

How Wages Are Determined in Labor Markets

This activity examines how wages and employment are determined in two types of labor markets. A *perfectly competitive labor market* is one in which all buyers and sellers are so small that no one can act alone and affect the market wage. The interaction of market demand (D) and supply (S) determines the wage and the level of employment. A *monopsony* exists if there is only one buyer of labor in the resource market. The monopsonist pays as low a wage as possible to attract the number of workers needed.

! **Student Alert:** If the monopsonist needs more workers, the wage will have to be raised.

Part A: A Perfectly Competitive Labor Market



Figure 4-5.1

A Perfectly Competitive Labor Market

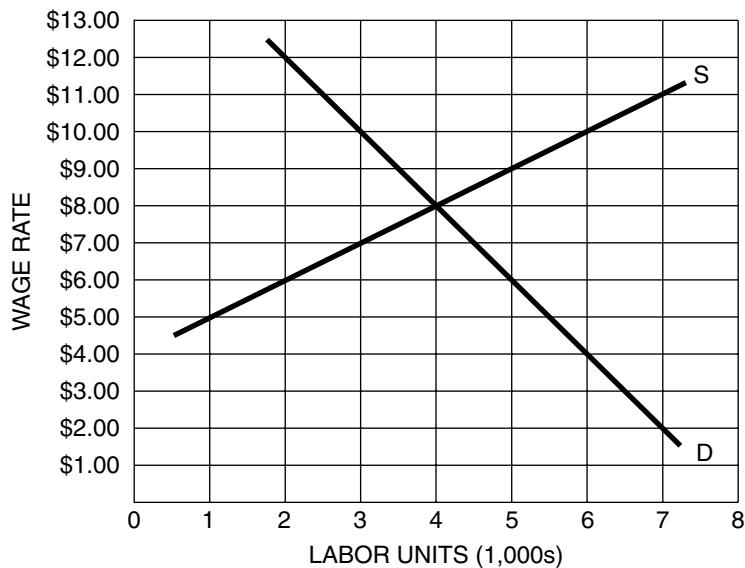


Figure 4-5.1 illustrates a perfectly competitive labor market. Labor is measured in thousands of labor hours. Answer the following questions based on this graph.

1. What are the equilibrium wage and number of labor hours in this labor market?
2. Why is the demand for labor downward sloping?

3. Why is the supply of labor upward sloping?

Part B: A Minimum Wage

4. Why does the government create a minimum wage in a labor market?
5. If the government sets a minimum wage of \$10.00 in the labor market shown in Figure 4-5.1, will there be a shortage or surplus of labor? How large is this shortage or surplus? Indicate this on the graph at the wage of \$10.00.
6. Are some workers made better off because of the minimum wage? Are some workers made worse off because of it? Explain.
7. Would skilled or unskilled workers be more likely to lose their jobs because of a minimum wage law?
8. If the demand for labor were more inelastic, would more or fewer workers lose their jobs because of the minimum wage? Explain.

Part C: A Monopsonistic Labor Market

Assume the Ross Textile Company is a monopsony in a small town. Because it faces the upward sloping market supply of labor, Ross must raise its wage if it wants to increase the quantity supplied of workers. The company pays the same wage to all its employees, so if it increases the wage to attract another worker, the marginal resource cost of that worker is greater than the wage paid to the worker: $MRC > \text{Wage}$.



Student Alert: If the wage is raised to hire another worker, then $MRC > \text{Wage}$.

