

# Illusions of Job Segregation

JAMES P. SCANLAN

Reprinted with permission. © **The Public Interest**,  
No. 93, Fall 1998,  
Washington, D.C.

In the spring of 1979 a short article in the *Washington Post* summarized the testimony before a House oversight committee of the director of a federal agency. In the course of questioning the director about his agency's employment policies, the *Post* reported, a member of the committee had noted that 55 percent of the agency's minority employees were employed in grades GS-7 or below. The director replied that a similar proportion of all the agency's employees were in those grades.

One assumes that the question was intended to suggest that minorities were excluded from grades above GS-7 because of racial discrimination. Did the answer refute this? Not necessarily. The figures, which showed that the agency's minority employees were generally distributed in the higher and lower pay grades in the same manner as the agency's entire work force, failed to indicate whether those minorities comprised, say, 1 percent or 30 percent of that work force. The figures did say something about the agency's minority-employment practices, however. They did not suggest that the agency had excluded minorities from the higher grades (as the questioner, focusing on a supposed overconcentration of minorities in lower grades, had assumed); they suggested, rather, that the agency had excluded minorities from the *lower* grade.

The agency in question, like most such agencies in Washington recruited its employees for grades above GS-7 disproportionately (that is, relative to its lower grades) from a nationwide pool of college graduates and individuals with administrative and policy expertise; minorities comprise a modest percentage of this labor market. For jobs in grades GS-7 and below, a large proportion of which were relatively unskilled clerical positions, the agency recruited disproportionately from the Washington area, where minorities comprise a high percentage of the relevant labor market. Hence, if the agency had employed minorities in the lower grades in proportion to their representation in the labor market relevant to those positions, a higher proportion of its minority than its white employees would have been in those grades.

But the questioner did not consider that minorities might be discriminatorily excluded from the lower grades. Moreover, if the agency had been discriminating against minorities in hiring for those positions, it was given considerable incentive to continue to do so, lest increased minority representation in the lower grades be read as evidence of minority exclusion from the higher grades.

This is an example of the expectation - fallacious in its nature - that a nondiscriminatory employer will have minorities and whites, or women and men, equally distributed throughout all levels of its work force. The inclusion of people in certain jobs is used to prove work force. The inclusion of people in certain jobs is used to prove their exclusion from others. "Overrepresentation" in one part of the work force is used as evidence of unlawful "job segregation" or "assignment discrimination." This error has led to a prodigious amount of wasteful and improvident enforcement activity; a considerable amount of thoughtless commentary on important questions of public policy; a number of court decisions that found discrimination where it did not (or at least was not proven to) exist, or failed to find discrimination that did exist; and, most unfortunately, the increased likelihood that employers will discriminatorily deny jobs to the truly disadvantaged.

## **Sex segregation and the phone company**

Three factors invalidate most claims of job segregation at individual firm level. First, for most employers minorities and women comprise a larger portion of the applicants who are qualified for poorer jobs but not for better ones. Second, even when this is not the case, minorities and women tend to accept less desirable jobs than whites and men, because (among other reasons) they have fewer options in an economy that includes many employers who do discriminate against them; thus we observe the tendency (somewhat less prevalent today than in the recent, more discriminatory past) of large numbers of college-educated women to accept clerical positions, while few college-educated men do. Third, whether an individual employer discriminates with regard to its better jobs

will not appreciably affect the greater readiness of minority and female applicants to accept its poorer jobs, if offered.

The relevant principles are usefully illustrated by the employment data set out in Table I, which, simplified and liberally rounded, reflect the actual employment patterns of the Bell System operating companies at a time when it was portentously stated that at AT&T, "sex segregation was even more extensive than that observed in society at large." For simplicity, the positions are categorized as "better jobs" and "poorer jobs," the latter being those in which most of the workers were women. These jobs are lower-paying, less desirable, and offer little opportunity for advancement

**Table I. Male and Female Employment at AT&T, 1972 (in thousands)**

	Total	Men	Percentage of all Male Employees who are in job	Women	Percentage of all Female Employees who are in Job	Percentage of Persons In Job who are Women
Better Jobs	410	360	95	50	12	12
Poorer Jobs	<u>390</u>	<u>20</u>	<u>5</u>	<u>370</u>	<u>88</u>	<u>95</u>
Total....	800	380	100	420	100	53

