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Overview

Factor markets are where resources (land, labor, and capital) are bought and sold. Firms demand these resources to produce goods and services. Individuals and households supply these resources in exchange for income. The goal for firms is to hire each resource up to the point where the benefit from the resource equals its cost.

The Labor Market

Firms demand labor, and workers supply it. Labor demand depends on how productive workers are and how much revenue they help generate. Labor supply depends on how many people are willing to work at different wage levels. The labor market determines both the equilibrium wage and the number of workers employed.

Labor Demand:

- Derived from the demand for goods and services that workers produce.
- The demand curve for labor slopes downward because as wages rise, firms hire fewer workers.
- It shifts when worker productivity, product prices, or demand for the product changes.

Labor Supply:

- The supply curve slopes upward because higher wages attract more workers.
- It shifts when population, education levels, or work preferences change.

Marginal Revenue Product (MRP)

The marginal revenue product is the extra revenue a firm earns by hiring one additional worker or using one more unit of a resource.

Formula: MRP = Marginal Product (MP) × Price of Output.

Firms hire workers until MRP = wage. If MRP is greater than the wage, the firm should hire more workers. If MRP is less than the wage, the firm should hire fewer workers.

Wage Determination

In a competitive labor market, many firms compete for many workers. Neither workers nor firms can set the wage on their own. The equilibrium wage is set where labor supply equals labor demand.

Shifts in Labor Demand:

- A rise in worker productivity increases demand for labor.
- A change in the demand for the product affects labor demand.
- Technology or new production methods can also change demand.

Shifts in Labor Supply:

- More workers entering the market increase supply.
- Changes in education, training, or social factors can affect supply.

Monopsony in Factor Markets

A monopsony is a labor market with only one buyer (employer) of labor. The firm has market power and can set wages below the competitive level. To hire more workers, it must raise the wage for all workers, which increases its costs. As a result, monopsonies hire fewer workers and pay lower wages than competitive markets. Examples include a single major employer in a small town, like a mining company or a factory.

Capital and Land Markets

Capital refers to machines, tools, and buildings used to produce goods. Firms demand capital because it helps them produce efficiently. The cost of using capital is the interest rate. Firms will use capital until the marginal revenue product of capital equals its cost.

Land includes all natural resources such as water, minerals, and farmland. The supply of land is fixed—there is a limited amount available. The payment for land use is rent. The demand for land depends on its productivity and how much revenue it can generate.

Income Distribution

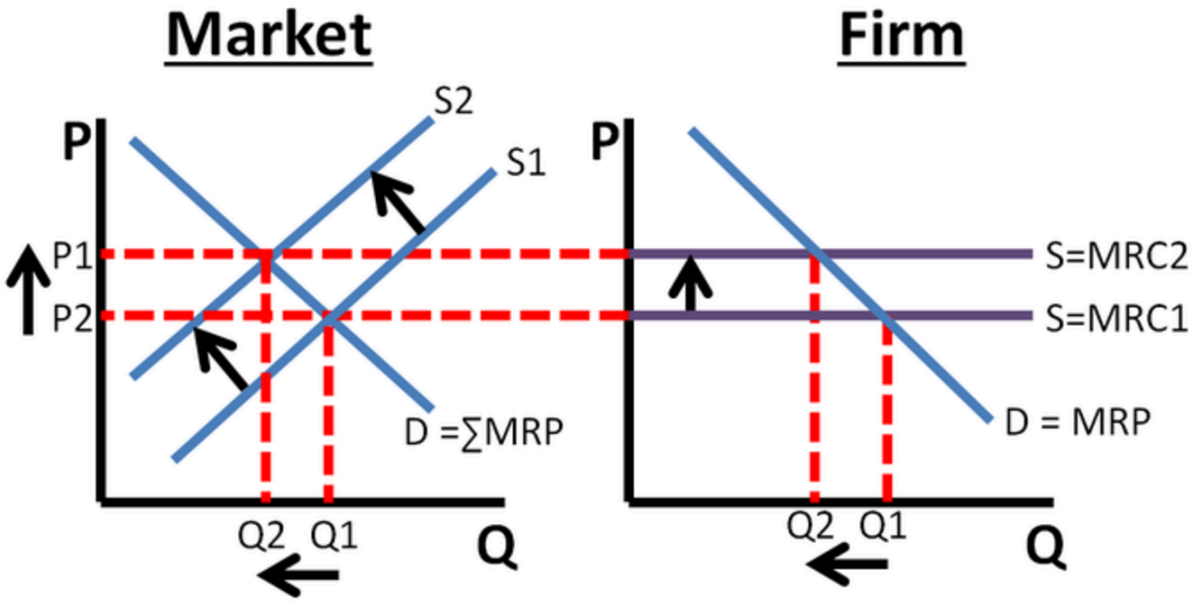
Income is divided among the owners of labor, land, capital, and entrepreneurship. Wages go to workers, rent goes to landowners, interest goes to capital owners, and profits go to entrepreneurs. Income inequality exists because of differences in skills, education, experience, and resource ownership. Market power, discrimination, and government policies also affect how income is distributed. Governments may use taxes, welfare programs, or minimum wage laws to reduce inequality.

