# Women's earnings: an overview

Over the past 20 years, women's real earnings rose while those of men declined; even as the gender pay gap shrank, however, earnings differences between white women and black and Hispanic women continued to grow

Mary Bowler

ore than 41 million women worked full time at wage and salary jobs in 1998 and their median weekly earnings were \$456. Among female full-time workers, earnings levels differed notably by age, race, Hispanic origin, and education. At the same time, women's earnings fell short of men's across all demographic groups; the gender earnings gap was largest for white workers, middle-aged and older workers, and those with only a high school education.

A look at women's earnings over the past 20 years shows a mixed picture of progress. Women's inflation-adjusted earnings have increased nearly 14 percent since 1979, whereas men's have declined by about 7 percent. But while women's earnings have improved relative to men's, fulltime working women as a group found themselves making only about 76 percent of what men earned in 1998. Earnings for women with college degrees shot up almost 22 percent over the past two decades but, for women without a post-secondary education, there was little or no advancement. This development left groups such as Hispanic women, who were less likely than others to have attended college, comparatively less well off, and generally exaggerated the earnings inequalities among white, black, and Hispanic women.

This article examines current earnings levels of women and trends in such earnings since 1979. The scope of the review is limited to the median

weekly earnings data for full-time wage and salary workers from the Current Population Survey. (See the appendix.) The analysis does not attempt to quantify the sources of differences between women's and men's earnings or between female racial and Hispanic origin groups.<sup>1</sup>

### Earnings among women

For women working full-time—that is, 35 hours or more per week—earnings in 1998 varied by age, occupation, and education. Along with other factors, differences in education and occupation also influenced the relative earnings levels of women in different racial and Hispanic origin groups.

Age. Earnings varied markedly among women of different age groups in 1998. Those aged 45 to 54 had the highest earnings—\$516—followed by 35- to 44-year-olds (\$498), 55- to 64-year-olds (\$476), and 25- to 34-year-olds (\$451). Earnings were lower for women under 25, as might be expected for persons who may have just begun to establish a career and who have the least work experience.

Over the past two decades, 45- to 54-year-old women have emerged as the highest-earning age group. In 1979, women aged 25 to 34 earned more—albeit by only a few percentage points—than women in any other 10-year age group. Ten years later, when this group was 35 to 44 years

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# Exhibit 1. Selected references on the gender pay issue

The following is a sampling of publications on gender pay differences for readers who would like further information on the topic.

#### **Books**

- Blau, Francine D., Marianne A. Ferber, and Anne E. Winkler, The Economics of Women, Men, and Work, 3<sup>rd</sup> ed. (Englewood Cliffs, NJ, Prentice-Hall, 1998).
- Goldin, Claudia, Understanding the Gender Gap: An Economic History of American Women (New York, Oxford University Press, 1992).
- Shelton, Beth Anne, Women, Men, and Time: Gender Difference in Paid Work, Housework, and Leisure (Westport, CT, Greenwood Press, 1992).

#### **Articles**

- Blau, Francine D. and Lawrence M. Kahn, "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s," *Journal of Labor Economics*, January 1997, pp. 1–42.
- Blau, Francine D. and Lawrence M. Kahn, "Rising Wage Inequality and the U.S. Gender Gap," American Economic Review, May 1994, pp. 23–28.
- MacPherson, David A. and Barry T. Hirsch, "Wages and Gender Composition: Why Do Women's Jobs Pay Less?" Journal of Labor Economics, July 1995, pp. 426–71.
- O'Neill, June and Solomon Polachek, "Why the Gender Gap in Wages Narrowed in the 1980s," Journal of Labor Economics, January 1993, pp. 205–28.

## Working papers

- Altonji, Joseph G. and Rebecca M. Blank, "Race and Gender in the Labor Market," Working Paper WP-98–18 (Chicago, Northwestern University Institute for Policy Research, 1998).
- Blau, Francine D, "Where Are We in the Economics of Gender? The Gender Pay Gap," Working Paper No. W5664 (Cambridge, MA, National Bureau of Economic Research, July 1996).

old, they still had the highest earnings, and in 1998, at 45 to 54 years of age, they continued to make the most money. This development appears to reflect the influx and maturing of a new generation of women who were more likely to pursue higher education, to marry and have children later, and generally to maintain a stronger attachment to the labor force than did their predecessors. Because this generation has tended more often to work year round and to enter occupations with greater advancement opportunities, they likely have become more frequent beneficiaries of earnings increases associated with experience, skills accrual, and seniority.