An employment pattern like this seems to point to pervasive job segregation, in view of the evident differences in the way men and women are distributed among the better and poorer jobs; 88 percent of the women, compared with 5 percent of the men, are in poorer jobs; men are almost eight times as likely (95 percent vs. 12 percent) to be in the better jobs; while women comprise 53 percent of the total work force, they hold 95 percent of the poorer jobs and only 12 percent of the better jobs; and the segregation index (the proportion of persons of one sex who would have to change jobs to match the other's distribution) is .83.

But this is not meaningful evidence of discrimination. The high female representation in the clerical and operator positions that comprise the poorer jobs offers no evidence one way or the other as to whether women were discriminatorily excluded from the better jobs. To say that AT&T was more segregated than society at large is to say no more than that AT&T was a telephone company. As such, it was going to have a great many jobs, particularly operator jobs, that were going to be overwhelmingly female, regardless of whether it discriminated against female applicants for its better jobs.

It is conceivable that AT&T hired some women for poorer jobs whose applications for better ones had been discriminatorily rejected. As of 1972, AT&T had almost totally excluded women from the entry-level position of Installation Repair Technician; some women discriminatorily denied hire for such jobs may have accepted positions as operators.

But the only way to prove that discrimination exists in the better jobs is to examine the sexual composition of the labor force qualified for them and the sexual composition of those hired.

**Misleading internal comparisons**

Analyses that focus on "job segregation" - the concentration of women or minorities in some types of jobs - are commonly used to prove discrimination. But they cannot validly do so. Consider two hypothetical employers (see Table II) who draw employees for identical jobs from the same labor market, in which the overall minority representation is 20 percent.

**Table II. Comparison of Hypothetical Employers Employer One**

	Total	Whites	Percentage of all White Employees who are in job	Minorities	Percentage of all Minority Employees who are in Job	Percentage of Persons In Job who are Minorities
Better Jobs	100	90	56	10	25	10
Poorer Jobs	<u>100</u>	<u>70</u>	<u>44</u>	<u>30</u>	<u>75</u>	<u>30</u>
Total....	200	160	100	40	100	20

**Employer Two**

	Total	Whites	Percentage of all White Employees who are in job	Employer Minorities	Percentage of all Minority Employees who are in Job	Percentage of Persons who are Minorities
Better Jobs	100	92	52	8	33	8
Poorer Jobs	<u>100</u>	<u>84</u>	<u>48</u>	<u>16</u>	<u>67</u>	<u>16</u>
Total....	200	160	100	24	100	12

Employer One is more "segregated" by race than Employer Two. Employer One's white employees are 2.24 times (56 percent vs. 25 percent) as likely as its minority employees to be employed in the better jobs, while Employer Two's white employees are only about 1.58 times (52 percent vs. 33 percent) as likely as its minority employees to be employed in the better jobs. Employer One's segregation index is .31, while Employer Two's is only .19. Yet Employer One

clearly treats minorities more favorably than Employer Two, and does so with respect to both the better and poorer jobs.

This is a simple example of the manner in which internal comparisons can mislead. But consider a slightly more complex case, in which, even taking qualifications into account, and examination solely of persons hired could lead to a finding of "job segregation" or "assignment discrimination," when in fact the employer's behavior was absolutely nondiscriminatory. Analyses like this one, though often more sophisticated, are commonly used in employment discrimination suits.

Assume that the employer hires for two jobs that are sufficiently similar that the same type of prior experience is applicable to both, and that in filling either job the employer will prefer an experienced applicant but will otherwise hire the most qualified inexperienced applicant. Assume also that one job is clearly better than the other, and that, as a result of the reduced male interest in the poorer job, women will comprise a larger proportion of applicants willing to accept the poorer job than of applicants desiring the better job. Assume finally that male and female applicants desiring the better job are equally likely to have prior experience, and that male and female employees willing to accept the poorer job are also equally likely to have prior experience. The hiring pattern of a fair employer might look something like that set out in Table III.

