Women, Family, and Work

Writings on the Economics of Gender

EDITED BY

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less than men. Women and men also tend to concentrate in different occupations. When are these differences due to employment discrimination? And when are they simply due to preferences and choices? Although narrowing, an earnings gap by gender persists even with women's rising labor force participation and continuity. The female-male ratio for usual weekly wages has increased from 0.56 in 1969 to 0.74 in 1999.\footnote{1} In addition, most occupations are disproportionately of one gender, and indices of occupational segregation persistently show an unequal distribution by gender across occupations. Occupations with a larger share of female employees have lower average earnings, and to a large extent the gender gap in pay is due to the concentration of women in lower paying jobs.

But whether any unexplained pay gap arises from discrimination is far from obvious. There are two competing possibilities: the gap is potentially explicable by gender differences in observed or unobserved characteristics that affect earnings and/or arise from differences in choice; versus the gap is due to discrimination. Similarly, any observed occupational structure may be due to differences in characteristics or choice, or may result from illegal refusal to hire or promote qualified women into certain jobs.

Disappointingly, economic theory does not provide unambiguous guidance to whether discrimination is responsible for unexplained pay or occupational disparities. A student taking principles of microeconomics might be persuaded by the notion that competitive market forces will eliminate discrimination. After taking intermediate microeconomics, however, the argument becomes more nuanced. Markets are not always perfect, and market power, tastes for discrimination among coworkers and potential customers, and so forth, give rise to the possibility that discrimination can exist. While there is little direct empirical evidence on the various theories of discrimination, the large
number of successful discrimination suits suggests that it is unlikely that market forces have eliminated employment discrimination of all kinds.

Economists have long debated whether such disparities result from discrimination without reaching consensus. Of course, endless abstract debates do not resolve whether any specific individual has been a victim of employment discrimination. This chapter discusses the laws prohibiting employment discrimination and the methods used in litigation to establish a legal finding of discrimination, drawing the link between economics and the legal context.

**How Lawyers and Economists View Discrimination**

Lawyers and economists both use the term discrimination to refer to adverse treatment of individuals on the basis of their membership in a group. But this is where the commonality of approach ends. The most obvious difference is that lawyers deal with specific cases, asking whether a specific employer has discriminated against specific individuals or groups. In contrast, economists rarely have information on specific cases, and indeed prefer to look at the big picture by examining statistical evidence from large samples of workers. Instead of asking "Were this individual's civil rights violated by her employer?" economists ask, "Are women systematically paid less than men with equal qualifications?"

A second difference pertains to the rules of the game. Lawyers must identify the specific laws that are violated and present supporting evidence, where the standards of evidence vary according to the nature of the alleged violation. As we will see soon, the legal framework constrains what evidence is permissible and what is identified as discrimination. In contrast, the main constraint on economists in analyzing discrimination is data availability. If we adequately control for all sources of hiring or pay differentials, we could then isolate whether any outcome is caused by unlawful decisions motivated by the sex of the individual rather than by legitimate differences in work related characteristics. Economic data falls far short of this ideal. Ironically, lawyers, who typically have far better information about individual workers than do economists, are often restricted by the legal environment to make use of much of this information.

**The Role of Economists**

While economists who study discrimination pay limited attention to the legal environment in specifying their economic models, lawyers value economists highly for their statistical prowess, since in many discrimination cases the evidence is primarily statistical. Many claims allege that a firm hired, promoted, or retained disproportionately few women or minorities, or paid women and minorities less than comparable men. To demonstrate discrimination in employment outcomes, economists present
statistical evidence based on labor market data showing a difference in observed outcomes for members of the protected class relative to what we would expect in the absence of discrimination.

In addition to providing statistical analysis of the labor market, economists provide estimates of compensatory damages arising from the adverse employment decision. For example, if a woman charges that her job has been wrongfully terminated, an economist would calculate how much she would have earned in the remaining time she would have been expected to hold her original job, offsetting this by what she earns on future jobs.

Economists also provide the important function in litigation of educating judges and juries about statistical evidence. Judges who typically have little training in econometrics decide the credibility of the statistical analysis, either directly or as the “gatekeeper” in allowing evidence to be presented in trial. Likewise, juries must interpret the statistical evidence to reach a decision. It is vital that economic experts explain complex statistical concepts in a manner that can be readily understood by persons without formal training in statistics so that the appropriate legal outcome results.