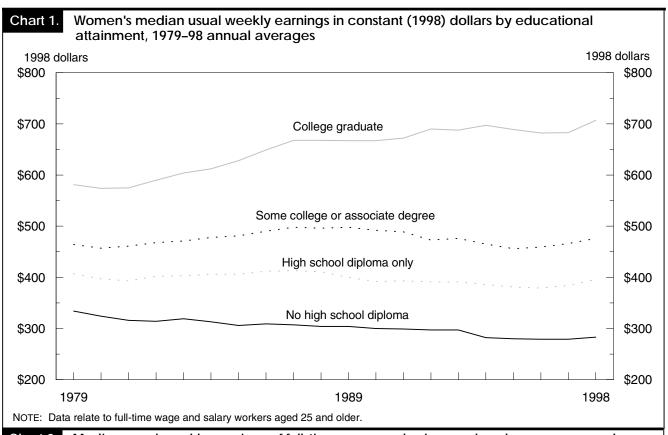
Education.<sup>2</sup> Earnings were substantially higher for women with more education. In 1998, women without a high school diploma earned only 40 percent as much as did women with a college degree, \$283 per week compared to \$707. Even women with some college or an associate degree made just 67 percent of the earnings of their counterparts with a 4-year degree.

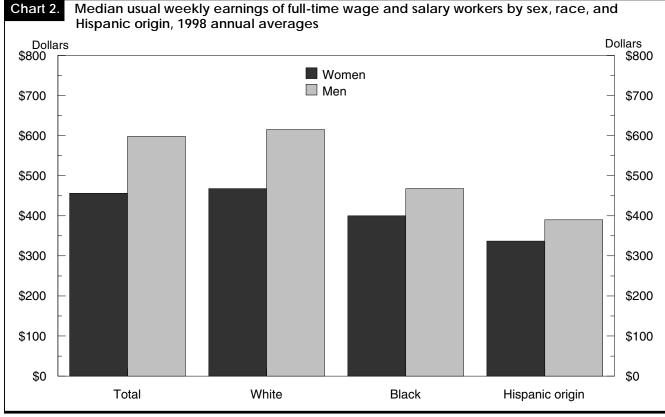
Since 1979, the education levels of full-time workers have increased. For women, the shift to post-secondary education was fairly significant. In 1979, about 1 in 5 women working full time had a college degree; in 1998, nearly 1 in 3 women did. In addition, a greater proportion of women had at least some college or

an associate degree in 1998. In 1979, 45 percent of women had only a high school diploma. By 1998, female full-time workers were almost as likely to have a college degree as to have terminated their education with a high school diploma.

Earnings gains were greatest for the increasing number of women who had achieved the higher levels of education. The inflation-adjusted earnings of female college graduates increased nearly 22 percent from 1979 to 1998. Women with some college or an associate degree saw a 3-percent increase in real earnings, while those with only a high school diploma had a small decline. For those without a high school diploma, the earnings picture was rather bleak; they experienced a 15-percent decline in real earnings over the period. (See chart 1.)

Occupation. Median earnings varied widely across the six broad occupational categories. In 1998, women employed in managerial and professional specialty positions earned the most—\$655. This was significantly more than median earnings in the other occupational categories. Women in technical, sales, and administrative support jobs (\$419), the second-highest paying occupational category for women, made less than two-thirds of what female managers and professionals did. Women who worked in precision production, craft, and repair jobs had the





next highest earnings (\$408), followed by female operators, fabricators, and laborers (\$327), women in service occupations (\$296), and those in farming, forestry, and fishing (\$272).

Among the six broad occupational categories, more than 75 percent of women were employed in two categories: technical, sales, and administrative support jobs, and managerial and professional specialty positions. Most of the remaining 24 percent of female full-timers were divided between service occupations and operator, fabricator, and laborer jobs. Relatively few women, about 2 percent, held precision production, craft, and repair jobs. Fewer than 1 percent worked in farming, forestry, and fishing.