9. Table 4-5.1 shows the supply of labor to Ross. Complete the table.



Table 4-5.1

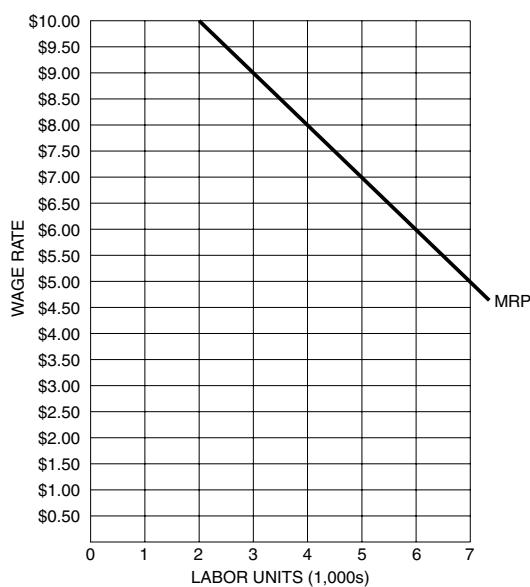
Labor Supply Schedule

Workers	Wage	Total labor cost	Marginal resource cost
1	\$5.00	\$5.00	
2	\$5.50	\$11.00	\$6.00
3	\$6.00		
4	\$6.50		
5	\$7.00		\$9.00
6	\$7.50	\$45.00	

10. Plot the Ross Company's labor supply (S) curve and MRC curve in Figure 4-5.2. The firm's marginal revenue product (MRP) curve is already in the graph.



Figure 4-5.2

A Monopsonistic Labor Market

11. Why is the MRC curve above the S curve?

12. What is more important to Ross as it considers hiring another worker—the wage paid to the worker or the worker's MRC? Why?

13. How many workers will Ross hire? What wage will it pay to each of these workers?

14. Is the MRP curve the firm's D curve for labor?

15. What would be the equilibrium wage and employment if this were a perfectly competitive market? How do these values compare with those of the monopsonist?

16. If any firm hires the amount of labor at which $MRP = MRC$, is it also true that the firm is producing the output level at which $MR = MC$? Does the answer depend on whether the firm is perfectly competitive or monopolistic in the goods market, or whether it is perfectly competitive or monopsonistic in the labor market?

Wages and Employment in Competitive and Monopsonistic Labor Markets

This activity asks you to show how changes in economic conditions, government policy, and union activity affect different types of labor markets. The impact of such changes depends on the degree of competition on the demand and supply sides of the labor market. The symbols W_C , L_C , W_M , and L_M refer to the wages and labor in the competitive and monopsonistic labor markets. You are to consider the short-run effects in the specified labor market.

