market setting of wages with a system of **comparable worth** pay in which workers are paid according to the skills, responsibilities, and working conditions involved in any particular job. Such a system is thought by some to help break down the effect of occupational segregation on wages, though critics suggest the employment ramifications of deviating from market-determined wages could harm many of those the system was intended to help.

Even under the disparate impact definition, Title VII is very clear in not requiring any party to grant preferential treatment to any group to make up for labor market imbalances. However, considerable tension exists between this principle and the **affirmative action** plans required of most federal contractors by the Office of Federal Contract Compliance Programs. Under an affirmative action plan, contractors must commit to a schedule for rapidly overcoming any less-than-proportional representation of women and minorities in the various levels of the firm. But what constitutes the proportional representation of women and minorities? To answer this question requires knowledge of the number of women or minorities that are available to the firm and what fraction of total available workers they constitute. Guidelines for defining the pool of available workers are vague but require the consideration of a number of factors. These factors include the geographic area from which employees can reasonably commute, the population percentage of women and minorities, the percentage that are actually in the labor force, the percentage that are unemployed, the percentage that have the necessary skills, the number of promotable women and minorities already in the firm, and the possibilities for training women and minorities in the necessary skills. Once the percentage goal is set, the key question is whether that percentage applies to new hires or whether the target group should constitute even a greater percentage of new hires. Hiring at a rate just equal to the percentage in the pool of available workers means that achieving the overall goal throughout the firm will be a slow process, whereas hiring women and minorities in greater-than-proportionate numbers would seem to violate Title VII’s prohibition against requiring preferential treatment. Although studies of the contract compliance program show it has had little effect on raising the black-to-white earnings ratio, evidence also suggests that all federal antidiscrimination efforts taken together may account for up to one-third of the improvement in black-to-white earnings ratios that took place between 1960 and 1975.

The appendix to Chapter 12 discusses a simple estimation method for making comparable worth pay adjustments. Under the comparable worth system discussed in the appendix, jobs that are at least 70% male or female are rated by outside consultants as to the degree of know-how, problem-solving skills, and accountability the jobs require. These ratings, along with a rating of working conditions, are summed to create a total score for each job. Using the least squares regression technique discussed in Appendix 1A, the wages earned by male workers are then regressed on the scores associated with each male job. The estimated relationship between wages and scores is then used to predict the wage that should accompany any score. These predictions can then be compared to the wages earned in female jobs with the same overall score. Any gap that is observed can then be closed through future pay adjustments.

### Review Questions

Choose the letter that represents the **BEST** response.

**Defining and Measuring Labor Market Discrimination**

1. Labor market discrimination towards women can be said to currently exist if
   a. women, on average, are paid less than men for performing the same job.
   b. men and women with identical productive characteristics are treated differently in the labor market simply because of gender.
   c. women tend to be employed in a different set of occupations than men.
   d. all of the above.
2. One form of current labor market discrimination toward women is wage discrimination. Which of the following factors must be controlled for before wage discrimination can be identified?
   a. working conditions
   b. occupation
   c. experience
   d. all of the above

3. One form of current labor market discrimination toward women is occupational segregation. This refers to a reduction in the relative wage of women caused by restrictions on the types of occupations open to women. Which of the following factors must be held constant before the effects of occupational segregation can be identified?
   a. All productive characteristics except occupation
   b. All productive characteristics including occupation
   c. All productive characteristics except previous occupational training
   d. All productive characteristics except previous work history

4. In the context of measuring gender discrimination, the term “premarket differences” refers to
   a. the gap between the average wages of men and women.
   b. differences in the current productive characteristics of men and women.
   c. the effects on women of past discrimination.
   d. differences between men and women regarding the “price” each productive characteristic brings in the labor market.

