Topic 12 Part 1

Factor Markets (FRANK, Chapter 14)

How the Two Markets Interact

We have derived an individual firm's demand for labor:

- VMPL = w for a competitive firm in the product market
- MRPL = w for a monopolist in the product market

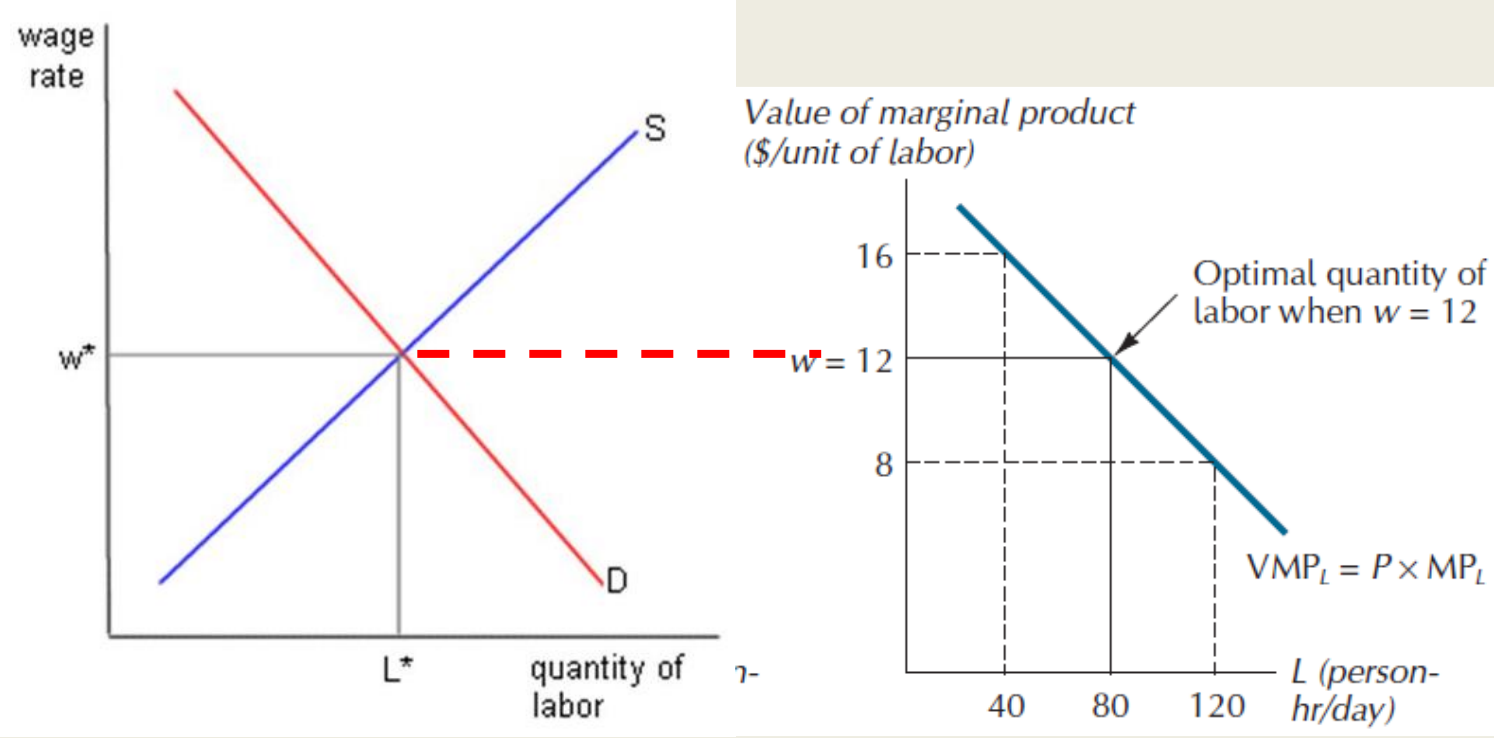
Market demand for labor = Sum of individual firms' demand.

An individual worker's supply of labor comes from his/her optimal choice between leisure and wage.
The individual labor supply curve can be backward-bending.