**Federal Equal Employment Opportunity Laws**

Employment discrimination refers to adverse treatment of workers based on their membership in a group. Equal Employment Opportunity (EEO) laws have evolved over the years and there are a number of statutes and amendments that comprise the federal laws. The centerpiece of federal employment discrimination law is Title VII of the Civil Rights Act of 1964 (Title VII), which prohibits employment discrimination by employers, unions, and employment agencies on the basis of race, color, religion, sex, or national origin. Sexual harassment, which includes demands for sexual favors as well as workplace conditions that create a hostile environment, is also prohibited under Title VII.

New legislation and amendments have increased the number of workers covered by the laws and have added protection against discrimination on the basis of age, disability, and pregnancy. In particular, the Pregnancy Discrimination Amendments to Title VII ruled that sex includes “pregnancy, childbirth or related medical conditions,” and requires that employers treat pregnancy and childbirth the same as any other condition similarly affecting the ability to work.

Other laws of particular relevance to women are the Equal Pay Act of 1963 (EPA) and the Family and Medical Leave Act of 1993 (FMLA). The EPA requires that men and women who perform equal work within a particular establishment receive equal pay unless justified by a system of seniority, a merit or production system, or “any other factor other than sex.” The FMLA allows employees of firms with more than 50 employees up to 12 weeks of unpaid leave in a 12-month period for birth or adoption of a child, to care for a family member, or for own health.
There are two situations in which employers can legally make decisions on the basis of group membership: when group membership is essential for job performance and as part of an affirmative action plan. First, an employer can make employment decisions on the basis of sex, religion, or national origin (but not on the basis of race) if this qualification is “reasonably necessary to the normal operation of that particular business or enterprise.” These are known as “bona fide occupational qualifications (BFOQ).” This condition is interpreted narrowly and must go to the essence of the employer’s business. It is not enough for the employer to claim they would make more money by discriminating, or that customer preference or customer discrimination forces them to discriminate.

Whether sex was a BFOQ was the issue in many cases involving airlines. Until challenged in the courts throughout the 1970s, most airlines hired only unmarried women as flight attendants. To justify their policies, airlines claimed that sex was a BFOQ. For example, in Diaz v. Pan American World Airways, Inc. (1971), Pan Am argued that business needs required them to hire only women flight attendants since they provide a soothing atmosphere preferred by male air travelers. In Wilson v. Southwest Airlines Co. (1981), Southwest Airlines likewise claimed that it was necessary for business purposes for their flight attendants to be dressed in provocative uniforms. The courts found neither of these explanations to justify sex as a BFOQ.

Affirmative action programs likewise specifically use race or sex in the employment process. There are three legally distinct forms of affirmative actions plans. First, Executive Order 11246 of 1965 (EO 11246) requires employers holding federal contracts to have a written affirmative action plan, which requires setting goals and timetables to correct underutilization of minorities. Second, courts can, and typically do, order affirmative actions plans as a remedy for prior discrimination. Third, employers can voluntarily institute affirmative action plans.

The Equal Employment Opportunities Commission (EEOC) was established by Title VII to enforce the EEO laws, establish equal employment policy, provide education, information, and technical assistance, to approve litigation, and to file suits in certain circumstances. Under Title VII, employees who feel they have been discriminated against are not permitted to simply file a suit. They must first file a charge with the EEOC (or with the corresponding state agency) within specified time periods. In FY 2000, 31.5 percent of the 79,896 charges filed with the EEOC were charges of sex discrimination. After receiving the charge, the EEOC investigates and determines whether there is “reasonable cause” to believe that Title VII has been violated. At this point the EEOC either dismisses the charge or attempts to resolve the charge by settlement or mediation. If this is unsuccessful, the EEOC may sue, or may issue a “right to sue” notice allowing the charging party to file a private lawsuit. The charging party may also file a private suit even if the EEOC dismisses a charge.

In addition to charges brought by individuals who believe that their employment rights have been violated, individuals, organizations, or agencies may file on behalf of another person. The vast majority of discrimination allegations involve a single
individual. Class actions allow a representative to sue on behalf of numerous similarly situated individuals, such as all women employees. The EEOC can also file suits alleging a “pattern and practice” of discrimination on behalf of a class even without identifying specific individuals who believe they have been discriminated against.

**Legal Theories of Discrimination**

Title VII discrimination claims are filed under one of two theories of discrimination: disparate treatment (also known as intentional discrimination) or disparate impact. As the Supreme Court wrote in Teamsters v. United States (1977), disparate treatment is the most easily understood type of discrimination. The employer simply treats some people less favorably than others because of their race, color, religion, sex, or national origin. Proof of discriminatory motive is critical, although it can in some situations be inferred from the mere fact of differences in treatment. The Supreme Court distinguished disparate treatment from disparate impact by noting that disparate impact claims involve employment practices that are facially neutral in their treatment of different groups but in fact fall more harshly on one group than another and cannot be justified by business necessity. Proof of discriminatory motive is not required under a disparate impact theory.

