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Gender Inequality at Work

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Introduction

A cigarette advertising slogan of the 1980s targeting women proclaimed: "You've come a long way, baby." By all accounts, this slogan is true. The transformation of men's and women's work roles stands out among the many technological, economic, social, and cultural changes in the last half of the 20th century. In 1950, only a small number of women (29 percent) worked outside the home; but in 2000, nearly three-quarters of women did. In 1950, women who were employed worked in a relative handful of nearly exclusively female occupations; but by 2000, women worked in nearly the entire spectrum of occupations. On average, a woman in 1950 earned 59 cents for every dollar earned by a man, while in 2000, she earned 73 cents. The scale of this change is indeed monumental, and its momentum has made it in retrospect seem almost inevitable.

Despite this progress, however, inequality remains between men and women. In 2000, men were still more likely than women to have access to paid employment, to be employed in better jobs, and to be better paid in those jobs. Additionally, across three main dimensions—work outside the home, kind of job, and pay—progress for women slowed and even reversed in the last decade of the century.

This report tracks changes in work-related gender inequality in the 1990s, placing these changes in the context of trends over the last 50 years in educational attainment, work experience, politics, and attitudes. The report also examines variations in inequality across race and ethnic groups, education levels, and age cohorts. The analysis contained in the report relies on data from the 1950 to 2000 censuses as well as from Current Population Surveys (CPS) from 1963 to 2002.

For the most part, the report focuses on the working-age population, people between the ages of 25 and 54. These people can be expected to have finished their education, but they are not likely to have begun to retire.

Three central conclusions emerge from our analysis of changes in gender inequality over time:

- Gender inequality in the labor market persists. While nearly nine of every 10 men are in the labor force, only three of four women are working. In addition, women and men continue to be highly concentrated in typically female and typically male jobs, respectively. Women continue to earn substantially less than men.
- The declines in gender inequality in the labor market that have been evident since at least 1950 have essentially stalled. The 1990s were a time of stability and possibly even retrenchment with regard to gender inequality. This decade may mark the end of an era of profound changes in women's labor market position. For each of the primary outcomes examined—labor force participation, occupational segregation, and earnings—the end of the 1990s closely resembled the beginning of the 1990s: a pattern of stability not seen in over 50 years.
- Notable variation exists across demographic groups in the pattern and degree of inequality experienced. For example, blacks and Hispanics lag behind whites in rates of labor force participation, the degree of occupational integration, and the level of earnings; and important differences in labor force participation and earnings have become more pronounced when comparing female high school dropouts with female college graduates.

Thus, our findings suggest that while both women and men have "come a long way," there is still a long way to go, and progress in the United States on gender equality seems to be slowing.

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Labor Force Participation

Women's increased participation in paid work is a central change in gender relations over the last 50 years. The question is no longer whether the average woman will work or not, but rather when during her life course she will work. Most women now work—women at all education levels, of each racial and ethnic group, and across successive family statuses.

Labor force participation is often seen as the prime indicator (and cause) of changes in women's status. As far back as Friedrich Engels' or Charlotte Perkins Gilman's writings on the subject in the late 1800s, social scientists and other observers have identified employment outside the home as the starting point for understanding women's position in society. Social theory often focuses on women's employment because employment determines their access to resources and their ability to make independent decisions.

By the year 2000, only a small margin separated men's and women's presence in the labor force. Nearly 74 percent of women ages 25 to 54 were in the paid labor force, either looking for work or actually working at least part-time. (See Box 1 for a discussion of employ-

Box 1

Measures of Employment

Measuring employment can be simple: Either you have a job or you don't. However, social scientists use many different measures to draw distinctions about one's relationship to the labor market. Several of these measures are discussed below, and corresponding data are presented in the table.

In the Labor Force

The labor force participation rate accounts for individuals currently employed or seeking employment—the percentage of people who want or already have jobs. The advantage of this measure is that it indicates how widespread the desire for paid work is, an issue particularly important when considering how women's roles have changed over time. In 2000, nearly 74 percent of women and 86 percent of men were in the labor force. Of those in the labor force, some were unemployed and seeking work (between 4 percent and 5 percent of women and men in the labor force were classified as such).

Usual Hours and Number of Weeks Worked

Because the labor force participation rate is a gross measure of employment, it tells us little about how much those who are employed actually work. For this information, one would need to examine the distribution of hours and weeks worked. A measure of usual hours worked tells us whether someone typically works part-time or full time, which is an important consideration when evaluating women's work patterns because women are more likely than men to work part-time. An indicator based on the number of weeks worked in a year accounts for the potential instability of employment and the movement of people in and out of jobs. As with hours worked, women work fewer weeks per year than do men.

Full-Time/Year-Round Employment

Information on usual hours worked and weeks worked in the past year can be used to construct a measure of full-time (35+ hours/week)/year-round (50+ weeks/year) employment. Estimates of employment made using this measure are considerably lower than those for labor force participation because these estimates are based on stringent restrictions. Gender differences in employment, however, are substantially higher when considering full-time/year-round employment, because women are more likely than men to be out of the labor force, unemployed, or working part-time or part-year. In 1999, nearly 46 percent of women and 68 percent of men were employed full-time/year-round.

Measures of Employment

Employment status	Women (%)	Men (%)
Out of labor force in 2000	26.5	14.4
Of whom:		
Did not work in 1999	69.3	51.9
Worked in 1999	30.7	48.1
In labor force in 2000	73.5	85.6
Of whom:		
Unemployed, 2000	4.5	4.2
Employed, 2000	95.5	95.8
Of whom:		
Did not work in 1999	2.4	1.5
Worked in 1999	97.6	98.5
Usual hours worked		
1–16	4.6	1.3
17–34	15.5	4.0
35–40	58.2	49.4
41–59	17.5	32.6
60+	4.3	12.6
Number of weeks worked in 1999		
1–24	5.7	3.1
25–49	21.3	14.8
50–52	73.0	82.1
Worked full-time (35+ hours/week)/ year-round (50+ weeks/year) in 1999	45.6	67.9

Note: Labor force participation calculated for men and women ages 25–54.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

Out of the Labor Force

Individuals who are not employed or actively seeking work are considered out of the labor force. In 2000, approximately 27 percent of women and 14 percent of men were out of the labor force. Some of these people had work-limiting disabilities, others chose not to work, and still others stopped seeking work when their earlier job searches failed.

ment measures.) Men's rates were only slightly higher, at 86 percent. Gender difference was somewhat larger for full-time/year-round employment. In 1999, 46 percent of women and 68 percent of men ages 25 to 54 were employed full-time/year-round.

These gender differences are small in historical perspective. Consistent with popular perception, women were much more likely to work outside the home by the end of the 20th century than at any time since 1950. As shown in Figure 1, women ages 25 to 54 have increased their labor force participation rate steadily, by between 8 percentage points and 14 percentage points for each decade from 1950 to 1990. In 1950, only 33 percent of women were in the paid labor force. By 1970, that figure had increased to 49 percent, and by 1990, to 74 percent. This upward trend has often been interpreted to signify women's increasing equality with men. The growth in labor force participation is also cited as an underlying cause for other changes in gender relations such as marital power, fertility patterns, and political representation.

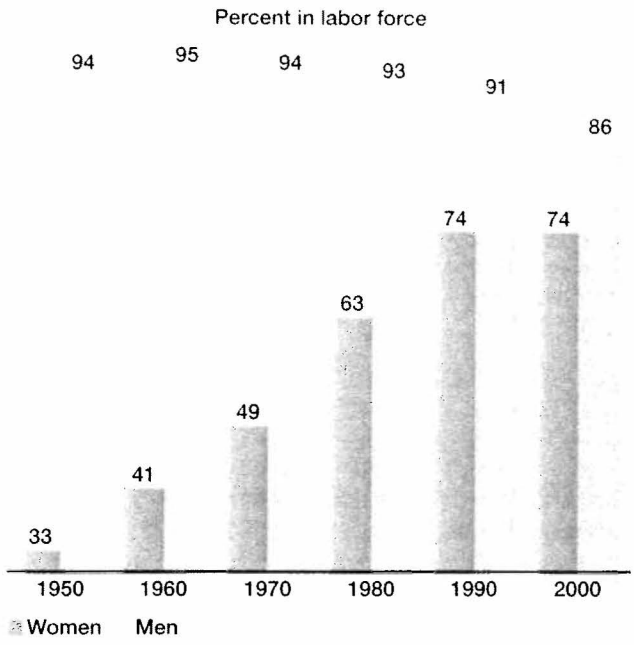
Census 2000 shows no similar increase in women's labor force participation rate during the 1990s. The reported 2000 women's labor force participation rate of 74 percent is not notably different from the 1990 rate. Some of the stagnation in the 1990s is exaggerated by a slight change in wording of the Census 2000 employment question that depressed reports of labor force participation. But stagnation during the 1990s was also seen in the annual CPS, where the question's wording did not change. Like the census, the CPS recorded large increases in the past—from 48 percent in 1970 to 74 percent in 1990. The CPS rate in 2000 was 78 percent, slightly higher than the 1990 Census rate but still far below what would have been expected based on increases of previous decades.

The end of increasing labor force participation for women in the 1990s is surprising. It is too early to say if this lack of change is temporary; perhaps the strong 1990s' economy allowed a reemergence of the single-paycheck family. To understand this finding, it is important to recognize how the patterns of women's labor force participation, and particularly how the changes in the 1990s, have varied across groups of women.

Labor Force Participation by Family Status

The prime employment years of 25 to 54 are also the prime childrearing years. The concurrent demands of work and family have long shaped the ways in which women and men engage in the labor market. Nevertheless, the patterned ways in which families reconcile these demands have changed over the past five decades. The 1990s were no exception. Tracing the changes in labor force participation separately by family status confirms that the 1990s represent a break from the recent past.

Figure 1
Labor Force Participation for U.S. Women and Men, 1950–2000



Note: Labor force participation calculated for men and women ages 25–54.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

Census 2000 Findings

Married mothers of young children are less likely to be in the labor force than are any other women or men of comparable age. Nevertheless, a majority of even these women were employed or looking for work in 2000. Sixty percent of married mothers with a child younger than 6 years old at home were in the labor force. This compares with between 72 percent and 82 percent of women with other family statuses (see Table 1, page 4). Once their children are in school, married mothers increase their labor force participation to levels approaching those of married women with no children at home. These mothers are less likely to work full-time/year-round than are married women with no children at home. Part-time or seasonal employment is common among all mothers, but even among mothers with young children at home, full-time/year-round employment is the most common option among those mothers in the labor force.

The presence of children at home makes less difference for never-married or formerly married mothers. Single women, whether mothers or not, are more likely to be in the labor force than married women. In fact, divorced and separated women with school-age children were more likely to be in the labor force than were women

Table 1
Labor Force Participation Rates for U.S. Women and Men by Family Status, 2000

Marital status	Women			Men		
	Children under age 6 at home	Only children ages 6 to 17 at home	No unmarried children under 18 at home	Children under age 6 at home	Only children ages 6 to 17 at home	No unmarried children under 18 at home
Labor force participation (%)						
Currently married	60	74	76	92	92	84
Formerly married	77	82	77	88	88	80
Never married	72	75	80	85	84	80
Full-time/year-round employment (%)						
Currently married	31	41	51	77	78	69
Formerly married	45	56	54	69	72	59
Never married	39	47	54	62	61	55

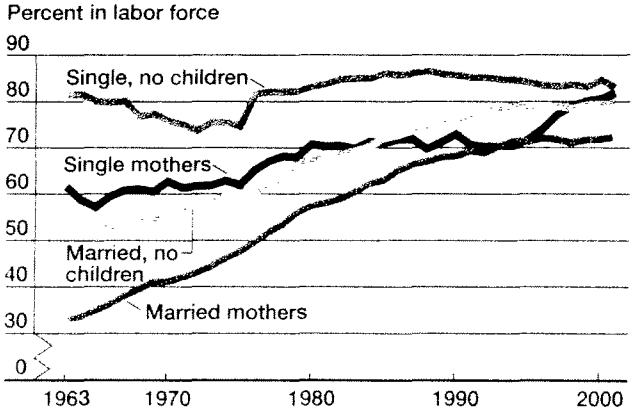
Note: Data are for men and women ages 25–54 in a single-family household.
Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

without children. Never-married mothers also had high labor force participation rates in 2000, contrary to the stereotype of idle welfare mothers living off the dole.

Long-Term Trends

Single and married mothers' labor force participation diverged sharply in the 1990s. Married mothers' labor force participation held constant through the last half of the 1990s—reversing the long trend of these mothers for the fastest increases in labor force participation (see Figure 2). In contrast, single mothers' labor force participation increased significantly in the 1990s—also a change from their recent past pattern of little change in labor force participation since the late 1970s. Single mothers have always worked more than their married counterparts, but the difference between them had been narrowing for some time. In the mid-1990s, the two groups went in opposite directions. Single mothers increased their rates of labor force participation to levels almost equal to single women without children. This increase rules out a ceiling effect as an explanation for the stagnation of married women's rates in the 1990s. If there is some upper bound on women's labor force participation, the increases for single mothers in the 1990s showed it has not yet been reached. Thus, the end of the growth in married mothers' labor force participation is the most unexpected gender turnaround of the 1990s.

Figure 2
Labor Force Participation by Family Status, Women Ages 25–54, 1963–2002



Source: U.S. Census Bureau, Current Population Surveys, March Supplement, 1962–2002.

Women with no children at home showed little change in entering the labor force during the 1990s. Women without children work more often than mothers do, but Figure 2 shows that those high levels held constant during the 1990s. Married women without children, like married mothers with children at home, had been increasing their labor force participation through much of the century, although at less dramatic rates. Those increases stalled in the 1990s, as did the employment rates of married mothers.

Single women with no children have the highest rates of labor force participation, but that has always been true, and those high rates have not changed much in the last quarter-century. Married women had been narrowing the gap with single women, but that ended in the 1990s.

Labor Force Participation by Age, Period, and Cohort

Age, Period, and Cohort Effects

When demographers examine social change, one of the first things they check is whether these changes come

from time-period effects common across the whole population or whether the changes result more from the distinctive characteristics of new cohorts replacing quite different older cohorts. To distinguish cohort effects from period effects requires analysis of age effects as well, since in any year what appear to be cohort differences may just be age effects.

- *Age effects* describe how individuals change over their lifetimes. Retirement is a typical example of an age effect. Social and legal prohibitions also prevent children from entering the labor force, another age effect. Age also has indirect effects on labor force participation by helping to pattern life course events such as marriage and childbearing. These age effects are strong enough so that we limit most of our analyses to the "prime years" between 25 and 54. We make an exception in this section in order to capture the full range of age variations.
- *Period effects* tell us about how historical changes in a society affect all individuals in that society. Specific events often lead to changes in gender inequality. The advent of the birth control pill in the early 1960s dramatically affected women's ability to control fertility, and therefore may have increased their participation in the labor force. The passage of equal employment legislation in the 1960s and 1970s is another example of a possible period effect on gender differences. Sometimes period effects are harder to date exactly but are nevertheless likely to have had broad impacts—for instance, when the women's movement of the 1970s raised fundamental issues about gender equality.
- *Cohort effects* identify generations of people who move together through history and who share common historical experiences that uniquely affect them. The baby-boom cohort is perhaps the most familiar contemporary example. Another cohort, The Depression Generation, came to political maturity during the Depression and New Deal and were forever marked by that experience. For gender issues, an important cohort is women who came of age after the advent of the pill and during the feminist revolution of that time; they are particularly important in understanding changes in gender relations. What makes cohort effects so interesting is that a whole society can change without any particular individuals changing what they think or do. For example, if recent cohorts accept more feminist positions than previous cohorts, eventually the society will adopt the positions of the recent cohort without any individual having changed her own behavior.