In answering Questions 5–10, please refer to Figure 12-2 which assumes that the wage workers receive is a function of their occupation and experience. Line $M_1$ refers to the relationship between the wage and experience for men who are employed exclusively in the high-paying sector of the labor market. Line $F_0$ refers to the relationship between the wage and experience for women who are employed exclusively in the low-paying sector. Line $F_1$ refers to the relationship between the wage and experience for women if they were employed in the same occupations as men. Assume women average 2 years of work experience while men average 6 years.

![Figure 12-2](image)

5. On average, how much will men’s wages exceed women’s?
   a. $14
   b. $10
   c. $6
   d. $4
6. How much of the gap between men’s and women’s wages could be attributed to current labor market discrimination?
   a. $16
   b. $10
   c. $6
   d. $4

7. How much of the gap between men’s and women’s wages could be attributed to current wage discrimination?
   a. $12
   b. $8
   c. $6
   d. $4

8. How much of the gap between men’s and women’s wages could be attributed to occupational segregation?
   a. $14
   b. $12
   c. $6
   d. $4

9. The estimate of current labor market discrimination will be overstated if
   a. there are unmeasurable productive characteristics that differ by gender.
   b. occupational choice is the result of preferences formed before labor market entry.
   c. women have experienced wage discrimination in the past.
   d. both a and b.

10. The index of occupational dissimilarity in the above example is 100 since the occupations are completely segregated. Suppose instead that 10% of all female workers were employed in occupation 1 and 90% in occupation 2, while 75% of male workers were employed in occupation 1 and 25% in occupation 2. The index of dissimilarity for this labor market would be
    a. 30.
    b. 35.
    c. 65.
    d. 80.

Theories of Market Discrimination

11. Assume all demographic groups have the same productive characteristics. An employer who is prejudiced against blacks will
    a. hire the same number of blacks and whites provided the wage paid to blacks is low enough.
    b. hire fewer blacks than whites.
    c. never hire blacks.
    d. either a or b.
12. Assume all demographic groups have the same productive characteristics. An employer who discriminates against blacks because of personal prejudice will
   a. earn lower profits than employers who do not discriminate.
   b. be less productive than those that do not discriminate.
   c. earn higher profits through the exploitation of blacks.
   d. have to charge higher prices.

13. Which of the following pieces of evidence would indicate that the source of discrimination against blacks was customer prejudice?
   a. The existence of segregated workplaces in occupations with high customer contact
   b. Differences in the average earnings of self-employed black and white workers after controlling for all premarket differences
   c. Blacks who hold customer contact positions are found to be more qualified than whites holding those same positions
   d. All of the above

14. If the source of discrimination against blacks is employee prejudice, one would predict that
   a. whites with the same productive characteristics would be paid more if they worked in integrated workplaces.
   b. firms that do not cater to discriminating employees would be more profitable than those that do.
   c. there would be wide variations in the earnings of black employees.
   d. both a and b.

15. The likelihood of a firm using statistical discrimination in its hiring and screening of women decreases as
   a. the monopoly power of the firm decreases.
   b. prejudice against women decreases.
   c. women become less similar in their productive characteristics.
   d. all of the above.

16. The major problem with the occupational crowding and dual labor market theories of discrimination is that
   a. they are based on the notion of noncompeting groups.
   b. they do not explain how the noncompeting groups were initially formed.
   c. they are not completely consistent with the empirical facts of labor market discrimination.
   d. they suggest discrimination is profitable for the firms.

17. Which of the following is a true statement concerning the collusive action model of discrimination?
   a. The firms conspire to create prejudice.
   b. Discrimination increases profits for all the firms.
   c. Individual firms will be very reluctant to break the agreement.
   d. All of the above.
Federal Programs to End Discrimination

18. Assuming the courts follow a disparate treatment definition of discrimination, which of the following personnel practices would be illegal under Title VII of the Civil Rights Act?
   a. Using seniority to allocate promotions and layoffs
   b. Comparable worth pay adjustments
   c. Deliberately granting preference in the hiring process to groups that are underrepresented in the workforce relative to their population percentages
   d. All of the above