As noted earlier, economists use labor market data to compare employment outcomes of members of the protected class to what we would expect in the absence of discrimination. A statistically significant disparity can thereby provide evidence that this is a pattern and practice of employer behavior rather than a decision affecting only specific individuals for reasons not necessarily related to discrimination. In most Title VII lawsuits, the central issues are the strength of the statistical evidence, and how employers can justify their business practices. In short, if plaintiffs produce statistical disparities, the defendant employer has two options: rebut the statistical evidence directly, or show the employment practices are job-related and serve reasonable business purposes. If the defendant successfully argues that the practice served reasonable business purposes, the plaintiff still can prevail at trial by showing that an alternative policy with lesser discriminatory effects would be as effective.

Generally, class actions alleging pattern and practice of discrimination are disparate impact claims, while individual cases are disparate treatment. Until recently, both types of discrimination carried the same legal remedies, and were limited to actions that would make an individual “whole.” Making whole refers to restoring the individual to the condition they would have been in but for the discrimination and includes remedies such as back pay, hiring, promotion, reinstatement, and so forth. The Civil Rights Act of 1991 permitted compensatory and punitive damages, as well as jury trials, for intentional discrimination. Compensatory damages include payments for actual and potential monetary losses as well as compensation for mental anguish and inconvenience. In addition, if the employer is found to act with malice,
punitive damages could be awarded. In contrast to disparate impact, in which the amount of potential damages will be fairly predictably related to workers’ earnings, the possibility of punitive damages increases the financial risk faced by employers in disparate treatment cases. Jury trials, compensatory, and punitive damages are not permitted in disparate impact cases.  

Until outlawed by Title VII, disparate treatment was often quite explicit, with help wanted ads commonly stating “men’s jobs” and “women’s jobs” or “white only.” While such explicit discrimination is far more unusual now, a recent example shows that it has not disappeared (Albert Karr 2000). An employment agency recently agreed to stop filling job orders with stipulations such as “no Detroit residents,” “males only,” and “no applicants with accents.”

Disparate impact discrimination occurs via employment practices that have the effect of excluding one group even though the employer had no such intent. An example is height and weight minimums for prison guards, which are met by fewer women than men. This type of discrimination is subtler than disparate treatment, especially since many employment practices, such as height and weight minimums for prison guards, may seem perfectly reasonable and rational.

Many disparate impact cases involve hiring practices that may seem to be neutral. Employers use a variety of methods to advertise their job openings. Much recruitment is done informally, with current employees telling their acquaintances about job openings. From the standpoint of economic efficiency, this procedure may be attractive to employers. Recommendations from current employees may be informative about the quality and suitability of the candidate, and these applicants will have a good idea of the character of the job, which may reduce training costs and turnover. Such a practice, however, may well lead to a workforce that is not representative of the qualified workforce. A number of important cases have resulted from such hiring disparities, and one in particular, Wards Cove Packing Co. v. Antonio (1989), in part led Congress to pass the Civil Rights Act of 1991.

Regression Analysis in Employment Discrimination Cases

Regression analysis is routinely used in employment discrimination cases, particularly class actions, to provide evidence on whether similarly-situated individuals are treated differently for illegal reasons. By using regression models, we control for work-related characteristics such as education and experience that legitimately may cause differences in pay between individuals. It is deceptively easy just to run a regression using canned software, throwing into the model as explanatory variables whatever data are available. The statistical issues that economists tackle include the choice of the relevant sample, the decision of what variables to include, determining whether some variables are themselves the outcome of possible discrimination, and the consequences of excluding relevant variables on evidence or the magnitude of any gender pay disparity.
The consequences of incorrectly specifying the regression equation are well known. Exclusion of relevant variables may mislead researchers to the inference of discrimination, as sex or race serves as a proxy for omitted variables that are correlated with sex or race. On the other hand, inclusion of too many variables, or inclusion of inappropriate variables correlated with sex or race, may result in a misleading inference of no discrimination, as multicollinearity weakens the statistical significance of the group indicator variable. Furthermore, inclusion of tainted variables – those variables that are themselves the outcome of discriminatory practices – may likewise result in a misleading inference of no discrimination. A controversial situation that often arises is whether the regression should control for job level, since promotion decisions might have been made discriminatorily.

