

1. What do “wages” and “wage rates” mean in economics? How do they differ from labour earnings?

Ans: Wages are the price paid for labour. Wage rates are the price paid for labour per unit of time--usually per hour. Wages and wage rates can include fringe benefits such as health insurance as well as direct money payments such as hourly pay, annual salaries, bonuses, royalties, and commissions. Labour earnings are simply the hourly wage or wage rate multiplied by the number of hours worked per period of time (week, month, or year).

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Learning Objective: 12.1

2. What is the difference between nominal and real wages?

Ans: Nominal wages are the amount of money received per hour, per day, per week, or whatever the pay period is. Real wages are the purchasing power of the wages, or the amount of goods and services that can be obtained with the wages. Real wages depend not only on nominal wages, but also on the price level of the goods and services that will be purchased. For example, if nominal wages rose by 6 percent and there is a 4 percent rate of inflation, then the “real” wage increased by 2 percent.

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Learning Objective: 12.1

3. What factors explain the high level of productivity in Canada?

Ans: Historically, wages have been high in Canada and have risen because of high productivity. There are several reasons for this high productivity. First, capital equipment per worker is high--one of the highest in the world. Second, natural resources have been abundant relative to the labour force in Canada – especially in agriculture, mining, and energy. Third, technological advances have been generally high and work methods are steadily improving. Fourth, the quality of labour has been superior because of education, training, health, and good work attitudes. Fifth, there are other, less tangible items underlying the high productivity of Canadian workers such as the flexibility and efficiency of management, the stability of the business and political environment, access to large international markets permitting economies of scale, and increased specialization from free trade agreements.

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Learning Objective: 12.1

4. Explain the long-run relationship between real hourly earning and productivity.

Ans: Output per work hour or labour productivity has a close relationship with real hourly earnings over the long run. Income and output are two ways of viewing the same relationship. Real income can only increase at the same rate as real output per worker. When workers are more productive they create more revenue for the firm that can be distributed to them in the form of real income. So as real output increases, so too does real income which creates the positive association between the two measures.

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Learning Objective: 12.1

5. Evaluate. There is no difference between the labour supply curve for the single competitive firm and the supply curve in a competitive market for labour.

Ans: The statement is incorrect. The labour supply curve for the competitive firm is perfectly elastic at the market wage rate. The firm is usually small relative to the labour market and can employ all the workers it needs at the market equilibrium wage. In contrast, the supply curve for labour in the competitive market will be upward sloping because the group of firms in the market must pay higher wages to attract the total number of workers they need in the industry. The higher wages are necessary to bid workers away from alternative employment or to draw them into employment when previously they were not working.

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Learning Objective: 12.2

6. A firm's labour input, total output of labour, and product price schedules are given below. If labour is the only variable input, how much labour should the firm employ if the wage rate is \$8 per day?

<u>Units of labour</u>	<u>Total output per day</u>	<u>Price of good</u>
2	10	\$10
3	14	9
4	19	8
5	23	7
6	27	6
7	31	5

Ans: The firm should hire 5 workers. The MRP of the fifth worker is \$9 and the MFC is \$8. After 5 workers,  $MFC > MRP$ .

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Learning Objective: 12.2

7. Suppose a single firm has the marginal revenue product schedule for a particular type of labour given in the following table.

<b>Number of units of labour</b>	<b>MRP of labour</b>
1	\$12
2	11
3	10
4	9
5	8
6	7
7	6
8	5

- (a) Assume there are 150 firms with the same marginal-revenue-product schedules for this particular type of labour. Compute the total or market demand for this labour by completing column 1 in the table below.

<b>(1) Quantity of labour demanded</b>	<b>(2) Wage rate</b>	<b>(3) Quantity of labour supplied</b>
_____	\$12	1,350
_____	11	1,200
_____	10	1,050
_____	9	900
_____	8	750
_____	7	600
_____	6	450
_____	5	300

- (b) What will be the equilibrium wage rate and how many workers will be hired?
- (c) What will be the marginal labour cost and wage rate for the individual firm? How many workers will the firm employ?
- (d) How would the imposition of a \$9 minimum wage rate change the total amount of labour hired in this market?

