November 1998

MONTHLY LABOR REVIEW

U.S. Department of Labor

Bureau of Labor Statistics

Work arrangements
Contingent work
Injuries at work

U.S. Department of Labor
Alexis M. Herman, Secretary

Bureau of Labor Statistics
Katharine G. Abraham, Commissioner

The *Monthly Labor Review* (USPS 987–800) is published monthly by the Bureau of Labor Statistics of the U.S. Department of Labor. The *Review* welcomes articles on the labor force, labor-management relations, business conditions, industry productivity, compensation, occupational safety and health, demographic trends, and other economic developments. Papers should be factual and analytical, not polemical in tone. Potential articles, as well as communications on editorial matters, should be submitted to:

Editor-in-Chief
Monthly Labor Review
Bureau of Labor Statistics
Washington, DC 20212
Telephone: (202) 606–5900
E-mail: mlr@bls.gov

Inquiries on subscriptions and circulation, including address changes, should be sent to:
Superintendent of Documents
Government Printing Office
Washington, DC 20402
Telephone: (202) 512–1800

Subscription price per year—$27 domestic; $33.75 foreign. Single copy—$8.50 domestic; $10.63 foreign. Make checks payable to the Superintendent of Documents.

Subscription prices and distribution policies for the *Monthly Labor Review* (ISSN 0098–1818) and other government publications are set by the Government Printing Office, an agency of the U.S. Congress.

The Secretary of Labor has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Periodicals postage paid at Washington, DC, and at additional mailing addresses.

Information is available to sensory impaired individuals upon request:
Voice phone: (202) 606–7828
Federal Relay Service: 1–800–877–8339.

POSTMASTER: Send address changes to *Monthly Labor Review*, U.S. Government Printing Office, Washington, DC 20402-0001.

Cover designed by Keith Tapscott

Regional Offices and Commissioners

Region I
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Denis McSweeney

JFK Federal Building, Rm E–310
15 New Subdury Street
Boston, MA 02203–1603

Phone: (617) 565–2327
Fax: (617) 565–4182

Region II
New Jersey
New York
Puerto Rico
Virgin Islands

John Wieting

Room 808
201 Varick Street
New York, NY 10014–4811

Phone: (212) 337–2400
Fax: (212) 337–2532

Region III
Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Alan Paisner

3535 Market Street
P.O. Box 13309
Philadelphia, PA 19101–3309

Phone: (215) 596–1154
Fax: (215) 596–4263

Region IV
Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Janet Rankin

Room 7T50
61 Forsyth Street, S.W.
Atlanta, GA 30303

Phone: (404) 331–3415
Fax: (404) 331–3445

Region V
Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Peter Hebein

9th Floor
Federal Office Building
230 South Dearborn Street
Chicago, IL 60604–1595

Phone: (312) 353–1880
Fax: (312) 353–1886

Region VI
Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Robert A. Gaddie

Room 221
Federal Building
525 Griffin Street
Dallas, TX 75202–5028

Phone: (214) 767–6970
Fax: (214) 767–3720

Region VII
Iowa
Kansas
Missouri
Nebraska

Region VIII
Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Stanley W. Suchman (Acting)

1100 Main Street
Suite 600
Kansas City, MO 64105–2112

Phone: (816) 426–2481
Fax: (816) 426–6537

Region IX
American Samoa
Arizona
California
Guam
Hawaii
Nevada
Trust Territory of the Pacific Islands

Region X
Alaska
Idaho
Oregon
Washington

Stanley P. Stephenson

71 Stevenson Street
P.O. Box 3766
San Francisco, CA 94119–3766

Phone: (415) 975–4350
Fax: (415) 975–4371

MONTHLY LABOR
REVIEW

Volume 121, Number 11
November 1998

Articles

Reports

Departments

The November Review

The two leading articles for this month highlight the results of a new round of the Current Population Survey supplement on alternative work arrangements and contingent workers. Sharon R. Cohany examines the new data on alternative work arrangements—independent contracting, on-call work, working through a temporary help agency, and working for a contract firm. One interesting finding is that there had been virtually no change between February 1995 and February 1997 in the proportion of total employment accounted for by any of these arrangements. Similarly, the characteristics of workers in these arrangements were little changed, thus confirming the earlier survey's finding that workers differed significantly between these arrangements as well as within them.

In contrast, Steven Hipple's report on the incidence of contingent work and the characteristics of contingent workers finds that the incidence of contingent work—jobs that are structured to be short term or temporary—declined significantly between 1995 and 1997. On the other hand, the characteristics of contingent workers remained broadly the same in the two years: Contingent work continues to be more common among women, young persons, students, part-time workers, and workers in the construction and services industries.

Hugh Conway and Jens Svenson throw some light on the decline in occupational injury and illness rates after the 1990–91 recession. Understanding this decline is especially important because of the expectation that economic expansion would be expected to bring a pattern of increased injuries and illnesses.

The issue is rounded out by an International Report from Thesia I. Garner and Katherine Terrell on the on-going transition of the Czech and Slovak Republics from central-command to market-based economies.

Pricing pollution control

As part of an effort to explain more precisely how the Consumer Price Index (CPI) fits into a cost-of-living framework confined to market goods and services, the Bureau of Labor Statistics has reviewed its treatment of mandated anti-pollution measures. After careful review, the BLS has decided that it will no longer treat modifications to goods and services that are made solely to meet air quality standards as quality improvements in the CPI. Price increases associated with such modifications will be treated as increases in the index. This decision should not be construed as a judgment that the reduction of air pollution from automobiles is without value. Effective with the data for January 1999, however, the CPI will no longer make quality adjustments for changes in vehicle or motor fuel characteristics arising from air-pollution mandates.

Historically within the CPI, quality adjustments for anti-pollution measures have been made to the new car (or new vehicle) component since 1969 (automobile model year 1970), with their estimated dollar effect published annually. Since 1988, these data have also been utilized to make quality adjustments in the used car component. In addition, beginning in late 1994, quality adjustments were made for the introduction of reformulated gasoline, which was required in selected areas for compliance with the Clean Air Act Amendment of 1990.

The new policy will have its most significant effect on the motor fuel and new and used motor vehicle components of the index. In the vehicle indexes, the policy will apply to all vehicle models introduced on or after January 1, 1999. Since most of the 1999 model-year vehicles will be introduced before that date, the old practice will be used for the 1998-to-1999 model-year changeover in most cases.

For more information see, "The Treatment of Mandated Pollution Control Measures in the CPI" in *CPI Detailed Report*, September 1998, or at **http://www.bls.gov/cpitreat.htm.**

New data on jobs and pay in large counties

Of the 290 counties with total employment levels of 75,000 or more, Clark County, Nevada, had the largest percent increase in employment (9.1 percent) during 1996. Clark County is part of the Las Vegas metropolitan area. Overall, 132 of the large counties had rates of employment growth in 1996 above the national average of 2.1 percent. Placer County, California, had the second largest percent increase (8.6 percent).

In 1996, average annual pay was higher than the national average of $28,945 in 115 of the Nation's largest counties. New York County, New York, had the highest level of average annual pay at $55,312, a figure nearly twice as high as the national average and more than 20 percent higher than the second place county (Fairfield County, Connecticut). Boulder County, Colorado, led growth in average annual pay with an increase of 8.9 percent. New York County was second at 7.7 percent.

Among the large counties, 27 actually experienced employment declines. In the District of Columbia, employment declined 2.7 percent, the largest reported. Average annual pay declined in just three of the large counties during 1996.

For more information, see news release USDL 98-443, *Employment and Average Annual Pay for Large Counties, 1996.* □

Communications regarding the *Monthly Labor Review* may be sent to the Editor-in-Chief at the addresses on the inside front cover, or faxed to (202) 606–5899.

News releases discussed in this issue are available at **http://stats.bls.gov/newsrels.htm.**

Workers in alternative employment arrangements: a second look

Both the proportion and characteristics of workers in four alternative employment arrangements in February 1997 were little different from 2 years earlier; the groups continue to be highly diverse

Sharon R. Cohany

In February 1997, information on workers in four alternative employment arrangements was obtained from the Current Population Survey (CPS). This marked the second time such information was collected through the CPS; the first was 2 years earlier. In general, the proportion of total employment accounted for by each arrangement, as well as the characteristics of the workers, was little changed since the previous survey in February 1995.[1]

The second survey confirmed that the characteristics of workers differed significantly between the arrangements as well as within them. People employed in two of these arrangements, *temporary help agency workers* and *contract company workers*, are employees of one company and carry out assignments for another. *Workers who are on call* do not have an established schedule for reporting to work. And workers in the largest group, *independent contractors*, are not employees in the traditional sense, but rather work for themselves.

About 12.6 million people, or 1 in 10 workers, were classified into one of these four alternative employment arrangements in February 1997, the same proportion as in the February 1995 survey. The proportions accounted for by each arrangement are shown in exhibit 1 and table 1. By far the largest arrangement was independent contractors, with 8.5 million, followed by on-call workers (2 million), temporary help agency workers (1.3 million), and contract company employees (800,000). The number of workers in all of these arrangements combined increased by 3 percent (400,000 people) over the 2-year period, about the same rate of growth as employment overall.

The rest of this article covers the demographic and job characteristics, earnings, and benefits of workers in each of the alternative arrangements in turn. Comparisons often are made with workers in traditional arrangements, defined here as those who do not fall into any of the alternative-arrangement categories. A companion article in this issue by Steven Hipple gives detailed explanations of the four categories (see appendix, pages 34–35) and presents a profile of contingent workers from the same CPS supplement. It should be noted that the classification of workers in alternative arrangements was made independently of their contingent status—that is, whether their job was temporary. Workers in alternative arrangements could be contingent as well, but were not automatically so. In fact, most workers in alternative arrangements had permanent jobs and hence were not contingent. Likewise, most contingent workers had regularly scheduled jobs for which they were hired directly and thus were not in an alternative arrangement.

While some researchers have considered part-time work to be an alternative arrangement, the classification of workers in alternative arrangements in this study was made irrespective of their part-time status. Part-time work is defined in the CPS solely on the basis of a person's usual weekly hours (less than 35 at all jobs combined). Part-time workers were classified in an alternative arrangement only if they met the criteria for that arrangement. Most part-time workers did

Sharon R. Cohany is an economist in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

Exhibit 1. Workers in alternative arrangements as a percent of total employment, February 1995 and 1997

Type of alternative arrangement	Percent of total employed, February 1995	Percent of total employed, February 1997
Independent contractors		
Workers identified as independent contractors, independent consultants, or freelance workers, whether they were self-employed or wage and salary workers	6.7	6.7
On-call workers		
Workers called to work only as needed, although they can be scheduled to work for several days or weeks in a row	1.6	1.6
Temporary help agency workers		
Workers paid by a temporary help agency, whether or not their job actually was temporary	1.0	1.0
Workers provided by contract firms		
Workers employed by a company that provides them or their services to others under contract and who are usually assigned to only one customer and usually work at the customer's worksite	.5	.6

not, in fact, fall into an alternative arrangement, and, conversely, a majority of workers in alternative arrangements worked full time.

Independent contractors

In February 1997, 8.5 million people were identified as independent contractors, independent consultants, or freelance workers. Referred to as independent contracting for short, this category was by far the largest of the alternative arrangements, accounting for 6.7 percent of all workers and two-thirds of workers in alternative arrangements. Both proportions were essentially unchanged between 1995 and 1997, as were the major characteristics of the group. The rate of growth of these workers over the 2-year period, 1.8 percent, was somewhat slower than that of traditional workers (2.8 percent).

Independent contractors did not have to be identified as self-employed in the basic CPS questionnaire, but, in fact, most (88 percent) were. On the flip side, of all the self-employed, about one-half were identified as independent contractors, rather than other types of self-employed individuals, such as restaurant or shop owners.[2]

Characteristics. Independent contractors differed from traditional workers in significant ways. For instance, two-thirds of independent contractors were men, compared with slightly more than one-half of traditional workers. Because running one's own business often requires significant human and financial capital, it is not surprising that independent contractors were older and had more schooling than the average worker.[3] Nearly 4 out of 5 independent contractors were at least 35 years old, compared with 3 out of 5 traditional workers. Also, 34 percent of independent contractors between the ages of 25 and 64 had a college degree, almost 5 percentage points higher than the proportion of traditional workers. (See tables 2 and 3.)

Other traits of independent contractors were at least partly a reflection of their older age profile. Nearly 70 percent of independent contractors were married, compared with 59 percent of traditional workers. About 54 percent of women in the arrangement combined independent contracting with raising children, roughly the same percentage as that for traditional workers, although the mothers working as independent contractors were more likely than other mothers to have preschoolers. (See table 4.) Mothers maintaining families on their own (with no husband present) made up a very small part of the group.[4]

Part-time status. About 26 percent of independent contractors worked part time (less than 35 hours) in a typical week, compared with 18 percent of traditional workers. (See table 5.) This difference reflects a much greater tendency for independent contractors—especially women—in the central working ages (25 to 64) to work part time. Adult men who worked part time as independent contractors were more likely to prefer to work full time than were their traditional counterparts (42 and 31 percent, respectively).

The distribution of hours worked by independent contractors illustrates the diversity that can be found within a given

arrangement. While part-time work was relatively common, some independent contractors worked very long hours. This is reflected in the average workweek for full-time workers in that arrangement, 46.3 hours, about 4 hours longer than the workweek of traditional workers. Nearly 30 percent of independent contractors worked 49 hours or more in a typical week, compared with only 17 percent of traditional workers. Women who worked full time as independent contractors put in almost as many hours as men.

Occupation and industry. The occupational and industry distributions of independent contractors were also unlike those of traditional workers, with the former group more likely than the latter to hold managerial, sales, or precision production jobs and less likely to work in technical, administrative support, or operator, fabricator, and laborer positions. The most common occupations for male independent contractors were managers, construction craftworkers, proprietors, writers and artists, and real estate and insurance

Table 1. Incidence of alternative and traditional work arrangements, by selected characteristics, February 1997

[Percent distribution]

Characteristic	Total employed (thousands)	Workers with alternative arrangements				Workers with traditional arrangements
		Independent contracters	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Age and sex						
Total, 16 years and older	126,742	6.7	1.6	1.0	0.6	90.1
16 to 19 years	6,031	1.1	3.2	1.3	.3	94.1
20 to 24 years	11,958	1.7	2.0	1.8	.6	93.9
25 to 34 years	31,647	4.9	1.4	1.2	.9	91.6
35 to 44 years	35,282	7.5	1.4	.8	.7	89.6
45 to 54 years	26,146	8.6	1.1	.8	.4	89.1
55 to 64 years	12,032	9.7	1.6	.7	.5	87.4
65 years and older	3,646	16.3	3.5	1.0	.6	78.7
Men, 16 years and older	67,931	8.3	1.4	.9	.8	88.6
16 to 19 years	3,068	.8	3.5	1.2	.3	94.2
20 to 24 years	6,269	2.0	2.0	2.0	1.0	92.8
25 to 34 years	17,185	5.6	1.4	1.1	1.1	90.8
35 to 44 years	18,965	9.2	1.3	.5	.9	88.1
45 to 54 years	13,775	10.9	1.0	.6	.5	87.0
55 to 64 years	6,558	12.8	1.2	.4	.6	84.9
65 years and older	2,111	20.5	2.5	1.1	.3	75.7
Women, 16 years and older	58,811	4.8	1.7	1.2	.4	91.9
16 to 19 years	2,963	1.4	2.9	1.4	.2	94.1
20 to 24 years	5,689	1.4	1.9	1.6	.1	95.1
25 to 34 years	14,462	4.1	1.5	1.4	.6	92.5
35 to 44 years	16,317	5.4	1.6	1.2	.5	91.4
45 to 54 years	12,371	6.0	1.2	1.1	.3	91.4
55 to 64 years	5,474	6.1	2.1	1.1	.4	90.3
65 years and older	1,535	10.6	5.1	.9	1.0	82.8
Race and Hispanic origin						
White	107,899	7.1	1.7	.9	.6	89.7
Black	13,465	3.3	1.2	2.1	.8	92.7
Hispanic origin	12,026	5.1	2.2	1.3	.4	90.9
Full- and part-time status						
Full-time workers	102,813	6.1	.9	1.0	.7	91.4
Part-time workers	23,929	9.3	4.4	1.1	.6	84.6
Educational attainment (ages 25 to 64)						
Less than a high school diploma	10,135	6.5	1.9	1.1	.5	90.0
High school graduate, no college	34,261	6.7	1.2	.9	.8	90.4
Less than a bachelor's degree	29,420	6.9	1.6	1.2	.6	89.8
College graduate	31,292	8.3	1.2	.7	.7	89.1

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to total employed because a small number of workers are both "on call" and "provided by contract firms" and total employed includes day laborers, an alternative arrangement not shown separately. Details for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups.

Table 2. Employed persons with alternative and traditional work arrangements, by selected characteristics, February 1997

[Percent distribution]

Characteristic	Workers with alternative arrangements				Workers with traditional arrangements
	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Age and sex					
Total, 16 years and older (thousands)	8,456	1,996	1,300	809	114,199
Percent	100.0	100.0	100.0	100.0	100.0
16 to 19 years	.8	9.7	6.1	2.0	5.0
20 to 24 years	2.4	11.9	16.5	8.2	9.8
25 to 34 years	18.3	22.4	30.3	34.2	25.4
35 to 44 years	31.1	25.4	21.5	31.1	27.7
45 to 54 years	26.5	14.4	16.2	14.2	20.4
55 to 64 years	13.9	9.7	6.7	7.7	9.2
65 years and older	7.0	6.5	2.8	2.7	2.5
Men, 16 years and older	66.6	49.0	44.7	69.8	52.7
16 to 19 years	.3	5.3	2.8	1.1	2.5
20 to 24 years	1.5	6.4	9.6	7.7	5.1
25 to 34 years	11.4	11.8	15.2	24.0	13.7
35 to 44 years	20.7	12.1	6.9	22.0	14.6
45 to 54 years.	17.7	6.9	6.2	9.1	10.5
55 to 64 years	9.9	3.9	2.2	5.1	4.9
65 years and older	5.1	2.6	1.8	.9	1.4
Women, 16 years and older	33.4	51.0	55.3	30.2	47.3
16 to 19 years	.5	4.3	3.2	.7	2.4
20 to 24 years	.9	5.5	6.9	.5	4.7
25 to 34 years	7.0	10.6	15.2	10.3	11.7
35 to 44 years	10.4	13.4	14.5	9.1	13.1
45 to 54 years	8.8	7.5	10.0	5.1	9.9
55 to 64 years	4.0	5.8	4.5	2.6	4.3
65 years and older	1.9	3.9	1.1	1.9	1.1
Race and Hispanic origin					
White	90.7	89.3	75.1	81.6	84.8
Black	5.3	7.8	21.3	12.9	10.9
Hispanic origin	7.3	13.3	12.3	6.3	9.6

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Details for other characteristics may not sum to totals because of rounding.

salespersons. For women, the most frequently occurring occupations were managers, writers and artists, real estate and insurance salespersons, door-to-door sales, and child care providers. Compared with traditional workers, independent contractors were more frequently employed in the agriculture, construction, and services industries. (See tables 6 and 7.)

Preference and reason for arrangement. One of the most striking characteristics of independent contractors has to do with job satisfaction. Compared with workers in the other alternative arrangements, independent contractors were quite content with their employment arrangement, with 84 percent of the group preferring that arrangement to a traditional job. (See table 8.) Further, about three-fourths of independent contractors gave a personal reason for being in the arrangement. (See table 9.) Among men, most said they worked as an independent contractor because they liked being their own boss. Among women, the most common reasons given were the flexibility of scheduling and the ability to meet family obligations that the arrangement afforded. Even among those who said they would prefer a traditional job, a majority gave a personal, rather than an economic, reason for remaining in the arrangement.

Tenure and contingency. As in February 1995, only a small fraction of independent contractors reported that they were contingent workers—3.5 percent in February 1997. (See table 10.) This remained the lowest proportion by far of the alternative arrangements. In effect, the vast majority of independent contractors believed that they could continue in the arrangement for as long as they wished.

Independent contractors had been in the arrangement for a relatively long time—7.7 years (median), considerably longer

than traditional workers had been with their current employer (4.8 years). More than 40 percent of independent contractors had at least 10 years of tenure in the arrangement, and 18 percent had 20 years or more. These percentages were considerably higher than those for traditional workers, in part a reflection of the older ages of independent contractors. (See table 11.) Men in the independent contracting arrangement had a lengthier average tenure than women (9.2 years and 5.6 years, respectively), but both exceeded the tenure for their counterparts in traditional jobs.

The lengthy tenure of independent contractors is consistent with the high level of job satisfaction and the low level of contingency they report. If corporate employees are being forced out of "regular" jobs and into working for themselves on a large scale, as some have asserted, there is scant evidence in these data.

Paid employees. Most independent contractors worked alone; only 25 percent had employees. Of these, nearly three-fourths had fewer than six employees. Men were twice as likely as women to have at least one employee, but even among the men, the proportion was only 30 percent. The self-employed who were not independent contractors were much more likely to have paid employees than were the independent contractors. This is because many of the former were operating businesses, such as restaurants and shops, that typically require workers in addition to the owner.

About 23 percent of independent contractors who reported that they were self-employed had incorporated their businesses, compared with 34 percent of the other self-employed. Supporting the idea that the more substantial businesses are incorporated, independent contractors who had incorporated their businesses were more than three times as likely to retain a paid staff as those whose businesses were unincorporated (59 percent, compared with 18 percent).

Earnings and benefits. Earnings of independent contractors who usually worked full time were higher (by 15 percent, on average) than those of workers in traditional arrangements. This differential reflects several factors, including the older age profile (and therefore experience levels) of independent contractors and their predominance in the higher paying occupational categories. The picture was very different by gender, however, as earnings of men in the independent contracting arrangement exceeded those of their counterparts in traditional arrangements, while earnings of female independent contractors were less than those of their traditional counterparts. (See table 12.)

Among independent contractors, men's earnings ($621) were more than 50 percent higher than women's ($409). Among traditional workers, the difference was 28 percent. The relatively large gender gap reflects in part the men's longer tenure as independent contractors. For both men and women in the arrangement, earnings peaked in the

Table 3. Employed persons with alternative and traditional work arrangements, by educational attainment and sex, February 1997

[Percent distribution]

Educational attainment and sex	Workers with alternative arrangements				Workers with traditional arrangements
	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Total, 25 to 64 years (thousands)	7,590	1,437	970	705	94,424
Percent	100.0	100.0	100.0	100.0	100.0
Less than a high school diploma	8.7	13.4	11.1	7.1	9.7
High school graduate, no college	30.3	28.7	30.7	36.9	32.8
Less than a bachelor's degree	26.8	32.0	36.3	23.3	28.0
College graduate	34.1	25.9	21.9	32.7	29.5
Men, 25 to 64 years old (thousands)	5,047	692	397	486	49,873
Percent	100.0	100.0	100.0	100.0	100.0
Less than a high school diploma	9.9	18.6	13.9	6.4	11.3
High school graduate, no college	31.3	33.4	27.5	35.6	31.9
Less than a bachelor's degree	25.2	30.3	35.1	24.9	26.4
College graduate	33.5	17.6	23.5	33.1	30.4
Women, 25 to 64 years old (thousands)	2,543	745	573	219	44,551
Percent	100.0	100.0	100.0	100.0	100.0
Less than a high school diploma	6.2	8.6	9.2	9.1	7.9
High school graduate, no college	28.4	24.3	33.0	39.5	33.8
Less than a bachelor's degree	30.0	33.6	37.2	20.0	29.8
College graduate	35.3	33.6	20.6	31.4	28.5

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding.

Table 4. Employed women in alternative and traditional work arrangements, by marital status and presence and age of children, February 1997

[Percent distribution]

Characteristic	Total employed	Workers with alternative arrangements				Workers with traditional arrangements
		Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
All marital statuses						
Employed women, total (thousands)	58,811	2,824	1,017	719	244	54,019
Spouses/reference persons, total	39,771	2,180	687	431	159	36,324
Percent	100.0	100.0	100.0	100.0	100.0	100.0
With children under 18 years	56.3	53.6	61.0	48.0	66.0	56.4
With children under 6 years	22.7	25.6	26.6	21.8	32.7	22.4
With children 6 to 17 years	33.6	28.0	34.2	26.2	33.3	34.0
With no children under 18 years	43.7	46.4	39.2	52.0	34.0	43.6
Married, spouse present						
Employed, total (thousands)	32,543	1,896	556	319	140	29,639
Spouses/reference persons, total	32,082	1,881	552	309	136	29,211
Percent	100.0	100.0	100.0	100.0	100.0	100.0
With children under 18 years	53.7	51.5	62.3	40.1	61.0	53.7
With children under 6 years	22.6	26.0	29.0	16.8	31.6	22.3
With children 6 to 17 years	31.0	25.4	33.3	23.3	29.4	31.4
With no children under 18 years	46.3	48.5	37.7	59.9	38.2	46.3
All other marital statuses						
Employed, total (thousands)	26,268	928	461	400	104	24,380
Spouses/reference persons, total	7,689	299	135	122	23	7,113
Percent	100.0	100.0	100.0	100.0	100.0	100.0
With children under 18 years	67.3	67.2	54.8	68.0	[1]	67.5
With children under 6 years	23.0	23.1	17.0	34.4	[1]	22.9
With children 6 to 17 years	44.3	44.1	37.8	33.6	[1]	44.6
With no children under 18 years	32.7	32.8	45.2	32.0	[1]	32.5

[1]Percentage not shown where base is less than 75,000.

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding. Estimates by presence and age of children are only for women who are either the spouse of the reference person or the reference person herself—that is, the person in whose name the home is owned or rented.

45- to 54-year-old age category, the same as for traditional workers.

Nearly three-fourths of independent contractors had health insurance coverage. Men obtained it most often by purchasing it on their own (36 percent), followed by obtaining it through their spouse or other family member (19 percent). Women obtained health insurance most often through a spouse or other family member (38 percent), followed by purchasing it on their own (25 percent). Women were more likely than men to have health insurance coverage. (See table 13.)

Pension coverage was less common than health insurance coverage. About 37 percent of independent contractors reported some type of pension coverage, often a tax-deferred savings account, such as an individual retirement account or a Keogh plan. Men and women were about equally likely to have pension coverage, but blacks and Hispanics were far less likely than whites to have coverage. In contrast, among traditional workers, men were somewhat more likely than women, and whites and blacks were considerably more likely than Hispanics, to have coverage.

In sum, independent contracting was made up disproportionately of middle-aged workers who had relatively high levels of education and experience and, typically, were well compensated. These workers reported a widespread preference for working on their own, and very few were contingent—that is, they viewed their employment arrangement as permanent.

On-call workers

Some workers report to the job only when specifically asked to do so, although they can be scheduled to work several days or weeks in a row. In the February supplements, these individuals are referred to as on-call workers. Workers who often are on call are substitute teachers, construction workers, nurses, and truckdrivers. (People with regularly scheduled work that might include periods of being on call at unusual hours, such as medical residents or computer technicians,

were not included in this category.)

In February 1997, there were 2 million on-call workers, and they accounted for 1.6 percent of all employment. Both figures were about the same as 2 years earlier.

Characteristics. The demographic characteristics of on-call workers were similar to those of traditional workers, although on-call workers were somewhat more likely to be women and youths. (See table 2.) Slightly more than one-half (51 percent) of on-call workers were women, compared with about 47 percent of traditional workers. A somewhat larger proportion of the women who worked on call had children, 61 percent, versus 56 percent for traditional workers. (See table 4.) Nearly 22 percent of those on call were under the age of 25, compared with 15 percent of traditional workers. Youths in the on-call arrangement were somewhat more likely to be attending school than were their counterparts in traditional arrangements.

On-call workers had somewhat less education, on average, than other workers had. (See table 3.) Of those aged 25 to 64, nearly 1 in 7 had dropped out of high school, compared with 1 in 10 among traditional workers, and just about 26 percent of on-call workers had a college degree, compared with nearly 30 percent for workers in traditional arrangements. Among men in the on-call category, 19 percent were high school dropouts, and only 18 percent were college graduates. Women who worked on call, on the other hand, actually were more likely to have been to college than their counterparts in traditional jobs. This sharp difference between men and women in the arrangement is echoed in other ways, as is

Table 5. Employed persons with alternative and traditional work arrangements, by full- and part-time status, reason for part-time work, sex, and age, February 1997

[Percent distribution]

Characteristic	Total employed	Workers with alternative arrangements				Workers with traditional arrangements
		Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Total						
Employed, total (thousands)	126,742	8,456	1,996	1,300	809	114,199
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Full-time workers	81.1	73.6	47.4	80.3	82.8	82.3
Part-time workers	18.9	26.4	52.6	19.7	17.2	17.7
At work part time for economic reasons	3.5	6.3	15.2	9.1	3.7	3.0
At work part time for noneconomic reasons	15.0	20.4	36.5	13.3	12.6	14.2
Men, 20 years and older						
Employed, total (thousands)	64,863	5,608	872	544	555	57,289
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Full-time workers	91.7	84.8	71.6	86.6	92.1	92.7
Part-time workers	8.3	15.2	28.4	13.4	7.9	7.3
At work part time for economic reasons	3.1	7.4	19.5	6.1	1.6	2.4
At work part time for noneconomic reasons	5.9	10.4	14.3	8.5	6.3	5.3
Women, 20 years and older						
Employed, total (thousands)	55,848	2,783	931	677	238	51,231
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Full-time workers	74.8	52.0	32.5	77.5	64.3	76.8
Part-time workers	25.2	48.0	67.5	22.5	35.7	23.2
At work part time for economic reasons	3.7	3.8	12.4	10.6	7.1	3.4
At work part time for noneconomic reasons	20.1	39.6	50.2	15.4	27.3	18.5
Both sexes, 16 to 19 years						
Employed, total (thousands)	6,031	66	193	79	16	5,678
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Full-time workers	26.4	(1)	10.4	60.8	(1)	26.4
Part-time workers	73.6	(1)	89.6	39.2	(1)	73.6
At work part time for economic reasons	6.0	(1)	9.3	16.5	(1)	5.6
At work part time for noneconomic reasons	65.9	(1)	69.9	29.1	(1)	66.4

[1] Percentage not shown where base is less than 75,000.

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding, and total employed includes day laborers, an alternative arrangement not shown separately. Part time is defined as working 1 to 34 hours per week; full time is 35 hours or more. The classification of full- and part-time workers is based on the number of hours usually worked. The sum of the two at-work-part time categories does not equal the part-time worker estimate, because the latter includes those not at work during the reference week. Also, persons at work part time for an economic reason can work either full or part time on a usual basis; persons at work part time for a noneconomic reason are limited to those who usually work part time.

