Chapter 15: THE LABOR MARKET

How do people decide how much time to spend working?

What determines the wage rate an employer is willing to pay?

Why are some workers paid so much and others so little?

The Labor Market

- Labor Supply
- Market Supply
- Labor Demand
- The Hiring Decision
- Market Equilibrium
- Choosing Among Inputs

Labor Supply

- Labor - Leisure Trade-off
  - Labor
    - Time spent working
    - Opportunity cost
      - Leisure time given up
  - Leisure
    - Time not spent on the job
    - Opportunity cost of leisure
      - Wage given up
Labor Supply

- Labor Supply Curve
  - Shows relationship between wage and the number of hours willing to work
- Backward Bending Supply
  - Substitution effect
    - Higher wage increases the OC of leisure; willing to work more hours
  - Income Effect
    - Higher wage increases income; want more leisure so willing to work less hours

Market Supply

- Market Supply
  - Summation of all the individual labor supply curve
  - Does not bend backward
  - High wage rates bring more persons into that market
**Labor Demand**

- **Derived Demand**
  - The demand for labor depends upon the demand for the final good it helps to produce

- **Marginal Product (MP)**
  - Extra output produced by an additional worker
  
  \[
  MP = \frac{\text{change in output}}{\text{change in labor}}
  \]

**Labor Demand**

- **Marginal Revenue Product (MRP)**
  - Extra revenue generated by an additional worker
  
  \[
  MRP = \frac{\text{change in revenue}}{\text{change in labor}} = \text{Price} \times MP
  \]

- **Law of Diminishing Marginal Returns**
  - States that eventually MP will fall as labor increases
  - Thus MRP also falls as labor increases

**The Hiring Decision**

- **Marginal Analysis**
  - Compare extra benefit with extra cost of hiring an additional worker
    - Extra benefit – MRP
    - Extra cost – Wage
  - If MRP > wage -- hire worker
  - If MRP < wage -- don’t hire worker
  - When MRP = wage -- profit max. point
### The Hiring Decision

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Output price = $20/jean
Wage = $80 per worker

MRP = wage
- hire workers
- don't hire

MRP = firm’s demand curve

Find MRP = $80, hire 5 workers

### The Hiring Decision

- **Firm’s Demand Curve**
  - Shows relationship between wage rate and number of workers willing to hire
  - MRP curve
- **Movement along the demand curve**
- **Shifts in demand curve**
  - Caused by changes in productivity
  - Caused by changes in output price

### Market Equilibrium

- **Market Demand** depends upon
  - Number of employers
  - MRP of labor in each firm
- **Market Supply** depends upon
  - Number of worker
  - Each worker’s willingness to work
- **Equilibrium Wage**
  - Determined by supply and demand
  - Scarcer an input, the higher the wage
  - More abundant an input, the lower the wage
Market Equilibrium

Choosing Among Inputs

Cost Efficiency
- The amount of output per dollar spent

Cost efficiency = \frac{\text{Marginal Product of Input}}{\text{Cost of an Input}}

Choosing among inputs
- Choose input that gives most output per dollar

Choosing Among Inputs

Hand Picked
- MP = 10 baskets/hour
- Wage = $5/hour

Cost Efficiency
- \frac{\text{MP}}{\text{wage}} = \frac{10 \text{ baskets}}{5 \text{/hr}} = 2 \text{ baskets/dollar}

Machined Picked
- MP = 50 boxes/hour
- Rent = $30/hour

Cost Efficiency
- \frac{\text{MP}}{\text{rent}} = \frac{50 \text{ baskets}}{30 \text{/hr}} = 1.67 \text{ baskets/dollar}