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Women's Issues-Comparable Worth



Women's issues -
comparable worth

MAR 29 1999

INSTITUTE FOR WOMEN'S POLICY RESEARCH

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March 25, 1999

Mr. John Podesta
Chief of Staff to the President
The White House
Washington, DC 20500

Dear Mr. Podesta:

When we met some weeks ago with members of the National Committee on Pay Equity and Senator Harkin to discuss the Fair Pay Act, I promised to send you some materials that might be helpful in your understanding of the gender-based wage gap and the need for pay-equity-type remedies.

Please find enclosed the title pages and table of contents of several of the National Academy of Sciences/National Research Council reports on pay equity, along with a few excerpts. These convey the state of the art in the United States and, overall, indicate that pay equity remedies are doable and necessary. As you know, most of the U.S. experience is within the public sector, but pay equity applies to the private sector in several provinces of Canada and in the United Kingdom in much the way that it would be likely to be implemented in the United States, by relying on each firm to ensure that its pay scales are free of gender or other bias.

I am also enclosing a summary of IWPR's study of the implementation of pay equity remedies in several of the state civil services in the U.S. It shows that pay equity remedies have worked to raise women's salaries relative to men and that for the most part job losses were small or nonexistent, so that the disruption that some experts predicted did not occur.

Also enclosed is a briefing paper we wrote last year that documents the slow down in women's real wage growth. Since about 1990, the wage gap has not been closing as rapidly as it did in the 1980s. Much of that past real wage growth can be attributed to human capital gains made by women. Women are still catching up to men in experience and higher education, but less rapidly than before (as they approach equality the rate of increase slows). Thus, if human capital increases cannot be counted on to achieve substantial new wage increases for women, then stronger enforcement of eeo laws, and quite possibly new laws, will be needed to continue to close the wage gap. Of course, such policies as a higher minimum wage and encouragement of unionization, which reduce wage inequality generally and help pull up the bottom tier of wages, are also important in closing the gender-based wage gap, since women are still disproportionately at the bottom of the wage scale.



Unfortunately, the Clinton years have not been as good for women's wages as were the Reagan-Bush years. It would be very useful to women for the Clinton administration to have a strong initiative to help raise women's wages. As an economist, I have been studying women's wages and the gender-based wage gap for more than 20 years. In my view, strong remedies, such as pay equity, are needed to help close the gap. It is only a matter of time before such remedies are implemented in the United States, but sooner would surely be better for U.S. women than later. Clearly the political climate needs to change to allow pay equity to be legislated and implemented. As we discussed at the meeting, the President could play a strong leadership role in raising consciousness about the need for pay equity remedies. They would do so much for women's pay and long-term economic security.

I hope these materials prove useful to you. Thank you for your time and attention on February 25, and please do not hesitate to contact me if you feel I can be of further help. I would be happy to meet with you or any of the White House staff to discuss the pay equity issue further.

Cordially,



Heidi Hartmann, Ph.D.
Director and President

cc: Senator Tom Harkin
Susan Bianchi-Sand
Janet Yellen, Chair, CEA

Enclosures: *Pay Equity: Empirical Inquiries*. National Academy Press, Washington, D.C., 1989, title page, table of contents, essay entitled "Pay Equity: Assessing the Issues."

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Heidi Hartmann

PAY EQUITY

EMPIRICAL INQUIRIES

Robert T. Michael, Heidi I. Hartmann,
and Brigid O'Farrell, *Editors*

Panel on Pay Equity Research
Committee on Women's Employment and Related Social Issues
Commission on Behavioral and Social Sciences and Education
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Pay Equity: Assessing the Issues

ROBERT T. MICHAEL and HEIDI I. HARTMANN

Despite the progress economists and sociologists have made in recent years in understanding wage determination and the occupational structure of the labor market, large unexplained differences in wages between women and men remain. Differences in skill, experience, effort, labor force attachment, and many other variables that have been studied do not account for all the earnings differences observed. On the face of it, the unexplained gender differences in wages are consistent with the widely held belief that there is substantial discrimination against women in the labor market—a systematic bias in wage payment that favors men over women. The inability of social accountants to “explain” the gender gap in wages is often joined with the widespread social suspicion of sex bias, and the former is viewed, at least indirectly, as evidence of the latter.

“Comparable worth” or “pay equity” has been proposed, along with equal employment opportunity and affirmative action, as a strategy to eliminate gender bias from the labor market, particularly in the determination of wages. Comparable worth or pay equity strategies generally rely on the use

of objective criteria to value the content and requirements of jobs (job evaluation) in a way that eliminates gender as a compensable factor.

One’s assessment of comparable worth as a prescription for social ill depends partially on one’s understanding of the reasons for the observed gender difference. If that difference in wages is attributed to legitimate market forces just not yet well understood or not yet well measured in studies, then the prescription is probably viewed as a poor one: It imposes restrictions and bias on a world that is working fine, albeit not well understood. In this view there is no social ill, so there is no rationale for any medicine. If, on the other hand, the gender difference is attributed to systematic bias in the labor market, then there is a social ill, and a need for some medicine. In this case, if that prescription is comparable worth policy, it becomes necessary to employ “objective criteria” for setting wages in a way that eliminates gender bias. If comparable worth is prescribed, there is a need to assess its side effects as well as its potency.

Extending the metaphor of illness and a proper prescription one step further, com-

comparable worth is not designed to cure all possible labor market discrimination against women. It is a prescription for a specific illness that has to do with certain jobs being undervalued. In particular, if jobs held disproportionately by women are undervalued according to some objective criteria partly because they are held disproportionately by women, then comparable worth is a medication a wise doctor would consider prescribing. If instead a different illness exists, one that is related to limited access to certain jobs for women, or to limited opportunity for advancement by women, or to lower pay to women for the same work (as distinct from comparable work), then other medication, such as equal employment opportunity legislation, remedial affirmative action, or traditional equal pay remedies, would be more appropriate.

In sum, the logic that would lead one to conclude that comparable worth is a wise social policy requires the following: (1) there is a gender difference in wages that is not explained by legitimate market forces; (2) the gender difference is linked to the undervaluation of jobs held disproportionately by women; (3) the jobs can be objectively evaluated such that an appropriate level of compensation can be determined by some mechanism other than competitive labor market forces (or that removes the effects of gender bias from market forces); and (4) performing the evaluation and implementing the implied appropriate wage structure is on balance preferred both to eliminating that wage difference by any other means and to not eliminating it (i.e., any adverse side effects from its implementation are overcome by the benefits of implementation).

These are the issues addressed by the papers contained in this volume. They are empirical studies by a wide spectrum of social scientists. The researchers were selected for funding by the Panel on Pay Equity Research because each study addresses key issues of fact that are important

to assessing the appropriateness of comparable worth strategies: What determines individual and occupational wages? How are wages set and how do firms and agencies structure their pay plans? How are decisions about promotions and new hiring made? How have workers fared as a result of comparable worth implementation and how did they react? Careful descriptive studies can contribute to our understanding of many of these issues, and more analytic studies can address issues of causation. Nevertheless, the difficulties of drawing causal inferences from the nonexperimental data used in the social sciences must be noted here. The simultaneous operation of many factors in the real world and the inability to devise perfect measures and controls make it very difficult to identify causes with much certainty.

As described in the preface, our Panel on Pay Equity Research selected eleven empirical studies of aspects of the comparable worth debate through a competitive proposal process. Several additional experts were asked to comment on these papers at a workshop. The papers and selected discussant comments in this volume address three questions of fact:

1. To what extent is the gender difference in wages in the United States today explained by personal differences in skill, effort, experience, and other characteristics that might be legitimate determinants of wages? Although essentially a factual issue, there are many ways to measure that fact, so it is not a trivial task to answer this question. The papers by Gerhart and Milkovich, by Sorensen, and by Nakamura and Nakamura address this question using data on *earnings of individuals*. The essay by Subich, Barrett, Doverspike, and Alexander adds psychological perspective by reviewing the literature that considers gender differences in socialization and their potential impact on individual life outcomes.

2. Since job or occupational difference appears to be so intricately related to gender

differences in wages in the United States today, how should job or occupational segregation by gender and differences in the average wages of female and male workers in occupations be understood? The papers by Baron and Newman, by Parcel, and by Filer address this question, with *the job or the occupation* as the basic unit of their analyses.

3. Since there are examples of the implementation of "comparable worth" plans, what is the evidence regarding their impact? Are such side effects as job loss or structural change significant? These are the questions addressed by the three papers by Orazem and Mattila, by Evans and Nelson, and by Gregory, Anstie, Daly, and Ho.

THE EMPIRICAL INQUIRIES

Gender Differences in Wages: Wage Determination for Individuals

Male-Female Salaries and Promotions in a Large, Private Firm

The Gerhart and Milkovich paper investigates gender differences in wages and labor market treatment controlling for personal characteristics. The strategy in this paper is to study one large, private, unnamed, highly diversified firm and investigate details of salary and employment dynamics (promotions and salary adjustments). The authors study workers in administrative and professional jobs, examining patterns of wages and wage changes for employees who were with the firm continuously from 1980 through 1986. The primary data set includes 5,550 men and 840 women.

The strengths of this study include the following: (1) much is "held constant" in an investigation of behavior within a single firm, (2) the study has an unusually good independent measure of each employee's job performance (a 4-point scale), on which the firm's compensation policy is explicitly based, and (3) the measures include job tenure *on that job*, an especially important

factor for an investigation of gender differences in wages. Two problems with the study, discussed by Winship, are (1) a study of only one firm cannot yield generalized findings—we do not know whether the findings here apply to other firms or other periods of time, and (2) the focus on employees who were continuously employed by this firm over the 6-year period under scrutiny imposes a censoring of the data—employees who left the firm may have had systematically different characteristics or experiences in the firm. A section of this paper does compare findings for the censored set of workers with an uncensored set.

A specific question addressed by Gerhart and Milkovich is what, if any, is the salary disadvantage for women compared with men in this firm? In 1980, overall, the answer is that a woman received a salary that was only .84 of a man's salary, before adjusting for human capital differences, and was about .88 after adjusting for schooling, job tenure, tenure with the firm, and a measure of other potential labor market experience. (The main influence here is job tenure—the men had been at their specific jobs a good while longer than the women.) The salary differential was not much affected by including in the analysis the 4-point job performance scale, but if "job level" is accounted for, the women's pay increased to about .96 of the men's pay. (Job level is defined in terms of status and authority within the firm, which was measured by a 7-point scale.) So we learn, that in this firm, in 1980, for these categories of employees, adjusting for all these skill measures and job assignments, there remained a 4 percentage point disadvantage for women within job level, but a large 12 percentage point difference related to job level. It is not obvious what we should make of the finding that within job level the sex differences in salaries are as small as 4 percentage points, while across job categories the differentials are far greater.

Interpreting the 4 percent residual remains a dilemma that is a plague of a re-

search strategy that leaves the crucial element in the residual: If we can remove the differential we might attribute it to the variable that achieved its removal, but if we cannot remove it from the residual all we can say is that it is still there. Interpreting the larger differential across job levels requires an answer to another question. Why are the women disproportionately in the lower salaried jobs? Gerhart and Milkovich's data cannot tell us. If it is because of choices men and women make about the type of jobs they want, we would not want to think of it as discrimination by this firm. If, however, it is because of restrictions imposed on women, then we would want to attribute it to discrimination—or put more cautiously, we could not rule out the possibility that it is attributable to discrimination.

For a small subset of men and women in their sample who worked in job titles with 10 or more incumbents, Gerhart and Milkovich find that the higher the percentage who are female in that job, the lower is the salary of the men, but not women, in that job. They conclude that this subset of their sample "does not really provide support for the idea that percentage female is an important structural property that negatively affects women's (and perhaps men's) attainment."

A second important finding in Gerhart and Milkovich's study is that the wage disadvantage of women declined slightly between 1980 and 1986—the overall relative wage of women to men rose from .84 (in 1980) to .88 (in 1986), and adjusted for skill, performance, and job level, it rose trivially and surely insignificantly (statistically) from .96 to .97. Gerhart and Milkovich suggest that the firm may now be compensating women for past inequalities.

Gerhart and Milkovich address two other questions in their paper: Do men and women receive equal salary increases? Do they receive the same promotion opportunities over time? The answer to each of these questions is no—women fare better than

men. Women's salaries rose more rapidly than men's, and over the period 1980–1986, women "had a distinct promotion advantage," say Gerhart and Milkovich. Men had, on average, .9 promotions while women had 1.3. Moreover, the advantage women had in terms of promotions did not decline at higher job levels. For men, their greater experience in the labor market appears to be a major factor that helps explain their lower level of job promotion, because promotions come more frequently early in one's career.

To respond to the concern about censoring in their sample, Gerhart and Milkovich also looked at salaries for all women and men employed in 1980 or in 1984 without conditioning for continuous employment. They then compared the average salary growth for the two separate groups with salary growth for the subset who were employed in both 1980 and 1984. They found that the relative growth rate of women compared with men was the same in the two cases: Women's salaries grew by 114 percent of the growth of men's salaries. Apparently, focusing only on those with continuous employment in this firm did not create a biased picture.