Although the occupational distribution of female full-time workers shifted somewhat between 1983<sup>3</sup> and 1998, women have remained largely concentrated in their traditional occupations. The most notable change was their movement into managerial and professional specialty occupations, particularly the executive, administrative, and managerial jobs within this category. While the proportion of female full-time workers employed in managerial and professional specialty positions rose over this period, women still were most likely to work in technical, sales, and administrative support jobs in 1998, as shown below:

P	Percent distribution of women in—		
Occupation	1983	1998	
Total	100.0 24.9 47.2 12.6 2.7 12.2	100.0 34.8 41.0 12.8 2.3 8.5	
Farming	.5	.5	

Race and Hispanic origin. As a group, white workers earned more than blacks or Hispanics. The differences between the groups, though, were notably smaller among women than among men. White women earned \$468 per week in 1998, 17 percent more than black women (\$400) and 39 percent more than Hispanic women (\$337). (See chart 2.) These differences have about doubled since 1979 due to the significant earnings increase experienced by white women. On an inflation-adjusted basis, white women's earnings increased approximately 16 percent between 1979 and 1998, while black women's real earnings increased just 8 percent. Hispanic women's earnings were little changed.

Among the racial and Hispanic origin groups, Hispanic women were more likely to face labor market obstacles associated with being an immigrant and non-native speaker of English. A relatively large proportion of Hispanic female workers were foreign born, and many of them had immigrated since 1989.<sup>4</sup> This may have some bearing on Hispanic women's comparatively low earnings, given that recent immigrants often

have a more difficult labor market experience than the native born, particularly if their English language skills are limited.<sup>5</sup>

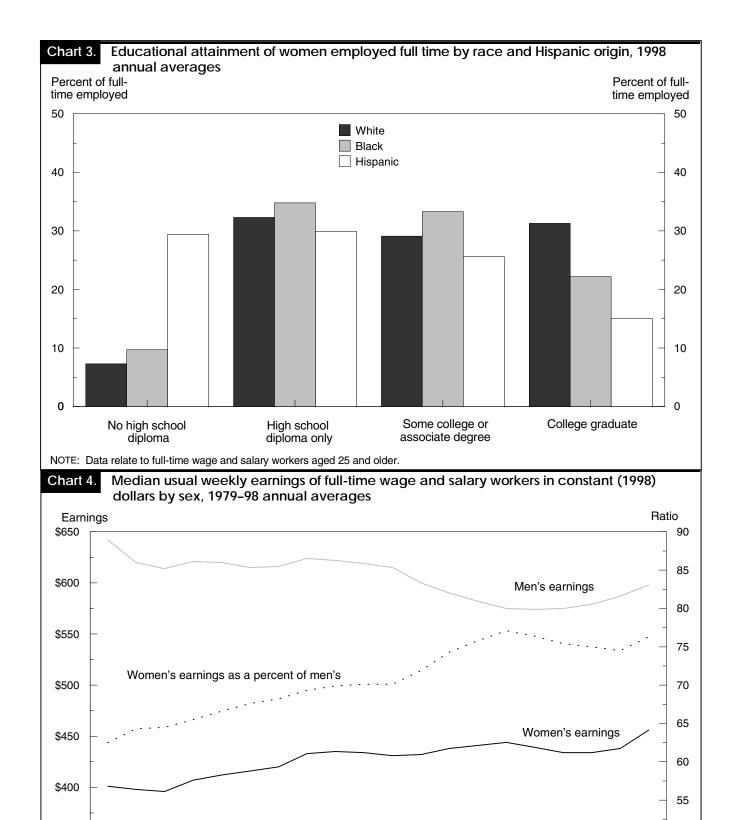
In addition, among female racial and Hispanic origin groups, Hispanic women were at the greatest educational disadvantage. White women were most likely to hold a college degree—31 percent had at least a bachelor's degree, compared with 22 percent of black women and 15 percent of Hispanic women. Although high school dropouts accounted for 10 percent or fewer of white or black female full-time workers, almost 30 percent of Hispanic women working full time lacked a high school diploma. (See chart 3.) However, even when the earnings for white, black, and Hispanic women are compared at similar educational levels, white women, especially those who were college graduates, typically had higher earnings than the other two groups of women.