Must a regression analysis include all measurable or relevant variables in order to be presented as evidence in the courtroom? The US Supreme Court decided that it is not requisite that every relevant variable be included for a regression analysis to be useful. The Supreme Court stopped short, however, of the impossible task of defining precisely how complete a regression must be in order to be legally valid. In Bazemore v. Friday (1986: 400), the Court stated that:

> While the omission of variables from a regression may render the analysis less probative than it otherwise might be, it can hardly be said, absent some other infirmity, that an analysis which accounts for the major factors "must be considered unacceptable as evidence of discrimination." Normally, failure to include variables will affect the analysis' probativeness, not its admissibility.

One consequence of Bazemore is that defendants generally cannot undermine a regression analysis by simply pointing out that it lacks some variable.

While much effort is involved in including as many variables as validly possible, the legal framework also limits inclusion of certain variables. For example, economists routinely include in wage regressions indicators of marital status and number of children, and in fact there is an active literature examining the widely established male marital wage premium of around 10 to 20 percent (Joni Hersch and Leslie Stratton 2000). Employers, however, are legally prohibited from asking information about marital status and number of children. Often this information is available from employment records such as health and pension benefit forms, but whether it can be used in litigation enters murky grounds.

Not surprisingly, plaintiffs in sex discrimination cases present regression results showing there is a statistically significant disparity by sex in wages or occupation. Defendants then attempt to undermine this evidence. Often defendants start by attacking the regression equation on the basis that it omits so many important variables that it is meaningless. The Sears case, discussed later, is a prominent example in which the plaintiffs' regression analysis was criticized for failing to control for women's interest in commission sales jobs.
In addition to claiming that the regression omits the most important variables, there are several other tricks that can make statistical significance go away. Defendants frequently chop the sample into increasing small and homogeneous groups. By doing so, any gender disparity observed in larger samples is less likely to be statistically significant when the sample size declines or the sample observations become more alike. Other tactics include examining wage growth rather than wage levels, or controlling for starting salary in the regression. Since women will typically have lower starting salaries in those situations resulting in a discrimination suit, starting salary will be highly correlated with gender, weakening the statistical significance of the gender coefficient. Furthermore, precisely because women typically have lower starting salaries, they often have higher wage growth despite continued lower wage levels.

Do not be misled into thinking that all judges are naive victims of clever and persuasive economists. An amusing quote from United States Department of Treasury v. Harris Trust & Savings Bank (1986: 23) demonstrates that judges are often fully aware of the strategies that econometricians and statisticians use:

Expressed in simplest terms the Plaintiff's goal was to include every negative observation in the data base, while Harris, on the other hand, wished to emasculate the data base as much as possible by removing any damaging data observations. Both sides also manipulated the selection of variables in the statistical equations in such a way as to benefit them. These maneuverings translated into the Government including any female or minority employee, no matter how marginally qualified, in its data base, and Harris excluding any employee, no matter how well qualified, from its studies. The Department also studied the Harris work force in the largest slices possible to increase the statistical significance of its studies. The Bank disaggregated its employees to the maximum extent possible in an attempt to destroy any significant statistical output. Both sides selected or omitted variables for their regression equations which would skew the results of the studies in their favor. 7

An Overview of the Legal Process

The legal response to anti-discrimination laws has developed over the years as various cases raising complex issues have reached the courts. This section provides an overview of the legal process and discusses some prominent cases.

Disparate treatment claims

Most disparate treatment claims involve individual plaintiffs. The legal process typically begins with the plaintiff alleging that the reason for an adverse employment action was illegal discrimination. For example, a female plaintiff may allege that although she was qualified, she was not hired or promoted because she was female.

Early cases were based on quite explicit discriminatory treatment of women. For example, the employer in Weeks v. Southern Bell Tel. & Tel. Co. (1969: 236) refused to hire the female plaintiff for the job of switchman because it was deemed
“strenuous” and required emergency work at night and in locations that might be considered dangerous. The district court judge found this a violation of Title VII, noting:

[m]en have always had the right to determine whether the incremental increase in remuneration for strenuous, dangerous, obnoxious, boring or unromantic tasks is worth the candle. The promise of Title VII is that women are now to be on an equal footing.

As anti-discrimination laws became more widely known and enforced, it became less likely that an employer would have explicit discriminatory policies. Many individual disparate treatment claims are therefore based on circumstantial evidence (evidence from which a discriminatory motive may be inferred) rather than on direct evidence. A case of discrimination based on circumstantial evidence proceeds by process of elimination: once non-discriminatory reasons are ruled out, the inference is that the employment decision was motivated by unlawful discrimination. If the defendant does not rebut the plaintiff’s case, the plaintiff wins.