In his critique of the paper, Winship stresses two additional points: (1) the results are potentially sensitive to the functional form of the equation used to adjust for skill and job level, and a less restrictive functional form might have been better and (2) many interpretations can be given to the findings in this paper. Winship elaborates several alternative stories—based on women's childbearing behavior and the employer's screening devices—that could explain the findings.

Occupational Segregation and Earnings

Sorensen uses micro-level data from the May and June 1983 Current Population Survey to investigate the influence of oc-

occupational segregation by sex and race on hourly earnings. She estimates regression equations on hourly earnings separately for white men, white women, minority men, and minority women, where minority includes blacks and Hispanics (other minority groups are excluded from her study). The data contain information about tenure on the current job, but other job market experience is measured by the convenient and frequently used device of age minus years of schooling minus six, approximating the number of years since the person left school. We call this the potential experience index. The measure may be a better indicator of labor market experience for white men than for white women, because women traditionally have spent more of their adult lifetime outside the labor market.

After controlling for personal characteristics and attributes of the occupation and industry, Sorensen focuses on the proportion of the occupation that is female, a variable discussed Smith called the comparable worth variable. That variable is systematically related to lower wages for all four of the groups Sorensen studies. For each of the four groups—white men, white women, minority men, and minority women—the wage is about 2 percent lower for someone working in an occupation with a 10 percentage point higher proportion of women. The finding seems to hold up when various alternative ways of estimating the equations are compared.

For white men and women, Sorensen looks separately at three sectors: public, manufacturing, and nonmanufacturing (mainly the service sector plus construction and mining). The proportion female in the occupation lowered the wages of men and women in the public sector relatively strongly (by about 4 percent for white men and 2 percent for white women for each 10 percentage point increase in the proportion female). In the nonmanufacturing sector, the effect was less strong (by 3 percent for white men and 2 percent for white women),

and in the manufacturing sector it was least strong (by 2 percent for white men and insignificantly for white women). In her discussion of Sorensen's paper at the workshop, Malveaux noted that the lack of importance in manufacturing could be due to the importance of industrial or firm segregation within manufacturing (e.g., men work in durable goods manufacturing and women in nondurable goods).

Sorensen also investigates the impact of the percentage of the occupation that is minority (black and Hispanic) and finds a statistically significant impact only for white men—a 10 percentage point increase in the proportion minority is associated with a 4.9 percent lower wage for the white men in the occupation. That effect is substantially smaller (–.8 percent) for white men in another specification of the model, and it appears to be present only in the nonmanufacturing sector of the economy.

Comparing the wages of white men and white women, Sorensen concludes that differences in jobs and personal productivity account for about 25 percent of the observed difference in wages overall (\$3.32), and industrial and regional differences account for another 15 percent. Occupational segregation by sex accounts for an additional 20 percent on average, which leaves about 40 percent unexplained by any of the measurable factors. For minority men compared with white men, the job and personal skill variables account for about half of the observed difference in wages overall (\$2.11), but the other half is unexplained—that is, the occupational segregation by sex or race and the industrial and regional differences in jobs held do not explain any of the observed differences between white and minority men.

Malveaux raised the issue of whether personal productivity characteristics really are related to productivity (or are simply inexpensive screening devices) and whether they are free of race and gender bias. Differences in educational attainment or in

courses of study, for example, can result from "tracking" or other factors. The unexplained residual might then understate the extent of discrimination, Malveaux contends.

Overall, Sorensen concludes that as much as 20 percent of the national female-male earnings disparity could in principle be eliminated by a policy that eliminated occupational sex-based differences in wages, ignoring all the other complications that might arise. The wage ratio for women to men could be increased, say, from about 64 percent to 72 percent, which would reduce the size of the wage gap from \$3.32 to \$2.66. As Malveaux pointed out, this means comparable worth is a limited strategy, though by no means an insignificant one.

Labor Market Crowding and Earnings of Women

Nakamura and Nakamura provide a rather different study of individual wage determination. They argue that it is important to understand how wages are determined in female labor markets, and they refer to a substantial empirical literature that suggests that there are distinct male and female labor markets. The Nakamuras use data from the 1980 U.S. census to investigate the wages of employed women 20 to 24 years of age. That data set is one of the few with sufficient numbers of observations to permit examination by occupation and other subgroups of interest. The authors focus on crowding in the labor market, by which they mean a relative abundance of women offering their labor in a particular market. They measure crowding by the number of women in the entry age bracket (20 to 24) compared with another age (25 to 29) and by the employment rate of women of that age compared with the other age.

Nakamura and Nakamura suggest that there are two reasons why we should expect women with relatively low levels of edu-

cation, those who are black, and those with children to be especially vulnerable to labor market crowding: (1) barriers to entry to better jobs (such as schooling requirements) may protect the more educated women but not the less educated and (2) effective labor bargaining can secure concessions from employers through contractual agreements that rely on seniority and promotions from within the firm, so that those already employed can protect themselves from crowding. This suggests that crowding would have an adverse effect on the wages of lower skilled and black women and on those who are mothers, but not on the wages of higher skilled and white women.

This indeed is what Nakamura and Nakamura find tentative evidence of in their regressions of the log of wages on personal characteristics and state-level measures of crowding and unemployment. The relative population size and employment rate of women aged 20 to 24 tend to depress wages of women in occupations that have fewer well-educated women—personal service, other clerical, secretarial, and sales—but not so in occupations requiring more schooling—managerial, health, and professional/technical occupations. Similarly, the crowding effects are discernible for women in the sample sorted by less education, by the presence of children, and by race (black), but not so for women with more than 12 years of education, with no children, and who are nonblack.

In his comments on the Nakamura and Nakamura paper at the workshop, Ehrenberg raised two cautionary notes. First, he suggested that the evidence of crowding is clouded by inadequate control for job experience and by a mismeasurement of the crowding variable. Census data do not reveal how much labor market experience the women have, and the conventional measure, years of potential experience (age minus years of schooling minus six), probably overstates the experience for blacks, mothers, and the less educated, for reasons he

articulated. The crowding measures, Ehrenberg thinks, would be better suited if they were occupation specific instead of state specific. He further cautions that if the crowding is the product of voluntary choice by women, the case for public policy intervention is not strong. He urges subsequent research looking into the process by which women make their occupational choices.

The studies of individual earnings by the Nakamuras, Gerhart and Milkovich, and Sorensen substantiate that the pay received by a woman is less than the pay received by a man, when skill and other relevant factors are accounted for. Of the three papers, perhaps Sorensen's paints the bleakest picture since a substantial gender gap remains in the Current Population Survey data after adjustment for measured characteristics. One of the important variables negatively affecting earnings, she finds, is the proportion of an occupation which is female. Although Gerhart and Milkovich's data on one firm exhibit large gender differences in job assignment, the proportion female of a job does not seem to affect wages, salary growth, or promotion. The evidence over the 6 years following 1980 indicates that women who had less initial experience have had more promotions and raises and that the gender gap in wages was smaller, although not eliminated, by 1986. Nakamura and Nakamura's paper looks to the national job process and identifies three subsets of women who, they believe, are easily vulnerable to labor market crowding.

Sex-Role, Occupational Choice, and Salary

A very different orientation to individual wage determination is represented by Subich, Barrett, Doverspike, and Alexander. Their paper discusses a set of issues about psychological differences in men and women and whether those differences might partially be responsible for observed wage dif-

ferences. This paper provides a survey of literature on psychological research on factors identified as related to occupational behavior and its outcomes. The factors include male-female differences in knowledge of salaries in various occupations, in self-confidence and personal expectations in the marketplace, and in risk-taking behavior.

Subich and her colleagues indicate, for example, that the literature supports the notion that risk taking is a masculine attribute, that men are bolder than women and more venturesome physically and with financial decisions. This gender-role difference, we are told, may carry over to men being more likely to gamble by asking for a raise.

Subich and colleagues conducted two pilot studies with college students, the results of which are reported in their paper as illustrative of psychological gender differences. The studies found that when asked about salaries in their intended occupations, both genders overestimated salaries substantially, but men did so to a greater extent than women. There was, they report, no clear evidence of a gender difference in confidence about one's own occupational success. Men, however, did seem to be more prone to risk taking. Both findings might contribute to salary differences between women and men.

Subich and colleagues remind us that there are subtle personal factors that affect expectations and performance in the labor market. These factors suggest alternative remedies to reduce male-female differences. At the workshop, discussant Hudis suggested a future research strategy to identify some of these factors. Though, as she noted, the subjects in the pilot studies were college seniors with, presumably, some interest in the job market, data from workers would be more fruitful to analyze. Risk-taking behavior by female and male employees—taking a risky overseas assignment, for example—could be directly examined in a large firm, where actual salary

data, including salary history, would be available. Hudis further suggests that within a firm equal employment opportunity policy could be influenced by knowledge of women's and men's risk-taking behavior. If risk taking pays off, then women should be encouraged to try it, and information about the rewards of various career opportunities should be more widely shared.

Jobs and Occupations as the Unit of Analysis

Three papers in this volume study the relationship among occupation-based wage rates (average wages for women and men in an occupation), gender, and various factors that could explain how and why occupational wage rates differ. The interest in jobs and occupations as the unit of analysis in comparable worth studies has several bases. Most important, perhaps, is the comparable worth claim itself: Female-dominated *jobs and occupations* are undervalued—not individual nurses, but the nursing profession itself is paid less than it is worth.

A theoretical framework for evaluating the reasonableness of the comparable worth claim had already been established in sociology and economics with the study of institutional labor markets and occupational structure. That body of literature has also contributed to the comparable worth studies. Given that employers do treat holders of particular types of jobs similarly (as group members rather than as individuals) and given that many occupational groups exhibit stable relationships with each other, it follows that female-dominated occupations may exhibit some differentiating characteristics. Thus, the "percent female" of a job or occupation has become a variable of note. In the papers that use the job as the unit of analysis, Baron and Newman find that both female dominance and minority dominance of jobs in the California civil service system lower the wage rate for those jobs; Parcel also finds negative effects for percent

female for male, but not for female, employees; and Filer finds the effect small and insignificant for both genders.

Effects of Demographic Composition on Pay Rates for Jobs

Baron and Newman study how the pay rates for specific jobs are affected by the demographic characteristics of the people who hold those jobs. They consider the state of California's civil service system—over 3,000 separate jobs and nearly 125,000 incumbents. The time period they consider is 1979 through 1985; some of the analysis considers the annual cross sections and some considers changes over the 6 years. Their dependent variable is the prescribed starting pay for a job, not the earnings of those in the job, so their measure is not directly affected by any sex or race differences in skill, seniority, or productivity. They study how that authorized starting salary is affected by factors like percent female or percent black, and they hold constant in various levels of detail the job's content as measured by educational and experience requirements or by occupational classifications that purport to reflect the difficulty, or value, of the job.

Their results are striking. No matter how many controls they introduce to take account of the job characteristics, significant and sizable effects of sex composition and race composition on those starting pay rates remain. "Jobs dominated by men pay considerably more than otherwise comparable jobs dominated by women," they conclude. Their Table 5-4 shows that the regression-estimated penalties apparent in female- and minority-dominated jobs are dramatic. Consider a nonsupervisory clerical job in "office or allied services," for instance, a job requiring 13 or more years of schooling and no more than 4 years of experience. If it had the demographic composition of the average full-time white male's job (which is 61 percent white male, 13 percent white

female, 5 percent black male, 3 percent black female, etc.), the starting 1985 monthly salary would be \$2,230. If it had the demographic composition of the average full-time white female's job (which is 18 percent white male, 47 percent white female, 3 percent black male, 9 percent black female, etc.), the starting 1985 monthly salary would be only \$1,860.

Baron and Newman also compare jobs in 1979 and 1985 and investigate whether the changes in the composition of incumbents are related to changes in starting salaries. They estimate that over the 6 years studied, the penalty on the starting salary associated with the presence of blacks and male Hispanics increased. Typical of this finding is the estimate that a 10 percent increase in the percentage of black males lowered the starting salary of the job by 2.6 percent in 1979 but by 3.9 percent in 1985. The adverse effect on the starting salary of white and Hispanic females, on the other hand, seemed to be reduced: a 10 percent increase in white females lowered the salary by 3.3 percent in 1979, an effect that was weakened to 2.7 percent by 1985. They also find that more recently created jobs—ones that were not in the system in 1979—have less severe penalties than older jobs for female- and minority-dominated jobs. This, they contend, is related to the fact that a disproportionate number of the new jobs were in high-skill, high-paying occupations, not to an across-the-board increase in equity in starting salaries.

Overall, Baron and Newman conclude that their results show that "the entry of females and minorities into positions devalues them." The penalties against female and minority-dominated jobs appear severe, and the underpayment associated with these workers is greatest in jobs that have many incumbents.