Although the data indicate that this employer treats women fairly in every respect, an analysis of initial assignment patterns that looked only at persons hired (Columns 4 and 5) would reveal substantial disparities adverse to women, even taking qualifications into account. It would show, for example, that only 44 percent (fourteen of thirty-two) of the experienced women were assigned to the better jobs, compared with almost twice that proportion, or 82 percent (fifty-six of sixty-eight), of the experienced men. Similarly, only 13 percent (six of forty-eight) of the inexperienced women were assigned to the better jobs, compared with 46 percent (twenty-four of fifty-two) of the inexperienced men. These disparities could be shown to be highly significant statistically, giving the analysis an air

**Table III. Hiring Pattern of a Fair Employer**

	(1)	(2)	(3)	(4)	(5)
	Percentage of Applicants	Percentage of Applicants	Percentage of Hires	Number of Female	Number of Male
	Number who are	Number who are	Number who are		

For Better Job	of Hires	Women	Women	Hires	Hires
With Experience	70	20	20	14	56
Without Experience	<u>30</u>	<u>20</u>	<u>20</u>	<u>6</u>	<u>80</u>
Total....	100	20	20	20	80

  

	Number of Hires	Percentage of Applicants who are Women	Percentage of Hires who are Women	Number of Female Hires	Number of Male Hires
For Worse Job					
With Experience	30	60	60	18	12
Without Experience	<u>70</u>	<u>60</u>	<u>60</u>	<u>42</u>	<u>28</u>
Total....	100	60	60	60	40

of scientific exactitude. But like the simpler comparisons based on Tables I and II, without consideration of the applicant information (Column 2) these comparisons prove nothing.

Analyses that look only at persons hired mislead not only by suggesting that discrimination exists where it does not. Such analyses can also suggest that affirmative action exists where the employer may in fact be discriminating. Consider the employer in Table IV. It also hires experienced applicants if it can find them, and inexperienced applicants if it cannot. Women comprise a larger proportion of this employer's inexperienced applicants than its experienced applicants. (That a group is on average less qualified frequently explains why an employer will discriminate against it; the employer will deem reliance on the average characteristics of the group less expensive than developing selection procedures that can accurately identify the best candidate for each opening. This is termed "statistical discrimination.")

Table IV's employer hires men at a higher rate than women, both from the applicants with experience and from those without it. The employer, however, focusing only on the characteristics of the people who have been hired, will point to the fact that its male hires were actually more qualified than its female hires: 73 percent (fifty-six of seventy-seven) of the male hires have prior experience, compared with 61 percent (fourteen of twenty-three) of the female hires. The employer will thus present itself as an affirmative-action employer, who favors female applicants over males.

**Table IV. Hiring Pattern of a Discriminatory Employer that Presents Itself as an Affirmative-Action Employer**

	Number of Hires	Percentage of Applicants who are Women	Percentage of Hires who are Women	Number of Female Hires	Number of Male Hires

With Experience	70	40	20	14	56
Without Experience	<u>30</u>	<u>60</u>	<u>30</u>	<u>9</u>	<u>21</u>
Total....	100			23	77

---

In none of the above cases, however, can one actually determine whether the employer has discriminated - or, by contrast, engaged in affirmative action-without examining the characteristics of the applicant pool, including those members of the pool who were not hired at all.

### **The allure of job-segregation theories**

There are a number of reasons why the focus on perceived patterns of job segregation has proved so alluring to individuals and organizations concerned with the enforcement of employment discrimination laws. For one thing, job segregation can be found in the work force of virtually every employer in the nation that hires significant numbers of whites and minorities or men and women. And it can be perceived and described by means of the simplistic comparisons discussed earlier with respect to AT&T, rather than through the complicated inquiries that necessarily flow from the recognition that significantly different jobs have significantly different labor markets.