Of course, most social changes present some combination of all three of these effects, and disentangling the effects has become something of an art form because of the implicit and easily overlooked relationships between age, period, and cohort differences. If we know any two of these relationships, then the third is completely specified by the other two. Age can always be computed as census year minus birth year, and therefore age effects can always be expressed as the difference between cohort and period effects. Or period effects can always be expressed as the combination of cohort differences and aging. Any attempt to disentangle these three effects that does not acknowledge these identities will be misleading. Below are descriptions of the complex patterns of how labor force participation varies across time and cohorts (and thus across age).

Women's Life Cycle

The likelihood that a woman will be in the labor force varies substantially over her life. As we have seen, many women exit the labor force when they become mothers; therefore, labor force participation rates have traditionally been lower for women in their late 20s through early 40s than for younger or older women—a characteristic referred to as the "double maxima pattern." However, the 2000 age profiles of women's and men's labor force participation are strikingly similar. Women's labor force participation by age is comparable to men's (albeit at a lower level)—sharply rising from the teen years into early adulthood, remaining fairly stable in the prime years, falling sharply after the mid-50s, and then trailing off. In 2000, there was some evidence of a slight dip in labor force participation rates as women reached their mid-20s to mid-30s. However, women in their early 40s worked at the same rates as women in their early 20s.

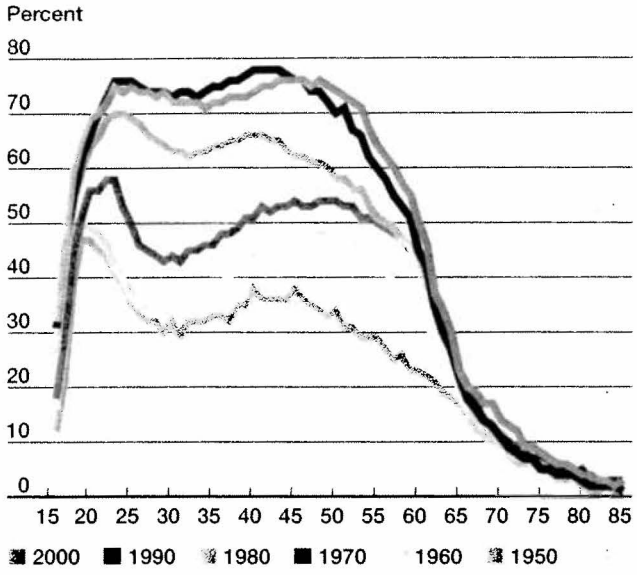
Long-term Trends

By age, women's labor force participation rates have not always so closely resembled men's. In the 1960s and 1970s, the labor force participation rates of women in their mid-20s to mid-30s were substantially lower than those of younger and older women, giving the trend line for women's labor force participation by age a roller-coaster appearance (see Figure 3, page 6). By 1980, the roller-coaster track began to flatten, reflecting lower fertility and fewer women leaving the labor force at marriage and childbirth. The dip also shifts to somewhat later ages at which women were marrying and having their first child. By 2000, the trend line hardly dips for women in their 20s and 30s. The pattern is also somewhat attenuated in 1950, but for different reasons than in 2000. In 1950, many fewer women returned to work after their children were in school or left home, so the labor force participation rates for women in their 50s never approached the peak of 20-year-old women.

The cross-sectional, point-in-time analysis presented above—while fairly clear—implies a problematic con-

Figure 3

Women's Labor Force Participation by Age, 1950–2000



Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

clusion: The rates for women who are now 55 predict the future life course for women who are now 25. But perhaps the differences between current 25-year-olds and current 55-year-olds reflect permanent differences between generations that will not disappear with time.

Cohort analyses are often offered as a solution to this problem. By using multiple censuses, cohort analyses track the labor force patterns for each generation as it ages across the life span (see Table 2). Reading across rows, one sees an age effect—what each generation of women actually experienced. For instance, for the cohort born between 1935 and 1944, labor force participation rose steadily until retirement age, when the rates declined sharply.

Reading down columns, one sees how cohorts differ from one another. For instance, the second column, at ages 25 to 34, shows how the late baby boomers, born between 1955 and 1964, differ from an earlier generation, born between 1925 and 1934. This comparison illustrates the cohort effect because it compares different birth cohorts at the same point in their life cycle. Enormous labor force increases occurred across young-adult cohorts. For example, 35 percent of those born between 1925 and 1934 were in the labor force at ages 25 to 34. This is much lower than the 74 percent of women born between 1955 and 1964 who were in the labor force at ages 25 to 34.

However, the increases from 32 percent in the earliest cohort to 73 percent in the latest cohort may not be the result of true cohort effects. These increases may be just a period effect common to all cohorts: Women born between 1915 and 1924 reached early adulthood around 1950, when few women were in the labor force at any age. And post-baby-boom women born between 1965 and 1974 reached early adulthood around 2000, when labor force participation rates were much higher. Unfortunately, this arrangement of a cohort table obscures the period effect of changes over time. To know rates for any census year, one has to read along the diagonal in Table 2—which is shaded to represent results from the 2000 Census.

If the cohort differences in column 2 of Table 2 represent lasting cohort effects, those differences should

Table 2

Women's Labor Force Participation by Birth Cohort, Age, and Census Year, 1950–2000

	% in labor force by age							% in labor force by census year					
Birth cohort	**16–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**	**75–84**	**1950**	**1960**	**1970**	**1980**	**1990**	**2000**
1885–1894					24	13	5	24	13	5			
1895–1904				33	35	14	4	33	35	14	4		
1905–1914			35	47	42	12	4	35	47	42	12	4	
1915–1924		32	43	53	42	13	5	32	43	53	42	13	5
1925–1934	38	35	51	59	45	15		38	35	51	59	45	15
1935–1944	39	45	65	71	51				39	45	65	71	51
1945–1954	46	65	77	74						46	65	77	74
1955–1964	58	74	74								58	74	74
1965–1974	62	73										62	73
1975–1984	62												62

Note: Labor force participation calculated for women ages 16–84. Outlined cells are for the prime working ages 25–54. Shaded cells are from Census 2000.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

remain even after the earlier cohorts enter the times of elevated labor force participation at the end of the 1990s. That persistence of effect doesn't happen. For instance, at ages 25 to 34, women born between 1935 and 1944 had participation rates that were 20 percentage points lower than those women in the very next cohort (45 versus 65). But by the time of later adulthood, at ages 45 to 54, the women born between 1935 and 1944 had almost caught up with the cohort that followed them (71 versus 74), suggesting that the early difference was more of a period effect than a lasting cohort effect. Baby-boom women had the advantage of entering the labor market at a time when labor force participation rates were increasing for all women. These time-period effects are more clearly seen on the right side of Table 2, which shows how each cohort progressed through each period rather than through each age range. Every birth cohort that had not yet reached retirement increased its labor force participation between 1960 and 1990. Even for the earlier cohorts, the retirement decline is weaker because these cohorts reached retirement ages just as labor force participation rates were growing.

These observations suggest that the best way to interpret the increases in women's labor force participation during the last half of the last century is as a period effect that changed labor supply for all cohorts. The age distributions from Figure 3 are probably the most parsimonious way to describe the changes: Each succeeding decade had higher rates of labor force participation, and these period effects were especially important for women ages 25 to 40.

Labor Force Participation by Race and Ethnicity

Race matters in the United States. It shapes our everyday experience and our life chances in as fundamental a way as gender does. In fact, some observers contend that race and gender interact to create unique patterns of gender inequality across racial and ethnic groups. Others note that many of the transformations in gender inequality have been so broad as to cross racial and ethnic lines. Thus, the story is simultaneously one of diversity and similarity.

Women's labor force participation rates varied widely across racial and ethnic groups. White women and Filipinas had the highest participation rates of any groups (see Table 3). Black women had a rate almost as high as white women's. Hispanic women tended to have lower rates, but there was substantial variability among Hispanics: Only 58 percent of Mexican American women were in the labor force, while 69 percent of Cuban American women were. There was even greater variability among Asian ethnic groups: Filipinas had the highest rates (77 percent), and South Asian women had the lowest (59 percent). American Indian and Pacific Islander women had rates slightly below white women's. Full-time/year-round employment rates were lower for each group, but the pattern across racial and ethnic groups (not shown) was similar. White, black, and Pacific Islander women were most likely to work full-time/year-round; American Indian and Hispanic women were least likely to do so.

Table 3
LABOR FORCE PARTICIPATION RATES FOR U.S. WOMEN AND MEN BY RACE AND ETHNICITY, 2000

Race/ethnicity	Women (%)	Men (%)	Ratio women/men
White (only)	75	89	0.85
African American	73	72	1.02
Hispanic (any)	61	77	0.79
Mexican	58	78	0.75
Puerto Rican	63	73	0.85
Central American	64	80	0.80
South American	66	82	0.81
Cuban	69	77	0.89
Dominican	61	71	0.86
Asian (any)	67	84	0.80
Chinese	70	86	0.82
South Asian	59	88	0.68
Filipina	77	84	0.92
Southeast Asian	65	78	0.84
Korean	61	80	0.77
Japanese	68	89	0.76
American Indian	69	78	0.88
Pacific Islander	71	80	0.88

Note: Labor force participation calculated for men and women ages 25–54.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

Although women from most racial and ethnic groups were less likely to be in the labor force than white women, the same racial and ethnic groups may have had more gender equality in participation rates because of the low participation rates among men. The rate for Hispanic men (77 percent), for instance, was almost as far below the rate for white men (89 percent) as the rate for Hispanic women was below that for white women. The level of gender inequality in labor force participation was not very different when comparing Hispanics (79 percent) with non-Hispanic whites (85 percent).

Gender differences among African Americans were even more distinctive. While African American women were slightly less likely than white women to be in the labor force, African American men were far less likely

than white men to be in the labor force. In fact, the African American women's labor force participation rate was slightly *higher* than the African American men's rate, one of the few instances when the usual gender inequality was reversed and favored women.

Gender inequality among Asian labor force participation rates varied widely across ethnic groups. The high participation rate of Filipina women was close to that of Filipino men, but the low rate of South Asian women contrasted with a high rate among South Asian men—one that approached the rate of white men.

The question of gender differences among racial and ethnic groups is complicated because two comparisons are possible. The above calculations use within-race comparisons, but such comparisons have the disadvantage that a racial and ethnic group may be more gender-equal than whites not because women in the group work more but because the men work less. An alternative between-race comparison keeps a constant comparison group, usually white men, because they are the most privileged group. Thus, inequality for black women is greater than for white women when using this between-race measure, but not when using the within-race comparison. Within-race comparisons appear throughout this report but do not mean that, when gender inequality within a racial or ethnic group is less than among whites, the women in that group work more than white women.

Long-Term Trends

The dramatic increases in labor force participation rates between 1950 and 1990 affected women of all racial and ethnic groups. For most of the period, black women and Asian women had the highest rates of participation, while American Indian women and Hispanic women reported the lowest rates. The participation rates of white women have equaled those of black women and Asian women only since 1990.

Similarly, the 1990s was a period of stagnation in labor force participation rates for women of all racial and ethnic groups. While the change in the wording of the race question in the 2000 Census exaggerates the declines (especially among African Americans and Hispanics), data from the Current Population Survey confirm the stagnation for all groups. Thus, both the increases from 1950 to 1990 and the unexpected plateau in the 1990s were shared across racial and ethnic groups.

Labor Force Participation by Education Level

Education is frequently seen as preparation for the labor force—as training for employment. As such, education is often thought of as an investment in human capital or skills to be brought to market. The more education one has invested in, the more skills one has obtained and the better job one can expect. The higher the income one expects, the greater the incentive to be in the labor force. But education can also be thought of as a proxy for class, especially in terms of life chances. In either interpretation, education strongly conditions both the likelihood that an individual will be in the labor force and the type of work he or she does.

For married women, education has dual consequences: It increases their value in the labor market and thus raises the incentive to work. On the other hand, educated women tend to marry educated men, and these men have a higher incentive to work and have higher incomes. For women, this "unearned income"—income available whether women work or not—is a disincentive for employment. For most women, the incentive effects of higher education outweigh the disincentives.

Census 2000 Findings

In 2000, labor force participation rates increased at each higher education level for both men and women (see Table 4). Ninety-four percent of male and 82 percent of female college graduates were in the labor force. Similarly, 83 percent of male and 69 percent of female high school graduates were in the labor force. The rates dropped off sharply for high school dropouts, but the gender gap remained similar.

Long-Term Trends

Women of all education levels increased their labor force participation steadily from 1960 to 1990 (see Table 4). However, all groups saw a decline in participation from 1990 to 2000. There was also a decline among college women between 1950 and 1960. Only among high school dropouts was there a noticeable growth in labor force participation in the 1950s. Since the 1950s, however, labor force participation rates among high school dropouts, always the lowest, have grown more slowly than for other women, so the gap between high school dropouts and those with at least a high school diploma has grown since 1970. For women, education has become an increasingly important predictor of labor force participation.

Among men, labor force participation rates fell for all education groups from 1960 to 2000. Surprisingly little attention has been paid to the decline in men's labor force participation. Most research suggests some combination of men dropping out of the labor force due to declining wages, and a decline among married men whose wives' income allows the men to leave the labor force. This decline was particularly pronounced for high school dropouts. Until 1970, men's labor force participation rates differed little by education level. By 1980, high school dropouts had fallen behind high school graduates, and the pattern worsened through 2000. The percentage of men who have less than a high school degree has declined substantially over time, and some immigrant groups are disproportionately located among groups

Table 4

Labor Force Participation Rates for U.S. Men and Women by Education, 1950–2000

Education	1950	1960	1970	1980	1990	2000
High school dropout						
Women (%)	35	39	45	50	53	49
Men (%)	89	93	90	85	79	68
Ratio women/men	0.39	0.42	0.50	0.59	0.67	0.72
High school graduate						
Women (%)	41	41	50	63	72	69
Men (%)	94	97	96	94	91	83
Ratio women/men	0.43	0.42	0.52	0.67	0.79	0.84
Some college						
Women (%)	48	44	51	69	79	78
Men (%)	88	96	95	94	93	89
Ratio women/men	0.54	0.46	0.54	0.73	0.85	0.88
College graduate						
Women (%)	60	55	61	76	84	82
Men (%)	92	97	97	96	96	94
Ratio women/men	0.65	0.56	0.63	0.79	0.88	0.88

Note: Rates calculated for men and women ages 25–54.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

with less than a high school degree. Overall, education is now as important a predictor of labor force participation for men as it is for women.

Gender differences in labor force participation rates are dominated by the larger changes among women, so gender inequality ratios are driven more by changes to women's labor force participation than to men's (see Table 4). A ratio of 1.0 indicates men and women have equal labor force participation rates, while a ratio below 1.0 indicates women are less likely to be in the labor force than similarly educated men. Since 1960, there has been an upward trend in all participation ratios, indicating growing similarity between women and men for all education groups. The gender revolution in labor force participation spread across levels of education just as it spread across racial divisions.

Sweeping Change

The data reviewed above present a picture of broad-based change. Most women today are in the labor force regardless of racial, age, education, marital, and parental status. This situation represents an enormous change from the 1950s, when most women were not active in the labor force. At the same time, the rate of increase in women's labor force participation may have slowed in the last decade, and even begun to reverse among married mothers. The next question is: Where are the women who have entered the labor force in the last 50 years?

Women and men in the labor force do very different kinds of work. In general, the differences in women's and men's work persist, but are much reduced from a half-century ago. The integration of work marks another aspect of stunning change. Little more than 30 years ago, the idea of women becoming doctors, clergy, bartenders, or bus drivers in numbers equal to men would have seemed naive. But, as the data reveal, this equalization is precisely what has happened. However, as with labor force participation, there is still a considerable gap in the occupations that men and women hold. Many have remained decidedly male or female and, as with labor force participation, there is good evidence that integration has stopped in recent years.

