Women and jobs in recessions: 1969–92

The probability of losing one's job because of a recession is very different for women and men, but in the last two recessions, gender differences were reduced

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Some recent statements in the media reveal a belief that women lose jobs in recessions before men do, and in proportionately larger numbers.[1] These perceptions are not supported by the facts. This article discusses employment of women in recessions, and the sharp differences between the latest recession and earlier ones.

It is true that trends in women's employment during recessions are quite different from those for men, but men, not women, experience the bulk of net job loss, even though men and women now hold jobs in roughly equal numbers. In each of the last five recessions,[2] men lost at least 9 times as many jobs as women did. This fact is primarily attributable to the distribution of male and female employees in the various industries and the degree of cyclical job loss in each industry during recessions. The goods-producing industries, which employ large numbers of men, sustain the greatest job losses during downturns. Certain service-producing industries that employ primarily women actually continue to grow in recessions.

During the latest (1990–91) recession, however, the discrepancy between men and women was sharply reduced, reflecting in part the unusual and, in some cases, serious declines in certain service-producing industries. (See chart 1.)

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Employment: the facts

The Current Employment Statistics survey of businesses (which estimates the number of U.S. payroll jobs) provides evidence that men experienced the bulk of job losses in all recessions since 1964, when complete employment estimates by sex were first produced.[3] In the first 3 of these 5 most recent recessions, the number of women on payrolls in fact rose (although, of course, individual women lost jobs), while the number of men losing jobs far exceeded the number hired. (See table 1.)

In the last two recessions, women did lose jobs on a net basis, although men lost 9 to 19 times as many. (See table 1.) The unusual losses for women in the two recessions had quite different causes. In the recession of 1981–82, women lost about 135,000 net jobs, largely reflecting a decline of about 170,000 jobs held by women in government, as Federal aid to State and local governments was reduced; meanwhile, the number of private-sector jobs held by women increased slightly. In the recession of the early 1990's, women lost about 125,000 net payroll jobs, with women's employment in government increasing while jobs held by women in the private sector decreased by approximately 145,000. The 1990's recession brought the greatest private-sector loss of jobs for women in more than 20 years, as several important service-producing industries were much weaker than in preceding downturns.

The 1990–91 recession also was unusual in that a net decline in jobs continued for 11 months after the official March 1991 ending point of the recession. To fully understand the differing impact of the recession on men and women, the postrecession period of continuing job losses should be analyzed. From the start of the downturn in July 1990 to the lowest point of employment in February 1992, men lost a net 1.7 million payroll jobs while women gained approximately 50,000 jobs. Whether the official recession period or the entire period of decline in employment is considered, women at worst accounted for only a small fraction of the net jobs lost.

The broader measure of all civilian employment from the Current Population Survey of households[4] confirms that men incur most of the job loss during recessions. The household survey indicates that the number of employed women actually increased during 3 of the last 5 recessions and declined slightly in 2—including the most recent one—while the number of employed men fell more steeply in all five cases. Unemployment data from the household survey also show that men are hit harder than women in recessions. In the four most recent recessions, the number of unemployed men expanded by 1–1/2 to 3 times the increase in the number of unemployed women.

Why men lose more jobs

Where women work. The chief explanation for the vast differences in employment loss between women and men in recessions concerns the proportions of jobs held by women in the various industries. Table 2 shows the percent of jobs in the major industry divisions that were held by women at the beginning of each of the last five recessions. As can readily be seen, women have gained a considerable proportion of the jobs in the economy since late 1969. The increases have been broad-based, occurring in each division. But the *relative* proportion of women employed in each division in comparison to other divisions shows a great deal of stability over the 20-year period. Construction and mining had the lowest concentrations of women in 1990, as in 1969. Services and finance, insurance, and real estate remained the industry divisions with the highest concentrations of women. Retail trade and government had the next highest percentages of women throughout the period; in both cases, women increased from less than half of all employees to slightly over half.

A second way to look at the distribution of jobs by gender is to analyze the percent of all jobholding women who work in each of the industry divisions. This breakdown of employed women is shown in table 3, with comparisons for December 1969 and July 1990 (the starting points of the first and last recessions for which data are available). The table shows that the distribution of women across industries has been fairly stable over the two decades. The only changes of more than 2 percentage points have been in manufacturing and services (one of six divisions of the more inclusive service-producing sector). Manufacturing lost almost 1 million jobs as employment in general grew, so that the manufacturing division's share of jobs was reduced by 10 percentage points. Services gained nearly 17 million jobs, so that the division ended up with an additional 10-percent share of all jobs. The vast majority of women who have jobs are employed in service-producing industries, primarily retail trade, services, and government. The overall job loss or gain of women during recessions, therefore, is likely to be most affected by the strength or weakness of the service-producing sector.