Market supply of labor = Sum of individual workers' supply.
The market labor supply curve is upward-sloping.

How the Two Markets Interact

In the <u>competitive</u> factor market, Market Demand for Labor and Market Supply of Labor determine the equilibrium wage W*.
An individual firm then takes W* as given, and decides how many workers to hire.



Monopsony

A monopsonist is the "sole buyer" in the factor market.

A classical example is one company in the town where workers cannot or will not leave the area.

In the competitive factor market, firms takes W* as given and face a horizontal labor supply curve at W*. (See Page 3)

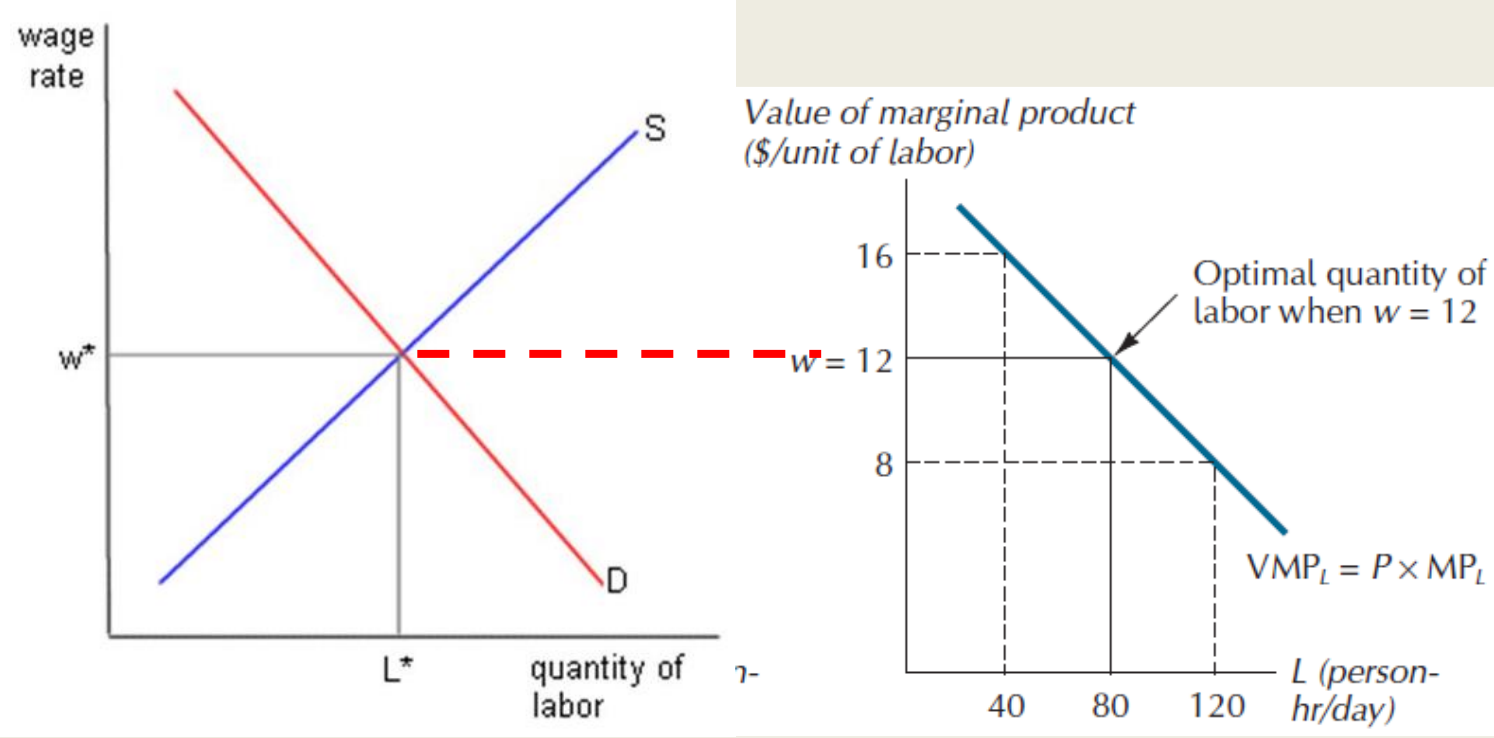
In the monopsonist factor market, the monopsonist faces the upward-sloping market labor supply curve.