Baron and Newman's careful analysis of the job and pay structure of a single large employer is useful. Because they study starting salaries of jobs (rather than actual wages

of male or female incumbents), the "residual" problem is less severe. With individuals, there might always be some unmeasured characteristic, such as motivation, that might have an effect. With jobs, the important requirements are more likely to be stated and therefore known to the researchers. As Ross points out in her comment, Baron and Newman's study could be replicated at many public agencies (and possibly private firms as well). Of course, a study that is not about actual wages received leaves certain questions unanswered. The effect of this gender- and race-biased structure of job salaries on actual salaries received by women, men, and minorities is not explored here. Also, as with most statistical studies, the wage setting *process* and the employer's *intent* are unexplored. Did the employer lower job salaries when women and minorities entered them? Were women and minorities recruited because of a shortage of white men and/or because job requirements were changing? Baron and Newman's analysis controls for skill changes in the stated job requirements, but those skill requirements may lag or lead changes in actual practice.

Occupational Differences and Earnings

Both Parcel and Filer use the detailed occupation (1980 census) as the unit of analysis and study the occupation's average earnings. Parcel adjusts the earnings of all workers to a full-time equivalent level, while Filer uses data on only full-time, full-year workers. Parcel augments the census data with information from the *Dictionary of Occupational Titles* (DOT) and has 503 occupations in her study. Filer merges data from several ancillary sources, including the DOT, and, in order to obtain appropriate matching, uses 430 occupations.

Using factor analysis based on the DOT, Parcel identifies five distinct attributes of the occupations: the "substantive complex-

ity" of the occupation, the "physical dexterity/perceptual ability" required in the occupation, its "physical activity/working conditions," and two others. Parcel imbeds these attributes of the occupation in a theoretical context combining supply and demand variables with measures of social organization. She has measures of the average educational and experience levels of the occupations' incumbents, the labor market conditions of the occupation (e.g., the reserve labor pool), and characteristics of the incumbents (e.g., the percentage of females, blacks, Hispanics, and Asians, and the percentage of men and women who are married). Mindful of the deficiencies in the traditional measure of potential experience for women, Parcel attempts to improve the measure by adjusting for race and marital status, as described in her paper.

Typical of occupational-level analyses when estimated for men and women combined, the percent female in an occupation is found by Parcel to have a sizable negative effect on the annualized earnings in the occupation—a 10 percentage point increase in the proportion female is associated with a \$710 reduction in the average earnings in the occupation. Many of the other factors also display their usual effects. Parcel summarizes, "female-dominated occupations are low in earnings, experience, percent males married, unionization, and the job content measures of physical activities. They have high reserve labor pools, are urbanized, and have high black and Asian concentrations."

When Parcel estimates the effect of percent female separately for men and women, however, she finds a significant negative effect for men, but no effect for women. She argues that "percent female is but one aspect of occupational market social organization" that affects female earnings. Other social dimensions of labor market organization that affect earnings include minority concentrations, extent of unionization, and proportions of males and females married.

Smith finds Parcel's work skillful and sensible, but he questions the whole line of

inquiry that includes as an explanatory variable the occupation's percent female. He argues that such a variable does not add to our knowledge about *how* wages are set in labor markets or whether there is or is not discrimination. He thinks it does no more than verify that the wage distributions for men and women differ; it does not help us understand why they differ. If the negative coefficient on percent female offers evidence of discrimination against women, he asks, then does Parcel's positive coefficient on "percent Asian" imply the existence of discrimination in favor of Asians? Or are there other unmeasured factors?

Filer's analysis considers numerous factors from a variety of data sets. Although he also uses DOT information, he uses a wide array of very specific occupational descriptors rather than a condensed and synthesized (factor analyzed) set of five features of each occupation. At one level, Filer confirms Parcel's finding. His Table 7-1 reports results on hourly wages for a change of 100 percentage points in the percent female. If we reduce the impact to a change of 10 percentage points and express it in annual earnings, we find his estimate of the decrease in earnings (due to a 10 percentage point increase in the proportion of the workers who are female) to be between \$626 ($= \$3.13 \times 0.1 \times 2,000$ hours), controlled only for demographic and skill factors and unionization, and \$270 ($= \$1.35 \times 0.1 \times 2,000$ hours), controlled in addition for effort, responsibility, and working conditions. Parcel's finding was \$710 relatively uncontrolled, and \$500 to \$574 with various controls. Smith, in his comment, points out that Table 7-1 also suggests that 20 percent of the wage gap is attributable to the "comparable worth variable" (the proportion female), a figure identical to Sorensen's.

But Filer argues that these figures are misleading, because they are "inherently incapable of addressing comparable worth issues," defined by Filer to be a concern for raising wages in jobs or in occupations heavily filled by women. His argument has

similarities to the point made by Smith in his discussion of the Parcel paper. If women are paid, say 75 percent as much as men, for any reason, then the average wage in an occupation will automatically be lower the higher the proportion of women in that occupation, even though the "percent female in the occupation" has no effect whatever on any individual's wage. The correlation between the average wage and the percent female is just a reflection of one wage schedule being below the other. It tells us nothing about why those schedules differ.

Filer, therefore, argues that one should investigate separately men's and women's wages across occupations if one is interested in seeing whether the proportion female in an occupation has any effect per se on wages. (Note that Sorensen did this in her individual-level analysis and that Baron and Newman's study of starting salaries in jobs does not suffer from this problem. Both authors found large, significant differences in earnings due to differences in occupational gender composition.)

When Filer conducts an inquiry on men's and women's average occupational earnings separately, he reports perhaps the most controversial finding in this volume. When a large number of controls are used, reflecting demographic characteristics, individual productivity factors (aggregated to the level of the occupation), unionization, and the usual job content factors used to assess comparability (effort, responsibility, and working conditions), there is no evidence that the percent female in the occupation has an influence on either the wages of women or the wages of men. What appears to be an effect in other formulations, "results from the lower wages for women within each occupation," which Filer contends can be corrected, if desired, by application of the equal employment laws, and would be "immune to comparable worth remedies."

Smith expresses reservations about Filer's approach, claiming that the inclusion of so

many separate variables (over 225) makes interpretation of the coefficient of each nearly impossible and leads to questioning "the believability of the entire exercise." Another factor related to having a large number of variables, as Filer does, may also be of more substantive importance. As panel member Blau pointed out during the workshop, some of Filer's variables may be proxies for gender itself rather than indicators of substantive factors that could reasonably be linked to productivity differences.

Summarizing these findings at the job or occupational level of analysis, the authors find that all three papers confirm that women's wages are less than men's wages at the occupational level. Baron and Newman's strategy does not suffer from the compositional effect about which Filer and Smith warn, and Baron and Newman do find a systematic tendency for jobs held disproportionately by women to have lower starting pay than apparently comparable jobs held disproportionately by men.

Filer's strategy for adjusting for average productivity differences between the occupations and the universe from which his data are drawn are very different from Baron and Newman's, and his conclusion is different as well. He finds *no* evidence of a systematic tendency for occupations held disproportionately by women to have lower average full-time salaries than comparable occupations held disproportionately by men. Filer does confirm that within an occupation women earn less, but not because it is an occupation dominated by women. This distinction may be subtle, but the potential validity of a comparable worth policy may hinge on it.

Filer's findings, however, are weakened by the weak rationales for some of the many variables in his analysis (some of which may be correlated with percent female rather than with compensable job factors). Parcel has employed a technique (factor analysis) that is designed to reduce a large number of variables to a few theoretically coherent and more easily interpretable major factors.

When her regressions are run separately for men and women, she, like Filer, finds no effect for percent female on the earnings of women, but unlike Filer, she finds a significant and sizable negative effect of percent female on the earnings of men in the occupation.

Implementation of Comparable Worth Policies

Comparable worth policies have been implemented in some private firms and governmental jurisdictions of various sizes. Three papers in this volume address the effect such policies have had. Two of the papers investigate the impact of state-imposed comparable worth legislation on the state-wide government pay schedules in Iowa (introduced in 1985) and in Minnesota (passed in 1982). The third studies the effects of a national policy of pay equity introduced in Australia and Britain in 1975.

Iowa's Comparable Worth Plan

Orazem and Mattila study the case of Iowa, a state that hired a consulting firm to evaluate the 800 job classifications in the state employment system and, according to the authors, instructed the firm to "ignore market wages in conducting its analysis" and in making its recommendations about changes in wage structure. The firm used a point system to evaluate the attributes of the job or its requirements, using skill level, effort, responsibility, and working conditions to determine the "worth" of the job. As Orazem and Mattila describe it, the recommendations of the firm were modified in the political process of implementation, in which the employee unions and state political leaders figured prominently. In early 1985 the new system went into effect, at an estimated wage-bill cost to the state of about \$19 million annually—roughly \$1,000 per employee.

Orazem and Mattila take the state pay

schedule of December 1983 (before comparable worth) as the benchmark for their study. They use a 20 percent sample of the personnel files of the state's employees, gathering information on the individual's personal characteristics and experiences as well as his or her job and pay. For the 3,734 persons on whom 1983 actual biweekly earnings are known, Orazem and Mattila calculate two additional earnings figures: (1) the earnings associated with the consulting firm's pay recommendations, based on the comparable worth study (the "recommended" earnings), and (2) the earnings associated with the compromise plan actually implemented in 1985 (the "compromise" earnings). These latter two biweekly earnings figures are counterfactual estimates, not the actual earnings of employees. Orazem and Mattila contend that this estimation scheme gives them a clearer picture of the effect of the new scheme, without confusing it with the many other factors that may also have affected wages between December 1983 and the introduction of the actual plan some 15 months later.

Orazem and Mattila then perform several regression analyses of the log of biweekly earnings, using each of the three earnings figures separately. The authors compare the effects of personal characteristics and job attributes on the wages actually paid in 1983 to their effects on the recommended wages and to their effects on the compromise wages.

Nearly half the employees in the state's wage system were women, and Orazem and Mattila found that the biweekly wage of the women initially was about 78 percent that of the men, unstandardized for anything. By comparison, the recommended plan would have raised that raw proportion to 86 percent, and the compromise plan that was actually implemented would have raised that proportion to 82 percent of the males' wages. After adjusting for human capital variables, Orazem and Mattila estimate, by one technique, that the women's biweekly

wage initially was 94 percent that of the men's wage, and that the recommended plan would have raised that proportion to complete parity (100 percent); the compromise plan would have raised the proportion only to 96 percent. (Other techniques of estimating these figures yielded somewhat different results, but the qualitative conclusions here are robust.) They suggest that the women's biweekly wage was raised through the compromise plan by about \$50 and the men's wage was raised by about \$30, for an average increase of about \$40, which translates into a \$1,000 annual earnings increase.

Orazem and Mattila detail in their paper the major factors determining the actual 1983 wages and discuss the changes in the effects of those factors implied by the recommended and compromise plans. The compromise plan resulted in a tiny reduction in the dispersion of biweekly earnings, compared with the 1983 actual distribution. It is interesting to note that the recommended plan did in fact completely eliminate the statistical significance of the variable "percent female" as a determinant of the wage, thus eliminating a strong negative 14.6 percent effect on the actual 1983 wages. The compromise plan, by contrast, restored (or retained) a small gender differential of 5.8 percentage points. The recommended plan would have involved pay cuts for 7,300 workers and increases for 10,750, but one element in the compromise was that no one's wage would be lowered.

Regarding the factors determining wages, Orazem and Mattila point out that from a human capital perspective, the "measured discrimination against women is very slight" in the sense that measures of skill and market conditions appear to explain nearly all of the variation in wages ($R^2 = .815$ in their Table 8-3, including the human capital variables but excluding the proportion female of a job). But they also point out that from the perspective of a comparable worth advocate, their comparable worth model

implies that "large discrepancies in pay exist between men and women because women are concentrated in jobs that are paid below the value placed on comparable male jobs." (I.e., $R^2 = .769$ in their Table 8-4, the model including percent female on a job.) As so often is the case, one's perspective on the finding can dramatically influence the interpretation it seems to support.

In her discussion at the authors' workshop, panel member Schoen pointed out that readers of the paper could more adequately form their own interpretations if the authors had provided more description of the institutional factors at play in Iowa. From her own experience with job evaluations, unions, and comparable worth, Schoen believes outcomes will vary substantially from state to state. Although protection against lower wages is a common outcome, she stressed that wage protection is often not accomplished by altering factors and weights in the job evaluation scheme, but by protecting current workers. An understanding of the particular economic and political situation the unions and state leaders faced would help the reader evaluate the reasonableness of the outcome.