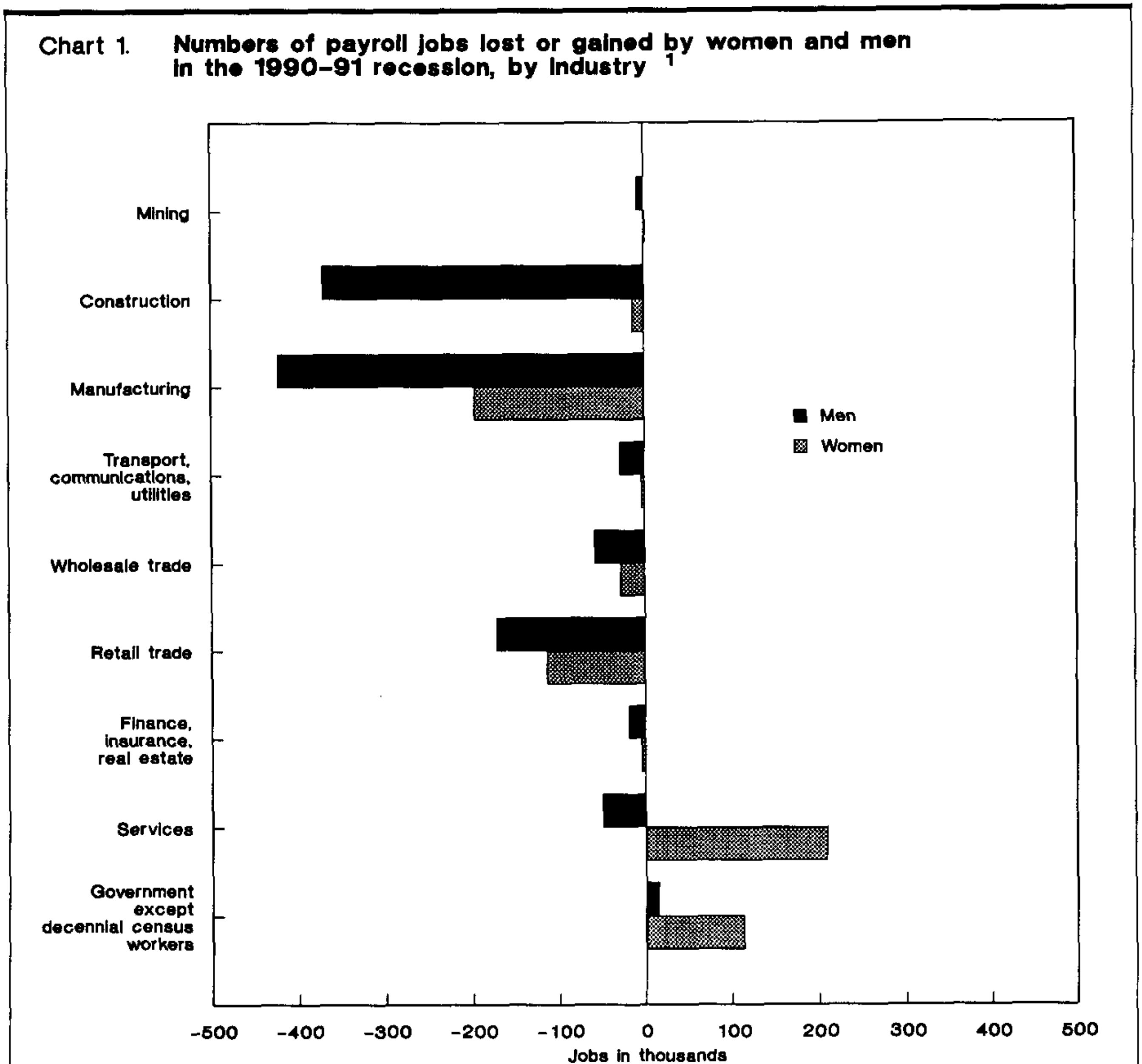
Where jobs are lost. In all recessions since 1964, some industry divisions have lost more business and more jobs than others have, and the losses have not been proportionate to the sizes of the divisions. Although some exceptional developments, such as the reduction in government jobs during the 1981–82 recession, have occurred, certain consistencies in the pattern of job loss can be identified. Over the last five recessions, the goods-

Table 1. **Job gain or loss for for men and women on nonfarm payrolls in the five most recent recessions, 1969–91**

[In thousands, seasonally adjusted]

Dates of recession	Total nonfarm		Goods-producing		Service-producing	
	Men	Women	Men	Women	Men	Women
December 1969/November 1970	−940	+85	−1,237	−414	+297	+499
November 1973/March 1975	−1,834	+396	−1,909	−827	+75	+1,223
January 1980/July 1980	−1,192	+78	−1,104	−322	−88	+400
July 1981/November 1982	−2,595	−135	−2,092	−574	−503	+439
July 1990/March 1991	−1,211	−126	−798	−208	−413	+82

Note: The recession dates are the turning points in the business cycle, as designated by the National Bureau of Economic Research.