Here, the monopsonist no longer takes W* as given.
How many workers it hire will affect the wage it faces.

Monopsony

Monopsonist faces the market supply of labor. (BLUE S)

Competitive firms face the horizontal supply at W*. (RED Dotted)



Monopsony

In factor markets,

Average Factor Cost (AFC) is another name for the supply curve for an input.

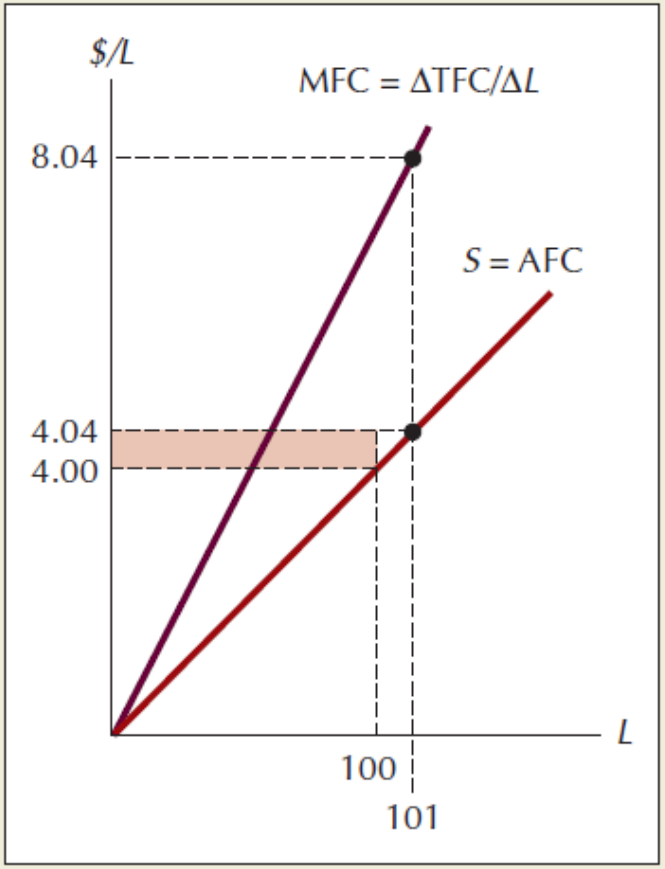
AFC represents the average payment per worker to achieve any given level of employment.

Total Factor Cost (TFC) = AFC x L

Marginal Factor Cost (MFC) = $\Delta TFC/\Delta L$

Monopsony

Labor Supply in the monopsonistic market is upward-sloping.



To hire 100 workers, the firm has to pay wage of $4 per worker.
TFC = 4 x 100 = 400

To hire 101 workers, the firm has to increase wage to $4.04 per worker.
However, the firm has to pay this high wage to everyone else.
TFC = 4.04 x 101 = 408.04

MFC is the addition cost from this additional (101ST) worker, equal to $8.04.
MFC = (408.04 – 400)/(101 – 100) = 8.04

Monopsony

AFC and MFC

In the monopsonistic market, the labor supply is upward-sloping.

Suppose AFC is linear, i.e. **AFC = a + bL.**

We have $TFC = aL + bL^2$

MFC = a + 2bL

The slope of MFC is twice as much as that of AFC.

Monopsony

Monopsonist's Profit Maximization

Firms in the competitive factor market will hire the workers at the point where **VMPL = w or MRPL = w**.

