Lecture 4. Labor Market Equilibrium

Definition

The labor market is in equilibrium when supply equals demand; E* workers are employed at a wage of w*. In equilibrium, all persons who are looking for work at the going wage can find a job. The triangle P gives the producer surplus; the triangle Q gives the worker surplus.

What is the labor market equilibrium formula?

According to the marginal decision rule, equilibrium in the labor market must occur where:

MPL/PL=MPK/PK

An increase in demand or a reduction in supply will raise wages; an increase in supply or a reduction in demand will lower them.

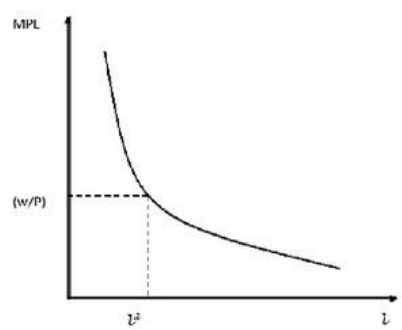
The labor market differs somewhat from the market for goods and services because labor demand is a derived demand; labor is not desired for its own sake but rather because it aids in producing output. Firms determine their demand for labor through a lens of profit maximization, ultimately seeking to produce the optimum level of output and the lowest possible cost.

Labor Market Equilibrium

In order to find the equilibrium quantity and price of labor, economists generally make several assumptions:

- The marginal product of labor (MPL) is decreasing;
- Firms are price-takers in the goods market (cannot affect the price of output) as well as in the labor market (cannot affect the wage rate);
- The supply of labor is elastic and increases with the wage rate (upward sloping supply); and
- Firms are profit-maximizers.

The marginal revenue product of labor (MRPL) is equal to the MPL multiplied by the price of output. The MRPL represents the additional revenue that a firm can expect to gain from employing one additional unit of labor – it is the marginal benefit to the firm from labor. Under the above assumptions, the MRPL is decreasing as the quantity of labor increases, and firms can increase profit by hiring more labor if the MRPL is greater than the marginal cost of that additional unit of labor – the wage rate. Thus, firms will hire more labor when the MRPL is greater than the wage rate, and stop hiring as soon as the two values are equal. The point at which the MRPL equals the prevailing wage rate is the labor market equilibrium.



Optimal Demand for Labor: The optimal demand for labor is located where the marginal product equals the real wage rate. The curved line represents the falling marginal product of labor, the y-axis is the marginal product/wage rate, and the x-axis is the quantity of labor.

Labor Union Impacts on Equilibrium

Unions are organizations of workers that seek to improve working conditions and raise the equilibrium wage rate.

A labor union is an organization of workers who have banded together to achieve common goals. The primary activity of the union is to bargain with the employer on behalf of union members and negotiate labor contracts. The most common purpose of associations or unions is maintaining or improving the conditions of employment, which may include the negotiation of wages, work rules, complaint procedures, promotions, benefits, workplace safety, and policies.

In order to achieve these goals unions, engage in collective bargaining: the process of negotiation between a company's management and a labor union. When collective bargaining fails, union members may go on strike, refusing to work until a firm addresses the workers' grievances.

Union Impacts on Equilibrium

Fundamentally, unions seek higher wages for its member workers (though, here "wages" encompasses all types of compensation, not just cash paid to the workers by the employer).

The effect of unions on the labor market equilibrium can be analyzed like any other price increase. If employers (those who demand labor) have an inelastic demand for labor, the increase in wages (the price of labor) will not translate into a drop in employment (quantity of labor supplied). If, however, their demand is elastic, employers will simply respond to union demands for higher wages by hiring fewer workers.

However, the reality of unions is more complex. As an organized body, unions are also active in the political realm. They can lobby for legislation that will affect the market not only for labor, but also for the goods they produce. For example, unions may advocate for trade restrictions to protect the markets in which they work from foreign competition. By preventing domestic firms from having to compete with unrestricted foreign firms, they can ensure that consumers do not have lower cost alternatives which would drive employers who pay a higher union wage out of business.

What affects labor market equilibrium?

The labour market is influenced by the supply and demand for workers in an economy. When the supply equals the demand, the market reaches equilibrium.

What is the equilibrium quantity of labor?

The real wage and the equilibrium quantity of labor traded are determined by the intersection of labor supply and labor demand. At the equilibrium real wage, the quantity of labor supplied equals the quantity of labor demanded.

How is market equilibrium measured?

In economics, the equilibrium price is calculated by setting the supply function and demand function equal to one another and solving for the price.