Usually, however, the defendant employer will deny that discrimination motivated the decision and offer a non-discriminatory reason for the employment decision. For instance, the employer may claim that the female employee was not promoted because she was incompetent or had weak interpersonal skills. Once the defendant has provided a legitimate, non-discriminatory reason, the plaintiff needs to show that the employment decision was actually due to discrimination, and that the proffered reason is “pretextual,” that is, a false or weak reason advanced to hide the actual reason.

What if the plaintiff succeeds in establishing that the employment decision was motivated by illegal discrimination, but the defendant employer asserts that they would have made the same decision for permissible reasons? Mixed motive cases are those in which the employer considered both prohibited reasons (say sex) as well as legitimate factors (say competence) in making an employment decision.

An extremely important case involving mixed motives is Price Waterhouse v. Hopkins (1989). Ann Hopkins sued her employer Price Waterhouse when it refused to offer her partnership. A number of the firm’s partners supported her for partnership. Evidence produced at trial indicated that her clients thought very highly of her, and she had been successful in securing for her firm a $25 million contract. Nevertheless, there were numerous concerns and comments about her “interpersonal skills,” particularly with staff members, and that “supporters and opponents of her candidacy indicated that she was sometimes overly aggressive, unduly harsh, difficult to work with and impatient with staff.” If these were the only grounds for refusing to make her a partner, there would be no case. But other grounds surfaced as the basis for the negative partnership decision. Partners described Hopkins as “macho,” and that she “overcompensated for being a woman,” and she was advised to “walk more femininely, dress more femininely, wear makeup, have her hair styled, and wear jewelry” to improve her chance for promotion.

The Supreme Court decided that the employer is not liable for discrimination if the employer would have made the same decision under legitimate criteria. Congress,
however, did not agree on this point, and amended Title VII in the Civil Rights Act of 1991 as follows: “an unlawful employment practice is established when the complaining party demonstrates that race, color, religion, sex, or national origin was a motivating factor for any employment practice, even though other factors also motivated the practice.” That is, Title VII is violated when unlawful discrimination is a motivating factor even if the same result would have been produced under legitimate criteria.

Despite the admirable aims of this legislation, the standards used in different federal circuits have varied, so the legacy of Price Waterhouse is unclear. This is not especially surprising. Multiple motives underlie most employment decisions. How large a motivating factor must sex stereotyping represent to meet the legal standard? Lower courts have used different standards including “discernible factor,” “significant factor,” and “substantial part,” and different outcomes have occurred even among courts nominally using the same standard (Tracy Bach 1993).

Systemic disparate treatment cases are claims of discrimination that affect groups rather than individuals. These issues can be highly controversial as some discriminatory policies may be intended not only to protect groups of workers but also to insulate the employer from tort claims. Consider Johnson Controls, a firm that manufactured batteries. In the manufacturing process workers were exposed to lead, which has been linked to the risk of harm to the fetus and the reproductive abilities of both men and women. In 1982 Johnson Controls shifted from a policy of warning about the hazards of lead exposure to a policy of excluding women of childbearing age from jobs that involved lead exposure. The Supreme Court found this practice to be illegal sex discrimination in United Auto Workers v. Johnson Controls, Inc. (1991). Perhaps the concern over fetal risks of lead exposure was exaggerated – at least OSHA thought so, and stated that “there is no basis whatsoever for the claim that women of childbearing age should be excluded from the workplace in order to protect the fetus or the course of pregnancy.”

The centrality of economic and statistical analysis in class action litigation was evident in EEOC v. Sears, Roebuck & Co. (1988). This case is noteworthy for a number of reasons, including the length of the trial, the massive amount of evidence produced, and the extensive and heated scholarly debate that ensued. Sears was the largest employer of women and the majority of its salespersons were women, but relatively few of the higher-paid commission salespersons were female. The EEOC sought to prove that Sears engaged in a national pattern or practice of discrimination by failing to hire and promote women into commission sales jobs on the same basis as men and by paying female management, professional, and administrative employees less than similar males.

The Sears case extended over an astonishingly long period of 15 years. The EEOC filed a discrimination charge in 1973. After settlement and conciliation efforts failed, the EEOC brought suit in 1979. A ten-month trial began in 1984, culminating in a verdict in favor of Sears. This verdict was upheld on appeal in 1988, which observers viewed as a crushing blow to the EEOC.
The EEOC’s evidence was almost entirely statistical. The EEOC presented no individual victim testimony, a fact that the court did not fail to notice. To demonstrate discrimination in hiring into commission sales jobs, the EEOC compared the proportion of commission salespersons that were female to the overall proportion of female applicants for any sales job at Sears. The EEOC used regression analyses to demonstrate that disproportionately few women held commission sales positions, controlling for individual characteristics including job applied for, age, education, and three measures indicating experience with sales and commission jobs and with product lines. These regression analyses yielded large statistically significant differences by gender.