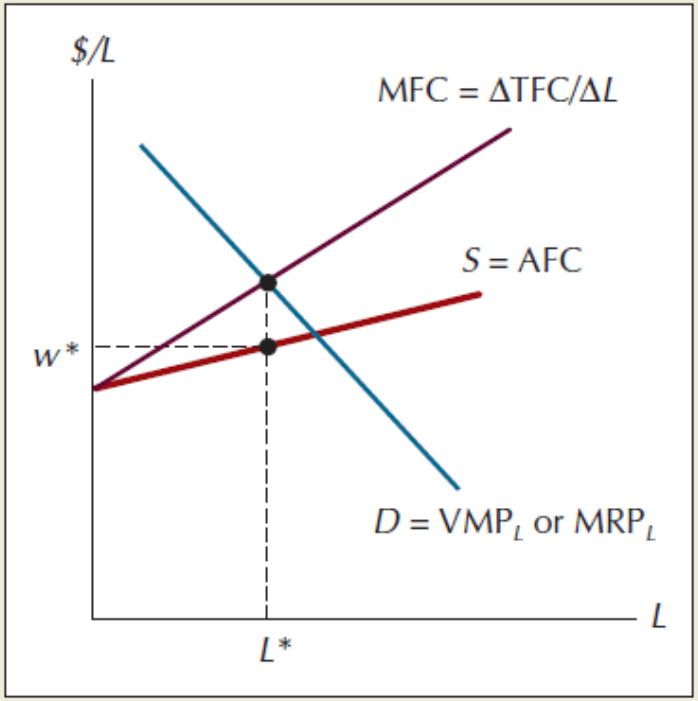
But for a monopsonist, w is NO LONGER constant.
To hire more workers, it has to pay higher wage.

The monopsonist will hire the workers at the point where **VMPL = MFC or MRPL = MFC**.

That is, the extra gain from hiring extra worker equals the extra cost from hiring extra worker.

Monopsony

The monopsonist will hire the workers at the point where VMPL = MFC or MRPL = MFC. This will be at L*.



At L*, the market supply indicates that the wage will be W*.

This will be the wage that the monopsonist pays their workers.

Example

CONCEPT CHECK 14.8

A monopsonist's demand for labor is given by $w = 12 - L$. If her AFC curve is given by $w = 2 + 2L$, with corresponding MFC $= 2 + 4L$, what wage rate will she offer and how much labor will she hire?

LEARNING-BY-DOING EXERCISE 11.8

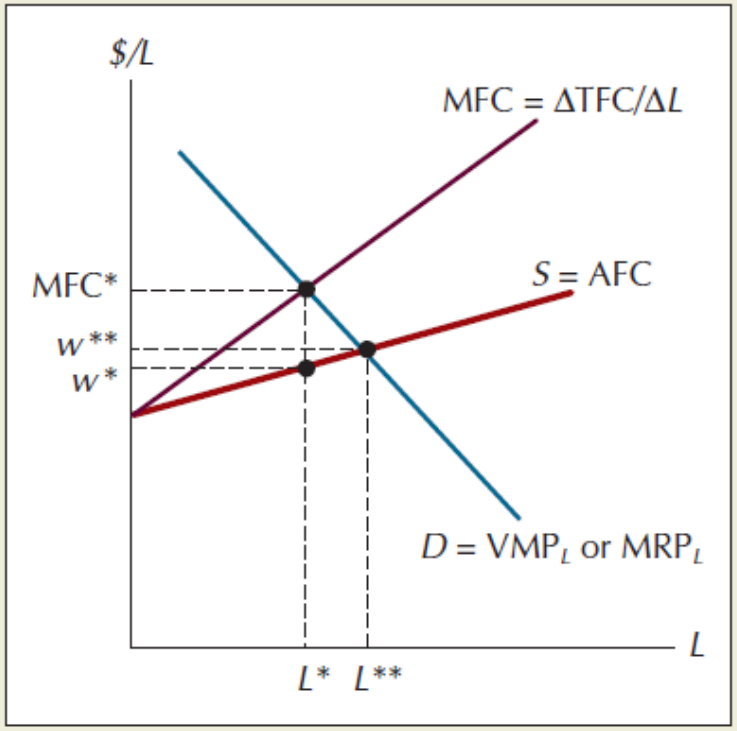
Applying the Monopsonist's Profit-Maximization Condition

Suppose that a monopsonist's only input is labor and its production function is $Q = 5L$, where L is the quantity of labor (expressed in thousands of hours per week). Suppose, too, that the monopsonist can sell all the output it wants at a market price of \$10 per unit and that the supply curve it faces for labor is $w = 2 + 2L$.