[1] For all industries combined, men lost 1,211,000 jobs and women lost 126,000 jobs.

producing sector has always suffered much more than the service-producing sector:

Recession	Percentage change in jobs: Total nonfarm	Goods-producing	Service-producing
December 1969/ November 1970	–1.2	–6.8	+1.7
November 1973/ March 1975	–1.8	–10.9	+2.5
January 1980/ July 1980	–1.2	–5.4	+.5
July 1981/ November 1982	–3.1	–10.4	–.1
July 1990/ March 1991	–1.2	–4.0	–.4

The tabulation shows that the goods-producing sector lost a substantial proportion of its jobs in each recession since 1964, and that the service-producing sector showed gains and relatively mild losses in the various post-1964 recessions. (See table 4 for a more detailed breakdown of losses and gains in the latest recession.)

Who lost the jobs. As indicated earlier, because the goods-producing industries bear most of the job loss during recessions and because employment in this sector is heavily male, men lose the great majority of jobs in recessions. The industry divisions that fare best during recessions, services and government, have a high concentration of women, partially accounting for women's relative job stability. Furthermore, even within some of the divisions, a disproportionately small number of women lose jobs. The tabulation below shows employment changes for each sex in the goods-producing and service-producing sectors for the last five recessions:

Recession	Percent change in employment		
	Total	Goods-producing	Service-producing
Men			
December 1969/ November 1970	-2.1	-6.7	+1.1
November 1973/ March 1975	-3.8	-10.1	+.3
January 1980/ July 1980	-2.3	-5.7	-.3
July 1981/ November 1982	-5.0	-11.2	-1.5
July 1990/ March 1991	-2.1	-4.4	-1.0
Women			
December 1969/ November 1970	+.3	-7.0	+2.5
November 1973/ March 1975	+1.3	-13.2	+5.3
January 1980/ July 1980	+.2	-4.6	+1.3
July 1981/ November 1982	-.3	-8.3	-1.4
July 1990/ March 1991	-.2	-3.0	+.2

In all cases except two (goods-producing in the first two recessions), women fared considerably better than men.

In studying particular cases in which women within an industry division gained or retained jobs more successfully than men, three distinct explanations emerge. In some cases, these disproportionate changes are related to the occupations held by men and women in the division: men more often are in occupations for which demand is heavily affected by the business cycle. In other cases, strong growth occurs in the division's more specific industries in which women are more concentrated. For example, hospitals, a part of the services division, has an extremely high proportion of women employees and has shown exceptionally robust growth, both in normal times and during recessions. In a third set of cases, a disproportionate increase in women employees during recessions is a continuation of a long-term trend toward greater utilization of women in a division. For example, affirmative action policies in government agencies[5] seem to have an effect both in times of economic expansion and during recessions. Long-term increases in the employment of women especially characterize the finance, insurance, and real estate and government divisions.

The mining and construction industries are examples of the first type of case, in which occupational differences are relevant. Women make up only 2 percent of the *construction* trades,[6] and approximately 85 percent of the women employed in the construction industry hold office jobs. In the 1969–70 and 1973–75 recessions, the number of women employed by construction companies remained roughly unchanged, while large numbers of men were terminated. In the next two recessions (1980 and 1981–82), the number of women employees in construction decreased by 1 to 2 percent. At the start of the 1990–91 recession, 11 percent of construction company employees were women, but only 3 percent of the net jobs lost during the recession were held by women. In all these recessions, massive layoffs of men occurred, as declines in the demand for skilled construction workers, laborers, and other onsite workers fell off dramatically. But most of the office employees, including most women in the division, continued to be needed unless the business closed down. (See table 5.)

Similarly, *mining*, with women accounting for

Table 2. **Women workers as a percentage of employment by major industry division at the beginning of each of the last five recessions**

Industry division	December 1969	November 1973	January 1980	July 1981	July 1990
Total nonfarm	36.6	38.0	41.7	42.8	47.5
Goods-producing	24.1	24.9	26.3	26.9	27.8
Mining	5.9	6.7	9.8	11.2	13.5
Construction	4.9	6.0	8.1	9.2	10.8
Manufacturing	28.2	29.3	31.1	31.5	32.9
Service-producing	43.1	44.2	48.1	49.0	53.2
Transportation, communications, public utilities	20.9	21.4	24.5	26.0	29.4
Wholesale trade	23.2	23.4	25.7	26.1	30.6
Retail trade	45.9	46.8	49.6	49.9	53.3
Finance, insurance, and real estate	52.1	53.3	58.7	59.6	63.2
Services	53.6	54.7	58.1	59.0	60.7
Government	42.6	43.6	47.5	48.0	53.3

about 14 percent of its workers at the start of the latest downturn, lost 6,000 employees but showed a nominal increase in the number of women employees. As in construction, the vast majority of women are office workers, while the blue-collar workers, for whom demand is more volatile, are overwhelmingly men. In the 1981–82 recession, women held 11 percent of the jobs in mining companies at the start of the recession but only lost 4 percent of the approximately 155,000 jobs eliminated. In earlier recessions, employment in mining showed little movement, or increased.

