

## Chapter 13: Wage Determination

Why do professional athletes and rock stars earn tens of millions of dollars every year, while teachers and nurses with more education earn significantly less? To determine wages, we must examine the supply of labor, as well as demand. Wage levels have broad implications for the profitability of firms as well as the ability of workers to buy products. Chapter 13 identifies how wages are determined in a variety of labor markets and the causes of wage differentials.

In a purely competitive labor market, a large number of firms demand labor, while a large number of workers with identical skills supply labor, so neither side controls the market. The side-by-side graphs for a purely competitive labor market are remarkably similar to the perfectly competitive product market graphs. In the industry, demand for labor is downward sloping because of diminishing returns. The industry supply curve is upward sloping because workers have a choice between labor and leisure; firms must raise wages in order to attract more workers away from other opportunities. The firm is a “wage taker,” so the marginal resource cost serves as the firm’s supply curve, while marginal revenue product serves as the firm’s demand curve. The firm maximizes profit by hiring where  $MRC=MRP$ .

When the firm sells its product in an imperfectly competitive product market, the MRP curve falls even more sharply because in addition to diminishing returns, the firm must also lower the price in order to sell more products. As a result, firms selling products in imperfectly competitive markets hire fewer workers to produce fewer products.

A monopsony occurs when a firm is the sole employer in an area and labor is immobile. The monopsony model looks like a flipped-over monopoly product model. The firm must raise the wage of all workers in order to attract each new worker to the industry, so marginal resource cost is higher than the firm’s supply curve for labor. The firm hires where  $MRC=MRP$ , but only pays the wage on the supply curve. To date, the AP exam has not included monopsony models.

Labor unions also have an effect on wages. They seek policies to increase product demand (and, therefore, the demand for labor), reduce the supply of labor (through licensing or other requirements), or bargain collectively in an attempt to create a wage floor. In a bilateral monopoly model, a monopsony and an inclusive union negotiate a contract to determine the wage. To date, these union models have not appeared on AP exams.

Differences in wages can be explained by differences in marginal revenue productivity, ability, education and training, and other factors such as the danger involved in the job and differences in the cost of living in specific areas of the country. A minimum wage set above the equilibrium wage creates a price floor, where the quantity of labor demanded is less than the quantity supplied, resulting in unemployment. A minimum wage set below the equilibrium wage will not cause unemployment.

Material from Chapter 13 consistently appears in a few multiple-choice questions and often appears as a free-response question on the AP Microeconomics Exam. Questions about real and nominal wages, as well as investment in human capital, may also appear on the AP Macroeconomics Exam. It is important to understand the effects of supply and demand factors on wages, and to be able to graph the perfectly competitive labor market and an effective minimum wage model.