Ans:

<b>(1) Quantity of labour demanded</b>	<b>(2) Wage rate</b>	<b>(3) Quantity of labour supplied</b>
150	\$12	1,350
300	11	1,200
450	10	1,050
600	9	900
750	8	750

900	7	600
1,050	6	450
1,200	5	300

- (a) *See table above.*
- (b) The wage rate will be \$8 and 750 workers will be hired.
- (c) The MFC and wage rate will be \$8. The firm will employ 5 workers. After 5 workers,  $MFC > MRP$ .
- (d) Employment would decrease by 150 workers to 600 workers total.

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Learning Objective: 12.2

8. A firm's daily demand for labour is represented by the equation,  $W = 50 - .5Q$  where  $W$  represents the wage rate and  $Q$ , the quantity demanded of labour. Suppose the market wage rate is \$12.

- (a) How many units of labour will the firm employ?
- (b) What is the firm's total labour cost?
- (c) What are the firm's total non-labour costs?
- (d) What is the firm's total revenue?

Ans: (a) 76 units of labour. (b) \$912 [ $\$12 \times 76$ ]. (c) \$1444 [ $0.5(\$50 - \$12) \times 76$ ]. (d) \$2356 [ $0.5(\$50 - \$12) \times 76 + (\$12 \times 76)$ ].

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Learning Objective : 12.2

9. What is a monopsony and what are its basic characteristics?

Ans: A monopsony occurs when there is only one buyer in a market. This sometimes occurs in specific labour markets. With a monopsony, the number of workers hired by the firm constitutes a large percentage of the total labour force of that kind of labour. Also, the workers hired by a monopsonist tend to be immobile and often lack alternative opportunities for employment unless they acquire new skills or are willing to leave the community. The monopsonist is a “wage-maker” because the wage rate that it pays labour is directly related to the number of workers employed: the more workers the firm wants to employ, the higher the wage rate it must pay. Real-world examples of monopsony would include mining companies in remote rural locations, or any large firm in a small community that is a dominant employer of a particular type of labour.

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Learning Objective : 12.3

10. What, if any, is the relationship between the mobility of a particular type of labour and its elasticity of supply?

Ans: The more mobile the labour, the more elastic will be the supply. Labour will respond to differentials in wages if it is mobile, but if it is immobile, even a very large percentage change in wages may lead to little or no change in the quantity of labour in that market.

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Learning Objective : 12.3

11. Why does the marginal factor cost exceed the wage rate in the case of a monopsonistic firm? Explain and illustrate with an example.

Ans: The monopsonist is a large employer of a particular type of labour. As the monopsonist seeks to obtain more workers, the monopsonist must raise the wage rate for all workers, or else labour morale will deteriorate. When the increased wage rate is paid to all workers, the marginal factor cost will diverge from the wage rate because those hired previously at lower wage rates must now be compensated at the new higher wage rate, and this amount makes the marginal cost of hiring a new worker more than the wage rate for that worker.

For example, if the first worker hired by a firm was paid \$6 an hour, then the marginal factor cost of the first worker would be \$6. If the next worker that was hired required a \$7 wage to become employed, then the second worker would cost \$7 an hour; however, another \$1 an hour would have to be paid to the first worker. Thus the marginal factor cost of the second worker would be \$8 an hour instead of just \$7. The wage rate and marginal factor cost diverge as the second worker is hired by the monopsonist.

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Learning Objective : 12.3

12. The following is a monopsonist's employment schedule. What is the firm's marginal factor cost when it hires the eleventh worker?