Manufacturing, the third component of the goods-producing sector, has shown cyclical employment losses for men and women approximately in proportion to their shares of employment in the division. Men hold about two-thirds of manufacturing jobs, and have been affected by about two-thirds of the layoffs.

In contrast to the massive declines in the goods-producing sector, the service-producing sector gained large numbers of jobs—up to 1.3 million—in the first three recessions since 1964. In the last two recessions, when service-sector jobs were lost, the larger loss occurred during the most recent downturn, in which about one-fourth of the overall employment decline took place in the service-producing sector.[7] (See chart 2.) Although women held slightly more than half of the jobs in this sector at the start of the recession, they gained 80,000 jobs in the sector as men lost 400,000 service-producing jobs.

This disproportionate change in the number of women employees is partially attributable to the fact that the fastest-growing industries in the service-producing sector employ extremely high proportions of women. Some of these industries respond to demand that does not decrease in recessions. *Health services*, with employment that is more than 80 percent female (compared to approximately 55 percent for the service-producing sector as a whole), gained about a quarter of a million jobs during the 1990–91 recession, continuing its outstandingly strong growth trend of the past 30 years.[8] Women filled approximately 85 percent of net new jobs, slightly more than their share of the industry's employment. While all the industries making up private-sector health services expanded during the recession, two component industries showed especially strong growth. *Hospitals*, with employment that is 80 percent female, contributed 70,000 jobs, with 60,000 of them going to women. *Nursing and personal care facilities* (such as nursing homes) added 60,000 employees, including 50,000 women. Employment in this industry is more than 85 percent female.

During the recession, privately owned *social services* (both nonprofit and for-profit) and *private education* gained 75,000 and 45,000 jobs, respectively, and filled the majority of these positions with women. The largest component of the private education industry is private colleges and universities. Social services includes such activities as counseling, operation of community centers, job training, child day care, and residential care of the elderly, children, and others with limitations on their ability to care for themselves.

Certain service-sector industries did lose jobs during the recession. Surprisingly, perhaps, developments in these industries also had the net effect of increasing the proportion of women among employees in the sector. *Engineering and management services*, an industry with employment that is about 55 percent male, lost 50,000 employees, of whom 40,000 were men.

Table 3. **Industry distribution of employed women, December 1969 and July 1990**

[Numbers in thousands, seasonally adjusted]

Industry division	December 1969		July 1990	
	Number	Percent	Number	Percent
Total nonfarm	26,024	100	52,069	100
Goods-producing	5,874	22	6,944	13
Mining	37	0	96	0
Construction	180	1	553	1
Manufacturing	5,657	21	6,295	12
Service-producing	20,150	78	45,125	87
Transportation, communications, public utilities	938	4	1,705	3
Wholesale trade	924	4	1,895	4
Retail trade	5,036	21	10,458	20
Finance, insurance, and real estate	1,866	7	4,247	8
Services	6,113	23	17,011	33
Government	5,256	18	9,812	19

Table 4. **Job gain or loss for men and women on nonfarm payrolls in the 1990–91 recession, by industry**

[In thousands, seasonally adjusted]

Industry	Change from July 1990 to March 1991		
	Total	Women	Men
Total nonfarm	−1,337	−126	−1,211
Total nonfarm excluding temporary census workers	−1,143	−32	−1,111
Goods-producing	−1,006	−208	−798
Mining	−6	+1	−7
Construction	−382	−13	−370
Manufacturing	−619	−197	−422
Service-producing	−331	+82	−413
Transportation, communications, public utilities	−31	−3	−28
Wholesale trade	−86	−28	−58
Retail trade	−286	−114	−172
Finance, insurance, and real estate	−22	−4	−18
Services	+159	+209	−50
Government	−65	+20	−85
Government excluding temporary census workers	+129	+114	+15

Finance, insurance, and real estate lost 20,000 jobs from July 1990 to March 1991. Although the majority of employees in this industry are women, they accounted for only about 15 percent of the losses. This industry is experiencing a long-term upward trend in its proportion of women employees. From November 1989 to July 1990, for example—a period just preceding the recession and of the same duration—this industry expanded by a net total of 35,000 employees but added *40,000* women to its payrolls.

In *government,* women also fared vastly better than men during the latest recession. While employment in this sector is split about evenly between men and women, women gained a net 20,000 jobs during the latest downturn while men lost 85,000. These results were affected by the layoff of approximately 195,000 temporary decennial census workers, most of whom were let go during the first month of the recession. When the influence of this special factor is discounted, government gained 130,000 employees, including about 115,000 women.

