V. FACTOR MARKETS

A. Labor Markets

1. Definitions and trends

   a. Total compensation versus wages

      • The wage is the paid received, while total compensation is the paid received plus
        health and retirement benefits.

   b. Real wage versus nominal wage

      • A fixed input cannot be changed or altered, while a variable input can be.

   c. The main trend is that real wages have been rising over time. However, the rate of
      increase has dropped sharply since the early to mid-1970s.

2. The demand for labor

   a. Marginal revenue product (MPR) – the change in total revenue when one additional
      unit of labor is employed.

      \[
      MRP = \frac{\Delta TR}{\Delta L} = \frac{MR}{\Delta L}
      \]

      i) Marginal revenue product for price taker.

      ii) Marginal revenue product for price maker.

   b. Profit maximization implies that the firm employs labor so long as \( MRP \geq W \).

   c. The labor demand curve -- a graphical representation between the quantity of labor
      demanded by firms and the wage.

   d. The labor demand curve slopes downward due to diminishing marginal product of
      labor (MPN).

   e. Increase in the state of technology or the stock of capital raises the marginal product
      of each worker and thus shifts the labor demand curve to the right.
3. The supply of labor

a. The labor supply curve -- a graphical representation between the quantity of labor supplied by workers and the wage.

   i) The substitution effect tells us that workers will supply more labor at higher wages. Why?

   ii) The income effect tells us that workers will supply less labor at higher wages. Why?

b. The individual labor supply curve is backward bending indicating that the substitution effect dominates for lower wage rates, while the income effect dominates for higher wage rates.

c. The market labor supply curve is upward sloping.

4. Equilibrium in the labor market

a. The equilibrium or market-clearing wage is the rate that equates the quantity of labor demanded to the quantity of labor supplied.

b. At equilibrium, the market-clearing wage is equal to the marginal product of labor (MPN).

5. Why do wages differ across people?

a. Labor productivity differences

   • Human or physical capital per worker

b. Compensating wage differentials / efficiency wages

   • Compensate people more for difficult tasks and/or for poorly monitored tasks.

c. Discrimination

   • Reduction in labor demand from perceived lower productivity.

d. Minimum wage laws
6. Should each of us be a Luddite?

- In equilibrium, \( W = MRP \Rightarrow \frac{W}{P} = MPL \)

- Technology raises the \( MPL \) and thus the real wage \( \frac{W}{P} \)

- What about employment? Is there so many hot dogs or buns we can eat?