<u>Units of labour</u>	<u>Wage rate</u>
9	\$14
10	15
11	18
12	20

Ans: The MFC of the 11th worker is \$48. The total resource cost of 10 workers is \$150. The total resource cost of 11 workers is \$198. The difference is MFC for \$48.

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Learning Objective : 12.3

13. Evaluate. A firm's labour supply curve is identical to its marginal factor cost curve.

Ans: This statement is true for a purely competitive firm in the labour market. An individual firm is a price taker. It can hire as many units of labour at the market wage rate as it desires. For an individual firm, the market wage rate is constant. Therefore, the marginal factor cost of labour, which equals the market wage rate, is also constant. As a result, the firm's labour supply curve is perfectly elastic at the market wage and corresponds to its marginal factor cost curve.

This statement is incorrect for a monopsony in the labour market which faces an upward-sloping labour supply curve because it must pay a higher wage rate to attract more units of labour. The marginal factor cost of employing more labour is greater than the wage rate paid since the firm must pay higher wages to all units of labour and not just to the additional units. Therefore, the marginal factor cost curve lies above the labour supply curve for a monopsony.

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Learning Objective: 12.3

14. In the table below, assume a monopsonist has the marginal-revenue-product schedule for a particular type of labour given in columns 1 and 2 and that the supply schedule for labour is that given in columns 1 and 3.

<b>(1) Number of labour units</b>	<b>(2) MRP of labour</b>	<b>(3) Wage rate</b>	<b>(4) Total labour cost</b>	<b>(5) Marginal labour cost</b>
0				
1	\$18	\$6	\$_____	\$_____
2	16	7	_____	_____
3	14	8	_____	_____
4	12	9	_____	_____
5	10	10	_____	_____
6	8	11	_____	_____
7	6	12	_____	_____
8	4	13	_____	_____

- (a) Compute the firm's total labour costs at each level of employment and the marginal labour cost of each unit of labour, and enter these figures in columns 4 and 5.
- (b) How many units of labour will the firm hire? What will be the wage rate?
- (c) If this firm hired labour in a competitive labour market, what would be the wage rate and number of workers hired?

Ans:

<b>(1) Number of labour units</b>	<b>(2) MRP of labour</b>	<b>(3) Wage rate</b>	<b>(4) Total labour cost</b>	<b>(5) Marginal labour cost</b>
0				
1	\$18	\$6	\$6	\$6
2	16	7	14	8
3	14	8	24	10
4	12	9	36	12
5	10	10	50	14
6	8	11	66	16
7	6	12	84	18
8	4	13	104	20

- (a) *See table above.*
- (b) The firm will hire 4 workers and pay a wage rate of \$9.
- (c) The firm will hire 5 workers and pay a wage of \$10.

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Learning Objective: 12.2-12.3



15. In the table below, assume a monopsonist has the marginal-revenue-product schedule for a particular type of labour given in columns 1 and 2 and that the supply schedule for labour is that given in columns 1 and 3.

<b>(1) Number of labour units</b>	<b>(2) MRP of labour</b>	<b>(3) Wage rate</b>	<b>(4) Total labour cost</b>	<b>(5) Marginal labour cost</b>
0				
1	\$21	\$9	\$ _____	\$ _____
2	19	10	_____	_____
3	17	11	_____	_____
4	15	12	_____	_____
5	13	13	_____	_____
6	11	14	_____	_____
7	9	15	_____	_____
8	7	16	_____	_____

- (a) Compute the firm's total labour costs at each level of employment and the marginal labour cost of each unit of labour, and enter these figures in columns 4 and 5.
- (b) How many units of labour will the firm hire? What will be the wage rate?
- (c) If this firm hired labour in a competitive labour market, what would be the wage rate and number of workers hired?