19. Assuming the courts follow a disparate impact definition of discrimination, which of the following personnel practices would be illegal under Title VII of the Civil Rights Act?
   a. Using seniority to allocate promotions and layoffs
   b. Comparable worth pay adjustments
   c. Job related tests and standards that serve a business necessity
   d. Word-of-mouth recruiting

20. Affirmative action planning is required by the Office of Federal Contract Compliance Programs for most government contractors. It requires firms to commit to a schedule of hiring and promotion for certain demographic groups that is based on their percentage in the pool of “available” workers. Which of the following is not a factor that firms must take into account when deciding which workers are available for hire?
   a. The population of the targeted group within the area of reasonable commuting distance
   b. The unemployment rate of the targeted group within the area of reasonable commuting distance
   c. The interest people from the targeted group have in working at the firm
   d. The investment in training the firm is able to make

Estimating “Comparable Worth” Earnings Gaps

21. Which of the following is not a factor that is typically used in scoring jobs under a comparable worth pay system?
   a. working conditions
   b. problem-solving skills
   c. required training
   d. the worker’s previous work history

22. Assume the relationship between monthly earnings and job evaluation scores ($S$) for male workers has been estimated by least squares regression to be

   \[ \text{Earnings} = 1000 + 5S. \]

If a woman works at a job where $S = 100$ and has monthly earnings of $1,200, what is the size of the comparable worth earnings gap expressed in percentage terms?
   a. 5%
   b. 20%
   c. 25%
   d. 80%
### Problems

#### Measuring Labor Market Discrimination

23. Consider a labor market where a worker’s wage is a function of his or her years of education past the compulsory level \( ED \), work experience \( EXP \), and occupation \( OC \). Let the occupational variable \( OC \) take on a value of 1 if the person works in the “high-paying” sector of the labor market and 0 otherwise. Suppose the relationships between wages, education, experience and occupation for males \( (M) \) and females \( (F) \) can be represented by the equations

\[
W_M = 3 + 0.5 \cdot ED + 0.6 \cdot EXP + OC,
\]
\[
W_F = 3 + 0.4 \cdot ED + 0.5 \cdot EXP + OC.
\]

Assume that, on average, \( ED = 4 \), and \( EXP = 10 \) for men, while for women the averages are \( ED = 3 \) and \( EXP = 6 \). Also assume that women are only employed in the low-paying sector of the labor market.

23a. Find the average wage of men and women. What is the ratio of women’s to men’s wages? What is the gap between women’s and men’s wages in percentage terms?

23b. What wage would women earn if they had the same premarket characteristics as men on average? What would be the ratio of women’s to men’s wages?

23c. Express the amount of current wage discrimination in percentage terms.

23d. Suppose that the differences in occupation do not reflect premarket choices but occupational segregation. What is the most women could earn even if all other productive characteristics were the same as men? What would be the ratio of women’s to men’s wages?

23e. Express the amount of current labor market discrimination in percentage terms. Express the wage reduction due to occupational segregation in percentage terms.

23f. Is the estimate of current labor market discrimination likely to understate or overstate the true impact of discrimination on labor market outcomes?

23g. An alternative way to compute the extent of wage discrimination would be to determine what men would earn if they had the same premarket characteristics (including occupation) as women. What would be the ratio of women’s to men’s wages under this approach? Is the measure of wage discrimination in percentage terms greater or less than the answer to 23c?

23h. An alternative way to see the effect of occupational segregation is to suppose that the segregation is broken down so that half of all women now work in the high-paying sector and half of all men work in the low-paying sector. Assuming this does not change the payoffs to education and experience that men and women receive in the labor market, compute the average wages that would be observed for men and women. Find the ratio of women’s to men’s wages.

#### Measuring the Degree of Occupational Segregation

24. Consider Table 12-1, which shows the total employment in each of four occupations as well as the percentage of each occupation that is staffed by male and female workers.

24a. Construct a table showing the actual number of male and female workers in each occupation.
24b. Construct a table showing the percentage of total male and female workers employed in each occupation.