Pay Equity in Minnesota

Evans and Nelson study the case of Minnesota, which passed pay equity legislation in 1982 for its state employees. The new policy was implemented over 4 years beginning in 1983. Minnesota had since 1979 had a job evaluation system based on a point factor scheme. The pay equity legislation of 1982 built on that scheme, requiring a single job evaluation system for all job classifications in the state employment system. The evaluation measured the skill, effort, responsibility, and working conditions of each job and yielded a composite score for each job. All job classifications with the same score were then considered to have equal value and, hence, to command equal pay. Evans and Nelson stress that con-

verting this score into pay level was undertaken in Minnesota using the white male's wage as the norm.

The vast majority (86 percent) of Minnesota state employees are represented by unions, including a large majority of women working for the state. Neither the unions nor the state government aggressively advertised or notified employees of the impact of the pay equity legislation. "Changes in one's paycheck formed the major 'notification' of pay equity, a notification that did not distinguish between regular pay raises of approximately 3 to 4.5 percent per year and the additional increment due to pay equity raises." Over the 4 years of implementation (1983-1986), Evans and Nelson report, about 8,500 of the state's 34,000 employees received pay equity raises, and of those 90 percent were women. The raises added about 3.7 percent to the state's wage bill.

Evans and Nelson report findings from a telephone survey in June 1985 of about 500 state employees. The survey asked the respondent about his or her "support for, knowledge about, receipt of, and reactions to pay equity." The employees were relatively well educated (e.g., 37 percent had a bachelor's degree or more), and a majority had worked for the state for more than 7 years. The average salary of state employees in 1984 was \$22,500. While Orazem and Mattila consider the economic impact of the pay equity legislation in Iowa, Evans and Nelson focus on the psychological effects in Minnesota in terms of the attitudes and knowledge of state workers about the new scheme.

The survey indicates that the employees overwhelmingly supported the concept of pay equity; support for the concept appeared to be strong at both ends of the political spectrum and both ends of the occupational ladder. Likewise, the survey indicates the actual policy of pay equity was well known to the respondents: 82 percent of them had heard of pay equity or com-

parable worth legislation. Evans and Nelson characterize the specific understanding of the details of pay equity as "quite knowledgeable," based on the respondents' answers to the questions in the survey.

The most intriguing findings in the survey, as Evans and Nelson stress, involve a comparison of whether the respondent *thought* he or she received a pay equity raise compared with whether he or she actually received one. The authors had information on actual raises from the state employment records and could compare those facts against the telephone responses to questions about whether a raise was received. Recall that, for reasons the authors describe in their paper, neither the unions nor the state employment office made a major effort to inform the employee about his or her pay equity raise. The finding is striking: Of those who actually received a pay equity raise (nearly one-third of the survey sample had received a raise), 56.9 percent knew they received one, 21.6 percent reported not receiving one, and 21.6 percent never had heard of the pay equity policy. As Evans and Nelson say, "the social movement potential of pay equity is certainly unfulfilled if 43.2 percent of the people who benefit from the policy are unaware of their benefits." About half the sample correctly reported that they received no pay equity raise. The accuracy of the reporting was greater at higher levels of education and salary.

Evans and Nelson discuss the role of the union in supporting the implementation of pay equity and its strategy of avoiding publicity about its implementation. They conclude that the strategy dampened both opposition to and support for the pay equity policy. In fact, of those surveyed 36 percent reported that they believed that pay equity policy caused many problems in the workplace, despite the overwhelming support of it as a concept.

In commenting on the Evans and Nelson paper at the authors' workshop, panel mem-

ber Waite noted that a single cross-sectional telephone survey cannot elicit information about how the change in wages changed job satisfaction or attitudes toward pay equity. The survey offers only a static view, as the authors acknowledge. Waite also commented on one of the unique factors at play in the Minnesota case, as described by Evans and Nelson: The job evaluation had been done prior to the adoption and implementation of the comparable worth policy. Thus, the general realignment of jobs and pay that often results from a new pay plan was not part of the comparable worth process. The comparable worth realignment was allowed to be a more specific, limited event. Waite suggested that the strong consensus in favor of comparable worth in Minnesota may not be easily achieved in other states, where the job evaluations and resulting wage realignments are more directly occasioned by the comparable worth policy itself.

*Women's Pay in Australia,
Great Britain, and the United States*

Gregory, Anstie, Daly, and Ho provide a very different empirical inquiry from others in this volume. Their study provides a two-decade perspective on the relative earnings and employment of women in three nations. They point out that Australia and Britain have experienced substantial increases in the female-male earnings ratio over the past 20 years but that same experience has not been shared by workers in the United States. In their paper, Gregory and his colleagues address three questions about that experience and attempt to synthesize the evidence from the three countries.

In Australia, wages, or minimum wage rates, are awarded by an official network of governmental "tribunals" for every occupation in the nation, for both the private and public sectors. For the period from 1950 to 1969, Gregory and colleagues tell

us that the official wage setting boards explicitly marked down the wage in all occupations dominated by women to 75 percent of the wage received by men. The wage levels set were explicitly lower for female occupations than for male occupations. Over the 6 years from 1969 to 1975 that official practice was eliminated and the average wage ratio of awarded female to male wages rose accordingly from 72 percent to 92 percent, a dramatic change in a very short time span. That historic experience, mirrored in somewhat muted form in Britain, makes the three-country comparison quite informative.

The first question addressed by Gregory and colleagues is why the relative earnings of women compared with men are so different in the three countries. In 1981 in Australia full-time average earnings of women were 79 percent as much as men, while in the United States and Britain women earned only about 60 percent and 64 percent as much as men, respectively. The authors use a conventional human capital model approach to attempt to provide an explanation. Their data consist of weekly full-time wage and salary earnings from household survey data from each of the three countries—a 1981 survey in Australia and in Britain, and the March 1982 Current Population Survey in the United States.

A standard decomposition analysis is performed to see if the observed differences in weekly earnings of full-time workers are attributable to differences in the human capital endowments of men and women, that is, to differences in schooling, job experience, marital status, and the presence of children. Although the statistical model for each country performs "reasonably well, and to a similar degree, as an explanation of the variation in earnings among men and women," it does not explain why women earn so much more relative to men in Australia. They conclude that "the human capital endowments of women relative to those of men, seem to be much the same in each

of these countries." Since large differences do not exist between women and men in one country compared with another, those human capital differences cannot explain the differences in relative earnings.

The second question Gregory and colleagues consider is why the pay ratios have changed so dramatically in Australia and in Britain but not in the United States in recent years. The answer, they argue, lies in institutional considerations. In Australia, the governmental tribunals simply changed the acceptable relative wage from one that was substantially lower for women than for men to one that reflected "equal pay for work of equal value" without regard to the sex of the employee. In Britain, too, the authors describe a predominantly regulated wage structure in which national agreements involving large unions set rates of pay for a wide range of workers. Explicit discrimination against women in pay rates characterized the British labor market, say Gregory and his colleagues, until the Equal Pay Act of 1970, which became effective in December 1975. Table 10-3 in their paper shows the dramatic rise in the relative wages of women between the passage of that act and its implementation.

In Australia and in Britain, Gregory and colleagues contend, "it was relatively easy to remove that which was identified as pay discrimination and, as a result, to affect dramatically the pay relativities between the sexes." In the United States, the federal legislation designed to achieve "equal pay for equal work" was passed earlier than in the other two countries—as early as 1963 or 1964. Its effect, however, is not nearly so evident in the aggregate time series data on relative wages, and the authors offer several conjectures about why that is so. They note that the large-scale institutions in the Australian and British labor markets (the minimum wage tribunals and collective bargaining agreements) had made the discrimination implicit in market wages explicit; the same large-scale institutions could

correct the explicit discrimination. In the United States there are no comparable large-scale institutions, and wage changes thus depend on the decisions of many actors in the labor market.

The third question addressed by the authors has to do with potential side effects from the comparable worth medicine, specifically potential employment loss. They ask how the dramatic change in female earnings rates in Australia and Britain has affected the employment rate and the unemployment rate of women. The answer is a surprising one: The effect seems to be very slight. The female share of total hours worked rose over the period 1970–1984 in all three countries (by 25 percent in Australia, by 27 percent in Britain, and by 31 percent in the United States), but the relative wage of women rose substantially more in Australia relative to the other two countries. The small employment responses to the sharp changes in relative wages of women in Australia and in Britain are surprising; they imply, the authors contend, a very low substitutability of men for women in the productive processes of the country. Their "cursory glance" at unemployment rates also suggests only a slight impact in the relative demand for female workers in Australia.

Ehrenberg, in his comment, calls attention to the virtues of bringing an international comparative perspective into the debate about the policy of comparable worth in the United States. He argues, however, that the authors have not "pushed their empirical analyses as hard as they might have," and consequently, they may have drawn some inappropriate conclusions. For example, Ehrenberg notes that the coefficients on human capital variables differ from country to country, but that insufficient explanation is offered. Both Ehrenberg and the authors note that such differences could be attributable to either real phenomena, such as differing labor market structure, or measurement errors. The reasons need to be further explored. Ehrenberg would also

like to see a more thorough analysis of the relationship between changes in the relative wage of women and changes in employment and unemployment levels.

One of the more intriguing implications of the paper by Gregory and his colleagues, as Ehrenberg notes, is that it may be easier to raise the relative wage of women in a country where wages are centrally set and where there has been explicit discrimination. In the United States, where the labor market is highly decentralized and where discrimination in wage setting is unlikely to take such an overt form, the circumstances may prove more difficult to change.

CONCLUSION

No single paper or volume can resolve major social issues like the one addressed here. The papers collected in this volume contribute to a better understanding of several dimensions of wage differentials and the comparable worth remedy. First, they substantiate differences in wages between women and men, even after measurable productivity-related variables are taken into account. Second, they explore the role of occupation in the wage determination process, investigating the particular role played by the female dominance (percent female) of an occupation. Third, they examine empirically the results of implementing comparable worth or comparable worth type policies in several real world situations. In none of these areas are long-standing debates resolved, but the papers do contribute to consensus on several important issues.

Research Consensus

The papers substantiate the fact that women earn less than men after adjusting for measurable factors that might affect labor productivity. Several of the papers focus on estimating the components of these wage differences (Sorensen and Gerhart and Milkovich at the individual level, and Parcel

and Filer at the level of average occupational wages). Others investigate mechanisms by which that fact comes about (Nakamura and Nakamura, Subich and colleagues, Baron and Newman, and Gerhart and Milkovich). None of the studies disputes the existence of a difference in wages for men and women, although Filer contends it is not related to the female dominance of a given occupation.

The role of percentage female is not resolved, though consensus has emerged on the proper way to assess its effects. A relationship between percentage female and average wages of an occupation (the weighted average of the male and female wages) could simply reflect a compositional effect of more or fewer women if women are paid less than men in each occupation. To identify an effect on wages of the female dominance of an occupation per se, all other things being equal, the wages of women and men must be examined separately (or normative wages rather than actual wages can be used, as in the Baron and Newman study). Except for Filer (using 1980 census data) and Gerhart and Milkovich (in a single firm), the studies reported here do find a significant net effect on wages of percent female in an occupation, when other factors, such as productivity differences and job requirements are taken into account. The Baron and Newman study of listed starting salaries of jobs in the California civil service provides perhaps the most dramatic results: When women or minorities enter occupations the starting salaries fall, everything else, including job requirements, being equal. Such a finding suggests that jobs may be devalued by employers when women and minorities do them—supporting a premise that lies behind the comparable worth remedy. Alternative explanations, however, are also possible—for example, that wages fall in response to changed conditions and then women and minorities take jobs that white men no longer find attractive.

Consensus also emerged on the effects of comparable worth policies. The dramatic

turnabout in the nationally administered or regulated wage setting environments in Britain and, especially, in Australia have had little negative impact while moving the wage structure dramatically closer to gender equality. In Australia, the actual wage ratio increased from 59 to 74 percent and in Britain from 60 to 71 percent between 1964 and 1979; comparable worth type policies in the two countries eliminated 37 and 28 percent of the wage gap, respectively. In the United States, Sorensen estimated the maximum proportion of the national wage gap that could be eliminated by comparable worth at 20 percent, and in the two actual cases reported here (Iowa and Minnesota)—both, not surprisingly, involving plans that resulted from political compromise, the reductions amounted to 18 percent and 15 percent of the respective wage gaps. Although the size of these effects suggests that comparable worth policy is not as revolutionary as some might have hoped, it nevertheless amounts to a substantial improvement for women workers, without apparently causing negative side effects.

Though the outcomes of comparable worth policies have varied according to the locale, positive effects—and minimal negative side effects—have generally been reported in the three cases presented here. The three papers on comparable worth implementation taken together attest to the significant impact public policy can have on wages. The impact was large in Australia, where labor market institutions are centralized, and smaller in the United States, where labor markets are far more decentralized.

Research Needs

While there is consensus on some issues, many questions remain unanswered. The studies reported here suggest several new directions for research. Nakamura and Nakamura's investigation of the crowding process finds that in states where there are more young women, relative to others, their

wages are lower and that women with fewer years of education and more children are more affected by crowding than others. Their study could be replicated for occupations (rather than states) to see which occupations are more susceptible to crowding. The paper by Subich and her colleagues reports pilot studies of students that investigate whether their attitudes and expectations might contribute to lower earnings for women. The pilot studies suggest that risk-taking behavior of employees in firms, where salary history data exist, might be a fruitful area for further research.