Part A: Perfect Competition and Monopsony



Figure 4-6.1

Perfectly Competitive and Monopsonistic Labor Markets

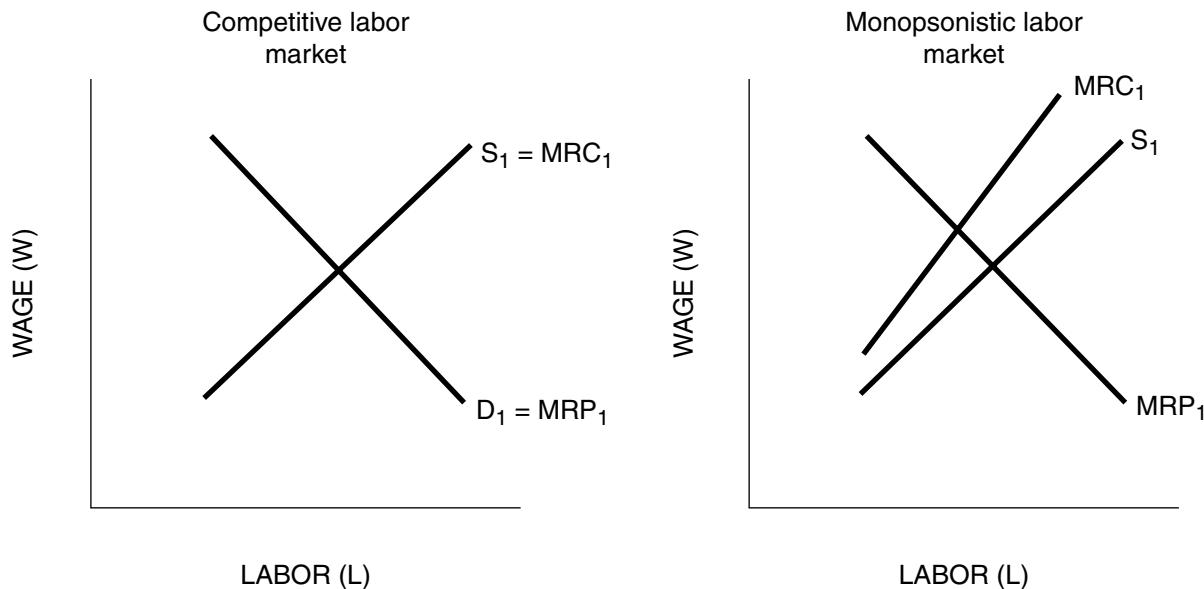


Figure 4-6.1 presents the basic setup of a perfectly competitive labor market and a monopsonistic labor market. Answer the following questions based on this figure.

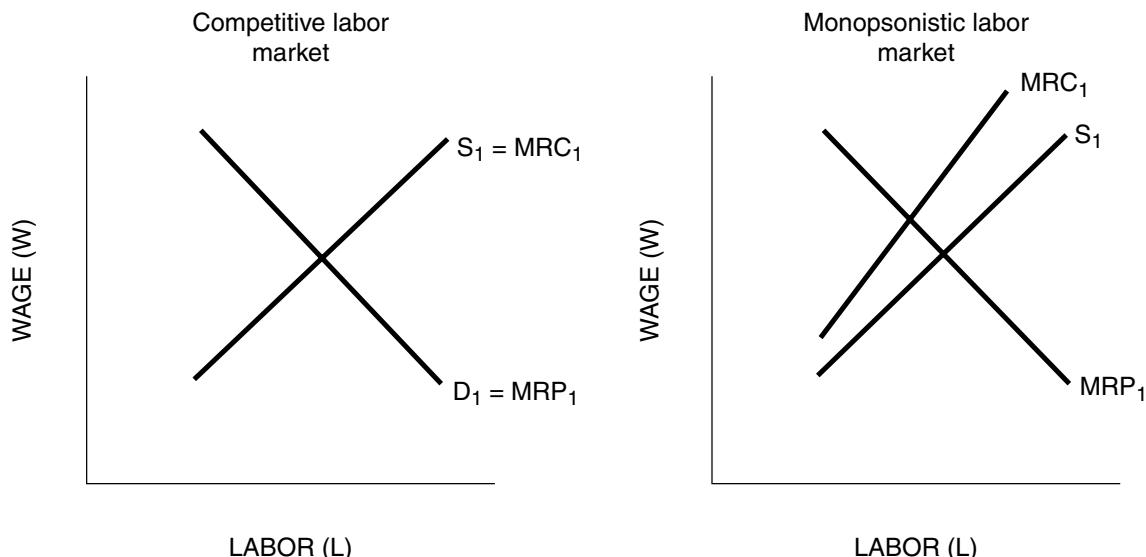
1. Why is the marginal revenue product (MRP) curve equal to the market demand (D) curve for labor in the perfectly competitive labor market?
2. Why is the MRP curve not equal to the market D curve for labor in the monopsonistic labor market?

3. Why is the marginal resource cost (MRC) curve equal to the market labor supply (S) curve in the perfectly competitive labor market?
4. Why is the MRC curve not equal to the market labor S curve in the monopsonistic labor market?
5. In the appropriate graph, indicate by W_{C1} and L_{C1} , or W_{M1} and L_{M1} , the market wage and quantity of labor.