Once the EEOC demonstrated statistically significant disparities, Sears could attempt to rebut the statistical evidence directly, which they did with a vengeance. Sears focused on undermining two of the EEOC’s key assumptions: that women and men were equally interested in, and qualified for, commission sales positions. The courts accepted the view that women were not interested in commission sales, based on Sears’ evidence that commission sales involved risk, unusual working hours, and “a high degree of technical knowledge, expertise and motivation” (EEOC v. Sears, Roebuck & Co. 1988 p. 320). Store managers testified to their inability to convince women to take commission sales jobs, noting that:

[v]arious reasons for women’s lack of interest in commission selling included a fear or dislike of what they perceived as cutthroat competition, and increased pressure and risk associated with commission sales. Noncommission selling, on the other hand, was associated with more social contact and friendship, less pressure and less risk. (p. 320–1)

Although the EEOC’s regression analyses controlled for objective measurable work-related characteristics, these analyses were discounted by the court, in noting “[o]ther important factors not controlled for in EEOC’s analysis are those characteristics which could be determined only from an interview, not from the written application. These include physical appearance, assertiveness, the ability to communicate, friendliness, and economic motivation.” In other words, hiring decisions were based on subjective factors, and who had more economic motivation than male heads of household? Indeed, in contrast to education and years of work experience that can be quantified, it is hard to imagine how we would unambiguously quantify interest and economic motivation.

In his dissent of the appellate court verdict, Judge Cudahy criticized the district and appellate courts’ reliance on Sears’ stereotypical assumptions of women, stating:

[t]hese conclusions . . . are of a piece with the proposition that women are by nature happier cooking, doing the laundry and chauffeuring the children to softball games than arguing appeals or selling stocks. The stereotype of women as less greedy and daring than men is one that the sex discrimination laws were intended to address. It is disturbing that this sort of thinking is accepted so uncritically by the district court and by the majority (Dothard v. Rawlinson 1977 p. 361).
Disparate impact claims

Disparate impact cases usually involve groups of workers in a protected class, and frequently arise from hiring practices. Demonstrating disparate impact requires showing that the facially neutral employment practices are not necessary for business purposes and result in a statistical disparity among workers in protected classes. Proof of discriminatory motive is not required. Evidence on whether an employer’s hiring practices resulted in disparate impact is necessarily statistical.

As with disparate treatment cases, the issues in disparate impact discrimination can be highly controversial. The issue in Dothard v. Rawlinson (1977) involved height and weight requirements for prison guards employed by the Alabama state penitentiary system. The minimums excluded less than 1 percent of men in the population but over 40 percent of women. Thus, it was easily established that these requirements had a disparate impact on the employment of women. The employer argued, without offering supporting evidence, that height and weight are related to strength, and that strength is essential to job performance. If strength were job related, it could be tested directly – a direct test would satisfy Title VII. Thus, the district court held that the height and weight requirements violated Title VII. Furthermore, although prison guards are in close contact with prisoners, the district court rejected the employer’s defense that sex was a BFOQ. The Supreme Court disagreed with this final point, ruling that the employer could hire only male guards in contact areas of maximum-security penitentiaries because more was at stake than the “individual woman’s decision to weigh and accept the risks of employment.” Sex was found to be a BFOQ since it related to the guard’s ability to maintain prison security, referring to the likelihood that inmates will sexually assault women guards.

That the mere presence of women guards undermines prison security is highly speculative, as Justice Marshall pointed out in his dissent. He also noted:

this rationale regrettably perpetuates one of the most insidious of the old myths about women that women, wittingly or not, are seductive sexual objects. The effect of the decision, made I am sure with the best of intentions, is to punish women because their very presence might provoke sexual assaults. (Dothard v. Rawlinson 1977 p. 345)

A recent case raises similar issues regarding physical standards for police officers. The situation in Lanning v. Southeastern Pennsylvania Transportation Authority (1999) involves a public transportation authority that required that applicants for jobs as transportation police officers run 1.5 miles in 12 minutes. Since relatively fewer women than men are able to meet this standard, the screening test had a disparate impact on employment of women. The trial court found this screening test was validly related to job performance. This finding, however, was reversed on appeal on the grounds that the transportation authority failed to show that meeting this requirement was necessary for successful performance of the job in question. In contrast, in 1994 UPS changed the minimum weight that its truck drivers are required to lift from 50 pounds to 150 pounds. While this new policy undoubtedly has a
disparate impact on the employment of women, since UPS accepts for shipment packages weighing up to 150 pounds, this requirement is defensible on the grounds that it is necessary for business purposes.