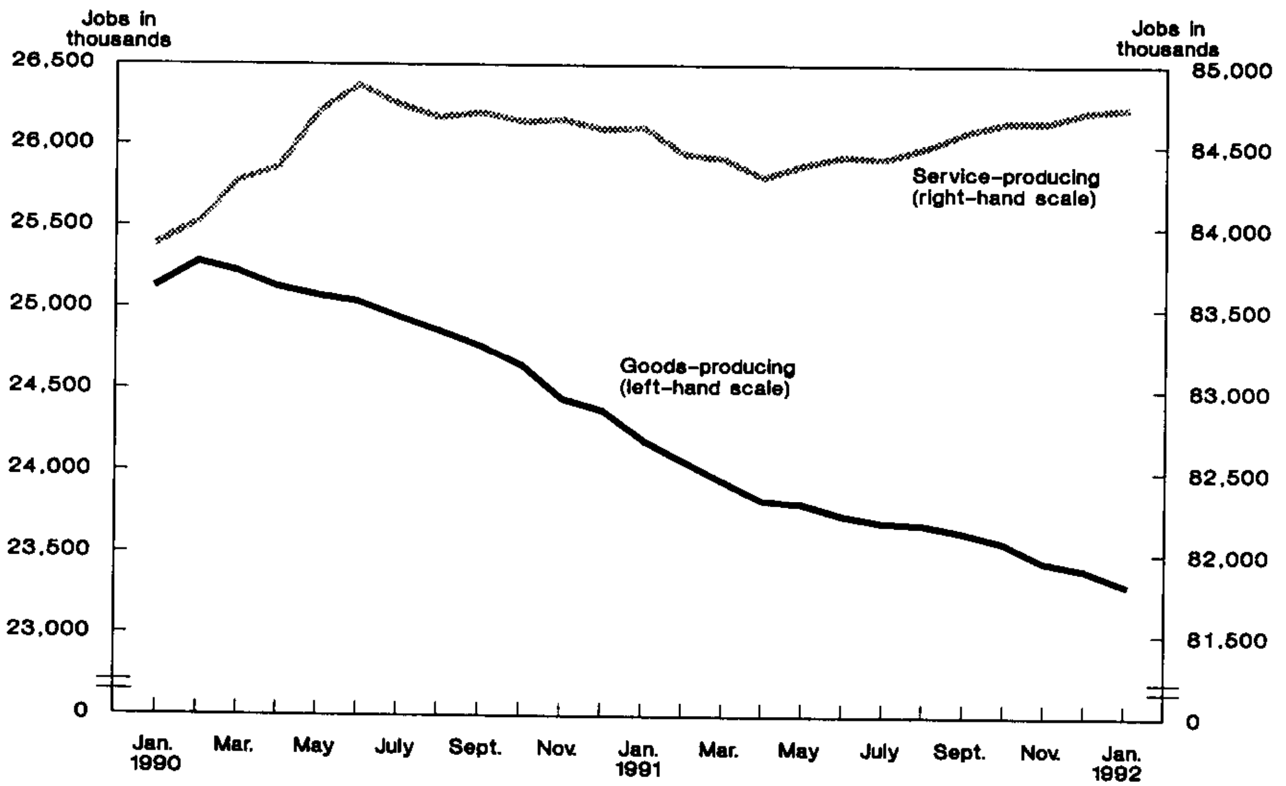
The exclusion of decennial census workers calls for a deeper analysis of employment by sex in the total nonfarm economy. If census workers are excluded at the level of total payroll employment, women lost only about 30,000 jobs (as opposed to approximately 125,000 when census workers are included), versus a reduction of 1.1 million among men. However, the outcome for women was still worse than in 3 of the 4 preceding recessions, when women gained between 45,000 and 400,000 jobs (excluding 1980 decennial census jobs).

The differing experiences of men and women in government in the latest recession are primarily attributable to developments in local government, which contributed more than 80 percent of the gains in government jobs. *Local government* added 100,000 jobs during the recession, and approximately 80 percent of the additional jobs were filled by women, although, on the whole, employment in local government is about 60 percent female. This pattern of women gaining disproportionate numbers of new jobs was established before the recession. From November 1989 to July 1990, for example, local government gained 225,000 jobs, and 85 percent of them were filled by women. During the recession, most of the employment increase was in local school systems; before the recession, growth was about evenly split between education and other local agencies.

Why this recession was different

Developments in retail trade, wholesale trade, finance, personnel supply, and a few other service-

Chart 2. Employment in the goods-producing and service-producing sectors, monthly data, January 1990-92



sector industries are key in explaining why women were affected differently by the recession of the 1990's in comparison to most preceding ones. These industries were hit much harder in the latest downturn than in most earlier ones, and both men and women were hurt by the cuts. Employment gains by women in other industries could not quite offset the losses that women suffered in these industries and others, such as manufacturing, in which women normally lose jobs during a recession. (See chart 3 for a comparison of the 1990–91 recession with the 1973–75 recession, which was fairly typical of post-1964 recessions in terms of net job loss by industry and gender.)

