Chapter 12
Gender, Race, and Ethnicity in the Labor Market

Summary

The discussion in Chapter 11 of the complex relationship between pay and productivity drew on a wide array of material from Chapters 5, 8, 9, and 10. In so doing, it significantly expanded the analytical framework available for thinking critically about labor issues. It is this analytical framework that allows one to strip away the rhetoric that often surrounds highly controversial labor market issues and see more clearly the consequences of various labor market practices and policies. Perhaps no topic is more controversial than that taken up in Chapter 12.

Issues related to gender, race, and ethnicity have come to play a more prominent role in labor market analysis because of the tremendous demographic changes that have taken place in the American labor force over the last 30 years. If the trends continue, white workers, 81% of the labor force in 1981, will comprise only 65% of the civilian labor force by the year 2012. The percentage of women in the work force continues to rise, while the percentage of Hispanic and Asian workers is growing so rapidly that the two groups are projected to comprise over 20% of the labor force by the year 2012, up from less than 9% in 1982. For the most part, the demographic groups growing most rapidly earn significantly less than white males. What is the source of these earnings differences? How much of the difference is attributable to discrimination? These are the questions taken up in the first part of Chapter 12.

Although the difference in earnings between men and women has been narrowing gradually, in 2000 full-time white women workers over the age of 18 still earned only 67% of what white males earned on average. The ratio is even smaller if just older workers are compared, but somewhat larger if younger and more educated workers are compared. Some of the difference is clearly due to the different occupational distributions of men and women, with women being more prevalent in traditionally lower-paying occupations. But women tend to be paid less than men even in the same occupation. One reason may be that women, on average, work fewer hours than men, and so men’s higher wages may be a compensating differential for longer hours of work. Women also tend to have less work experience, and that experience may be interrupted by time out of the labor force. Thus they are less likely to be promoted.

However, even when differences in occupation, age, experience, and hours of work are considered, there is still unexplained variation between the earnings of women and men. It may be that the differences reflect something about the preferences of men and women, or other factors, such as differences in the productive characteristics with which the groups enter the labor market, pre-market differences. Or there may be labor market discrimination, differences in the way that the groups are treated within the labor market.

Wage discrimination exists when one group is paid less than another, given the same experience, working conditions, and productive potential. Occupational discrimination exists when members of one group are pushed into lower-paying jobs or positions of less responsibility by employers, again given the same experience and productive potential. Occupational segregation occurs when the distribution of occupations within one group is very different from the distribution in another. However, that may reflect preferences and not discrimination, unless occupational choices are directly limited. But preferences themselves may be the result of premarket discrimination, different societal treatments that may push one group toward certain pursuits and interests long before they actually enter the labor market.
One measure of the occupational differences between men and women is the **index of dissimilarity**. It is defined as the percentage of women (or men) that would have to change occupations in order for women to be distributed among occupations in the same proportions as men. Formally, the index \((S)\) is computed using the summation formula

\[
S = \frac{1}{2} \sum_{i=1}^{N} |M_i - F_i|,
\]

where \(M_i\) is the percentage of the total population of male workers in occupation \(i\), \(F_i\) is the percentage of the total population of female workers in occupation \(i\), and \(N\) is the number of occupations. If men and women were distributed identically, the index would equal zero, while completely segregated occupations would have an index of 100.

The index of dissimilarity, which was 68 in 1970, has declined to 53 in 1990, which indicates that occupational segregation has decreased somewhat, though studies still find that there is a significant effect on the wages of women.

**Example: Measuring Wage Discrimination**

Consider a labor market where a worker’s wage is a function of his or her 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, experience, and occupation for males \((M)\) and females \((F)\) can be represented by the equations

\[
W_M = 4 + 2 \text{OC} + 0.75 \text{EXP},
\]
\[
W_F = 4 + 2 \text{OC} + 0.5 \text{EXP}.
\]

Assuming women are employed only in the low-paying sector of the economy, these equations can be rewritten as

\[
W_M = 6 + 0.75 E,
\]
\[
W_F = 4 + 0.5 E.
\]

These equations are represented by lines \(M_1\) and \(F_0\) in Figure 12-1.

If EXP averages 12 years for men and only 8 years for women, then the average wages for each group will be

\[
W_M = 6 + 0.75(12) = 15,
\]
\[
W_F = 4 + 0.5(8) = 8.
\]

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**Figure 12-1**
These wage levels are shown as points $a$ and $b$ in Figure 12-1. Note how the different productive characteristics (different occupations and experience levels), along with the payoffs to those characteristics, come together to determine the wages paid to each group. In this example, the average woman earns only 53% of what the average man does.