Along with educational attainment differences, there are related occupational distribution differences among the female racial and Hispanic origin groups that have relevance for their earnings disparities. In 1998, white women were more likely than other women to hold managerial and professional specialty jobs: more than one-third of white women held such positions in 1998 compared to one-fourth of black women and fewer than one-fifth of Hispanic women. (White women also earned more in managerial and professional specialty jobs than did their black or Hispanic counterparts.) Black and Hispanic women were about twice as likely as white women to hold service jobs, such as those in cleaning services, health services, and food service. In addition, a greater proportion of black and Hispanic women worked as operators, fabricators, and laborers.

# Women's earnings compared to men's

Although women earned just 76 percent of what men did in 1998, the gap has closed considerably since 1979, the result of a 14-percent increase in women's real earnings and a 7-percent decline in men's. (See chart 4 and table 1.) Despite the relative improvement for women, earnings disparities with men continued, whether comparisons are made by age, education, or occupation. Differences between the sexes in occupational distribution and hours of work offer some insight into the earnings gap. These and other characteristics, as they relate to female-male earnings differences, are discussed below.

Age. Men earned more than women at all age levels. In 1998, the gap was smallest for those aged 16 to 24, and largest for those in the broad age group of 45- to 64-year-olds. (See table 2.) Since 1979, earnings for women aged 25 to 54 have gained significant ground relative to men's. Women in the 35- to 44- and 45- to 54-year-old groups earned just 57 to 58 percent of what their male counterparts did in 1979. By 1998, such women made 70 to 73 percent as much as did men of comparable age. For women aged 25 to 34, earnings increased from 67 percent to 83 percent of



1990

\$350

1979

50

1998

Table 1.	Median usual weekly earnings of full-time
Table 1.	wage and salary workers in constant (1998)
	dollars by sex, 1979-98 annual averages

Year	Women	Men	Women's earnings as percent of men's <sup>1</sup>
1979	\$401	\$642	62.5
1980	398	620	64.3
1981	396	614	64.5
1982	407	621	65.5
1983	412	620	66.6
1984	416	615	67.6
1985	420	616	68.2
1986 <sup>2</sup>	433	624	69.3
1987	435	622	69.9
1988	434	619	70.1
1989	431	615	70.1
1990 <sup>2</sup>	432	600	71.9
1991	438	590	74.3
1992	441	582	75.8
1993	444	575	77.1
1994 <sup>2</sup>	439	574	76.4
1995	434	575	75.4
1996	434	579	75.0
19972	438	587	74.5
1998 <sup>2</sup>	456	598	76.3

<sup>&</sup>lt;sup>1</sup>These figures were computed using unrounded medians and may differ slightly from percents computed using the rounded medians displayed here.

Note: The Experimental Consumer Price Index for All Urban Consumers (CPI-U-X1) was used to convert current dollars to constant dollars for the years 1979-82; the Consumer Price Index for All Urban Consumers (CPI-U) was used to convert current dollars to constant dollars for the years 1983–98.

men's over the same period. For women in the broad 25-to-54 age range, firmer ties to the labor force, combined with increased representation in the managerial and professional ranks, probably helped close the earnings gap with their male cohorts. The earnings disparity between women and men aged 55 to 64 narrowed, too, but to a lesser degree. For teens and for those 65 and older, there was no clear trend.

Education. In 1998, there was relatively little difference in educational attainment between women and men. For example, approximately 30 percent of both women and men held college degrees. Among college graduates, however, men were somewhat more likely to hold a professional or doctoral degree.

Regardless of education level, however, female full-time workers earned less than men in 1998. The gap was similar for all of the education groups, although women with only a high school education compared least favorably with their male counterparts, as shown below:

Educational attainment	Women's earnings	Men's earnings	Women's earnings as percent of men's
Total, 25 years and older	\$485	\$639	75.9
No high school diploma	283	383	73.7
High school diploma only	396	559	70.9
Some college or associate			
degree	476	643	74.0
College graduate	707	939	75.3

At all education levels, the trend in earnings from 1979 to 1998 for female full-time workers was more favorable than that for men. Among persons without any college, the decline in real earnings was notably less for women than for men. Earnings for women with some college or an associate degree increased modestly, while those of their male counterparts declined. And among those with 4-year college degrees, the earnings increase for women was almost 3 times that for men. (See chart 5.) Consequently, the ratio of women's to men's earnings narrowed for all educational attainment groups.