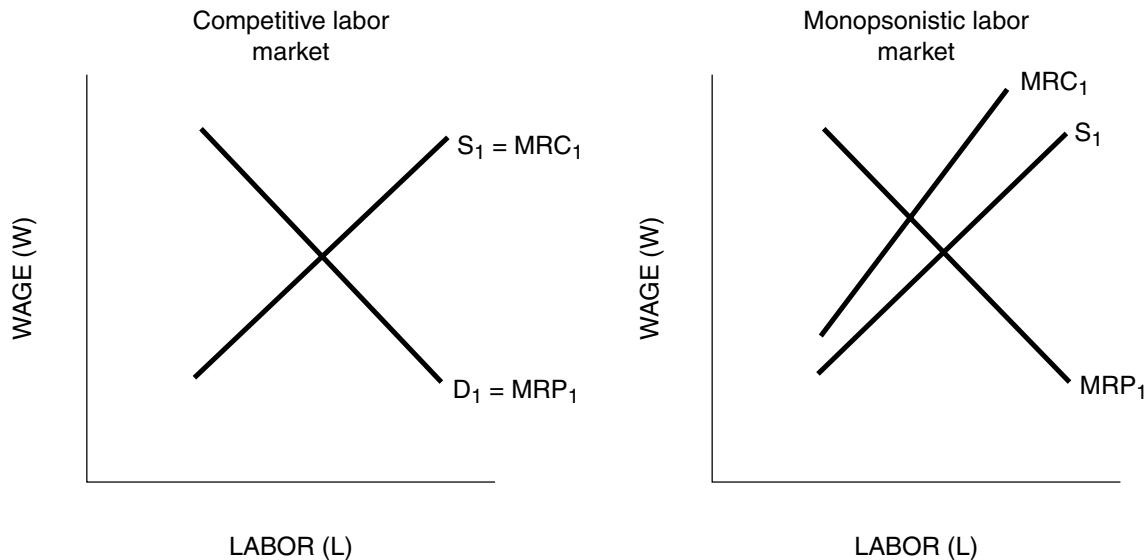
Part B: Analyzing Changes in the Labor Market

For each of the following scenarios, analyze the short-run effect of the specified event on each labor market. In the perfectly competitive labor market graph, indicate by W_{C1} and W_{C2} the market wage before and after the event. Indicate by L_{C1} and L_{C2} the equilibrium quantity of labor before and after the event. In the monopsonistic labor market graph, indicate by W_{M1} and W_{M2} the market wage before and after the event. Indicate by L_{M1} and L_{M2} the equilibrium quantity of labor before and after the event. State whether the event increases, decreases, or does not change the market wage and labor. Be sure to shift the curves that are affected by the events, leading to the changes in wage and labor.

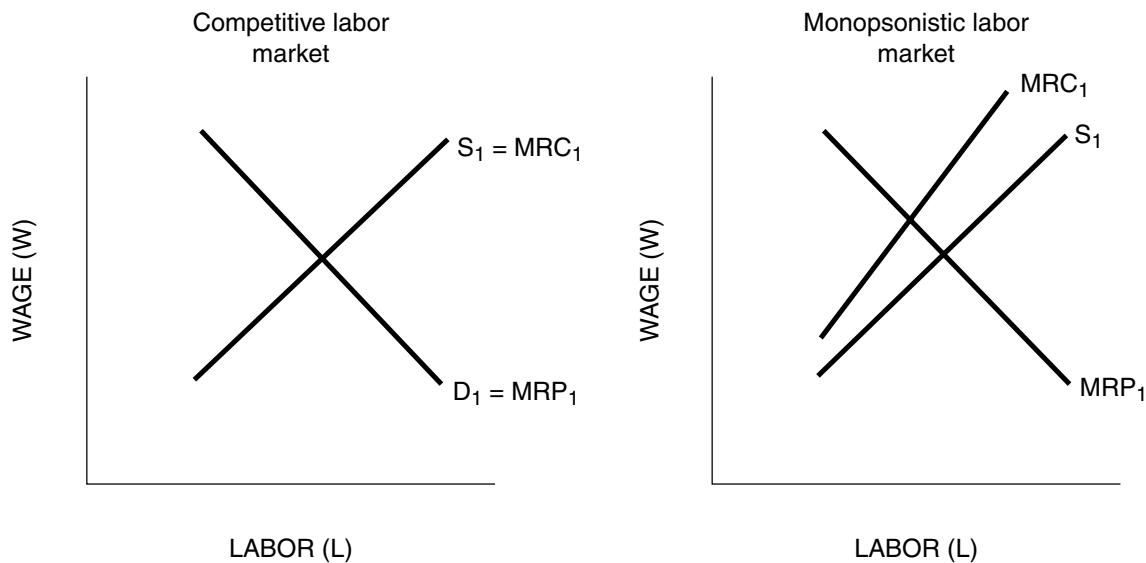
6. Event: The state passes legislation requiring new teachers to pass a competency test in order to be employed by any school in the state. (The graphs refer to the labor market for teachers.)