Ans:

<b>(1) Number of labour units</b>	<b>(2) MRP of labour</b>	<b>(3) Wage rate</b>	<b>(4) Total labour cost</b>	<b>(5) Marginal labour cost</b>
0				
1	\$21	\$9	\$9	\$9
2	19	10	20	11
3	17	11	33	13
4	15	12	48	15
5	13	13	65	17
6	11	14	84	19
7	9	15	105	21
8	7	16	128	23

- (a) *See table above.*
- (b) The firm will hire 4 workers and pay a wage rate of \$12.
- (c) The firm will hire 5 workers and pay a wage of \$13.

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Learning Objective: 12.2-12.3

16. Use the following data to answer the question.

<b><u>Demand and Supply of Labour Data</u></b>			
<b><u>Total</u></b>	<b><u>Product</u></b>		
<b><u>Employment</u></b>	<b><u>output</u></b>	<b><u>price</u></b>	<b><u>Wage rate</u></b>
50	708	\$1.27	\$6
51	760	1.26	7
52	810	1.25	8
53	858	1.24	9

How many units of labour will this firm hire in maximizing its profits?

Ans: The firm will hire 51 units of labour. The marginal factor cost of the 51st worker is \$57 [\$357–300]. The marginal revenue product of the 51st worker is \$58.44 [\$957.60 - \$899.16]. After the 51st worker,  $MFC > MRP$ .

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Learning Objective: 12.3

17. Use the following data to answer the question.

<b><u>Demand and Supply of Labour Data</u></b>			
<b><u>Total</u></b>	<b><u>Product</u></b>		
<b><u>Employment</u></b>	<b><u>output</u></b>	<b><u>price</u></b>	<b><u>Wage rate</u></b>
10	108	\$1.05	\$6
11	160	.95	7
12	210	.85	8
13	258	.75	9

How many units of labour will this firm hire in maximizing its profits?

Ans: The firm will hire 12 units of labour. The marginal factor cost of the 12th worker is \$19 [\$96–77]. The marginal revenue product of the 12th worker is \$26.50 [\$178.50–152]. After the 12th worker,  $MFC > MRP$ .

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Learning Objective: 12.3

18. What are examples of monopsonistic labour markets in Canada?

Ans: Monopsonies exist in markets for workers with highly specialized skills in towns and cities where there are few employers of such workers. Some examples include hospitals, newspaper publishers, and universities in small towns and National Hockey League teams.

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Learning Objective: 12.3

19. Give three specific factors that could increase the demand for carpenters in a medium-sized town.

Ans: One factor could be an increase in the demand for the products that require carpenters' skills (e.g., an increase in new home construction, remodelling of existing homes, a government tax break for renovations, advertising, or an increase in population). A second factor might be an increase in the price of competing/substitute inputs (e.g., an increase in the price of framers and roofers). Finally, there could be a decrease in the price of complementary inputs (e.g., a decrease in the price of prefabricated counters/cupboards, or a tax break on tools).

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Learning Objective: 12.4

20. What are the economic effects of imposition of a new occupational license or examination on a labour market?

Ans: The primary effect of occupational licensing or testing is to restrict entry into a profession. The imposition of a new licensing requirement has the effect of reducing the supply of workers who are “qualified” for the job. Given a stable demand for an occupation, the reduction in supply will tend to increase the equilibrium wage in the labour market.

The typical reason that is given for licensing requirements is to make certain that people are qualified for an occupation. However, unnecessarily stringent requirements or difficult tests can serve to restrict entry without significantly increasing worker quality. In these instances, the economic effect of the new rule or regulation serves to increase wages of workers above the competitive wage in that industry.

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Learning Objective: 12.4

21. What is the difference between an exclusive union and an inclusive union? What are the economic effects of each type?

Ans: A craft union would be an example of an exclusive union. It uses licensing and other means to restrict entry into the union. By controlling the supply of members, who are typically skilled workers, the union can raise the wages of its members. The decrease in the supply of workers, however, also results in the loss of employment for workers who are not licensed or members of the union. An inclusive union would be an industrial union that includes workers who are both skilled and unskilled who work in an industry. The inclusive union tries to raise wages not by reducing the supply of workers, but by bargaining for a higher wage rate for all workers in the industry. The higher wage rate, however, will reduce the total number of workers who are hired in the industry.