Census 2000 Findings

Despite the fact that women make up nearly half of the labor force, men and women work in very distinct occupations. An occupation is a convenient way of categorizing the many different kinds of work that people do, grouping similar kinds of work performed in different settings. For instance, people who examine other people's physical and psychological condition and make recommendations about their treatment (doctors, psychiatrists, psychoanalysts, chiropractors, and nurses) are all "health diagnosing and treating practitioners." Similarly, people who sell things, such as art dealers, insurance agents, or gas station attendants, are all in sales and related occupations. Different coding systems categorize occupations into greater or lesser degrees of detail and make gross or fine distinctions among the types of work done.

The level of occupational detail is important for understanding gender differences, since the more detailed the coding system, the more segregated men's and women's work will appear. This can be illustrated by the difference between "teachers" at various levels. If all teachers are grouped, 74 percent of them are women. But if this group of teachers is disaggregated by grade level, 97 percent of preschool, 78 percent of elementary and middle school, 58 percent of secondary school, and 46 percent of college teachers are women. Thus, greater detail allows a more accurate estimate of how much segregation there is. In fact, some researchers have analyzed cross-classifications of industries and occupations or even organization-level data on job titles, and each analysis results in higher estimates of the "true" degree of gender segregation.[3]

The Census Bureau uses several occupational coding systems with varied degrees of detail. In 2000, there were

505 categories, but the microdata file collapses that number slightly to 475. The percentage of women in each of these occupations ranges from 98 percent for preschool teachers to 1 percent for heavy-vehicle mechanics.

Scholars examining gender segregation have commonly treated occupations in which more than 70 percent of the workers are of one sex as "sex-typed" occupations.[2] By this standard, more than half (52 percent) of all women work in occupations that are more than 70 percent female, and 57 percent of men work in occupations that are more than 70 percent male. Conversely, only 11 percent of women work in "male" occupations, while 7 percent of men work in "female" occupations. That leaves less than half of men (41 percent) and women (37 percent) working in "mixed" occupations (those between 31 percent and 69 percent female). Among the most heavily female occupations in 2000 were secretaries, cashiers, and elementary- and middle-school teachers; while the overwhelmingly male occupations were truck drivers, laborers and material movers, and janitors and building cleaners. The predominantly mixed occupations were retail sales workers, supervisors of retail sales workers, and miscellaneous managers.

A principal tool that scholars use to describe patterns of gender segregation is the dissimilarity index.[3] This measure can be interpreted as the percentage of women or men who would have to change occupations in order for each occupation to be evenly female—that is, to match the gender distribution in the labor force as a whole. Using this set of occupations, more than half (52.0 percent) of all women or men would have to change occupations in order for all occupations to match the 46.5 percent female rate found in the labor force as a whole.

Long-Term Trends

The Census Bureau has changed the occupational classification system almost every decade. The 2000 Census was no exception. These changes reflect, in part, changes in the type of work we do, but also changes in our understanding of that work.[4] These changes in classification cause problems for comparing changes in the kinds of work that women and men do. To have comparable occupations over these 50 years, it was necessary to recode all the occupations into a standard set of 179 occupations. This smaller set, however, limits the detail about the types of occupations, resulting in underestimates of the levels of segregation.

The rapid entry of women into the labor market in the 1960s, 1970s, and 1980s had consequences for the types of jobs they held. During these decades, women gained access to many occupations that had previously (whether formally or informally) been closed to them. But women's entry into occupations was uneven. Many occupations remain nearly as heavily male or female as they were in the 1950s. Some occupations have even *become* predominantly female since the 1950s (see Table 5). For example, while women have made some inroads into the skilled trades, women are only slightly more likely to be electricians or mechanics today than in 1950. Similarly, despite much popular attention to the phenomenon of the male nurse, a patient is nearly as likely today to have a female nurse as in 1950, children are equally likely to have a female teacher in 2000 as in 1950,[5] and the office secretary is just as likely to be a woman today as in 1950.

In other occupations, though, changes have been far more substantial. For instance, in 1950 it was extremely unlikely to find a woman driving a bus or mixing drinks in a bar—but by 2000, the probability was more than 50 percent. Much the same can be said about real estate agents, accountants, and bill collectors; each of those occupations had female majorities by 2000. Finally, some occupations that in 1950 were fairly evenly split between women and men have now become predomi-

Table 5
Women's Share of Selected Occupations, 1950–2000

Occupation	Percent of workers who are women			
	1950	1980	1990	2000
Male occupations				
Electricians	1	2	3	3
Firefighters	0	1	2	4
Airplane pilots	0	1	4	4
Truck drivers	1	3	6	6
Electrical engineers	1	5	10	9
Clergy	4	5	11	15
Police	2	5	13	16
Architects	2	9	16	21
Mixed occupations				
Physicians	6	15	23	30
Lawyers	4	15	26	33
Mail carriers	1	14	28	34
Managers	13	25	34	36
Real estate agents	16	50	53	52
Bartenders	8	47	55	57
Bus drivers	4	53	55	57
Accountants and bookkeepers	13	37	53	60
Female occupations				
Bill collectors	17	62	68	72
Medical and dental technicians	41	67	73	73
Teachers	73	67	74	75
Waiters and waitresses	83	88	82	76
Librarians	91	84	85	80
Nurses (professional)	97	91	91	92
Bank tellers	43	94	94	94
Secretaries and typists	94	99	98	97

Note: Labor force participation calculated for men and women ages 25–54.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

Table 6

Source of change	1950	1960	1970	1980	1990	2000
Occupational segregation	60.8	62.0	56.8	53.1	48.4	46.6
Actual change from previous decade	—	+1.2	-5.2	-3.7	-4.7	-1.8
Change from integration of occupations	—	+1.8	-3.3	-4.6	-3.4	+0.7
Change from shifts in the occupational structure	—	-1.0	-1.7	+1.6	-1.2	-2.1

— Not applicable.

Note: Includes men and women ages 25–54. The dissimilarity index is the percentage of men or women who would have to change occupations for each occupation to be evenly female—that is, to match the gender distribution in the general labor force.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

nantly female. Both medical and dental technicians and bank tellers went from being just under half female in 1950 to being predominantly female by 2000.

Again, the dissimilarity index is useful for summarizing the changes throughout the occupational structure. Based on the smaller set of 179 occupations, the dissimilarity index was 46.6 for 2000 (see Table 6). This figure represents a total decline of 14.2 points in the index of dissimilarity between 1950 and 2000—just under one-third of a point each year for 50 years. At that rate, occupational segregation would disappear by the year 2150. The decline, however, has not been evenly paced over the period. Most of the change occurred from 1960 to 1990; both the 1990s (1.8 point decline) and 1950s (1.2 point increase) experienced much lower levels of change.

Declines in segregation come from two main sources. The most obvious type of change is the integration of previously segregated jobs—for example, women becoming doctors and men becoming nurses. Less obvious is the more rapid growth of already integrated occupations (the growth of the number of cooks) or the decline of segregated ones (declining numbers of miners since 1950 or of telephone operators and secretaries since 1970). Tools to decompose the changes in occupational segregation into these two components have been developed. Table 6 identifies what portion of each decade's changes represents changes in the gender composition of occupations and what percentage is just the consequence of differential occupational growth and decline. The declines in segregation seen in censuses from 1960 to 1990 resulted mostly from occupational integration, although in the 1960s and the 1980s, the more rapid growth of integrated occupations also contributed. All of the rather small decrease between 1990 and 2000 can be attributed to the growth of integrated occupations. In fact, without changes in the occupational structure, the 2000 Census would have registered an increase in occupational segregation. This reversal is consistent with the labor force participation trends that also identified the 1990s as a break from the previous decades.

Another question frequently asked about integration is how much of the change stems from women entering occupations that had been male-dominated and how much from men entering occupations that had been female-dominated. That is, are women becoming carpenters and clergy, or are men becoming librarians and nurses? The specific occupational changes summarized in Table 5 suggest that most of the change came from women entering previously male occupations. More detailed calculations confirm this conclusion. If we look at the 13.6 point drop between 1960 and 1990, about 6.3 points of that drop are the result of women's changes (women's 1990 occupational distribution looking more like men's in 1960 than women's did in 1960). None of the drop is due to changes in men's occupations: Men's occupations in 1990 looked less like women's 1960 occupations than was the case 30 years earlier. A large portion of the declining segregation is due to the simultaneous changes in men's and women's occupations to look more like each other. So, however interesting the phenomena of male nurses and librarians may be, these phenomena do not account for much of the occupational integration. The changes in the middle portion of Table 5, occupations that shifted from male-dominated to integrated, drove the decline in occupational segregation.

Occupational Segregation by Age, Period, and Cohort

How much of the decline in occupational segregation between 1960 and 1990 was a period change common to all workers, and how much was the result of newer, more-integrated cohorts replacing earlier, more-segregated cohorts? As with labor force participation rates, the segregation trends can be disaggregated into age, period, and cohort trends (see Table 7, page 12). For segregation, the pattern is much clearer: Virtually all the change was a period change in which occupations for everybody in the labor force became more integrated, regardless of age or birth cohort. The rows in the table show the period change. Occupational segregation dropped for each cohort between 1960 and 1990. The three cohorts whose work lives extended through the entire period all dropped about 10 points in occupational segregation. The stagnation between 1990 and 2000 can also be observed for each cohort, with the possible exception of the recent 1965–to–1975 birth cohort (but in 1990, this cohort was between 16 and 24 years old, so levels of segregation may not represent the career jobs that many in this cohort would have begun after 1990).

Table 7

Occupational Segregation by Birth Cohort and Census Year, 1950–2000

Birth cohort	1950	1960	1970	1980	1990	2000
1875–1884	59.4					
1885–1894	60.5	61.6				
1895–1904	61.6	61.8	56.5			
1905–1914	61.2	62.3	58.0	56.0		
1915–1924	60.4	62.8	58.3	55.8	52.8	
1925–1934	59.3	61.8	58.2	55.4	51.9	50.6
1935–1944		61.0	56.1	54.5	50.2	49.7
1945–1954			56.0	51.6	48.6	48.4
1955–1964				54.6	47.9	47.7
1965–1974					49.4	46.0
1975–1984						42.9

Note: Includes men and women ages 16–84. Outlined cells are for prime working ages 25–54. The dissimilarity index is the percentage of men or women who would have to change occupations for each occupation to be evenly female—that is, to match the gender distribution in the general labor force.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

There are much smaller differences among birth cohorts. Since 1970, the entering cohorts (born from 1935 to 1944) tend to have less occupational segregation than the cohorts that came before them (see the columns in the table). By 2000, the 1935–to–1944 cohort was entering retirement age and was about 4 points less integrated than the 1965–to–1974 cohort, whose members were beginning their adult careers. So the cohort differences over 30 years were less than half of the period changes that each cohort experienced between 1960 and 1990. Thus, the phenomenal changes in occupational segregation witnessed over the last 50 years have been experienced more within than between generations. The fact that everybody's occupation became more gender integrated accounted for most of the change.

There is also little evidence of age effects in these data. Most cohorts became more integrated as they passed through the life course, but that was because most cohorts in these censuses lived through the rapid changes from 1960 to 1990. Age differences within each census show small increases in occupational segregation with age, especially in the more recent censuses. Those age differences are the result of the small cohort differences that begin to emerge with the 1935–to–1944 cohort.

Occupational Segregation by Race and Ethnicity

Census 2000 Findings

As with labor force participation, occupational segregation varies by race and ethnicity as well as by gender. Not only are occupations racially segregated, but levels of gender segregation also may vary by race. Separate

Table 8

Occupational Segregation by Gender and by Race and Ethnicity, 2000

	Gender segregation (women vs. men)		Racial segregation (from whites of same gender)	
Race/ethnicity	Within race/ethnicity	Versus white men	Women	Men
White (only)	52.7	52.7	—	—
African American	47.7	57.4	21.7	26.5
Hispanic (any)	51.4	55.9	23.5	28.3
Mexican	52.1	57.5	28.3	34.7
Puerto Rican	47.0	53.9	17.1	23.2
Central American	47.7	58.1	37.9	37.3
South American	42.6	50.8	21.1	20.4
Cuban	44.7	48.5	10.5	13.6
Dominican	46.4	56.8	31.3	31.8
Asian (any)	39.6	51.7	23.4	30.2
Chinese	34.4	49.8	30.7	38.1
South Asian	36.6	52.0	28.7	41.8
Filipina	40.9	56.6	24.5	28.5
Southeast Asian	37.3	55.3	40.8	35.8
Korean	38.3	48.3	28.6	30.5
Japanese	39.5	48.9	15.5	22.9
American Indian	48.3	50.7	13.7	16.3
Pacific Islander	45.4	50.1	15.3	17.1

— Not applicable.

Note: Occupations for men and women ages 25–54. The dissimilarity index is the percentage of men or women who would have to change occupations for each occupation to be evenly female—that is, to match the gender distribution in the general labor force. Racial segregation is measured by a dissimilarity index defined as the percentage of same gender whites or other races (such as African American or Hispanic) that would have to change occupations for each occupation to be evenly white—that is, to match the racial distribution in the labor force for each gender group.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

gender segregation indices can be calculated within each racial and ethnic group, and racial segregation indices can be calculated within each gender (see Table 8).

Two conclusions emerge from these calculations. First, women of color are generally far less segregated from white women (column 3) than from men of their own race or ethnicity (column 1). Asian women are an exception: Their racial segregation levels often approach the levels of gender segregation.

Second, levels of occupational gender segregation are quite similar across all racial and ethnic groups, except for Asians, who have substantially lower levels of gender segregation. Other groups also have lower gender segregation than whites, but the differences are small. Hispanics are about 1 percentage point below whites; African Americans and American Indians, 5 percentage points below. The lower levels of gender segregation among people of color are not the result of any privileged position of

minority women. Rather, the lower segregation results because minority men are less privileged than white men. Segregation based on race and ethnicity is greater among men (column 4) than among women (column 3).

Long-Term Changes

Changes in occupational gender segregation over the last half-century roughly parallel the general gender story: limited change in the 1950s, followed by declines from the 1960s through the 1990s, when declines slowed or ended. Like labor force participation, the changes over the last 50 years cross racial and ethnic divisions fairly consistently. Indeed, changes over time within any one racial or ethnic group are greater than the differences across these same groups (with the exception of Asians). Even Asians have experienced the same changes as other groups since 1970, although at a lower level. African Americans have seen the largest drop: In the 1950s and 1960s, their gender segregation was greater than for whites or any other group. Only since 1970 have whites had more occupational gender segregation than other racial or ethnic groups.

Occupational Segregation by Education and Class

Education is the major determinant of the types of occupations people can enter. Does it also determine levels of gender segregation? Is gender segregation of occupations a working-class phenomenon? Many of the most male-dominated occupations are working-class occupations, especially skilled crafts (mechanics, electricians) and service work (firefighters, truck drivers). Similarly, many of the female-dominated occupations, while white collar, involve routine work that has many working-class characteristics (secretaries, bank tellers). On the other hand, some of the most dramatic changes in gender segregation are in the classic professional positions of doctors and lawyers. And the gender integration of managers has probably accounted for more of the overall integration of the labor force than has any other occupation. There are important exceptions, of course: Airplane pilots and nurses remain among the most gender-segregated occupations, while bartenders and bus drivers are now more gender-integrated than they were in the 1950s.

The class nature of gender segregation manifests itself in comparisons based on education and occupation. Comparing college-educated workers with workers who have no more than a high school diploma reveals the class division among workers. Separating working-class occupations from middle-class occupations also sheds light on the subject. The middle class includes professionals and managers (including nonretail sales), while the working class includes all other occupations. Both analyses tell similar stories: Gender segregation in occupation is stronger among the working class, and most of the change in such segregation has occurred for the middle class.