Key Formulas

- Marginal Revenue Product (MRP) = Marginal Product × Price of Output
- Marginal Resource Cost (MRC) = Change in Total Cost ÷ Change in Quantity of Resource
- Hiring Rule: MRP = MRC
- Firms hire resources until the benefit (MRP) equals the cost (MRC).

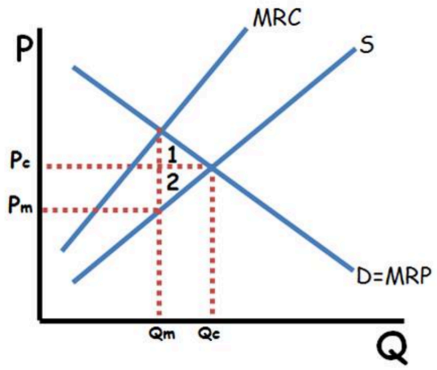
Important Graphs

Perfectly Competitive Factor Market



- **Industry Labor Supply Decrease:** When the supply of labor in the industry decreases (shifting the supply curve from **S1** to **S2**), the **wage** rate increases, and the **quantity of workers** decreases. This reflects a tighter labor market, where fewer workers are available at higher wages.
- **Firm's Labor Supply Response:** The increase in wages shifts the firm's **Marginal Resource Cost (MRC)** curve upward, meaning the cost of hiring workers becomes higher. As a result, the firm hires fewer workers, reducing the **quantity of workers hired** (from **Q1** to **Q2**).

Monopsony Factor Market



- **Hiring Decision (MRC = MRP):** The firm will continue to hire workers up to the point where **Marginal Resource Cost (MRC) = Marginal Revenue Product (MRP)**, which determines the optimal number of workers the firm employs.
- **Monopsony Wage and Quantity (Pm and Qm):** In a monopsony (a market with a single buyer of labor), **Pm** is the wage all workers are paid, and **Qm** is the number of workers the firm hires. A monopsony typically pays lower wages and hires fewer workers than a competitive market.
- **Competitive Market Wage and Quantity (Pc and Qc):** In a competitive labor market, the wage is **Pc**, and the number of workers hired is **Qc**. A monopsony hires fewer workers and pays lower wages compared to a competitive market, which has more labor supply and a higher equilibrium wage.
- **MRC vs. Wage (Supply Curve):** The **MRC** is higher than the wage (**supply curve**) because in a monopsony, the firm must raise the wage for all workers (not just the additional ones) when it hires more, leading to a higher cost of labor as it increases the quantity of workers.
- **Deadweight Loss:** The areas marked as **1** and **2** represent **deadweight loss** in a monopsony market, reflecting the inefficiency caused by hiring fewer workers and paying lower wages than would occur in a competitive labor market.