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Learning Objective: 12.4

22. What is a bilateral monopoly? What is the economic outcome from a bilateral monopoly? Is a bilateral monopoly a “bad” situation for society?

Ans: In a bilateral monopoly, a strong industrial union negotiates with a monopsony. In other words, a monopolistic “seller” of labour must negotiate with a monopolistic “buyer” of labour. The outcome from such negotiations is indeterminate in terms of the wage rate and quantity of labour hired. The monopsonistic employer will ask for a below-competitive-equilibrium wage rate. We do not know what will happen because economic theory cannot tell what is likely to occur at the collective bargaining table. The result is most likely to be determined by the relative strength of the bargaining power for one side or the other.

A bilateral monopoly may be socially desirable in some respects. In such a situation, the monopoly power on the buy side might cancel the monopoly power on the sell side, thus producing an outcome in terms of wage rates and levels of employment that is close to what it would be if there was a competitive market.

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Learning Objective: 12.4

23. Though wages under bilateral monopoly are logically indeterminate, some wage rate is actually established in such market situations. Explain those economic and non-economic factors that might be pertinent to the establishment of this wage.

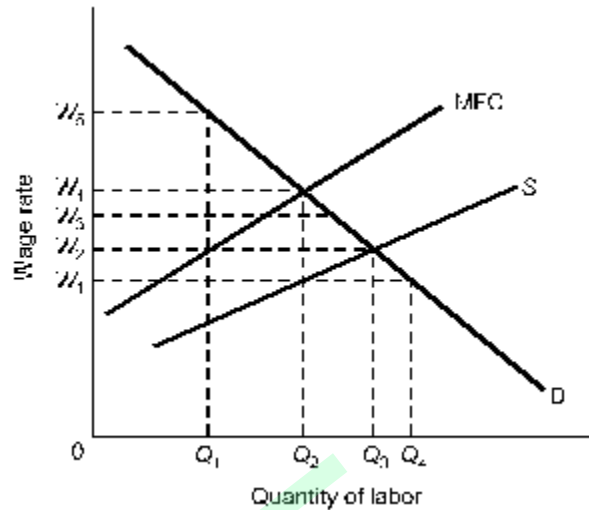
Ans: The economic factors set the limits for both sides. The monopsonistic employer would prefer to pay a wage below the competitive equilibrium rate that would exist in a purely competitive market. The union, a monopolistic “seller” of labour, will seek a wage above the competitive equilibrium wage. The outcome will depend on the relative power of the two sides.

Also, the state of the macroeconomy has an effect on the bargaining power of the two sides. When the economy is near full-employment, labour markets are “tight” and unions tend to have more power. When the economy is in recession, management tends to have more strength.

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Learning Objective: 12.4

24. Use the below graph to answer the next three questions.



- (a) Why does the MFC curve lie above the labour supply curve?
- (b) What would be the equilibrium wage and level of employment in a monopsonist market without an industrial union? Explain.
- (c) What if an industrial union was formed to negotiate with the monopsonist? What would be the equilibrium wage and level of output in this case? Explain.
- Ans: (a) The higher wage that the monopsonist must pay to attract additional workers must also be paid to all workers already employed. This payment makes the marginal factor cost of additional workers higher than the wage rate.
- (b) The monopsonist chooses the level of employment where marginal factor cost equalled the market demand, or marginal revenue product ( $Q_2$ ). The wage rate would be  $W_1$ , where this level of employment intersects the supply curve.
- (c) The level of employment and the wage rate would be indeterminate. The union might bargain for a wage rate where  $MFC = MRP$ , or at  $W_4$  with employment at  $Q_2$ . The monopsonist would seek a wage rate of  $W_1$  and employment level  $Q_2$ . What wage rate will prevail depends on the relative power of the union or the monopsonist. If an intermediate wage rate between the two extremes is accepted, then there will be more employment of workers in the industry.