To measure the degree of wage discrimination, occupation and the level of experience must be held constant so that just the differences in labor market payoffs can be observed. In this case, we calculate what women would earn if they were employed in the same jobs and had the same experience levels as men. Substituting $OC = 1$ and $EXP = 12$ into the female wage equation yields

$$W_F = 4 + 2(1) + 0.5(12) = 12.$$  

This is point $c$ in Figure 12-1 (line $F_1$ represents the returns to experience for women assuming they were employed in the same jobs as men). After adjusting for the differences in occupation and experience, note that women still earn only 80% of what the average man does. The 20% difference in wages (the percentage difference between points $b$ and $c$), which is due to differences in the payoff to experience, is a measure of the degree of wage discrimination. Notice that wage discrimination accounts for less than half of the 47% gap in wages that is actually observed.

If the different employment patterns of men and women are the result of occupational segregation, the total amount of current labor market discrimination is found by just controlling for the differences in experience and not the differences in occupation. Given the occupations of men and women, we calculate what women would earn if they had the same experience levels as men. Substituting $EXP = 12$ into the female wage equation yields

$$W_F = 4 + 0.5(12) = 10.$$  

This is point $d$ in Figure 21-1. Note that at point $d$, women earn only 67% of what men do. The 33% difference between points $c$ and $d$ ($\$2$ or 13% of the men’s wage) represents the effects of occupational segregation. Note that the current labor market discrimination in this example can be decomposed into approximately 20% wage discrimination and 13% occupational segregation. Empirical studies using cross-section data suggest current labor market discrimination in the range of 15% to 20%. Recall that the total wage gap was 34% in 1993.

An ideal study of wage discrimination would of course include more than just experience and occupation as a measure of the worker’s productive characteristics. For example, education and ability should also be included. But even if all measured productive characteristics were accounted for, some unmeasurable differences may still exist. These unmeasurable characteristics suggest that the estimate of the female to male wage ratio computed after controlling for all measured productive characteristics should be interpreted as an upper bound on the degree of wage discrimination.

In contrast, if past wage discrimination has reduced the incentive of women to make human capital investments, some of the differences in productive characteristics (premarket differences) may also reflect discrimination. Therefore, while the 33% gap between male and female earnings in the above example might be a good measure of current labor market discrimination, a measure of the differential due to both current and past discrimination would be larger since it would have to take into account the extent to which pre-market differences in productive characteristics reflect past discrimination. It is possible that pre-market choices are themselves significantly affected by labor market discrimination. If, for example, women believe that entry to some professions is more difficult due to labor market discrimination, they may avoid those occupations, and then occupational differences do not solely represent a difference in preferences between men and women.
However, it is frequently the case that data cannot be obtained on all of the pre-market variables that have an impact on wages, and thus it is possible that estimates of labor market discrimination are overstated. If, for example, differences in employment patterns represent voluntary differences in occupational choice instead of occupational segregation, the hypothetical 33% estimate in the above example would overstate the degree of current labor market discrimination.

While bearing in mind the limitations of such estimation, a variety of studies have found that while differences in labor market experience explain much of the gender gap in earnings, labor market discrimination could explain a small but significant portion of the gap.

The basic framework for analyzing earnings differences between men and women also applies when analyzing differences between blacks and whites, as well as differences between whites and various ethnic groups. The wage gap between white and black men (67% in 2003) is similar to that between men and women overall. Where blacks continue to differ most from whites, however, is in their unemployment and participation rates. For black men, participation rates are consistently lower than for white men, and unemployment rates are higher. There is also evidence that black males suffer disproportionately in recessions, suggesting that they are last hired and first fired. Participation rates for black women are higher than rates for white women, but the unemployment rate for black women again exceeds the rate for white women.

Studies measuring occupational segregation have found about half the dissimilarity found between men and women, but studies of wage discrimination have found about an 11% differential between the earnings of black and white men, all other things equal. Again, this may be due to unmeasured productive characteristics. One characteristic that is usually unmeasured is cognitive achievement. Scores on the Armed Forces Qualification test show lower levels of cognitive achievement for black Americans, which may be associated with poorer-quality schooling and effects of poverty. This difference alone may explain most of the wage differential.

Applying the wage discrimination methodology to data on other ethnic groups in the United States shows relatively higher earnings for white, Asian, and European ethnic groups, and lower earnings for Native American and Hispanic workers. Studies on Hispanic residents reveals that their earnings remain 3% to 6% below those of non-Hispanic whites after controlling for language proficiency and other productive characteristics.