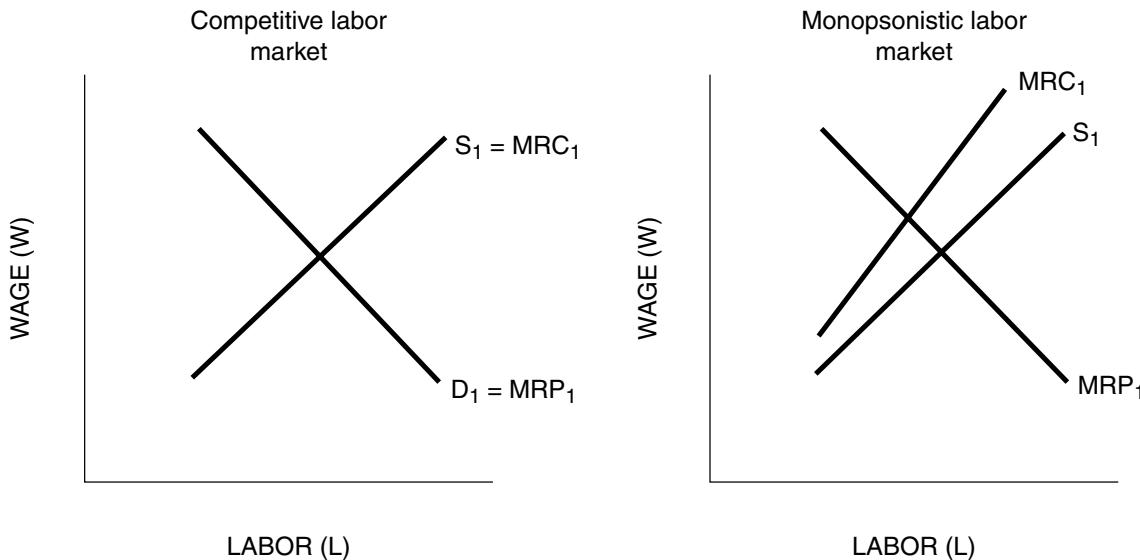
7. Event: New training methods increase the productivity of workers in the automobile industry.
(The graphs refer to the labor market for automobile workers.)



