## Chapter 14

[1](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-473).

1. For a firm operating in a perfectly competitive output market, the value of the marginal product is the marginal product of labor multiplied by the firm’s output price.
2. In a perfectly competitive labor market where the going market wage is $12, a profit-maximizing firm will hire workers up to the point where the market wage equals the marginal revenue product. In this case, the market wage equals the marginal revenue product when the labor is 5 because at that level, the marginal revenue product is $12.

[2](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-194).

1. For firms with some market power in their output market, like a monopoly, the value of additional output sold is the firm’s marginal revenue, not the price. This is because they face a downward sloping demand curve for output, which means that in order to sell additional output, the firm must lower its price. The marginal revenue product equals the marginal product of labor multiplied by the marginal revenue.
2. A profit-maximizing firm will hire workers up to the point where the market wage equals the marginal revenue product. If the going market wage is $20, in this scenario, the profit-maximizing level of employment is 4 because at that point, the marginal revenue product is $20.

[3](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#fs-idm107386848).

1. With no union, the equilibrium wage rate would be $18 per hour and there would be 8,000 bus drivers.
2. If the union has enough negotiating power to raise the wage to $4 per hour higher than under the original equilibrium, the new wage would be $22 per hour. At this wage, 4,000 workers would be demanded while 10,000 would be supplied, leading to an excess supply of 6,000 workers.

[4](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#fs-idm53747568).

Unions have sometimes opposed new technology out of a fear of losing jobs, but in other cases unions have helped to facilitate the introduction of new technology because unionized workers felt that the union was looking after their interests or that their higher skills meant that their jobs were essentially protected. And the new technologies meant increased productivity.

[5](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#fs-idm142354720).

In a few other countries (such as France and Spain), the percentage of workers belonging to a union is similar to that in the United States. Union membership rates, however, are generally lower in the United States. When the share of workers whose wages are determined by union negotiations is considered, the United States ranks by far the lowest (because in countries like France and Spain, union negotiations often determine pay even for nonunion employees).

[6](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#fs-idp48117792).

No. While some unions may cause firms to go bankrupt, other unions help firms to become more competitive. No overall pattern exists.

[7](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#fs-idm83279824).

From a social point of view, the benefits of unions and the costs seem to counterbalance. There is no evidence that in countries with a higher percentage of unionized workers, the economies grow more or less slowly.

[8](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-874).

1. The marginal cost of labor is the cost to the firm of hiring one more worker. To find the marginal cost of labor, one must divide the change in wage by the change in labor.
2. Because the monopsonist is the sole employer in the labor market, it can offer any wage that it wishes. However, the marginal cost of labor will be greater than the wage for any number of workers more than one because hiring more than one worker requires paying a higher wage rate for both the new worker and all previous hires. A monopsony will hire workers up to the point where its demand for labor equals the marginal cost of additional labor.

[9](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-258).

1. Firms have a profit incentive to sell to everyone, regardless of race, ethnicity, religion, or gender.
2. A business that needs to hire workers to expand may also find that if it draws only from its accustomed pool of workers—say, White men—it lacks the workers it needs to expand production. Such a business would have an incentive to hire more women and minorities.
3. A discriminatory business that is underpaying its workers may find those workers leaving for jobs with another employer who offers better pay. This market pressure could cause the discriminatory business to behave better.

[10](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-525).

No. The earnings gap does not prove discrimination because it does not compare the wages of men and women in the same job who have the same amounts of education, experience, and productivity.

[11](http://openstax.org/books/principles-microeconomics-3e/pages/14-self-check-questions#eip-idm601357264).

If a large share of immigrants have relatively low skills, then reducing the number of immigrants would shift the supply curve of low-skill labor back to the left, which would tend to raise the equilibrium wage for low-skill labor.