Chapter 14: Demand and Supply in Factor Markets.

I. OBJECTIVES.

A. Understand what causes wages to differ across jobs.

B. Explain why, on average, men earn more than women and whites earn more than minorities.

C. Explain the effects of immigration on the wages and employment of native Americans.

II. Supply and demand model of wage determination (comes from chapter 15: labor markets)

A. Labor demand is a derived demand.

1. derived from demand for the products labor is hired to produce.

B. Profit maximization and labor demand.

1. marginal revenue product of labor=increase in total revenue from hiring one additional unit of labor

2. MRP=MR*MP

<table>
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<tr>
<th>L (number of workers)</th>
<th>Q (output)</th>
<th>MP of L</th>
<th>MRP=MR*MP (P=MR=4)</th>
<th>Total Revenue</th>
<th>Marginal Revenue product (ch in TR/ch in L)</th>
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3. note: MRP falls as L increases (Law of diminishing marginal returns)

4. To maximize profit, increase hiring of labor as long as MRP>wage.

   i. notice that this condition for maximizing profit is identical to the earlier condition
ii. \( MRP = W \implies MP \cdot MR = W \implies MR = W/MP \implies MR = MC. \)

5. Graphic representation of profit maximizing behavior.

Note that \( MRP \) = labor demand curve.

Shifts in firm’s labor demand are caused by:

i. increase in MP of Labor.

ii. increase in P of product produced.

- Market demand represents summation of demand curves across firms.

C. Elasticity of labor demand.

1. labor intensity:

   i. as labor intensity increases, elasticity of demand increases.

   ii. as percent of total cost due to labor rises, a wage increase has larger effect on total cost, bigger reduction in output.

2. elasticity of demand for the good being produced.

   i. more elastic product demand \( \implies \) more elastic labor demand.

   ii. easier to pass on cost increases when product demand is more inelastic.

3. substitutability of labor for capital.

   i. more substitutable \( \implies \) more elastic.

   ii. short run vs. long run effects of a wage increase.

D. Supply of Labor.

1. income effect of wage increase \( \implies \) work less.

   i. income effect is larger the greater the number of hours currently worked.
2. substitution effect of wage increase ==> work more.
3. backward bending labor supply curve.
4. changes in supply of labor:
   i. population.
   ii. technology of home production.
   iii. taxes (Laffer curve).

III. Applications of the theory.

A. the minimum wage.
   1. started at $.25 in 1938
   2. currently $5.25.
   3. approximately 2 million earning the minimum wage.
   4. what are consequences of increasing the minimum wage?
      i. supply/demand analysis.
      ii. employment loss depends on elasticity of demand for labor.
         a. short run vs. long run
         b. mixed evidence in empirical studies

B. the theory of compensating differences.
   1. education
      i. mean earnings by education (1996)
         a. <12 years: $14,013
         b. high school grad: $21,431
         c. bachelor’s degree: $36,980
         d. masters: $47,609
         e. doctorate: $64,550
      ii. the gap between college grads and high school grads rose rapidly during the
          1980s.
         a. explanations.
            1) demand side:
               i) trade: imports of goods produced by low skill workers (some
                  support here)
               ii) immigration: little support here.
               iii) skill biased technological change (greatest support here)
            2) supply side.
i) story doesn’t fit numbers (e.g. coll grad population growing faster than high scholl grad population)

3) institutional:
   i) real value of minimum wage fell
   ii) unionism on the decline.

2. risk or other non-pecuniary attributes.
   i. do firms have an incentive to improve working conditions (eliminate risk, comfortable work site, etc.)

3. fringe benefits.

C. wage differentials.

1. men vs. women
   i. in 1996, average earnings of men: $33,251; women: $19,414 (women/men ratio: .58)
   ii. 26% of men; 21% of women had a college education.
      a. why did fewer women attend college than men?
         1) economic theory
         2) sociological theory
   iii. men and women are highly segregated across occupations
       a. economic theory
       b. sociological theory
   iv. can account for some, but not all, of gender gap in wages by differences in education, occupation

2. whites vs. minorities
   i. 1996 earnings among workers: whites: $27,556; blacks: $20,537; hispanics: $18,262
   ii. why do whites earn more than blacks, Hispanics?
      a. 1996: 24% of whites over age 25 with college education; 14% of blacks; 9% of Hispanics.
      b. occupations, industries, locations differ.
      c. why do the above differences exist?
         1) family background (wealth begets wealth; education begets education)
         2) discrimination