Census 2000 Findings

In an analysis of groups by level of education—high school dropouts, those with only a high school diploma, those who went beyond high school and attended a college without getting a bachelor's degree, and those who graduated from college (including those who continued for more advanced degrees)—only college graduates were in less gender-segregated occupations than any of the other three groups. This shift was not a gradual change with more education, but an abrupt division between college graduates and those with less education. This disparity is substantial: People who did not graduate from college are in occupations that are almost half again as segregated as the occupations of college graduates.

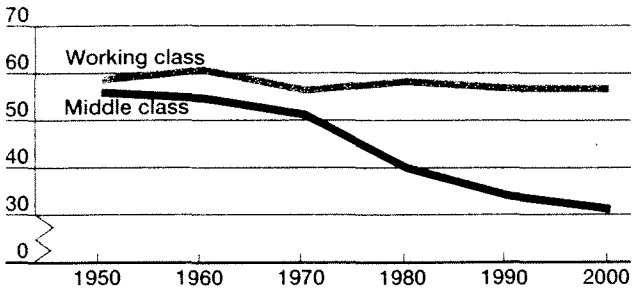
One reason why college-educated working women are less segregated from college-educated men in occupation is that these women hold middle-class jobs, and middle-class occupations are now far less segregated than working-class occupations. In the 2000 Census, the 316 working-class occupations produced a segregation coefficient of 62; for the 155 middle-class occupations, the coefficient was only 40 (a lower coefficient signifies less segregation).

Long-Term Trends

While the occupations of college-educated workers are now less gender-segregated than those of workers without college degrees, has this disparity always been the case? How much of the decline in occupational gender segregation from 1960 to 1990 was limited to the college-educated? Separate trends by education show that occupational segregation declined for everybody during the period, but it was most dramatic for the college-educated. The rapid decline of gender segregation among the college-educated was undoubtedly because primarily middle-class occupations were integrating. There was almost no decline in segregation for the working class. Middle-class occupations began being slightly more integrated in 1960; but by 1990, a major difference had emerged (see Figure 4, page 14).

Social class is obviously important for how integrated our jobs are. This difference is especially notable because gender segregation is almost constant across the other demographic characteristics we have examined. Race, ethnicity, age, and birth year do not seem to matter much for the degree of segregation. Not so for class: It is primarily the college-educated and those in middle-class occupations who have enjoyed the benefits of occupational integration that occurred between 1960 and 1990. On the other hand, education and class do not matter much for the rapid changes in women's labor force participation: Female high school graduates increased their labor force participation at about the same pace (although at a lower level) as female college graduates. But when female high school graduates got

Figure 4
Gender Segregation in Middle-Class and Working-Class Occupations, 1950–2000



Note: Includes working people ages 25–54. Middle-class occupations include professional and managerial (including nonretail sales) occupations. All other occupations are considered working-class occupations. The dissimilarity index is the percentage of men or women who would have to change occupations in order for each occupation to be evenly female—that is, to match the gender distribution in the labor force as a whole.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

to work in 2000, they found a much more segregated workplace than did their college-educated sisters.

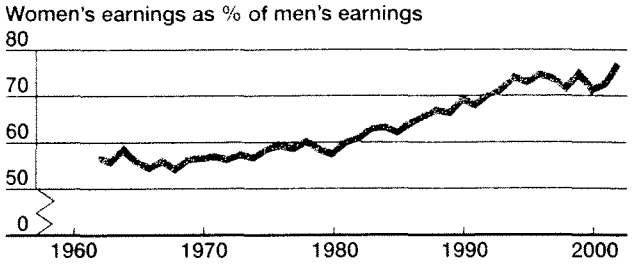
Changing Work

The trends and patterns outlined in this section indicate a considerable integration of men's and women's work, but a substantial amount of segregation persists. Whether one looks at individual occupations, overall distributions, or summary statistics, it is clear that the barriers that kept women from certain occupations and trapped them in others have been lowered. But it is also clear that men and women continue to occupy separate spheres in the world of work. It also appears from this data that the pace of change has slowed. For almost all groups, there was less change in integration in the 1990s than in any decade since the 1950s. Again, it remains to be seen if this is a temporary slowing or the beginning of a reversal of the trends of the 1960s, 1970s, and 1980s.

Earnings

To some extent, changes in both labor force participation and occupational segregation over time are easily observable. We see more women working today and working in a wider variety of occupations than in the past. In fact, the sight of women in large numbers in previously male occupations, such as police officers and politicians, can sometimes mask the persistence of inequality. While perhaps the least directly visible of the

Figure 5
Gender Ratio for Median Annual Earnings, 1961–2001



Note: Earnings calculated for men and women, ages 25–54, employed full-time/year-round.

Source: U.S. Census Bureau, Current Population Surveys, March Supplement, 1961–2001.

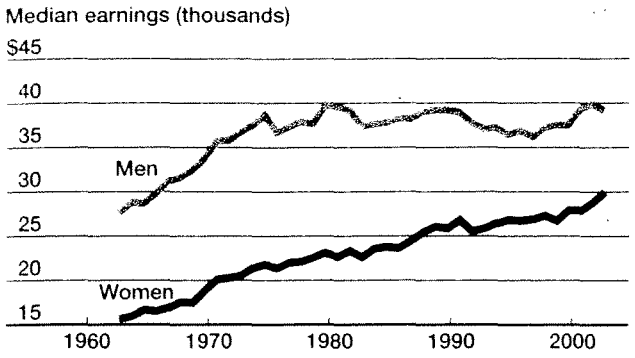
three dimensions of work-related gender inequality, differences in men's and women's pay may have garnered the most public attention. Each year, when the U.S. Bureau of Labor Statistics releases results from the March Current Population Survey, a spate of newspaper stories appear on the gender gap in earnings. These stories tell both good news (a narrowing gap) or bad (a widening gap). Cumulatively, as we will see, the last 50 years have brought good news—but the differences remain large, and the gap between men's and women's earnings widened again in the last half of the 1990s.

Women still earn less than men. The average woman age 25 to 54 who worked full-time/year-round in 1999 reported earnings of $28,100. That is only 73 percent of the $38,700 reported by the average man age 25 to 54. The ratio is somewhat better if hourly wages for all workers are estimated by adjusting annual earnings for the reported usual hours worked and the number of weeks worked last year. Women's average hourly wage of $12.44 is 79 percent of men's $15.72.

The gender gap in earnings declined during much of the last quarter of the 20th century. That advance appears to have ended in the mid-1990s. Census data from 1950 through 2000 show the ratio of women's to men's earnings to have hit bottom in 1969 and 1979 at 56 percent (the higher the ratio, the smaller the gender gap). In 1989, the ratio jumped to 66 percent, and it continued to improve to 71 percent in 1999. (Because the census collects data about last year's earnings, the 2000 Census yields estimates for 1999 earnings, the 1990 Census for 1989 earnings, etc.) More detailed annual data from the Current Population Survey (see Figure 5) suggest that the increase in the 1990s occurred entirely in the first half of that decade. Since the mid-1990s, there has been little improvement in the gender earnings ratio.

Changes in men's earnings are more closely correlated with changes in the gender ratio than are changes

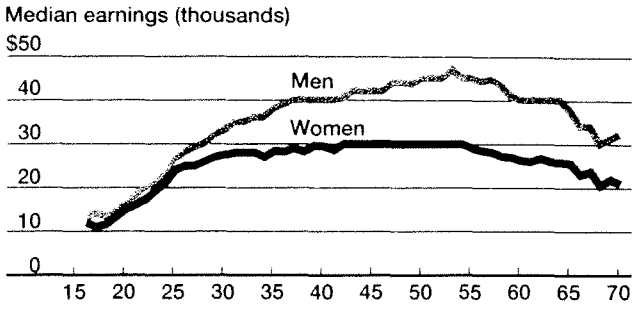
Figure 6
Median Annual Earnings for U.S. Men and Women, 1961–2001



Note: Earnings calculated for men and women, ages 25–54, employed full-time/year-round.

Source: U.S. Census Bureau, Current Population Surveys, March Supplement, 1961–2001.

Figure 7
Median Annual Earnings for U.S. Men and Women by Age, 1999



Note: Earnings calculated for men and women employed full-time/year-round.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

in women's earnings (see Figure 6). Women's average earnings have increased steadily since the 1960s. Men's average earnings, on the other hand, increased in the 1960s through the early 1970s, but then plateaued and even declined somewhat until the mid-1990s. In the mid-1990s, men's earnings again began to increase after two decades of stagnation. Thus, over the last 40 years, when men's earnings have risen, the gender earnings gap has held constant or even grown. But when men's earnings have stagnated or declined, the gender earnings gap has closed. Times of progress in gender equality have come mainly when men's earnings have stagnated.

Earnings by Age, Period, and Cohort

It is not simple to determine how much of the change in the earnings ratio can be ascribed to period effects that all workers experienced and how much to cohort-replacement effects. Unlike occupational integration, which was clearly a period effect that happened among all workers with few age or cohort differences, changes in the earnings ratio reflect each of the possible patterns of age, cohort, and period effects—and none of these patterns are simple linear trends. We begin with the age patterns, which are especially strong for the earnings gap.

Census 2000 Findings

The gender difference in earnings is dramatically larger among older workers than among younger workers (see Figure 7). In 1999, the average 25-year-old woman earned 90 percent of what the average 25-year-old man earned. But 55-year-old women earned only 65 percent of what 55-year-old men earned. In what are usually the post-retirement years, the gender difference diminishes somewhat.

However, the growing gender gap in 1999 between 16-year-olds and those in their late 50s does not mean that the gender gap increases over people's careers. When the same individuals are studied over time, the gender earnings gap between the average woman and the average man is quite stable across their work lives. Women earn less than men throughout their careers, but the disadvantage for the average woman doesn't change much after working many years. The age differences in Figure 7 occur for two other reasons: a cohort effect and an out-of-labor-force effect. First, the older workers in 1999 were born before the end of World War II; gender gaps for this generation have been higher than for any generation before or after. Second, women interrupt their careers for child care and family responsibilities more often than men do. This time out of the labor force puts older women at a disadvantage when they return to work. By age 55, the typical woman has accumulated fewer years of work experience than a man. If we compare men and women with the same years of work experience (something we cannot do with census data), the earnings difference between the average man and the average woman remains fairly constant over their work lives.

Although career earnings trajectories are quite similar for the average man and woman, these trajectories do diverge among higher earners. Men's chances of getting into the top fifth of earners increase faster than women's over time. Some women do reach that level later in their careers, but their rates of advancement into these top levels are slower than men's. As a result, the gender gap in earnings at the 80th percentile is higher than at the median, and that gap grows larger with more years in the labor force. The difference between career trajectories

Box 2

Glass Ceilings

In a 1986 *Wall Street Journal* article on women in the work force, Carol Hymowitz and Timothy Schellhardt coined the term "glass ceiling" to describe the experience of female executives who seemed unable to reach the highest levels of corporate success.

Since that time, a large number of reports have addressed the problem. The Federal Glass Ceiling Commission, founded in 1991, defined the glass ceiling as the "unseen, yet unbreachable barrier that keeps minorities and women from rising to the upper rungs of the corporate ladder, regardless of their qualifications or achievements."[1] Typical signs of a glass ceiling are the lack of women on corporate boards of directors, the relative absence of women as CEOs or presidents of large companies, and the scarcity of women at the top of government and education institutions. For instance, a report from the Catalyst organization showed that, in 2003, women held just 13.6 percent of the nearly 6,000 seats on Fortune 500 boards.[2]

Though useful, the idea of a glass ceiling has been increasingly used to describe so broad a variety of circumstances that it has become difficult to discern a difference between a glass ceiling and a generic form of gender inequality. In addition, scholars have generated a series of related metaphors, including "glass escalators" (to denote men's rapid upward mobility in female occupations); "sticky floors" (to point out the way that women and minorities often were relegated to the lowest rungs on corporate ladders); "glass walls" (to describe the way that women and minorities were relegated to certain departments like human resources or public relations); and even "concrete ceilings" (to emphasize the near total absence of women of color from positions in corporate governance).

We developed four criteria to distinguish glass ceilings from other forms of gender or racial inequality. A glass-ceiling inequality represents:

- A gender or racial difference not explained by other job-relevant characteristics of the employee;
- A gender or racial difference greater at higher levels of an outcome than at lower levels;
- A gender or racial inequality in the chances of advancement into higher levels, not merely the proportions currently at those higher levels; and
- A gender or racial inequality that increases over the course of a person's career.

Results of studies using these criteria to analyze individual work histories suggested that there are glass ceilings for women, and that for minority women, the glass ceiling falls quite low with respect to both earnings and advancement to managerial status.[3] At high earnings levels, defined in this research as chances of reaching white men's 75th percentile in earnings, the gap between white men's and white women's chances grows larger over time. By definition, 25 percent of white men are at this level at any given point in time, but only 10 percent are at it at the beginning of their careers, and 30 percent are at it at the end of their careers. For white women, fewer start at this high level of earnings, and the rate at which they attain high earnings is much slower than white men's, so the gap between white women and white men grows over the course of their careers. This gap grows only at the higher level of earnings, not at moderate or low levels. African American women see no increase in their chances of attaining high earnings, and their gap compared with white men grows substantially over their careers.

Both findings suggest a glass ceiling in earnings for women. In contrast, there is less evidence of such a glass ceiling for African American men. While African American men are less likely than white men to achieve each of the earnings benchmarks, the gap does not grow larger later in their careers, nor is it especially stronger at high earnings levels than at low earnings levels. In contrast, the research on advancement to managerial status shows that, relative to white men, chances for advancement among white women, black women, and black men gradually diminish, even among the youngest cohorts of college-educated workers.

References

1. Federal Glass Ceiling Commission, *Solid Investment: Making Full Use of the Nation's Human Capital* (Washington, DC: U.S. Department of Labor, 1995): 4.

2. Catalyst Inc., *2003 Catalyst Census of Women Board Directors*, accessed at http://catalystwomen.org/research/censuses.htm#2003wbd, on Sept. 7, 2004.

3. David A. Cotter et al., "The Glass Ceiling Effect," *Social Forces* 80, no. 2 (2001): 655–81; and David J. Maume, "Is the Glass Ceiling a Unique Form of Inequality? Evidence from a Random-Effects Model of Managerial Attainment," *Work and Occupations* 31, no. 2 (2004): 250–74.

at the average and among top earners suggests a "glass ceiling" for women: Women are at more of a disadvantage at the top of the earnings distribution than in the middle; and as their careers develop, their rate of advancement into the top category of earners falls behind men's (see Box 2).

Long-term trends

The earnings gap decreased between the mid-1970s and the mid-1990s partly because of changes that happened to all cohorts and, to a lesser extent, because of newer, more gender-equal cohorts replacing older, less-equal cohorts. Women fall further behind men through middle age and then catch up slightly nearing and after retirement ages (see Table 9). For instance, women born between 1935 and 1944 began their work lives earning 86 percent of what men earned, but that earning power fell to just 50 percent by the middle of the work lives of these women, and then rebounded to 65 percent when they were between 55 and 64. This age pattern is com-

mon to most cohorts, with some variations resulting primarily from period effects discussed below.

There are, at best, weak cohort differences. On the left side of Table 9, most columns show the lowest ratios in the middle cohorts. The two cohorts of 1925–to–1934 and 1935–to–1944 have particularly low gender ratios in their middle years, with both the cohorts that came before and after having more equal earnings ratios. But in their later years, these cohorts no longer look so unequal—primarily because that time frame is when the period effect of the 1980s catches up with them. Moreover, the low point in each column is not fixed on the same cohort but tends to move up diagonally with each decade of age, reflecting a period effect: the low point reached in the 1980 Census.

The stronger period effects are more evident in the right side. Most of the cohorts showed declining gender ratios from 1950 through 1980. In fact, the 1950 starting point looks surprisingly equal in this table. Only in 1990 had most of the ratios turned upward. Each of the cohorts between 1915 and 1944 became more equal during the 1980s. The two cohorts that followed (the baby boomers) did not experience the same equalizing trend—but for baby boomers, the 1980s were the early parts of their work lives, when gender earnings ratios typically decline rapidly. The 1980s' gender benefit for the boomers was that their early career declines were relatively modest.