Table 6. Employed persons with alternative and traditional work arrangements, by occupation and sex, February 1997

[Percent distribution]

Occupation and sex	Workers with alternative arrangements				Workers with traditional arrangements
	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Total, 16 years and older (thousands)	8,456	1,996	1,300	809	114,199
Percent	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	20.7	2.7	6.9	8.0	14.1
Professional specialty	17.9	21.2	6.6	19.8	15.3
Technicians and related support	.8	4.1	5.8	7.2	3.4
Sales occupations	17.9	6.7	1.7	2.8	11.7
Administrative support, including clerical	3.9	8.6	34.1	5.2	15.3
Service occupations	9.1	20.4	9.1	27.7	13.5
Precision production, craft, and repair	17.9	14.7	5.1	19.8	10.3
Operators, fabricators, and laborers	6.8	18.8	29.1	9.3	14.3
Farming, forestry, and fishing	5.1	2.8	1.6	.2	2.2
Men, 16 years and older (thousands)	5,633	979	581	565	60,180
Percent	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	23.1	3.2	4.6	8.1	14.4
Professional specialty	15.6	9.7	9.5	17.9	13.4
Technicians and related support	.8	3.4	8.1	6.9	3.2
Sales occupations	16.1	2.8	1.5	2.7	10.8
Administrative support, including clerical	1.0	4.0	13.9	3.5	6.3
Service occupations	2.4	11.7	7.9	23.5	10.5
Precision production, craft, and repair	25.6	29.1	10.3	26.5	17.8
Operators, fabricators, and laborers	8.8	31.7	41.1	10.4	20.4
Farming, forestry, and fishing	6.7	4.5	2.9	.4	3.3
Women, 16 years and older (thousands)	2,824	1,017	719	244	54,019
Percent	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	15.9	2.3	8.8	7.8	13.8
Professional specialty	22.5	32.3	4.3	24.2	17.5
Technicians and related support	.8	4.7	3.9	7.8	3.6
Sales occupations	21.5	10.5	1.7	2.9	12.7
Administrative support, including clerical	9.6	13.0	50.3	9.0	25.3
Service occupations	22.4	28.8	9.9	37.7	16.8
Precision production, craft, and repair	2.5	.8	1.0	4.1	1.8
Operators, fabricators, and laborers	2.8	6.5	19.5	6.6	7.6
Farming, forestry, and fishing	1.9	1.2	.6	–	.9

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding. Dash indicates less than 0.05 percent.

discussed below.

Few on-call workers, either men or women, were represented by a union—just 1.9 percent, compared with 15.6 percent of workers in traditional jobs.

Part-time status and hours. On-call workers had the shortest workweek of any alternative arrangement. At 26.7 hours, their average week was almost 12 hours less than that of workers in traditional arrangements. More than half (53 percent) of on-call workers worked part time in a typical week, compared with only 18 percent of traditional workers. The incidence of part-time work for adult women who were on call (about 68 percent) was much higher than that of adult men in the arrangement (28 percent). (See table 5.)

Most on-call employees who worked part time had a preference for their shorter week, but a substantial minority did not: nearly 30 percent were part time for an economic reason and would have preferred a full-time job, compared with 18 percent of traditional workers. There were also clear distinctions by gender: only about 20 percent of the women who worked on call worked part time for an economic reason, but 58 percent of the men did so, compared with 16 percent of women and 32 percent of men in a traditional arrangement.

Occupation. On-call workers were found in a number of occupations and were more likely to be in professional, service, precision production, and operator, fabricator, and laborer positions than were traditional workers. (See table 6.) One in 8 on-call workers (1 in 5 of the women) was a

teacher (presumably a substitute), and 1 in 8 workers in the on-call category (1 in 4 of the men) was a carpenter, electrician, painter, or other construction craftworker. A sizable number of on-call workers were in a medical care field, including registered nurses, nursing aides, and health technicians.

There was very little overlap in the jobs done by men and women in this arrangement. The men who worked on call were likely to be construction craftworkers, motor vehicle operators (especially truckdrivers), and cleaners, helpers, and construction laborers, while the women were most often working as substitute teachers, clerical workers, food preparation workers, nurses, and retail salesclerks.

Preference and reason. One-half of on-call workers would have preferred a traditional job. (See table 8.) This figure represents a decline from that registered 2 years earlier, when about 57 percent had such a preference, suggesting that more on-call workers were in the arrangement voluntarily in the more recent survey.

About equal numbers of on-call workers gave economic and personal reasons for working in the arrangement. (See table 9.) A majority of the men gave an economic reason; a majority of the women gave a personal one. The most often-cited economic reason was that the current job was the only one the individual could find. The most common personal reason was the flexibility of the schedule. Of those who gave an economic reason for working on call, nearly one-fourth were actively looking for another type of work, compared with only 5 percent of those who gave

Table 7. Employed persons with alternative and traditional work arrangements, by industry and sex, February 1997

[Percent distribution]

Industry and sex	Workers with alternative arrangements				Workers with traditional arrangements
	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Total, 16 years and older (thousands)	8,456	1,996	1,300	809	114,199
Percent	100.0	100.0	100.0	100.0	100.0
Agriculture	5.7	3.4	–	.3	2.1
Mining	.2	.4	.7	2.2	.5
Construction	20.7	14.5	2.5	5.0	4.9
Manufacturing	4.7	5.3	31.8	20.3	17.5
Transportation and public utilities	5.1	8.7	6.1	13.7	7.1
Wholesale and retail trade	13.6	14.4	8.4	8.3	21.1
Finance, insurance, and real estate	8.4	1.6	8.5	7.9	6.4
Services	41.4	47.8	42.0	28.2	35.5
Public administration	.2	4.0	–	14.0	4.8
Men, 16 years and older (thousands)	5,633	979	581	565	60,180
Percent	100.0	100.0	100.0	100.0	100.0
Agriculture	7.1	5.5	–	.4	3.0
Mining	.3	.7	–	2.5	.8
Construction	29.4	29.1	3.5	7.3	8.4
Manufacturing	5.1	6.4	38.2	22.4	22.9
Transportation and public utilities	6.4	13.6	9.2	16.1	9.6
Wholesale and retail trade	11.9	11.7	11.0	7.5	21.1
Finance, insurance, and real estate	8.1	1.4	6.8	6.7	4.8
Services	31.6	26.2	31.3	22.6	24.4
Public administration	.1	5.3	–	14.7	5.1
Women, 16 years and older (thousands)	2,824	1,017	719	244	54,019
Percent	100.0	100.0	100.0	100.0	100.0
Agriculture	3.0	1.4	–	–	1.1
Mining	–	.1	1.3	1.7	.2
Construction	3.4	.5	1.6	–	1.1
Manufacturing.	4.1	4.2	26.6	15.7	11.5
Transportation and public utilities	2.4	3.9	3.5	8.5	4.3
Wholesale and retail trade	17.0	16.8	6.3	10.2	21.2
Finance, insurance, and real estate	9.1	1.7	9.8	10.6	8.2
Services	60.8	68.4	50.9	40.9	47.8
Public administration	.3	2.9	–	12.3	4.5

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding. For temporary help agency workers and workers provided by contract firms, the industry classification is that of the place to which they were assigned. Dash indicates less than 0.05 percent.

Table 8. **Employed persons with alternative work arrangements, by sex and preference for arrangement, February 1997**

[(Percent distribution]

Preference and sex	Independent contractors	On-call workers	Temporary help agency workers
Total, 16 years and older (thousands)	8,456	1,996	1,300
Percent	100.0	100.0	100.0
Prefer traditional arrangement	9.3	50.1	59.2
Prefer alternative arrangement	83.6	40.0	33.5
It depends	4.6	6.4	4.8
Not available	2.5	3.5	2.5
Men, 16 years and older (thousands)	5,633	979	581
Percent	100.0	100.0	100.0
Prefer traditional arrangement	9.4	52.5	62.4
Prefer alternative arrangement	83.9	35.5	31.4
It depends	4.4	8.1	4.5
Not available	2.2	3.9	1.7
Women, 16 years and older (thousands)	2,824	1,017	719
Percent	100.0	100.0	100.0
Prefer traditional arrangement	9.0	47.7	56.7
Prefer alternative arrangement	83.0	44.3	35.1
It depends	5.0	4.8	5.0
Not available	2.9	3.1	3.2

NOTE: Details may not sum to totals because of rounding. Information on preferred arrangement was not collected for workers employed by contract companies.

a personal reason.

Tenure and contingency. On-call workers had been in the arrangement an average of 2.1 years. (See table 11.) Full-time workers had been in the arrangement twice as long as part-time workers (2.9 years versus 1.4 years).

About 27 percent of on-call workers were contingent under the broadest measure (estimate 3 in table 10); that is, they believed that their current assignment could not continue for as long as they wished it to. Among workers in traditional arrangements, less than 4 percent were contingent. Two years ago, the proportion of on-call workers who were contingent was considerably higher—about 35 percent.

Compensation. On-call workers who worked full time (at least 35 hours per week) earned $432 a week, or 85 percent of the median for traditional workers. (See table 12.) There was a particularly large gender gap for workers in this arrangement: among full-time workers, women earned just 56 percent of what men earned. By contrast, the earnings of women who worked in traditional jobs were 78 percent of those of men in the same category.

Two-thirds of on-call workers had health insurance, and 20 percent received it through their current employer (compared with 83 percent and 61 percent, respectively, for traditional workers). (See table 14.) Women who worked on call were more likely to have coverage from any source, but men were more likely to have it from their employer. Many of the women were covered through another family member. Only 31 percent of on-call workers reported that they were eligible for health insurance coverage from their employer, less than half the proportion for traditional workers (73 percent).

About one-fourth of on-call workers were eligible for an employer-provided pension, and 19 percent were actually included in such a plan. These proportions were considerably lower than those for traditional workers (57 percent and 50 percent, respectively). Men in the on-call arrangement were somewhat more likely than the women to have a pension, as well as to be eligible for one through their employer.

In sum, employment in the on-call arrangement was essentially flat between 1995 and 1997, and large differences by gender remained. There was some evidence that workers were more likely to prefer the arrangement to a traditional job and were less likely to be contingent in February 1997 compared with 2 years earlier.

Temporary help agency workers

The February supplements have collected information on two types of employment arrangements in which workers are employed by one company while performing work for another. The larger of the two is temporary help agencies, which place (as well as screen, evaluate, and sometimes train) work-

ers with client organizations, often (but not necessarily) on a short-term basis.[5] Workers in this arrangement indicated that they were paid by a temporary help agency, whether or not their employment was temporary. (Thus, the category likely includes the permanent staffs of the agencies, a relatively small number.)

In February 1997, 1.3 million people were employees of temporary help agencies, accounting for 1 percent of all workers.[6] The number of workers in this arrangement increased by 10 percent from February 1995, considerably faster than the growth in traditional employment (2.8 percent). As with the other alternative arrangements, most characteristics of these workers changed little between the survey dates, although there is some evidence of an increase in the number who preferred the arrangement to a traditional job and a decline in the number who were contingent.

Characteristics. Confirming the results of the 1995 survey, workers employed by temporary help agencies in February 1997 were more likely than other workers to be young, female, black, or Hispanic. (See table 2.) Nearly one-fourth of temps were under the age of 25, compared with 15 percent of traditional workers. Relatively few of the young workers in this arrangement were going to school; just 16 percent were attending high school or college, compared with 43 percent of young people working in a traditional job. About 55 percent of temps were women, compared with 47 percent of traditional workers. Nearly one-half of the women who temped were raising children; this was a smaller proportion than that for traditional workers, who tend to be older. (See table 4.)

The proportion of temps who were black (21 percent) was nearly double that for other workers, and the share that was Hispanic also exceeded the proportion of Hispanics in the

Table 9. Employed persons with alternative work arrangements, by sex and reason for arrangement, February 1997

[Percent distribution]

Reason and sex	Independent contractors	On-call workers	Temporary help agency workers
Total (in thousands)	8,456	1,996	1,300
Percent	100.0	100.0	100.0
Economic reason	9.4	40.7	59.6
Only type of work I could find	2.7	27.1	34.6
Hope job leads to permanent employment	.7	5.3	17.7
Other economic reason	6.0	8.3	7.2
Personal reason	76.0	39.4	29.3
Flexibility of schedule	23.6	22.4	16.1
Family or personal obligations	3.9	6.0	2.4
In school or training	.6	6.4	4.5
Other personal reason	48.0	4.6	6.4
Reason not available	14.6	19.9	11.1
Men (in thousands)	5,633	979	581
Percent	100.0	100.0	100.0
Economic reason	10.2	50.1	65.2
Only type of work I could find	2.7	33.1	41.0
Hope job leads to permanent employment	.6	5.0	15.7
Other economic reason	6.9	12.0	8.4
Personal reason	74.7	27.6	22.2
Flexibility of schedule	18.0	15.9	10.7
Family or personal obligations	1.4	1.6	.9
In school or training	.4	5.1	4.3
Other personal reason	55.1	4.9	6.4
Reason not available	15.1	22.4	12.7
Women (in thousands)	2,824	1,017	719
Percent	100.0	100.0	100.0
Economic reason	7.8	31.7	55.0
Only type of work I could find	2.8	21.2	29.4
Hope job leads to permanent employment	.8	5.6	19.3
Other economic reason	4.1	4.8	6.3
Personal reason	78.5	50.7	35.1
Flexibility of schedule	34.6	28.5	20.4
Family or personal obligations	9.1	10.1	3.6
In school or training	1.0	7.6	4.7
Other personal reason	33.8	4.4	6.4
Reason not available	13.7	17.7	9.9

NOTE: Details may not sum to totals because of rounding. Information on reason for alternative arrangement was not collected for workers employed by contract companies.

Table 10. Employed persons with alternative and traditional work arrangements, by sex and contingent and noncontingent employment, February 1997

Arrangement and sex	Total (thousands)	Percent distribution			
		Contingent workers[1]			Noncontingent workers
		Estimate 1	Estimate 2	Estimate 3	
Total					
With alternative arrangements:					
Independent contractors	8,456	([2])	3.5	3.5	96.5
On-call workers	1,996	13.9	14.2	26.7	73.3
Temporary help agency workers	1,300	27.7	42.5	56.8	43.2
Workers provided by contract firms	809	5.3	12.0	16.7	83.3
With traditional arrangements	114,199	1.5	1.6	3.4	96.6
Men					
With alternative arrangements:					
Independent contractors	5,633	([2])	2.5	2.5	97.5
On-call workers	979	17.2	17.9	30.6	69.3
Temporary help agency workers	581	28.7	41.8	56.5	43.5
Workers provided by contract firms	565	6.7	12.6	17.0	83.0
With traditional arrangements	60,180	1.3	1.4	3.1	96.9
Women					
With alternative arrangements:					
Independent contractors	2,824	([2])	5.5	5.5	94.5
On-call workers	1,017	10.6	10.6	22.8	77.2
Temporary help agency workers	719	26.8	43.1	57.2	42.8
Workers provided by contract firms	244	2.0	10.6	15.9	84.1
With traditional arrangements	54,019	1.7	1.8	3.7	96.3

[1]For a definition of estimates 1, 2, and 3, see the appendix to Steven Hipple's article, pp. 34–35, this issue.

[2]Not applicable.

NOTE: Noncontingent workers are those who do not fall into any estimate of "contingent" workers. Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Independent contractors, as well as the self-employed, are excluded from estimate 1.

general workforce. (See table 2.) In contrast to the situation among whites and blacks, more Hispanic men than Hispanic women worked in this arrangement.

A somewhat higher proportion of temps than traditional workers aged 25 to 64 had dropped out of high school. A majority of temps had at least 1 year of college, but fewer had a college degree, compared with traditional workers (22 percent and 30 percent, respectively). (See table 3.)

Part-time status. Perhaps surprisingly, given the episodic nature of their work, the great majority (80 percent) of temps worked a full-time week of at least 35 hours. (See table 5.) Men in this arrangement averaged 39 hours per week on the job, and women averaged 34 hours, almost as much as traditional workers (41 and 35 hours, respectively). Of those temps who worked part time, a very large share—41 percent—would have preferred a full-time job, compared with only 18 percent of workers in traditional jobs. Male and female temps had a similar incidence of involuntary part-time work.

Occupation and industry. Temporary help agency employees worked predominantly in clerical and machine operator occupations, although there were substantial differences by gender. Of the women in the arrangement, one-half held clerical jobs, 20 percent were in machine operator, fabricator, and laborer positions, and 13 percent worked as managers and professionals. Among the men, 41 percent worked as operators, fabricators, or laborers, while clerical jobs and managerial and professional jobs accounted for 14 percent apiece. (See table 6.)

Manufacturing companies and, to a lesser extent, service industry firms, were heavy users of temporary help workers, relative to their share of total employment, while retail establishments and government agencies were relatively infrequent users. Manufacturing and services combined accounted for three-fourths of the temporaries' assignments. (See table 7; data on the industries temps were assigned to were not available for about 13 percent of persons in the arrangement—hence, the preceding conclusions characterize just those who responded to the survey question about industry of assignment.)

Preference and reason. Just 1 in 3 temporary help agency workers preferred their arrangement to a traditional job.

Women had a slightly higher preference for the arrangement than did men; still, nearly 60 percent of all temps said that they would prefer a traditional job. (The remainder did not express a clear preference.) (See table 8.)

Even so, the February 1997 survey found a higher proportion of workers who were in the arrangement voluntarily compared with the figure 2 years earlier. Those who preferred the arrangement rose by about 7 percentage points.

When asked about the main reason they were working in the arrangement, a majority of temps provided an economic reason, the most common being that that was the only type of work they could find. The second most common economic reason was the hope that the assignment with the temporary agency would lead to permanent employment. The most often-cited personal reason was the flexibility of the schedule. Percentagewise, more men than women gave an economic reason for working in this arrangement; even so, more than one-half of all female temps gave an economic reason. (See table 9.) One-third of temps who said they would prefer a traditional job were actively looking for one.

Table 11. Employed persons with alternative and traditional work arrangements, by tenure in the arrangement and sex, February 1997

[Percent distribution]

Tenure and sex	Workers with alternative arrangements				Workers with traditional arrangements
	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	
Total, 16 years and older (thousands)	8,456	1,996	1,300	809	114,199
Percent	100.0	100.0	100.0	100.0	100.0
Total reporting specific tenure	97.6	96.2	95.4	97.4	96.1
1 year or less	14.5	44.8	71.0	40.5	24.7
Less than 6 months	5.4	25.3	42.6	19.2	10.2
6 to 12 months	9.1	19.5	28.3	21.4	14.5
More than 1 year	83.2	51.4	24.5	56.9	71.4
Less than 4 years	15.8	21.5	15.9	27.2	19.0
4 to 9 years	25.4	17.3	7.0	18.7	24.3
10 to 19 years	24.2	9.2	1.6	9.4	17.9
20 years or more	17.8	3.4	–	1.6	10.2
Specific tenure not available	2.4	3.8	4.6	2.6	3.9
Median tenure (in years)	7.7	2.1	.5	2.1	4.8
Men, 16 years and older (thousands)	5,633	979	581	565	60,180
Percent	100.0	100.0	100.0	100.0	100.0
Total reporting specific tenure	97.6	95.7	94.5	97.0	95.8
1 year or less	11.9	41.3	67.7	40.2	23.3
Less than 6 months	3.9	20.6	42.8	19.5	9.8
6 to 12 months	8.0	20.7	24.9	20.7	13.5
More than 1 year	85.7	54.4	27.0	56.8	72.5
Less than 4 years	14.3	20.0	19.1	25.8	18.2
4 to 9 years	24.4	16.3	7.2	19.6	23.6
10 to 19 years	25.0	12.2	.7	9.0	18.2
20 years or more	21.9	5.9	–	2.3	12.5
Specific tenure not available	2.4	4.2	5.3	3.0	4.2
Median tenure (in years)	9.2	2.4	.5	2.0	5.2
Women, 16 years and older (thousands)	2,824	1,017	719	244	54,019
Percent	100.0	100.0	100.0	100.0	100.0
Total reporting specific tenure	97.7	96.7	96.0	98.4	96.5
1 year or less	19.7	48.3	73.6	41.2	26.3
Less than 6 months	8.3	29.9	42.3	18.5	10.7
6 to 12 months	11.3	18.4	31.3	22.6	15.6
More than 1 year	78.1	48.4	22.4	57.2	70.2
Less than 4 years	18.8	22.9	13.2	30.5	19.9
4 to 9 years	27.2	18.2	7.0	16.5	25.1
10 to 19 years	22.6	6.3	2.1	10.3	17.6
20 years or more	9.6	1.0	–	–	7.6
Specific tenure not available	2.3	3.4	4.0	1.6	3.5
Median tenure (in years)	5.6	1.8	.5	2.2	4.4

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangements" categories. Details may not sum to totals due to rounding. For workers with traditional arrangements, estimates reflect tenure with the current employer. Median tenure was calculated only for those who reported a specific tenure. Dash indicates less than 0.05 percent.

Table 12. Median weekly earnings of full-time workers with alternative and traditional work arrangements, by selected characteristics, February 1997

Characteristic	Independent contractors	On-call workers	Temporary help agency workers	Workers provided by contract firms	Workers with traditional arrangements
Age and sex					
Total, 16 years and older	$587	$432	$329	$619	$510
16 to 19 years	(1)	243	(1)	(1)	237
20 to 24 years	478	328	286	(1)	328
25 years and older	590	457	364	681	550
25 to 34 years	481	440	373	679	486
35 to 44 years	588	501	343	686	579
45 to 54 years	670	408	351	734	613
55 to 64 years	590	456	(1)	(1)	575
65 years and older	500	231	(1)	(1)	458
Men, 16 years and older	621	508	385	685	578
16 to 19 years	(1)	(1)	(1)	(1)	252
20 to 24 years	523	328	312	(1)	343
25 years and older	624	524	406	727	613
25 to 34 years	513	576	403	783	523
35 to 44 years	618	521	405	702	630
45 to 54 years	739	636	(1)	(1)	717
55 to 64 years	622	(1)	(1)	(1)	679
65 years and older	731	(1)	(1)	(1)	669
Women, 16 years and older	409	286	305	439	450
16 to 19 years	(1)	(1)	(1)	(1)	217
20 to 24 years	(1)	(1)	252	(1)	309
25 years and older	414	287	323	439	479
25 to 34 years	378	253	323	396	425
35 to 44 years	434	450	308	(1)	506
45 to 54 years	508	234	338	(1)	515
55 to 64 years	397	(1)	(1)	(1)	440
65 years and older	298	(1)	(1)	(1)	361
Race and Hispanic origin					
White	603	455	324	675	524
Black	399	378	332	394	428
Hispanic origin	438	321	281	(1)	357
Educational attainment					
Less than a high school diploma	398	289	265	(1)	302
High school graduate, no college	512	423	310	491	427
Some college, no degree	581	498	306	522	494
Associate's degree	523	558	433	(1)	519
College graduate	752	521	497	910	769

[1]Data not shown where base is less than 75,000.

NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangement" categories.

Tenure and contingency. The February 1997 survey confirmed that people employed by temporary help agencies can be assigned to one client for a relatively long time. While about 35 percent of temps had been in their current assignment for less than 3 months, nearly one-quarter had been in their assignment for more than a year. The median current tenure in the assignment was about 5 months.

Tenure in the employment arrangement was somewhat higher than tenure in the assignment. About 37 percent had been in the arrangement for at least 1 year, and 23 percent had been in the arrangement for 2 or more years; the median tenure was 6 months. (See table 11.)

About 57 percent of temporary help agency workers were contingent under table 10's estimate 3, which, for temps, is based on their attachment to the current assignment. While this contingency rate continued to be the highest of any of the alternative arrangements studied, it was down by 10 percentage points from the rate obtained in the 1995 survey.

Although their assignments typically were short lived, many temps believed that they could remain in the arrangement indefinitely. Under estimate 1, in which temporary help agency workers were counted as contingent if they believed they could not remain in the arrangement for as long as they wished, only 28 percent were contingent.

Special characteristics. Nearly all temps reported being

assigned to just one place in the reference week. Eighty percent were registered with just one temporary help agency. Less than 2 percent were represented by a union or an employee association.

Compensation. Temporary help agency workers had the lowest earnings of workers in the four alternative arrangements studied. At $329 per week for full-time workers, their median earnings were about two-thirds of the earnings of traditional workers ($510). (See table 12.) The low earnings of temporary help agency workers are, in part, a reflection of the fact that the clerical and machine operator jobs they typically hold pay lower-than-average wages.

Women in the arrangement earned about 79 percent of what men earned, a gender gap comparable to that of other workers. Younger temps and those with less schooling generally had earnings closer to those of their counterparts in traditional arrangements, while older and college-educated workers who temped experienced a more substantial earnings deficit. The earnings of black and white temps were about the same, unlike the situation of traditional workers.

Temporary agencies did not commonly provide health insurance and pension benefits to their workers. (See table 14.) In fact, the rates of coverage for these workers were the lowest of the arrangements studied. For instance, 26 percent of temporary help agency workers were eligible for their employer's health insurance coverage, compared with nearly 75 percent of traditional workers, and only 7 percent of temps obtained health insurance through their employer, compared with 61 percent of traditional workers. Just 46 percent of temps had health insurance from any source, compared with 83 percent of traditional workers. Women were more likely than men to have coverage at all, often through a family member.

Pension coverage was even lower than health insurance coverage: about 1 temp in 10 was eligible for his or her employer's pension plan, and about 4 percent of all temps actually participated in such a plan. For traditional workers, the proportions were 57 and 50 percent, respectively.

In sum, most temporary help agency workers were employed as clerical workers and machine operators. Most temps worked full time, and one-quarter had been on their current assignment for more than a year. Pay and benefits were at relatively low levels. Still, one-third of temps preferred their arrangement to a traditional job, and there was evidence that this proportion rose between 1995 and 1997 and that the proportion who were contingent fell.

Contract company workers

The smallest of the four alternative arrangements was contract company employment, with about 800,000 workers. These individuals worked for a company that provides employees or

Table 13. Percent of independent contractors with health insurance and pension coverage, by selected characteristics, February 1997

Characteristic	Number (thousands)	With health insurance coverage					With pension coverage	
		Total (percent)	Through current employer at main job	Through spouse or other family member	Purchased on own	Other sources	Total (percent)	IRA or Keogh
Age and sex								
Total, 16 years and older	8,456	72.7	2.5	25.5	32.3	11.5	37.4	35.1
16 to 24 years	272	55.9	5.9	29.8	10.7	7.7	6.6	4.0
25 years and older	8,185	73.2	2.4	25.3	33.0	11.6	38.4	36.2
25 to 34 years	1,549	64.7	1.8	26.1	28.5	7.1	18.9	17.2
35 to 44 years	2,631	70.9	3.1	30.7	31.2	5.4	37.8	34.6
45 to 54 years	2,237	74.0	2.2	25.4	36.6	9.3	43.6	41.8
55 years and older	1,768	83.1	2.1	16.6	35.0	27.9	50.0	47.9
Men	5,633	70.6	2.6	19.0	36.1	12.4	38.1	35.9
Women	2,824	76.8	2.5	38.3	24.7	9.8	36.0	33.6
Race and Hispanic origin								
White	7,667	74.1	2.5	25.9	33.0	11.8	39.1	36.8
Black	448	52.2	3.8	20.5	19.6	8.3	15.2	12.5
Hispanic origin	614	45.4	2.8	14.3	19.1	8.1	13.2	11.6
Full- and part-time status								
Full-time workers	5,980	72.0	2.9	21.7	37.9	8.8	38.9	36.4
Part-time workers	2,378	74.2	1.6	35.2	17.8	18.6	33.4	31.5

NOTE: Details for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Details for full- and part-time workers will not sum to totals because the usual status on the principal job is not identifiable for a small number of multiple jobholders. Details for sources of health insurance coverage will not sum to totals because information on a specific source was not always available.

Table 14. Percent of persons in alternative and traditional work arrangements with health insurance and pension coverage, by selected characteristics, February 1997

Characteristic	Number (thousands)	With health insurance coverage			Eligible for employer-provided health insurance	With pension coverage, total (percent)	Eligible for employer-provided pension
		Total (percent)	Through current employer at main job	Through other job or union			
On-call workers							
Age and sex:							
Total, 16 years and older	1,996	67.3	19.6	4.4	31.0	19.2	24.5
16 to 24 years	430	70.7	11.4	1.4	19.1	4.9	7.2
25 years and older	1,567	66.4	21.8	5.2	34.2	23.2	29.3
25 to 34 years	448	58.3	23.7	4.5	38.6	19.9	28.6
35 to 44 years	508	64.8	23.8	4.7	38.2	26.8	32.1
45 to 54 years	288	68.4	21.9	5.2	32.3	22.6	26.7
55 years and older	322	78.9	16.1	7.5	23.6	22.7	28.3
Men	979	60.3	29.3	8.0	38.2	23.1	28.3
Women	1,017	74.1	10.2	1.0	24.0	15.5	20.8
Race and Hispanic origin:							
White	1,783	68.1	19.4	4.8	30.7	19.5	24.7
Black	156	61.5	20.5	1.3	28.8	19.9	21.2
Hispanic origin	265	37.7	17.7	3.0	26.0	8.7	14.3
Full- and part-time status:							
Full-time workers	896	62.5	34.6	7.9	48.2	30.2	37.6
Part-time workers	1,079	70.9	7.5	1.4	17.2	10.5	13.8
Temporary help agency workers							
Age and sex:							
Total, 16 years and older	1,300	46.4	7.0	1.9	26.0	3.7	10.5
16 to 24 years	293	39.6	4.4	1.7	19.8	2.0	6.8
25 years and older	1,007	48.5	7.7	1.9	27.9	4.2	11.5
25 to 34 years	394	35.5	6.6	.5	27.2	3.3	9.6
35 to 44 years	279	47.0	9.0	1.1	32.3	4.3	10.4
45 to 54 years	211	54.0	10.9	3.3	28.9	5.2	18.5
55 years and older	124	83.1	3.2	5.6	18.5	3.2	8.9
Men	581	37.9	8.1	2.2	27.9	3.4	11.2
Women	719	53.3	6.1	1.7	24.5	3.8	9.9
Race and Hispanic origin:							
White	976	49.8	7.9	1.4	27.7	4.9	12.0
Black	277	32.1	4.0	1.8	13.0	(1)	2.9
Hispanic origin	160	28.1	3.8	(1)	26.9	1.9	9.4
Full- and part-time status:							
Full-time workers	1,023	42.2	8.6	1.3	29.9	4.7	11.8
Part-time workers	275	61.5	.7	4.0	10.9	(1)	4.7
Workers provided by contract firms							
Age and sex:							
Total, 16 years and older	809	81.7	50.2	3.3	68.7	35.6	45.9
16 to 24 years	82	74.4	43.9	(1)	57.3	28.0	43.9
25 years and older	728	82.4	50.8	3.7	70.1	36.4	46.0
25 to 34 years	277	85.9	59.2	3.2	73.3	34.3	43.7
35 to 44 years	252	75.0	46.8	3.2	69.0	35.3	46.4
45 to 54 years	115	87.0	55.7	6.1	71.3	43.5	51.3
55 years and older	84	86.9	29.8	3.6	61.9	38.1	45.2
Men	565	81.2	57.0	4.2	72.0	42.7	52.0
Women	244	83.2	34.8	1.2	61.1	19.3	32.0
Race and Hispanic origin:							
White	660	82.7	49.1	4.1	67.1	36.5	47.6
Black	104	69.2	42.3	(1)	67.3	31.7	41.3
Hispanic origin	51	(2)	(2)	(2)	(2)	(2)	(2)
Full- and part-time status:							
Full-time workers	659	81.8	58.6	3.6	75.6	39.8	50.7
Part-time workers	148	81.1	12.8	2.0	37.8	16.2	23.6

Table 14. Continued—Percent of persons in alternative and traditional work arrangements with health insurance and pension coverage, by selected characteristics, February 1997

Characteristic	Number (thousands)	With health insurance coverage			Eligible for employer-provided health insurance	With pension coverage, total (percent)	Eligible for employer-provided pension
		Total (percent)	Through current employer at main job	Through other job or union			
Workers with traditional arrangements							
Age and sex:							
Total, 16 years and older	107,689	83.0	60.9	.8	73.4	49.7	56.9
16 to 24 years	16,716	67.7	29.9	.2	44.8	14.4	27.1
25 years and older	90,973	85.8	66.6	.9	78.7	56.1	62.4
25 to 34 years	27,965	80.7	63.8	.6	77.3	47.6	56.9
35 to 44 years	29,789	86.5	68.0	.7	80.0	58.9	64.6
45 to 54 years	21,596	89.0	70.9	.8	82.0	64.2	68.3
55 years and older	11,623	90.3	62.0	2.0	72.9	54.5	58.7
Men	56,167	82.2	66.1	1.2	75.9	51.8	58.4
Women	51,522	83.8	55.2	.3	70.7	47.3	55.2
Race and Hispanic origin:							
White	90,818	84.1	60.8	.8	73.6	50.0	57.1
Black	12,263	77.0	62.3	.6	73.4	49.8	57.6
Hispanic origin	10,654	61.8	48.4	.6	60.4	31.2	38.3
Full- and part-time status:							
Full-time workers	87,685	84.8	70.7	.8	82.7	57.1	64.5
Part-time workers	19,757	75.0	17.6	.8	32.5	16.6	23.0

[1]Less than 0.05 percent.
[2]Data not shown where base is less than 75,000.
NOTE: Workers with traditional arrangements are those who do not fall into any of the "alternative arrangement" categories. Data exclude the incorporated self-employed. Details for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Details for full- and part-time workers will not sum to totals because the usual status on the principal job is not identifiable for a small number of multiple jobholders.

their services to other organizations under contract, and they usually worked for one customer at a time at the customer's work site. This arrangement grew by 24 percent from 1995 to 1997, much faster than the growth of traditional employment (2.8 percent). Even so, contract company workers accounted for just 0.6 percent of all workers in February 1997.[7]

Contract company workers differed from other workers in several respects: they were disproportionately male (70 percent), relatively few were young or old, and about two-thirds were 25 to 44 years old. Also, two-thirds of the women had at least one child, reflecting the preponderance of workers of childbearing age. (See tables 2 and 4.)