Occupation. Differences in the occupational distribution of women and men contribute to women's comparative earnings

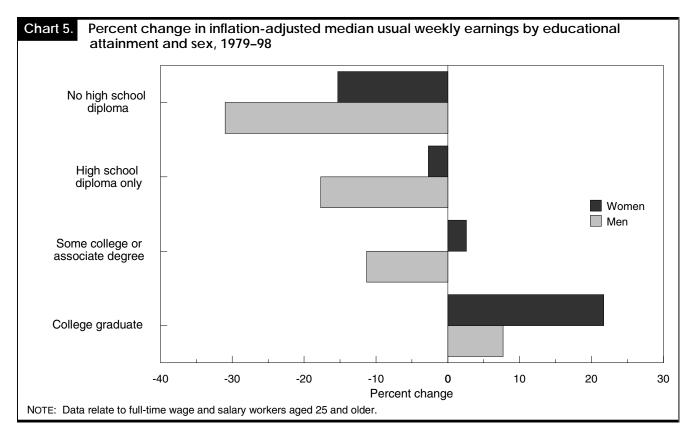
Table 2. Median usual weekly earnings of full-time wage and salary workers by age, race, Hispanic origin, and sex, 1998 annual averages

	Won	en Men		omen Men		
Characteristic	Number of workers (in thousands)	Median weekly earnings	Number of workers (in thousands)	Median weekly earnings	Women's earnings as percent of men's <sup>1</sup>	
Age						
Total, 16 years and older 16 to 24 years 16 to 19 years 20 to 24 years 25 years and older 25 to 34 years 35 to 44 years 45 to 54 years 55 to 64 years 65 years and older	41,282 4,721 922 3,799 36,561 10,800 11,971 9,579 3,753	\$456 305 249 319 485 451 498 516 476	54,313 6,325 1,288 5,037 47,988 14,756 16,185 11,444 4,914 689	\$598 334 281 357 639 544 677 732 699	76.3 91.3 88.5 89.4 75.9 83.0 73.5 70.5 68.2	
Race and Hispanic origin						
White Black Hispanic	33,316 6,025 3,816	468 400 337	46,087 5,751 6,716	615 468 390	76.1 85.4 86.5	

<sup>&</sup>lt;sup>1</sup>These figures were computed using unrounded medians and may differ slightly from percents computed using the rounded medians displayed here.

<sup>&</sup>lt;sup>2</sup> The comparability of historical labor force data has been affected at various times by methodological and conceptual changes in the Current Population Survey (cPs). For an explanation, see the Explanatory Notes and Estimates of Error section of the February 1994 and subsequent issues of Employment and Earnings, a monthly BLS periodical.

Note: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.



disadvantage. While women made some inroads into higherpaying occupations between 1983 and 1998, they remained more concentrated in relatively lower-paying jobs than did men. A much higher proportion of women than men worked in technical, sales, and administrative support occupations. A higher proportion of men, on the other hand, worked in precision production, craft, and repair jobs where median weekly earnings were 20 percent higher than those for technical, sales, and administrative support jobs. (See table 3.)

Furthermore, gender concentrations in specific occupations reveal additional sources of earnings disparities between women and men. Within the managerial and professional specialty category, for example, women in professional specialty positions were most likely to be teachers (except college and university) and registered nurses. Median weekly earnings were \$671 and \$739, respectively, for these jobs. Male professionals were most likely to be engineers and mathematical and computer scientists. Median weekly earnings for the latter occupations were between \$900 and \$1,000. Within the category of sales occupations, 43 percent of women were retail sales workers, with median weekly earnings of \$312; only 28 percent of men working in sales held these relatively low-paying jobs. Of those employed in sales occupations, men were more than twice as likely as women to work as commodities sales representatives, a high-paying occupation with median weekly earnings of \$728.

In addition to the fact that they tended to work in lower-

paying occupations than men, women generally earned less in the same occupation. In 1998, women's earnings were lower than men's across all six broad occupational categories, ranging from a high of 89 percent of men's earnings in farming, forestry, and fishing occupations to a low of 69 percent in technical, sales, and administrative support positions. Women earned less in most specific occupations as well. While occupational earnings differences between women and men have persisted, some modest improvement occurred after 1983. In the executive, administrative, and managerial occupation group, for example, women's earnings as a percent of men's were up from 64 percent in 1983 to 68 percent in 1998.