**Affirmative action – reverse discrimination claims**

While affirmative action plans have the laudable goal of increasing opportunity and eliminating segregation in the workforce, in practice they are frequently highly controversial. Whites and males have brought Title VII charges arguing that by giving preferential treatment to those in protected classes, they were thereby unlawfully discriminated against.

The Supreme Court has determined that affirmative action plans are permissible if they are designed to remedy “a manifest imbalance” in traditionally segregated jobs and they do not “unnecessarily trammel on the interests” of the majority group members. In order to determine whether a manifest imbalance in a traditionally segregated job category exists, the minority composition of jobholders is compared to their availability in the relevant labor market. The disparity does not have to be as great as required to support a legal presumption of discrimination, so employers can adopt a voluntary affirmative action plan without showing past discrimination on their part.

The seminal Supreme Court case establishing the legal status of affirmative action programs in addressing gender disparities is Johnson v. Transportation Agency (1986). The Agency found that women composed only 22.4 percent of their employees, while the area labor market was comprised of 36.4 percent female. Furthermore, there was a high degree of segregation by sex within job categories. In particular, none of the Agency’s 238 workers in the relevant job category “Skilled Craft” were women. These factors established that there was a “manifest imbalance” in the proportion of women in traditionally male jobs. As part of its affirmative action program, the Agency considered the sex of a qualified applicant when making promotion decisions into male-dominated job classifications. A male employee who was passed over for promotion in favor of a woman brought suit, alleging that he had been denied promotion on the basis of sex in violation of Title VII. The Supreme Court found that the voluntary affirmative action plan was legal. Considering sex in making promotion decisions did not trammel on the rights of men since only qualified women were considered for promotion, sex was only one factor in the employment decision, and the plan did not create an absolute barrier to men’s promotion.

There have been a number of cases involving university faculty members. Typically the university involved in reverse discrimination litigation had conducted a salary equity study using regression analysis, finding that women were paid less than similar men. The university then instituted an affirmative action program, either voluntarily or by court order, which raised women’s pay. Male faculty members then filed suits claiming that these affirmative action programs violated their rights under Title VII, alleging that the salary equity study in question was too flawed to be credible and spuriously indicated a gender pay disparity. By this argument, if there is no actual gender pay
disparity, there is no manifest imbalance. And if women’s salaries were raised but not men’s in the absence of a manifest imbalance, then men’s rights were trammeled on.

Smith v. Virginia Commonwealth University (1995) provides a useful example of the complex econometric issues involved. In 1989, Virginia Commonwealth University (VCU) conducted a salary equity study and performed a multiple regression analysis taking into account educational level, tenure status, number of years of VCU experience and number of years of prior academic experience. This study indicated that women faculty members earned on average $1,354 less than their male counterparts. This average gap of $1,354 was multiplied by the number of female faculty members, and this sum of money was distributed to female faculty members with the amount varying according to individual merit.

Male faculty members sued alleging Title VII discrimination, claiming that the regression omitted the most important variables and in doing so erroneously found a gender pay disparity. The male plaintiffs’ suit maintained that the regression analysis was invalid because it failed to control for prior experience as an administrator and for performance factors. Administrators were paid higher wages, and faculty members retained this increase in salary when they return to teaching, thus inflating faculty salaries. If indeed women are less productive than men, excluding performance factors will indeed widen the pay gap attributed to sex.

Why didn’t VCU take these factors into account? The university explained that their study did not include performance factors, such as teaching evaluations and number of publications, for three reasons: that they are difficult to quantify, because they are included indirectly in the form of academic rank, status, and experience; and because there is no reason to believe that performance differs by gender. VCU’s reason for not taking into account a faculty member’s prior service as an administrator is that this is likely to be a tainted variable. A disproportionate number of men had prior administrative experience, and the selection of administrators may itself be the outcome of discrimination.

The male plaintiffs in the VCU case never presented estimates from an alternative regression model. Without additional analysis, the consequence of including these additional factors (if appropriate) is by no means certain. Studies have found a gender pay gap among faculty members persists even after publication records are included in the regression (Michael Ransom and Sharon Megdal 1993; Richard Raymond et al. 1988).