24c. Compute the index of occupational dissimilarity.

**Table 12-1**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>% Male</th>
<th>% Female</th>
<th>Total Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>20%</td>
<td>80%</td>
<td>50</td>
</tr>
<tr>
<td>B</td>
<td>40%</td>
<td>60%</td>
<td>50</td>
</tr>
<tr>
<td>C</td>
<td>80%</td>
<td>20%</td>
<td>50</td>
</tr>
<tr>
<td>D</td>
<td>60%</td>
<td>40%</td>
<td>50</td>
</tr>
</tbody>
</table>

200

**Changes in the Employment Ratio of Black Men**

25. The employment to population ratio \((ER)\) for any particular group can be expressed as a function of the group’s labor force participation rate \((LFPR)\) and unemployment rate \((UR)\) using the formula

\[
ER = LFPR \times (1 - UR).
\]

According to data presented in Table 12.5 of the text, the employment ratio of black men was 71.9% in 1970. By 1997 the ratio had fallen to 61.4% because of an increase in the group’s unemployment rate from 7.3% to 10.2% and a decrease in its labor force participation rate from 77.6% to 68.3%. If the labor force participation rate of black men could be increased to its 1970 level, how high could the unemployment rate be without the group’s employment ratio falling further?

**The Effects of Employer Prejudice**

26. Consider a firm that hires both white and black workers. Each group of workers has an identical marginal product curve given by the equation

\[
MP_L = 25 - 0.5L.
\]

Suppose that the going real wage rate for each group of workers is 15.

26a. What is the optimal level of employment for each group of workers? How much profit does the employment of the black workers add to the firm?

26b. Now suppose that the employer develops a prejudice against the black workers. This prejudice causes the employer to subjectively devalue the productivity of black workers. The result is that at any given level of employment, the employer will act as if the marginal product of black workers is 5 units less than it really is. Assuming the going wage rate for each group remains the same, what is the optimal level of employment for each group of workers? How much profit does the employment of black workers add to the firm now?

26c. How low would the wage of black workers have to fall to keep the employment of black workers the same as it was originally? How much profit does the employment of black workers add to the firm now?

26d. Given the new wage of black workers, what employment level would a non-prejudiced employer set? How much profit would this employment of black workers add to the firm?
Determinants of the Relative Wage Between Men and Women

27. Figure 12-3 shows the market demand curve for women expressed in terms of the ratio of women’s to men’s wages \( \frac{W_F}{W_M} \).

![Figure 12-3](image)

The figure assumes that there are enough nondiscriminating employers so that up to 5,000 women can be hired at a relative wage of 1. After that point, women will be hired by discriminating employers who demand a decrease in the relative wage to induce them to hire women. Assume that for every $1 decrease in the relative wage, the quantity of women demanded increases by 10,000. Therefore, if the relative wage fell to zero, 15,000 women would be hired. This combination of discriminating and non-discriminating employers leads to the market demand curve given by the line \( abc \). The supply curve of women is represented by the line labeled \( S \).

27a. What is the market-clearing value of the relative wage? How many women will be employed at this wage?

27b. Now suppose that the number of nondiscriminating employers increases in such a way that the number of women who can be hired at a relative wage of 1 increases to 10,000. At the same time, however, suppose that the discriminatory preferences of the other employers worsens so that for every $1 decrease in the relative wage, the quantity of women demanded increases by only 5,000. What will happen to the relative wage and employment of women?

Estimating “Comparable Worth” Earnings Gaps (Appendix 12A)

28. Assume the relationship between yearly earnings \( Y \) and job evaluation scores \( S \) for male workers has been estimated by least squares regression to be

\[
Y = 20000 + 50 \times S.
\]

Suppose a woman works at a job where \( S = 600 \) and earns a salary of $40,000.

28a. What is the size of the comparable worth earnings gap expressed in dollar terms?

28b. What is the size of the comparable worth earnings gap expressed as a percentage of the wage earned by men?