Moreover, individuals who are hired by an employer are far more likely to complain of discrimination than individuals who are not hired; the latter rarely have significant information about the circumstances surrounding their rejections. Consider the following scenario: a black or woman hired for a poorer job is later denied a promotion to a better job and files an Equal Employment Opportunity Commission (EEOC) charge. In the EEOC's investigation of the charge, the possibly discriminatory denial of the promotion may too easily be seen as part of a pattern of job segregation, presumably effectuated by discrimination both in promotion and in initial assignment practices. When a suit is later filed, alleging that discrimination in promotion and discrimination at the time of hire both exist, it is beneficial to characterize the latter claim as one of discrimination in initial assignment. Among other things, characterizing the claim in this way avoids the technical (though significant) problem of whether a person who is actually hired can be an appropriate representative of persons not hired. It also yields an easily identified pool of putative victims of the alleged discrimination, whose members can both provide anecdotal testimony and benefit from the suit should it

prove successful. And when the initial exclusion from the better jobs is cast in terms of assignment discrimination, there is usually extensive and readily available information on each person, frequently in computerized form, since everyone who is being compared has actually been hired. Even when the information on the paper application must be coded and analyzed, relatively few applications need be considered, since only the applications of persons hired are deemed relevant. By contrast, the information on rejected applicants that is often necessary to establish hiring discrimination is frequently destroyed; there may also be hundreds of applicants for each position filled, rendering an analysis of even a sample of applicants not hired prohibitively expensive. In such circumstances, assignment-discrimination claims will have an appeal even to those who understand the error of analyses that look only at persons who are hired.

In significant part, however, the focus is on assignment discrimination because practically no one knows any better. A decade ago two federal court opinions seemed to grasp at least certain aspects of the issue. In 1977 a district court in Delaware summarily rejected claims that blacks were discriminatorily assigned to low-paying jobs in *EEOC v. du Pont*, succinctly observing: "The more reasonable inference would be that substantially more blacks than whites were willing to take the [lower-level] jobs." The following year a district court summarily rejected claims that blacks were discriminatorily assigned to railroad-laborer positions in *Edmonds v. Southern Pacific*, stating: "Plaintiffs imply that Southern Pacific must deny Hispanic applicants jobs they seek and qualify for because it has 'too many' of them. Such is not the law."

It is not clear whether the judges in these cases, in addition to recognizing a lack of common sense in the plaintiffs' claims, fully appreciated the fundamental mathematical error of analyses that rely solely on information about persons hired. In any event, these cases attracted little attention, and internal labor-force comparisons continue to play a prominent role in the analysis of employment statistics in many quarters. The leading comprehensive treatise on employment discrimination, Schlei & Grossman's *Employment Discrimination Law*, advises that the appropriate way to analyze claims of assignment discrimination is through "a comparison between the representation of the protected group among new hires who are qualified to perform the better job, and the representation of the protected group among persons awarded such jobs." Thus the recommended analysis, like the analysis of

the data in Columns 4 and 5 of Table III discussed earlier, entirely disregards information on the applicants. And while a number of court decisions have actually accepted rudimentary assignment analyses without even considering differences in qualifications or interests among the male and female or white and minority hires, even recent decisions that have rejected such claims have done so without understanding that initial-assignment analyses that look only at persons hired prove nothing. Thus, the main consequence of the increasing emphasis on qualifications and interest is a manifold increase in the expense of litigating assignment claims, as experts carry out increasingly elaborate analyses of all available data on the wrong people.

The Supreme Court itself has dealt with relatively few statistical cases. One of its most noteworthy rulings was in 1977, in *Teamsters v. United States*, a landmark decision on the use of statistics in employment discrimination suits. In *Teamsters* the Court upheld rulings that minorities had been discriminatorily excluded from long-haul truck driving positions. In light of the virtually complete absence of minorities from such positions, there is little doubt that the result was correct. In analyzing the statistical evidence, however, the Court paid most attention to the fact that minorities were disproportionately relegated to city driver jobs. Such evidence is not relevant to the issue of exclusion from the road driver jobs; furthermore, it would be quite surprising if an employer that completely excluded minorities from its road driver jobs did not also discriminatorily exclude them from its city driver jobs - an issue never considered in that protracted litigation.<sup>1</sup>