**Concluding Comments**

One legacy of Title VII of the Civil Rights Act of 1964 is that women under age 50 have spent their entire labor market years covered by laws prohibiting employment discrimination on the basis of sex. Since women have been covered by these laws for almost four decades, there should only be litigation under these statutes if there are violations. Many economic theories predict that discriminatory forces should be
eliminated over time either through market competition or through learning about gender differences in productivity. This has not, however, occurred. Discrimination litigation is alive and well, and the many suits and settlements favoring women plaintiffs suggest that the end to employment discrimination is not in sight.

Many visible recent cases involve professional women. In the past, few professional women sued, perhaps out of concern that they would be stigmatized and their career would be jeopardized. Over time, however, professional women have become more outspoken. There have been a number of suits charging sex discrimination by women academics. A recent example involves the tenure denial of a woman professor employed at Vassar College, a historically female college, who claimed sex discrimination. Some notable recent cases have involved women employed at several Wall Street firms, including Morgan Stanley, Merrill Lynch, and Smith Barney. In particular, Smith Barney achieved notoriety because of its “boom-boom room” in which women were verbally and physically harassed.

Economists continue to play a central role in society’s efforts to eliminate discrimination through litigation efforts. Regression equations are widely used to determine whether there is a pay or occupational disparity attributable to sex rather than to legitimate factors, and the principle battleground continues to be over the proper specification of these equations. The standards for statistical evidence are becoming better defined as lawyers and judges become more experienced with quantitative methods. The continued refinement of economic methods, particularly in labor economics and econometrics, will bolster the role of economists in the courtroom and help achieve society’s goal of eradicating discrimination.

NOTES

1 The value for 1969 is provided in Francine Blau (1998), Table 4 and refers to mean earnings for full-time wage and salary workers between ages 25 and 64. The value for 1999 is calculated from U.S. Census Bureau (2000), No. 696, and refers to median earnings for full-time wage and salary workers over age 25.

2 Sex was not included in the initial draft of the act. Ironically, sex was added as a protected class by an opponent of the entire Civil Rights Act, apparently as an (unsuccessful) attempt to defeat the entire bill.

3 An interesting historical note is that in World War II, the War Labor Board mandated “equal pay for comparable work” for men and women. This policy expired when the war ended, and the ensuing administrations were unable to extend this provision. In adopting the EPA, Congress imposed a more stringent standard — “equal pay for equal work” than the War Labor Board policy of “equal pay for comparable work.”

4 Source: http://www.ecoc.gov/stats/charges.html.

5 Why do you think the Civil Rights Act of 1991 increased the penalties for intentional discrimination? One possibility is that as our society moves closer to the goal of eliminating discrimination, and the anti-discrimination laws become more ingrained in employers' minds, intentional discrimination is even more blameworthy and should be subject to greater sanctions.
For a brief overview of regression analysis, please see chapter 11 by Irene Powell in this volume.

The court found that Harris had discriminated against women employees. The complete text is available at http://www.osl.dol.gov/public/ofccp/desn/780f02e.htm.

The seminal Supreme Court case specifying how circumstantial evidence is used in employment discrimination cases is McDonnell-Douglas v. Green (1973). There are four parts to establishing sufficient legally required evidence of discrimination to require rebuttal by the defendant. For example, in a case of hiring discrimination, the plaintiff would need to demonstrate that she is female and therefore a member of a protected class; that she was qualified for a job that she applied for; that she was rejected; and that the position remained open and the employer continued to seek applicants with similar credentials.

While this may mitigate the possibility that tort claims from exposed employees would be successful, it does not prohibit claims by injured children. Keep in mind that scientific evidence does not insulate employers from tort actions. Bendectin, a widely used effective treatment for morning sickness, was taken off the market after the manufacturer, Merrell Dow, faced thousands of suits (Foster and Huber 1997). Despite no scientific evidence that Bendectin caused birth defects, multiple juries found the manufacturer liable, although Merrell Dow won on appeal in all but one case.

The district court granted summary judgment in favor of VCU, finding that the university properly instituted its affirmative action plan. The male faculty members appealed, and the appellate court found that there was a “genuine issue of material fact,” which makes summary judgment for either side inappropriate. The case was thereby remanded to the district court for a complete trial. There is no information regarding VCU available on Westlaw after the 1996 appellate court finding. Presumably this case settled out of court.

Law school courses in quantitative methods are becoming more widespread. For example, Harvard Law School instituted a first year course in Analytic Methods for Lawyers in Spring 2000, which was immediately enrolled at capacity.

REFERENCES


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