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Learning Objective: 12.4

25.Evaluate. The formation of an industrial union reduces employment.

Ans: Whether the formation of an industrial union reduces employment or not depends on the type of labour market. In a competitive labour market, an industrial union increases wage rates and causes employers to move along their marginal revenue product curves to lower levels of labour use. However, in a monopsonistic labour market, the industrial union forms a counterbalance to the monopsony. Without the presence of the union, the monopsony employs fewer units of labour than the competitive level. The union under this bilateral monopoly situation can establish wages through collective bargaining that transforms the monopsony's labour supply and marginal factor cost curves. As a result, the industrial union is able to achieve higher wages and higher employment that is closer to the competitive level.

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Learning Objective: 12.4

26. Illustrate the following by drawing a supply and demand graph in the appropriate graph spaces below: (a) the economic effects of exclusive or craft unionism; (b) the economic effects of increasing labour productivity; (c) wage determination in a monopsonistic labour market; (d) wage determination in a bilateral monopoly.



(a)



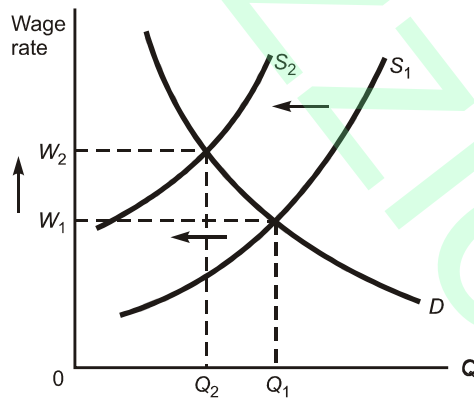
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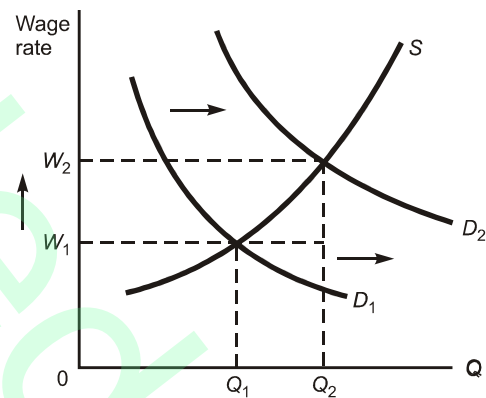
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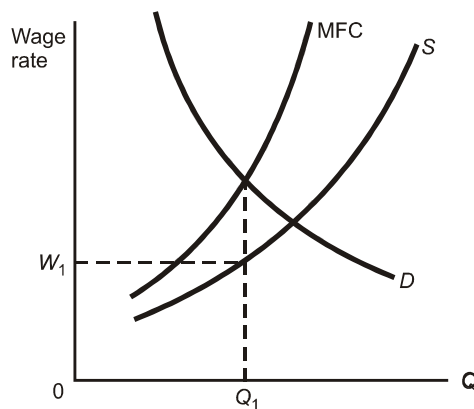
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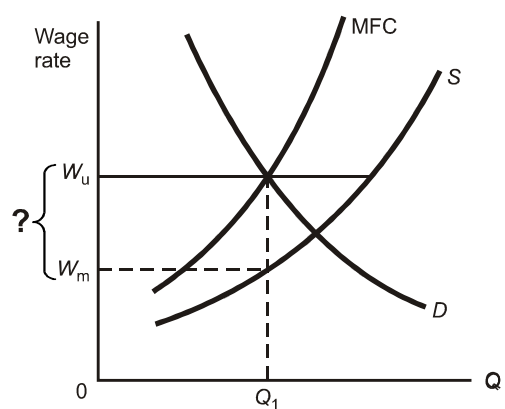
(a)