Part-time status. At 16 percent, the proportion of contract company employees who worked part time was essentially the same as that of traditional workers. (See table 5.) There was a large difference by gender in part-time work, as 36 percent of women who were contract company workers, but only 8 percent of men, worked part time. As with traditional workers, roughly 80 percent of the part-timers in the arrangement voluntarily worked a shorter week.

Occupation and industry. The occupational distribution of contract company workers was quite unlike that of traditional workers: contract company workers were more likely to hold professional, technical, service, and precision production jobs, while comparatively few held managerial, sales, and clerical positions. Fully one-half of the men were in service and precision production positions, compared with just 28 percent of men in traditional arrangements. More than 60 percent of the women were in professional and service occupations, compared with just 34 percent of women in traditional jobs. Government agencies, manufacturing firms, and transportation and utility companies were large users of contract company workers relative to their share of total employment. (See tables 6 and 7.)

The contract company employment arrangement had the highest rate of union representation of the four alternative arrangements, but, at 5 percent, was still just a fraction of the rate among traditional jobholders (about 16 percent).

Tenure and contingency. Many contract company workers had been in the arrangement a relatively short time. About 40 percent had been contract company workers for 1 year or less, and only 30 percent had 4 or more years of tenure. (See table 11.)

About 17 percent of contract company workers were contingent under the broadest measure and believed that they could not remain on their current assignment indefinitely. By

contrast, the contingency rate for traditional workers was 3.4 percent. (See table 10.) It is perhaps surprising that more than 80 percent of contract company employees believed that they could remain on their current assignment indefinitely, given the relatively short tenure of many of the workers in their current assignment.

(Information on reasons for being in the arrangement and on the preferred arrangement was not collected for contract company workers, due to the difficulty of devising questions whose wording would capture the desired information for this group.)

Compensation. Median weekly earnings for contract company workers employed full time ($619) were higher than earnings for workers in any other arrangement, including a traditional one ($510). (See table 12.) There was a large gender gap in earnings among workers in the arrangement, with women earning 64 percent of men's earnings ($439 versus $685).

With respect to health insurance, the overall rate of coverage for employees of contract companies (82 percent) was about the same as that for workers in traditional arrangements. Almost 70 percent of contract company workers were eligible for employer-provided health insurance, and one-half received it from their employer, the highest such rates of any alternative arrangement. (See table 14.)

Nearly half of the workers in the arrangement were eligible for their employer's pension plan, and 36 percent actually participated in the plan. While these proportions were lower than those for traditional workers, they were by far the highest among the alternative arrangements.

In sum, contract company workers are a small, but well-compensated, group in which men under the age of 45 are disproportionately represented.

A NUMBER OF OBSERVERS HAVE BEEN TEMPTED to generalize about workers in nontraditional types of employment arrangements and to conclude that their existence is evidence of shortcomings in the U.S. labor market.[8] The results of the two surveys on alternative arrangements that have been conducted as part of the CPS, however, suggest the dangers in trying to stereotype the jobs that workers in such arrangements hold.

Of the four alternative arrangements examined in this article, independent contracting dwarfs all the others in size and is of particular note for several other reasons as well: in general, workers in this arrangement preferred it to a traditional arrangement, viewed their jobs as permanent, tended to work full time—many putting in quite long workweeks—and, on average, were quite highly paid.

In contrast, other arrangements appear to offer less security, lower pay, or fewer hours than many workers might prefer. But, perhaps most important, each of the arrangements includes many workers who responded that they preferred the arrangement, felt secure in their jobs, and received competitive pay. Thus, it seems fair to say that there is as much diversity in the characteristics of jobs and workers *within* each type of employment arrangement, whether traditional or otherwise, as there is *between* different types of arrangements. □

Footnotes

[1] Data from the February 1997 supplement to the Current Population Survey (CPS) were initially published as news release USDL 97–422, "Contingent and alternative employment arrangements, February 1997," issued Dec. 2, 1997. The CPS, conducted for the Bureau of Labor Statistics by the Bureau of the Census, is a monthly survey of some 50,000 households that is the primary source of information on the labor force. All employed persons, except unpaid family workers, were eligible for inclusion in the February supplement. The current article updates two that appeared in the October 1996 *Monthly Labor Review*: "Workers in alternative employment arrangements," by Sharon R. Cohany, pp. 31–45; and "Earnings and benefits of workers in alternative work arrangements," by Steven Hipple and Jay Stewart, pp. 46–54.

[2] It may be tempting to classify independent contractors who were identified as wage and salary workers in the main questionnaire as workers who otherwise would have been employees of their client company or as individuals who were "converted" to independent contractors to avoid legal requirements. However, the basic CPS questionnaire does not permit this distinction. Two individuals who are in exactly the same work arrangement may answer the question from the main questionnaire, "Were you employed by government, by a private company, a nonprofit organization, or were you self-employed?" differently, depending on their interpretation of the words "employed" and "self-employed." It was not possible with the CPS supplement to collect information on the legal aspects of employment arrangements.

[3] See two articles by John E. Bregger in the *Monthly Labor Review*: "Self-employment in the United States, 1948–62," January 1963, pp. 37–43; and "Measuring self-employment in the United States," January/February 1996, pp. 3–9. See also Theresa J. Devine, "Characteristics of self-employed women in the United States," *Monthly Labor Review*, March 1994, pp. 20–34.

[4] For a study of firms' family-oriented policies toward independent contractors (as well as toward temporary agency workers and direct-hire temporaries), see Kathleen Christensen, "Countervailing Human Resource Trends in Family-Sensitive Firms," in Kathleen Barker and Kathleen Christensen, eds., *Contingent Work: American Employment Relations in Transition* (Ithaca, NY, Cornell University Press, 1998).

[5] The temporary help industry has been the subject of numerous studies, including Anne E. Polivka, "Are Temporary Help Agency Workers Substitutes for Direct Hire Temps? Searching for an Alternative Explanation of Growth in the Temporary Help Industry," paper presented at the Society of Labor Economists Conference, Chicago, May 3–5, 1996; Lonnie Golden and Eileen Applebaum, "What was Driving the 1982–88 Boom in Temporary Employment?" *American Journal of Economics and Sociology*, October 1992, pp. 473–93; Karylee Laird and Nicolas Williams, "Empoyment Growth in the Temporary Help Supply Industry,"*Journal of Economic Perspectives*, spring 1997, pp. 117–36. For a history of the temporary help industry, see Martha I. Finney and Deborah A. Dasch, *A Heritage of Service: The History of Temporary Help in America* (Alexandria, VA, National Association of Temporary Services, 1991). For views of the industry primarily from the temporary workers' perspective, see Kevin D. Henson, *Just a Temp* (Philadelphia, Temple University Press, 1996); Jackie Krasas Rogers, "Just a Temp: Experience and Structure of Alienation in Temporary

Clerical Employment," *Work and Occupations*, May 1995, pp. 137–66; and Maureen Martella, *Just a Temp: Expectations and Experiences of Women Clerical Temporary Workers*, report prepared for the U.S. Department of Labor, Women's Bureau, November 1991.

[6] Since 1982, data on the temporary help industry have been available from the Bureau of Labor Statistics through the Current Employment Statistics (CES) survey, which collects information on employment, hours, and earnings from employers in nonagricultural industries. Estimates of employment in the temporary help industry, as measured by the CES, are considerably higher than CPS-derived estimates, reflecting substantial differences between the two surveys. For instance, the CES category "Help supply services" (SIC 7363) includes some contract and employee-leasing companies, in addition to temporary help agencies. In the CES, multiple jobholders are counted on each payroll; in the CPS, they are counted on their main job only. Also, in the CES, individuals on multiple temporary help agency payrolls are counted on each payroll on which they appeared during the reference week. In the CPS, they are counted only once. For additional information on these differences, see Cohany, "Alternative employment arrangements," pp. 39–40; and Anne E. Polivka, "Contingent and alternative work arrangements, defined," *Monthly Labor Review*, October 1996, p. 9, footnote 12.

[7] Recent research on contract companies includes Katharine G. Abraham and Susan K. Taylor, "Firms' Use of Outside Contractors: Theory and Evidence," *Journal of Labor Economics*, July 1996, pp. 394–424; and two pieces by Susan N. Houseman: *Temporary, Part-time, and Contract Employment: A Report on the W. E. Upjohn Institute's Employer Survey on Flexible Staffing Arrangements* (U.S. Department of Labor, Office of the Assistant Secretary for Policy, 1996); and "Labor Standards in Alternative Work Arrangements," *Proceedings of the 50th Annual Meeting of the Industrial Relations Research Association*, vol. 2 (Chicago, Industrial Relations Research Association, 1998), pp. 1135–42.

[8] See, for instance, Arne L. Kalleberg, Edith Rassell, Naomi Cassirer, Barbara F. Reskin, Ken Hudson, David Webster, Eileen Appelbaum, and Roberta M. Spalter-Roth, *Nonstandard Work, Substandard Jobs: Flexible Work Arrangements in the U.S.* (Washington, DC, Economic Policy Institute and Women's Research and Education Institute, 1997); and the series of articles in the Mar. 29, 1993, issue of *Time* magazine under the general title, "Society: A Nation of Part-Timers": Lance Morrow, "The Temping of America," pp. 40–41; Janice Castro, "Disposable Workers," pp. 43–44; and Robert Reich, "Nobody Is Safe," pp. 46–47.

Contingent work: results from the second survey

Although the incidence of contingent work declined between 1995 and 1997, it continues to be more common among women, youth, students, part-time workers, and in the construction and services industries; still, contingent workers are found in both high- and low-skilled occupations

Steven Hipple

Both the number and proportion of workers with contingent jobs—that is, jobs that are structured to be short term or temporary—fell between 1995 and 1997. In the early 1990s, the Bureau of Labor Statistics developed a survey to estimate the number of contingent workers, conducting its first survey on the topic in February 1995. When the results of that first survey were published, three alternative measures of contingent work were introduced.[1] Under the broadest of the three definitions, there were 5.6 million contingent workers in 1997, and the contingency rate, which represents the proportion of the employed population holding contingent jobs, was 4.4 percent.[2] By comparison, in 1995, 6.0 million workers held contingent jobs, or 4.9 percent of total employment. The decline in the number and proportion of workers with temporary jobs coincided with a period of low unemployment and strong job growth.[3]

This article examines data on contingent work arrangements from the second special supplement to the Current Population Survey (CPS) on the topic, conducted in February 1997.[4] In the supplements, contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract for ongoing employment. The analysis presented here focuses on the most broadly defined group of contingent workers (estimate 3), using noncontingent workers—those who are not classified as contingent even under the broadest definition—as a point of comparison.[5]

Past analyses have shown that the characteristics of contingent and noncontingent workers differ markedly. Contingent work arrangements are more common among certain demographic groups, for example, and in certain occupations and industries. The two groups differ by other characteristics as well, including employee tenure and work schedules. Disentangling the impact of these differences on such things as earnings or health insurance coverage can be very complex. The purpose of this article is to provide an overview of the characteristics of contingent workers in 1997.

Steven Hipple is an economist in the Division of Labor Force Statistics, Bureau of Labor Statistics.

Demographics

The number of contingent workers and the contingency rate declined over the period between the two surveys for most of the major demographic groups. (See tables 1 and 2.) Among the age groups, young workers continued to be the most likely to work in contingent jobs—in 1997, the contingency rate for teens (16 to 19 years) was 11.5 percent, and the rate for 20- to 24-year-olds was 8.4 percent. In addition, both surveys showed that young contingent workers were more likely to be students than were their noncontingent counterparts. As the tabulation below shows, among 16- to 24-year-olds, 64 percent of contingent workers were enrolled in school in 1997, compared with 40 percent of noncontingent workers.

	Contingent workers (estimate 3)	*Noncontingent workers*
Total, 16 to 24 years (In thousands)	1,690	16,299
Percent	100.0	100.0
Enrolled	63.7	40.0
High school	19.5	16.0
College	44.3	24.0
Full time	38.6	17.2
Part time	5.6	6.8
Not enrolled	36.3	60.0

The large proportion of younger contingent

Table 1. Employed contingent and noncontingent workers by age, sex, race, Hispanic origin, and educational attainment, February 1995 and February 1997

[Percent distribution]

Characteristic	Contingent workers[1]						Noncontingent workers[2]	
	Estimate 1		Estimate 2		Estimate 3			
	1995	1997	1995	1997	1995	1997	1995	1997
Age and sex								
Total, 16 years and older (thousands)	2,739	2,385	3,422	3,096	6,034	5,574	117,174	121,168
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
16 to 19 years	16.6	19.2	15.2	16.0	10.7	12.4	4.3	4.4
20 to 24 years	25.0	23.9	22.2	21.0	19.8	17.9	9.6	9.0
25 to 34 years	26.0	23.7	27.5	24.4	26.3	24.8	26.1	25.0
35 to 44 years	18.5	17.5	19.8	20.6	21.0	20.9	28.0	28.2
45 to 54 years	8.2	8.3	9.5	10.8	12.6	13.6	19.8	21.0
55 to 64 years	3.8	5.3	3.7	5.4	5.9	7.3	9.4	9.6
65 years and older	1.8	2.1	2.1	1.9	3.7	3.1	2.8	2.9
Men	49.3	49.5	49.4	48.4	49.6	49.3	54.0	53.8
16 to 19 years	7.2	9.5	6.8	7.7	4.8	6.2	2.2	2.2
20 to 24 years	12.0	11.6	10.7	9.8	9.7	8.5	5.2	4.8
25 to 34 years	12.9	11.4	13.6	11.6	13.8	12.3	14.3	13.6
35 to 44 years	10.0	8.2	10.3	9.6	10.2	10.2	15.1	15.2
45 to 54 years	3.3	4.1	4.2	5.0	5.7	6.2	10.5	11.1
55 to 64 years	2.6	3.5	2.4	3.4	3.6	3.8	5.1	5.2
65 years and older	1.2	1.3	1.3	1.2	1.9	2.0	1.7	1.6
Women	50.7	50.5	50.6	51.6	50.4	50.7	46.0	46.2
16 to 19 years	9.5	9.8	8.4	8.2	5.9	6.2	2.1	2.2
20 to 24 years	13.0	12.3	11.5	11.1	10.1	9.4	4.4	4.3
25 to 34 years	13.1	12.2	13.9	12.8	12.5	12.5	11.8	11.4
35 to 44 years	8.5	9.3	9.5	11.0	10.8	10.6	12.9	13.0
45 to 54 years	4.9	4.3	5.3	5.7	6.9	7.4	9.3	9.6
55 to 64 years	1.2	1.8	1.3	2.0	2.3	3.5	4.3	4.4
65 years and older	.6	.8	.8	.7	1.8	1.1	1.2	1.2
Race and Hispanic origin								
White	80.0	79.5	80.1	80.6	80.9	81.9	85.6	85.3
Black	13.9	13.3	13.6	13.0	13.3	11.1	10.5	10.6
Hispanic origin	13.6	12.2	12.9	12.8	11.3	12.4	8.3	9.4
Educational attainment								
Total, 25 to 64 years (thousands)	1,547	1,308	2,070	1,893	3,968	3,710	97,633	101,397
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than a high school diploma	14.0	10.0	13.6	11.0	12.0	10.4	9.6	9.6
High school graduates, no college	27.9	27.9	27.5	28.5	27.3	26.8	32.4	32.8
Some college, no degree	22.8	21.9	23.3	20.2	19.6	18.8	19.9	18.9
Associate degree	8.4	10.7	8.0	10.1	7.9	8.2	9.1	9.1
College graduates	27.0	29.4	27.7	30.1	33.2	35.8	28.9	29.5
Advanced degree	9.4	10.5	10.0	9.3	14.9	14.7	9.9	10.0

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

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

workers enrolled in school suggests that the lack of a long-term commitment associated with temporary work is compatible with school attendance. For example, a job structured to last only until the end of the school year might be mutually satisfactory for both employer and employee. Interestingly, much of the high rate of contingency among employed 20- to 24-year-old college students results from their employment in jobs that almost by definition are contingent. Thirteen percent of this group work in education (that is, at their schools), a higher percentage than any other

industry except eating and drinking places.

Women continued to be somewhat more likely than men to hold contingent jobs, although the rates for both groups fell over the 1995–97 period. Employment among women tends to be concentrated in many of the occupations and industries in which contingent work arrangements are most common. Women also have a greater tendency to work part time, and part-time workers are more likely to be contingent than full-time workers.

Similar to women, blacks and Hispanics in 1997 continued to have higher contingency rates than whites, although the rates for each of the three groups declined between the two surveys. The rates for whites (4.2 percent in 1997) and Hispanics (5.7 percent in 1997) fell slightly over the period, while the rate for blacks fell sharply, from 6.1 percent in 1995 to 4.6 percent in 1997.

Industry and occupation

Industry. As in the prior survey, the likelihood of holding a contingent job was greatest for workers in the construction and services industries. In 1997, contingency rates for construction and services were 7.2 percent and 6.7 percent, respectively.[6] (See table 3.) Specific industries within services that had relatively high rates of contingency included personnel supply services (44.4 percent), private household services (15.7 percent), educational services (11.4 percent), entertainment and recreation services (6.8 percent), and social services (6.2 percent).

Major industry groups with below-average contingency rates (less than 3.0 percent) included manufacturing; transportation and public utilities; wholesale and retail trade; and finance, insurance, and real estate.

Occupation. As in 1995, contingent workers in the 1997 survey were found in both low- and high-skilled occupations. For example, contingency rates were highest for those in professional specialty (6.0 percent), administrative support (6.0 percent), and farming occupations (5.9 percent). The fact that the probability of holding a contingent job was relatively high among occupations with such varying skill levels tends to refute the stereotype that contingent workers are primarily low-skilled.

Within the professional specialty category, the contingency rate was especially high for postsecondary teachers—28.4 percent. The rate for elementary and secondary school teachers,

Table 2. Contingency rates by age, sex, race, Hispanic origin, and educational attainment, February 1995 and February 1997

[Percent]

Characteristic	Contingency rates[1]					
	Estimate 1		Estimate 2		Estimate 3	
	1995	1997	1995	1997	1995	1997
Age and sex						
Total, 16 years and older	2.2	1.9	2.8	2.4	4.9	4.4
16 to 19 years	8.1	7.6	9.2	8.2	11.4	11.5
20 to 24 years	5.5	4.8	6.1	5.4	9.6	8.4
25 to 34 years	2.2	1.8	2.9	2.4	4.9	4.4
35 to 44 years	1.5	1.2	2.0	1.8	3.7	3.3
45 to 54 years	.9	.8	1.4	1.3	3.2	2.9
55 to 64 years	.9	1.1	1.1	1.4	3.1	3.4
65 years and older	1.4	1.3	2.1	1.6	6.3	4.8
Men	2.0	1.7	2.5	2.2	4.5	4.0
Women	2.4	2.0	3.0	2.7	5.3	4.8
Race and Hispanic origin						
White	2.1	1.8	2.6	2.3	4.6	4.2
Black	2.9	2.4	3.5	3.0	6.1	4.6
Hispanic origin	3.6	2.4	4.2	3.3	6.5	5.7
Educational attainment						
Total, 25 to 64 years	1.5	1.2	2.0	1.8	3.9	3.5
Less than a high school diploma	2.2	1.3	2.9	2.1	4.8	3.8
High school graduates, no college	1.3	1.1	1.7	1.6	3.3	2.9
Some college, no degree	1.7	1.4	2.4	1.9	3.8	3.5
Associate degree	1.4	1.5	1.8	2.0	3.4	3.2
College graduates	1.4	1.2	1.9	1.8	4.5	4.3
Advanced degree	1.4	1.3	2.0	1.6	5.8	5.1

[1] Contingency rates are calculated by dividing the number of contingent workers in a specified worker group by the total number of employed persons in the same worker group. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

Table 3. **Contingency rates by occupation and industry, February 1995 and February 1997**

[Percent]

Occupation and industry	Contingency rates[1]					
	Estimate 1		Estimate 2		Estimate 3	
	1995	1997	1995	1997	1995	1997
Occupation						
Total, 16 years and older	2.2	1.9	2.8	2.4	4.9	4.4
Managerial and professional specialty	1.7	1.4	2.1	1.7	4.8	4.2
Executive, administrative, and managerial	.8	.7	1.1	1.0	2.7	2.2
Professional specialty	2.6	2.0	3.1	2.4	6.8	6.0
Technical, sales, and administrative support	2.1	2.1	2.5	2.6	4.4	4.3
Technicians and related support	1.3	1.8	1.9	2.7	4.2	4.7
Sales occupations	1.2	1.1	1.6	1.5	2.6	2.1
Administrative support, including clerical	3.1	3.0	3.4	3.5	5.8	6.0
Service occupations	3.0	2.3	4.1	3.2	5.8	5.0
Precision, production, craft, and repair	2.3	1.8	2.9	2.3	4.6	4.1
Operators, fabricators, and laborers	2.7	2.2	3.1	3.0	5.4	4.4
Farming, forestry, and fishing	2.2	2.0	3.2	3.0	5.6	5.9
Industry						
Total, 16 years and older	2.2	1.9	2.8	2.4	4.9	4.4
Agriculture	2.4	1.6	3.3	2.6	5.0	5.2
Mining	1.0	1.1	1.0	1.8	2.6	4.0
Construction	4.5	3.7	5.7	4.7	8.4	7.2
Manufacturing	1.3	.9	1.6	1.1	3.1	2.1
Transportation and public utilities	1.2	.7	1.3	1.2	2.9	2.6
Wholesale trade	.7	.8	1.0	1.3	2.3	2.1
Retail trade	1.6	1.5	2.0	1.7	3.0	2.6
Finance, insurance, and real estate	.7	1.1	.8	1.3	2.0	2.1
Services	3.4	2.8	4.3	3.7	7.5	6.7
Public administration	1.2	1.2	1.2	1.2	3.6	4.2

[1] Contingency rates are calculated by dividing the number of contingent workers in a specified worker group by the total number of employed persons in the same worker group. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

by contrast, although still above average, was just 6.2 percent. The high rate among college and university instructors most likely reflects the increasingly common practice within these institutions of employing untenured faculty, most of whom work under short-term contracts.[7] It also may help explain the relatively high contingency rate (5.1 percent) among workers with advanced degrees—more than three-fifths of these workers were in professional specialty occupations, which have above-average rates of contingency. Many workers with advanced degrees are employed by colleges and universities.

Other professional specialty occupations with relatively high contingency rates include biological and life scientists (19.8 percent), musicians and composers (12.6 percent), physicians (9.9 percent), and actors and directors (9.9 percent). Occupations within the administrative support category having high contingency rates include library clerks (23.9 percent), file clerks (16.1 percent), general office clerks (14.4 percent), data entry keyers (14.4 percent), teachers' aides (11.8 percent), and interviewers (9.9 percent).

Contingent work and mothers

Some researchers have expressed concern about the negative impact that contingent work has on families.[8] Table 4 shows contingency rates for women by marital status and presence of children. Interestingly, both married and unmarried women with children under the age of 18 had *below-average* contingency rates—3.9 percent each, compared with 4.4 percent for all workers. This is related, in part, to the fact that most women with children under 18 are beyond the very young age groups in which contingent work is most common. When limited to women with children under 6 years, the contingency rate was 4.6 percent, slightly higher than the rate for all workers.

Hours of work

Much like in the first survey, the 1997 data show that part-time workers—those *usually* working fewer than 35 hours per week—were more likely than full-time workers to hold contingent jobs. About 10 percent of part-timers were classified

as contingent workers in 1997, compared with just 3 percent of those who usually work full time. Viewed another way, among those holding contingent jobs in 1997, 43 percent usually worked fewer than 35 hours per week; among noncontingent workers, by contrast, only 18 percent usually worked part time. (See table 5.)

As shown in the following tabulation, contingency rates were higher for part-time workers in each of the major industry groups.

	Full-time workers	*Part-time workers*
Total	3.1	9.9
Agriculture	4.3	8.3
Mining	2.5	–
Construction	6.9	9.8
Manufacturing	1.9	6.7
Transportation and public utilities	2.1	7.3
Wholesale trade	1.4	8.8
Retail trade	1.5	4.5
Finance, insurance and real estate	1.8	4.4
Services	4.3	14.4
Public administration	3.2	18.1

Data not available where base employment is less than 75,000.

Moreover, the rates for part-time workers were higher than the overall average of 4.4 percent in all but one industry—finance, insurance, and real estate. Among full-time workers, by contrast, the contingency rate was above average in just one industry, construction, in which the rate was 6.9 percent. This suggests that, while contingency may be closely related to certain types of work (construction and college teaching, for example), it also is an attribute of part-time jobs, regardless of the industry.

Among part-time workers, contingent and noncontingent workers were about equally likely to prefer working part time—that is, they worked part time voluntarily and not for economic reasons; four-fifths of workers in each group preferred working part time. Of those who did work part time for economic reasons, the vast majority (91 percent) held jobs that were not structured to be temporary. Contingent workers also tend to work slightly fewer hours per week than their noncontingent counterparts. Among persons who usually worked full time, average weekly hours were 40.2 for contingent workers, compared with 42.6 for noncontingent workers. For those who usually worked part time, contingent workers averaged 17.3 hours per week, compared with 20.7 hours per week for noncontingent workers.

Multiple jobholding

Contingent workers were more likely than noncontingent workers to hold more than one job. (For multiple jobholding respondents in the survey, the questions about contingency refer to their main job, that is, the job at which they worked the most hours during the reference week.) The multiple jobholding rate—the proportion of workers with more than one job—was 8.9 percent for contingent workers, compared with 6.7 percent for noncontingent workers. (See table 5.) One possible explanation for the higher multiple jobholding rate among contingent workers is that these workers are much more likely to work part time, and part-time workers are more likely than full-time workers to hold two or more jobs. Also, because they both work fewer hours and earn less, regardless of their work schedules, contingent workers probably are more likely to require an additional job to supplement their income.

Preferences and reasons

Workers holding contingent jobs were asked if they preferred such employment to noncontingent work, as well as the reason they were employed in a contingent job. Nearly three-fifths of contingent workers said they would rather hold a noncontingent job.[9] (See table 6.) Young contingent workers (aged 16 to 24) were much more likely than their older counterparts to be satisfied with their current arrangement—nearly half of the younger workers were happy with their contingent jobs, compared with about a third of those aged 25 and older. As discussed earlier, the majority of younger contingent work-

Table 4. Contingency rates for women by marital status and presence and age of children, February 1997

[Percent]

Characteristic	Contingency rates[1]		
	Estimate 1	Estimate 2	Estimate 3
Total			
Wives and women who maintain families	1.3	2.0	3.7
With children under 18 years	1.5	2.3	3.9
With children under 6 years	1.9	3.3	4.6
With children 6 to 17 years	1.3	1.6	3.5
With no children under 18 years	1.0	1.6	3.4
Married, spouse present			
Wives	1.2	1.9	3.7
With children under 18 years	1.3	2.1	3.9
With children under 6 years	1.6	3.1	4.5
With children 6 to 17 years	1.1	1.4	3.5
With no children under 18 years	0.9	1.6	3.5
Other marital status			
Women who maintain families	1.8	2.5	3.6
With children under 18 years	2.2	2.9	3.9
With children under 6 years	3.0	4.2	4.9
With children 6 to 17 years	1.9	2.1	3.4
With no children under 18 years	1.0	1.7	3.1

[1] Contingency rates are calculated by dividing the number of contingent workers in a specified worker group by the total number of employed persons in the same worker group. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

Table 5. **Employed contingent and noncontingent workers by full- and part-time status, reason for part-time work, usual hours at work on primary job, and multiple job holding, February 1997**

Characteristic	Contingent workers[1]			Noncontingent workers[2]
	Estimate 1	Estimate 2	Estimate 3	
Full- or part-time status[3]				
Total employed, 16 years and older (thousands)	2,385	3,096	5,574	121,168
Percent	100.0	100.0	100.0	100.0
Full-time workers	53.5	54.8	57.5	82.2
Part-time workers	46.6	45.2	42.5	17.8
At work part time for economic reasons	9.9	10.0	7.6	3.3
At work part time for noneconomic reasons	36.9	34.8	33.9	14.1
Hours of work				
Average hours, total at work	28.6	29.0	30.2	38.6
Average hours, usually work full time	39.4	39.3	40.2	42.6
Average hours, usually work part time	16.7	16.9	17.3	20.7
Multiple jobholding				
Total, 16 years and older (thousands)	202	243	497	8,077
Percent[4]	100.0	100.0	100.0	100.0
Primary job full time, secondary job part time	49.5	51.0	49.3	55.9
Primary and secondary job both part time	37.1	36.6	35.4	21.4
Hours vary on primary or secondary jobs	11.9	10.7	13.7	19.8
Proportion of full-time workers who combined part-time jobs	2.2	2.2	2.4	1.0
Multiple jobholding rate[5]	8.4	7.8	8.9	6.7

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

[3] Part-time is defined as 1 to 34 hours per week; full time is 35 hours or more. The classification of full- and part-time workers is based on the number of hours usually worked. The sum of the at-work part time categories would not equal the estimate for part-time workers as the latter includes those who had a job but were not at work in the reference week. Persons who are at work part time for an economic or noneconomic reason are limited to those who usually work part time.