In the 1990–91 recession, the *services* division—one of the six divisions of the service-producing sector, along with retail trade, government, and the three smaller divisions shown in table 4—was weakest among all divisions in comparison to its own gain or loss during preceding recessions. Despite the increases in health care, social services, and other industries, certain remaining industries in the division showed considerable and unusual declines that left this division much weaker than in earlier recessions. Services gained 160,000 jobs in the last recession, but had added about a quarter of a million to a half-million jobs during each downturn of the 1970's and 1980's.

The *personnel supply* industry had the largest employment loss of any industry in the services division. This industry includes employment agencies and the increasingly important help supply industry, which consists primarily of companies that provide temporary workers to client firms. Personnel supply lost about 95,000 jobs during the 1990–91 recession; three-quarters of these jobs had been held by women. In earlier recessions, this rapidly growing industry was much smaller and showed relatively small employment declines, averaging less than half of its most recent cyclical loss. Declines in employment in this industry reflect the troubles of the client industries. In this case, demand from the finance, insurance, and real estate division, one of the heaviest users of temporary help, fell off particularly steeply.[9] Other major markets for temporary help include services, manufacturing, wholesale trade, and retail trade.[10] All of these divisions except manufacturing were more profoundly affected, in terms of declines in their own employment, in this latest recession than in most earlier downturns since 1964.

Hotels, motels, and other lodging places, another industry within the services division, lost about 35,000 jobs in the recession and let go

Table 5. **Change in numbers of men and women on nonfarm payrolls in the five most recent recessions, by selected industry group**

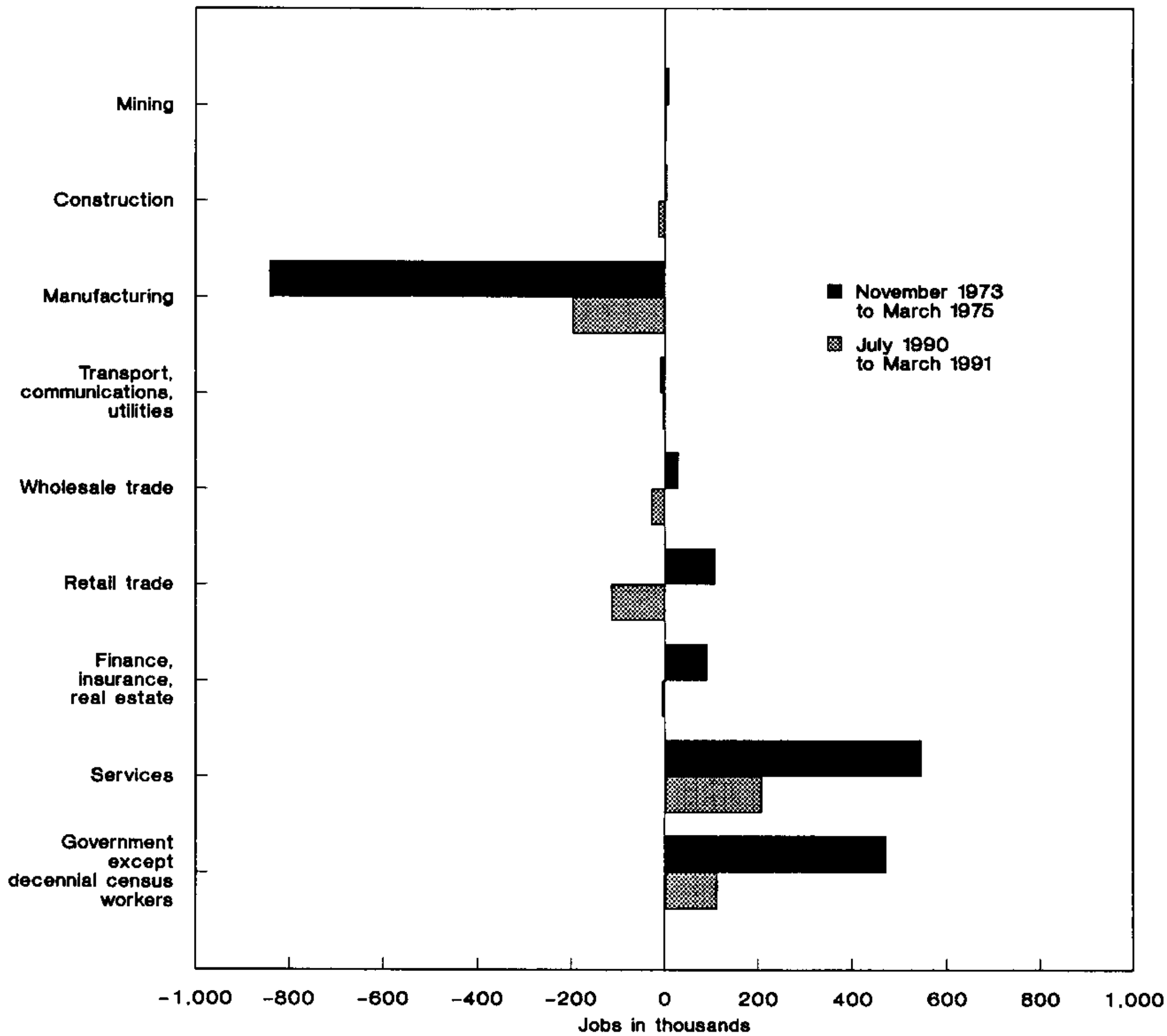
[Numbers in thousands, seasonally adjusted]