Assuming that at least a significant portion of the unexplained earnings gaps that exist for women, blacks, and some ethnic groups is attributable to current labor market discrimination, what is the source of the discrimination? What is the mechanism by which the discrimination affects labor market outcomes? These are the questions taken up in the second part of Chapter 12.

One possible source of discrimination is personal prejudice, which can be exhibited by employers, customers, or fellow employees. In the case of employer prejudice, the discrimination can be modeled as a shifting down of the marginal product curve pertaining to a particular group of workers as employers subjectively devalue their productivity. This downward shift leads to a reduction in employment opportunities and/or real wages for the group. For the market as a whole the size of the wage gap is ultimately driven by the number of prejudiced employers relative to the supply of the group’s workers and the intensity of the discriminatory preferences. The subjective devaluation of the group’s productivity also lowers profits for the employer. This suggests that prejudiced employers will not survive in a competitive market. Thus, employer prejudice seems like a plausible source of discrimination only if the firms are insulated from competition (e.g., by being in a regulated industry). Similarly, since discrimination based on customer or employee prejudice can cause a firm’s costs to increase, such discrimination is likely to persist only if the firm finds that eliminating the discrimination is even more costly than catering to it.
Another possible source of discrimination is the hiring and screening process. In this process, firms try to evaluate an applicant’s productivity using observable personal characteristics such as education, experience, and test scores. The problem is that while these variables tend to be correlated with productivity, they are not perfect predictors of it. Knowing this, firms sometimes supplement the information about personal characteristics with group information. For example, if black high school graduates tend to be less productive, on average, than whites because of differences in high school quality, employers may give preference to white applicants when all other personal characteristics are equal. Modifying individual data based on group characteristics is called statistical discrimination. Although such discrimination need not stem from malicious feelings towards any particular group, it can have the unfortunate side effect of limiting employment opportunities or reducing wages paid to those who do not fit the group profile. After all, even if schools in predominantly black neighborhoods are, on average, inferior to predominantly white schools, there will likely still be blacks that graduate from these schools who are at least as productive as any white applicant. Ultimately, as members of a particular group become more dissimilar (e.g., the number of excellent black schools increases) making judgments on the basis of group affiliation will actually hinder the firm’s hiring process and lead to lower profits.

Occupational crowding and dual labor market theories of discrimination use lack of occupational mobility to explain wage differences between groups. The dual labor market theory, for example, postulates the existence of a primary sector of high-wage and stable jobs, and a secondary sector of undesirable jobs. Historically, women and minorities have been employed in the secondary sector, resulting in poor work histories that are then used to block breakthroughs into the primary sector. Another theory explains wage differences between different groups by pointing out that search costs will be higher for workers subject to discrimination. These higher search costs, in turn, give employers a greater degree of monopsony power over some groups, which then translates to lower wages for those groups. Another theory is that white employers collude in the hiring of certain groups and so effectively become monopsonists. This position enables them to dictate lower wages to women and certain minority groups.

While each theory that relies on noncompetitive forces to explain discrimination is in a way consistent with the data on wages, each version also raises more questions than it answers. For example, what caused women and minorities to be originally assigned to the secondary sector of the labor market? Why do the employers paying higher wages in male-dominated occupations not substitute less expensive female labor? How is the collusion against women and minorities by millions of employers maintained when each individual firm has an incentive to cheat on the agreement and hire members of the disfavored group to substitute for more expensive white male labor?

While none of the theories of discrimination outlined above is completely satisfactory, the discussion does suggest that discrimination cannot persist without imperfectly competitive markets or high adjustment costs. Can government play a role in helping to create an environment where discrimination can not persist? The third part of Chapter 12 reviews and analyzes public policy towards discrimination.

Employers are prohibited from discriminating with respect to compensation or employment opportunities by Title VII of the Civil Rights Act of 1964. However, the term discrimination means different things to different people, and it is ultimately up to the courts to define discrimination. Unfortunately, the courts have not always provided consistent answers. One definition of discrimination adopted by the courts has come to be known as the disparate treatment standard. Under this definition, a violation of Title VII occurs if individuals are intentionally paid different wages or denied certain employment opportunities because of characteristics like gender, race, or ethnicity. An alternative definition is known as the disparate impact standard. Under this definition, personnel policies that treat everyone the same, but impact certain groups (e.g., women or minorities) more than others, are illegal provided the policies do not relate directly to job performance and serve a business necessity. Under a disparate impact definition, seemingly neutral policies like word-of-mouth recruiting may be illegal since they can carry forward the effects of past discrimination. Layoffs in order of reverse seniority, however, are permitted under the law even though they may disadvantage women and minorities who tend to be the newest hires (perhaps because they were the victims of past discrimination). The disparate impact standard has also given rise to efforts to replace the free
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.