[4] A small number of individuals who worked full time on both their primary and secondary jobs or worked part time on their primary jobs and full time on their secondary jobs are not shown separately.

[5] Multiple jobholding rates are calculated by dividing the number of multiple jobholders in a specified worker group by total employment for the same worker group.

NOTE: Some of the detail above may not sum to totals due to rounding.

ers (64 percent) are enrolled in school, and students often prefer alternative work arrangements to accommodate their schedules.

Nearly half of contingent workers gave personal reasons for accepting their contingent jobs, although among those who said they would rather have a noncontingent job, only 30 percent cited personal reasons. (See table 7.) Also, 46 percent of those who preferred noncontingent employment gave an economic reason for being in their current arrangement, compared with 6 percent of those who preferred contingent work.[10]

Contingent workers in 1997 were more likely to give a personal reason for holding a contingent job than were their counterparts in 1995. The proportion reporting a personal reason for holding a contingent job was 49 percent in 1997, compared with 44 percent in 1995. The increase between the two surveys suggests that contingent work was more of a voluntary choice in the most recent survey, coinciding with a stronger overall labor market.

About a fifth of contingent workers reported attending school or training as the reason for being in their current arrangement. Other reasons suggest contingent work enabled some to participate in the labor market despite their involvement in activities that otherwise may have precluded them from employment. Specifically, 15 percent of contingent workers gave either flexibility of schedule or family obligations as a reason for being in a contingent arrangement. The primary economic reason given was that it was the only type of work they could find; 18 percent of contingent workers gave such a reason.

Compensation

Earnings. As in the prior survey, contingent workers in 1997 earned less per week than noncontingent workers. Median earnings were $266 per week for contingent workers, compared with $444 per week for their noncontingent counterparts. The disparity reflects the many differences between the two groups in terms of work schedules, demographics, occupational and industry concentration, and employer tenure. As mentioned previously, for example, contingent workers are more likely to hold part-time jobs than are noncontingent workers.

Still, even among those who worked full time, median weekly earnings were just $417, or roughly 80 percent of the median for full-time noncontingent workers. Similarly, earnings for part-time contingent workers were $111 per week, or 76 percent of what those who held permanent jobs earned. The ratios were roughly similar for all of the major worker groups—men, women, whites, blacks, and Hispanics. (See table 8.)

As mentioned earlier, contingent workers are employed in both high- and low-skilled occupations. As a result, their earnings varied considerably by occupation. Among occupations that had above-average contingency rates, full-time contingent workers holding professional specialty jobs had the highest weekly earnings ($677), followed by administrative support, including clerical ($342); service occupations ($258); and farming, forestry, and fishing ($233). (See table 9.)

Table 6. Preferences of employed contingent workers for contingent and noncontingent arrangements by sex and age, February 1997

[Percent distribution]

Characteristic	Contingent workers[1]		
	Estimate 1	Estimate 2	Estimate 3
Total			
Employed (thousands)	2,385	3,096	5,574
Percent	100.0	100.0	100.0
Prefer noncontingent arrangement	60.2	56.7	55.5
Prefer contingent arrangement	34.1	35.8	36.1
It depends	4.9	5.2	5.8
Preference not available	.9	2.3	2.5
Men, 25 years and older			
Employed (thousands)	679	954	1,926
Percent	100.0	100.0	100.0
Prefer noncontingent arrangement	69.8	63.8	60.9
Prefer contingent arrangement	24.2	28.5	29.3
It depends	4.9	5.1	6.7
Preference not available	1.2	2.6	3.1
Women, 25 years and older			
Employed (thousands)	677	999	1,958
Percent	100.0	100.0	100.0
Prefer noncontingent arrangement	70.2	59.7	58.5
Prefer contingent arrangement	25.4	31.9	33.4
It depends	4.0	5.2	5.2
Preference not available	.4	3.2	2.9
Both sexes, 16 to 24 years			
Employed (thousands)	1,029	1,143	1,690
Percent	100.0	100.0	100.0
Prefer noncontingent arrangement	47.3	48.1	46.0
Prefer contingent arrangement	46.4	45.4	47.1
It depends	5.4	5.3	5.4
Preference not available	1.0	1.2	1.5

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

NOTE: Some of the detail above may not sum to totals due to rounding.

Table 7. Employed contingent workers by reason for contingency and preference for noncontingent work, February 1997

[Percent distribution]

Reason	Contingent workers[1]		
	Estimate 1	Estimate 2	Estimate 3
Total			
Total, 16 years and older (thousands)	2,385	2,663	5,140
Percent	100.0	100.0	100.0
Economic reasons	38.2	39.6	30.5
Only type of work could find	23.2	24.8	18.2
Hope job leads to permanent employment	8.1	8.0	6.7
Other economic reason	7.0	6.8	5.6
Personal reasons	48.7	47.3	48.5
Flexibility of schedule and only wanted to work a short period of time	11.2	12.6	11.7
Family or personal obligations and child-care problems	2.9	2.8	3.2
In school or training	21.6	19.7	19.2
Money is better	1.7	1.5	1.4
Other personal reason	11.2	10.7	13.0
Reason not available	13.1	13.1	20.9
Prefer noncontingent employment			
Total, 16 years and older (thousands)	1,436	1,755	3,096
Percent	100.0	100.0	100.0
Economic reasons	57.9	55.2	45.8
Only type of work could find	36.1	35.6	28.3
Hope job leads to permanent employment	12.3	11.1	10.1
Other economic reason	9.5	8.5	7.5
Personal reasons	28.3	26.6	29.6
Flexibility of schedule and only wanted to work a short period of time	6.3	6.5	6.1
Family or personal obligations and child-care problems	2.5	2.5	2.2
In school or training	10.0	8.8	10.6
Money is better	1.8	1.5	1.3
Other personal reason	7.9	7.3	9.3
Reason not available	13.6	18.2	24.6

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 1 above is calculated using the narrowest definition of contingent work; estimate 3 uses the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

Health insurance. As in the first survey, contingent workers in 1997 were much less likely than noncontingent workers to have employer-provided health insurance coverage—slightly more than a third of those holding contingent jobs were offered health insurance coverage by their employer, in contrast to nearly three-fourths of those in noncontingent jobs.[11] (See table 10.) As with other measures discussed earlier, the low coverage rates can be partially explained by the make-up of the contingent workforce—its age, work sched-

ules, industry and occupational concentrations.

Although workers with contingent jobs were less likely than those with noncontingent jobs to obtain health insurance from their employers, a relatively large share (about two-thirds) had coverage from some source. Contingent workers received coverage from a variety of sources, but access through another family member was the most prevalent source.

Relatively high proportions of both teenage contingent workers and those aged 65 years and older had health insurance from some source—nearly the same coverage rates as their noncontingent counterparts. Teenagers often are covered under their parents' plans, and persons in the older age group have almost universal coverage under medicare. Among workers in the 25- to 54-year age group, however, the differences in coverage rates were substantial—less than two-thirds of those with contingent arrangements had health insurance from some source, compared with more than 8 in 10 of those whose jobs were noncontingent.

Women with contingent jobs were less likely than their

Table 8. Median weekly earnings of full- and part-time time contingent and noncontingent wage and salary workers by selected characteristics, February 1997

Characteristic	Median weekly earnings			
	Full-time workers[1]		Part-time workers[2]	
	Contingent (Estimate 3)[3]	Noncontingent[4]	Contingent (Estimate 3)	Noncontingent
Age and sex				
Total, 16 years and older	$417	$510	$111	$146
16 to 19 years	246	238	67	97
20 to 24 years	300	329	90	131
25 years and older	475	549	170	175
25 to 34 years	421	486	186	184
35 to 44 years	518	578	166	188
45 to 54 years	490	612	191	199
55 to 64 years	502	572	151	171
65 years and older	[5]	447	121	123
Men, 16 years and older	486	578	111	129
Women, 16 years and older	353	449	110	153
Race and Hispanic origin				
White	426	523	110	145
Black	377	426	107	150
Hispanic origin	278	359	101	141
Educational attainment				
Less than a high school diploma	235	304	74	101
High school graduates, no college	382	427	134	154
Some college, no degree	399	494	93	142
Associate degree	498	519	148	222
College graduates	592	772	203	249

[1] Full-time workers are those who *usually* work 35 hours per week or more.
[2] Part-time workers are those who *usually* work 1 to 34 hours per week.
[3] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.
[4] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.
[5] Data not shown where base employment is less than 75,000.

Table 9. Median weekly earnings of full- and part-time time contingent and noncontingent wage and salary workers by occupation and industry, February 1997

Occupation and industry	Median weekly earnings			
	Full-time workers[1]		Part-time workers[2]	
	Contingent (Estimate 3)[3]	Noncontingent[4]	Contingent (Estimate 3)	Noncontingent
Occupation				
Managerial and professional specialty	$627	$755	$165	$256
Executive, administrative, and managerial	557	733	126	234
Professional specialty	677	783	169	266
Technical, sales, and administrative support	357	459	107	145
Technicians and related support	529	578	154	300
Sales occupations	325	486	97	125
Administrative support, including clerical	342	419	107	160
Service occupations	258	312	73	126
Private household	241	212	57	91
Other services	263	314	78	129
Precision, production, craft, and repair	630	534	203	221
Operators, fabricators, and laborers	323	410	115	134
Farming, forestry, and fishing	233	310	87	115
Industry				
Agriculture	234	322	78	117
Mining	[5]	666	[5]	430
Construction	668	508	212	259
Manufacturing	391	529	174	156
Durable goods	408	575	152	168
Nondurable goods	314	490	199	146
Transportation and public utilities	614	635	140	196
Wholesale trade	[5]	513	[5]	140
Retail trade	273	351	90	124
Finance, insurance, and real estate	515	545	119	165
Services	397	513	112	161
Private household	267	224	67	87
Other services	401	516	114	164
Professional services	473	554	111	176
Public administration	462	619	114	181

[1] Full-time workers are those who *usually* work 35 hours per week or more.
[2] Part-time workers are those who *usually* work 1 to 34 hours per week.
[3] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp.34–35.
[4] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.
[5] Data not shown where base employment is less than 75,000.

Table 10. Employed contingent and noncontingent wage and salary workers with health insurance coverage by selected characteristics, February 1997

Characteristic	Contingent workers (estimate 3)[1]					Noncontingent workers[2]				
	Total (in thousands)	Percent with health insurance coverage			Percent eligible for employer-provided health insurance	Total (in thousands	Percent with health insurance coverage			Percent eligible for employer-provided health insurance
		Total	Through current employer at main job	Through other job or union			Total	Through current employer at main job	Through other job or union	
Age and sex										
Total, 16 years and older	5,140	67.1	22.4	3.5	35.3	106,697	83.0	61.2	0.7	73.8
16 to 19 years	664	70.6	5.6	([3])	12.3	5,272	71.7	9.4	([3])	22.6
20 to 24 years	945	65.1	11.5	1.0	26.6	10,653	65.2	41.8	.3	57.7
25 years and older	3,531	66.9	28.5	4.9	42.0	90,773	85.7	66.5	.8	78.7
25 to 34 years	1,251	59.6	30.0	3.4	43.2	27,845	80.7	63.7	.6	77.4
35 to 44 years	1,041	63.2	28.6	4.8	40.8	29,790	86.4	67.9	.7	80.0
45 to 54 years	683	72.5	29.3	7.3	45.8	21,539	88.8	70.9	.8	81.8
55 to 64 years	393	81.2	28.5	6.4	39.2	9,349	89.8	67.9	1.9	78.3
65 years and older	163	90.2	13.5	4.3	31.3	2,249	91.7	35.4	2.5	48.9
Men	2,547	62.6	24.8	6.1	37.1	55,754	82.2	66.7	1.1	76.5
Women	2,593	71.5	20.1	1.0	33.6	50,944	83.8	55.3	.3	70.9
Race and Hispanic origin										
White	4,177	69.4	22.4	4.1	35.0	90,098	84.0	61.1	.7	73.9
Black	585	49.7	13.7	.3	25.6	12,218	77.0	62.6	.6	73.7
Hispanic origin	610	39.0	13.9	3.0	27.5	10,534	62.1	48.9	.6	60.8
Full- and part-time status										
Full-time workers	2,890	62.0	31.7	5.5	45.3	87,378	84.8	70.8	.7	82.9
Part-time workers	2,230	73.4	10.4	1.1	22.4	19,067	74.7	17.5	.8	32.4
Educational attainment[4]										
Less than a high school diploma	495	36.6	14.7	2.2	22.2	10,882	61.6	45.4	.8	57.1
High school graduates, no college	1,116	55.5	18.9	7.0	30.2	34,508	79.8	58.9	1.0	72.7
Some college, no degree	783	64.2	20.2	5.4	35.6	18,901	84.9	65.7	.7	78.5
Associate degree	308	59.4	21.8	7.1	37.0	8,989	89.0	67.8	.8	83.0
College graduates	1,381	79.6	41.6	2.0	56.2	26,998	93.5	77.1	.5	87.3

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

[3] Less than 0.05 percent.

[4] Excludes workers aged 16 to 24 enrolled in school.

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

male counterparts to have health insurance from their employer or an employment-related source, but they were *more* likely than men to have coverage from all sources. (Many women are covered under their spouses' plans.) Among the race and ethnic groups, white contingent workers had much higher coverage rates than either blacks or Hispanics, regardless of the source considered. Nearly 70 percent of whites were insured, compared with 50 percent of blacks and 39 percent of Hispanics. White workers also were considerably more likely than blacks or Hispanics to have employer-provided insurance.

In terms of occupation and industry, contingent workers in every major group were less likely than their noncontingent counterparts to have health insurance from any source; they also were less likely to be eligible for, and to receive, employer-provided insurance. However, the likelihood of receiving employer-provided coverage or of being eligible for coverage also varies by occupation and industry. For example, managers and professionals in both contingent and

noncontingent work arrangements had higher employer-provided coverage and eligibility rates than their counterparts in other occupations. In fact, coverage and eligibility rates for managers and professionals in contingent jobs actually *exceeded* those of some workers holding noncontingent jobs in other occupations—namely, workers in service and farming occupations. (See table 11.)

By industry, public administration workers in contingent or noncontingent arrangements had higher employer-provided coverage and eligibility rates than their counterparts in other industries. And, as with occupations, coverage and eligibility rates for contingent workers in some industries were higher than those of some noncontingent workers. Specifically, contingent workers in public administration and in durable-goods manufacturing had higher rates than did noncontingent workers in agriculture.

Pensions. As in the prior survey, the 1997 data show that contingent workers were much less likely than those with noncontingent arrangements to participate in employer-sponsored pension plans.[12] (See table 12.) Only 16 percent of contingent workers participated in such plans, in contrast to half of noncontingent workers. Moreover, contingent workers were much less likely than noncontingent workers to be eligible

Table 11. Employed contingent and noncontingent wage and salary workers with health insurance coverage by occupation and industry, February 1997

Occupation and industry	Contingent workers (estimate 3)[1]					Noncontingent workers[2]				
	Total (in thousands)	Percent with health insurance coverage			Percent eligible for employer-provided health insurance	Total (in thousands)	Percent with health insurance coverage			Percent eligible for employer-provided health insurance
		Total	Through current employer at main job	Through other job or union			Total	Through current employer at main job	Through other job or union	
Occupation										
Managerial and professional specialty	1,497	80.7	40.9	1.5	54.2	30,610	92.5	75.6	0.3	86.4
Executive, administrative, and managerial	372	77.7	39.5	1.1	53.8	14,415	91.2	75.2	.4	86.3
Professional specialty	1,125	81.7	41.4	1.6	54.4	16,195	93.7	76.0	.3	86.6
Technical, sales, and administrative support	1,523	71.0	13.9	1.9	30.5	32,451	85.5	58.1	.5	73.4
Technians and related support	184	70.7	28.3	1.1	56.0	3,851	90.5	70.3	.5	83.8
Sales occupations	256	66.0	10.2	1.2	25.0	11,916	79.9	47.5	.6	63.3
Administrative support, including clerical	1,082	72.4	12.2	2.2	27.5	16,684	88.4	62.8	.4	78.2
Service occupations	736	61.4	9.1	.8	19.6	14,759	68.5	37.5	.6	50.8
Private household	99	40.4	[3]	[3]	3.0	533	46.0	4.5	[3]	6.4
Other services	636	64.8	10.5	.9	22.2	14,226	69.3	38.8	.6	52.5
Precision production, craft, and repair	508	62.2	25.8	20.7	33.1	11,230	79.5	65.4	2.4	75.6
Operators, fabricators, and laborers	729	46.0	16.0	2.7	28.4	16,206	77.9	61.5	1.0	73.5
Farming, forestry, and fishing	147	37.4	9.5	[3]	12.2	1,443	54.4	34.0	.1	41.2
Industry										
Agriculture	126	44.4	12.7	[3]	18.3	1,350	57.0	33.6	.1	41.5
Mining	25	[4]	[4]	[4]	[4]	575	90.1	85.4	[3]	90.8
Construction	515	55.5	20.0	20.6	28.7	5,222	70.0	48.3	4.7	60.2
Manufacturing	436	57.3	32.8	.7	45.2	19,576	87.9	78.1	.3	88.1
Durable goods	245	62.0	35.5	1.2	49.8	11,809	89.3	80.4	.3	90.1
Nondurable goods	188	52.7	29.8	[3]	39.4	7,697	86.0	74.7	.3	85.4
Transportation and public utilities	193	78.2	28.5	9.8	46.1	7,958	88.4	76.0	.7	85.3
Wholesale trade	78	62.8	29.5	[3]	35.9	4,182	85.5	68.1	.9	80.1
Retail trade	487	58.5	7.6	.8	22.6	18,060	70.6	35.2	.8	51.7
Finance, insurance, and real estate	160	71.3	27.5	[3]	34.4	6,902	90.0	67.5	.5	81.6
Services	2,887	70.8	21.9	1.6	35.7	37,537	84.3	58.8	.5	72.4
Private household	124	42.7	[3]	1.6	2.4	606	44.1	4.5	[3]	7.3
Other services	2,763	72.0	22.8	1.6	37.2	36,931	85.0	59.7	.5	73.4
Professional and related services	1,834	79.3	30.0	1.5	42.0	26,814	89.3	64.3	.4	77.9
Public administration	234	85.0	40.2	.4	55.1	5,336	96.4	86.2	.5	93.9

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

[3] Less than 0.05 percent.

[4] Data not shown where base employment is less than 75,000.

Table 12 Employed contingent and noncontingent wage and salary workers with pension coverage by selected characteristics, February 1997

Characteristic	Contingent workers (estimate 3)[1]			Noncontingent workers[2]		
	Total (in thousands)	Percent with pension coverage	Percent eligible for employer-provided pension	Total (in thousands)	Percent with pension coverage	Percent eligible for employer-provided pension
Age and sex						
Total, 16 years and older	5,140	15.9	23.1	106,697	50.0	57.2
16 to 19 years	664	.6	5.6	5,272	4.4	14.7
20 to 24 years	945	3.1	11.1	10,653	20.6	34.7
25 years and older	3,531	22.2	29.6	90,773	56.1	62.3
25 to 34 years	1,251	13.7	24.0	27,845	47.9	57.0
35 to 44 years	1,041	23.9	29.9	29,790	58.9	64.6
45 to 54 years	683	32.4	38.9	21,539	63.9	68.1
55 to 64 years	393	29.0	34.1	9,349	59.7	63.4
65 years and older	163	19.0	21.5	2,249	31.5	38.0
Men	2,547	16.5	24.1	55,754	52.3	58.8
Women	2,593	15.3	22.2	50,944	47.5	55.4
Race and Hispanic origin						
White	4,177	17.1	24.2	90,098	50.3	57.4
Black	585	9.1	15.4	12,218	50.0	57.8
Hispanic origin	610	8.5	16.4	10,534	31.5	38.4
Full- and part-time status						
Full-time workers	2,890	23.6	32.4	87,378	57.2	64.6
Part-time workers	2,230	6.0	10.9	19,067	17.2	23.6
Educational attainment[3]						
Less than a high school diploma	495	8.3	13.9	10,882	27.0	33.2
High school graduates, no college	1,116	15.1	20.8	34,508	46.5	54.2
Some college, no degree	783	16.6	26.3	18,901	53.0	60.5
Associate degree	308	21.8	28.9	8,989	58.5	67.1
College graduates	1,381	29.4	38.9	26,998	69.0	75.0

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp. 34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

[3] Excludes workers age 16 to 24 enrolled in school.

for pensions from their employers—slightly less than one-fourth of those with contingent jobs were offered employer-provided pensions, compared with nearly three-fifths of noncontingent workers.

Contingent workers under the age of 25—who make up nearly a third of all contingent workers—were much less likely than those aged 25 to 54 to participate in pension plans or to be employed in industries that have a higher probability of offering pensions. Among workers in each age group, those with contingent jobs were less likely than those holding noncontingent jobs to have, or to be eligible for, employer-provided pensions. Finally, as with health insurance coverage, contingent workers had lower rates of pension coverage and eligibility than noncontingent workers in virtually every occupation and industry group. (See table 13.)

As the economy expanded and the labor market strengthened between 1995 and 1997, both the number of contingent workers and the proportion of total employment made up of such workers declined. The overall characteristics of these workers, however, changed little over the period. In both surveys, for example, contingent workers were more likely to be women, under the age of 25, enrolled in school, and to be employed part time. Workers in construction and services continued to have the greatest likelihood of holding a contingent job. However, as in the first survey, contingent workers were likely to be found in both high- and low-skilled occupations. Workers in professional specialty occupations and in administive support, including clerical, for example, were about equally likely to work in contingent jobs.

Although most contingent workers would have preferred a

Table 13. Employed contingent and noncontingent wage and salary workers with pension coverage by occupation and industry, February 1997

Occupation and Industry	Contingent workers (estimate 3)[1]			Noncontingent workers[2]		
	Total (in thousands)	Percent with pension coverage	Percent eligible for employer-provided pension	Total (in thousands)	Percent with pension coverage	Percent eligible for employer-provided pension
Occupation						
Managerial and professional specialty	1,497	28.2	36.6	30,610	66.8	72.7
Executive, administrative, and managerial	372	33.9	42.2	14,415	63.2	69.5
Professional specialty	1,125	26.3	34.8	16,195	70.0	75.5
Technical, sales, and administrative support	1,523	11.0	19.4	32,451	48.5	57.2
Technicians and related support	184	15.2	22.8	3,851	59.3	68.6
Sales occupations	256	3.9	13.7	11,916	36.0	44.7
Administrative support, including clerical	1,082	12.0	20.2	16,684	54.9	63.5
Service occupations	736	6.1	11.8	14,759	28.6	35.3
Private household	99	3.0	3.0	533	1.3	1.5
Other services	636	6.6	13.2	14,226	29.6	36.6
Precision production, craft, and repair	508	21.3	26.8	11,230	49.5	55.2
Operators, fabricators, and laborers	729	9.7	14.5	16,206	44.3	52.6
Farming, forestry, and fishing	147	2.7	10.2	1,443	15.7	20.6
Industry						
Agriculture	126	2.4	11.1	1,350	12.6	17.8
Mining	25	[3]	[3]	575	66.4	71.8
Construction	515	14.6	21.2	5,222	31.6	37.2
Manufacturing	436	22.0	32.6	19,576	62.0	69.9
Durable goods	245	23.7	33.1	11,809	64.2	71.8
Nondurable goods	188	20.2	31.9	7,697	58.9	67.2
Transportation and public utilities	193	28.5	34.7	7,958	65.2	71.2
Wholesale trade	78	7.7	19.2	4,182	51.5	57.6
Retail trade	487	4.1	11.7	18,060	23.7	32.5
Finance, insurance, and real estate	160	26.9	35.0	6,902	57.8	66.6
Services	2,887	14.8	20.9	37,537	49.7	56.9
Private household	124	2.4	2.4	606	2.1	3.0
Other services	2,763	15.3	21.8	36,931	50.5	57.8
Professional and related services	1,834	20.3	26.4	26,814	58.7	65.6
Public administration	234	39.3	52.6	5,336	89.1	91.1

[1] Contingent workers are defined as individuals who do not perceive themselves as having an explicit or implicit contract with their employers for ongoing employment. Estimate 3 above is calculated using the broadest definition. For the specific criteria used for each definition, see the appendix, pp.34–35.

[2] Noncontingent workers are those who do not meet the criteria for any of the three definitions of contingent work.

[3] Data not shown where base employment is less than 75,000.

noncontingent job, many were satisfied with their current arrangement. Specifically, younger workers were about as likely to prefer contingent arrangements as noncontingent ones, probably because a large number were enrolled in school and thus were less concerned with establishing longstanding relationships with their employers. Compared with the first survey, contingent workers in 1997 were more likely to have cited personal, rather than economic, reasons for being in contingent arrangements, implying that workers were more likely to have chosen contingent work in the most recent survey.

Finally, contingent workers earned less and were less likely than noncontingent workers to have been included in employer-provided health insurance or pension plans. When comparing the wages and benefits of contingent and noncontingent workers, however, there was considerable variation by age, educational attainment, occupation, and industry. □

Footnotes

[1] For an explanation of the three measures, as well as other relevant concepts and definitions, see the appendix, pp. 34–35. For more on the definitions, as well as analysis of the results of the 1995 survey, see the articles in the special issue of the *Monthly Labor Review* on contingent workers and alternative work arrangements, October 1996.

[2] Contingency rates are calculated by dividing the number of contingent workers in a specified worker group by total employment for the same worker group.

[3] For instance, the unemployment rate was 5.4 percent in February 1995 and 5.3 percent in February 1997, both low by historical standards. Employment growth, as measured by the Current Employment Statistics (CES) survey, a monthly sample survey of about 390,000 nonfarm business establishments, averaged 206,000 per month between the two survey dates.

[4] The Current Population Survey (CPS) is a nationwide sample survey of about 50,000 households, conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The CPS collects information about the demographic characteristics and employment status of the noninstitutional working-age population (16 years and older). Special supplements

to the CPS occasionally are added to the survey questionnaire to obtain information on various topics of interest. The first CPS supplement on contingent work and alternative work arrangements was conducted in February 1995. This article examines data from the 1997 supplement, comparing the results with those obtained in 1995.

[5] The two narrower estimates of contingency (estimates 1 and 2) require a 1-year tenure restriction on workers' current and expected tenure with their employers. The broadest definition of contingency (estimate 3) removes this tenure restriction and basically includes all workers who say that their jobs are temporary. Although the median tenure for contingent workers under the broadest definition (0.7 year) was much less than that for noncontingent workers (5 years), 45 percent of these contingent workers had been with their employers for 1 year or more.

[6] Although contingent workers were employed in all industries, they were disproportionately concentrated in services and construction. In both the 1995 and 1997 surveys, more than half of all contingent workers were employed in the services industry, and an additional 10 percent were employed in the construction industry. As the contingency rates show, however, the vast majority (93 percent) of workers in these two industries were not contingent.

[7] For an in-depth discussion of the prevalence of contingent work in post-secondary education, see Kathleen Barker, "Contingent Work in Higher Education," in Kathleen Barker and Kathleen Christensen, eds., *Contingent Work: American Employment Relations in Transition* (Cornell University Press, 1998).

[8] See Kathleen Christensen, "Countervailing Human Resource Trends in Family-Sensitive Firms," in Barker and Christensen, *Contingent Work.*

[9] It should be noted that under estimate 1, the proportion of workers aged 25 years and older who were dissatisfied with their arrangement was much higher than under estimate 3.

[10] In the survey, information concerning preferences for a contingent or noncontingent job was collected separately from the reasons for holding a contingent job. Thus, a contingent worker could prefer noncontingent work but still provide a personal reason for holding a contingent job.

[11] In the survey, respondents were asked, "Do you have health insurance from any source?" If the response was "yes," they were then asked if their insurance was provided by their employer. Those who did not receive health insurance from their employer were asked for the source of their health insurance; in addition, they were asked if they were *eligible* for employer-provided health insurance. Respondents who said "no" to the initial question were asked, "Does (employer's name) offer a health insurance plan to any of its employees?" If the answer to that question was "yes," the respondent was then asked, "Are you included in this plan?" If the response was "no," the respondent was asked, "Why not?" The answer to this question was used to determine whether or not the respondent was eligible to receive insurance from his or her employer.

[12] In the survey, respondents were asked, "Does (employer's name) offer a pension or retirement plan to any of its employees?" If they answered "yes," they were then asked, "Are you included in this plan?" If the response was "no," respondents were then asked "Why not?" The response to this last question was used to determine eligibility for those not in the plan.

Appendix: Concepts and definitions

The supplement to the February 1997 Current Population Survey obtained information on workers in contingent jobs, or jobs that were expected to last only for a limited period. Additional information was collected on employees working under alternative employment arrangements—namely, working as independent contractors or being "on call," as well as working through temporary help agencies or contract firms. (A companion article in this issue by Sharon R. Cohany presents a profile of workers in alternative employment arrangements.) All employed persons except unpaid family workers were included in the supplement. For persons holding more than one job, the questions referred to the characteristics of their main job—the job in which they worked the most hours. A similar survey was conducted in February 1995.

The contingent workforce

Contingent workers were defined as those who do not have an explicit or implicit contract for long-term employment. Several pieces of information were collected in the supplement from which the existence of a contingent employment arrangement could be discerned: whether the job was temporary or not expected to continue, how long the worker expected to be able to hold the job, and how long the worker had held the job. For workers who had a job with an intermediary, such as a temporary help agency or a contract company, information was collected about their employment at the place they were assigned to work by the intermediary as well as their employment with the intermediary itself.

The key factor used to determine if a job fit the conceptual definition of contingent work was whether the job was temporary or not expected to continue. The first two questions in the supplement were:

1. Some people are in temporary jobs that last only for a limited time or until the completion of a project. Is your job temporary?

2. Provided the economy does not change and your job performance is adequate, can you continue to work for your current employer as long as you wish?

Respondents who answered "yes" to the first question, or "no" to the second, were then asked a series of questions to distinguish persons who were in temporary jobs from those who, for personal reasons, were temporarily holding jobs that offered the opportunity of ongoing employment. For example, students holding part-time jobs in fast-food restaurants while in school might view those jobs as temporary if they intend to leave them at the end of the school year. The jobs themselves, however, would be filled by other workers once the students leave. Jobs were defined as being short term or temporary if the person was working only until the completion of a specific project, temporarily replacing another worker, being hired for a fixed period, filling a seasonal job that is available only during certain times of the year, or if other business conditions dictated that the job was short term.

Workers also were asked how long they expected to stay in their current job and how long they had been with their current employer. The rationale for asking how long an individual expects to remain in his or her current job was that being able to hold a job for a year or more could be taken as evidence of at least an implicit contract for ongoing employment. In other words, the employer's need for the worker's services is not likely to evaporate tomorrow. By the same token, the information on how long a worker has been with the employer shows whether a job has been ongoing. Having remained with an employer for more than a year may be taken as evidence that, at least in the past, there was an explicit or implicit contract for continuing employment.