Dates of recession	Construction				Manufacturing				Wholesale trade			
	Men		Women		Men		Women		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
December 1969/ November 1970	– 81	– 2	+11	+6	– 1,155	– 8	– 425	– 8	+18	+1	+1	0
November 1973/ March 1975	– 632	– 16	+4	+2	– 1,352	– 9	– 840	– 14	+25	+1	+29	+3
January 1980/ July 1980	– 327	– 8	– 5	– 1	– 790	– 5	– 325	– 5	– 39	– 1	+12	+1
July 1981/ November 1982	– 317	– 8	– 9	– 2	– 1,624	– 12	– 559	– 9	– 170	– 4	+20	+1
July 1990/ March 1991	– 370	– 8	– 13	– 2	– 422	– 3	– 197	– 3	– 58	– 1	– 28	– 1

Dates of recession	Retail trade				Services				Government			
	Men		Women		Men		Women		Men		Women	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
December 1969/ November 1970	+11	+2	+61	+1	+71	+1	+187	+ 3	+168	+2	+183	+3
November 1973/ March 1975	– 66	– 1	+109	+2	+76	+1	+547	+8	+251	+3	+470	+8
January 1980/ July 1980	– 143	– 2	– 109	– 1	+107	+1	+306	+3	+79	+1	+101	+1
July 1981/ November 1982	– 100	– 1	+102	+1	+39	+1	+455	+4	– 134	– 2	– 172	– 2
July 1990/ March 1991	– 172	– 2	– 114	– 1	– 50	0	+209	+1	– 85	– 1	+20	0

NOTE: The recession dates are the turning points in the business cycle, as designated by the National Bureau of Economic Research.

Chart 3. **Payroll job loss or gain by women during the 1973-75 and 1990-91 recessions, by industry** [1]



[1] For all industries combined, women gained 396,000 jobs in the 1973-75 recession and lost 126,000 jobs in the 1990-91 recession.

10,000 women. In earlier recessions, this industry generally continued to add jobs. For the hotel and motel industry, the early nineties were characterized by overcapacity as a result of the commercial building boom of the eighties. This overcapacity required firms to cut costs, including labor costs, to remain price-competitive.

In earlier recessions, the *legal services* industry had continued to grow considerably, hiring 20,000 women, on average, from peak to trough. Employment in law firms remained flat during the 1990–91 downturn, and the industry failed to hire more women on a net basis, in contrast to preceding recessions. The rate of job growth in legal services was relatively low before the recession started and had decreased every year from 1986 to 1991. Corporations sought to curb legal costs through increased use of in-house counsel, as opposed to outside legal services, and greater use of arbitration, as opposed to litigation.[11] In addition, the number of tort and personal injury filings declined. The 1990–91 recession heightened competition among legal firms, which responded by laying off employees and reducing hiring.[12]

Retail trade was in deep trouble in the early nineties. With one exception, the recessions from 1969 to 1982 left total employment in retail trade relatively intact, and women with large gains. In the most recent downturn, however, jobs in retail trade declined by about 285,000, and women lost more than 110,000 net jobs in retailing. (See table 5.) In the early 1990's, retailing was hurt by low consumer confidence; risky expansion into new malls and plazas; intense competition; and leveraged buyouts, which generally required companies to greatly increase their debt, and in turn contributed to tight financial situations and even failures among retailers. The increasingly widespread use of electronic computing devices for tasks such as inventory management also enabled retail firms to trim jobs.[13]

Employees in *wholesale trade* were also hit harder in the latest recession than in most preceding ones. In recessions from 1970 to 1980, wholesale trade had relatively small gains or losses in employment. The industry then lost 150,000 jobs in the 1981–82 recession and 85,000 jobs in the 1990–91 downturn. The loss of jobs in wholesaling in the early nineties was partly attributable to two factors aside from the business cycle. First, significant productivity improvements have taken place in wholesaling; fewer workers are needed to conduct a given level of business. Second, consolidation in the industry has been encouraged, as large customers increasingly deal almost exclusively with a few large suppliers.[14] This trend eliminates business opportunities for smaller firms. In the latest decline, women lost 30,000 jobs in wholesaling, while in the four previous recessions, women at worst held ground and at best gained 30,000 jobs. The increased proportion of women in the industry at the start of the latest recession (up from slightly more than 25 percent in July 1981 to just over 30 percent in July 1990) made the layoff of some women more unavoidable in the nineties.