Problem How much labor would the monopsonist hire, and what wage rate would it pay, to maximize profit?

Monopsony

Comparison b/w Monopsony and Competitive Factor Market



In the competitive factor market, wage is determined by market demand (D) and market supply (S).

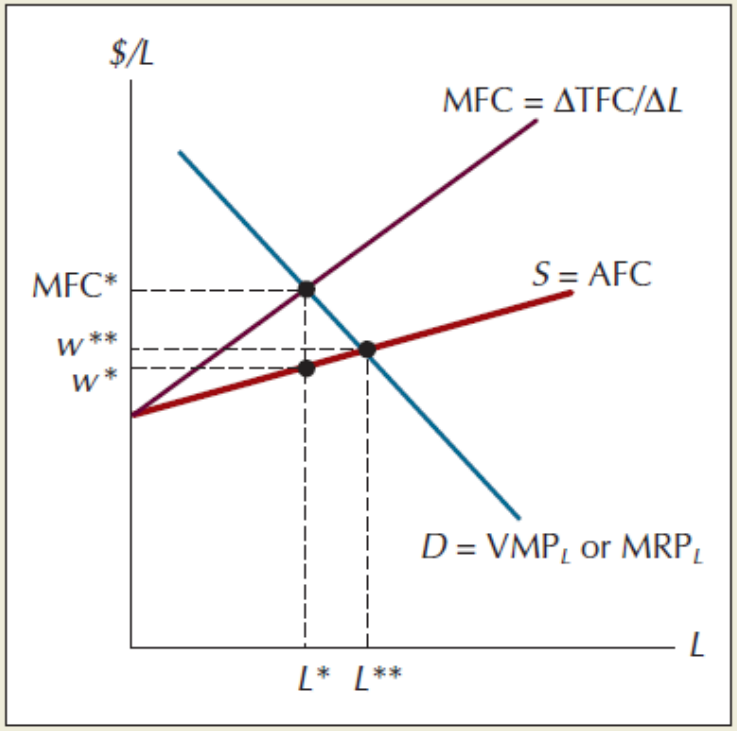
The competitive equilibrium is therefore at (L**, w**).

The monopsonist equilibrium is (L*, w*).

Workers are paid lower wage, and fewer workers are hired.

Monopsony

Comparison b/w Monopsony and Competitive Factor Market



Monopsony

Comparison b/w Monopsony and Competitive Factor Market

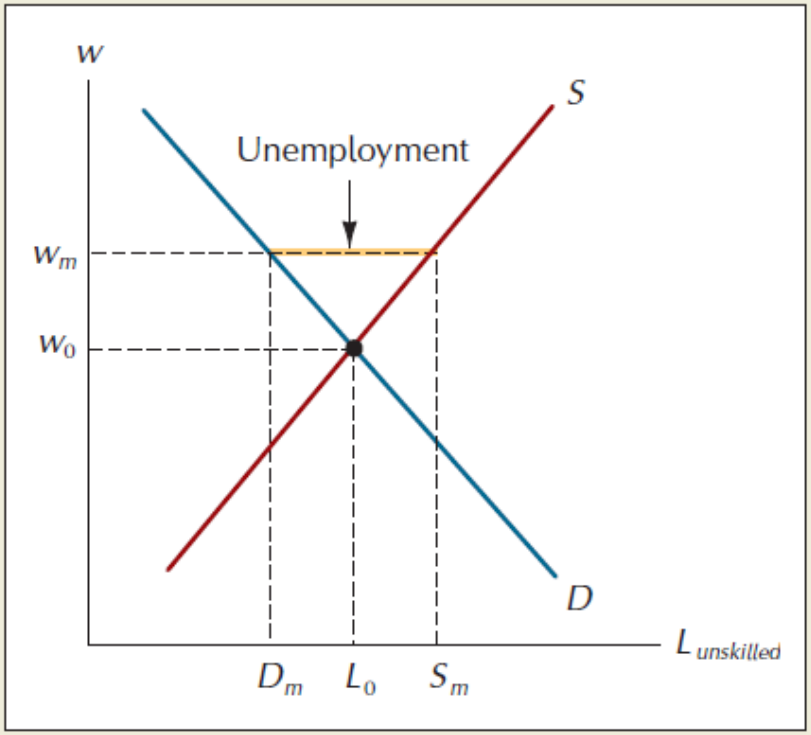
This shows exploitation of workers and inefficiency.