To assess the impact of altering some of the defining factors on the estimated size of the contingent workforce, the following three measures of contingent employment were developed:

Estimate 1. The narrowest definition, estimate 1 defines contingent workers as wage and salary workers who indicated that they expected to work in their current job for 1 year or less and who had worked for their current employer for 1 year or less. Self-employed workers, both incorporated and unincorporated, and independent contractors are excluded from the count of contingent workers under

estimate 1; the rationale was that people who work for themselves, by definition, have ongoing employment arrangements, although they may face financial risks. Individuals who worked for temporary help agencies or contract companies are considered contingent under estimate 1 only if they expect their employment arrangement with the temporary help or contract company to last for 1 year or less, and they had worked for that company for 1 year or less.

Estimate 2. This measure expands the definitions of contingent workers by including the self-employed (incorporated and unincorporated) and independent contractors who expect to be, and had been, in such employment arrangements for 1 year or less. (The questions asked of the self-employed are different from those asked of wage and salary workers.) In addition, temporary help and contract company workers are classified as contingent under estimate 2 if they had worked and expected to work for the customers to whom they were assigned for 1 year or less. For example, a "temp" secretary who is sent to a different customer each week but has worked for the same temporary help firm for more than 1 year and expects to be able to continue with that firm indefinitely is contingent under estimate 2, but not under estimate 1. In contrast, a "temp" who is assigned to a single client for more than a year and expects to be able to stay with that client for more than a year is not counted as contingent under either estimate.

Estimate 3. The third definition expands the concept of contingency by removing the 1-year requirement on expected duration of the job and on tenure in the current job (for wage and salary workers). Thus, the estimate effectively includes all the wage and salary workers who do not expect their employment to last, except for those who, for personal reasons, expect to leave jobs that they would otherwise be able to keep. Thus, a worker who had held a job for 5 years could be considered contingent if he or she now viewed the job as temporary. These conditions on expected and current tenure are not relaxed for the self-employed and independent contractors, because they were asked a different set of questions from wage and salary workers.

Alternative employment arrangements

To provide estimates of the number of workers in alternative employment arrangements, the February 1997 CPS supplement included questions about whether individual workers were paid by a temporary help agency or a contract company, or whether they were "on call" or independent contractors. The definitions of each category, as well as the main questions used to identify workers in each category, follow.

Independent contractors. Workers who were identified as independent contractors, consultants, and freelance workers in the supplement—regardless of whether they were identified as wage and salary workers or self-employed in the responses to basic CPS labor force status questions—all are classified as independent contractors. Workers identified as self-employed (incorporated and unincorporated) in the basic CPS were asked, "Are you self-employed as an independent contractor, independent consultant, freelance worker, or something else (such as a shop or restaurant owner)?" in order to distinguish those who consider themselves to be independent contractors, consultants, or freelance workers from those who were business operators such as shop owners or restaurateurs. Those identified as wage and salary workers in the basic CPS were asked, "Last week, were you working as an independent contractor, an independent consultant, or a freelance worker? That is, someone who obtains customers on their own to provide a product or service." (About 88 percent of independent contractors were identified as self-employed in the main questionnaire, while 12 percent were identified as wage and salary workers; conversely, about half of the self-employed were identified as independent contractors.)

On-call workers. These are persons who are called into work only when they are needed. This category includes workers who answered affirmatively to the question, "Some people are in a pool of workers who are ONLY called to work as needed, although they can be scheduled to work for several days or weeks in a row—for example, substitute teachers and construction workers supplied by a union hiring hall. These workers sometimes are referred to as ON-CALL workers. Were you an ON-CALL worker last week?" Persons with regularly scheduled work that might include periods of being on call to perform work at unusual hours, such as medical residents, were not included in this category.

Temporary help agency workers. These are workers who were paid by a temporary help agency. To the extent that permanent staff of temporary help agencies indicate that they are paid by their agencies, the estimate of the number of workers whose employment was mediated by temporary help agencies is overstated. This category includes workers who said that their job was temporary and answered "yes" to the question, "Are you paid by a temporary help agency?" Also included are workers who said their job was not temporary and answered affirmatively to the question, "Even though you told me your job was not temporary, are you paid by a temporary help agency?"

Workers provided by contract firms. These are individuals identified as working for a contract company and who usually work for only one customer, usually at the customer's worksite. The last two requirements were imposed to focus on workers whose employment appeared to be very closely tied to the firm for which they were performing the work, rather than on all workers employed by firms that provide services to other firms. This category included workers who answered "yes" to the question, "Some companies provide employees or their services to others under contract. A few examples of services that can be contracted out include security, landscaping, or computer programming. Did you work for a company that contracts out you or your services last week?" These workers also had to respond negatively to the question, "Are you usually assigned to more than one customer?" They also had to answer "yes" to the question, "Do you usually work at the customer's worksite?"

Occupational injury and illness rates, 1992–96: why they fell

A decline in occupational injury and illness rates in the early to mid-1990s is attributable to legislative reforms motivated by increases in workers' compensation payments and a growing awareness of workplace hazards by unions, employers, and the insurance industry

Hugh Conway
and
Jens Svenson

Between 1992 and 1996, the rate of reported occupational injuries and illnesses per 100 full-time workers declined from 8.9 to 7.4. Following passage of the Occupational Safety and Health Act in the early 1970s, the rate had declined from 11.0 in 1973 to 7.6 in 1983. Thereafter, the rate increased for the most part, reaching 8.9 in 1992. Then, beginning in 1993 and every year following, it fell. (See table 1.) Because the occupational injury and illness rate is such an important measure of employee well-being, the causes of the latter decline are of considerable interest. This article identifies the factors that have contributed to the rate decline and assesses their importance regarding future changes in the rate. Of particular interest is whether the decline will continue, flatten, or reverse itself and conform to a cyclical pattern.

The recent decrease is especially dramatic in light of the expected pattern of increased injuries and illnesses during economic expansions. The temporary drop in the rates in the early 1980s has been attributed to the concurrent effects of the recession. For example, Peter Dorman concludes that

> there is clearly a "cyclical" component to safety: it rises during periods of economic hardship, and falls during periods of growth. This may be due either to the speedup in the pace of work when orders pile up (this is implicit in Okun's law, according to which fluctuations in output exceed fluctuations in employment), or to the influx of new, inexperienced workers when hiring expands.[1]

In addition, the "records inspection" policy of the Occupational Safety and Health Administration (OSHA) from 1982 to 1986 (forgoing further investigation if an employer's records indicated safe workplace conditions) has been suspected of having been an incentive to underreport violations during that period; the policy was subsequently changed in the face of high-profile, large-penalty cases for recordkeeping violations.

The disaggregation of data by State reveals significant differences among States in the degree of the recent decline. Notably, the data indicate that the reductions in the national statistics cannot be attributed primarily to reductions in States with above-average rates. In fact, no significant correlation was found between the injury and illness rates in 1994 and the reductions achieved from 1994 to 1996. (See chart 1.)

Table 2 shows total and lost-workday injury and illness incidence rates by industry sector for 1992, 1994, and 1996, with the percent change in rates for 1992–96 and 1994–96. Viewed in this detail, the data reveal that on a national basis, many industry sectors have achieved reductions in injury and illness rates of 20 percent to 30 percent or more in recent years.

Several explanations have been given for the decline: the well-known shift in employment out of traditionally highly hazardous manufacturing

Hugh Conway is the Department of Labor Chair, Industrial College of the Armed Forces, National Defense University, Washington, DC. Jens Svenson is a senior economist in the Office of Regulatory Analysis, Occupational Safety and Health Administration, Department of Labor.

industry jobs and into relatively less hazardous service industry employment; an increase in underreporting of workplace injuries and illnesses; a growing emphasis on cost control among employers and insurers in response to rising worker compensation costs; increased efforts on the part of employers and unions to identify and eliminate workplace hazards; and more effective OSHA enforcement and consultation activities.

The analysis that follows identifies recent reforms in workers' compensation programs at the State level and industry initiatives in implementing workplace safety and health programs as being primarily responsible for the rate reduction. The various reforms and initiatives were triggered by sharp increases in workers' compensation costs over the previous decade. Efforts to identify the nature of these costs and to reduce them resulted in many diverse approaches and changes, including an increased emphasis on risk reduction.

Employment shift from high-hazard industries

One possible explanation for the decline in occupational injury and illness rates is that there has been a decline in employment in traditionally high-hazard industries, accompanied by growth in low-hazard industries. For example, in the high-hazard manufacturing industry, a long-term decline in employment continued into the 1990s. Manufacturing employment declined by more than 600,000 between 1990 and 1996 (from 19,076,000 to 18,457,000). (The reference year 1990 was selected rather than 1992 in order to avoid the business cycle effect of the 1992 recession.) In contrast, employment in the relatively low-hazard service industries continued to show strong long-term growth, increasing from 27,934,000 in 1990 to 34,377,000 in 1996.

Table 1. **Occupational injury and illness rates per 100 full-time workers, 1973–96**

Year	Total	Lost-workday rate
1973	11.0	3.4
1974	10.4	3.5
1975	9.1	3.3
1976	9.2	3.5
1977	9.3	3.8
1978	9.4	4.1
1979	9.5	4.3
1980	8.7	4.0
1981	8.3	3.8
1982	7.7	3.5
1983	7.6	3.4
1984	8.0	3.7
1985	7.9	3.6
1986	7.9	3.6
1987	8.3	3.8
1988	8.6	4.0
1989	8.6	4.0
1990	8.8	4.1
1991	8.4	3.9
1992	8.9	3.9
1993	8.5	3.8
1994	8.4	3.8
1995	8.1	3.6
1996	7.4	3.4

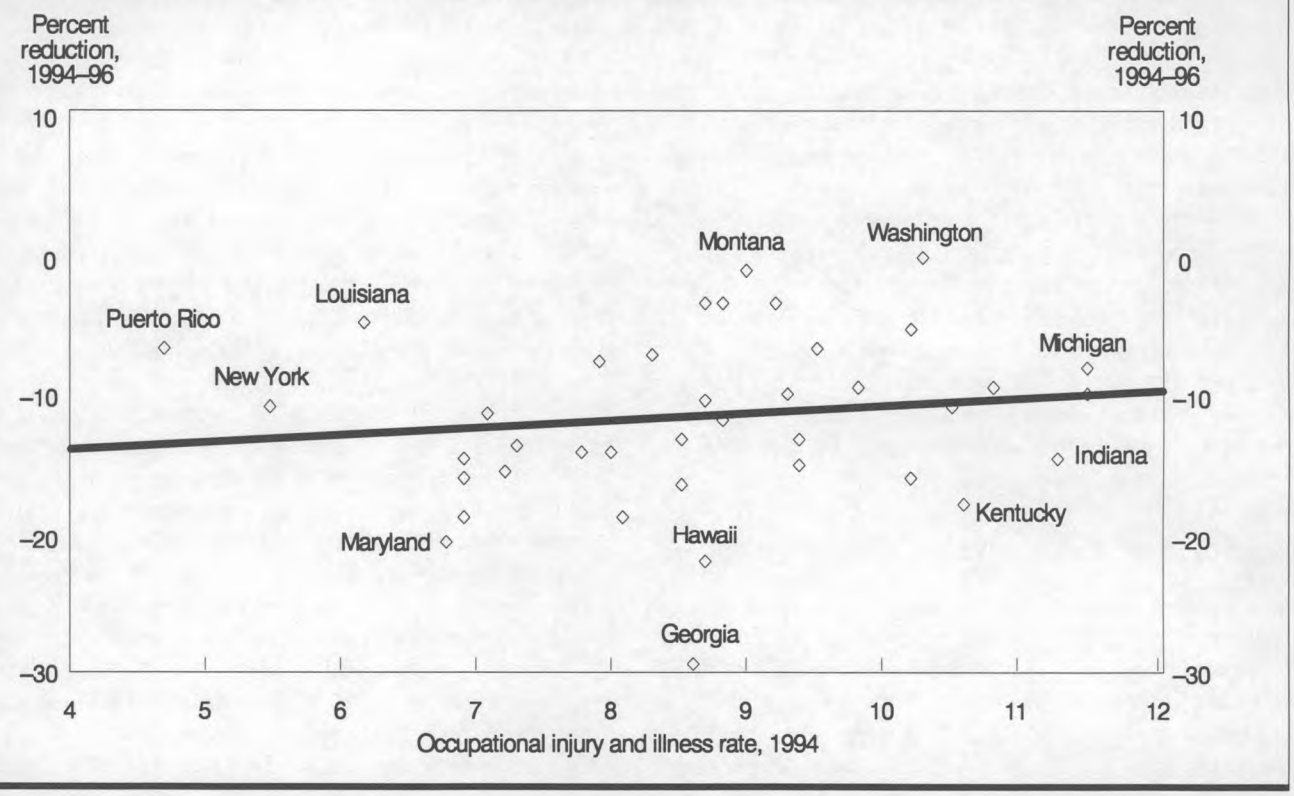
SOURCE: Bureau of Labor Statistics.

But the employment shift explanation for the decline appears problematic, for a number of reasons. First, when attention is focused on disaggregated industry employment details, it becomes clear that not all high-hazard industries in fact experienced a decline in employment during the period in question. In high-hazard construction, for instance, employment increased by 280,000 (from 5,120,000 to 5,400,000) between 1990 and 1996. Indeed, in a 1992 annual report, the Bureau of Labor Statistics identified and compiled a list of 36 detailed (that is, at the four-digit SIC level) manufacturing industries with the highest rates of nonfatal occupational injuries and illnesses.[2] Data from this list were matched against employment data on 20 of these high-incidence industries from the BLS State Current Employment Statistics program. (No employment data on the remaining 16 industries were found in the program.) The results of analyses carried out on these 20 industries are presented in table 3.

Employment in the 20 high-hazard industries increased from 1,813,200 to 2,009,500 over the period 1990–96. (Employment in these industries dipped to 1,805,900 during the 1992 recession.) Thus, the supposition that there has been an employment shift out of traditionally high-hazard industry sectors is not supported by these data. Further, while declines in occupational injury and illness rates were found in 18 of the 20 industries listed (the greatest reductions were in primary aluminum, –32.0 percent, and meatpacking plants, –31.8 percent), there were no concomitant declines in employment that might help to explain the reduction in the injury and illness rates found in manufacturing in recent years. The second reason the employment shift explanation fails is that the assumption that the decline in injury and illness rates is related to employment *growth* in low-hazard service industry occupations also appears suspect. Employment growth in many service sector jobs has led to an increase in attention on them and to a better appreciation of the hazards inherent in the jobs being created. At the three-digit level of industry detail, 10 service industry sectors had injury and illness rates equal to (job training and related services) or exceeding (hotels and motels, miscellaneous equipment rental and leasing, miscellaneous repair shops, commercial sports, miscellaneous amusement and recreational services, nursing and personal care facilities, hospitals, home health care services, and residential care) the total private-industry average rate of 7.4 percent.[3]

As an alternative explanation of why high-hazard industries are reducing their injury and illness rates, it has been

Chart 1. Occupational injury and illness rates, 1994, versus percent reduction, 1994–96, 38 States and Puerto Rico



suggested that automating high-hazard jobs may play a role. After automation of these jobs, the jobs that remain are inherently less dangerous, it is said, and thus the rates decline. To test this hypothesis, the share of production worker employment as a percent of total industry employment was analyzed using available BLS data. If the share were found to be declining, a case could be made for an employment shift out of high-hazard occupations and into clerical or supervisory jobs. The data, however, did not support the hypothesis: the production worker share of employment had increased in the majority of high-hazard industries between 1990 and 1996 (on average, from 78.6 percent to 80.5 percent).

In sum, the explanation that the recent decline in occupational injury and illness rates has been caused by an employment shift out of high-hazard industries and into low-hazard industries is not supported by the data.

Underreporting of injuries and illnesses

Companies, often unintentionally, perpetuate a variety of policies and management practices that may lead to poor recordkeeping. Among such practices and policies identified to date are the following:[4]

- Sheer neglect for the records, no training for the recordkeeper, no emphasis on maintaining records properly, downgrading recordkeeping to a collateral duty of a clerical or support staff person.
- Poor communications between different departments within the company, with the record keeper kept uninformed of injuries and illnesses, even when employees have reported them to their supervisors.
- Management bonuses and opportunities for promotion tied negatively to injury and illness rates.
- Employee group awards or bonuses if no injuries are reported by anyone in the group.
- Employees denied overtime or promotion opportunities for reporting an injury or for staying away from work.
- Subjection of employees who report injuries or illnesses to overly aggressive and personal accident investigations, including investigations of employees' personal lifestyles (for example, drug testing).

These disincentives to report occupational injuries and illnesses are difficult to address because they often reflect psychological factors and attitudes among people in the organization. Anything in the work environment that makes an employee uncomfortable with reporting an injury or illness to the company, or that makes the company unwilling or reluctant to record cases of injury or illness, could be seen as a disincentive. The result is that company injuries and illnesses will be chronically underreported.

Table 2. Total and lost-workday injury and illness rates, by industry, 1992, 1994, 1996, and percent change, 1992–96 and 1994–96

SIC code	Industry	Average employment, 1996 (thousands)	Total injury and illness rate					Lost-workday injury and illness rate				
			1992	1994	1996	Percent change		1992	1994	1996	Percent change	
						1992–96	1994–96				1992–96	1994–96
	Private sector	98,772.9	8.9	8.4	7.4	–16.9	–11.9	3.9	3.8	3.4	–12.8	–10.5
	Agriculture, forestry, fishing	1,717.4	11.6	10.0	8.7	–25.0	–13.0	5.4	4.7	3.9	–27.8	–17.0
	Mining	578.3	7.3	6.3	5.4	–26.0	–14.3	4.1	3.9	3.2	–22.0	–17.9
	Construction	5,359.7	13.1	11.8	9.9	–24.4	–16.1	5.8	5.5	4.5	–22.4	–18.2
15	General building contractors	1,256.1	12.2	10.9	9.0	–26.2	–17.4	5.4	5.1	4.0	–25.9	–21.6
16	Heavy construction, except building	770.7	12.1	10.2	9.0	–25.6	–11.8	5.4	5.0	4.3	–20.4	–14.0
17	Special trade contractors	3,332.9	13.8	12.5	10.4	–24.6	–16.8	6.1	5.8	4.8	–21.3	–17.2
	Manufacturing	18,460.5	12.5	12.2	10.6	–15.2	–13.1	5.4	5.5	4.9	–9.3	–10.9
	Durable goods manufacturing	10,774.4	13.4	13.5	11.6	–13.4	–14.1	5.5	5.7	5.1	–7.3	–10.5
	Nondurable goods manufacturing	7,686.0	11.3	10.5	9.2	–18.6	–12.4	5.3	5.1	4.6	–13.2	–9.8
20	Food and kindred products	1,690.0	18.8	17.1	15.0	–20.2	–12.3	9.5	9.2	8.0	–15.8	–13.0
21	Tobacco products	40.6	6.0	5.3	6.7	11.7	26.4	2.4	2.4	2.8	16.7	16.7
22	Textile mill products	627.6	9.9	8.7	7.8	–21.2	–10.3	4.2	4.0	3.6	–14.3	–10.0
23	Apparel and other textile products	866.1	9.5	8.9	7.4	–22.1	–16.9	4.0	3.9	3.3	–17.5	–15.4
24	Lumber and wood products	777.9	16.3	15.7	14.2	–12.9	–9.6	7.6	7.7	6.8	–10.5	–11.7
25	Furniture and fixtures	503.6	14.8	15.0	12.2	–17.6	–18.7	6.6	7.0	5.4	–18.2	–22.9
26	Paper and allied products	681.9	11.0	9.6	7.9	–28.2	–17.7	5.0	4.5	3.8	–24.0	–15.6
27	Printing and publishing	1,533.1	7.3	6.7	6.0	–17.8	–10.4	3.2	3.0	2.8	–12.5	–6.7
28	Chemicals and allied products	1,029.8	6.0	5.7	4.8	–20.0	–15.8	2.8	2.8	2.4	–14.3	–14.3
29	Petroleum and coal products	141.3	5.9	4.7	4.6	–22.0	–2.1	2.8	2.3	2.5	–10.7	8.7
30	Rubber and miscellaneous plastics products	979.9	14.5	14.0	12.3	–15.2	–12.1	6.8	6.7	6.3	–7.4	–6.0
31	Leather and leather products	95.7	12.1	12.0	10.7	–11.6	–10.8	5.4	5.3	4.5	–16.7	–15.1
32	Stone, clay, and glass products	544.1	13.6	13.2	12.4	–8.8	–6.1	6.1	6.5	6.0	–1.6	–7.7
33	Primary metal industries	709.6	17.5	16.8	15.0	–14.3	–10.7	7.1	7.2	6.8	–4.2	–5.6
34	Fabricated metal products	1,447.1	16.8	16.4	14.4	–14.3	–12.2	6.6	6.7	6.2	–6.1	–7.5
35	Industrial machinery and equipment	2,108.4	11.1	11.6	9.9	–10.8	–14.7	4.2	4.4	4.0	–4.8	–9.1
36	Electronic and other electrical equipment	1,655.4	8.4	8.3	6.8	–19.0	–18.1	3.6	3.6	3.1	–13.9	–13.9
37	Transportation equipment	1,785.2	18.7	19.6	16.3	–12.8	–16.8	7.1	7.8	7.0	–1.4	–10.3
38	Instruments and related products	853.3	5.9	5.9	5.1	–13.6	–13.6	2.7	2.7	2.3	–14.8	–14.8
39	Miscellaneous manufacturing industries	389.9	10.7	9.9	9.5	–11.2	–4.0	5.0	4.5	4.4	–12.0	–2.2
	Transportation and utilities	5,989.0	9.1	9.3	8.7	–4.4	–6.5	5.1	5.5	5.1	.0	–7.3
40	Railroad transportation	–	6.6	5.1	3.5	–47.0	–31.4	5.1	3.8	–2.7	–47.1	–28.9
41	Local and interurban passenger transit	416.3	11.0	9.6	10.3	–6.4	7.3	5.9	5.1	5.4	–8.5	5.9
42	Trucking and warehousing	1,622.7	13.4	14.8	10.4	–22.4	–29.7	7.9	9.2	5.9	–25.3	–35.9
43	U.S. Postal Service	–	–	–	–	–	–	–	–	–	–	–
	Water transportation	176.5	11.5	9.5	9.8	–14.8	3.2	5.5	5.1	5.2	–5.5	2.0
45	Transportation by air	1,119.2	13.8	13.3	17.9	29.7	34.6	7.6	8.0	11.8	55.3	47.5
46	Pipelines, except natural gas	14.5	3.1	2.4	2.0	–35.5	–16.7	1.6	1.4	.8	–50.0	–42.9
47	Transportation services	414.7	3.9	4.2	3.5	–10.3	–16.7	2.2	2.2	1.6	–27.3	–27.3
48	Communications	1,345.2	3.4	3.3	3.5	2.9	6.1	1.8	1.7	1.9	5.6	11.8
49	Electric, gas, and sanitary services	878.9	7.6	7.3	6.9	–9.2	–5.5	3.6	3.5	3.6	.0	2.9
	Wholesale and retail trade	28,027.1	8.4	7.9	6.8	–19.0	–13.9	3.5	3.4	2.9	–17.1	–14.7
	Wholesale trade	6,471.7	7.6	7.7	6.6	–13.2	–14.3	3.6	3.8	3.4	–5.6	–10.5
50	Durable goods wholesale trade	3,802.9	6.8	7.0	6.2	–8.8	–11.4	3.0	3.2	3.0	.0	–6.3
51	Nondurable goods wholesale trade	2,668.8	8.6	8.7	7.3	–15.1	–16.1	4.6	4.6	4.0	–13.0	–13.0
	Retail trade	21,555.3	8.7	–	6.9	–20.7	–	3.4	–	2.8	–17.6	–

In 1987, the Bureau of Labor Statistics conducted a pilot project to test the feasibility of a case-by-case comparison of OSHA employer injury and illness records with medical records, workers' compensation reports, and other related workplace records. The project involved visits by OSHA compliance officers to 200 randomly selected manufacturing establishments with more than 10 employees. Half of the establishments were in Massachusetts and half in Missouri. While this pilot project was not designed to provide statistical results for the Nation, the 200 sites that were visited did afford records of about 4,000 injury and illness cases reported in 1986.

The pilot survey uncovered evidence of both underreporting and overreporting. While virtually all overreporting involved cases with no lost work time, underreported cases were split between those with and without lost work time.[5] The project found that total injuries and illnesses were underrecorded by about 10 percent. (Two establishments were responsible for most of the undercount.) Lost-workday injury and illness cases were underrecorded by about 25 percent in the establishments visited.[6]

Table 2. Continued—Total and lost-workday injury and illness rates, by industry, 1992, 1994, 1996, and percent change, 1992–96 and 1994–96

SIC code	Industry	Average employment, 1996 (thousands)	Total injury and illness rate					Lost-workday injury and illness rate				
			1992	1994	1996	Percent change 1992–96	Percent change 1994–96	1992	1994	1996	Percent change 1992–96	Percent change 1994–96
52	Building materials and garden supplies	883.9	11.1	10.3	9.6	–13.5	–6.8	5.0	4.9	4.5	–10.0	–8.2
53	General merchandise stores	2,679.0	10.4	10.8	9.7	–6.7	–10.2	4.8	5.4	4.8	0.0	–11.1
54	Food stores	3,425.6	11.9	10.5	9.4	–21.0	–10.5	4.8	4.4	3.9	–18.8	–11.4
55	Auto dealers and service stations	2,261.0	8.0	7.4	6.8	–15.0	–8.1	2.9	2.8	2.5	–13.8	–10.7
56	Apparel and accessory stores	1,113.3	4.3	4.1	3.7	–14.0	–9.8	1.6	1.6	1.5	–6.3	–6.3
57	Furniture and home-furnishings stores	967.8	5.8	5.7	4.7	–19.0	–17.5	2.6	2.8	2.2	–15.4	–21.4
58	Eating and drinking places	7,516.7	9.1	7.7	6.2	–31.9	–19.5	3.1	2.6	1.9	–38.7	–26.9
59	Miscellaneous retail trade	2,708.0	5.0	4.5	4.1	–18.0	–8.9	2.1	2.0	1.9	–9.5	–5.0
	Finance, insurance, and real estate	6,746.2	2.9	2.7	2.4	–17.2	–11.1	1.2	1.1	.9	–25.0	–18.2
60	Depository institutions	2,014.9	2.1	2.1	1.8	–14.3	–14.3	.8	.8	.6	–25.0	–25.0
61	Nondepository institutions	512.2	1.0	1.5	1.1	10.0	–26.7	.4	.6	.4	.0	–33.3
62	Security and commodity brokers	551.5	.7	.7	.6	–14.3	–14.3	.3	.3	.2	–33.3	–33.3
63	Insurance carriers	1,376.9	–	2.6	2.1	–	–19.2	–	.9	.7	–	–22.2
64	Insurance agents, brokers, and services	707.0	1.4	1.4	1.4	.0	.0	.5	.5	.4	–20.0	–20.0
65	Real estate	1,372.0	6.8	5.7	5.4	–20.6	–5.3	3.1	2.7	2.4	–22.6	–11.1
67	Holding and other investment offices	211.7	2.7	1.9	2.8	3.7	47.4	1.3	.8	1.3	.0	62.5
	Services	31,894.7	7.1	6.5	6.0	–15.5	–7.7	3.0	2.8	2.6	–13.3	–7.1
70	Hotels and other lodging places	1,699.0	11.2	10.1	9.0	–19.6	–10.9	4.9	4.7	4.5	–8.2	–4.3
72	Personal services	1,181.5	5.1	4.1	3.8	–25.5	–7.3	2.3	1.9	1.8	–21.7	–5.3
73	Business services	7,336.3	5.4	4.9	3.9	–27.8	–20.4	2.6	2.4	1.7	–34.6	–29.2
75	Auto repair, services, and parking	1,081.0	7.8	6.9	5.9	–24.4	–14.5	3.3	2.9	2.5	–24.2	–13.8
76	Miscellaneous repair services	374.2	8.7	7.7	6.3	–27.6	–18.2	3.9	3.6	3.0	–23.1	–16.7
78	Motion pictures	–	–	3.0	–	–	–	–	1.0	–	–	–
79	Amusement and recreation services	1,524.8	10.1	9.0	9.5	–5.9	5.6	4.4	3.8	4.4	.0	15.8
80	Health services	9,439.2	10.2	9.4	9.1	–10.8	–3.2	4.1	3.9	3.7	–9.8	–5.1
81	Legal services	930.3	1.2	1.1	1.1	–8.3	.0	.5	.4	.4	–20.0	.0
82	Educational services	1,472.8	5.6	4.2	3.4	–39.3	–19.0	1.6	1.5	1.3	–18.8	–13.3
83	Social services	2,347.3	8.0	7.5	7.2	–10.0	–4.0	3.4	3.4	3.1	–8.8	–8.8
84	Museums, botanical gardens, and zoos	–	7.8	7.1	–	–	–	3.2	2.9	–	–	–
86	Membership organizations	975.4	–	–	3.5	–	–	–	–	1.3	–	–
87	Engineering and management services	2,865.5	2.4	2.6	2.0	–16.7	–23.1	1.0	1.1	.8	–20.0	–27.3
88	Private households	–	–	–	–	–	–	–	–	–	–	–
89	Services, not elsewhere classified	–	2.7	–	–	–	–	1.0	–	–	–	–

NOTE: Dash indicates data not available or (for percent change) calculation could not be made.
SOURCE: Bureau of Labor Statistics.

Table 3. **Total injury and illness rates, 1992 and 1996, and total employment and production workers in high-hazard industries, 1990 and 1996**

SIC code	Industry	Total injury and illness rate		Percent change, 1992–96	1990		1996	
		1992	1996		Total employment (thousands)	Production workers (percent of total employment)	Total employment (thousands)	Production workers (percent of total employment)
	Total	[1]26.8	[1]21.3	–17.8	1813.2	78.6	2009.5	80.5
2011	Meatpacking plants	44.4	30.3	–31.8	139.5	84.4	138.3	83.6
3731	Ship building and repairing	37.8	27.4	–27.5	129.5	72.8	98.2	73.1
3711	Motor vehicles and car bodies	32.3	26.1	–19.2	310.8	72.3	354.3	76.8
3321	Gray and ductile iron foundries	31.6	25.8	–18.4	81.8	81.3	80.3	82.8
3465	Automotive stampings	29.2	23.2	–20.5	99.7	83.2	118.3	83.8
3715	Truck trailers	25.0	19.4	–22.4	27.4	78.1	31.6	79.7
3325	Steel foundries, n.e.c.[2]	24.4	26.4	8.2	28.0	77.9	25.8	81.4
2015	Poultry slaughtering and processing	23.2	17.8	–23.3	194.1	90.2	233.1	89.1
2451	Mobile homes	23.0	26.2	13.9	43.4	80.6	64.4	83.9
3633	Household laundry equipment	22.6	16.7	–26.1	21.0	79.5	15.9	81.8
3713	Truck and bus bodies	22.3	21.0	–5.8	41.2	77.9	38.3	80.4
3462	Iron and steel forgings	21.1	19.4	–8.1	31.9	76.5	30.6	76.5
2013	Sausages and other prepared meats	21.0	16.3	–22.4	84.6	74.6	93.2	77.7
3792	Travel trailers and campers	20.5	19.7	–3.9	18.0	77.2	22.2	84.2
3322	Malleable iron foundries	20.3	16.7	–17.7	8.7	74.7	4.1	78.0
3365	Aluminum foundries	20.1	17.1	–14.9	23.7	78.9	24.9	82.3
3334	Primary aluminum	20.0	13.6	–32.0	25.5	76.1	22.5	79.6
3441	Fabricated structural metal	19.5	16.7	–14.4	77.0	71.7	76.5	73.5
3317	Steel pipes and tubes	19.2	13.9	–27.6	24.7	74.5	27.1	75.3
3714	Motor vehicle parts and accessories	19.2	16.9	–12.0	402.7	78.9	509.9	80.2

[1]Weighted average.
[2]n.e.c. = not elsewhere classified.
SOURCES: *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics, 1992*, Bulletin 2455 (Bureau of Labor Statistics, April 1995), p. 5; *Employment and Earnings*, March 1991, table B-2; March 1997, table B-12.