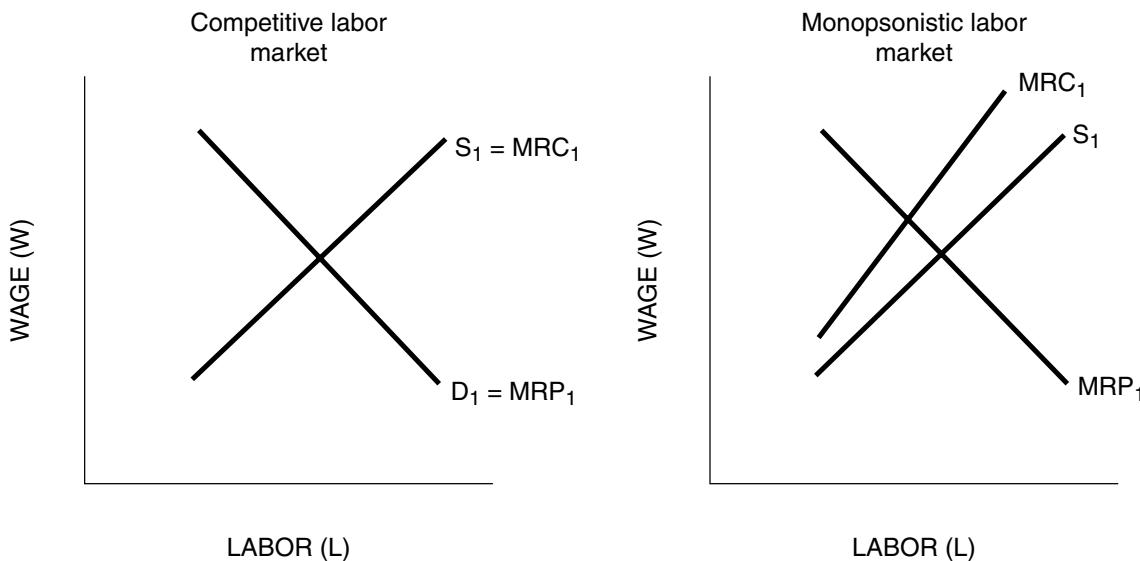
8. Event: The U.S. government relaxes a tough immigration law, making it easier for construction workers from other countries to enter the United States. (The graphs refer to the American labor market for construction workers.)



9. Event: The German government lowers tariffs on shoes imported into Germany. (The graphs refer to the labor market for shoe workers in Germany.)



10. Event: Labor unions conduct a successful advertising campaign urging people to buy goods and services produced by American workers. (The graphs refer to the labor market for all American workers.)

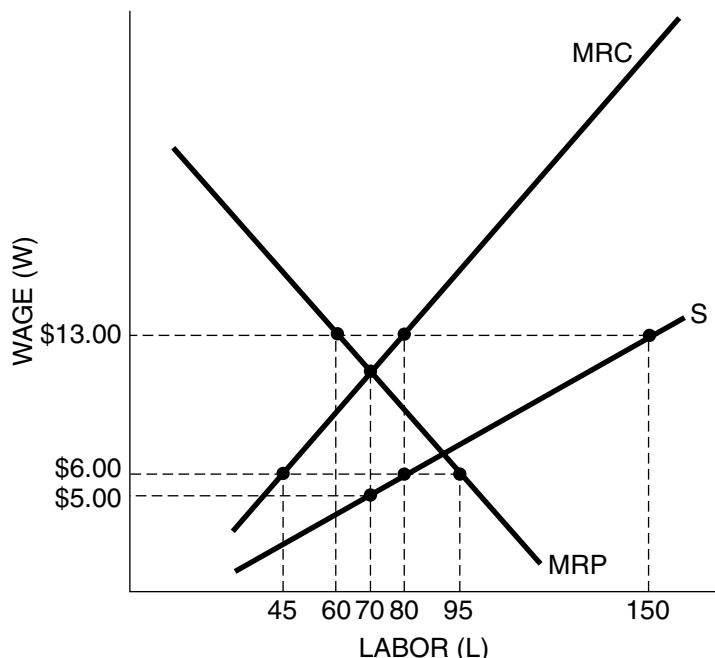


Part B: Monopsony and a Minimum Wage

Figure 4-6.2 illustrates the labor market in which there is only one employer. This monopsonist sells its good in a perfectly competitive product market.



Figure 4-6.2

A Monopsonistic Labor Market

1. What is the profit-maximizing amount of labor for this monopsonistic firm? Why?

2. What wage will it pay each unit of labor? Why?

3. If the government sets a minimum wage of \$13.00, how many units of labor would be hired? How many units of labor will be unemployed with this minimum wage? Explain.

4. If the government sets a minimum wage of \$6.00, how many units of labor would be hired? How many units of labor will be unemployed with this minimum wage? Explain.