WAGE DETERMINATION

I. A FOCUS ON LABOR
   a. The basic principles for labor also apply to other factors of production
   b. About 70% of all income in the U.S. flows to households in the form of wages and salaries.
   c. In a PURELY COMPETITIVE MARKET:
      i. Numerous employers compete with one another in hiring a specific type of labor.
      ii. Each of many workers with identical skills supplies that type of labor.
      iii. Individual employers and individual workers are "WAGE TAKERS" because neither can control the market wage rate.

II. LABOR DEMAND
   a. Ceteris parabis, the demand for labor is an INVERSE relationship between the PRICE of labor (hourly wage) and the QUANTITY OF LABOR DEMANDED.
      i. Labor demand is a DERIVED DEMAND: it is dependent on the products that labor helps produce.
   b. MARGINAL REVENUE PRODUCT
      i. Because resource demand (labor demand) is derived from product demand, the strength of demand will depend on the productivity of the labor (its ability to produce goods and services) and the price of the good or service it helps to produce.
      ii. Review table 10.1 on page234
      iii. PRODUCTIVITY: In reviewing table 10.1, columns 1 through 3 confirms the LAW OF DIMINISHING RETURNS,

causing MARGINAL PRODUCT OF LABOR to fall beyond some point.

    iv. PRODUCT PRICE : Because this is a competitive market, the PRODUCT PRICE = MARKET PRICE

        1. The firm is a PRICE TAKER and will sell units of output only at the market price.

        2. MARGINAL REVENUE PRODUCT = CHANGE IN TOTAL REVENUE / UNIT CHANGE IN LABOR

           a. Review column 6 on page 234

c. RULE FOR EMPLOYING LABOR: MRP=MRIC

    i. In Figure 10.1 on page 234, the columns 1-6 is the firm's demand schedule for labor.

    ii. To maximize profit, a firm should hire additional units of labor as long as each successive unit adds more to the firm's total revenue than to the firm's total cost.

    iii. Each additional unit of labor adds to the firm's total cost: MARGINAL RESOURCE COST (MRC)

        1. MRC = change in total labor cost / unit change in labor

    iv. It will be profitable for a firm to hire additional units of labor up to the point of MRP=MRC

    v. Near same as MR=MC of OUTPUT, but now MRP=MRC is INPUT

d. MRP AS LABOR DEMAND SCHEDULE

        i. In a competitive labor market, market supply and market demand establish the wage rate.

        ii. Because each firm hires such a small fraction of the total wage, they are "wage takers" not "wage makers."

        iii. The MRC of labor in a competitive market equals the market wage rate

        iv. Therefore, MRP=MRC is wage rate (MRC)=MRP

        v. The MRP schedule constitutes the firm's demand for labor because each point on the schedule (or curve) indicates the quantity of labor units the firm would hire at each possible wage rate.

            1. The curve slopes downward due to diminishing returns.

III. MARKET DEMAND FOR LABOR

    a. Economists sum horizontally the individual labor demand curves of all firms hiring a particular type of labor to obtain the MARKET demand for that labor.

IV. CHANGES IN LABOR DEMAND

    a. CHANGES IN PRODUCT DEMAND

        i. Ceteris parabis, an INCREASE in the demand for the product will INCREASE the demand for a resource (in this case, labor). DIRECT RELATIONSHIP.

        ii. The fact that labor demand changes directly with product demand demonstrates the fact that labor demand is DERIVED from product demand.

    b. CHANGES IN PRODUCTIVITY

        i. Ceteris parabis, an INCREASE in the productivity of a resource will

INCREASE the demand for the resource; DIRECT RELATIONSHIP.

 ii. Productivity of any resource may be altered over the long run in three ways:

  1. QUANTITIES OF OTHER RESOURCES: the greater the amount of capital and land resources used with labor, the greater the labor's marginal productivity and labor demand

  2. TECHNOLOGICAL ADVANCE: technological improvements that increase the quality of resources will increase labor's marginal productivity.

  3. QUALITY OF LABOR: improvements in the quality of labor will increase labor's marginal productivity.

c. CHANGES IN THE PRICES OF OTHER RESOURCES

 i. SUBSTITUTE RESOURCES: What happens if the price of machinery (capital) falls?