In 1996, as part of a major OSHA data collection initiative, about 80,000 establishments were asked to submit information on injuries and illnesses reported that year, together with the number of workers employed and the hours they worked. A follow-on data-quality audit program was designed to check the accuracy of the data submitted to the Agency, as well as overall injury and illness recordkeeping practices. This audit, directed by the Office of Management and Budget, was designed with the following aims in mind:

- Comparing the information submitted to OSHA with the employers' 1996 OSHA form 200, "Log and Summary of Injuries and Illnesses," and with the employers' records of employment and hours worked.
- Identifying recordable injury and illness cases and determining whether the establishment recorded them properly, underrecorded them, or overrecorded them.
- Interviewing the establishment's recordkeeper about the OSHA recordkeeping requirements and the establishment's recordkeeping practices.

In 1997, OSHA contracted with Eastern Research Group, Inc., of Lexington, Massachusetts, to conduct the follow-on pilot study of data collection quality and verification of employer injury and illness records. The eventual study design encompassed a statistical sample of more than 250 establishments nationwide. The sample frame included establishments with more than 60 employees and excluded establishments in the construction industry. OSHA compliance officers were part of each site visit team. The completion of more than 250 audits in 1998 produced results that were markedly similar to the 1987 pilot test results. While underreporting of recordable cases remained a persistent problem, there was no apparent increase in the size of the problem over the 10-year period between the studies.[7] Preliminary results of the audit included the following:

- Total injury and illness cases were underreported by 11 percent (10 percent in 1986).
- Lost-workday cases were underreported by 22 to 23 percent (25 percent in 1986).

In addition, no data were identified that would support the hypothesis of a sudden and dramatic increase in underreporting in the period studied. Decreases in rates were observed across many industries and States, but the degree of the reductions varied widely. Also, the greatest reductions were *not* concentrated in States or industries with higher initial rates.

Consequently, the findings of the audit and the characteristics of the injury and illness data suggest that the recent decline in occupational injury and illness rates is not *due to an increase in underreporting.*

Workers' compensation reforms

Market forces for change. By 1992, social welfare expenditures on workers' compensation claims had reached $45.7 billion, more than twice the $22.3 billion spent in 1985. Within the insurance industry and among a growing number of employers, concern with rising premium rates was increasing. Workers' compensation premium levels among States were being compared. States with high premium levels believed that they were losing jobs as industry moved out of State.[8] Action took the form of changes in State workers' compensation legislation, including increased penalties for fraudulent claims, limitations on benefits paid, medical and case management initiatives, improved efficiency in the structure and administration of the insurance market, the introduction of large-deductible insurance options for employers, and requirements or incentives for the implementation of safety and health programs.

The level of workers' compensation costs reached in the early 1990s spurred cost control efforts and created profitable business opportunities for reducing costs; the discovery and scope of such opportunities fundamentally altered approaches to safety and health. Previously, safety and health issues were often relegated to a minor management concern; the extent of effort devoted to safety and health protection could be measured by the limited resources devoted to that function. Injury rates, and especially medical and other costs resulting from an injury, were considered largely uncontrollable. Significantly elevated insurance costs increased both the urgency and profitability of cost reduction efforts. In turn, the pursuit of such efforts resulted in new realizations regarding the nature of the costs involved and new opportunities for improvements. Workplace accidents are gradually evolving from a budget item to a commitment to change the way work is carried out.

While many reforms in State workers' compensation law have focused on program cost reduction first and accident prevention second, changes in perspective and attitude appear to have led to a greater commitment to reduce risk, as opposed to viewing safety as a cost add-on. Reforms have affected hazard assessment, training, claims management, rehabilitation and return-to-work programs, safety incentives for employees, and entrepreneurial opportunities by specialist consultants. In the next section, reforms that focus on hazard reduction (workplace safety and health programs and medical cost deductibles) are presented first, followed by reforms designed to reduce the number of claims filed (programs designed to detect and more effectively prosecute insurance fraud) and then reforms aimed at cost reduction (return-to-work and program administration reforms).

State workers' compensation legislative reforms

1. Workplace safety and health programs. At a minimum, typical components of workplace safety and health programs would include hazard identification and control and safety and health training. Recent reforms in many State workers' compensation programs have made such programs mandatory, either for all employers or for targeted employers with high injury and illness rates. Voluntary programs have also been encouraged through statutory language. These workers' compensation legislative reforms have supplemented comparable programs mandated under State occupational safety and health authority. (Generally, the two kinds of programs do not overlap; that is, mandatory safety and health programs are not usually found simultaneously under a State's occupational safety and health program and its workers' compensation program. Exceptions are California, Minnesota, and North Carolina.) In addition, many employers in States that have not introduced such programs through legislation are voluntarily adopting and implementing safety and health programs in an effort to reduce workplace hazards and the related costs of accidents.

The unique influence and effect of these programs in reducing occupational injury and illness rates is the subject of debate. According to the Insurance Industry Institute,

> while it is difficult to separate the impact of safety measures from other factors that could cause claims to decline, results for Texas and Oregon, two [S]tates in the vanguard of the accident prevention movement, suggest that reforms have had a significant impact. Accident rate per 100 private sector employees dropped 11.4 percent in three years in Texas, from 8.0 in 1990 to 7.1 in 1993. In Oregon the recordable accident rate per 100 employees in the private sector has fallen from 11.1 in 1988 to 8.7 in 1994, a reduction of 21.6 percent.[9]

Significantly, mandatory legislation to implement safety and health programs affects less than 1 percent of employers in Texas. (In Oregon, an estimated 20 percent to 25 percent of all business establishments and 80 percent of employees are affected by mandatory State occupational safety and health program requirements.) The recorded change in occupational injury and illness rates in Texas appears broadly based and not limited only to firms affected by legislation.

Between 1990 and 1996, the incidence of lost-workday cases nationwide declined 20 percent, from 4.1 to 3.4 cases per 100 full-time workers.[10] Table 4 presents occupational injury and illness rate changes derived from BLS data for 38 States and Puerto Rico and from data on insurance lost-time claims provided to OSHA by the National Council on Compensation Insurance and covering 36 States and the District of Columbia. The correlation between changes in the Council's State data on lost-time claims counts and changes in the BLS State data on lost-workday injury and illness rates for 1994–96 was statistically significant at the 0.05 level, with a Pearson correlation coefficient of 0.458. The two data sets permitted a statistical construction of injury and illness rates for seven States and the District of Columbia.[11] However, no data are

available for five States: North Dakota, Ohio, Pennsylvania, West Virginia, and Wyoming. Also shown in table 4 are data from the National Council on Compensation Insurance on the "frequency per constant worker," a standardized measure of risk used in the insurance industry.

In table 4, the State data are banked to show States with mandatory safety and health programs and those without statutory requirements. Table 5 presents the mean and median injury and illness rates for 1996 and recent rate declines among four categories of State occupational safety and health programs: statutory under workers' compensation, statutory under the State Occupational Safety and Health Administration or under some other State statute, voluntary under workers' compensation, and no comprehensive safety and health program requirements.

All States experienced declines in injury and illness rates, and no statistically significant differences were found among the four groups of States. Nevertheless, the observed variations in 1996 rate levels and relative rate declines among the four invite commentary. Given the higher average rates among States with mandatory programs, these States may have opted for that approach because of their more serious accident records. Post-1996 legislative changes in workers' compensation laws in New York, endorsing mandatory safety and health programs for employers with poor safety records, indicate that this approach retains its appeal.[12]

But it takes time for safety and health programs to have an effect. Four States with voluntary programs implemented prior to 1992—Alabama, Colorado, Oklahoma, and Oregon (Oklahoma and Oregon also have mandatory programs affecting some employers)—continued to have total injury and illness rates above the national average in 1996. Relatively greater rate declines in States with voluntary occupational safety and health programs may be explained by those States' experimentation with more inventive, site-specific safety and health program reforms. Firms in States with such voluntary programs appear to be responding to market forces, especially cost containment of workers' compensation.

2. Medical care costs. Medical care cost reforms have been introduced that strongly encourage employers to assign a higher priority to safety. About one-quarter of the States allow a rate credit or discount (schedule rating) for high-quality safety programs. In some States, safety committees are required in workplaces with poor claims histories.

In a majority of States, optional medical deductibles are now included in workers' compensation insurance policies. Legislative changes in recent years have raised allowable deductible limits. The perception has grown that deductibles encourage greater safety consciousness among employers who must pay the deductible amount.[13] According to the Insurance Industry Institute, many States now allow insurers to use State-set fee schedules, to review treatment plans, and to "permit or mandate the use of managed care, an approach used by health care insurers but until recently not always encouraged, and sometimes prohibited, under workers' compensation laws."[14]

Lower medical costs through managed care and reductions in medical care expenses have been documented in several States, including New Jersey,[15] New York, and Florida. Under the new Florida law, approved managed care plans must show evidence that they utilize case management techniques and have procedures for aggressive medical care coordination that encourage a prompt return to work.[16]

3. Insurance fraud. Since 1992, more than half the States have passed laws that make it easier to detect and prosecute insurance fraud. Past perpetrators have included medical care providers, workers who filed claims for non-work-related injuries, and employers who submitted false figures for their payroll and misrepresented the tasks workers were performing in order to reduce their workers' compensation premium. In 1995, there were 100 convictions for workers' compensation fraud in California. In New York, reforms to reduce fraud included creating a new workers' compensation inspector general with broad investigative powers and making workers' compensation fraud a felony punishable by jail time.

4. Return to work. Several States passed return-to-work reforms to promote injured workers' reentry into the workforce, thus reducing the time required for them to receive lost-income benefits. Laws in this category target both employees (for refusing appropriate work) and employers (for refusing to take injured workers back). Surveys of employers suggest that early return-to-work programs are among the most effective cost-containment initiatives.

One company, RTW, Inc., specializes in managing return-to-work programs for other companies through job modification and accommodation. Since its start in 1992, this company has produced a 45-percent average annual return on equity and was among the 15 best performing small companies listed in *Forbes*. Special attention to managing claims and getting people back to work has saved employers an average of 50 percent on workers' compensation insurance.[17]

The increasing adoption of return-to-work programs and other types of case management techniques are reflected in BLS occupational injury and illness statistics. The proportion of lost-workday injuries and illnesses that involved days away from work dropped from 76.9 percent in 1992 to 64.7 percent in 1996. (The lost-workday rate also includes those on restricted duty or reassignment following a workplace accident with no time spent away from work.) Reductions in the rates of injuries and illnesses involving days away from work have been more dramatic than reductions in total injury and illness

Table 4. Injury and illness rates, 1994–96, and workers' compensation claims, 1992, 1994, and 1996, by jurisdiction and safety and health program requirement category

Jurisdiction	Nonfarm employment (thousands)	OSHA Inspections (Federal and State)			Inspections per 10,000 employees, FY1996	Bureau of Labor Statistics					
						1994 injury and illness rate		1996 injury and illness rate		Percent change, 1994–96	
		FY1992	FY1996	Percent change		Total	Lost-workday rate	Total	Lost-workday rate	Total	Lost-workday rate
With mandatory safety and health programs under workers' compensation											
Arkansas[1]	1,089.0	798	567	–28.9	5.2	9.4	4.3	8.2	3.5	–12.8	–18.6
California[2]	12,888.3	15,480	10,689	–30.9	8.3	8.1	4.0	6.6	3.4	–18.5	–15.0
Connecticut[3]	1,592.5	1,605	1,066	–33.6	6.7	8.5	4.1	7.4	3.6	–12.9	–12.2
Louisiana[4]	1,824.2	1,044	735	–29.6	4.0	6.2	2.9	5.9	2.8	–4.8	–3.4
Maine[5]	541.0	660	389	–41.1	7.2	10.5	5.6	9.4	4.8	–10.5	–14.3
Minnesota[6]	2,441.6	3,248	2,345	–27.8	9.6	8.7	3.8	8.4	3.7	–3.4	–2.6
Montana[7]	360.8	391	351	–10.2	9.7	9.0	3.2	8.9	3.3	–1.1	3.1
Nebraska[8]	839.2	295	141	–52.2	1.7	10.2	4.3	9.7	3.8	–4.9	–11.6
New Hampshire[9]	565.9	425	302	–28.9	5.3						
North Carolina[10]	3,599.5	2,156	4,313	100.0	12.0	7.8	3.5	6.7	3.0	–14.1	–14.3
Oklahoma[11]	1,368.6	1,102	744	–32.5	5.4	8.8	4.1	7.8	4.1	–11.4	.0
Pennsylvania[12]	5,345.0	3,197	2,508	–21.6	4.7						
Tennessee[13]	2,542.1	2,795	2,711	–3.0	10.7	9.4	4.3	8.0	3.8	–14.9	–11.6
Texas[14]	8,319.0	5,698	2,981	–47.7	3.6	7.1	3.5	6.3	3.1	–11.3	–11.4
Utah[15]	965.3	705	1,184	67.9	12.3	9.5	3.8	8.9	3.3	–6.3	–13.2
West Virginia[16]	700.7	546	481	–11.9	6.9	–	–	–	–	–	–
With mandatory safety and health programs under State OSHA or other State statute[17]											
Alaska[18]	262.9	1,215	408	–66.4	15.5	8.8	4.3	8.5	4.1	–3.4	–4.7
Florida[19]	6,237.6	2,433	1,399	–42.5	2.2	8.0	3.3	6.9	3.2	–13.8	–3.0
Hawaii[20]	529.2	1,802	910	–49.5	17.2	8.7	4.9	6.8	3.6	–21.8	–26.5
Michigan[21]	4,369.8	12,036	7,914	–34.2	18.1	11.5	5.2	10.6	4.9	–7.8	–5.8
Nevada[22]	859.3	2,160	1,262	–41.6	14.7	9.3	4.2	8.4	3.4	–9.7	–19.0
Oregon[23]	1,491.7	6,241	5,693	–8.8	38.2	8.7	4.2	7.8	3.8	–10.3	–9.5
Washington[24]	2,434.9	8,452	7,705	–8.8	31.6	10.3	4.2	10.3	3.9	.0	–7.1
With voluntary safety and health programs under workers' compensation[25]											
Alabama	1,831.0	1,342	548	–59.2	3.0	9.2	4.1	8.9	4.0	–3.3	–2.4
Colorado	1,913.2	1,263	1,023	–19.0	5.3	–	–	–	–	–	–
Kansas	1,242.4	518	197	–62.0	1.6	9.8	4.2	8.9	4.0	–9.2	–4.8
Massachusetts	3,064.7	2,223	1,582	–28.8	5.2	7.2	3.5	6.1	3.1	–15.3	–11.4
Missouri	2,579.5	1,854	515	–72.2	2.0	10.2	4.1	8.6	3.6	–15.7	–12.2
New Mexico	696.4	553	688	24.4	9.9	7.9	3.4	7.3	3.2	–7.6	–5.9
North Dakota	310.3	299	169	–43.5	5.4	–	–	–	–	–	–
Ohio	5,316.5	3,430	1,952	–43.1	3.7	–	–	–	–	–	–
Rhode Island	444.2	461	208	–54.9	4.7	8.5	4.1	7.1	3.6	–16.5	–12.2
South Carolina	1,678.6	2,800	1,815	–35.2	10.8	6.9	2.9	5.9	2.5	–14.5	–13.8
Without comprehensive safety and health program requirements											
Arizona	1,926.3	2,547	1,342	–47.3	7.0	8.3	3.6	7.7	3.3	–7.2	–8.3
Delaware	379.3	160	183	14.4	4.8	6.9	3.4	5.6	2.5	–18.8	–26.5
Georgia	3,546.4	1,761	779	–55.8	2.2	8.6	3.8	6.1	2.7	–29.1	–28.9
Idaho	497.7	491	221	–55.0	4.4	–	–	–	–	–	–
Illinois	5,694.9	3,017	1,764	–41.5	3.1	–	–	–	–	–	–

Table 4. **Continued—Injury and illness rates, 1994–96, and workers' compensation claims, 1992, 1994, and 1996, by jurisdiction and safety and health program requirement category**

Jurisdiction	Nonfarm employment (thousands)	OSHA Inspections (Federal and State)			Inspections per 10,000 employees, FY1996	Bureau of Labor Statistics					
						1994 injury and illness rate		1996 injury and illness rate		Percent change, 1994–96	
		FY1992	FY1996	Percent change		Total	Lost-workday rate	Total	Lost-workday rate	Total	Lost-workday rate
Indiana	2,826.9	4,762	3,208	–32.6	11.3	11.3	4.9	9.7	4.2	–14.2	–14.3
Iowa	1,383.6	948	648	–31.6	4.7	10.8	4.8	9.8	4.4	–9.3	–8.3
Kentucky	1,679.6	1,503	1,400	–6.9	8.3	10.6	5.0	8.7	4.1	–17.9	–18.0
Maryland	2,215.7	2,222	1,795	–19.2	8.1	6.8	3.4	5.4	2.6	–20.6	–23.5
Mississippi	1,094.8	742	469	–36.8	4.3	–	–	–	–	–	–
New Jersey	3,660.8	3,180	1,397	–56.1	3.8	6.9	3.2	5.8	2.6	–15.9	–18.8
New York	7,952.0	9,730	5,641	–42.0	7.1	5.5	2.8	4.9	2.4	–10.9	–14.3
South Dakota	350.2	175	87	–50.3	2.5	–	–	–	–	–	–
Vermont	276.2	646	529	–18.1	19.2	–	–	–	–	–	–
Virginia	3,159.3	2,579	2,222	–13.8	7.0	7.3	3.3	6.3	2.8	–13.7	–15.2
Wisconsin	2,620.8	1,935	829	–57.2	3.2	11.5	5.1	10.4	4.6	–9.6	–9.8
Wyoming	222.7	744	359	–51.7	16.1	–	–	–	–	–	–
Puerto Rico	–	1,450	1,604	10.6	–	4.7	3.9	4.4	3.5	–6.4	–10.3
District of Columbia	619.7	328	261	–20.4	4.2	–	–	–	–	–	–

Jurisdiction	National Council on Compensation Insurance									
	1992		1994		1996		Percent change, 1992–96		Percent change, 1994–96	
	Lost-time claims (number)	Frequency per constant worker	Lost-time claims (number)	Frequency per constant worker	Lost-time claims (number)	Frequency per constant worker	Lost-time claims	Frequency per constant worker	Lost-time claims	Frequency per constant worker
With mandatory safety and health programs under workers' compensation										
Arkansas[1]	11,584	67.3	7,922	61.4	6,171	47.6	–46.7	–29.3	–22.1	–22.5
California[2]	–	–	–	–	–	–	–	–	–	–
Connecticut[3]	22,464	48.8	16,315	44.2	14,291	36.8	–36.4	–24.6	–12.4	–16.7
Louisiana[4]	6,440	42.9	5,631	30.8	5,738	29.7	–10.9	–30.8	1.9	–3.6
Maine[5]	9,581	35.5	7,688	32.8	6,523	33.4	–31.9	–5.9	–15.2	1.8
Minnesota[6]	–	–	–	–	–	–	–	–	–	–
Montana[7]	1,024	27.3	1,454	28.5	1,882	23.8	83.8	–12.8	29.4	–16.5
Nebraska[8]	8,949	61.6	7,571	60.3	6,405	51.1	–28.4	–17.0	–15.4	–15.3
New Hampshire[9]	7,963	47.9	6,110	40.0	5,200	36.3	–34.7	–24.2	–14.9	–9.3
North Carolina[10]	25,027	40.8	14,403	42.1	11,712	33.4	–53.2	–18.1	–18.7	–20.7
Oklahoma[11]	9,751	43.8	7,705	42.3	7,879	39.8	–19.2	–9.1	2.3	–5.9
Pennsylvania[12]										
Tennessee[13]	23,818	41.2	16,496	39.1	11,157	30.7	–53.2	–25.5	–32.4	–21.5
Texas[14]										
Utah[15]	5,064	63.3	3,848	49.2	3,953	43.4	–21.9	–31.4	2.7	–11.8
West Virginia[16]	–	–	–	–	–	–	–	–	–	–
With mandatory safety and health programs under State OSHA or other State statute[17]										
Alaska[18]										
Florida[19]	5,793	35.4	5,381	29.5	4,141	24.7	–28.5	–30.2	–23.0	–16.3
Hawaii[20]	20,759	26.1	9,973	21.7	11,465	21.4	–44.8	–18.0	15.0	–1.4
Michigan[21]	16,373	71.1	14,527	58.0	6,552	38.7	–60.0	–45.6	–54.9	–33.3
Nevada[22]	38,155	38.6	31,596	36.4	26,737	31.5	–29.9	–18.4	–15.4	–13.5
Oregon[23]	–	–	–	–	–	–	–	–	–	–
Washington[24]	27,473	59.1	28,000	53.7	24,841	45.2	–9.6	–23.5	–11.3	–15.8
	–	–	–	–	–	–	–	–	–	–

Table 4. Continued—Injury and illness rates, 1994–96, and workers' compensation claims, 1992, 1994, and 1996, by jurisdiction and safety and health program requirement category

Jurisdiction	National Council on Compensation Insurance									
	1992		1994		1996		Percent change, 1992–96		Percent change, 1994–96	
	Lost-time claims (number)	Frequency per constant worker	Lost-time claims (number)	Frequency per constant worker	Lost-time claims (number)	Frequency per constant worker	Lost-time claims	Frequency per constant worker	Lost-time claims	Frequency per constant worker
With voluntary safety and health programs under workers' compensation[25]										
Alabama	14,809	48.3	6,773	39.0	4,261	43.1	–71.2	–10.8	–37.1	10.5
Colorado	22,506	44.9	20,378	37.9	17,234	33.8	–23.4	–24.7	–15.4	–10.8
Kansas	4,006	64.4	10,405	64.7	8,491	54.8	–39.4	–14.9	–18.4	–15.3
Massachusetts	–	–	–	–	–	–	–	–	–	–
Missouri	41,472	61.9	27,728	58.3	15,546	40.4	–62.5	–34.7	–43.9	–30.7
New Mexico	6,432	30.5	3,829	21.7	4,468	23.3	–30.5	–23.6	16.7	7.4
North Dakota	–	–	–	–	–	–	–	–	–	–
Ohio	–	–	–	–	–	–	–	–	–	–
Rhode Island	4,816	31.3	3,319	29.9	4,285	34.3	–11.0	9.6	29.1	14.7
South Carolina	12,576	65.5	9,561	65.8	8,857	52.6	–29.6	–19.7	–7.4	–20.1
Without comprehensive safety and health program requirements										
Arizona	10,681	32.1	11,118	30.9	9,331	24.7	–12.6	–23.1	–16.1	–20.1
Delaware	–	–	–	–	–	–	–	–	–	–
Georgia	24,525	45.2	13,633	42.2	11,470	33.3	–53.2	–26.3	–15.9	–21.1
Idaho	8,234	36.7	8,684	36.7	6,904	28.9	–16.2	–21.3	–20.5	–21.3
Illinois	66,086	35.6	57,283	33.8	47,163	28.5	–28.6	–19.9	–17.7	–15.7
Indiana	29,112	49.7	25,755	46.4	22,161	40.7	–23.9	–18.1	–14.0	–12.3
Iowa	20,668	61.4	17,272	60.5	14,819	50.8	–28.3	–17.3	–14.2	–16.0
Kentucky	14,000	66.3	10,070	68.3	5,504	42.9	–60.7	–35.3	–45.3	–37.2
Maryland	17,964	57.0	14,343	57.4	12,902	45.7	–28.2	–19.8	–10.0	–20.4
Mississippi	8,823	60.0	4,974	58.2	4,385	45.8	–50.3	–23.7	–11.8	–21.3
New Jersey	–	–	–	–	–	–	–	–	–	–
New York	–	–	–	–	–	–	–	–	–	–
South Dakota	3,827	49.0	3,204	50.2	2,778	40.2	–27.4	–18.0	–13.3	–19.9
Vermont	4,503	55.1	3,865	58.2	3,199	45.4	–29.0	–17.6	–17.2	–22.0
Virginia	20,116	44.2	15,805	42.9	12,321	31.7	–38.8	–28.3	–22.0	–26.1
Wisconsin	65,386	57.4	56,550	47.4	47,615	41.9	–27.2	–27.0	–15.8	–11.6
Wyoming	–	–	–	–	–	–	–	–	–	–
Puerto Rico	–	–	–	–	–	–	–	–	–	–
District of Columbia	2,810	33.1	2,254	34.5	1,689	28.1	–39.9	–15.1	–25.1	–18.6

NOTE: Dash indicates data not available.

[1]Employers with above-average injury and illness rate.

[2]Employers with above-average injury and illness rate; programs also implemented by State OSHA.

[3]Employers with above-average injury and illness rate.

[4]Employers with more than 15 employees; 15 percent of establishments, more than 75 percent of employees.

[5]Employers with injury and illness rate at least twice the average.

[6]Employers with more than 25 employees; programs also implemented without size limitation through State OSHA.

[7]Employers with more than 5 employees; 35 percent of establishments, 85 percent of employees.

[8]All employers.

[9]Employers with more than 10 employees; 20 percent of establishments, 80 percent of employees.

[10]Employers with injury and illness rates 1.5 times the average; programs also implemented through State OSHA.

[11]Employers with injury and illness rates 1.25 times the average; voluntary program coexists.

[12]Self-insured employers; voluntary program coexists.

[13]Employers with above-average injury and illness rate.

[14]Employers with "extrahazardous" workplaces; affects less than 1 percent of establishments.

[15]Employers with above-average injury and illness rate.

[16]Employers with above-average injury and illness rate.

[17]Excluding California, Minnesota, and North Carolina, which have mandatory programs under workers' compensation.

[18]All employers.

[19]Employers with more than 10 employees and employers with high rates; 20 percent of establishments, 80 percent of employees (limited State enforcement).

[20]All employers.

[21]Construction industry only.

[22]Employers with more than 10 employees; 25 percent of establishments, 85 percent of employees.

[23]Employers with more than 10 employees and employers with high rates; 20 percent of establishments, 80 percent of employees.

[24]All employers.

[25]Excludes Oklahoma and Pennsylvania, which also have mandatory programs under workers' compensation, and Oregon, which also has a mandatory program under a State OSHA.

rates. Between 1994 and 1996, the national days-away-from-work rate dropped by more than 21 percent, to 2.2, the lowest rate ever recorded. Table 6 presents the rates and the degrees of reduction for 38 States and Puerto Rico.

5. Program administration. In many States, reforms have addressed the amount of time and resources used to resolve disputes over benefits. Mechanisms to facilitate settlement, such as mandatory arbitration or mediation, are now being encouraged. They result in cost savings by getting the injured worker back to the workplace faster and reducing attorneys' fees.

Improvements in the administration of workers' compensation systems have been recorded in Hawaii with the creation of a special unit in the State labor department to improve the administration of claims filed.[18] In New York, legislative reform mandates the reduction of excessive paperwork in the claims process.

The introduction of cost-reducing incentives and reforms (competition and accountability, for example) has affected the administration of the insurance market. In Hawaii, a nonprofit insurance corporation to cover small businesses facing high premiums has been established. Administrative improvements have reduced the size of the residual market. In Massachusetts, following legislative reforms, the assigned risk pool for workers' compensation insurance, as a percentage of total market premiums, dropped from 66 percent in 1992 to 20 percent in 1996.[19] In 1995, Virginia's assigned risk market represented 24.3 percent of the total market. By 1996, the share had fallen to 15.7 percent, a 35-percent reduction; the number of employers in the assigned risk market decreased by 9 percent.[20]

Effects of reforms. Relying on data from the National Council on Compensation Insurance, the Insurance Industry Institute has documented the fact that States which passed comprehensive workers' reforms have experienced significant reductions in their premium rates in recent years. For example, employers in Montana experienced a rate drop of 14.6 percent in 1996, following legislative changes enacted in 1993 and 1995 that targeted fraud, workplace safety, and managed health care. In a number of States, after a period of chronically high and escalating rates in the 1980s, a succession of rate cuts followed workers' compensation reforms in the 1990s. Continuing declines were experienced in 1996 in Maine (a 10.9-percent reduction), Kansas (11.5 percent), Massachusetts (12.2 percent), Minnesota (24 percent), Michigan (15.7 percent), North Carolina (15.3 percent), and Illinois (13 percent).

In Oregon, following the implementation of a 1990 law promoting workplace safety programs, tightening compensation requirements, and revamping disputed settlement procedures, the State has experienced a rate reduction each year since 1991. In Mississippi, an antifraud emphasis, an increased attention to workplace safety, and reforms affecting the assigned risk pool led to rate declines that were expected to save $25.5 million during 1996–97. And in California, it was estimated that legislative changes in the State's workers' compensation program which took place in 1993 would result in a premium savings of almost $2 billion by 1995. Deregulation affecting the rates charged by the State's more than 300 insurers was also credited with contributing to savings.

Finally, the Insurance Industry Institute, again citing data from the National Council on Compensation Insurance, reported that claim costs between 1980 and 1990 increased 11 percent each year, on average, compared with an average annual increase of less than 2 percent for the 1991–95 period. The Institute identified successful employer efforts to prevent accidents as a reason for the decline.[21]

The broad decline in occupational injury and illness rates between 1992 and 1996 was a phenomenon that affected virtually all States for which data exist. Among 37 jurisdictions (36 States and the District of Columbia) for which the National Council on Compensation Insurance maintains data, 36 recorded reductions in the number of lost-work-time claims filed between 1992 and 1996 (the lone exception was Mon-

Table 5. **Mean and median injury and illness rates, 1996, and percent change in rates, by State safety and health program requirement category, 1994–96**

Safety and health program requirement category	Mean injury and illness rate, weighted by employment, 1996	Mean percent change in injury and illness rate, weighted by employment, 1994–96	Median injury and illness rate, 1996	Median percent change in injury and illness rate, 1994–96
States with mandatory safety and health programs under workers' compensation	7.0	–13.2	8.0	–11.3
States with mandatory safety and health programs under State OSHA[1]	8.6	–9.6	8.4	–9.7
States with voluntary safety and health programs under workers' compensation[2]	7.5	–12.3	7.3	–14.5
States without comprehensive safety and health program requirements	6.8	–14.9	6.2	–14.0

[1]Excluding California, Minnesota, and North Carolina, which are included in the first category .

[2]Excluding Oklahoma and Pennsylvania, which are included in the first category, and Oregon, which is included in the second.

tana); and 33 jurisdictions posted reductions in the value of claims paid. (See table 7.) All 39 jurisdictions (38 States plus Puerto Rico) for which the Bureau of Labor Statistics has publishable data had declines in either total rates, lost-workday rates, or both between 1994 and 1996. The impact of mandatory, as opposed to voluntary, State occupational safety and health program requirements was not significantly correlated with the rate declines. (See table 5.) Occupational safety and health programs were being implemented by establishments in all States for a variety of motives, not the least of which was cost containment.