Thus, the interesting result from these analyses is the strength of the period effect of the 1980s that brought rising equality to all cohorts in similar measure. Cohort differences are not especially consistent over the five decades, although the curved age effect is common to all groups.

Earnings by Race and Ethnicity

Gender gaps in earnings vary across racial and ethnic groups somewhat more than does occupational segregation. Again, gender inequality is somewhat stronger among whites. The earnings of white women were just 70 percent of white men. Women's earnings were several percentage points closer to men's earnings among African Americans (83 percent) and Hispanics (84 percent) (see Table 10, page 18). Although black and Hispanic women earned less than white women, black and Hispanic men were even further behind white men, so gender differences are smaller. The gender earnings ratios of Asian Americans, American Indians, and Pacific Islanders are also larger than that of whites, although there are substantial differences among Asian groups as there are for occupational segregation and labor force participation.

The gender inequality trends from 1950 to 2000 for earnings were shared across most racial and ethnic groups. The gender earnings gap widened during the 1950s and 1960s, peaked or leveled off in the 1970s, and decreased in the 1980s and 1990s. The one exception was African Americans: Their gender earnings gap decreased substantially during the 1960s and 1970s, a period of little change or increased gaps for other racial and ethnic groups. Average earnings for African American women increased especially fast in the 1960s and 1970s as many women shifted from domestic service to higher-paying jobs that were newly open to them. As a result, by 1980, earnings by gender for African Americans had shifted from the most unequal of all racial and ethnic groups to the most equal. Equality continued in the 1980s and at a slightly reduced rate in the 1990s for African Americans.

Table 9

Ratio of Women's Earnings as Percent of Men's Earnings by Birth Cohort, Age, and Census Year, 1950–2000

	Birth cohort by age					
Birth cohort	**16–24**	**25–34**	**35–44**	**45–54**	**55–64**	**65–74**
1885–1894					61	58
1895–1904				65	60	67
1905–1914			65	58	60	63
1915–1924		70	56	56	55	67
1925–1934	90	64	53	50	59	71
1935–1944	86	60	50	58	65	
1945–1954	78	65	63	67		
1955–1964	80	76	73			
1965–1974	90	81				
1975–1984	88					

	Birth cohort by census year					
1950	**1960**	**1970**	**1980**	**1990**	**2000**
61	58				
65	60	67			
65	58	60	63		
70	56	56	55	67	
90	64	53	50	59	71
	86	60	50	58	65
		78	65	63	67
			80	76	73
				90	81
					88

Note: Median earnings calculated for men and women ages 16–84, working full-time/year-round. Shaded cells are from the 2000 Census. Outlined cells are for prime working ages 25–54.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

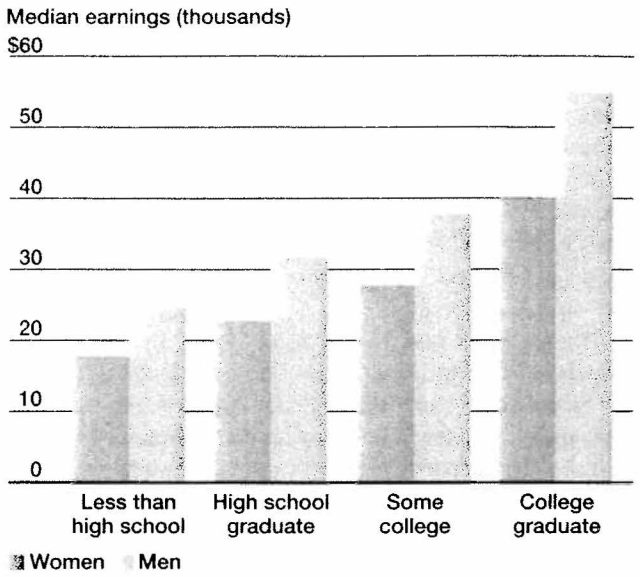
Table 10
MEDIAN EARNINGS FOR U.S. WOMEN AND MEN BY RACE AND ETHNICITY, 1999

Race/ethnicity	Women	Men	Women's earnings as % of men's: Same race/ ethnicity	Women's earnings as % of men's: White men
White (only)	$28,000	$40,000	70	70
African American	$25,000	$30,000	83	63
Hispanic (any)	$21,000	$25,000	84	53
Mexican	$20,000	$23,900	84	50
Puerto Rican	$25,000	$30,000	83	63
Central American	$18,000	$22,500	80	45
South American	$24,000	$30,000	80	60
Cuban	$26,000	$31,000	84	65
Dominican	$20,000	$24,700	81	50
Asian (any)	$30,000	$40,000	75	75
Chinese	$34,000	$43,000	79	85
South Asian	$30,300	$35,000	87	76
Filipina	$32,300	$50,000	65	81
Southeast Asian	$23,100	$30,000	77	58
Korean	$35,000	$48,500	72	88
Japanese	$27,700	$38,000	73	69
American Indian	$24,000	$30,000	80	60
Pacific Islander	$25,000	$30,000	83	63

Note: Earnings calculated for men and women ages 25–54, employed full-time/year-round.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

Figure 8
MEDIAN ANNUAL EARNINGS OF U.S. WOMEN AND MEN BY EDUCATION, 1999



Note: Earnings calculated for men and women, ages 25–54, employed full-time/year-round.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

Earnings by Education

The gender earnings ratio is quite uniform across education levels. High school dropouts have almost as large a gender ratio (72 percent) as college graduates (73 percent). Although more education means higher earnings for both women and men, more education makes almost no difference for the size of the gender ratio across education groups (see Figure 8). Moreover, the increase in the gender ratio over the last 25 years is quite similar at each level of education.

Unlike occupational integration, which has been primarily a middle-class trend, gender earnings equality improved among all levels of education. And the trends within education levels have followed an inverted U-shaped pattern similar to those for racial and ethnic groups. The gender earnings gap among college graduates was its largest in 1960, while for high school dropouts, high school graduates, and those with some college, the gender gap reached its highest point in the 1970s. There is some evidence that gender differences by education have narrowed since 1970, with the largest declines happening in the 1980s. Since 1950, the gender earnings gap has been smaller among college graduates than among high school graduates; that difference became negligible by 1999. Annual CPS data document the same convergence.

Earnings by Occupational Segregation

The segregation of women into female-dominated occupations has long been thought to be a principal cause of the gender earnings gap. Female-dominated occupations pay less, the argument goes, regardless of whether men or women work in those occupations. But because women more often work in these predominantly female occupations, they earn less on average. The association between occupation and earnings suggests two resolutions. If female occupations paid what male occupations paid, or if occupational segregation could be eliminated so that there were no predominantly female occupations, much of the gender earnings gap would be eliminated.

As in earlier decades, in 2000 women's occupations garnered lower earnings than men's. And regardless of occupation, men earned more than women. Median earnings for workers in men's occupations (30 percent female or less) averaged $38,240, while in mixed occupations (31 percent to 69 percent female) these earnings were slightly higher ($39,178). Across women's occupations (at least 70 percent female), the average was substantially lower ($27,219). But even within the same

Table 11
Women's and Men's Median Annual Earnings in Selected Occupations, 1999

Earnings in 1999	Women	Men	Gender ratio (%)
Male occupations			
Electricians	$33,000	$39,100	84
Firefighters	$40,000	$47,000	85
Airplane pilots	$44,000	$59,000	75
Truck drivers	$23,000	$32,400	71
Electrical engineers	$54,000	$64,000	84
Clergy	$29,000	$32,000	91
Police	$40,000	$45,600	88
Architects	$40,100	$52,000	77
Mixed occupations			
Physicians	$86,000	$134,000	64
Lawyers	$65,000	$88,000	74
Mail carriers	$36,700	$40,000	92
Managers	$36,000	$51,000	71
Real estate agents	$35,000	$50,000	70
Bartenders	$16,000	$22,000	73
Bus drivers	$21,000	$32,000	66
Accountants and bookkeepers	$36,000	$51,000	71
Female occupations			
Bill collectors	$25,700	$30,000	86
Medical and dental technicians	$30,000	$35,000	86
Teachers	$33,000	$40,300	82
Waiters and waitresses	$15,200	$21,000	72
Librarians	$35,000	$38,000	92
Nurses (professional)	$42,000	$45,000	93
Bank tellers	$19,000	$22,000	86
Secretaries and typists	$26,000	$32,000	81

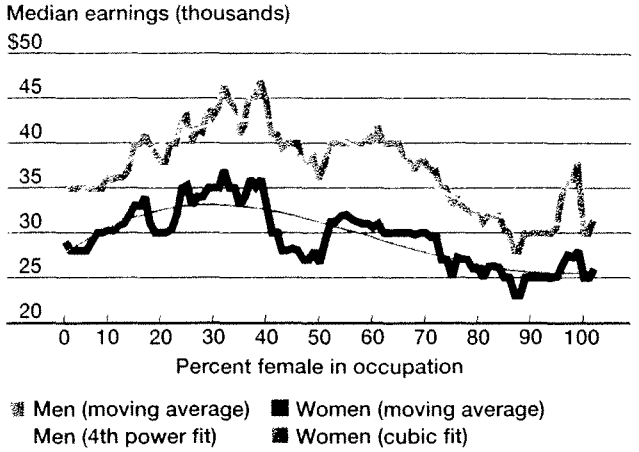
Note: Earnings calculated for men and women, ages 25–54, employed full-time/year-round.

Source: Authors' calculations using the Integrated Public Use Microdata Series (IPUMS), 2003.

occupations, men earned more than women. An examination of the selected occupations presented in Table 11 shows that even where earnings were closest (nurses, librarians, mail carriers, and clergy), women earned less than men. For example, the average male nurse working full-time/year-round earned $45,000, while his female counterpart earned $42,000. But there are also occupations where the differences are quite large (physicians and bus drivers), and these examples span the spectrum of occupations both in terms of gender composition and social class. So, the typical male physician earned $134,000, while the typical female physician's earnings were $86,000. Among male bus drivers, the median earnings were $32,000, compared with women's $21,000.

In fact, the connection between occupational gender segregation and the earnings gap is more complex than usually thought. Figure 9 shows median annual earnings for occupations along the full range of occupational

Figure 9
Median Annual Earnings by Percent Female in Occupation, 1999



Note: The two lines indicating "4th power fit" and "cubic fit" represent attempts to fit a line that comes closest to all the points in the series. The relationship between earnings and occupational sex composition has often been assumed to be a straight line: the higher the percent female, the lower the earnings. However, as this figure shows, the pattern is not linear and is best described by the "wavy" lines created by fitting a more complex equation. The best-fitting curve for women included three coefficients, and for men, four. Earnings are highest among occupations predominantly (but not entirely) male, and lowest among those predominantly (but not entirely) female. Earnings calculated for men and women, ages 25–54, employed full-time/year-round.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

gender composition. Although female-dominant occupations generally pay less than male-dominant occupations, there are two important exceptions. First, the most male-dominated occupations pay less than those occupations that are partially integrated. Second, the most female-dominated occupations pay at least as well if not better than those occupations with more men. These exceptions at the two ends of the gender composition scale mean that the relationship between the gender segregation of occupations and their earnings cannot be summarized by a straight line. This nonlinearity is not well recognized in the extensive research literature on occupational gender segregation and earnings. Some of the nonlinearity can be explained by other factors such as education, but even after extensive statistical controls for the personal characteristics of workers, the nonlinear shape of the relationship remains, although somewhat attenuated (results not shown).

The nonlinearity is not a new phenomenon; each census since 1950 shows a similar curve. Over this last half-century, both the maximum and the minimum median incomes have moved slightly to the right, toward the female end of the gender composition scale, but the general shape of the curve has not changed substantially.

Box 3

Spatial Variation in Gender Inequality

The places where we live are quite varied, and one of the ways in which those places vary is in their level of gender inequality. That variation can sometimes be as great or greater than the differences in gender inequality observed over time. For instance, women's labor force participation rates range from a low of 66 percent in Los Angeles to a high of 83 percent in Minneapolis-St. Paul, more than the total change in this ratio seen in the 1970s. The ratio of women's earnings to men's earnings ranges from a low of 64 percent in Detroit to a high of 77 percent in Sacramento, Calif., as much as the change from 1977 to 2000. These variations are, in fact, smaller than the total variations across places, in part because smaller metropolitan areas have greater variation (especially higher levels of gender inequality), although there are few substantial differences in gender inequality between metropolitan and nonmetropolitan areas.[1]

Attention to spatial variation is important because most Americans work in local rather than national labor markets. We tend to look for jobs within occupations in particular cities or regions. Thus, some of us may be working in places with labor markets in which men and women are more equal, or in labor markets with less equality. The underlying dynamics of these differences across places are not limited to gender inequality, and their origins and interrelationships are the subject of recent research.[2] Some of the variation can be traced to compositional differences in the populations of these places—we would expect lower levels of labor force participation in areas with concentrations of people less likely to be in the labor force. For example, the larger Hispanic population in Los Angeles relative to Minneapolis may account for some of the difference in women's labor force participation. But part of the explanation may also involve differences in occupational or industrial compositions. For example, in Texas, Austin's high tech and government employment may be more "female friendly" than Houston's energy industry.

Some of the spatial variations may be cultural—norms about appropriate male and female roles may vary across different parts of the country. In any case, it is notable that conditions are far from uniform across the United States.

References

1. David A. Cotter et al., "Nonmetropolitan and Metropolitan Gender Inequality," *Rural Sociology* 61, no. 2 (1996): 272–88.

2. David A. Cotter, Joan M. Hermsen, and Reeve Vanneman, "Systems of Gender, Race, and Class Inequality: Multilevel Analyses," *Social Forces* 78, no. 2 (1999): 433–60; and Leslie McCall, *Complex Inequality: Gender, Class and Race in the New Economy* (New York: Routledge, 2001).

Gender Inequality Across 25 Largest Metropolitan Areas, 2000

Metropolitan area	Women's labor force participation (%)	Occupational segregation	Gender earnings ratio (%)
Minneapolis-St. Paul, MN-WI	83	0.44	71
Orlando, FL	79	0.46	68
Kansas City, MO-KS	79	0.46	70
Milwaukee-Racine, WI	79	0.48	68
Washington-Baltimore, DC-MD-VA-WV	78	0.42	74
Indianapolis, IN	78	0.46	69
Boston-Worcester-Lawrence, MA-NH-ME-CT	77	0.44	71
St. Louis, MO-IL	77	0.50	67
Seattle-Tacoma-Bremerton, WA	76	0.43	70
Cleveland-Akron, OH	76	0.49	66
Portland-Salem, OR-WA	76	0.46	72
Philadelphia-Wilmington-Atlantic City, PA-NJ	75	0.48	70
Atlanta, GA	75	0.46	70
Tampa-St. Petersburg-Clearwater, FL	75	0.47	72
San Francisco-Oakland-San Jose, CA	74	0.42	71
Miami-Fort Lauderdale, FL	74	0.47	71
Chicago-Gary-Kenosha, IL-IN-WI	73	0.47	67
Sacramento-Yolo, CA	73	0.45	77
Dallas-Fort Worth, TX	72	0.47	69
Detroit-Ann Arbor-Flint, MI	72	0.49	64
Phoenix-Mesa, AZ	71	0.47	71
San Diego, CA	71	0.45	72
New York-Northern New Jersey-Long Island	70	0.47	70
Houston-Galveston-Brazoria, TX	68	0.51	66
Los Angeles-Riverside-Orange Co., CA	66	0.45	75

Note: All statistics based on population ages 25–54. Earnings ratios calculated for people employed full-time/year-round.

Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

A substantial gender earnings gap remains even at similar levels of the gender composition of occupations (see Figure 9). Men earn more than women even within the same occupation. This disparity is true among all occupations—those that are predominately male, predominately female, and integrated. For example, as shown in Table 11, the average female electrician earned $33,000 in 1999, while the average male electrician earned $39,100. Similarly, the average female secretary earned $26,000, while her male counterpart earned $32,000. The gap persists even among integrated occupations where, for example, the typical female lawyer earned $65,000 and the typical male lawyer earned $88,000.

But the fact that most men hold jobs on the left (high earnings) side of Figure 9 while most women hold jobs on the right (low earnings) side must explain some of the overall gender earnings gap. How much is due to this gender segregation of occupations? The nonlinearity of the gender segregation/earnings relationship creates difficulties for answering this question. Most prior research has evaluated this question using a linear approximation to the occupation-earnings relationship. The nonlinear shape of the relationship renders any such estimate suspect. Instead, we can use women's average earnings within each detailed occupation to estimate what would be the mean earnings of women if women had the same occupational distribution as men. If women worked in the same set of occupations as men, their mean earnings would increase from $34,471 to $37,877; this would be 75 percent of men's mean earnings ($50,541) instead of the actual 68 percent. By these calculations, occupational segregation explains about 21 percent of the overall earnings gap. (A more realistic experiment of changing both men's and women's occupational distributions to match the overall occupational distribution reduces men's predicted earnings and raises women's predicted earnings to yield an expected earnings ratio of 74 percent—a gender gap about 18 percent smaller than the actual observed gap.) Thus, although most of the gender earnings gap occurs within occupations, about a fifth is directly attributable to gender segregation (see Box 3).

Causes and Consequences of Changing Inequality at Work

Thus far, we have outlined a series of changes over time following the general pattern of increasing equality between men and women, with particularly dramatic changes in the 1960s, 1970s, and 1980s and less dramatic ones in the 1950s and 1990s. Each of the three major facets of gender and work had a series of potential explanations. This section provides an overview of the general utility of these explanations in accounting for both change over time and persisting differences regarding inequality at work. We focus on several of the most commonly cited reasons for the changes: shifts in human capital and other attributes of women and men (such as education, experience, and family status); changes in the normative climate; and changes in the political and legal environment in which men and women work. All of these changes both affect and are affected by changes in women's work status. For instance, while increasing levels of approval for women's participation in the labor market may increase employment among women, it is also true that larger numbers of working women have led to greater approval of women's employment. Three criteria apply in assessing these explanations:

- The cause has to precede the effect. Increases in women's education should come before increases in women's earnings relative to men.
- There must be an empirical correlation. As women gain more education, their average levels of earnings should increase.
- The cause and effect should not both be the product of a third causal factor. For example, legislation leading to lower levels of discrimination by both schools and employers may have caused both more education for women and more equal pay between men and women.

Micro-Level Change

Several explanations relate to changes in women's and men's characteristics that may make these characteristics more attractive to employers, or may indicate a greater commitment to employment, or may show an increased need for women to be employed, and thus bring women the earnings associated with employment.

Education

Among the most frequently touted explanations for an individual's economic status is education. Our education substantially determines the kind of work we do and therefore the amount of pay and prestige we can expect. Thus, analysts seeking to explain changes in women's status often look first to education. Entering a particular occupation involves at least three hurdles, as illustrated by a doctor's career: training and certification (attending medical school); acceptance by employers and co-workers (working in a hospital or private practice); and acceptance by clients or consumers (treating patients). Any one of these hurdles can block a woman's entry into a particular field. The importance of access to certification is most obvious in the professions, but it is equally true in the trades—in fact, it is true wherever the supply of practitioners is limited by stringent train-

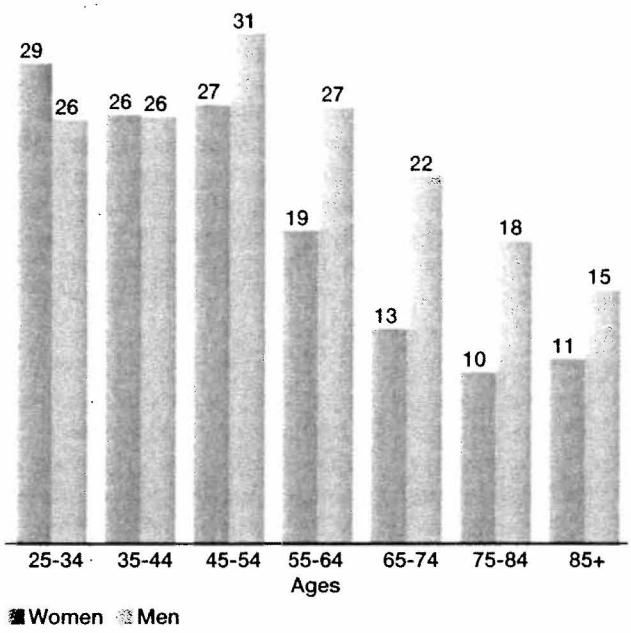
ing and licensing requirements.[6] The added benefit of certification is that relevant data are readily available. Acceptance by fellow workers and clients, on the other hand, is much more difficult to track. Being hired as a lawyer in a given firm does not guarantee equal treatment in pay, promotion, or partnership. Likewise, a woman on a carpentry crew may not be allowed to move from apprentice to journeyman, or given the same amount of overtime, or allowed to become a crew leader or site supervisor.

While the 2000 Census reveals generational patterns in gender differences in the completion of college or post-baccalaureate degrees, the gender differences across generations in completing a high school degree are quite similar. There is relatively little (if any) difference between men's and women's attainment of a high school degree. For men and women ages 45 and older, differences in the rates of high school completion are no more than 1 percentage point (favoring men). Among younger age groups, however, women hold a slight advantage: 86 percent of women ages 25 to 34 have completed high school, compared with 82 percent of their male peers. Among women ages 35 to 44, 87 percent have completed high school, while 83 percent of men ages 35 to 44 have done so. In short, since early in the 20th century, men and women have had nearly equal access to a high school education, with each subsequent generation becoming more likely to complete high school.

With regard to college, Figure 10 shows more substantial differences among older cohorts, with men being considerably more likely than women to receive a college education. This difference narrows with each subsequent cohort until women ages 35 to 44 and ages 25 to 34 begin to obtain college educations at higher rates than men. Much the same can be said about post-baccalaureate degrees: substantial differences among older cohorts that narrow (and even reverse) among the more recent cohorts. For example, among women ages 65 to 74 in 2000, only 5 percent had completed an advanced degree, while twice as many men in those ages had. Yet, nearly equal percentages of men and women ages 25 to 44 (7 percent to 9 percent) had completed an advanced degree.

While census data indicate who obtained a particular level of education, the data are much less able to specify the type or kind of education. Data from the National Center for Education Statistics (NCES) fill this gap. These data show much the same story as the census—a growing share of associate's, bachelor's, master's, doctoral, and professional degrees were granted to women between 1950 and 2000 (see Figure 11). Moreover, more than half of all degrees went to women after the late 1970s for associate's and in the early 1980s for bachelor's and master's degrees. Even in doctoral and professional degrees, women were approaching parity in 2000.

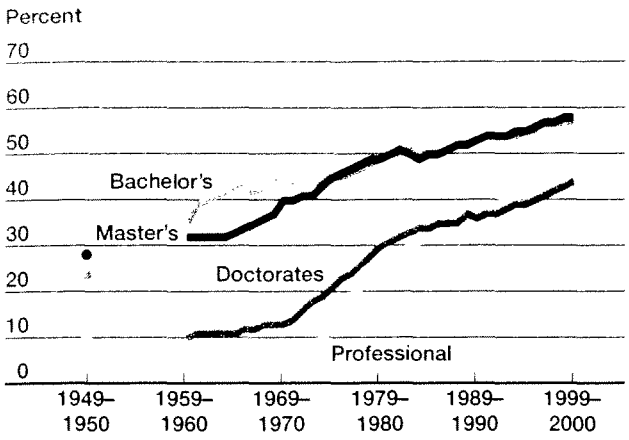
Figure 10
Percent of Men and Women Who Are College Graduates by Age, 2000



Source: Authors' calculations using Census 2000 5% Public Use Microdata Sample (PUMS).

So, on its face, the argument that access to or investment in education accounts for the substantial and persistent differences in employment, occupation, and earnings appear flawed. However, it may be that it is not just the difference in the amount of education but also in the type or kind of education that women and men have invested in that may make the difference. Trend data from NCES show college majors by gender. Women have made considerable inroads into many, if not all, fields of study. Of particular note are agriculture and natural resources, business and management, and law and legal studies. Some fields became substantially less female (library and archival sciences, probably because of Internet technologies), and some fields remained heavily female (education, languages, and health sciences). The index of dissimilarity calculated from these data shows a substantial decline—dropping from 47.3 percent to 27.8 percent of women or men having to switch majors in order for women and men to be evenly distributed across majors. (It is notable that these overall segregation measures are lower than what is observed for occupations. Much of this decline is due to the coarser classification scheme for field of degree. However, the much larger decline—19.5 points for majors, compared with 8.8 points for occupations—may well indicate more substantial change over the period.) Much of this

Figure 11



Note: The data for women's share of bachelor's, master's, and doctorate degrees is for the academic year 1949–1950, and then for the years starting at 1959–1960. The data for women's share of professional degrees begins with the academic year 1960–1961.

Source: U.S. Dept. of Education, *Digest of Education Statistics* (2001): table 247.

change took place between 1971 and 1985, and a slowing of integration has been found in the subsequent period.[7]

Beyond the bachelor's degree, women's progress with regard to graduate, medical, dental, legal, and theological degrees is evident. In 1950, women made up just 10 percent of the recipients of doctoral and professional degrees. In each of the other fields, women represented less than 5 percent of the recipients. But rapid change took place in the 1970s and 1980s; by 2000, women were receiving more than 40 percent of all medical, dental, legal, and academic degrees. As with entry into occupations, however, the pace of change slowed in the 1990s, marking the smallest percentage-point gains for all fields since the 1960s. For these occupations, then, the first hurdle to access may have been passed: Women in large numbers have obtained the formal education credentials that should provide entrée into these types of work. Moreover, as cohorts of medical, dental, and law students move forward, their occupations will continue to become more balanced (unless women's dropout rates increase).

The trends reviewed above generally fit together—as women's educational attainment increased, their labor force participation increased, their access to occupations increased, and their earnings relative to men's increased. But closer examination reveals that this is only part of the story. Women's labor force participation shows similar increases within each level of education, so the growth of the share of the highest-educated who are most likely to work can account for some but not all of the increase in women's labor force participation. Similarly, gender earnings gaps have narrowed mostly within levels of education, so women's increased educational attainment is not primarily responsible for the narrowing of the earnings gap. Moreover, women's levels of education have increased relative to men's throughout the last half-century, even before the earnings gap began to close in the 1970s and after it stopped closing in the mid-1990s.

Along with education, experience is one of the primary characteristics that make employees valuable to employers. In part, this is because much of the skill required to do a particular job is gained by having done that job. The experienced plumber (or surgeon) has encountered the same or similar situation, and knows how to respond. The novice, on the other hand, may have sufficient knowledge and information about how to handle the problem, but may take longer or do an inferior job. Thus, differences in experience are often responsible for differences in men's and women's pay, and contribute to differences in occupation and even labor force participation. Being in the labor force longer makes individuals less likely to drop out (and not dropping out, of course, increases their time in the labor force). Longer time in the labor force also opens access to occupations, particularly through promotion based on tenure and experience.

Scholars wishing to assess changes in experience must rely on longitudinal data, which follow individuals over time. Complicating matters, those who wish to assess changes in experience must use data that track different generations over time. While several such sources exist, few studies assess these changes. One suggests that, between 1979 and 1988, the gender difference in full-time experience dropped from 7.5 years to 4.6 years. This substantial decline was associated with approximately one-third of the decline in the gender gap in earnings.[8] Some evidence also ties changes in work experience to changes in labor force attachment. Unfortunately, more contemporary estimates of changes in experience and their effects are not yet available.

One commonsense answer to the question of why women are more likely to be working today than in the past is that their earnings are more necessary to support a family. This possibility rings true for many women, and would appear at first glance to meet the tests outlined above. There are several ways in which changes in family life may have led to changes in women's work. First, the family itself has changed. More women today are raising children alone, there are more couples without children, and more women remain single longer. The expansion in the share of single women, who have always been more likely to work, could well lead to higher overall rates of labor force activity for women. Yet it is among married

mothers that the greatest changes in employment took place, so changes in family structure cannot account for all of the increase in women's employment. Moreover, single mothers' labor force participation, which had been high, stagnated from the late 1970s to the early 1990s and increased only in the late 1990s, while overall rates of women's labor force participation leveled off or declined.

A second source of this change, then, may have to do with men's earnings. A conventional account of this dynamic goes as follows: As husbands' and fathers' incomes stagnated and declined, wives and mothers were forced into the labor force. As those husbands' and fathers' earnings rebounded in the 1990s, wives and mothers pulled back from participating in the labor force. How much of the rise and plateauing of women's labor force participation is due to changes in incomes for husbands? An important determinant of labor force participation is the extent of other family income beyond a person's own earnings. The more family income a person has without being employed, the more she or he is permitted not to work and to enjoy leisure instead (or, especially for parents, to devote more time to unpaid work at home). In the 1990s, men's median earnings increased for the first time in decades; so for the first time in a long while, married mothers' opportunities to stay home increased. In an analysis not shown here, women's labor force participation rates still plateaued during the 1990s even after controls for other income, although the trend is attenuated. Thus, while changes in men's earnings may account for some of the changes in women's labor force participation, it is clear that most of the changes come from other sources.

Macro-Level Changes

The three issues addressed above relate to how changes in individuals' characteristics may have led to the increases in equality seen in the 1960s, 1970s, and 1980s, and why these same changes may have led to the stalling of these increases seen in the 1990s. Changes in social structural conditions are also thought to have contributed to improvements in equality.

Economic Structure

In many ways, the Industrial Revolution can be thought of as a source of contemporary forms of work-related gender inequality. When most of the population was engaged in agriculture, there was less differentiation in the type of work men and women did, and less distinction between those who were in or out of the labor force. Some scholars have suggested that, as the demand for traditional women's labor declined in industrial societies, so did women's status, but that as demand has increased with the emergence of service-sector employment, so has women's status.[9] In identifying a demand for female labor as central to explaining gender stratification, these theorists make three assumptions: there is a gender segregation of tasks in society that specifies some tasks as performed exclusively or generally by women; the importance of these female tasks varies over time and across societies in association with other factors such as technology; and this variation determines the relative autonomy or subordination of women across a wide range of political, economic, demographic, and ideological outcomes. Empirical assessments of this theory show some support for the effect of the demand for female labor, particularly on labor market outcomes and education, but less so on family, politics, or normative structures.[10] It is unclear at this point whether changes in occupational structure may have been related to diminished progress toward gender equality in the 1990s.

Technology

Along with inducing changes in the occupational structure, technological change may have had other effects on women's status. One way in which this may have happened is through the introduction of many labor-saving devices that may have reduced the amount of work and time required to maintain a home, thus freeing up women for employment outside the home. The research on such developments suggests that, while technology may have reduced some kinds of domestic work, it actually has increased other kinds.[11] Other technological developments, such as changes in reproductive technology, have had clearer effects. Women's increasing ability to control whether and when they have children has undoubtedly affected their presence in the labor force and likely their access to occupations and even their relative pay.[12] Control over fertility also may be the ultimate labor-saving device, as increasing numbers of children in the household have a strong negative effect on both labor force participation and pay for women who are employed.

