Price of Cacti = $10

Supply Curve = Marginal Costs Curve
Supply-Producer Choice
Non-Price Determinants and Shifting the Supply Curve

- Resource Prices
- Price of Substitutes in Production
- Prices of Compliments in Production
- Technology
- Natural & Political Disruptions
- Number of Suppliers
- Price Expectations
Supply-Producer Choice
Changes in “Supply” vs. “Quantity Supplied”

Price Changes → Change in “Quantity Supplied” (movement along the curve)
Non-Price Determinant Changes → Change in “Supply” (shifting the curve)

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity @ $50,000 wages/year</th>
<th>Quantity @ $ 40,000 wages/year</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.80</td>
<td>9000</td>
<td>11000</td>
</tr>
<tr>
<td>3.70</td>
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<td>10000</td>
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<td>3000</td>
<td>5000</td>
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Supply & Demand: Producer & Consumer Choice

Equilibrium

Equilibrium Quantity
- Quantity where supply = demand

Equilibrium Price
- Price where supply = demand

“Market Clearing Price”

<table>
<thead>
<tr>
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<th>Quantity of Supply</th>
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<tbody>
<tr>
<td>3.80</td>
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</table>

Thousands of Gallons of Gasoline
Supply & Demand: Producer & Consumer Choice

Disequilibrium

Surplus
- Supply > Demand
- Downward Pressure on Price

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<tr>
<td>3.20</td>
<td>9000</td>
<td>3000</td>
</tr>
</tbody>
</table>
### Shortage

- Supply < Demand
- Upward Pressure on Price

<table>
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<th>Quantity of Supply</th>
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<tr>
<td><strong>3.20</strong></td>
<td><strong>9000</strong></td>
<td><strong>3000</strong></td>
</tr>
</tbody>
</table>
1. **Equilibrium**  
   • San Diego Housing Demand = Supply

2. **Non-Price Determinant Changes**  
   • Interest Rates go down for buyers

3. **Disequilibrium**  
   • Housing Demand > Housing Supply  
   • Shortage  
   • Upward Pressure on Price

4. **Price Adjustment**  
   • Prices increase  
   • Quantity supplied increases  
   • Quantity demanded decreases

1. **Equilibrium**  
   • San Diego Housing Demand = Supply
Application: The eight cases listed in the table below represent potential disequilibrating changes in the marketplace that may ultimately result in price and/or quantity adjustments to restore equilibrium. Complete the table by identifying the following for each case listed:

   a) A hypothetical market where you believe this to be occurring.
   b) Two potential causes of the change. (Use your list of non-price determinants for supply & demand)
   c) The new equilibrium quantity & price relative to the original.
      Has it Increased (↑), Decreased (↓), Not Changed (NC), or is unknown (?)

<table>
<thead>
<tr>
<th>Case</th>
<th>Change in Demand</th>
<th>Change in Supply</th>
<th>Market</th>
<th>Potential Cause</th>
<th>New Equilibrium Quantity (↑↓NC-)</th>
<th>New Equilibrium Price (↑↓NC-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Increase</td>
<td>None</td>
<td>Plums</td>
<td>Income has ↑ &amp; plums are a normal good. A news article comes out stating that plums help in preventing heart disease.</td>
<td>↑</td>
<td>↑</td>
</tr>
<tr>
<td>2</td>
<td>Decrease</td>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>None</td>
<td>Increase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>None</td>
<td>Decrease</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Increase</td>
<td>Increase</td>
<td></td>
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<td></td>
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<tr>
<td>6</td>
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<td>Decrease</td>
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<tr>
<td>7</td>
<td>Increase</td>
<td>Decrease</td>
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</tr>
<tr>
<td>8</td>
<td>Decrease</td>
<td>Increase</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. For each of the above cases illustrate graphically using the S & D Model and explain your results.

Demand for plums increased as a result of it being a normal good and income increasing. This caused a rightward shift of the demand curve and created a shortage. The shortage put upward pressure on price causing an increase in quantity supplied and a simultaneous decrease in quantity demanded. The adjustment in price continued until a new equilibrium was restored at a higher quantity and higher price.