In 1979 a panel of attorneys, labor economists, and statisticians (who were among the leading practitioners in employment discrimination litigation) established guidelines for the use of statistics by the Office of Federal Contract Compliance Programs (OFCCP). On the matter of "assignment discrimination," the guidelines advised that total hires should be considered the relevant pool in determining whether members of different groups who were hired were equally likely to be assigned to the better jobs. While the document was never formally adopted by the agency, its approach undoubtedly influences OFCCP's investigators and lawyers. In overseeing employment practices throughout the federal government, the EEOC has recently focused on average grade disparities as a principal indicator of whether an agency treats minorities and women fairly. That<sup>1</sup>.

average, however, is but another figure that is often more a reflection of the high minority/female representation in the lower grade jobs - which is a good thing - than an indication of the exclusion of minorities and women from higher grade jobs. Thus, each year the National Gallery of Art is rated last among federal agencies in relative pay grades for black and white employees, solely because it gives several hundred black residents of greater Washington jobs as security guards.

The scholarly commentary from the nonlegal community has shown no greater grasp of the critical principles than have the courts and the federal enforcement agencies. While most scholarly studies of job segregation have dealt with job segregation in the economy at large - a rather different matter, which is discussed briefly below - several recent works have attempted to apply the concept of segregation to the individual employer, evidently unaware of its inapplicability. Consequently, elaborate analyses have often been carried out to show that employers treat minorities or women unfairly in a variety of ways, most of which are traceable to putatively discriminatory initial assignments. Such analyses, however, rarely offer evidence that is genuinely relevant for determining whether women have been discriminatorily denied hire into the better jobs.

Newspapers abound with accounts of this or that local governmental employer's efforts to enhance the status of its minority or female employees. Frequently such accounts provide informative data. Almost invariably, though, the stories place so much emphasis on the continuing overconcentration of minorities or women in poorer jobs that it is difficult to distinguish employers who are making the greatest progress from those who are making the least.

### **Harming the victims of discrimination**

Does the misplaced focus on placement patterns within an employer's work force actually harm the groups that have historically been victims of discrimination? There is reason to believe it does - in a variety of ways. For one thing, suing innocent employers not only detracts from the perceived legitimacy of all enforcement activity, but also reduces the resources available to attack employers that do discriminate. What, for example, could be more foolish than choosing to devote limited resources to suing Employer One rather than Employer Two (in table II), because the former's work force is more segregated?

Moreover, good cases are often lost because the wrong data are examined in an attempt to prove that women and minorities are excluded from better jobs. And as with the government agency mentioned at the outset, I have seen a number of instances in which a far better case could have been made that minorities or women were discriminatorily excluded from the jobs in which they were supposedly overconcentrated than from the jobs from which they were supposedly excluded. In one case, for example, the strongest claim seemed to be that women were denied hire as railroad clerks - quite good jobs by most standards - although the focus of the case had been, and complex regression analyses had been employed to prove, that women were disproportionately assigned to such positions rather than to positions as brakemen.

It is also true that many employers - particularly the largest ones, and particularly government contractors - carefully consider how their employment practices are perceived. And when such employers are directly or indirectly advised that perceived patterns of job segregation make them likely targets for prosecution, they will usually find it easier to hire fewer minorities or women for the poorer jobs than to increase minority representation in the better ones. Employer One in Table II, for example, believing that it hires solely on the basis of qualifications, may reason that it can better afford to hire some less qualified whites for its poorer jobs (where differences in skills are less likely to affect overall productivity) than some less qualified minorities for its better ones. It may also find that, due to the greater turnover in the poorer jobs, it can more quickly achieve a less disparate distribution of its employees by replacing minorities with whites in its poorer jobs than by replacing whites with minorities in its better ones. At least one study of the effect of the Executive Order programs on federal contractors has uncovered a tendency to limit minority and female employment in lower paying positions.<sup>2</sup>

There are also less obvious ways in which the emphasis on patterns of job segregation harms women and minorities. When the AT&T decree (1973-1978) was negotiated, the government, emphasizing parity in every job, bargained for "ultimate goals," whereby a minority group's representation in every job would ideally be based on the group's overall representation in the local civilian labor force. The decree's mechanism, however, was such that these undoubtedly unrealistic goals had little effect on the better jobs. On the other hand, the ultimate goals could tend to limit minority representation in many of the poorer (though

frequently quite good jobs.) Minority representation in the labor pool relevant to these jobs was arguably higher than its representation in the overall civilian labor force.