Politics and Policy

Another set of potential explanations for changes in women's status in the world of employment is political. We offer a brief overview of three such explanations: women's access to political office; public policy oriented toward gender equality at work; and litigation that has challenged (or supported) workplace inequality. For convenience, we focus on the federal level, but many states and localities have similar policies aimed at lessening workplace inequality. At the beginning of the 1950s, many employers had explicit rules regarding appropriate jobs and pay for women. These rules included formal and informal restrictions on jobs; separate male and female sections in employment ads; differential pay scales for men and women in the same jobs within firms; pay scales set in accordance with the gender composition of jobs; and "marriage bars," which banned employment of mar-

ried, let alone pregnant, women. (In fact, to avoid dismissal in the middle of the school year, the grandmother of one of this report's authors did not inform the school district where she taught that she'd gotten married.) Such rules were legal and binding into the 1960s; thereafter, informal rules served to limit women's pay and positions.

Officeholding

The political representation of women by women may have consequences for gender equality. Female elected officials may pursue with a more concerted effort than do their male peers legislation and public policies that address the unequal status of women in American society. This increased attention to women's issues may in turn contribute to normative changes in the larger society.

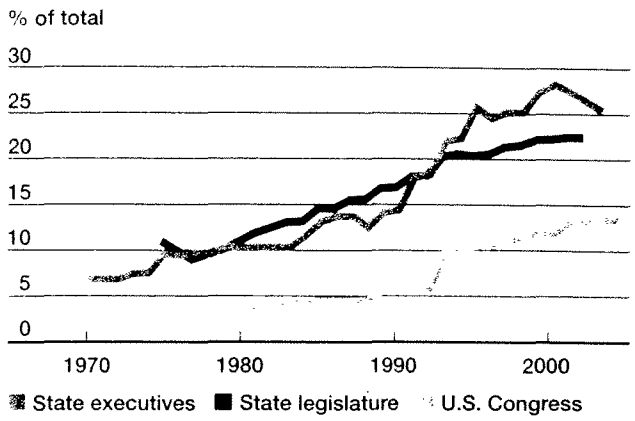
Although ideal for some issues, the census is a fairly poor source for information about women's presence and progress in the political arena. (The 2000 Census identified 15,406 people as legislators; 5,461, or 35 percent of them, are women. In the 1990 Census, 42 percent of the 12,716 legislators were women.) But even a casual observer knows that there are many more women in prominent political offices today than in the 1950s or 1960s. Before the 1980s, few women held political office, though many were involved in politics either as volunteers or as advisers to and supporters of their husbands' careers. Moreover, many of the women who held office prior to the 1970s did so by the so-called "widows model," assuming seats vacated by the death of husbands or (less frequently) fathers.[13] The late 1980s and 1990s marked women's entry into high-level elected office at both the state and national level. The proportion of female U.S. House members rose from 5 percent in 1987 to nearly 14 percent in 2003, while the Senate went from being 2 percent female to 13 percent (see Figure 12). In the states, women now hold 25 percent of elected executive offices, which include everything from governor and lieutenant governor (the most common office for women) to secretary of state, attorney general, education commissioner, and chief agricultural officer. Nonetheless, the 1990s did see a leveling off of women's officeholding at the state level. A possible consequence of this plateauing is that fewer women will hold office at the national level; holding a state-level political office is a pipeline to national office. Thus, while women's increased presence in politics marks progress, as does their increased access to many powerful and traditionally male occupations, this increase likely does not explain improvements in women's economic position because it occurred with economic progress rather than preceding it.

Public Policy

The first major national legislation affecting gender inequality in the workplace—the Equal Pay Act—came in 1963. The act mandated equal pay for men and women doing the same work. Much in analyzing occupational gender inequality comes to depend on one's definition of "same." Is the term only applicable to people holding the same job titles, or also to those doing substantively similar or comparable work? Next, the Civil Rights Act of 1964, particularly Title VII, prohibited employment discrimination on the basis of race or sex. The 1972 Equal Pay Act Amendments extended the coverage of the Equal Pay Act to federal, state, and local agencies; education institutions; and employers with 15 or more employees (it had been 25 or more). In addition, the amendments expanded the Equal Employment Opportunity Commission's ability to file suit, and extended the time period in which discrimination complaints could be filed. In 1978, the Pregnancy Disability Act banned discrimination based on pregnancy or childbirth, essentially equating these physical states with any other disability that might cause a worker to be temporarily unable to work. The final piece of federal legislation, the Family and Medical Leave Act (introduced in Congress in 1985, passed in 1990, vetoed by President George H.W. Bush, and later signed by President Bill Clinton in 1996), allows an employee in a company of more than 50 workers to take up to 12 weeks of unpaid leave to care for a newborn or newly adopted child, or to care for a family member with a serious illness. Employers must allow such workers to return to their original or equivalent jobs.

Perhaps as telling in public policy efforts towards gender equality are the laws that never were. Notable among these is the Equal Rights Amendment, first introduced in 1923. It passed Congress in 1972, but was

Figure 12
WOMEN'S SHARE OF ELECTED AND APPOINTED PUBLIC OFFICIALS, 1970–2004



Note: Data for state legislatures for 1975–2002; for state executives for 1970–2003; for U.S. Congress for 1970–2004.

Source: Rutgers University, Center for American Women and Politics (www.cawp.rutgers.edu), accessed Aug. 10, 2004.

not ratified by the required number of states and thus expired in 1982. There have also been pieces of legislation that have failed. In an empirical analysis of Congressional sponsorship of bills, three categories of work, family, and gender legislation were identified: separate spheres, equal opportunity, and work-family balance.[14] Separate-spheres legislation allows pay differences, restricts access to occupations, and provides leave for mothers but not fathers. Of 13 such bills introduced between 1945 and 1990, only three were enacted: one each in the 1940s, 1950s, and 1980s. Equal opportunity bills, which would require equal treatment in access to and rewards for positions, were both more numerous than separate-spheres legislation over the entire period (63 bills) and more successful, with 29 laws enacted. Moreover, these laws were most common in the middle period, with three enacted in the 1940s, eight in the 1950s, six in the 1960s, 11 in the 1970s, and just one in the 1980s. The third type of bill, work-family balance, seeks to make both fathers and mothers more able to care for children and fulfill other family responsibilities, through mechanisms like flexible schedules and child care. All nine bills in this category, including the two that were enacted, were introduced in the 1980s.

These laws have been paired with a set of actions from the executive branch, notably President Lyndon Johnson's 1965 Executive Order 11246, which banned discrimination on the basis of race, color, sex, or religion on the part of government employers, contractors, subcontractors, or unions, and required them to " ... take affirmative action to ensure that applicants are employed and employees are treated during employment without regard to their race, color, religion, sex, or national origin."[15] That order has led to the set of policies and procedures known collectively as affirmative action, which applies to employees of federal contractors, employees of federal agencies, employees and contractors for many state and local governments, private employers under court-ordered remediation plans, and private employers who voluntarily adopt standards and guidelines for diversifying their workplaces. In total, one-third to one-half of the labor force is thought to work in organizations that practice some form of affirmative action.[16]

Enforcement and Litigation

A third "act" to this story is the executive enforcement and judicial interpretation of these laws. The guarantee of equality in the workplace is not effective if undermined by weak enforcement or application of the law.

At the federal level, the Equal Employment Opportunity Commission (EEOC) has primary responsibility for enforcing nondiscrimination laws. One of EEOC's major mechanisms is gathering complaints from workers and seeking to settle these complaints either through mediation or litigation. There were few such claims into the mid-1980s; but then there was a steep rise in complaints between 1985 and 1988, slower and uneven increases from the late 1980s to the early 1990s, a burst of filings from 1991 to 1995, and a leveling off thereafter. Approximately one-third of all claims to the EEOC since the mid-1980s have been gender-based claims.

Judicial interpretation of these and other laws greatly affects the process and progress of work-related gender inequality. An enormous body of case law has developed around these issues. Generally, employees who file suit against employers under any of the above-named legislation or regulations must be able to prove either disparate treatment or disparate impact based on one of the protected categories.[17] In disparate-treatment cases, the employee must prove by a preponderance of the evidence that he or she was paid less, promoted less, or not hired because of his/her sex (or race, religion, etc.). That is, the employee must prove that the employer intended to discriminate. With disparate-impact cases, the argument is that the apparently neutral policies or practices of an organization serve to disadvantage one of the protected groups. For instance, the physical strength test for firefighters gives men an advantage over women. If it can be shown that the standards or procedures for establishing qualifications (how strong a firefighter must be) are unrelated to the given job, then disparate impact has been shown. The trend in judicial interpretation has been in favor of disparate treatment rather than impact. Moreover, the pattern of case law shows a move toward a narrow interpretation of the laws.

Among the critical issues regarding the 1963 Equal Pay Act and subsequent legislation and litigation is the question of what constitutes "similar" work. This question frames the debates and litigation over "comparable worth"—that jobs similar not in content or function but in broader ways such as requisite skill and training, complexity, and conditions should have equal remuneration. Though showing some promise in the late 1970s and early 1980s, especially after the 1981 case of County of Washington v. Gunther, this legal strategy seems to have fallen out of favor with the courts after the early 1980s.[18]

Effect of Law, Policy, and Politics

Estimating the effects of these political changes on gender inequality is neither straightforward nor easy. However, some attempts to do so have suggested that, despite inadequate enforcement and narrowing interpretations, the legislative and executive actions detailed above have had a substantial and considerable effect on reducing discrimination against women, particularly on occupational segregation and pay differences.[19] At the

same time, a number of studies find mixed effects of maternity leave policies on women's labor force participation and earnings.[20]

Norms and Attitudes

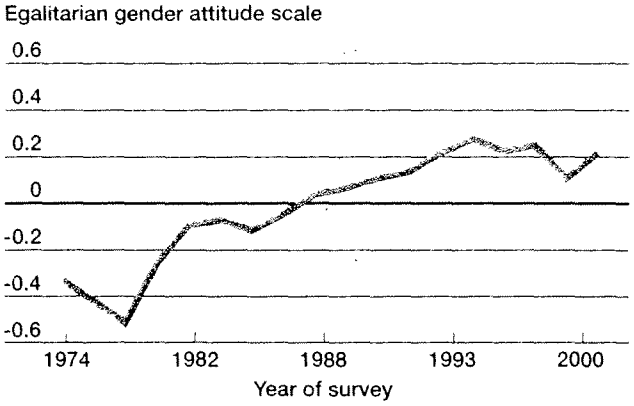
Other causes of macro-level changes are the broad cultural changes called "normative shifts," or the shared notions of what is appropriate behavior for women and men. While there is little doubt that these notions changed in the second half of the 20th century, were they primarily causes or consequences of changes in gender inequality? Public opinion did not shift toward women's equality until the 1970s. During the 1960s, when polls reported that Americans were increasingly willing to vote for a well-qualified Catholic, Jew, or African American for president, people's willingness to vote for a woman for president remained unchanged, at about half of the electorate. Public opinion seemed stuck. Only in the 1970s did attitudes begin to shift in a more egalitarian direction.[21]

Since the mid-1970s, the General Social Survey has asked a variety of questions tapping public attitudes toward gender roles. A broad scale created from responses to seven of these questions provides the most reliable indicator of the public's changing thoughts about women's political, household, and work roles.[22] Figure 13 shows the substantial shift in public opinion about gender roles from the late 1970s through the mid-1990s. But 1994 was the apogee of egalitarian thought about gender roles. After 1994, public opinion again plateaued.

Much of the egalitarian shift in public opinion from the late 1970s to the mid-1990s resulted from liberal recent cohorts replacing conservative older cohorts. This cohort-replacement effect continues even now to push public opinion toward more liberal gender roles. Thus, the overall slight conservative shift for the last decade masks a much stronger conservative shift within each cohort. Most individuals have become more conservative in the last 10 years; this trend has been offset somewhat because younger generations are far more liberal than their grandparents. But since the mid-1990s, young people have become more conservative, as has the rest of America.

The conservative trends in public opinion mirror the declining proportion of married mothers who work. It is unclear whether changing attitudes contributed to this decline or whether the changing attitudes merely reflect changes in the actual social structure induced by other causes. But the similarity in the timing is striking. In fact, the mid-1990s also marked the end of the trend toward gender equality in earnings, the stalling of the shift toward occupational integration in the 1990s, and the end of growth in the number of women in local and state elective office. The variety of changes that experienced a similar turning point suggests a broad cultural base to the changes of the last decade. The cultural explanation certainly seems more plausible than human capital or fertility explanations.

Figure 13
GENDER ROLE ATTITUDES, 1974–2002



Note: Scores are based on responses to seven gender-role attitudes questions from the General Social Survey between 1974 and 2002. Responses from the questions are standardized by their standard deviations and averaged to create an index for comparison across years. Scores above 0 represent endorsement of more "egalitarian" attitudes; those below 0 represent more "traditional" gender roles.

Source: General Social Survey, 1974–2002.

Assessing and Interpreting Change

The scope of change in the second half of the 20th century is nothing short of incredible. At midcentury, it was expected that women would spend much of their adult lives out of the labor force; that employers would specify whether they wished to hire a man (or perhaps a woman) for a particular job; and that women would be paid less than men, even for doing the same job. In the ensuing decades, all this changed. Today, most women work outside the home, even when their children are quite young, and employer discrimination in hiring and pay has been banned. Despite these changes, as we have shown, gender inequality persists. Women remain less likely than men to be active in the labor force, more than half of all women are in jobs that are predominantly female, and they still get paid less than men, even for the same kind of work.

General Patterns

In 2000, women were still somewhat less likely than men to be active in the labor force—74 percent of women and 86 percent of men ages 25 to 54 were in the labor force in 2000, with 46 percent of women and 68 percent of men

working full-time/year-round. While men's labor force participation has declined since the 1950s, women exhibited rapid increases in labor force participation in each decade up to the 1990s, when women's rates then showed a stagnation or retrenchment in labor force participation. These trends are even more exaggerated for married women, and especially those with children, among whom both the increase in participation and its retrenchment in the 1990s are most pronounced. On the other hand, labor force participation of single mothers increased greatly in the late 1990s after having remained stable from the late 1970s to the mid-1990s. While women have made great strides in gaining entry into previously closed areas of employment, the occupations that men and women hold remain largely segregated. The typical man works in an occupation where just over one-third of his peers are women, and the typical woman works in an occupation that is 71 percent female. The overall level of segregation today—just under half of women or men would have to change occupations to eliminate segregation—is substantially less than what was observed in the 1950s, when a shift of nearly two-thirds would have been required. Finally, the difference in earnings for men and women remains large, with women earning only 73 cents for every dollar earned by their male counterparts. But this too marks progress: The figure was 59 cents in 1950. In part, this progress is because women's inflation-adjusted earnings have increased steadily since the 1950s, while men's increased through the early 1970s and then stagnated or fell until the mid-1990s. The narrowing of the gender pay gap was a combination of women's steady progress and men's uneven advances. Broadly, gender differences remain in engagement with paid work, the type of work done, and the pay received for that work. And after having narrowed since 1950, the pace of change appears to have slowed in the last decade.

Age, Period, and Cohort Effects

One of the consistent themes examined here is how these patterns and trends play out across age groups, and to what extent the changes we observed are attributable to episodic changes (period effects) or generational shifts (cohort effects). Patterns of labor force participation over the life course were shown to be differentiated by gender—men's remaining fairly constant through the prime years of 25 to 54, and women's dropping in the prime childbearing and childrearing years—but the degree of differentiation was shown to be declining across cohorts to the extent that it was nearly indiscernible by 1990 or 2000. Both men's and women's earnings increase with age—but because men's earnings rose faster, the gender gap grew across the life course. In addition, there were both cohort and period effects over time: Women born in later cohorts started closer to men's earnings and experienced faster growth in earnings over time, losing less ground to their male counterparts than had women of earlier cohorts. Segregation declined fairly uniformly across cohorts, indicating that the changes that took place were largely period effects: Each cohort experienced about the same amount of change decade to decade, though newer cohorts entered the labor market somewhat less segregated than the ones before them. Thus, across these three dimensions, period effects have broad impact across cohorts, but the cohort changes in gender differences accentuate these shifts.