During the period 1992–96, the average value of lost-worktime claims rose in 34 of the 37 jurisdictions for which the National Council on Compensation Insurance has data. (See table 7.) (In three States—Maine, New Mexico, and Rhode Island—the average value of claims paid declined.) This statistic reflects the impact of higher deductible amounts for medical costs under workers' compensation programs, which have resulted in a sharp drop in the number of minor lost-time claims recorded by insurance companies. Eliminating many minor cost claims has greatly reduced the number of claims in the National Council's reporting system, while simultaneously increasing the average cost of those claims which remain. The deductible amount, however, does not absolve an employer from recording an incident on OSHA reports collected by the Bureau of Labor Statistics. Increases in deductibles have contributed to a rise in the rate of lost-workday cases involving restricted work activity only. The rate for such restricted workday cases rose from 0.7 case per 100 workers in 1990 to 1.1 cases in 1996.[22]

Accordingly, the various reform initiatives brought about by State workers' compensation legislation, including the implementation of safety and health programs and reforms having to with medical care costs, insurance fraud, and administrative procedures, are seen as causal factors in explaining the decline in the occupational injury and illness rate in the 1990s. Accident cost containment is held to be the primary motive behind a nationwide industry adoption of safety and health programs (mandatory and voluntary, as well as statutory and nonstatutory) that contributed to injury and illness rate reductions during this period.

Industry recognition of hazards

In addition to legislative and administrative changes in State workers' compensation programs, industry interest in greater risk management, reduction in the number of accidents, and prevention of injuries in the workplace increased during the period under review. According to research carried out by the insurance industry, there was an upsurge of interest in process redesign, safety training, the enforcement of safety rules, and improved housekeeping: "Taking Massachusetts as an example, the Boston-based Workers Compensation Research Institute estimates that in that [S]tate about half of the cost reductions stemmed from legislative and administrative improvements, and as much as 30 percent was due to the actions of employers and insurers, independent of reform measures."[23] Within the insurance industry, Chubb Insurance Company published a guide for developing and maintaining a safety program for businesses.[24]

During the 1990s, Internet accessibility and advertising have facilitated the promotion of workplace safety and health programs. The National Council on Compensation Insurance, Inc., has taken a leadership role in this campaign. Headquartered in Boca Raton, Florida, the Council is the Nation's largest corporation providing information about workers' com-

Table 6. **Rates of injuries and illnesses involving days away from work in 38 States and Puerto Rico, 1994 and 1996**

Jurisdiction	1994	1996	Percent change
United States	2.8	2.2	–21.4
Alabama	3.0	2.5	–16.7
Alaska	3.8	3.6	–5.3
Arizona	2.8	2.0	–28.6
Arkansas	2.7	2.1	–22.2
California	2.7	2.1	–22.2
Connecticut	2.9	2.5	–13.8
Delaware	2.3	1.9	–17.4
Florida	2.5	2.0	–20.0
Georgia	2.5	1.7	–32.0
Hawaii	4.6	3.3	–28.3
Indiana	3.4	2.6	–23.5
Iowa	3.1	2.4	–22.6
Kansas	2.7	2.2	–18.5
Kentucky	3.7	2.4	–35.1
Louisiana	2.2	2.1	–4.5
Maine	3.3	2.5	–24.2
Maryland	2.8	2.1	–25.0
Massachusetts	2.5	2.3	–8.0
Michigan	3.0	2.4	–20.0
Minnesota	2.4	2.2	–8.3
Missouri	2.8	2.1	–25.0
Montana	2.8	2.7	–3.6
Nebraska	3.0	2.4	–20.0
Nevada	3.3	2.3	–30.3
New Jersey	2.9	2.1	–27.6
New Mexico	2.7	2.3	–14.8
New York	2.6	2.2	–15.4
North Carolina	2.4	1.9	–20.8
Oklahoma	3.3	3.0	–9.1
Oregon	3.0	2.6	–13.3
Puerto Rico	3.9	3.5	–10.3
Rhode Island	3.1	2.7	–12.9
South Carolina	2.1	1.6	–23.8
Tennessee	3.0	2.4	–20.0
Texas	2.4	2.0	–16.7
Utah	2.7	2.2	–18.5
Virginia	2.5	1.9	–24.0
Washington	3.5	3.1	–11.4
Wisconsin	3.7	3.0	–18.9

SOURCE: Bureau of Labor Statistics.

pensation and health care. The company provides database products, software, publications, and consultation services to State funding agencies, self-insureds, independent bureaus, agents, regulatory authorities, legislatures, and more than 700 other insurance companies. Industry outreach and educational campaigns typically feature the financial benefits to be gained by reducing work-related accidents and injuries.

The National Council's message has received dramatically increased attention through Internet advertising. A recent search using the Internet search engine "Webcrawler" and the keywords "OSHA inspections" produced a listing of almost 5,000 sites, a large proportion of which were consulting firms offering employers their services to conduct onsite safety inspections designed to identify and eliminate workplace hazards. Apparently, the advance in information technology in the 1990s has facilitated the promotion of safety and health reform in U.S. workplaces and has contributed to the decline in injury and illness rates.

The results of a survey conducted in June 1995 by the Insurance Research Council, Inc., in cooperation with the National Federation of Independent Business Education Foundation, provides documentation showing that there has been an increase in awareness of the problem of workplace injuries and illnesses among medium-sized and small businesses.[25] This survey of about 3,200 owners of such businesses found that 45 percent of the firms that were sampled considered workplace safety a significant problem or one of the most serious problems facing management. Most business owners sampled (73 percent) believed that their employees had a strong or somewhat strong commitment to workplace safety.

The sampled firms averaged more than five different actions taken to increase workplace safety in the 5 years preced-

Table 7. Number and value of workers' compensation claims paid in 36 States and the District of Columbia, 1992, 1994, and 1996

[Value in millions of dollars]

Jurisdiction	1992		1994		1996		Percent change, 1992–96		Percent change, 1994–96		Average value of claims paid		
	Number	Value	Number	Value	Number	Value	Number	Value	Number	Value	1992	1994	1996
Alabama	14,809	$241.2	6,773	$128.9	4,261	$99.9	–71.2	–58.6	–37.1	–22.5	$16,288	$19,034	$23,434
Alaska	5,793	111.8	5,381	103.1	4,141	97.1	–28.5	–13.2	–23.0	–5.8	19,299	19,157	23,444
Arizona	10,681	189.8	11,118	192.8	9,331	190.5	–12.6	.4	–16.1	–1.2	17,769	17,339	20,418
Arkansas	11,584	142.5	7,922	97.3	6,171	84.9	–46.7	–40.5	–22.1	–12.8	12,305	12,287	13,754
Colorado	22,506	494.1	20,378	505.0	17,234	491.7	–23.4	–.5	–15.4	–2.6	21,954	24,782	28,531
Connecticut	22,464	350.1	16,315	300.4	14,291	234.3	–36.4	–33.1	–12.4	–22.0	15,586	18,409	16,397
District of Columbia	2,810	64.5	2,254	57.5	1,689	43.8	–39.9	–32.0	–25.1	–23.8	22,945	25,512	25,960
Florida	20,759	670.5	9,973	396.4	11,465	487.8	–44.8	–27.3	15.0	23.1	32,300	39,746	42,544
Georgia	24,525	511.6	13,633	315.1	11,470	271.1	–53.2	–47.0	–15.9	–14.0	20,861	23,112	23,635
Hawaii	16,373	305.8	14,527	246.1	6,552	127.0	–60.0	–58.5	–54.9	–48.4	18,675	16,940	19,388
Idaho	8,234	113.6	8,684	125.2	6,904	119.3	–16.2	5.0	–20.5	–4.7	13,795	14,415	17,275
Illinois	66,086	1,095.4	57,283	983.9	47,163	902.3	–28.6	–17.6	–17.7	–8.3	16,576	17,176	19,132
Indiana	29,112	314.4	25,755	308.8	22,161	289.6	–23.9	–7.9	–14.0	–6.2	10,800	11,990	13,066
Iowa	20,668	191.6	17,272	180.9	14,819	178.6	–28.3	–6.8	–14.2	–1.3	9,269	10,473	12,050
Kansas	14,006	169.8	10,405	147.5	8,491	135.2	–39.4	–20.4	–18.4	–8.4	12,125	14,178	15,918
Kentucky	14,000	206.4	10,070	165.0	5,504	101.4	–60.7	–50.9	–45.3	–38.5	14,741	16,384	18,421
Louisiana	6,440	181.1	5,631	174.1	5,738	146.9	–10.9	–18.9	1.9	–15.6	28,116	30,911	25,601
Maine	9,581	149.2	7,688	106.5	6,523	91.3	–31.9	–38.8	–15.2	–14.3	15,575	13,847	13,994
Maryland	17,964	290.0	14,343	264.2	12,902	253.5	–28.2	–12.6	–10.0	–4.0	16,141	18,419	19,648
Michigan	38,155	701.1	31,596	640.2	26,737	630.6	–29.9	–10.1	–15.4	–1.5	18,376	20,263	23,587
Mississippi	8,823	127.8	4,974	84.9	4,385	83.1	–50.3	–35.0	–11.8	–2.1	14,488	17,076	18,953
Missouri	41,472	468.2	27,728	368.6	15,546	262.5	–62.5	–43.9	–43.9	–28.8	11,289	13,292	16,886
Montana	1,024	22.0	1,454	31.9	1,882	55.3	83.8	151.4	29.4	73.2	21,469	21,948	29,366
Nebraska	8,949	125.5	7,571	115.1	6,405	111.2	–28.4	–11.4	–15.4	–3.4	14,019	15,200	17,363
New Hampshire	7,963	125.6	6,110	117.2	5,200	105.7	–34.7	–15.9	–14.9	–9.8	15,779	19,179	20,329
New Mexico	6,432	105.6	3,829	66.5	4,468	59.5	–30.5	–43.6	16.7	–10.4	16,425	17,365	13,328
North Carolina	25,027	458.2	14,403	286.9	11,712	266.2	–53.2	–41.9	–18.7	–7.2	18,310	19,922	22,725
Oklahoma	9,751	180.6	7,705	153.0	7,879	220.8	–19.2	22.3	2.3	44.3	18,521	19,858	28,023
Oregon	27,473	447.6	28,000	473.2	24,841	434.3	–9.6	–3.0	–11.3	–8.2	16,293	16,902	17,484
Rhode Island	4,816	84.1	3,319	54.2	4,285	59.9	–11.0	–28.7	29.1	10.6	17,456	16,331	13,986
South Carolina	12,576	172.8	9,561	141.6	8,857	139.9	–29.6	–19.0	–7.4	–1.2	13,742	14,808	15,800
South Dakota	3,827	55.6	3,204	53.1	2,778	54.4	–27.4	–2.1	–13.3	2.4	14,524	16,588	19,597
Tennessee	23,818	411.9	16,496	317.2	11,157	225.2	–53.2	–45.3	–32.4	–29.0	17,295	19,228	20,181
Utah	5,064	59.1	3,848	44.7	3,953	57.0	–21.9	–3.5	2.7	27.7	11,668	11,605	14,431
Vermont	4,503	72.4	3,865	63.8	3,199	56.1	–29.0	–22.5	–17.2	–12.1	16,075	16,514	17,529
Virginia	20,116	429.6	15,805	367.1	12,321	339.9	–38.8	–20.9	–22.0	–7.4	21,354	23,227	27,586
Wisconsin	65,386	576.8	56,550	576.2	47,615	560.3	–27.2	–2.9	–15.8	–2.7	8,821	10,189	11,768

SOURCE: National Council on Compensation Insurance.

ing the survey. The six most common actions, each undertaken by a majority of the firms, were as follows:

- provided personal safety equipment
- provided safety-related training
- installed safety controls or other devices on equipment
- conducted an indepth inspection for hazards
- adopted written safety rules
- purchased safer equipment.

The business owners identified providing safety-related training, providing protective equipment, and having a safety committee (one of the less common actions adopted) as the most effective actions taken to increase workplace safety.

According to respondents of the survey, the cost of workers' compensation insurance and the "right thing to do" were the two most important motivations for taking action to increase safety. Also important were long-term profitability, complying with Federal and State safety regulations, having had too many accidents, and employee morale. Anomalously, the survey found that a large proportion of small-business owners were not aware of the impact of workers' compensation experience ratings on their insurance costs. Had they been, the survey might have documented an even stronger embrace of safety reforms and programmatic initiatives.

Hazard identification and reform efforts have been high on the agendas of several industrial and building trades unions. The most active unions seeking reform include the United Automobile Workers; Steelworkers; Oil, Chemical, and Atomic Workers; Service Workers; State, County and Municipal Workers; Textile and Amalgamated Clothing Workers; Rubber Workers; United Food and Commercial Workers; United Paper Workers International; International Association of Machinists; Teamsters; Office and Professional Employees International; and Building Trades Unions, especially the Laborers International, International Brotherhood of Electrical Workers, International Union of Operating Engineers, Sheet Metal Workers International Association, and International Brotherhood of Painters and Allied Trades.

Unions have pursued their objective of safer workplaces through lobbying efforts in Washington, DC, or at the bargaining table. In a recent survey of major collective bargaining agreements, clauses requiring local-level labor-management safety and health committees were found in 29.4 percent of all contracts reviewed, a figure that was up from 26.5 percent 20 years earlier.[26]

Results of hazard assessments conducted as part of a comprehensive safety and health program, together with complementary activities of unions and insurance companies, have drawn attention to hazards that historically have not been the focus of traditional safety standards. OSHA standards such as those addressing machine guarding, electrical safety, fire prevention, equipment design, and flammable and pressurized materials continue to be important in the prevention of injuries. However, partly due to the general acceptance and widespread adoption of these standards, a growing proportion of injuries and illnesses currently occurring, such as those associated with lifting, repetitive stress, trips and slips, and violence, are not specifically addressed by the standards. Site-specific comprehensive safety and health programs, together with further information and compliance assistance support activities, may be better suited to developing solutions to some types of hazards.

A growing awareness of workplace hazards among all affected parties, including unions, employers, and the insurance industry, apparently has translated into a will to take corrective action to address and reduce hazards. The effort to promote that awareness was facilitated by emerging Internet information technology. Combined with the will to change and a greater accessibility to expert guidance and recommendations for appropriate corrective workplace changes, this awareness has contributed to the recent reduction in workplace injury and illness rates.

OSHA measures to increase compliance

The level of OSHA field inspection activity has changed significantly over the past 10 years. While the number of compliance officers has remained relatively constant during the period, the number of inspections of establishments has declined, and compliance assistance services have increased. The shift in emphasis from inspections to compliance assistance began in the mid-1990s as a result of "reinvention" initiatives and congressional language attached to OSHA's appropriations. (See tables 8 and 9.)

Federal OSHA enforcement. In 1995, OSHA conducted 29,113 Federal inspections, compared with 42,377 in 1994, a 31-percent drop. The decline came about primarily from a change in focus in the construction sector that resulted in 9,703 fewer inspections. In part, the change was in response to critical congressional oversight and review.[27] During this period, consultation funds for States rose again to more than 10 percent

Table 8. **Compliance assistance, fiscal years 1994–98**

[Funding in thousands of dollars]

Fiscal year	Federal funding	Authorized staff	State funding	Total
1994	$12,992	93	$30,982	$43,974
1995	13,410	91	31,564	44,974
1996	34,822	266	32,479	67,301
1997	37,351	285	34,477	71,828
1998	43,927	285	35,373	79,300

Table 9. OSHA inspections and authorized compliance officers, fiscal years 1988–97

Fiscal year	Federal inspections			State plan 18(b) inspections	
	Total	Construction	Officers authorized	Total	Construction
1988	58,549	31,051	1,245	57,601	28,357
1989	54,679	28,837	1,277	57,481	26,240
1990	45,511	24,279	1,268	75,652	35,391
1991	42,113	22,336	1,290	82,484	36,200
1992	42,431	22,563	1,264	71,786	30,308
1993	39,536	20,298	1,220	62,199	24,585
1994	42,377	22,704	1,226	60,600	24,464
1995	29,113	13,001	1,234	60,573	23,926
1996	24,024	11,399	1,169	57,199	23,279
1997	34,264	18,280	1,235	56,623	22,582

of the OSHA annual budget, regaining their pre-1989 percentage share. (See table 10.)

In addition to the increasing contribution to funding for State consultation programs, Federal money for compliance assistance to States reached $35.4 million in fiscal year 1998, up from $31.0 million budgeted in fiscal year 1994. Direct Federal funding for compliance assistance increased substantially after fiscal year 1994 in response to the Presidential directive to "reward results, not red tape." In OSHA's case, that directive was implemented via programs such as the Voluntary Protection Program, focused inspections, waived penalties for "quick fix" violations, and reductions in penalties for "good faith" employer efforts. The programs represented an Agency effort to extend worker protection beyond the minimum required by OSHA standards. Employers were given a choice of partnership or traditional enforcement and were encouraged to implement comprehensive safety and health programs.

Three categories of Voluntary Protection Program were designed, to (1) recognize the outstanding achievement of those who had successfully incorporated comprehensive safety and health programs into total management systems, (2) motivate others to achieve excellent safety and health results in the same way, and (3) establish a relationship among employers, employees, and OSHA based on cooperation rather than coercion. In 1995, more than 200 sites participated in Federal and State Voluntary Protection Programs.

Participating sites do not have a schedule of inspections. Instead, highly qualified volunteers from the safety and health field conduct site inspections for OSHA. (Any employee complaints, serious accidents, or significant chemical releases that occur are handled according to routine enforcement procedures.) OSHA data indicate that firms which participate in the Voluntary Protection Program experience lost-workday rates that are generally 60 percent to 80 percent below industry averages.[28]

Beginning in 1994, OSHA began to experiment with a number of other reforms that affected compliance and inspection activity in the field. That year, under a focused-inspections program, OSHA encouraged employers in the construction industry to implement comprehensive safety and health programs. Where OSHA compliance officers found an effective program on-site, the Agency conducted an abbreviated inspection limited to the top four hazards that kill workers in the construction industry: falls from heights, electrocution, crushing (suffered, for example, during a cave-in of a trench), and being struck by material or equipment. Conversely, where a safety and health program did not exist or was ineffective, OSHA conducted a complete site inspection. The "choose your OSHA inspection" strategy received a positive reaction from construction industry employers and labor unions.

OSHA expanded its focused-inspections program in 1995 to target industry hazards outside of construction. Industries were chosen on the basis of their accident and illness rates and other historical data. OSHA worked with the targeted industries both to identify the most serious hazards in those industries, in order to focus attention upon them during inspections, and to encourage the industries to adopt effective safety and health programs. Effective programs were identified by reductions in accident rates.

Also in 1994–95, as part of its "reinvention" effort, OSHA began to recognize employers who demonstrated a high level of effective self-enforcement of safety and health requirements. For these employers, OSHA offered penalty reductions of up to 100 percent for violations. While the Agency's traditional policies already allowed reductions in penalties, the new program explicitly related such reductions to effective safety and health program reforms.

If OSHA determined, during the course of a workplace inspection, that an employer had implemented a superior safety and health program, it granted substantial reductions in the penalties that would otherwise be assessed for any violations found. Penalties were eliminated entirely for violations that did not involve significant safety or health threats to workers,

Table 10. OSHA budget and State consultation funding, fiscal years 1988–98

[In thousands of dollars]

Fiscal year	Budget	Consultation	Percent of budget accounted for by consultation
1988	$235,474	$23,995	10.2
1989	247,746	24,181	9.8
1990	267,147	24,891	9.3
1991	285,190	25,354	8.9
1992	296,540	26,597	9.0
1993	288,251	28,541	9.9
1994	296,428	30,982	10.5
1995	311,660	31,564	10.1
1996	303,810	32,479	10.7
1997	324,955	34,477	10.6
1998	336,480	35,373	10.5

Table 11. Changes in injury and illness rates, 1994–96, lost-time claims, 1992–96, and inspections, 1992–96 and 1994–96, by State, ranked by 1996 total injury and illness rate

State	Nonfarm employment (thousands)	Bureau of Labor Statistics				National Council on Compensation Insurance	Federal and State OSHA inspections					Inspections per 10,000 employees, FY1996
		1996 injury and illness rate		Percent change, 1994–96		Percent change in lost-time claims, 1992–96	FY1992	FY1994	FY1996	Percent change		
		Total	Lost-workday rate	Total	Lost-workday rate					1992–96	1994–96	
New York	7,952.0	4.9	2.4	–10.9	–14.3	–	9,730	7,970	5,641	–42.0	–29.2	7.1
Maryland	2,215.7	5.4	2.6	–20.6	–23.5	–10.0	2,222	1,960	1,795	–19.2	–8.4	8.1
Delaware	379.3	5.6	2.5	–18.8	–26.5	–	160	122	183	14.4	50.0	4.8
New Jersey	3,660.8	5.8	2.6	–15.9	–18.8	–	3,180	2,594	1,397	–56.1	–46.1	3.8
South Carolina	1,678.6	5.9	2.5	–14.5	–13.8	–7.4	2,800	2,265	1,815	–35.2	–19.9	10.8
Louisiana	1,824.2	5.9	2.8	–4.8	–3.4	1.9	1,044	955	735	–29.6	–23.0	4.0
Georgia	3,546.4	6.1	2.7	–29.1	–28.9	–15.9	1,761	1,726	779	–55.8	–54.9	2.2
Massachusetts	3,064.7	6.1	3.1	–15.3	–11.4	–	2,223	2,198	1,582	–28.8	–28.0	5.2
Texas	8,319.0	6.3	3.1	–11.3	–11.4	–	5,698	6,144	2,981	–47.7	–51.5	3.6
Virginia	3,159.3	6.3	2.8	–13.7	–15.2	–22.0	2,579	3,324	2,222	–13.8	–33.2	7.0
California	12,888.3	6.6	3.4	–18.5	–15.0	–	15,480	12,645	10,689	–30.9	–15.5	8.3
North Carolina	3,599.5	6.7	3.0	–14.1	–14.3	–18.7	2,156	3,795	4,313	100.0	13.6	12.0
Hawaii	529.2	6.8	3.6	–21.8	–26.5	–54.9	1,802	755	910	–49.5	20.5	17.2
Florida	6,237.6	6.9	3.2	–13.8	–3.0	15.0	2,433	2,681	1,399	–42.5	–47.8	2.2
Rhode Island	444.2	7.1	3.6	–16.5	–12.2	29.1	461	467	208	–54.9	–55.5	4.7
New Mexico	696.4	7.3	3.2	–7.6	–5.9	16.7	553	833	688	24.4	–17.4	9.9
Connecticut	1,592.5	7.4	3.6	–12.9	–12.2	–12.4	1,605	1,380	1,066	–33.6	–22.8	6.7
Arizona	1,926.3	7.7	3.3	–7.2	–8.3	–16.1	2,547	2,436	1,342	–47.3	–44.9	7.0
Oklahoma	1,368.6	7.8	4.1	–11.4	.0	2.3	1,102	953	744	–32.5	–21.9	5.4
Oregon	1,491.7	7.8	3.8	–10.3	–9.5	–11.3	6,241	5,562	5,693	–8.8	2.4	38.2
Tennessee	2,542.1	8.0	3.8	–14.9	–11.6	–32.4	2,795	2,832	2,711	–3.0	–4.3	10.7
Arkansas	1,089.0	8.2	3.5	–12.8	–18.6	–22.1	798	846	567	–28.9	–33.0	5.2
Minnesota	2,441.6	8.4	3.7	–3.4	–2.6	–	–3,248	2,902	2,345	–27.8	–19.2	9.6
Nevada	859.3	8.4	3.4	–9.7	–19.0	–	2,160	1,505	1,262	–41.6	–16.1	14.7
Alaska	262.9	8.5	4.1	–3.4	–4.7	–23.0	1,215	714	408	–66.4	–42.9	15.5
Missouri	2,579.5	8.6	3.6	–15.7	–12.2	–43.9	1,854	1,667	515	–72.2	–69.1	2.0
Kentucky	1,679.6	8.7	4.1	–17.9	–18.0	–45.3	1,503	1,382	1,400	–6.9	1.3	8.3
Montana	360.8	8.9	3.3	–1.1	3.1	29.4	391	405	351	–10.2	–13.3	9.7
Utah	965.3	8.9	3.3	–6.3	–13.2	2.7	705	1,140	1,184	67.9	3.9	12.3
Kansas	1,242.4	8.9	4.0	–9.2	–4.8	–18.4	518	892	197	–62.0	–77.9	1.6
Alabama	1,831.0	8.9	4.0	–3.3	–2.4	–37.1	1,342	1,207	548	–59.2	–54.6	3.0
Maine	541.0	9.4	4.8	–10.5	–14.3	–15.2	660	583	389	–41.1	–33.3	7.2
Nebraska	839.2	9.7	3.8	–4.9	–11.6	–15.4	295	357	141	–52.2	–60.5	1.7
Indiana	2,826.9	9.7	4.2	–14.2	–14.3	–14.0	4,762	3,442	3,208	–32.6	–6.8	11.3
Iowa	1,383.6	9.8	4.4	–9.3	–8.3	–14.2	948	785	648	–31.6	–17.5	4.7
Washington	2,434.9	10.3	3.9	.0	–7.1	–	8,452	5,790	7,705	–8.8	33.1	31.6
Wisconsin	2,620.8	10.4	4.6	–9.6	–9.8	–15.8	1,935	2,006	829	–57.2	–58.7	3.2
Michigan	4,369.8	10.6	4.9	–7.8	–5.8	–15.4	12,036	8,408	7,914	–34.2	–5.9	18.1
New Hampshire	565.9	–	–	–	–	–14.9	425	426	302	–28.9	–29.1	5.3
South Dakota	350.2	–	–	–	–	–13.3	175	120	87	–50.3	–27.5	2.5
Mississippi	1,094.8	–	–	–	–	–11.8	742	872	469	–36.8	–46.2	4.3
Pennsylvania	5,345.0	–	–	–	–	–	3,197	3,542	2,508	–21.6	–29.2	4.7
Illinois	5,694.9	–	–	–	–	–17.7	3,017	2,974	1,764	–41.5	–40.7	3.1
Colorado	1,913.2	–	–	–	–	–15.4	1,263	956	1,023	–19.0	7.0	5.3
Vermont	276.2	–	–	–	–	–17.2	646	765	529	–18.1	–30.8	19.2
Idaho	497.7	–	–	–	–	–20.5	491	415	221	–55.0	–46.7	4.4
Wyoming	222.7	–	–	–	–	–	744	386	359	–51.7	–7.0	16.1
North Dakota	310.3	–	–	–	–	–	299	245	169	–43.5	–31.0	5.4
Ohio	5,316.5	–	–	–	–	–	3,430	3,369	1,952	–43.1	–42.1	3.7
West Virginia	700.7	–	–	–	–	–	546	784	481	–11.9	–38.6	6.9

NOTE: Dash indicates data not available or (for percent change) calculation could not be made.

SOURCE: Bureau of Labor Statistics, National Council on Compensation Insurance, and Occupational Safety and Health Administration.

and citations were not issued for any such violations that were corrected during the course of the inspection. For employers who had less effective programs in place, but who were making good-faith efforts to comply with OSHA regulations, the Agency introduced a sliding scale of incentives.

Recognized elements of an effective safety and health program included a commitment to the program by management, meaningful employee involvement in the development and implementation of the program, training for workers and supervisors, diligent efforts to identify potential hazards in the workplace, and effective measures to prevent or control such hazards. The program had to be effective in practice and not just on paper. As evidence of the program's effectiveness, OSHA expected to find that the workplace had a verifiable low injury and illness rate, that the workplace had not been cited in the past 3 years for the gravest types of violations (willful, repeat, failure-to-abate, and high-gravity, serious violations), that there was documentation of an ongoing program to identify hazards, and that those hazards which were identified were corrected in a timely fashion.

The decline in the number of Federal field inspections reflected a major refocusing of OSHA's efforts to reduce workplace accidents. The extent to which the decline in injury and illness rates was influenced by this change in direction is difficult to quantify. As noted above, the audit of 1996 OSHA safety and health records found no increase in the extent of underreporting of accidents and illnesses over the 1986 level. If a significant increase in underreporting had been found, the decline in the number of inspections could have been viewed as a contributing factor to poor recordkeeping, and the rate decline might have been dismissed as illusory.

In sum, the increase in OSHA consultation and compliance assistance services during the period the occupational injury and illness rates declined, in combination with the focused inspections, indicates that the compliance assistance approach has been effective. But the unique influence of voluntary workplace safety and health programs on reducing injury and illness rates is very difficult to measure, given the concurrent activity in worker compensation reform. Nevertheless, a case can be made that the compliance assistance approach and the more selective compliance inspection approach introduced by OSHA during the 1994–96 period did contribute positively to the reduction in accident rates.

State OSHA enforcement. Inspection activity among the 23 State OSHA agencies during the 1994–96 period was similar to the Federal pattern, declining from 71,786 inspections in fiscal year 1992 to 57,199 in fiscal year 1996. Following the Federal OSHA example, States cut back substantially on construction inspections, which fell from 30,308 in fiscal year 1992 to 23,279 in fiscal year 1996. Table 11 shows the number of inspections by State, ranked by the 1996 total injury and illness rate.

Between fiscal years 1992 and 1996, the number of safety and health inspections declined in all States except Delaware (where the number increased from 160 inspections in 1992 to 183 in 1996), North Carolina (from 2,156 to 4,313), New Mexico (from 553 to 688), and Utah (from 705 to 1,184). Inspections in Puerto Rico also increased, from 1,450 in 1992 to 1,604 in 1996. By the latter year, the number of inspections in Puerto Rico exceeded the cumulative number of inspections conducted that same year in eight States: South Dakota (87), Nebraska (141), North Dakota (169), Delaware (183), Kansas (197), Rhode Island (208), Idaho (221), and New Hampshire (302). In 1996, only two States had inspection rates that exceeded 30 per 10,000 employees: Oregon (38.2) and Washington (31.6). No other State reached a rate of 20. (See table 11.)

The redirection in effort from compliance inspections with traditional regulatory enforcement to compliance assistance and consultation was clearly reflected in the general decline in the number of State inspections over the period 1992–96. The decline was not accompanied by an increase in occupational injury and illness rates. Instead, rates declined largely in response to legislative changes in State workers' compensation programs and the implementation of workplace safety and health programs, which the redirection of Federal and State OSHA efforts helped to promote.

OSHA reform efforts during this period (made, in part, in response to criticisms from the Congress and encouragement from the White House) affected the Agency's inspection strategy and resulted in a renewed emphasis on outreach, partnering, and working cooperatively with employers to address workplace hazards. The change in approach complemented market influences affecting industry, namely, escalating costs for workers' compensation programs and the dawning realization that corrective action was needed to reduce workplace accidents. The OSHA reforms reinforced and supported industry initiatives and contributed to the decline in occupational injury and illness rates. □

Footnotes

ACKNOWLEDGMENT: We acknowledge with gratitude the support and comments provided by William Weber and Janice Devine, Office of Safety, Health, and Working Conditions, Bureau of Labor Statistics; Joe DuBois, Jim Maddux, and Dave Schmidt, Office of Statistics, Occupational Safety and Health Administration (OSHA); Ned Comm, Beth Abrams, and Scott Blumenfeld, National Council on Compensation Insurance, Inc.; Elizabeth Grossman, Directorate of Safety Standards, OSHA; Frank Frodyma, Directorate of Policy, OSHA; Ron Sissel, Reinvention Office, OSHA; and Fred Siskind, Policy Office, U.S. Department of Labor. The analyses and opinions presented in this article are those of the authors.

