Economics

- **Topics in Demand and Supply Analysis**
- The Firm and Market Structures
- Aggregate Output, Prices, And Economic Growth
- Understanding Business Cycles
- Monetary and Fiscal Policy
- International Trade and Capital Flows
- Currency Exchange Rates

LOS **Calculate and interpret price, income, and cross-price elasticities of demand and describe factors that affect each measure**

Elasticity is how a variable changes in relation to another:

1. Price Elasticity = change in demand/change in price

- ➢ Cookies go on sale ⇒ buy more cookies

- Formula for Price Elasticity:

$$E = \frac{\%\Delta Q}{\%\Delta P} \quad \text{or} \quad \frac{\Delta Q}{Q} \times \frac{P}{\Delta P}$$

Where E=Elasticity; Q=Quantity; and P=Price

- Elasticity > 1 is elastic.
- Elasticity < 1 is inelastic.
- Elasticity = 1 is called unitary elasticity.
  - ➢ Elasticity is in absolute values; elasticity can be positive or negative

LOS **Calculate and interpret price, income, and cross-price elasticities of demand and describe factors that affect each measure**

2. Income Elasticity = change in demand/change in income

- Get big raise ⇒ buy more cookies
- Formula for Income Elasticity:

$$E = \frac{\%\Delta Q}{\%\Delta I}$$

Where I=Income

3. Cross-price Elasticity = change in demand/change in price of other thing

- Vegetable prices go up ⇒ buy more cookies

Example >>

LOS **Calculate and interpret price, income, and cross-price elasticities of demand and describe factors that affect each measure**

Example

The demand curve for Pepsi is given by the equation $Q_{Pepsi} = 10{,}000 - 1500P_{Pepsi} + 200P_{Coke}$, where P_{Pepsi} and P_{Coke} indicate the prices of Pepsi and Coke, respectively. If current demand is equal to 6,000 units, and the price of Coke is equal to 1.0, the cross-price elasticity of demand for Pepsi, with respect to the price of Coke is *closest* to:

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Solution

$$\text{Cross price elasticity} = \frac{PCoke}{DPepsi} \times \frac{\partial DPepsi}{\partial PCoke}$$

$$= \frac{1}{6{,}000} \times \frac{200}{1}$$

$$= \frac{1}{30} = \mathbf{0.033}$$

LOS Compare substitution and income effects

Substitution Effect:

- Price increases in one good cause increased demand in substitute goods
  - ➢ If price of steak goes up, demand for chicken rises and steak falls

Income Effect:

- Increases in income cause increased demand in normal goods
  - ➢ If income goes up, demand for steak rises

LOS Distinguish between normal goods and inferior goods

- **Normal goods** are goods whose demand increases when income goes up
- **Inferior goods** are goods whose demand decreases when income goes up

Normal Goods

Inferior Goods

Walmart

goodwill

LOS Distinguish between normal goods and inferior goods

Special case goods:

- Giffen goods – Inferior goods; price effect outweighs substitution effect
  - Price goes down, demand goes down
  - Example: Rice

- Veblen goods – Normal goods; price effect outweighs substitution effect
  - Price goes up, demand goes up
  - Example: Luxury watches

LOS Describe the phenomenon of diminishing marginal returns

- Marginal return of additional input decreases with each additional input

- Return decreases over time and can become negative

Example:

Hungry person eats:

- 1st hamburger: tastes great and is enjoyable
- 2nd hamburger: not as good, feeling full

…

- 5th hamburger: in pain, never wants to eat hamburgers again

LOS Describe the phenomenon of diminishing marginal returns

But how does this concept affect businesses?

- Assuming the wage rate in a small fast-food restaurant is fixed. The following table shows the marginal product of labor for the fast-food restaurant.

Labor	Output	Marginal Product of Labor
1	10	10
2	25	15
3	45	20
4	55	10
5	62	7
6	69	4

- Because the workspace is limited (numbers of ovens, etc.), adding the fourth worker will increase output, but will decrease the MP.

LOS Determine and describe breakeven and shutdown points of production

- **Breakeven point** is when profit is exactly 0
  - ➢ Revenue = Production Cost

  Where Revenue = Unit sales * Sales price; and

  Production Cost = Fixed costs + (Variable costs * Unit sales)

- **Shut-Down Point** is the minimum price and quantity for keeping operations open
  - ➢ Seasonal businesses may choose to close down to eliminate variable costs during certain periods.

LOS Describe how economies of scale and diseconomies of scale affect costs

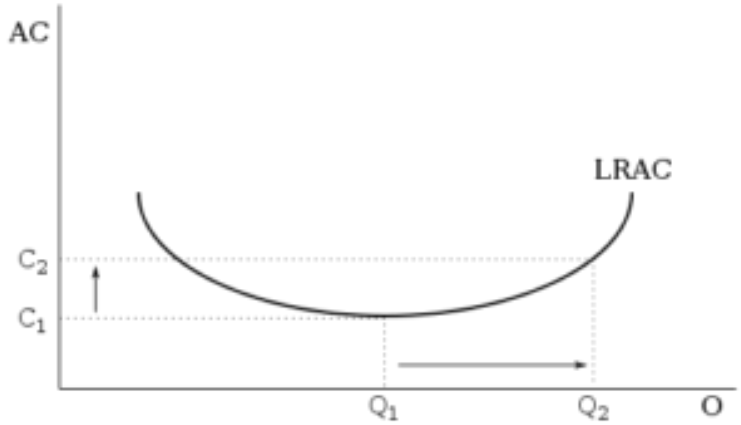
- Economies of scale: decrease in marginal costs as production increases
  - ➢ Example: The music industry, where the
    1st disc: millions of dollars and years of work; and the
    2nd disc: 30 cents worth of plastic.

Can arise from:

- Internal forces: specialized workforce, more reliable equipment
- External forces: better pricing from suppliers

LOS Describe how economies of scale and diseconomies of scale affect costs

- Diseconomies of Scale: increase in marginal cost when quantity increases
  - Large conglomerates trying to manage too many different lines of business.
  - Overlapping business units duplicating products.



- Q1 is the ideal firm size.
  - Beyond Q1, producing more goods increases per unit costs.

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