Several of the studies report evidence of improvement in the relative position of women in the past few years: Gerhart and Milkovich, in their single-firm analysis, find that in recent years women have received more salary increases and promotions than men. Baron and Newman, despite their generally negative findings, do find that starting salaries in new jobs are less affected by gender and race/ethnicity bias than are starting salaries in older jobs. Further investigation of the extent of change and the reasons for the change would be useful.

The introduction of comparable worth legislation in the states of Iowa and Minnesota has improved the relative economic position of women civil service workers without having had major adverse effects on the state budgets or having engendered political tensions, as reported by Orazem and Mattila and by Evans and Nelson. In neither state, however, was the relative wage of women to men raised by more than 8 percentage points (in Iowa, the relative wage went from 78 percent to 82 percent and in Minnesota from 74 percent to 82 percent). Neither of these papers addresses effects beyond the civil service labor market within each state. It would be of interest to know if any effects are felt by private employers or local governments, and whether they are positive or negative.

Further research on the mechanisms through which the earnings of women and

men are made to differ also seems warranted. The papers in this volume provide evidence of the salience of gender in the labor market, both in terms of wage differences and sex segregation. Many, but not all, of the papers find that the proportion female of an occupation lowers its wages. Several of the papers also find that percent female has a negative effect on wages for men, but not for women, within an occupation. The interpretation and policy implications that follow from these findings deserve more attention. Whether women choose female-dominated jobs, perhaps because there are compensating non-wage differentials or because women's preferences differ, on average, from men's; whether they are tracked into them; whether women are discriminated against whatever their choices; whether men are discriminated against within female occupations; or whether other (as yet unmeasured) factors are important, we still do not know.

Several of the papers suggest research directions that may be especially promising. Filer's results suggest that the more significant portion of discrimination may occur within occupations rather than between them. This in turn suggests that differences between firms or industries in their "treatment" of occupations might be important and that the practices of individual employers should be examined further. Gerhart and Milkovich's finding that job assignment "explains" sex differences in wages suggests that the process of job assignment within the firm should be examined. What motivates individuals, both employers and employees, in job assignment, pay setting, job selection, and wage acceptance is suggested as a useful area of study by several of the papers, especially the one by Subich and colleagues. Further historical and institutional studies of how things "came to be" are also warranted. The papers taken

together also suggest that further research on measurement issues is important, including research on the variables that belong in the list of legitimate contributors to explaining the wage gap. As we suggested above, further research on the general equilibrium consequences of comparable worth implementation is also warranted. Both the potential spill-over effects from one sector of the economy to another and the general influence on the labor market have not been adequately explored.

There are numerous labor market—and comparable worth—studies that will be useful in answering the basic questions "why are women paid less than men" and "what should be done about it," but we [the editors of this volume, although not necessarily the members of the full panel] suggest that an additional fruitful line of inquiry in the near future may be investigation of the relationship between gender and social behavior more generally. How do the social expectations of men and women generally—in and out of the labor force—affect their earnings and opportunities? How are female earnings and the distribution of family income related? Differences in the roles of women and men in regard to the important social responsibility of raising children may have significant labor market implications. The expectations for the genders in the conduct of familial and household duties and in political, religious, and sexual behavior are examples of some of the areas that need to be better studied for their impact on labor market outcomes.

The economic realm and labor earnings in particular do not exist in isolation from other aspects of the gendered division of social life more generally. Both research and policy intervention will be more successful if they are pursued in this broader context.

Heidi Hartmann

WOMEN, WORK, AND WAGES:

Equal Pay for Jobs of Equal Value

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Editors

Committee on Occupational Classification and Analysis
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5 Conclusions

This report has been concerned with two questions: To what extent does the fact that women and minorities are on the average paid less than nonminority men reflect discrimination in the way jobs are compensated? If wage discrimination exists, what can be done about it?

On the basis of a review of the evidence, our judgment is that there is substantial discrimination in pay. Specific instances of discrimination are neither easily identified nor easily remedied, because the widespread concentration of women and minorities into low-paying jobs makes it difficult to distinguish discriminatory from nondiscriminatory components of compensation. One approach, which needs further development but shows some promise, is to use existing job evaluation plans as a standard for comparing the relative worth of jobs.

This chapter summarizes the evidence leading to these conclusions. In reviewing this material three considerations should be kept in mind.

First, discrimination, as the term is used in this report, does not imply intent but refers only to outcome. Wage discrimination exists insofar as workers of one sex, race, or ethnic group are paid less than workers of another sex, race, or ethnic group for doing work that is of "comparable," that is, equal, worth to their employer.

Second, the report has focused most intensively on sex discrimination because the issue of comparable worth arises largely in connection with job segregation, the propensity for men and women and for minority and nonminority workers to hold different sorts of jobs, and job segregation is more pronounced by sex than by race or ethnicity. Moreover,

while most available data are at the national level, minorities, because of their numbers and geographical distribution, are more likely to be concentrated in particular occupations at a local level. We have therefore not been able to examine differentials by race or ethnic group with the same procedures we used to examine differentials by sex. In addition, most of the available studies of patterns of employment within firms refer to differences between men and women. Finally, the available analyses relating to the relative worth of jobs pertain almost entirely to sex discrimination. In this context, the fact that we focus mainly on discrimination based on sex should not be interpreted to mean that the committee has judged discrimination based on race or ethnicity to be of lesser importance.

Third, we have not been able to make any assessment of what the social and economic consequences may be of implementing wage policies based on the principle of equal pay for jobs of equal worth. This is an extremely complex question, with no clear answers, which goes well beyond the charge to the committee. We do, however, want to call attention to the need to give careful thought to the possible impact of implementation of a policy of equal pay for jobs of equal worth on the economic viability of firms as well as on employment opportunities for women and minorities.

THE EXTENT AND THE SOURCES OF PAY DIFFERENTIALS

It is well established that in the United States today women earn less than men and minority men earn less than nonminority men. Among year-round full-time workers, the annual earnings of white women in the late 1970s averaged less than 60 percent of those of white men, while the earnings of black men averaged 70-75 percent of those of white men.

Such differential earnings patterns have existed for many decades. They may arise in part because women and minority men are paid less than white men for doing the same (or very similar) jobs within the same firm, or in part because the job structure is substantially segregated by sex, race, and ethnicity and the jobs held mainly by women and minority men pay less than the jobs held mainly by nonminority men. Since passage of the Equal Pay Act of 1963 and Title VII of the 1964 Civil Rights Act, legal remedies have been available for the first source of wage differentials. Although the committee recognizes that instances of unequal pay for the same work have not been entirely eliminated,

we believe that they are probably not now the major source of differences in earnings.

With respect to the second source of wage differentials, the disparate distribution of workers among jobs and the concentration of women and minority men in low-paying jobs, the data are clear. Women and minorities are differentially concentrated not only by occupation but also by industry, by firm, and by division within firms. Moreover, the evidence shows that this differential concentration has persisted, at least with respect to women, over a substantial period of time. In the face of this differential concentration, then, the question of whether pay differentials are discriminatory can be stated quite simply: Would the low-paying jobs be low-paying regardless of who held them, or are they low-paying because of the sex, race, or ethnic composition of their incumbents?

To be able to state the question simply, however, is not to be able to answer it simply. In the committee's judgment, a correct response recognizes that both elements account for observed earnings differentials. Our economy is structured so that some jobs will inevitably pay less than others, and the fact that many such jobs are disproportionately filled by women and minorities may reflect differences in qualifications, interests, traditional roles, and similar factors; or it may reflect exclusionary practices with regard to hiring and promotion; or it may reflect a combination of both. However, several types of evidence support our judgment that it is also true in many instances that jobs held mainly by women and minorities pay less at least in part *because* they are held mainly by women and minorities. First, the differentials in average pay for jobs held mainly by women and those held mainly by men persist when the characteristics of jobs thought to affect their value and the characteristics of workers thought to affect their productivity are held constant. Second, prior to the legislation of the last two decades, differentials in pay for men and women and for minorities and nonminorities were often acceptable and were, in fact, prevalent. The tradition embodied in such practices was built into wage structures, and its effects continue to influence these structures. Finally, at the level of the specific firm, several studies show that women's jobs are paid less on the average than men's jobs with the same scores derived from job evaluation plans. The evidence is not complete or conclusive, but the consistency of the results in many different job categories and in several different types of studies, the size of the pay differentials (even after worker and job characteristics have been taken into account), and the lack of evidence for alternative explanations strongly suggest that wage discrimination is widespread.

IDENTIFYING AND ELIMINATING PAY DISCRIMINATION

The identification and correction of particular instances of pay discrimination are, however, not easy tasks. One procedure that has been suggested is to compare the actual rates of pay of jobs with the relative worth of jobs; wage discrimination would be suspected whenever jobs are not paid in accordance with their relative worth. This relative (or comparable) worth approach in turn requires a generally acceptable standard of job worth and a feasible procedure for measuring the relative worth of jobs. In our judgment no universal standard of job worth exists, both because any definition of the "relative worth" of jobs is in part a matter of values and because, even for a particular definition, problems of measurement are likely.

One approach to the relative worth of jobs avoids the issue of values by equating the worth of jobs with existing pay rates. In this approach, no comparable worth strategy is needed to adjust the pay rates of jobs, because the pay rates themselves reflect the relative worth of jobs. The belief that existing pay differentials between jobs provide a valid measure of the relative worth of jobs depends on the view that the operation of labor markets is freely competitive and that pay differentials primarily reflect differences in individual productivity and are not substantially influenced by discrimination. While there is a good deal of controversy about the nature of labor markets, in our view the operation of labor markets can be better understood as reflecting a variety of institutions that limit competition with respect to workers and wages and tend to perpetuate whatever discrimination exists. As a result of these institutional features of labor markets, existing wage rates do not in our judgment provide a measure of the relative worth of jobs that avoids discrimination.

Several of these institutional features are inherent to the current operation of labor markets and cannot easily be altered. Substantial investment in training makes it difficult for workers to shift from one occupation to another in search of higher pay. Moreover, even within specific occupations, workers are not generally free to sell their labor to the highest bidder; they are constrained by geographical location and imperfect information as well as by institutional arrangements designed to encourage the stability of the work force by putting a premium on seniority. Nor do employers generally seek labor on the open market; a large fraction of all jobs are filled through internal promotions or transfers. Finally, both the supply of and demand for labor and the pay rates offered are strongly affected by still other forces—particularly

union contracts and governmental regulations. Whenever jobs are relatively insulated from market forces, traditional differences in pay rates tend to be perpetuated over time. Hence, insofar as differences in pay between jobs ever did incorporate discriminatory elements, they tend to be perpetuated.

JOB EVALUATION PLANS

Although no universal standard of job worth exists, job evaluation plans do provide standards and measures of job worth that are used to estimate the relative worth of jobs within many firms. In job evaluation plans, pay ranges for a job are based on estimates of the worth of jobs according to such criteria as the skill, effort, and responsibility required by the job and the working conditions under which it is performed. Pay for an individual, within the pay range, is set by the worker's characteristics, such as credentials, seniority, productivity, and quality of job performance. Job evaluation plans vary from firm to firm; both the criteria established and the compensable factors and relative weights used as measures of the criteria differ somewhat from plan to plan.

In our judgment job evaluation plans provide measures of job worth that, under certain circumstances, may be used to discover and reduce wage discrimination for persons covered by a given plan. Job evaluation plans provide a way of systematically rewarding jobs for their content—for the skill, effort, and responsibility they entail and the conditions under which they are performed. By making the criteria of compensation explicit and by applying the criteria consistently, it is probable that pay differentials resulting from traditional stereotypes regarding the value of "women's work" or work customarily done by minorities will be reduced.

But several aspects of the methods generally used in such plans raise questions about their ability to establish comparable worth. First, job evaluation plans typically ensure rough conformity between the measured worth of jobs and actual wages by allowing actual wages to determine the weights of job factors used in the plans. Insofar as differentials associated with sex, race, or ethnicity are incorporated in actual wages, this procedure will act to perpetuate them. Statistical techniques exist that may be able to generate job worth scores from which components of wages associated with sex, race, or ethnicity have been at least partly removed; they should be further developed.

Second, many firms use different job evaluation plans for different types of jobs. Since in most firms women and minority men are concentrated in jobs with substantially different tasks from those of jobs

held by nonminority men, a plan that covers all jobs would be necessary in order to compare wages of women, minority men, and nonminority men. The selection of compensable factors and their weights in such a plan may be quite difficult, however, because factors appropriate for one type of job are not necessarily appropriate for all other types. Nevertheless, experiments with firm-wide plans might be useful in making explicit the relative weights of compensable factors, especially since they are already used by some firms.