Race and Hispanic origin. Women earned less than men regardless of race or Hispanic origin. The earnings gap between women and men was largest among white workers. (See chart 2.) While black and Hispanic women made about 85 to 86 percent as much as their male counterparts, white women's earnings were just 76 percent of white men's in 1998. (See table 2.)

Since 1979, the earnings gap between the sexes has narrowed for all three groups—white, black, and Hispanic. While inflation-adjusted earnings for the female groups either increased or remained about unchanged, earnings for all groups of men declined. For white and black men, earnings fell about 6 percent; Hispanic men's earnings dropped 19 percent. Although white women's earnings gains outpaced all others, the

earnings disparity between the sexes remained largest for whites throughout the two-decade period. Although the trend in real earnings of Hispanic women was flat, the ratio of women's to men's earnings for Hispanics rose because of the decline in the earnings of Hispanic men.

Hours usually worked. <sup>6</sup> Data on hours at work provide additional information for comparing earnings differences between female and male full-time workers. Significant variations in work hours exist among persons working full-time schedules, with women averaging fewer hours than men. Consequently, some of the difference between women's and men's earnings may relate to hours spent on the job.

The 1998 distribution of hours usually worked differed notably between female and male full-time wage and salary workers. Men were more than twice as likely as women to work 49 or more hours in a week; women were about 3 times as likely as men to work 35 to 39 hours per week. The majority of both sexes, however, typically worked a standard 40-hour week, as shown below. (Data are full-time hours usually worked per week, 1998 annual averages.)

Weekly hours	Women	Men
Total	100.0	100.0
35 to 39 hours	12.5	4.2
40 hours	70.7	64.8
41 to 48 hours	7.7	10.4
49 or more hours	9.1	20.5

There are many possible reasons for the difference in work hours of women and men. Foremost may be a social and cultural environment in which women tend to assume more family caretaking responsibilities; such responsibilities may limit their ability or desire to work longer hours. In addition, men may be more likely to work in occupations (such as commissioned sales) and industries (such as agriculture and manufacturing) where overtime or extended hours are required or frequently available, creating the means and opportunity to work longer hours, and in some cases, at premium pay levels.

Is there a direct connection between hours worked and earnings? Certainly there is a direct correlation for persons in jobs that pay by the hour, and approximately 57 percent of full-time workers are paid at hourly rates. Because men typically work longer hours than women, the method of payment has a direct bearing on the gap between women's and men's earnings in hourly-paid jobs.

For salaried workers, the correlation between extended work hours and earnings is not well understood, but longer workweeks, especially in some occupations, are frequently associated with higher rates of pay. In recent research, BLS analyst Daniel Hecker looked at 1997 CPS usual hours and earnings data by occupation. <sup>7</sup> Hecker's findings indicated that many workers with longer hours also enjoyed higher earnings,

Table 3.	Median usual weekly earnings and employment
	distribution of full-time workers by occupation and sex,
	1998 annual averages

	Median weekly earnings			Percent of employment	
Occupation	Both sexes	Women	Men	Women	Men
Total, 16 years and older	\$523	\$456	\$598	100.0	100.0
Managerial and professional specialty Executive, administrative,	759	655	905	34.8	27.5
and managerial Professional specialty	755 763	626 682	915 895	16.2 18.6	14.3 13.2
Technical, sales, and administrative support. Technicians and related	477	419	606	41.0	19.2
support	599 502	511 372	701 622	4.2 10.5	3.3 9.8
including clerical	438	418	518	26.3	6.2
Service occupations	327	296	389	12.8	9.7
Precision production, craft, and repair	572	408	587	2.3	19.8
Operators, fabricators, and laborers	415	327	456	8.5	21.3
Farming, forestry, and fishing	302	272	307	0.5	2.5

Note: Percentages will not add to 100 because the employment distribution includes occupational subcatagories.

whether or not they were paid by the hour. This was particularly true for workers in management, sales, production, and transportation occupations.

#### Summary

Women's role in American society and in the work force has continued to change over the past two decades. Social acceptance of and expectations for working women have increased enormously. Women have made great strides into the labor market, and their success has been reflected in their earnings.