The *finance* industry within the finance, insurance, and real estate division also accounted for considerable declines in jobs held by women. This industry experienced a record level of mergers and acquisitions in 1991 and, as a result, consolidated some overlapping operations. During the latest recession, the industry lost about 55,000 employees, of whom 30,000 were women. In previous downturns, finance had continued to grow, with women gaining between 30,000 and 55,000 jobs.

THE BULK OF LOST JOBS in all recent recessions affected men rather than women. Both the Current Employment Statistics survey of payrolls and the Current Population Survey of households provide evidence. The payroll survey shows that the major cause of the difference is the relative performance of industries that most heavily employ women; the goods-producing industries have the greatest proportions of men and suffer the most in recessions, while certain service-sector industries which employ mainly women continue to grow during recessions.[15] In addition, government, and especially local education, continues to hire large numbers of women. In 3 of the 5 recessions since 1964, when complete payroll statistics for women were first produced, women actually gained jobs on a net basis while total employment was substantially reduced. But the latest recession brought net job losses for women, although men continued to be affected to a far greater extent. Weaknesses in retail trade, personnel supply, wholesale trade, and finance—industries that employ large proportions of women—were largely responsible for this development. □

Footnotes

[1] See, for example, Judy Mann, "The 54 Percent Solution," *The Washington Post*, June 24, 1992, p. F12; and Nancy Gibbs, "The War Against Feminism," *Time*, Mar. 9, 1992, p. 54.

[2] These recessionary periods, as defined by the National Bureau of Economic Research, are: December 1969–November 1970; November 1973–March 1975; January 1980–July 1980; July 1981–November 1982; and July 1990–March 1991.

[3] The Current Employment Statistics (CES) program produces estimates of employees on all nonfarm payrolls, based on a monthly survey of about 380,000 workplaces. Data from the program appear in the Bureau's monthly periodical *Employment and Earnings* and the two-volume historical set *Employment, Hours, and Earnings, United States* (Bureau of Labor Statistics, forthcoming). Estimates for all employees and for women workers are published data, while estimates for men were derived by subtraction for purposes of this article.

[4] The Current Population Survey produces estimates of all civilian employment and unemployment based on a monthly survey of 60,000 households. Results of the survey, like estimates from the CES program, appear in the monthly periodical *Employment and Earnings*.

[5] "Number of Women in Government Increasing," *Women in Public Service* (Center for Women in Government, State University of New York, Albany), Summer 1991, pp. 1–3.

[6] Julia Flynn, "Julia Stasch Raises the Roof for Feminism," *Business Week*, Jan. 25, 1993, p. 102.

[7] This analysis discounts 194,000 temporary workers employed briefly by the Federal Government to conduct the 1990 census and still on the payroll at the beginning of the recession. Most of these jobs ended during the first 2 months of the recession; another 184,000 temporary census workers were laid off before the recession began. The decennial cen-

sus is a noncyclical event that may obscure cyclical movements in employment series if its effects are not discounted.

[8] David R. H. Hiles, "Health services: the real jobs machine," *Monthly Labor Review*, November 1992, p. 4.

[9] Industry sources.

[10] Max L. Carey and Kim L. Hazelbaker, "Employment growth in the temporary help industry," *Monthly Labor Review*, April 1986, p. 38.

[11] *U.S. Industrial Outlook 1991* (U.S. Department of Commerce, 1991), p. 52–4.

[12] *U.S. Industrial Outlook 1992* (U.S. Department of Commerce, 1992), p. 53–4.

[13] Gene Koretz, "Technology Is Fueling Retail Productivity, but Slowing Job Gains," *Business Week*, May 10, 1993, p. 16.

[14] Joseph Weber, "It's 'Like Somebody Had Shot the Postman'," *Business Week*, Jan. 13, 1992, p. 82.

[15] A recent internal analysis of the Current Employment Statistics (payroll) survey's sample and estimates of women employees showed consistently favorable results in regard to the quality of the statistics. The share of the universe sampled for women workers was 29 percent as of February 1993. Some 91.1 percent of usable reports from individual establishments contain data on women workers. These data rarely have identifiable errors, move in conjunction with other employment fields, and show no sign of being approximated or determined subjectively, as they are reported in complete detail and show expected minor month-to-month fluctuations.

The estimates of women employees by industry are consistent in the sense that the estimates for a specific industry or industry group show little variation over a short span of time. The estimates show plausible cyclical and long-term trends. Revisions between preliminary and final estimates are minimal.

All the series that are aggregated to create the total nonfarm seasonally adjusted series for women workers have good diagnostic scores on the battery of statistical tests used to judge the acceptability of seasonal adjustment. These diagnostic tests also indicate that the original, or unadjusted, series are free of excessive irregular movement, and in nearly all cases have strong cyclical and long-term movement in relation to other types of movement. These results from diagnostic tests of seasonal adjustment imply that the estimates are suitable for analysis in terms of the business cycle.