Finally, it must be recognized that there are no definitive tests of the "fairness" of the choice of compensable factors and the relative weights given to them. The process is inherently judgmental and its success in generating a wage structure that is deemed equitable depends on achieving a consensus about factors and their weights among employers and employees.

The development and implementation of a job evaluation plan is often a lengthy and costly process. The underdeveloped nature of the technology involved, particularly the lack of systematic testing of assumptions, does not justify the universal application of such plans. In the committee's judgment, however, the plans have a potential that deserves further experimentation and development.

COMPARABLE WORTH

New Directions for Research

Heidi I. Hartmann, Editor

Committee on Women's Employment
and Related Social Issues

Commission on Behavioral and
Social Sciences and Education

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Research-in-Brief

Pay Equity and the Wage Gap: Success in the States

By 1989, twenty states had implemented programs to raise the wages of workers in female-dominated jobs in their state civil services. According to a joint Institute for Women's Policy Research and Urban Institute study, of the fourteen states for which information was available, all succeeded in increasing the female/male wage ratio in their civil service. Statistical analysis of wages and employment in three states indicates that these adjustments were implemented without substantial negative side effects such as increased unemployment. These findings suggest that pay equity is an effective means of raising women's wages to levels that reduce the impact of discrimination or devaluation. This fact sheet answers many common questions about the wage gap and pay equity based on findings from this study. The data analyzed in the study were collected over a four-year period from the relevant state agencies.¹

THE WAGE GAP AND PAY EQUITY

Isn't most of the gap between female and male workers due to differences in education, skill, and work experience?

No. Reviewing its civil service for pay equity, the State of Minnesota found that female-dominated jobs were consistently paid less than comparable male-dominated jobs. For instance, the jobs of radio communications supervisors (who were more likely to be male) and typing pool supervisors (who were more likely to be female) were determined to entail comparable skills and responsibilities, yet the male communications supervisors were paid \$460 a month more than the female typing pool supervisors, an additional \$5,500 a year. Studies that attempt to control for variations in human capital disagree as to what proportion of the wage gap is due to discrimination, with those using a greater number of variables finding smaller unexplained wage gaps. These unexplained remaining wage gaps are usually considered to be the result of discrimination. However, certain control variables reflect discrimination themselves and should not be factored out.² In 1981, the National Academy of Sciences estimated that about half the gross wage gap between women and men might be due to discrimination.³

What is Pay Equity?

The concept of pay equity, also known as comparable worth or equal pay for jobs of equal value, refers to a set of remedies designed to raise the wages of jobs that are undervalued at least partly because of the sex or race of the workers who hold those jobs.

As practiced in the United States and Canada, pay equity remedies are applied within a given firm, rather than in the labor market as a whole. The jobs in a single firm are evaluated and compared to one another according to a set of uniform criteria accepted by the firm. Once these guidelines are set, however, they must be applied equally to all employees in the firm. Based on these criteria, a determination is made as to whether those jobs typically held by women or minorities are underpaid (ie., paid less than jobs typically held by white males that are comparable in the skill, effort, responsibility, or working conditions they entail). An adjustment plan is developed to raise the wages of the jobs found to be underpaid.

THE EXTENT OF STATE PAY EQUITY PROGRAMS

How extensive have pay equity adjustments in the state civil services⁴ been?

When the study began in 1989, twenty states had implemented reforms aimed at increasing the wages of employees in female-dominated job classes: California, Connecticut, Florida, Hawaii, Illinois, Iowa, Maine, Massachusetts, Michigan, Minnesota, New Jersey, New Mexico, New York, Oregon, Pennsylvania, Rhode Island, South Dakota, Vermont, Washington, and Wisconsin. Of these, Florida, Hawaii, Pennsylvania, and South Dakota do not consider their adjustments to have been motivated by pay equity concerns. In Maine, the reform was limited to the University system. In some other states, such as Vermont and New Mexico, pay equity was not the only goal of the civil service reform.

For the sixteen states from which we were able to collect data, the total spent on pay equity adjustments was more than \$527,000,000 (1990 dollars) through 1992. Individual states spent between \$1.1 million in Hawaii to \$71 million in Massachusetts (1990 dollars).

Pay equity adjustments as a percent of the states' annual wage bills ranged from one-tenth of one percent in Hawaii to twelve percent in Vermont. Of the sixteen states for which we were able to collect data, twelve states -- California, Connecticut, Iowa, Maine (the University System only), Massachusetts, Michigan, Minnesota, New Mexico, New York, Oregon, Vermont, and Washington -- spent one percent or more of their wage bills on pay equity adjustments, a considerable reform.

Approximately 335,000 workers received pay increases. The number of affected workers ranged from 700 in Hawaii to 78,000 in New York. In ten of the twelve states for which we were able to collect data about the gender of affected workers, women were the majority of those receiving pay increases (from 59 percent in Iowa to 98 percent in Pennsylvania). In Connecticut and Oregon, where women constituted 49 percent of the workers receiving pay increases, they nevertheless were more likely to receive increases than male workers (who constituted an even larger portion of their state work forces). In Connecticut, 79 percent of the female workers received increases, while in Oregon, 65 percent did.

The average annual pay equity adjustment received by an affected worker was \$1,400 (1990 dollars).

FEATURES OF STATE PAY EQUITY PROGRAMS

What methods did states use to increase women's wages?

Some states targeted adjustments at the most undervalued female-dominated job classes. Other states made large scale changes in their personnel systems. These large scale or systemic changes can be further broken down into those that affected the classification system, those that updated or implemented a job evaluation system, and those that revised the state's compensation system. Many states utilized a combination of these three systemic changes, and some used both targeting and systemic reform. Of the sixteen states for which we have sufficient information, seven states targeted adjustments, five implemented system-wide changes, and four combined both approaches.

Who was involved in pay equity reform?

A wide range of actors worked to increase women's wages, including women's groups, unions, consultants, elected officials, and administrators.

Legislatures, government employees, and women's leaders worked together to institute pay equity in the states. Six states -- Hawaii, Massachusetts, Minnesota, New Jersey, Oregon, and Vermont -- created committees to study the extent of discrimination and potential comparable worth policies.

All the states that implemented pay equity plans allow collective bargaining. In all but four of the states (Michigan, New Mexico, South Dakota, and Washington) unions are allowed to bargain on classification. In all but two (South Dakota and Washington) the unions are allowed to bargain over wages. In virtually all the states, unions were involved in raising the visibility of workers' pay equity concerns and in negotiating specific pay increases or classification changes. The high rate of unionization in pay equity states suggests the importance of unions in promoting pay equity.

What factors affected the success of the pay equity programs?

The following decisions about the scope of pay equity and methodology used in implementing it substantially affected program outcomes:

whether states revised their job classification systems to better account for the skills associated with female-dominated jobs;

whether states gave adjustments to all undervalued job classes or only to some undervalued female-dominated job classes;

whether states raised the salaries of undervalued job classes to an average payline (which would be below the payline for male-dominated jobs), or to the male payline, or to some percentage of either;

whether pay equity was the only goal of reform or whether (as in New Mexico, Oregon, and Vermont), pay equity was only one goal of larger civil service reform, in which case, pay equity goals may have been moderated to meet other requirements.

Program details are important because they determine how much pay discrimination is found, how many and which workers are affected, and the extent of the remedies.

PAY EQUITY IS AN EFFECTIVE MEANS OF CLOSING THE WAGE GAP

Did the female/male wage gap close during the period of pay equity implementation?

Yes. In all fourteen states that implemented some type of wage adjustments and for which we have outcome data, the female/male wage ratios improved during the period of implementation, no matter how small the program.

Improvement in the state female/male wage ratios ranged from one to eight percentage points. All fourteen states increased their wage ratios to between 74 and 88 percent, higher than the national wage ratio of 71 percent in 1992.

Minnesota, Oregon, Washington, Michigan, California, and Connecticut saw their female/male wage ratios increase significantly, by at least four percentage points.

Statistical regression analysis of three states shows that pay equity reforms were responsible for the wage gains taking place.

In Minnesota, pay equity implementation was responsible for a nine percentage point increase in the ratio.⁵ In the state of Washington, pay equity was responsible for five out of the seven percentage points

Table 1.
Change in Female/Male Wage Ratio During Pay Equity Implementation
by Type of Program, Pay Equity Programs in Sixteen States

(States ranked by percentage point change in wage ratios)

State	Percent of Wage Bill Spent	Type of Program Implemented	Increase in the Female/Male Wage Ratio ¹	Percent of the Total Workforce Affected	Average Adjustment per Affected Worker (1990 dollars)
Minnesota	3.5%	Targeted Occupations	0.08	30.6%	\$2,531
Washington ²	7.0%	Job Evaluation, Compensation	0.07	63.7%	2,873
Oregon ²	9.8%	Reclassification, Job Evaluation, Compensation	0.06	64.1%	2,718
Michigan	1.0%	Targeted Occupations	0.05	34.3%	1,195
California	1.0%	Targeted Occupations	0.05	35.3%	862
Connecticut	7.2%	Reclassification, Job Evaluation, Compensation	0.04	79.7%	1,279
Maine (Univ.)	2.7%	Reclassification, Job Evaluation	0.03	36.6%	1,977
New Mexico ^{2, 3}	5.2%	Job Evaluation, Compensation	0.03	73.8%	\$1,453
Pennsylvania	0.3%	Targeted Occupations	0.02	3.5%	2,471
New York	1.0%	Reclassification, Job Evaluation	0.02	45.5%	685
Illinois	0.7%	Targeted Occupations	0.02	25.1%	562
Vermont	11.8%	Reclassification, Job Evaluation, Compensation	0.02	78.7%	2,794
Iowa	7.6%	Job Evaluation, Compensation	0.01	57.5%	3,497
New Jersey	0.4%	Targeted Occupations	0.01	15.0%	903
Massachusetts ²	4.2%	Reclassification, Job Evaluation	N	54.8%	\$2,081
Hawaii	0.1%	Targeted Occupations	N	1.8%	1,735

Source: Data collected by the Institute for Women's Policy Research (IWPR) from the states and other sources, as adjusted by IWPR.

Notes:

¹ In states that had more than one program, changes are for all programs implemented unless otherwise noted.

² State initially targeted occupations before instituting the systemic programs listed above.

³ Because of lack of data, the change in the female/male wage ratio reflects only the effects of the systemic program and not the prior targeted adjustments.

N Data not available.

of the wage ratio increase. In Iowa, the model estimated that pay equity policies increased the female/male wage ratio by one percentage point.

Which pay equity programs were the most cost-effective?

Targeting underpaid female-dominated occupations is more cost-effective than systemic approaches, if pay equity is the only goal. This may be due to the fact that women receive a greater proportion of the pay adjustments when they are targeted.

No state that used targeting spent over 3.5 percent of its wage bill on pay equity programs, yet three of the six targeting states achieved wage ratio improvements of five percentage points or more. For these three states, the “average” improvement was six percentage points at a cost of 1.8 percent of the wage bill.

States that used the more comprehensive methods spent up to twelve percent of their wage bills, yet only two out of eight achieved wage ratio improvements of five percentage points or more. These two states, Washington and Oregon, experienced an “average” gain of seven percentage points at a cost of 8.4 percent of the wage bill. It should be noted that some states using comprehensive methods, such as Vermont, were trying to achieve other goals in addition to pay equity when implementing their adjustments.

Although targeting is more cost-effective, it may not be feasible for all states. Systemic approaches address more issues and therefore garner more support for pay equity objectives. Furthermore, systemic approaches may be the only practical route to achieve pay equity, if the state does not have a sound enough personnel system on which to base specific targeting.

PAY EQUITY DOES NOT HAVE SIGNIFICANT NEGATIVE SIDE-EFFECTS

Won't the wages of white male workers have to be reduced in order to raise the wages of underpaid women and minorities?

No. Pay equity reforms need not come at the expense of other workers, and in fact may be less effective if they do so. In Iowa and New York, where the original pay equity proposals included reductions in the wages of some men's jobs, the programs failed to gain broad support. As a result, pay equity in Iowa and New York had a much smaller effect on the wage gap than in states whose plans did not include pay reductions for male workers.

Won't employers be forced to reduce employment in order to pay for higher wages?

No. Statistical regression analysis in three states indicates that in Minnesota there was virtually no effect on employment growth, while in Washington, women did experience slightly slower (but not negative) employment growth. In these states pay equity was implemented over a number of years, probably reducing the impact on employment. In Iowa, where employment growth slowed noticeably for both men and women, reforms were implemented all at once.

CONCLUSION

Women employed in state governments that implemented pay equity programs have made significant wage gains, absolutely, relative to their male co-workers, and relative to the national experience for all women. In all states, the female/male wage ratio improved during the period of pay equity implementation. The pay equity programs of all states affected more women than men. In two-thirds of the states, more than half of all women workers received pay increases through these programs. Thus, these programs were generally large enough to make a positive difference for women workers.