  1. SUBSTITUTION EFFECT: the decline in the price of machinery will prompt the firm to substitute machinery for labor: this situation will DECREASE the demand for labor.

  2. OUTPUT EFFECT: because machinery declines, input costs decline and supply (output) increases. This INCREASES

demand for all other inputs
including labor.
3. NET EFFECT OF OUTPUT AND
SUBSTITUTION EFFECTS: If the
substitution outweighs the output,
the demand for labor will
DECREASE; if the output effect
outweighs the substitution effect,
demand for labor will INCREASE.
ii. COMPLEMENTARY RESOURCES:
1. Ceteris parabis, the reduction of a
price of capital complementary
goods means lower production
costs. Therefore the supply will
increase and labor demand will
INCREASE along with all other
inputs.
2. Review the Occupational
Employment Trends on page 238.
V. ELASTICITY OF LABOR DEMAND
a. Changes in labor demand (shift of the labor
demand curve) versus a change in quantity of
labor demanded (an increase or decrease in
wage rate and thus a movement along the
labor demand curve line) works similarly to the
regular demand curve.
b. The sensitivity of employers to changes in
wage rates is measured by the ELASTICITY
OF LABOR DEMAND (or wage elasticity of
demand); in coefficient form:
i. Ew = % change in labor quantity / %
change in wage rate
ii. If Ew is greater than 1, labor demand is
elastic (lower wage workers)

      iii. If Ew is less than 1, labor demand is inelastic (major league ballplayers)

      iv. If Ew is equal to 1, labor demand is unit-elastic

  c. EASE OF RESOURCE SUBSTITUTABILITY

      i. Factor 1 in determining elasticity of labor demand

      ii. The GREATER the substitutability of other resources for labor, the MORE ELASTIC is the demand for labor. Example: machinery for workers; workers have less leverage.

      iii. TIME can play a role in the input substitutability process.

  d. ELASTICITY OF PRODUCT DEMAND

      i. The GREATER the elasticity of product demand, the GREATER the elasticity of resource (labor) demand.

        1. The DERIVED nature is the rationale.

  e. RATIO OF LABOR COST TO TOTAL COST

      i. The LARGER the proportion of labor cost to total cost, the greater the elasticity of demand for labor. A smaller percentage won't affect cost nearly as much.

VI. MARKET SUPPLY OF LABOR

  a. The supply curve for each type of labor slopes upward, indicating employers as a group must pay higher wages for more workers.

      i. Firms that want to hire these workers, must pay higher wages to attract them away from alternative job opportunities

ii. DIRECT RELATIONSHIP between wage rate and quantity of labor supplied: the S curve in figure 10.2a on page242.

VII. WAGE AND EMPLOYMENT DETERMINATION

a. To find the total or market demand curve for a particular labor service, sum horizontally the labor demand curves (MRP curves) of individual firms (10.2a)

b. The intersection of the market labor demand curve and the market labor supply curve in 10.2a and 10.2b, is the equilibrium wage rate and level of employment in a PURELY COMPETITIVE labor market.

c. Each individual firm will apply the MRP=MRC rule to determine its profit-maximizing level of employment (10.2b is 5 units of labor).

VIII. MONOPSONY

a. MONOPSONY- a market in which a single employer of labor has substantial buying (hiring) power: following are the characteristics:

i. Only one single buyer of a particular type of labor

ii. Type of labor is relatively immobile, either geographically or lack of new skills

iii. The firm is a "wage maker."

b. UPWARD-SLOPING LABOR SUPPLY TO A FIRM

i. If a firm is LARGE in relation to the size of its labor market, it will have to pay a higher wage rate to obtain more workers (think New York Yankees)

