Factor Markets 💰

Key Concepts

- **Factors of Production**: land, labor, and physical capital
- **Payments for Factors**:
    - Rent: payment for land
    - Wages: payment for labor
    - Interest: payment for physical capital

Production Function

- Shows the relationship between the quantity of labor a business hires and the amount of output those workers can produce
- Three phases of the law of diminishing marginal returns:
    1. Increasing marginal product
    2. Decreasing marginal product (diminishing marginal returns)
    3. Negative marginal product

Marginal Revenue Product (MRP)

- MRP = Marginal Revenue × Marginal Product
- Used to determine how many workers a business would like to hire
- **Formula**: MRP = P × MP, where P is the price and MP is the marginal product

Firm's Demand for Labor

- **Definition**: The quantity of labor a firm is willing and able to hire at a given wage rate
- **Characteristics**:
    - Downward sloping demand curve
    - Inverse relationship between the wage and the number of workers hired
    - When the wage falls, the number of workers hired increases

Market Demand for Labor

- **Definition**: The sum of each firm's marginal revenue product
- **Characteristics**:
    - Downward sloping demand curve
    - Inverse relationship between the wage and the number of workers hired
    - When the wage falls, the number of workers hired increases

Market Supply of Labor

- **Definition**: The quantity of labor households are willing and able to supply at a given wage rate
- **Characteristics**:
    - Upward sloping supply curve
    - Direct relationship between the wage and the quantity supplied
    - When the wage rises, the quantity supplied increases

Equilibrium Wage and Quantity

- **Definition**: The point where the supply and demand curves intersect
- **Characteristics**:
    - Determined by the interaction between supply and demand
    - Equilibrium wage: the wage at which the quantity supplied equals the quantity demanded
    - Equilibrium quantity: the quantity of labor hired at the equilibrium wage

Changes in the Factor Markets

- **Changes in Demand**:
    - Increase in demand: shifts the demand curve rightward
    - Decrease in demand: shifts the demand curve leftward
- **Changes in Supply**:
    - Increase in supply: shifts the supply curve rightward
    - Decrease in supply: shifts the supply curve leftward

Firms in Perfectly Competitive Factor Markets

- **Characteristics**:
    - Many buyers of labor
    - Each individual firm is a wage-taker
    - The market sets the wage
- **Marginal Resource Cost (MRC)**:
    - The amount of money a business has to pay to hire one more worker
    - Equal to the market wage

Firm's Demand Curve

- **Definition**: The marginal revenue product curve
- **Characteristics**:
    - Upward sloping portion (increasing marginal returns)
    - Downward sloping portion (decreasing marginal returns)
    - Profit-maximizing quantity: where the marginal revenue product equals the marginal resource cost

Monopsony

- **Definition**: A market structure in which there is only one buyer of a resource (labor)
- **Characteristics**:
    - The firm's supply curve is the labor supply curve
    - The firm must increase wages to hire more workers
    - The relationship between the wage and the marginal resource cost is different from that in a perfectly competitive market## Monopsony in Labor Markets 📊

Marginal Resource Cost and Supply of Labor

- The marginal resource cost is the change in the total resource cost.
- In a monopsony, the marginal resource cost is greater than the wage.
- The supply of labor is upward sloping, represented by the market supply curve.

Graphical Representation

- The marginal resource cost curve is above the supply curve.
- The firm's demand curve is the marginal revenue product.
- The profit-maximizing quantity of labor is where the marginal revenue product equals the marginal resource cost.

Comparison to Perfectly Competitive Markets

- In a perfectly competitive market, the equilibrium wage is where the supply and demand curves intersect.
- The equilibrium quantity of labor is where the supply and demand curves intersect.
- A monopsony pays lower wages and hires fewer workers than a perfectly competitive market.

Allocative Efficiency and Deadweight Loss

- Monopsonies are not allocatively efficient.
- There is deadweight loss in a monopsony.

Least Cost Combinations of Resources 💡

Finding the Least Cost Combination

- Take the marginal product of each resource and divide it by the price of the resource.
- The profit-maximizing combination is found where the marginal product of labor divided by the price of labor equals the marginal product of capital divided by the price of capital.

Example

Resource	Marginal Product	Price	Marginal Product per Dollar
Labor	30	15	2
Capital	100	25	4

- In this example, the firm should employ more capital and less labor.