Over the past 20 years, women's real earnings rose while those of men declined. Among the college-educated, the real growth in women's earnings far outpaced men's. And today's women have moved into occupations that were rarely held by women 30 years ago. Nevertheless, some higher-paying occupations, such as engineering and construction trades, still include relatively few women.

Moreover, beyond occupational choice, there are underlying gender earnings differences within specific occupations as well as within educational attainment groups. Also, the time women spend at work may well be a factor in their continued earnings disparity with men. They are less likely than men to work more than 40 hours per week and more likely to work fewer than 40 hours.

While the gender pay gap has diminished over the years, earnings differences between white women and black and Hispanic women have grown. Differences in educational attainment among the groups may be one element behind this trend, especially as they are correlated with occupational opportunities. Although educational attainment increased for all groups between 1979 and 1998, the largest gains were achieved by white women. Consequently, white women as a

group gained the most from the rapid growth in the earnings of female college graduates over the past 20 years. For Hispanic women, in particular, comparatively low earnings are, in part, a reflection of the sizable percentage of workers who have never attended college or, in many cases, completed high school. Recent immigration status combined with limited English fluency also may be a hindrance to higher earnings for some Hispanic women.

#### **Notes**

- <sup>1</sup> A significant body of research exists on gender earnings differences. For more information, the reader is directed to a selection of works presented in the box accompanying this article. For additional women's earnings data from the Current Population Survey, see *Highlights of Women's Earnings in 1998*, Report 928 (Bureau of Labor Statistics, April 1999.)
- <sup>2</sup> Earnings data presented by educational attainment level pertain to full-time wage and salary workers 25 years of age and older. Earnings data presented by other characteristics in this article pertain to those 16 years of age and older.
- <sup>3</sup> Because of major changes in the occupational classification system used in the CPS, occupational data are comparable only for 1983 forward. The analysis of occupational trends in this section therefore reviews changes from 1983 to 1998, rather than over the 1979–98 period used elsewhere in the article.
- <sup>4</sup> Among all employed Hispanic women (full- and part-time, including the self-employed) in 1998, 45 percent were foreign born. Of these

women, 30 percent had immigrated since 1989. Among employed non-Hispanic white and black women, 3 percent and 7 percent were foreign born, respectively.

- <sup>5</sup> See Joseph R. Meisenheimer II, "How do immigrants fare in the U.S. labor market?" *Monthly Labor Review*, December 1992, pp. 3–19. His analysis of data from a 1989 supplement to the CPS found that recent immigrants tend to earn less than the native born and those who immigrated to the United States more than a decade earlier. Meisenheimer also noted that English fluency affected the earnings of immigrants—higher earnings levels were associated with greater fluency.
- <sup>6</sup> These comparisons are based on CPS data for hours usually worked by wage and salary workers on the principal job in the case of persons holding more than one job. Earnings data in this article also pertain to the sole or principal job of multiple jobholders.
- <sup>7</sup> See Daniel Hecker, "How hours of work affect occupational earnings," *Monthly Labor Review*, October 1998, pp. 8–18.

#### **APPENDIX**

The Current Population Survey (CPS) is a national monthly survey of approximately 50,000 households conducted by the Bureau of the Census for the Bureau of Labor Statistics. Usual weekly earnings data are collected from one-fourth of the CPS monthly sample. Usual weekly earnings are defined as wages and salaries before taxes and other deductions. They include any overtime pay, commissions, or tips usually received. Earnings for self-employed persons, regardless of whether their businesses are incorporated, are excluded from these estimates.

The earnings data referred to throughout the article are the median usual weekly earnings of persons who usually work full time. The median is the amount which divides a given earnings distribution into two equal groups, one having earnings above the median and the other

having earnings below the median. The Bureau of Labor Statistics estimating procedure for determining the median of an earnings distribution places each reported or calculated weekly earnings value into \$50-wide intervals, centered around multiples of \$50. The actual value of the median is estimated through the linear interpolation of the interval in which the median lies.

Comparisons of real earnings in this article refer back to 1979, the first year for which comparable data are available. Inflation-adjusted historical earnings were calculated by using the Consumer Price Index for All Urban Consumers (CPI-U) to convert current dollars to constant dollars for the years 1983 forward. The Experimental Consumer Price Index for All Urban Consumers (CPI-U-X1) was used to convert current dollars to constant dollars for the years 1979–82.