(b)



(c)



(d)

Ans:



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Learning Objective: 12.3, 12.4

27. What is the case against and the case for the minimum wage? What does the evidence indicate?

Ans: The primary argument against the minimum wage is that it will reduce employment of minimum-wage workers. When the minimum wage is imposed above the equilibrium wage in a market, then employers will reduce employment because the marginal revenue product from some minimum-wage workers will be less than the higher marginal factor cost of those workers because of the minimum wage. Although the minimum wage is often proposed as a “living wage” that is designed to get low-wage workers out of poverty, it does not work as a poverty program because it reduces the employment opportunities for low-skill workers.

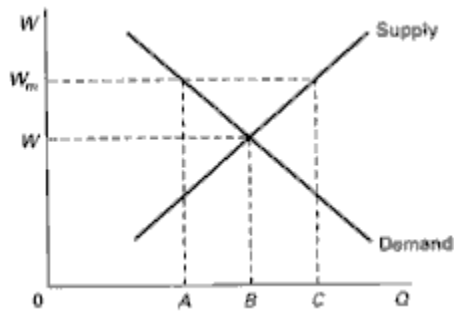
The case for the minimum wage is based on productivity considerations. If the minimum wage is raised, then there may be a shock effect that encourages businesses to make more productive use of minimum-wage workers that increases their marginal revenue product. Workers who keep their jobs after the minimum-wage hike will also earn more income, which should increase their standard of living and possibly increase the health and motivation of workers. Furthermore, in a monopsonistic labour market, a minimum wage may raise wage rates without increasing unemployment.

The 1980s evidence indicated that a minimum-wage hike reduced employment somewhat especially among teenagers and young adults, with a 10% increase in the wage resulting in a drop in employment of about 1 to 3% depending on the group. More recent research suggests that the employment effect may be small, or close to zero. The unemployment effects, if there are any, fall disproportionately on workers in lower-wage occupations affected by the minimum-wage hike. Those low-skilled workers who remain employed, however, benefit from the increased income.

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Learning Objective: 12.5

28. Use the graph below to illustrate and explain what would happen in the labour market if a minimum wage was established at a level above the equilibrium wage.



Ans: The labour supply curve would go from  $W_m$  rightward to the old supply curve. The level of employment would be determined at the intersection of the demand curve and the new labour supply curve. Before B workers were employed. With the minimum wage A workers will be employed, thus C–A workers will be unemployed. The A workers who keep their jobs will earn the higher wage,  $W_m$  rather than the previous equilibrium wage.

Page: 299 (Fig. 12-8)-300

Learning Objective: 12.5

29. Define and illustrate “compensating differences” and “non-competing groups.”

Ans: Compensating differences refer to the non-monetary aspects of two jobs that cause different wages to be paid. The higher-paying job may be more hazardous, more stressful, or not as pleasant in other ways as the lower-paying job. The pleasant working conditions in the lower-paying job are the “compensating differences” assuming other things are equal. For example, a construction job and a secretarial job may require the same level of education, but the construction job will probably pay more than the secretarial job based on the differences in working conditions. These compensating differences explain at least part of the wage differential between these two occupations.

Non-competing groups refer to labour force groups whose members do not qualify for the same occupations or jobs because of differences in inherent abilities or education and training or other obstacles that cannot be easily, if ever, overcome. For example, the female kindergarten teacher will not be eligible to compete for a job in professional football.

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Learning Objective: 12.6

30. Why is there a significant difference in the pay of physicians and construction workers?

Ans: The difference can be explained largely in terms of noncompeting groups. The market for physicians is different than the market for construction workers. In the case of physicians, entry into the profession is severely restricted which makes the supply small relative to the demand. The job requires high mental ability and extensive education and training. The education and training is expensive both in monetary terms and in terms of the number of years that a person must devote to it (forgone earnings). Licensing requirements and the limited number of students admitted to medical school also keep the pool of potential physicians small. The demand for physician services, however, is great and expanding. Thus, the equilibrium wage for physicians will be high.