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Research-in-Brief

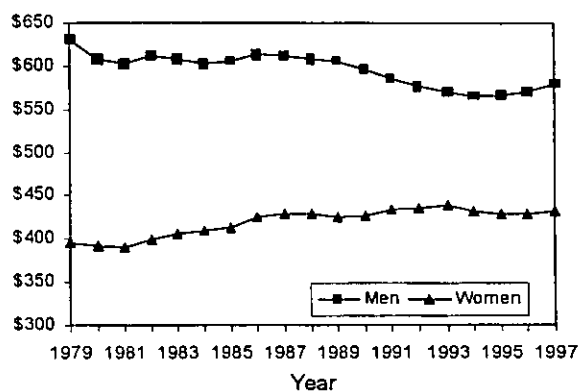
Stall in Women's Real Wage Growth Slows Progress in Closing the Wage Gap

Since 1979, the wage gap between women and men has narrowed significantly, falling by more than 10 percentage points overall. At first glance, this seems like great news for women. However, it is misleading to interpret this statistic as proof of a continuing and robust improvement in wages for today's working women. First, the closing of the wage gap has slowed down considerably in the 1990s. Second, women's real wages (wages adjusted for inflation¹) have stagnated in recent years.

In the 1990s, the remarkable success story of women's rising real wages seen during the 1980s ended. Instead, stagnating real wages for women has been the norm since the beginning of the 1990s. Women's wage growth during the 1980s differed dramatically from men's experience in the labor market (see Figure 1a, showing real median weekly earnings from 1979 to 1997 for women and men who work full-time²). While men's real wages fell overall, women's real wages increased substantially. Men who worked full-time lost \$25 in weekly earnings (adjusted for inflation) between 1979 and 1989 while women gained \$30 during the same period. These losses can be clearly seen in Figure 1a which compares the 1979 wage levels (marked by straight lines extending from the 1979 earnings points across the graph) to the 1989 earnings points. In fact, the highest ratio of women's median weekly earnings to men's earnings was in 1993 (76.9%). The wage gap has actually increased since that time, so that women in 1997 only earned 74.4% of men's median weekly earnings.

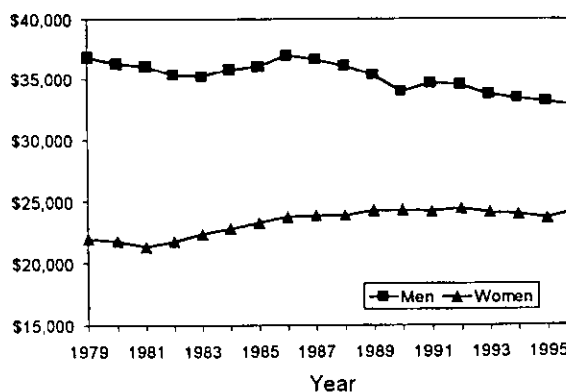
Between 1989 and 1997 women gained only \$6 in real weekly earnings while men's earnings continued to decline (men lost \$27; see Table 1a). These losses for men can be clearly seen in Figure 1a by comparing the 1989 wage level, marked by solid lines from the 1989 points extending across the graph, to the 1997 earnings point. In fact, the highest ratio of women's median weekly earnings to men's earnings was in 1993 (76.9%). The wage gap has actually increased since that time, so that women in 1997 only earned 74.4% of men's median weekly earnings.

Figure 1a. Full-Time Men and Women's Real Median Weekly Earnings, 1979-1997 (1997 Dollars)



Source: Institute for Women's Policy Research calculations based on the Merged Earnings Files, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1979-1997.

Figure 1b. Full-Time Men and Women's Real Median Annual Earnings, 1979-1996 (1997 Dollars)



Source: Institute for Women's Policy Research calculations based on the March Current Population Survey, U.S. Bureau of the Census, 1980-1997.

Table 1a.
Full-Time Men and Women's Real Median Weekly Earnings, 1979-1997
(1997 Dollars)

<u>Year</u>	<u>Men's Median Weekly Earnings</u>	<u>Women's Median Weekly Earnings</u>	<u>Wage Gap</u>	<u>% of Women's to Men's Weekly Earnings</u>
1979	\$631	\$395	\$236	62.5%
1980	\$608	\$392	\$216	64.4%
1981	\$604	\$390	\$214	64.6%
1982	\$611	\$400	\$212	65.4%
1983	\$609	\$406	\$203	66.7%
1984	\$604	\$409	\$195	67.8%
1985	\$606	\$413	\$192	68.2%
1986	\$614	\$425	\$189	69.2%
1987	\$612	\$428	\$184	70.0%
1988	\$609	\$427	\$182	70.2%
1989	\$606	\$425	\$181	70.1%
1990	\$596	\$427	\$168	71.8%
1991	\$586	\$434	\$152	74.0%
1992	\$578	\$436	\$142	75.5%
1993	\$571	\$439	\$132	76.9%
1994	\$565	\$432	\$133	76.4%
1995	\$567	\$428	\$139	75.5%
1996	\$570	\$428	\$142	75.0%
1997	\$579	\$431	\$148	74.4%

Source: Institute for Women's Policy Research calculations based on the Merged Earnings Files, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1979-1997.

While both women's and men's real earnings (in the weekly data series) are showing signs of recent growth, the increases are quite small.

The weekly earnings series (Table 1a) show that the gap between women's and men's earnings was smallest in 1993 (\$132), and grew thereafter (to \$148 in 1997). As Figure 1a shows, the trend lines for women's and men's earnings began to diverge in 1993 after converging for the previous 15 years. The gap had been \$236 per week in 1979. In Figure 2a, which shows the ratio of women's to men's median weekly earnings, the highest point is in 1993, and the growth in the ratio is clearly much greater in the 1980s than in the 1990s.

The annual earnings series (Table 1b) shows the gap at its smallest in 1996 (\$8,628 annually compared with \$14,885 in 1979), but also shows a marked slowdown in progress in the 1990s compared with

The end of women's wage growth raises the question of whether women have finally caught "male wage disease." If so, progress in closing the wage gap will be hopelessly stalled unless men continue their real wage losses (which is certainly not a desirable outcome). In the median *annual* earnings data series from the US Bureau of the Census, the wage gap narrowed sharply between 1995 and 1996 (the last year for which this data series is available) because men's real earnings continued to decline (see Figure 1b and Table 1b).³

The lack of growth in both women's and men's wages in the 1990s is especially disturbing, given that the economy is now enjoying the longest period of sustained growth since the end of World War II (27 quarters since the trough of the business cycle in the first quarter of 1991).

Table 1b.
Full-Time Men and Women's Real Median Annual Earnings, 1979-1996
(1997 Dollars)

<u>Year</u>	<u>Men's Median Annual Earnings</u>	<u>Women's Median Annual Earnings</u>	<u>Wage Gap</u>	<u>% of Women's to Men's Annual Earnings</u>
1979	\$36,902	\$22,017	\$14,885	59.7%
1980	\$36,297	\$21,836	\$14,461	60.2%
1981	\$36,090	\$21,378	\$14,712	59.2%
1982	\$35,386	\$21,849	\$13,537	61.8%
1983	\$35,260	\$22,423	\$12,837	63.6%
1984	\$35,866	\$22,831	\$13,035	63.7%
1985	\$36,090	\$23,305	\$12,785	64.6%
1986	\$36,985	\$23,770	\$13,215	64.3%
1987	\$36,658	\$23,893	\$12,765	65.2%
1988	\$36,165	\$23,886	\$12,278	66.1%
1989	\$35,376	\$24,294	\$11,082	68.7%
1990	\$33,989	\$24,341	\$9,647	71.6%
1991	\$34,670	\$24,220	\$10,450	69.9%
1992	\$34,545	\$24,453	\$10,092	70.8%
1993	\$33,774	\$24,155	\$9,619	71.5%
1994	\$33,415	\$24,048	\$9,367	72.0%
1995	\$33,170	\$23,693	\$9,477	71.4%
1996	\$32,882	\$24,254	\$8,628	73.8%

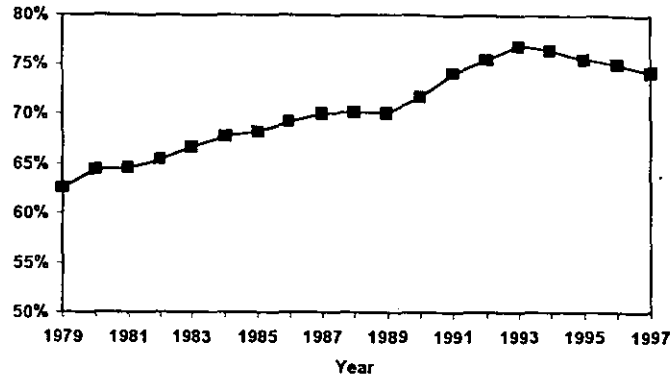
Source: Institute for Women's Policy Research calculations based on the March Current Population Survey, U.S. Bureau of the Census, 1980-1997.

the 1980s (Figure 1b). The ratio of women's to men's annual earnings is shown in Figure 2b. In contrast with steady growth in the 1980s, this trend line is fairly flat in the 1990s, with peaks in 1990 and 1996.

Tables 2a and 2b analyze how much of the closing of the gap was due to the growth in women's real wages and how much to the fall in men's real wages. Notice that the gap fell substantially over the nearly 20-year period, by 12 percentage points in the weekly series or 14 percentage points in the annual series. However, in the weekly series, *41 percent (about two-fifths) of the closing of the gap is due to the increase in women's real wages, while 59 percent, or three-fifths, is due to the fall in men's real wages.* Likewise, the effect of the slowdown in real wage growth for women in the 1990s is clearly shown in the vastly decreased *proportion of the closing of the gap that is due to women's real wage growth—only 19 percent in the 1990s compared with 51 percent in the 1980s.*

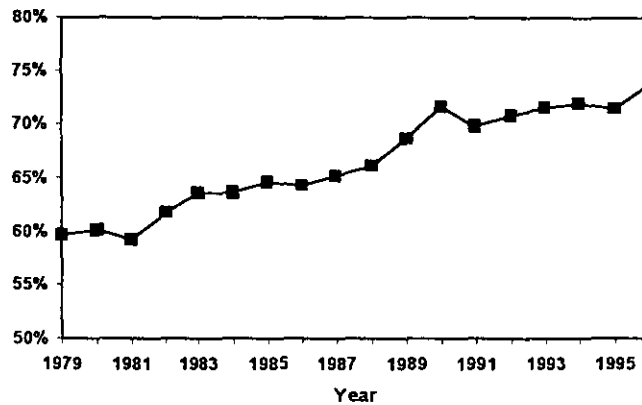
Analysis of the annual earnings series in Table 2b shows a similar phenomenon, with 60 percent of the closing of the gap due to increases in women's real wages in the 1980s, but none of the further closing of the gap in

Figure 2a.
The Wage Ratio: Full-time Men and Women's Median Weekly Earnings, 1979-97



Source: Institute for Women's Policy Research calculations based on Merged Earnings Files, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1979-1997.

Figure 2b.
The Wage Ratio: Full-time Men and Women's Real Median Annual Earnings, 1979-96



Source: Institute for Women's Policy Research calculations based on March Current Population Survey, U.S. Bureau of the Census, 1980-1997.

Table 2a.
The Causes for the Changing Wage Gap, 1979-97
Decreasing Female-Male Gap in Median Weekly Earnings

<u>Year</u>	<u>% Point Change in Female/Male Wage Ratio</u>	<u>% Change in Women's Real Wages</u>	<u>% Change in Men's Real Wages</u>	<u>% Change in Gap Due to Rising Women's Real Wages</u>	<u>% Change in Gap Due to Falling Men's Real Wages</u>
1979-1989	-7.5%	7.6%	-4.0%	54.0%	46.0%
1989-1997	-4.4%	1.5%	-4.4%	19.4%	80.6%
1979-1997	-11.9%	9.2%	-8.3%	41.0%	59.0%

Source: Institute for Women's Policy Research calculations based on Merged Earnings Files, Current Population Survey, Bureau of Labor Statistics, U.S. Department of Labor, 1979-1997.

Table 2b.
The Causes for the Changing Wage Gap, 1979-96
Decreasing Female-Male Gap in Median Annual Earnings

<u>Year</u>	<u>% Point Change in Female/Male Wage Ratio</u>	<u>% Change in Women's Real Wages</u>	<u>% Change in Men's Real Wages</u>	<u>% Change in Gap Due to Rising Women's Real Wages</u>	<u>% Change in Gap Due to Falling Men's Real Wages</u>
1979-1989	-9.0%	10.3%	-4.1%	59.9%	40.1%
1989-1996	-5.1%	-0.2%	-7.1%	-1.6%	101.6%
1979-1996	-14.1%	10.2%	-10.9%	35.8%	64.3%

Source: Institute for Women's Policy Research calculations based on Census, March Current Population Survey, Bureau of the Census, 1980-1997.

the 1990s due to women's real wage growth. In the latter period, all of the closing of the gap in this series was the result of men's falling real wages.