The AT&T decree also attempted to increase male representation in certain traditionally female jobs. It is arguable that the attempt to increase minority and female representation in traditionally male jobs provides a plausible justification for individual instances of unfairness, in which minorities or women are favored over more qualified or more senior whites or men. But discriminating against female candidates for clerical positions is decidedly more difficult to defend. As it happens, the worst individual instance of unfairness resulting from the decree over litigated involved discrimination of this sort. In *New Jersey Telephone Workers v. New Jersey Bell telephone Company* (1977), the union unsuccessfully challenged the hiring of a man from outside the company to fill a clerical vacancy, rather than a woman with ten years' seniority. The man was hired so that the company could achieve its goal of increasing male representation in clerical positions.

One might argue that since the high minority/female representation in the labor pool for the poorer jobs results in part from discrimination against them throughout the economy, the nondiscriminatory employer benefits from the discrimination of other employers, whose discrimination increases the willingness of minorities and females to accept poorer jobs. Nevertheless, the nondiscriminatory employer satisfies all that the law can reasonably require of it when it treats all applicants equally. An employer might, if course, realize that female applicants who are qualified for its better jobs are more likely than men to be willing to accept its poorer ones. Hence, the employer might favor male applicants over equally qualified female applicants for its better jobs (when there are vacancies in both its better and poorer jobs), and then offer its poorer jobs to the female applicants, who would be even more qualified for these jobs. Such a situation warrants close scrutiny, since it is reasonable to expect that an employer is most likely to discriminate when it is advantageous to do so. (It is arguably even unlawful for an employer to offer its poorer job to both applicants first, eliminating those who accept it from consideration for the better one, since the effect of such a policy would be to disproportionately exclude women from consideration for the better jobs.) But if the employer treats men and women fairly in hiring for the better job, and if

nondiscriminatory selection results in the hiring of a male applicant, it makes no sense either to deny the woman the right to accept the position that she prefers to her other available options

### **Job segregation beyond the firm**

I have argued that the racial/sexual composition of workers hired for poorer jobs is irrelevant in determining whether minorities or women are discriminated against in hiring for the better jobs. While I have focused on analyses at the individual-firm level, the same principles often apply at a broader level. The Senate Committee on Labor and Human Resources, for example, recently considered employment patterns in the computer and construction industries, noting that women in these industries were concentrated in clerical jobs. But there is a confluence of forces in society that causes women to comprise a certain proportion of clerical workers in each industry. And whether the industry actually discriminates against women with respect to its traditionally male jobs will have little impact on that proportion. Thus it is conceivable that women are discriminatorily excluded from traditionally male jobs in these industries, but the high female representation among clerical workers has no bearing on the matter.

What I have said about firms and industries does not, however, carry over to analyses of the employment practices of the nation at large. In a sense, the United States employs the entire labor force, and a group's high representation in the poorer jobs is distinctly affected by its exclusion from the better ones. So the reduction of barriers to minority and female entry into better jobs should decrease their representation in poorer ones, thereby lessening the work-force imbalances that result from discriminatory exclusion (rather than actual differences in interests or qualifications).

Yet even with respect to the national economy one can question the preoccupation with theories of job segregation, and the resultant emphasis on apparent overconcentrations of groups in certain types of jobs. If, for example, we could theoretically expect more men to seek secretarial positions, a decline in female representation among secretaries is only one of the potential consequences of increased opportunities for women in other areas - and by no means a certain one. We could also expect to see the wages for secretarial work increase because of the availability of more remunerative options to many women who would previously have been secretaries. This could have a

variety of consequences. For one thing, the higher wage rate would help retain female interest, and also increase male interest - though perhaps not enough to cause large numbers of men to seek secretarial employment. The increase in the price of the work might also cause employers to reduce the number of their secretarial workers, while increasing the sophistication of the equipment their workers use. At the same time, the increasingly sophisticated equipment might itself reduce the need for secretarial services.