The **main cause** is that if the monopsonist wants to hire more workers, it has to increase wage, but it also has to pay this high wage for all other workers. This causes it to hire less workers.

In the competitive factor markets, one firm hiring more workers does not raise the market wage, so all firms can hire more.

Monopsony – Minimum Wage

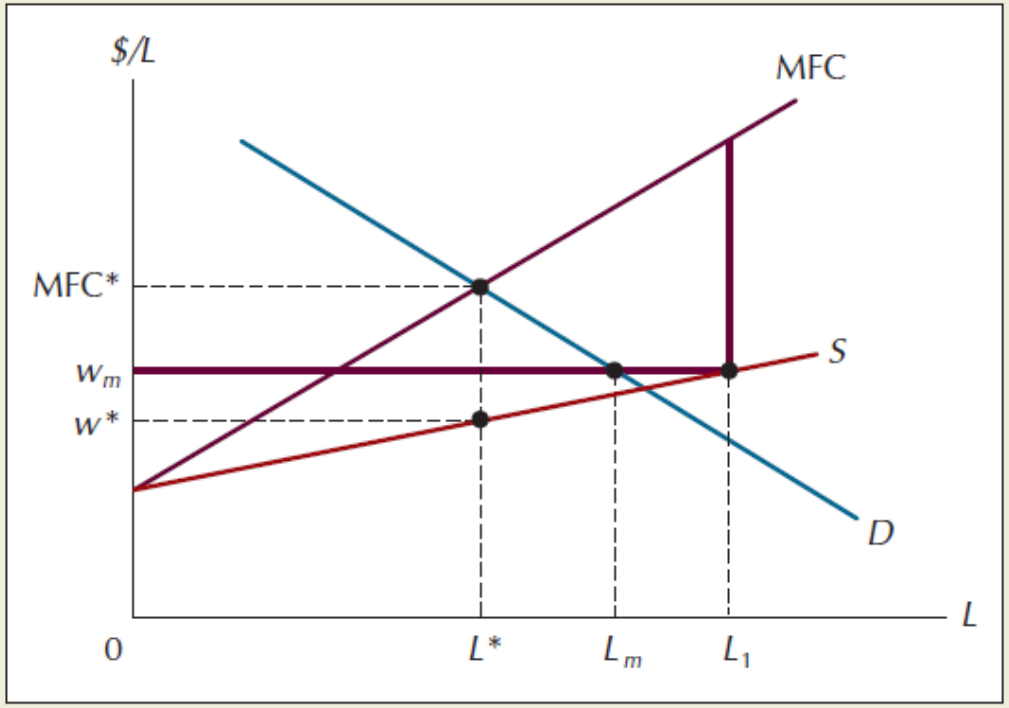
Standard Model for Minimum Wage Law



A Statutory Minimum Wage
The effect of the minimum wage is to reduce employment of unskilled labor from L_0 to D_m, while increasing supply from L_0 to S_m. The resulting difference, $S_m - D_m$, is the unemployment attributable to the minimum wage.

Monopsony – Minimum Wage

Monopsonist Model for Minimum Wage Law



The Minimum Wage Law in the Case of Monopsony
The effect of a minimum wage at w_m is to make the monopsonist's MFC curve horizontal in the region from 0 to L_1, which increases employment from L^* to L_m.

CONCEPT CHECK 14.9

A monopsonist's demand curve for labor is given by $w = 12 - L$. If she originally faced an AFC curve given by $w = 2 + 2L$, with corresponding MFC $= 2 + 4L$, how will her wage and employment offers be affected by the passage of a law requiring $w \geq 8$? A law requiring $w \geq 10$?