1. Represented by curve S in figure 10.3 on page 244.
c. MRC IS HIGHER THAN THE WAGE RATE
   i. When a monopsonist pays a higher wage rate to attract an additional worker, it must pay that higher wage rate to ALL workers its currently employing at a lower wage.
   ii. Because the monopsonist is the ONLY employer in the labor market, its marginal resource (labor) cost exceeds the wage rate.
      1. See the MRC cost curve on figure 10.3
d. EQUILIBRIUM WAGE AND EMPLOYMENT
   i. How many units will the monopsonist hire, and what wage rate will it pay? Utilize figure 10.3
      1. Will hire Qm due to MRC=MRP at point b.
      2. How much to pay the Qm workers? No need for pay at point b; pay at Wm
      3. Competitive market would be at Qc and Wc
   ii. Professional sports leagues are good examples of monopsony power
IX. UNION MODELS
a. Unions are designed to have laborers sell their labor services collectively.
   i. In U.S. approximately 12% of wage and salary workers belong to unions.

     ii. Union efforts to raise wage rates are mainly concerned with the supply side of the labor market.

b. EXCLUSIVE OR CRAFT UNION MODEL

     i. Unions boost wage rates by reducing the supply of labor

          1. Restricted permanent immigration

          2. Reduced child labor

          3. Encouraged compulsory retirement

          4. Enforced shorter work week

     ii. Restrict the number of workers who can join the union: CRAFT UNIONS

          1. Have a particular skill; example: carpenters, electricians

          2. Long apprenticeships

          3. High initiation fees

          4. Limits on new members

     iii. Review figure 10.4 on page 247: EXCLUSIVE UNIONISM: elevate wage rates

          1. OCCUPATIONAL LICENSING: Government passes a law that says only some people can practice their trade if they meet certain requirements: example: lawyers, barbers, plumbers.

              a. Sole purpose is to protect consumers from incompetent practitioners but it works to reduce labor supply and increase wage rate

c. INCLUSIVE OR INDUSTRIAL UNION MODEL

     i. Seek to organize ALL available workers

      ii. INDUSTRIAL UNIONS: example: auto workers AFL-CIO

      iii. Legal right to strike is negotiating power.

      iv. INCLUSIVE UNIONISM: Review figure 10.5 on page 248

           1. In COMPETITIVE MARKET, equilibrium is at Qc, Wc

           2. With INCLUSIVE UNIONISM: quantity of labor is at Qu and wage rate is at Wu

              a. However the supply of labor available is at Qe

              b. Excess supply situation and disequilibrium.

  d. WAGE INCREASES AND UNEMPLOYMENT

      i. Union members achieve a 15% wage advantage over non-union workers.

      ii. The achievement of the higher wage is accompanied by a decline in the number of workers hired.

X.   WAGE DIFFERENTIALS

  a. Hourly rates and annual salaries vary greatly among occupations

      i. View Table 10.4 on page 249

      ii. Illustrates WAGE DIFFERENTIALS

      iii. Forces of supply and demand of labor explain such great differentials.

  b. MARGINAL REVENUE PRODUCTIVITY

      i. The strength of labor demand –how far rightward the labor demand curve is located, differs greatly among occupations due to differences in how much various occupational groups

contribute to the revenue of their respective employers

    ii. Where labor is highly productive and labor demand is strong, pay will be high

c. NONCOMPETING GROUPS

    i. On supply side of labor, workers are heterogeneous; different physical and mental capacities.

       1. ABILITY- Due to strong physical (professional sports players, opera singers) or mental (physicians, lawyers) traits, wage rates will be higher

       2. EDUCATION AND TRAINING – HUMAN CAPITAL; personal stock of knowledge and skills that enables a person to be highly productive and demand higher wages.

          a. People incur PRESENT COSTS (college tuition, skills training) for a greater flow of FUTURE EARNINGS.

          b. Review figure 10.7 on the attainment of wages based on higher human capital (educational degrees)

          c. Although education yields higher incomes, it carries substantial costs

    ii. COMPENSATING DIFFERENCES

       1. Compensating non-monetary differences in jobs; example- construction worker vs. salesclerk

        a. Dirty hands, sore back, more dangerous, irregular employment;

        b. Construction is more unattractive than salesclerk.

iii. Review the Minimum Wage analysis on page 253

1. People who are unemployed would much rather received the $6.10 per hour (employed) vs. the minimum wage of $6.55 per hour (excess supply thus unemployed)

2. All economists agree that firms will NOT hire workers who cost more than the value of their output (per hour).

3. Voting patterns show that minimum wage has strong political support.