The female labor force, moreover, has been growing more rapidly than the male labor force. And as many women have moved from clerical positions to higher-paying jobs, many minority women have moved from even lower paying jobs to clerical jobs. Thus, despite the attention it has received, the continuing high female representation in secretarial jobs (the female proportion of secretaries, stenographers, and typists increased from 96.9 percent in 1970 to 98.3 percent in 1980) is only marginally relevant to the issue of whether barriers to female opportunity are being eliminated. In fact, the greatest significance of continuing high female representation in clerical jobs may be to indicate that the male clerical preferences at AT&T were aberrational, and that, at least with respect to clerical positions, the emphasis on perceived overconcentrations of women has not generally caused employers discriminatorily to limit female opportunities.

More revealing is the fact that the proportion of all women workers employed in such jobs decreased from 13 percent to 11 percent. Here, too, however, the change is a function of many different forces, including the overall growth of jobs in other occupations. The statistic tells us less about the state of equal opportunity for women than we can learn from observing the increasing female representation in jobs from which women were previously excluded. It may be hard to understand how women can have greater opportunities for employment in jobs from which they were once excluded, since there have been only modest decreases in their perceived concentration in traditionally female positions. But between 1970 and 1980 the following changes took place: female representation in management-related occupations (accounting, etc.) increased from 22 to 38 percent; the female proportion of air traffic controllers increased from 5 to 15 percent, and that of bus drivers from 28 to 46 percent. These figures, which greatly understate women's increasing representation among those newly

hired in these occupations, tell us a great deal about how much equality of opportunity for women has increased. If smaller changes in other areas - for example, and increase from 1.3 to 2 percent for dry-wall installers - seem to be unsatisfactory, we can at least examine the lack of change and try to understand its causes. Focusing on the continuing high female representation among clerical workers and nurses, however, will not aid that effort.

Analyses of differences in average wages of various groups, it should be evident, are usually but another way of looking at job segregation. Comparisons of male and female wages aimed at determining how much of the differences are attributable to discrimination are occasionally interesting academic exercises (and are perhaps politically useful for proponents of comparable worth), but they shed little light on the increasing opportunities available to women today. In the case of blacks, on the other hand, analyses of diminishing wage disparities may actually be misleading, since the exodus of low-income blacks from the labor markets increases the average wage of employed blacks.

### **The value of statistical evidence**

Nothing I have written here should be read as a general indictment of the use of statistics to prove employment discrimination. The fact that there remain few of the glaring patterns of exclusion that were so common ten or twenty years ago naturally tends to diminish the role of statistical evidence. At the same time, however, other factors give it continuing importance. For many years now there have been few major employers that have discriminated overtly. Indeed, most large companies emphasize the trappings of fair employment, whether or not they ensure it in practice. Moreover, if the statistical discrimination discussed earlier is the predominant form of discrimination, as some believe, it most likely means that the employer will always select the candidate who is clearly most qualified if there is one, but will select a person from the favored group if it must choose among similarly qualified candidates. If this is in fact the case, courts will rarely be able to divine whether discriminatory motivation affected a particular decision. In such contexts, statistical evidence may be the only viable method of proof.

Nor should anything I have said be read to support the claim that statistics can be manipulated to prove anything. While statistics are frequently misused and misunderstood, there is usually a correct way to apply

them in a particular context. When they are properly applied they can often be of immense value. That the correct way is not always the obvious way is one more reason for attempting to master this important tool of law and social science. In the employment-discrimination context, a useful starting point is to dispense entirely with notions of assignment discrimination and job segregation at the firm level.

---

<sup>1</sup> In *Ward's Cove Packing Company v. Antonio*, the Supreme Court has recently agreed to consider the issue of whether a pattern of discrimination can be proved by statistics showing minorities to be disproportionately concentrated in lower-level jobs.

<sup>2</sup>James P. Smith and Finis Welch, "Affirmative Action and Labor Markets," *Journal of Labor Economics* 2 (1984), pp. 287-88.