To a large degree, the story of persistent inequality despite substantial progress holds true for women regardless of race and ethnicity. All women today have rates of labor force participation, occupational distributions, and earnings that are closer to men of the same race and to those of white men than what was the case in 1950. But no group of women has attained parity with men on all of these measures. Gender differences in earnings and labor force participation comparing men and women of color appear smaller than the differences among whites, but this narrowing is mostly due to the lower levels of earnings or labor force participation of men in minority groups. Only Asians show within-race occupational segregation notably different from the pattern observed for whites.

Education has gone a long way toward determining how individuals fare in the labor market in the United States, and increasingly so for the past half-century. Education does little, however, to explain gender inequality. Education raises levels of earnings and labor force participation for both women and men. Thus, levels of gender inequality for these two dimensions were fairly similar across levels of education. The patterns of change over time were also similar across levels of education, leading to convergence on both of these dimensions. However, occupational gender segregation did vary by education, with college graduates having been notably less segregated than those with less education.

Explaining the 1990s

The forms, causes, and consequences of the shifts observed from the 1950s through the 1980s are by now fairly well known and well documented elsewhere. But what about the reversal of the 1990s: Is it real? Is it permanent or temporary? Is it a period or cohort effect? What caused the change? Is it significant?

Is it Real?

That the downturn crosses the three dimensions, is reflected in some changes beyond the world of work, and appears to mirror findings in some other sources all support the notion that the reversal is real. But, as noted above, between the 1990 and 2000 censuses, there were

some changes in the wording of the question about employment, which may contribute to the lower estimates of labor force participation. Also, the changes are not uniform across all three dimensions, and have at least as much to do with men's earnings as with women's. Moreover, some indicators of gender inequality, such as education and political representation, show signs of continued progress toward equality. For the time being, a tentative answer is that the downturn is probably real.

Permanent or Temporary? Period or Cohort Effect?

These two questions are linked. This is not to say that generational changes are permanent and historical ones temporary (or vice versa). Nor would it be realistic to think of any such change as being truly permanent. But a relatively long-term shift is different from one that lasts less than a decade. A change in response to historical events felt by all generations is different from one experienced primarily by those who are young (or old) at a given point in time. For instance, if the stagnation in women's labor force participation in the 1990s was just a response to an abnormally good economy, which allowed some women to opt out of the labor force in favor of family (a temporary period effect), then a return to work during the more economically troubled times of the last few years would be expected. But if young mothers leaving the labor force represent instead a more profound cultural shift—say, a rejection by women of this generation of the "career-then-family" or "career-and-family" model created by baby-boom women—then the change is more a permanent cohort effect.[23] Additionally, though, even if it is simply a result of good times, this pattern of career interruption may have effects that reverberate through the lives of women of that generation in terms of pay, promotions, and access to occupations. There is no way to know whether these changes have ceased or whether observers will mark the 1990s as a turning point in gender equality.

What Caused the Change?

It is unlikely that a single factor that led to these changes could ever be identified. At the same time, this report offers some clues and tempting leads on suspects. Given that increases in both education and experience continued right through the 1990s, even at accelerated rates, it seems unlikely that human capital will account for much of the change in this period. The rebound in men's wages associated with the strong economy is a more promising, though still partial, explanation. Politics and policy also may hold some promise. Two of the major legislative efforts of the 1990s may have had profound impacts on women's employment. The first, the Family and Medical Leave Act, may have reduced women's employment by allowing families to have one worker (usually the wife or mother) leave the labor force for up to three months of unpaid leave. The other legislation, the Personal Opportunity and Work Reconciliation Act, put strict time limits on welfare receipt and mandated work requirements for single mothers. Both of these pieces of legislation may have affected women's choices about work.

What Would It Mean?

This final question may be the most difficult of all, because it hinges somewhat on the answers to the above questions. What follows are a few scenarios—all of which assume that the changes are in fact real.

Real but relatively unimportant. While the shifts of the 1990s may be real, they are also fairly small. A close look at some of the other trend data shows periods that, at the time, may also have looked like reversals or retrenchment. Some of the appearance of reversal may simply have to do with timing. In a few years, the apparent stagnation might look like a simple blip. Still, the growing gap in labor force participation among married and single mothers may mean that children in these two types of families will have experienced childhood quite differently.

Temporary change driven by a good economy. This sort of change would have short-term effects on all women and little effect on men, but would have some potentially powerful and pervasive effects on women whose careers were in their formative stages in the 1990s. These women entered the labor force with strong expectations for career attainment; and then, in the mid-1990s, they opted out in favor of family. They may well be able to opt in and seamlessly return to their careers, but more likely they will earn less, have shorter career ladders, and have limited access to high-level positions. Such a situation is true for women born between World War I and World War II, who, in comparison to cohorts before and after them, experienced higher levels of gender inequality in pay over their entire working lives. These women pressed for the Equal Pay Act of 1963 and the Civil Rights Act of 1964, and they led the women's liberation movements of the 1960s and 1970s.

Permanent shifts due to cultural change. By many accounts, something changed in the culture in the 1960s and 1970s that made it possible for many, even most, women to have careers. Polls showed that increasing numbers of women and men approved of a married woman earning money if her husband was capable of supporting her. But some observers suggest that something may have changed again in the late 1980s and 1990s, a "backlash" against the upheaval in work and family life.[24] While it seems improbable that the gains of the last 50 years could be erased, it is possible.

The baby boomers were different. In explaining the differences in the 1990s from the differences in the three earlier decades, we might be tempted to say that the baby boomers were just different. Many of the moth-

ers of the baby boomers briefly worked, often in nontraditional jobs, during World War II. Even though many of these women left the labor force for a time to raise children, their brief work experience undoubtedly had an impact on the employment hopes, desires, and expectations of baby-boom women. In addition, the new model for work and family (career then family, or career and family) significantly differentiates baby boomers from cohorts before and perhaps after them. The actions of the baby boomers led to massive changes in gender, work, and family (along with other institutions) that by now have quieted. Other generations may show patterns more similar to earlier ones or may simply replicate the patterns of the baby boomers.

The limits of change. A final possible scenario is that the 1990s represent neither a temporary resting place nor a turning point for change, but instead represent a new semistable balance. By the middle of the 1990s, all of the cumulative change of the 1960s, 1970s, and 1980s ended, and a new equilibrium was established. Women who chose to work did so; those who preferred to stay at home with children did so. Women who chose to enter mixed occupations did so—but some women also chose female occupations, and a few even chose male occupations. The notable emphasis on choice in the preceding sentences is important. It implies that these changes are a result of individual actions or of expressions of preferences rather than responses to constraints or to external conditions. Such "rhetoric of choice," although the dominant mode of thinking not just in social science but in society as well, has limitations and inadequacies.[25] A *New York Times Magazine* article in late 2003 relates the experiences of five women, all Princeton graduates, who chose to interrupt career for family.[26] Careful reading reveals not just choice—affirmation of childrearing as rewarding and fulfilling work—but also constraint. Each woman faced rising burdens and barriers in her career.

The scenarios we have outlined call for different responses. The next several years may tell whether the apparent retrenchment of the 1990s is real. Once that question is answered, perhaps a brighter light can then be cast about the causes of this reversal, and a more accurate set of responses to it can be prescribed.

References

If provided by the authors, additional text and data associated with this report are available at www.prb.org/AmericanPeople.

1. Trond Petersen and Laurie A. Morgan, "Separate and Unequal: Occupation Establishment Sex Segregation and the Gender Wage Gap," *American Journal of Sociology* 101, no. 2 (1995): 329–65.
2. Jerry A. Jacobs, *Revolving Doors: Sex Segregation and Women's Careers* (Stanford, CA: Stanford University Press, 1989).
3. Otis Dudley Duncan and Beverly Duncan, "A Methodological Analysis of Segregation Indexes," *American Sociological Review* 20, no. 2 (1955): 210–17.
4. Attempts to describe Americans' occupations based on census data are complicated by the fact of change. The objectives of this report are to describe the contemporary differences between the jobs men and women have, and to compare men's and women's presence in occupations over time. Trying to compare the occupations listed for 1950 with those seen today is complicated. In light of changes in the types of work Americans do, the U.S. Census Bureau thoroughly revised its system of classifying occupations for the 2000 Census, the most substantial changes since the system was developed in the 1940s. Casual inspection of the new codes suggests that, between 1990 and 2000, some occupations seem to have disappeared (charwoman), whereas others have been created (computer software engineers). In truth, there are still charwomen (they cleaned the last hotel room you stayed in); and there were software engineers in 1990, but they had a different occupational classification. In some cases, these kinds of occupations were grouped with larger occupations, or were split among several more-detailed occupations.
5. This characterization may be a little misleading because this occupational classification lumps all teachers—from kindergarten through college—into the same occupation. From the 1950s through the 1990s, there have been increases in the proportion of women among college faculty, and some increases in male elementary/secondary school teachers.
6. Kim A. Weeden, "Why Do Some Occupations Pay More than Others? Social Closure and Earnings Inequality in the United States," *American Journal of Sociology* 108, no. 1 (2002): 55–102.
7. Jerry A. Jacobs, "Gender and Academic Specialties: Trends Among Recipients of College Degrees During the 1980s," *Sociology of Education* 68, no. 2 (1995): 81–98.
8. Francine D. Blau and Lawrence M. Kahn, "Swimming Upstream: Trends in the Gender Wage Differential in the 1980s," *Journal of Labor Economics* 15, no. 1 (1997): 1–42.
9. Rae Lesser Blumberg, "A General Theory of Gender Stratification," in *Sociological Theory*, ed. Randall Collins (San Francisco: Jossey-Bass, 1984); Janet Saltzman Chafetz, *Sex and Advantage: A Comparative, Macro-Structural Theory of Sex Stratification* (Totowa, NJ: Rowman and Allenheld, 1984); and Valerie K. Oppenheimer, *The Female Labor Force in the United States* (Berkeley: University of California Press, 1970).
10. Dawn Michelle Baunach and Sandra L. Barnes, "Competition, Race, and the Measurement of Female Labor Activity," *Sociological Inquiry* 73, no. 3 (2003): 413–40; and David A. Cotter et al., "The Demand for Female Labor," *American Journal of Sociology* 103, no. 6 (1998): 1673–712.

11. Ruth Cowan, *More Work For Mother: The Ironies Of Household Technology From The Open Hearth To The Microwave* (New York: Basic Books, 1983).
12. Claudia Goldin and Lawrence F. Katz, "The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions," *Journal of Political Economy* 110, no. 4 (2002): 730–70.
13. Brigid C. Harrison, *Women in American Politics: An Introduction* (Belmont, CA: Wadsworth, 2003).
14. Paul R. Burstein, Marie Bricher, and Rachel L. Einwohner, "Policy Alternatives and Political Change: Work, Family and Gender on the Congressional Agenda, 1945–1990," *American Sociological Review* 60, no. 1 (1995): 67–83.
15. Equal Employment Opportunity Commission, Executive Order No. 11246, accessed online at www.eeoc.gov/abouteeoc/35th/thelaw/eo-11246.html, on April 4, 2004.
16. Barbara F. Reskin, *The Realities of Affirmative Action in Employment* (Washington, DC: American Sociological Association, 1998).
17. Robert L. Nelson and William P. Bridges, *Legalizing Gender Inequality* (Cambridge, England: Cambridge University Press, 1999); and Paula England, *Comparable Worth: Theories and Evidence* (New York: Aldine de Gruyter, 1992).
18. Nelson and Bridges, *Legalizing Gender Inequality*; and England, *Comparable Worth*.
19. Barbara F. Reskin, "Employment Discrimination and Its Remedies," in *Sourcebook of Labor Markets: Evolving Structures and Processes*, ed. Ivar Berg and Arne L. Kalleberg (New York: Kluwer/Plenum, 2001).
20. Jacob Alex Klerman and Arleen Leibowitz, "Labor Supply Effects of State Maternity Legislation," in *Gender and Family Issues in the Workplace*, ed. Francine Blau and Ronald Ehernberg (New York: Russell Sage Foundation, 1997).
21. Myra Marx Ferree, "A Woman for President? Changing Responses: 1958–1972," *Public Opinion Quarterly* 38, no. 3 (1974): 390–99.
22. The number and content of the questions have varied over time, so an exactly equal measure cannot be constructed over time. Fortunately, the same seven gender role questions were asked in 1977 and between 1985 and 1998. Answers to these questions are correlated highly enough to suggest that the questions tap different aspects of a common attitude toward more traditional or more egalitarian gender roles. To extend the comparison to years when only some of these questions were asked, responses to the questions were first standardized according to the means and standard deviations of the surveys in which all seven questions were asked.
23. Claudia Goldin, "Career and Family: College Women Look to the Past," in *Gender and Family Issues in the Workplace*, ed. Francine Blau and Ronald Ehernberg (New York: Russell Sage Foundation, 1997).
24. Susan Faludi, *Backlash: The Undeclared War Against American Women* (New York: Doubleday, 1991).
25. Joan Williams, *Unbending Gender: Why Family and Work Conflict and What to do About It* (New York: Oxford University Press, 2002).
26. Lisa Belkin, "The Opt-Out Revolution," *New York Times Magazine*, Oct. 26, 2003.

For Further Reading

Amott, Theresa, and Julie Matthaei. *Race, Gender, and Work: A Multi-cultural Economic History of Women in the United States*. Boston: South End Press, 1996.

Bergmann, Barbara. *The Economic Emergence of Women*. 2d ed. New York: Palgrave, St. Martin's Press, 2002.

Bianchi, Suzanne, and Lynn M. Casper. *Continuity and Change in the American Family*. Thousand Oaks, CA: Sage Publications, 2002.

Blackwelder, Julia Kirk. *Now Hiring: The Feminization of Work in the United States, 1900–1995*. College Station, TX: Texas A&M University Press, 1997.

Blair-Loy, Mary. *Competing Devotions: Career and Family Among Women Executives*. Cambridge, MA: Harvard University Press, 2003.

Blau, Francine D., Marianne A. Ferber, and Anne E. Winkler. *The Economics of Women, Men, and Work*. 4th ed. New York: Prentice Hall, 2001.

Crittenden, Ann. *The Price of Motherhood: Why the Most Important Job in the World is Still the Least Valued*. New York: Owl Books, 2002.

England, Paula. *Comparable Worth: Theories and Evidence*. New York: Aldine de Gruyter, 1992.

Goldin, Claudia. *Understanding the Gender Gap: An Economic History of American Women*. New York: Oxford University Press, 1990.

Gornick, Janet, and Marcia K. Meyers. *Families That Work: Policies for Reconciling Parenthood and Employment*. New York: Russell Sage Foundation, 2003.

Jacobs, Jerry A. *Revolving Doors: Sex Segregation and Women's Careers*. Stanford, CA: Stanford University Press, 1989.

Jacobs, Jerry A., and Kathleen Gerson. *The Time Divide: Work, Family, and Gender Inequality*. Cambridge, MA: Harvard University Press, 2004.

Landry, Bart. *Black Working Wives: Pioneers of the American Family Revolution*. Berkeley: University of California Press, 2000.

Padavic, Irene, and Barbara F. Reskin. *Women and Men at Work*. Thousand Oaks, CA: Pine Forge Press, 2003.

Reskin, Barbara F. *The Realities of Affirmative Action in Employment*. Washington, DC: American Sociological Association, 1998.

Sayer, Liana C., Philip N. Cohen, and Lynne M. Casper. *Women, Men, and Work*. New York: Russell Sage Foundation, 2004.

Spain, Daphne, and Suzanne M. Bianchi. *Balancing Act: Motherhood, Marriage, and Employment Among American Women*. New York: Russell Sage Foundation, 1996.

Tomaskovic-Devey, Donald. *Gender and Racial Inequality at Work: The Sources and Consequences of Job Segregation*. Ithaca, NY: ILR Press, 1993.

Williams, Christine L. *Still a Man's World: Men Who Do "Women's Work."* Berkeley: University of California Press, 1995.