Further research is needed to understand why women's and men's wages have behaved so differently throughout this period and why women's real wage growth seems to have stalled after a long period of steady growth. Some of the underlying trends that have led to increases in women's real wages — increased education and increased labor market experience — are likely to continue. But some may have come to an end. Much of the growth in women's real wages was fueled by the movement of women into higher earning occupations, such as management and the professions. Overall, in these two large occupational groups, women's representation is now equal to their representation in the labor market as a whole. Unfortunately, women still earn less than men within these occupational groups; there are many differences in the distribution of women and men across the finer occupational breakdowns within these broad categories.

There is still plenty of room for further declines in sex segregation in the labor market. However, such declines may have to occur more in blue collar occupations, where progress has been slower, than in white collar occupations. Further wage growth will have to come from women's wages catching up to men's wages within occupations in addition to the continued movement of women into higher paying men's occupations. Therefore, stronger enforcement of the Equal Employment Opportunity laws and regulations by the federal government is necessary for continued improvement in women's wages. In addition, pay equity or comparable-worth-type wage increases in women's occupations (for example, many clerical occupations) would clearly help to close the wage gap between women and men.

Education and training policies can help women and men earn higher wages through increased productivity. Labor legislation also has a place in assuring that workers receive fair compensation for their productivity gains. These laws ensure that workers

have the right to join unions without intimidation and enforce the rights of workers to engage in collective bargaining. Finally, continued efforts to increase the wage floor by raising the minimum wage will benefit both women's and men's real wage growth.

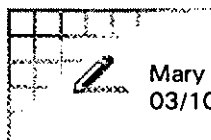
Notes:

- ¹ All earnings and wages are converted into 1997 dollars by using the Consumer Price Index U XI series.
- ² Earnings are compared at the median because the median worker is considered the most typical worker. The median worker is the worker in the precise middle of the earnings distribution—just as many workers earn more as earn less than the median worker. The BLS weekly earnings data consistently show a higher ratio of women's to men's earnings (and therefore a smaller earnings gap) than the Census Bureau annual earnings data.
- ³ Both the weekly and the annual data come from the same data collection vehicle, the Current Population Survey, a survey of nearly 60,000 households conducted monthly by the US Bureau of the Census. Respondents are asked about their weekly earnings each month, while annual earnings for the previous year are asked of respondents only in March of each year. The Bureau of Labor Statistics reports on weekly earnings and provides the annual average of the weekly data for the previous year in late January of each year. The weekly data, called the Merged Earnings Files, are more reliable, both because there is likely to be less recall error on the part of respondents and because the number of respondents is much larger. However, the weekly data do not include self-employed workers' earnings. The Census Bureau reports the annual earnings for the previous year in early fall of each year.

The Institute for Women's Policy Research (IWPR) is an independent, non-profit research institute dedicated to conducting and disseminating research that informs public policy debates affecting women. The Institute also works in partnership with the graduate programs in public policy and women's studies at the George Washington University. Members of the Institute receive regular mailings including fact sheets such as this one. Individual and organizational memberships are available. For more information, contact the Institute at (202) 785-5100 or visit our web page at <http://www.iwpr.org>. This Briefing Paper was written by Heidi Hartmann and Julie Whittaker and formatted by Jill Braunstein and Anna Rockett in February 1998.

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Mary L. Smith
03/10/99 01:50:15 PM

Record Type: Record

To: Elena Kagan/OPD/EOP
cc: Laura Emmett/WHO/EOP, Thomas L. Freedman/OPD/EOP
Subject: OPM recommendations on comparable worth study

Attached is OPM's analysis regarding implementing comparable worth for the federal government. They do not recommend it because they are currently in the process of revamping the federal compensation system and a comparable worth analysis would delay that process. Rather, they suggest a Presidential directive to OPM to consider pay equity issues in the design of the new compensation system.

----- Forwarded by Mary L. Smith/OPD/EOP on 03/10/99 01:46 PM -----



MASTRAND @ OPM.GOV
03/10/99 12:29:08 PM

Record Type: Record

To: Mary L. Smith/OPD/EOP
cc:
Subject: OPM recommendations on comparable worth study



- COMP_REC.WPD

Feasibility of OPM Conducting a Comparable Worth Study for the Federal Government

1. What would conducting a comparable worth study entail?

Typical activities include: (1) collecting general information about wage gaps; (2) examining the compensation of job classes; (3) locating sex-bias within classification/ compensation systems; and (4) determining the magnitude of sex-bias. Studies usually involve both a consulting firm and in-house staff.

2. Who would probably be involved in conducting the study?

- Steering Committee.
- In-house Federal employees (OPM, major agencies, etc.)
- Outside Consultants.

3. What is the possible maximum scope of the study?

As of September 1998, the 1.8 million nonpostal Executive Branch employees were paid under 129 different pay plans administered by 25 different agencies. (The 129 pay plans can be grouped into over 60 "pay systems.")

4. What policy issues would affect the cost?

- Deciding on a precise goal or goals for the study.
- Determining what pay systems will be included in the study.
- Deciding how jobs and/or job incumbents will be selected for study.
- Deciding what general type of job evaluation will be used, and within each category, what particular system seems most appropriate.
- Determining what analytic technique will be used to interpret the study results.

5. How long to we estimate it would take?

We estimate it would take between 18 months to 2 years to complete a study.

- State-conducted studies generally took 18 months or less to complete.
- Experts recommend that pay equity studies be conducted quickly, preferably less than 18 months.
- Longer studies can result in documentation for jobs analyzed early in the process becoming out of date before the study is completed.

6. Based on state government study costs, how much do we estimate a Federal government study cost

- Average Cost \$9,778,000 (range--\$3,640,000 to 17,714,000)
- Costs can vary substantially based on the scope and complexity of the study.

NOTES:

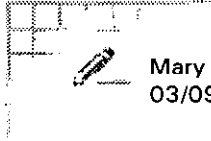
1. State study costs were aged to reflect 1999 dollars. The Consumer Price Index-All Urban Consumers (CPI-U) for January 1985 (105.5) and for January 1999 (164.3) were used to calculate a multiplier. This multiplier (1.5573459) was then used to adjust the cost of each study (using a January 1985 common date).
2. Federal Government cost projections (4) were estimated using the ratio between the number of employees for each individual state and the Federal Government (based on 1995 data). Average cost reflects the average of the four cost projections. Cost range reflects the lowest and the higher cost projections.

7. OPM recommendations

OPM does not recommend undertaking a comparable worth study in the Federal government at this time.

- Past studies on pay equity in the Federal government have found no clear evidence that any major systemic problems exist.
- OPM is in the process of conducting a total review and revamping of the current Federal compensation system to achieve a modernized performance-oriented system of total compensation. The target date for completion is the year 2002. It would not make sense to conduct a 2-year comparable worth study on a compensation system which will likely be completely changed by the time the study is completed.
- OPM's FY 2000 budget request does not include the approximately \$10 million dollars it would cost to undertake this study.
- ▶ OPM, instead, recommends that the President direct us to include a review of comparable worth, and an assurance of gender equity, in the design of the Federal government's new compensation system. (Specific language can be worked out if this proposal is accepted.)

Women's issues -
comparable worth



Mary L. Smith
03/09/99 05:57:55 PM

Record Type: Record

To: Elena Kagan/OPD/EOP

cc: Thomas L. Freedman/OPD/EOP, Laura Emmett/WHO/EOP

Subject: Memo on Pros and Cons of Comparable Worth



PAYPROCO.39 You asked for a brief handout on the pros and cons of comparable worth. Attached is a memo on this subject. OPM will send a memo tomorrow that outlines whether the federal government should implement comparable worth and if so, how we could do it. In addition, we will be sending you later tonight a memo that discusses options on data collection.

CEA

COMPARABLE WORTH

Senator Tom Harkin and Rep. Eleanor Holmes Norton introduced bills to implement comparable worth in the last Congress (and these bills are expected to be reintroduced this year).

- The Congressional comparable worth proposals would prohibit employers from paying lower wages for jobs dominated by employees of a particular sex, race, or national origin than for jobs dominated by employees of the opposite sex or different race or national origin for work on "equivalent" jobs. Equivalent jobs would be defined as jobs that may be dissimilar, but whose requirements are equivalent when viewed as a composite of skills, effort, responsibility, and working conditions. The EEOC would establish criteria for determining whether jobs are dominated by employees of a particular sex, race or national origin. The bills also provide that no wage rates may be reduced in order to comply with comparable worth requirements.

ARGUMENTS FOR COMPARABLE WORTH LAW

- **There is a significant wage gap.** According to the Council of Economic Advisors, in 1997, the gap between men's and women's wages was approximately 75 percent. The most recent detailed longitudinal study found that in the late 1980s about one-third of the gender pay gap was explained by differences in the skills and experience that women bring to the labor market and about 28 percent was due to differences in industry, occupation, and union status among men and women. Accounting for these difference raised the female/male pay ratio in the late 1980s from about 72 percent to about 88 percent, leaving around 12 percent as an "unexplained" difference. While some of this gap is due to unequal wages paid for the same job, some of the difference is due to women in occupations predominated by women not being paid the same by men in equivalent jobs.
- **Comparable worth could increase wages.** The AFL-CIO recently issued a study that shows that America's working families lose approximately \$200 billion of income annually to the wage gap -- an average loss of more than \$4,000 every year for each family, even after accounting for difference in education, age, location, and the number of hours worked. The study also showed that if married women were paid the same as comparable men, their family incomes would rise by nearly 6 percent, and their families' poverty rates would fall from 2.1 percent to 0.8 percent.
- **Eight states have implemented comparable worth laws for state employees.** Eight states -- Connecticut, Iowa, Minnesota, Montana, New York, Oregon, Washington, and Wisconsin -- have enacted comparable worth laws covering state government employees. With the exception of Montana whose pay equity study found that there was "no significant gender bias," the seven states that have implemented comparable worth expended only between 1 percent and 4 percent of their payroll budgets.
- **Comparable worth adjustments for state and local governments have resulted in payments.** Public employees in twenty states received collective bargaining related equity adjustments during the 1980s. State employees in Michigan received \$21 million in

comparable worth adjustments; in Pennsylvania, \$16 million; and in Washington, \$442 million. In the 1990's, state workers in Connecticut reached a \$22 million pay equity settlement that will give nearly half of that state's workforce an average of \$1,000 per year. In 1994, social workers in Los Angeles County won a 20 percent pay equity wage increase. Previously, there had been a 34 percent wage differential between the female-dominated social worker class and the male-dominated probation officer class, despite similarity of skills, responsibilities, and working conditions.

ARGUMENTS AGAINST COMPARABLE WORTH

- **Comparable worth policies could cause significant job losses.** Comparable worth job assessments are based on skills, effort, responsibility and working conditions required by the job without taking into account any of the traditional supply and demand factors. If the wages of child-care workers (which is dominated by women) were to be raised to be equivalent to a comparable job (e.g., mechanics, which is dominated by men), this would mean that wages would be increased above the market-clearing level and unemployment would result.
- **Comparable worth evaluations could cause substantial administrative costs -- and possibly extensive litigation.** The Harkin/Norton bills call for the EEOC to establish criteria for determining whether particular jobs meet the gender, race or ethnicity thresholds, but do not call for governmental classification of jobs. Assessments would be done by individual employers and comparisons would be made between jobs at a particular establishment. While this decentralized approach avoids direct government job ratings, it could lead to significant variation among establishments and to costly litigation challenging the criteria and scoring of jobs at particular establishments. While it could provide a job bonanza for human resource consultants, the resulting administrative costs could be a severe burden to many firms.
- **The accuracy of comparable worth job classifications is questionable.** A 1989 experimental study of comparable worth prepared for the Federal Reserve Bank of Kansas City had three commercial job evaluation firms rate the same 27 jobs in an actual company. The report concludes that scores provided by different job evaluators do not provide mutually consistent adjustments to existing pay scales.
- **Comparable worth is more invasive of private business decision-making than other Federal mandates.** For example, compared with the minimum wage which is uniform in its application and is relatively easy to administer, comparable worth would require more extensive record-keeping, incur greater administrative expenses, and affect wage levels and resource allocations without regard to productivity and other market conditions. As the American economy becomes more and more flexible, the rigid job classification framework of the Harkin/Norton bills would move us backwards -- against the tide toward more flexible job definitions, individual merit-based pay, and work teams.

- **Mandatory comparable worth experience in the United States -- which has been limited to public sector employment in a few states -- fails to establish a good model for a mandatory private sector program.** Governments generally use a traditional job-description based, administratively run system for determining wages. This makes it more feasible to implement a comparable worth system in government; however, both the private sector and reform-oriented government personnel systems are moving toward compensation-based regimes linked to individual worker performance. At least one study of public-sector comparable worth programs (Minnesota and San Jose, CA) found that women's wages increased slightly, but there was also a slight loss of employment in the form of reduced future jobs.