For construction workers, entry into this profession is somewhat restricted by unions, but the barriers are not nearly as high as for physicians in terms of mental ability, financial capability, or time required for education. The supply of construction workers, therefore, will be greater relative to the supply of physicians. The demand for construction workers may be great, but it can also be weak at different times of the year. Thus, with greater supply and weaker demand, the equilibrium wages of the construction workers will be lower than physician wages. Restrictive unions cause the gap to be less than it would be otherwise.

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Learning Objective: 12.6

31. Evaluate. In all likelihood highly educated workers are the individuals who would earn high incomes even if they did not have as much education.

Ans: It is undoubtedly true that many highly educated workers have above-average abilities and motivation that would enable them to earn high incomes even without as much education. However, other things equal, evidence does point to the fact that the correlation between education and earnings is not entirely due to some other factor such as ability and motivation. Comparisons on a macro level demonstrate that societies with higher levels of education also have higher levels of productivity and living standards. Historically, our standard of living and productivity have risen with educational levels. On an individual level, anecdotal evidence suggests that education and training increase one's skills and productivity and therefore, earning power. In other words, evidence seems to point to the fact that while intelligence and motivation may allow a person to earn above-average income without higher education, if that person also achieves a higher level of education, their earning power expands even further.

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Learning Objective: 12.6

32. What are four market imperfections that prevent workers from moving from their current jobs to take higher-paying jobs?

Ans: First, workers may lack information about available jobs, wage rates, and opportunities in other geographic areas or regions. Second, workers may not want to leave their geographic area because of the disruption to lives that such a change entails. Moving may result in loss of ties with friends, family, and community. Third, there are union and government restraints that limit the mobility of workers. If a worker wants to move from one area to another, they may have to be a member of a union to work in the new area. There can also be new licensing requirements that restrict the mobility of workers. Fourth, discrimination in the job market may restrict the level of wages and crowd certain groups into lower-paying occupations.

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Learning Objective: 12.6

33. Explain the principal-agent problem in job performance and briefly describe actions that can be taken to correct the problem.

Ans: A principal-agent problem arises when the interests of agents diverge from the interests of the principal. In an employment situation, workers would be agents and the principal would be the firm. Shirking on the job would be an example of a principal-agent problem because workers would be paid for less than the desired level of performance.

Firms can try to reduce shirking by monitoring worker activity, but this monitoring is costly. As a consequence, firms adopt worker incentive plans to tie worker compensation more closely to job performance. Such incentive schemes include piece rate compensation, commissions and royalties, bonuses, stock options, profit sharing, and efficiency wages, which get extra effort out of workers by paying them above average wages for the type of work performed.

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Learning Objective: 12.7

34. Why do solutions to the principal-agent problem sometimes produce problems? Give 4 examples.

Ans: *Piece rates* encourage rapid work which may lead to low product quality or workers taking excessive risks which can increase costs for the firm in the long-run. *Commissions* may cause salespeople to make exaggerated claims about a product or suggest unneeded repairs which can lead to costly lawsuits. *Performance bonuses* may reduce team cohesion and reduce team output overall. *Profit sharing* is subject to free-riding in which less-eager employees share in the profits generated by their harder-working counterparts.

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Learning Objective: 12.7

35. What is the economic justification for the high pay CEOs receive?

Ans: The high pay of CEOs is the result of demand and supply. On the demand side, CEOs generate high marginal revenue product. They are instrumental in making key decisions that affect the productivity and success of large corporations. On the supply side, the number of people qualified to take on these top positions is extremely limited. A second explanation is that the high pay serves as an inducement for others to be more productive in order to attain CEO positions. In this regard, the high pay acts as an incentive in the same way as the large monetary prizes in professional athletic tournaments.

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Learning Objective: Last Word