[1] Peter Dorman, *Markets and Mortality* (Cambridge, U.K., Cambridge University Press, 1996), p. 15.

[2] *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics, 1992*, Bulletin 2455 (Bureau of Labor Statistics, April 1995).

[3] Compare Joseph R. Meisenheimer II, "The services industry in the 'good' versus 'bad' jobs debate," *Monthly Labor Review*, February 1998, pp. 22–47.

[4] Memorandum from Jim Maddux, Office of Statistics, Occupational Safety and Health Administration, Apr. 1, 1998.

[5] William M. Eisenberg and Helen McDonald, "Evaluating workplace injury and illness records; testing a procedure," *Monthly Labor Review*, April 1988, pp. 58–60; see especially p. 59.

[6] *Norwood Plans BLS Action to Improve Occupational Safety and Health Data*, News Release USDL-87-444 (Bureau of Labor Statistics, Oct. 16, 1987).

[7] Interview with David Schmidt, Office of Statistics, Occupational Safety and Health Administration, May 28, 1998.

[8] Commonwealth of Pennsylvania, "Workers' Compensation Reform: The Bottom Line Is Jobs," on the Internet at **http://www.state.pa.us/PA_Exec/Governor/wcleg3.html** (visited Aug. 15, 1996).

[9] Insurance Industry Institute, "Workers Compensation," May 1998; an updated version is on the Internet at **http://www.iii.org/media/issues/workers.html.**

[10] *Lost-Worktime Injuries and Illnesses: Characteristics and Resulting Time Away from Work, 1996*, News Release USDL 98-157 (Bureau of Labor Statistics, Apr. 23, 1998).

[11] Results of this analysis may be obtained from the authors.

[12] State Insurance Fund, New York, Mar. 17, 1998. Workers' compensation rates were reduced an average of 26.2 percent from 1996 to 1997 as a result of legislative reforms passed in 1996. Changes included requirements for employers with poor safety records (an experience rating above 1.2) to adopt safety programs or face tough new sanctions, the creation of a new Workers' Compensation Inspector General with broad investigative powers, making workers' compensation fraud a felony punishable by time in jail, expanded use of managed care to treat workplace injuries, and the reduction of excessive paperwork in the claims process.

[13] Insurance Industry Institute, "Workers Compensation."

[14] *Ibid.*

[15] News release, Office of Governor, Trenton, New Jersey, Oct. 16, 1997. Workers' compensation insurance premiums will be reduced for the third consecutive year; beginning January 1998, rates will be reduced by an average of 9.3 percent. Contributing factors to the reductions that were cited in the news release were stepped-up workplace safety efforts by employers to reduce the number and severity of work-related injuries and a decline in the cost of providing medical services by insurers through the use of quality managed care. The 9.3-percent reduction for 1998 follows reductions of 11.2 percent in 1997 and 3.6 percent in 1996.

[16] Announcement by National Council on Compensation Insurance, Inc., Feb. 19, 1997.

[17] Nina Munk, "Can't lift boxes? Then sweep the floors," *Forbes*, Nov. 4, 1996, on the Internet at **http//www.forbes.com/forbes/110496/5811167a.htm.**

[18] *Honolulu Star-Bulletin*, Honolulu, Hawaii, Oct. 3, 1997. Workers' compensation rates were reduced by 10.5 percent beginning Nov. 1, 1997; this figure follows a reduction of 27 percent last year. Legislative reforms since 1995 credited with the reductions are the formation of a nonprofit insurance corporation to cover small businesses facing high premiums, the creation of the aforementioned special unit in the State labor department, and the creation of incentives for employers who set up prevention programs.

[19] Massachusetts Department of Industrial Accidents, Feb. 13, 1998. Workers' compensation legislative reforms were enacted in 1991, and costs are expected to drop even further as the reforms continue to work. Rates charged to employers for workers' compensation insurance will decrease by 21.1 percent in 1998, the fourth year in a row with a reduction and the largest reduction yet. The number of claims filed has been reduced from more than 40,000 to 22,000.

[20] National Council on Compensation Insurance, Inc., July 1, 1997, announcement of changes in Virginia workers' compensation.

[21] Insurance Industry Institute, "Workers Compensation."

[22] *Workplace Injuries and Illnesses in 1996*, News Release USDL 97-453 (Bureau of Labor Statistics, Dec. 17, 1997), p. 3.

[23] Insurance Industry Institute, "Workers Compensation."

[24] "Small Business Best Practices for Workplace Safety," in *The Rewards of Managing Risk: A Guide for Entrepreneurs and Managers* (Warren, NJ, Chubb Group, 1997), also on the Internet at **http://www.chubb.com.businesses/entguide.html.**

[25] Insurance Research Council, in cooperation with the National Federation of Independent Business Education Foundation, *Motivating Safety in the Workplace*, survey carried out June 1995; available from the Insurance Research Council, Inc., 211 S. Wheaton Ave., Suite 410, Wheaton, IL 60187.

[26] George R. Gray, Donald W. Myers, and Phyllis S. Myers, "Collective bargaining agreements: safety and health provisions," *Monthly Labor Review*, May 1998, pp. 13–35.

[27] *OSHA Potential to Reform Regulatory Enforcement Efforts*, GAO/T-HEHS-96-42 (General Accounting Office, Oct. 17, 1995).

[28] *OSHA Inspections*, revised edition, OSHA 2098 (Occupational Safety and Health Administration, 1996), p. 14.

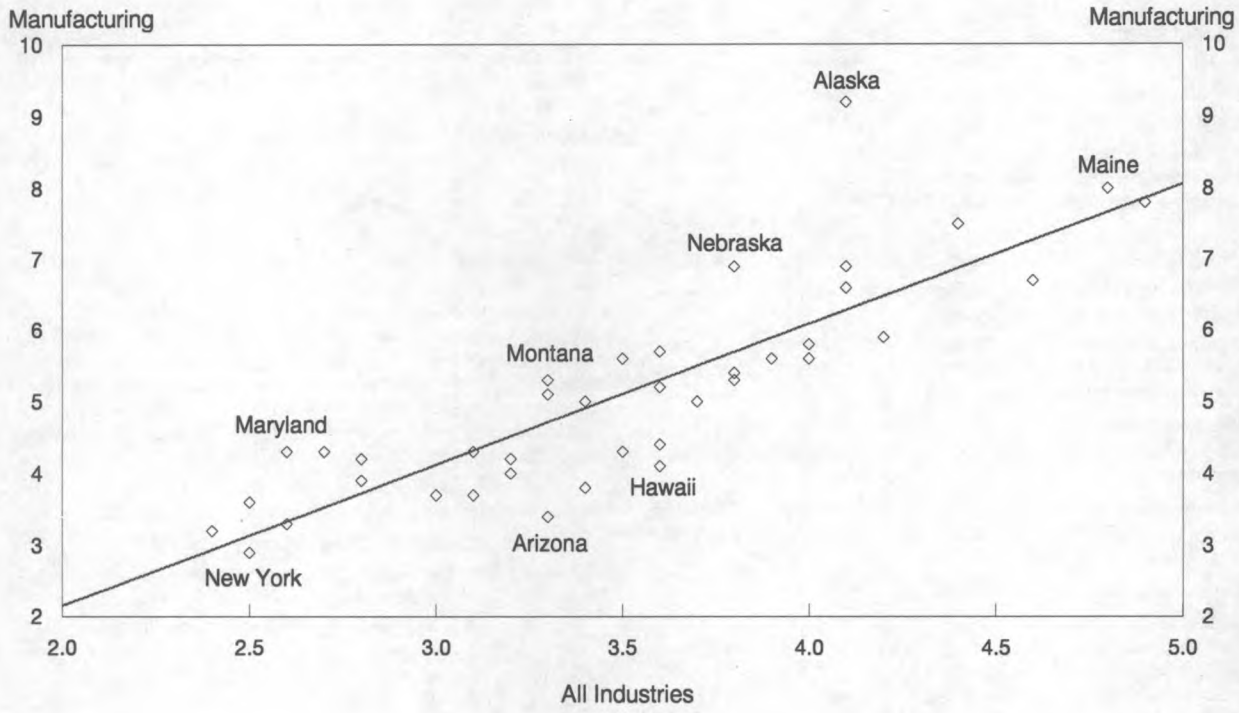
Appendix: Data analysis

In addition to relying on data from the BLS annual publication *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics*, the analysis in this article was based on previously unpublished data from the following sources:

- Bureau of Labor Statistics, occupational injury and illness rates, by industry, for 38 States and Puerto Rico, 1994–96.
- Office of Statistics, U.S. Occupational Safety and Health Administration, four-digit level of industrial detail, occupational injury and illness rates, 1989–96.
- Office of Statistics, OSHA, preliminary results from the Eastern Research Group/OSHA compliance audits of 1996 recorded injury and illness cases in 250 establishments.
- National Council on Compensation Insurance, lost-time claim counts, average cost per claim, and frequency per constant worker, for 36 States and the District of Columbia, 1992–96.
- OSHA, Integrated Management Information System Internet file, total establishment inspections, by State, for fiscal years 1992 and 1996.

BLS State-level data were reviewed to determine the importance of industry rate changes on data at that level. Chart A-1 compares the relationships between lost-workday injury and illness rates in manufacturing and construction with the all-industry rate, by State, for 1996. In general, the match was closer for manufacturing than for construction. A comparison of the percent reductions in the manufacturing and construction rates between 1994 and 1996 reveals that neither industry division consistently followed State all-industry rate changes, although the changes were similar in scope and direction for the industry divisions. (See chart A-2.)

Chart A-1. Lost-workday injury and illness rates, all industries versus manufacturing and construction, 1996, 38 States and Puerto Rico



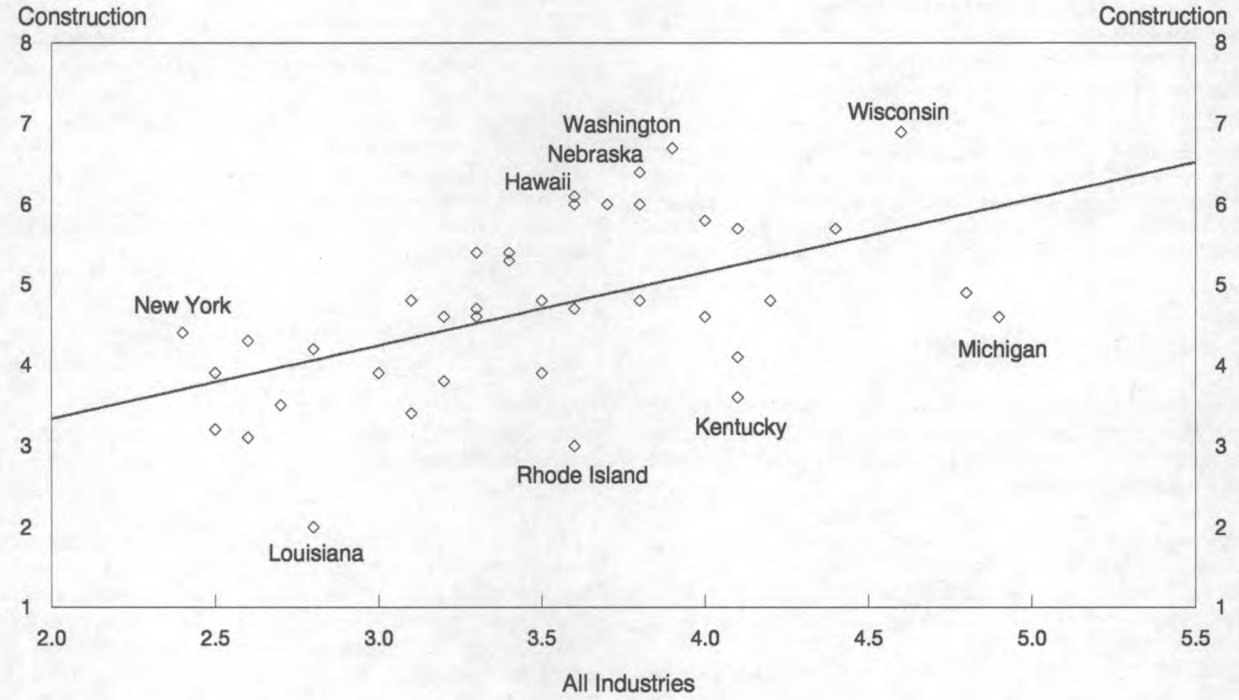
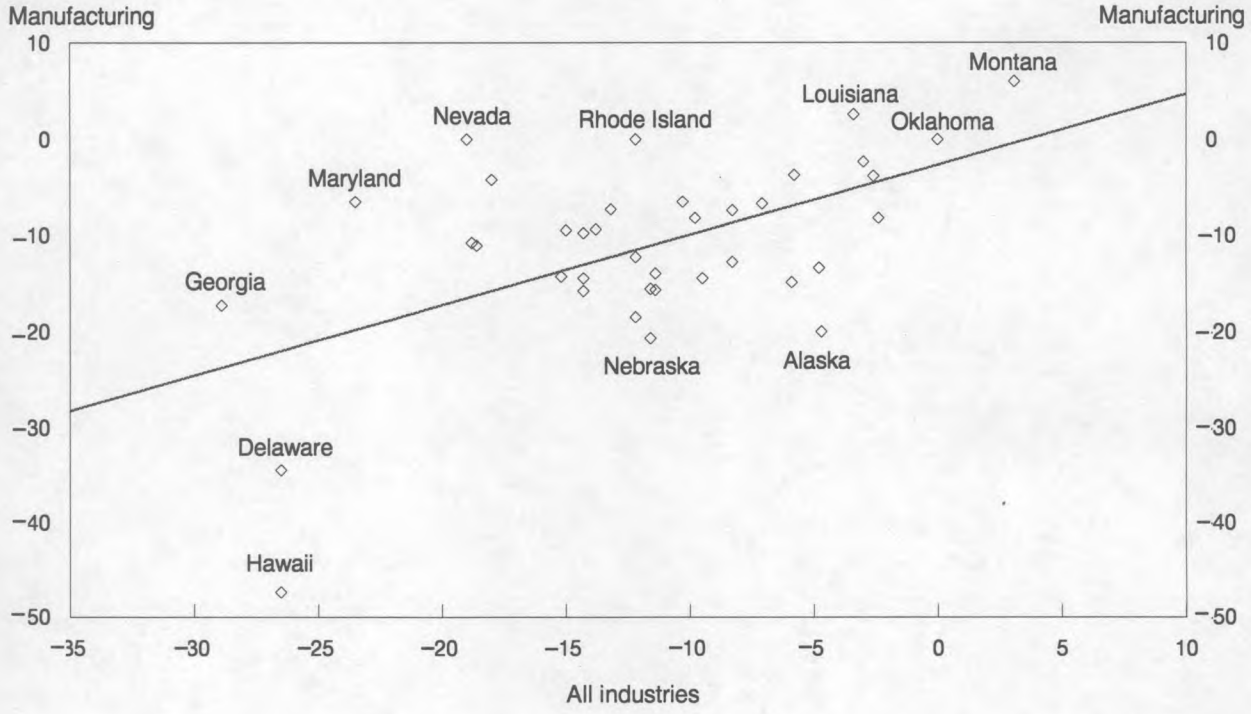


Chart A–2. Percent reduction in lost-workday injury and illness rates, all industries versus manufacturing and construction, 1994–96, 38 States and Puerto Rico



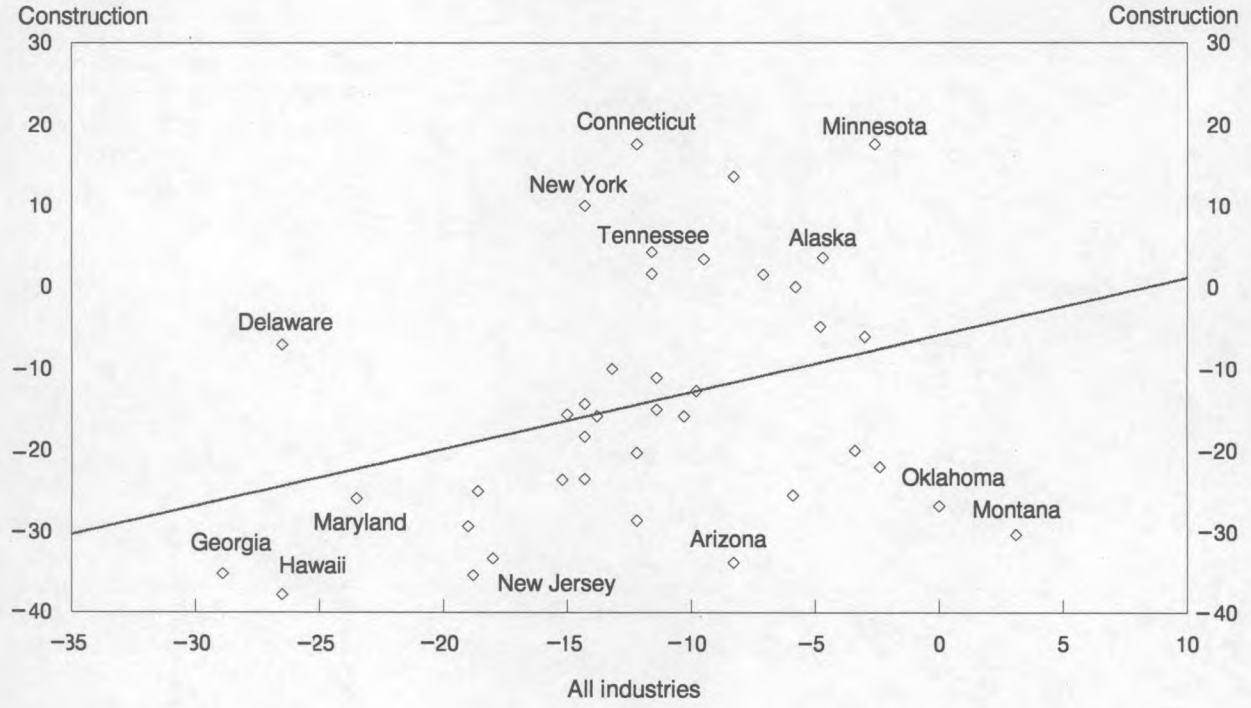


Chart A–3. **Lost-workday injury and illness rates, all industries, 1994, and percent reduction, 1994–96, 38 States and Puerto Rico**

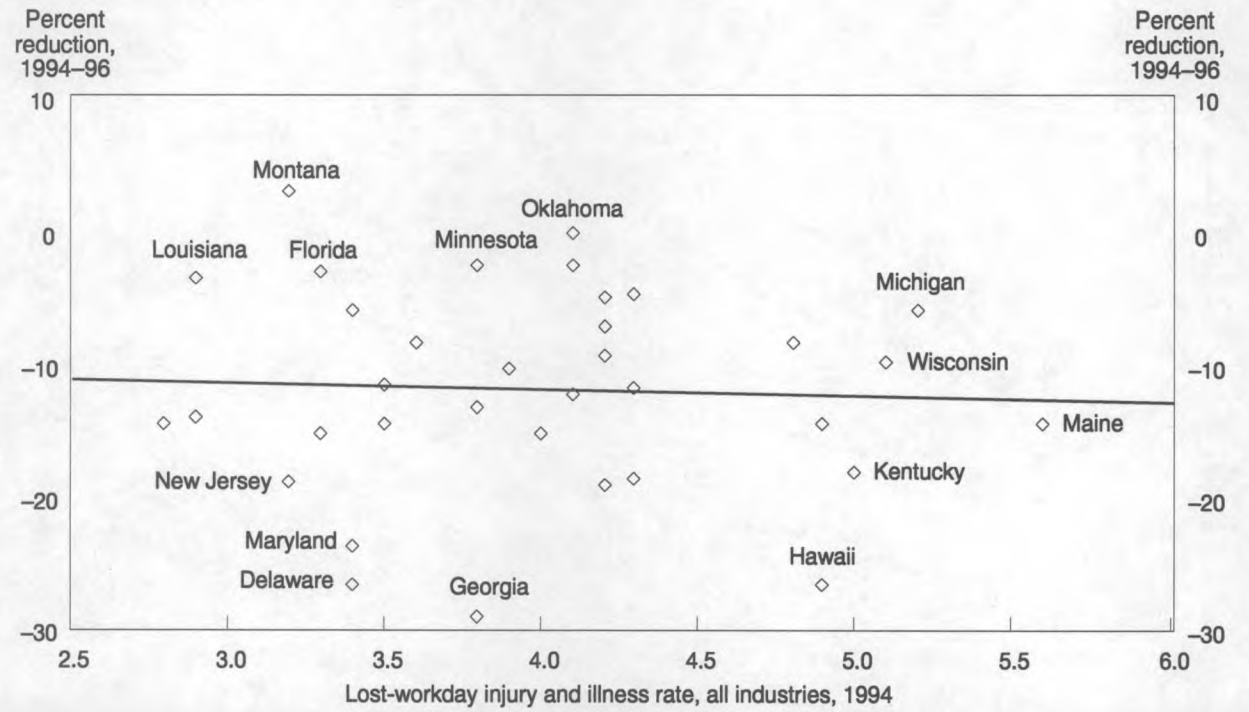


Chart A–4. **Percent change in lost-time claims rate and in frequency per constant worker, 1992–96, 36 States and District of Columbia**

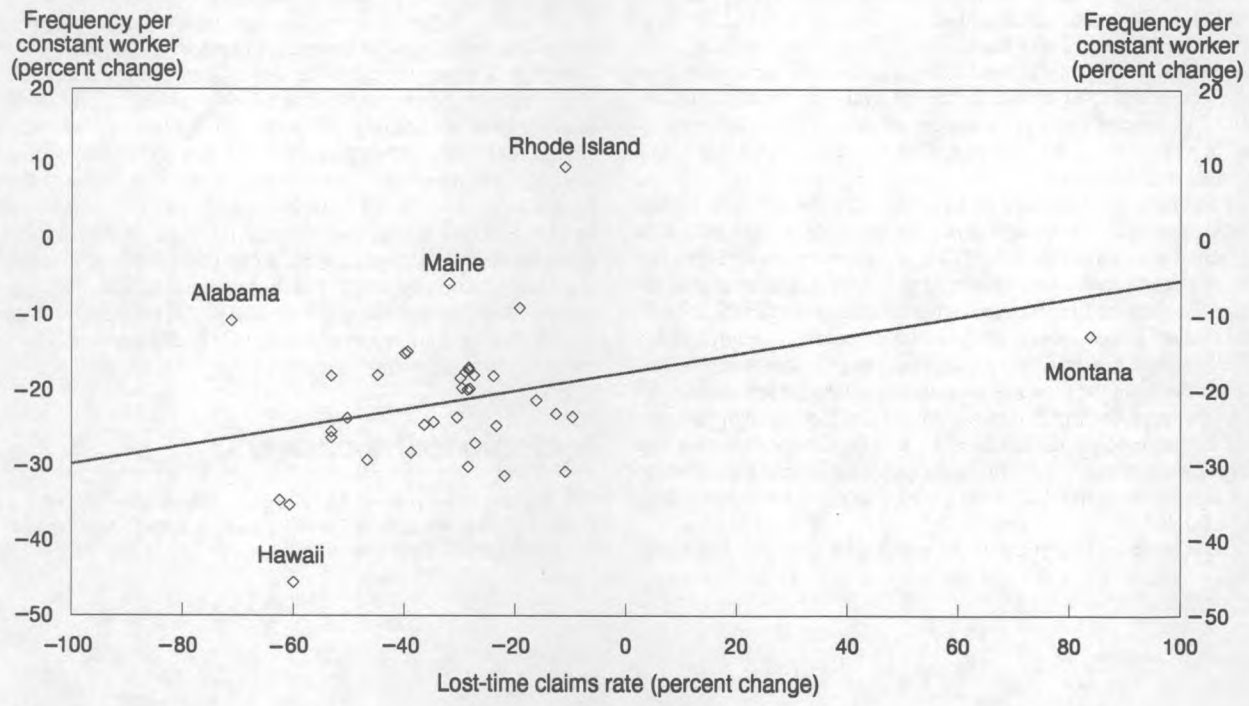
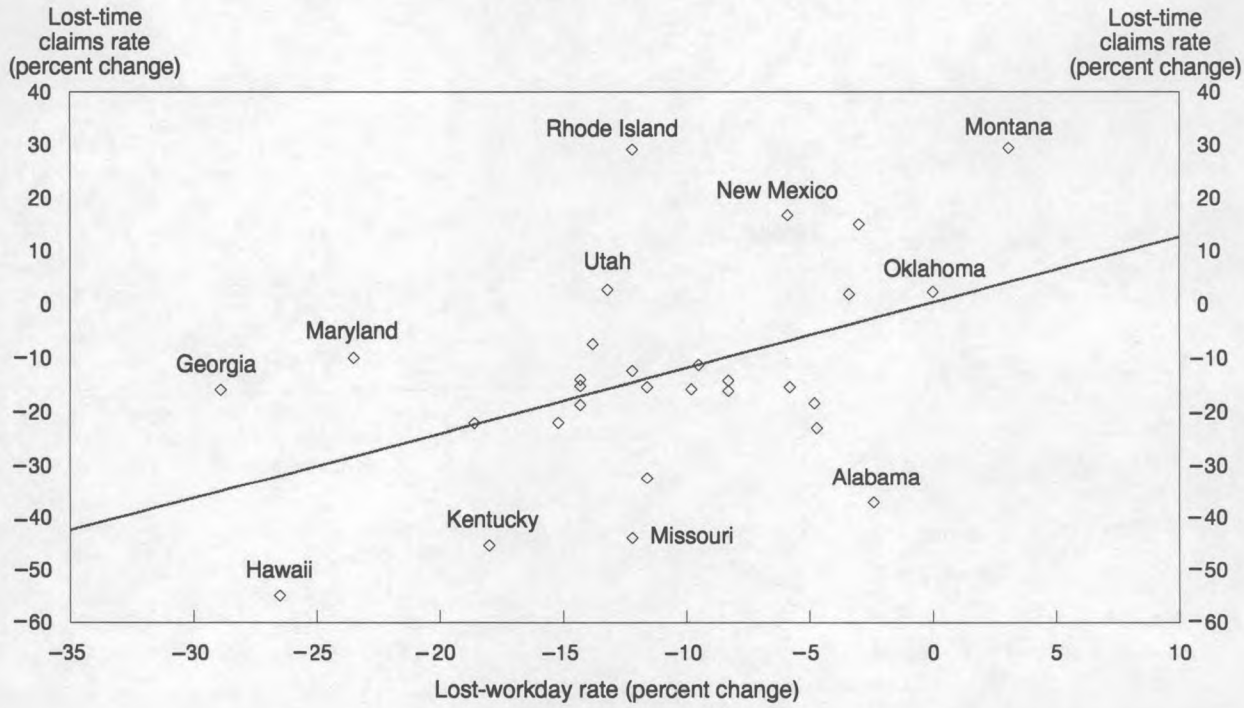


Chart A-5. **Percent change in BLS lost-workday rate and in National Council on Compensation Insurance lost-time claims rate, 1994–96, 29 States**



An interesting finding was the absence of a relationship between the 1994–96 State rate declines and the level of States' 1994 lost-workday injury and illness rates. The presumption that States with higher rates were likely to experience greater rate reductions than States with lower rates was not borne out by the analysis: rate reductions of 10 percent to 20 percent were as likely to have been registered in a State with a low injury and illness rate as in a State with a high rate. (See chart A-3.)

In comparing the internal consistency between lost-time claims count data and data on the frequency per constant worker, both data sets from the National Council on Compensation Insurance (see chart A-4), the relationship was generally seen to be consistent and reflected the sharp drop in National Council claims after 1992. A comparison of BLS lost-workday injury and illness rate changes from 1994 to 1996 tracked reasonably well with the percent change in the lost-time claims from the Council over the same years. (See chart A-5.) Given the large decline in those claims and the increase in popularity of higher medical deductibles, a close fit between the two rate changes was not expected. The relationship was found to be statistically significant at the 0.05 level with a Pearson correlation coefficient of 0.458.

The significant reduction in the number of lost-time claims reflected in the National Council State data, together with the increase in the average value of claims paid (see table 7), made it appear that minor lost-workday injuries and illnesses were decreasing and that the remaining cases were more serious and of longer duration and higher cost. BLS data for 1992 and 1996, however, did not support this inference. Median days away from work decreased between those years, from 6 to 5, for occupational injuries and illnesses involving days away from work.[1] The proportion of cases of short duration (under 3 days) increased from 28.6 percent to 29.8 percent; the reverse was found (a decrease from 26.1 percent to 24.7 percent) for cases involving 21 days or more away from work. Apparently, the BLS data indicate that not only is the incidence of lost-workday injuries and illnesses declining, but the severity of the remaining cases is also declining. This statistic should be closely monitored in subsequent BLS annual reports.

Footnote to the appendix

[1] *Lost-Worktime Injuries and Illnesses: Characteristics and Resulting Time Away from Work, 1996*, News Release USDL 98-157 (Bureau of Labor Statistics, Apr. 23, 1998), table 10.

Household incomes in the Czech and Slovak market economies

Thesia I. Garner
and Katherine Terrell

Under the Soviet-based system, countries in Central and Eastern Europe were among those with the most equal distributions of income in the world. A greater income inequality was therefore an expected outcome of a transition to a market economy. After 5-7 years of observations on the transition, two models of the process have emerged within the former Soviet bloc: one in Russia and other newly independent states, and another in the Central and East European countries. Russia and the newly independent states have suffered profound and continuous declines in gross domestic product as the centrally planned system disintegrated, government tax revenues plummeted, and weak social safety nets were instituted. In contrast, the Central and East European economies experienced only a brief period of economic decline, followed by growth within a newly introduced market system. Moreover, some governments, including the Czech and Slovak Republics, established relatively strong social safety nets.[1]

Data from the Family Budget Surveys[2] of the Czech and Slovak Republics show that inequality, based on adult equivalent household income,[3] did not change appreciably in the Slovak Republic from 1989, when the two republics operated as one country (before the "Velvet Revolution") to 1993, the first year the country separated into two Republics (the year of the "Velvet Divorce"), 4 years into the transition to a market economy. Also, income inequality in the Czech Republic did not rise to any great extent after the transition. Income inequality in the Czech and Slovak Republics continues to be among the lowest in the world. These countries have created market economies with relatively little increase in income inequality, primarily due to institutional changes in the countries. Jiri Vecernik, using 1988 and 1992 Microcensus survey data, reports a similar trend in income inequality for the two republics.[4]

This report briefly reviews the income policies which may have influenced the distribution of income in the Czech and Slovak Republics during the early years of the transition, and presents some results from a recent study. The focus here is on wage policies, social insurance, the social assistance system, and income taxes. Other factors likely to have affected income distributions include changes in macroeconomic conditions (briefly discussed here), and asset redistribution (not considered here, but discussed in the full article).[5]

Wage policies

In both republics, wage controls were first put into effect in 1991, and then were used intermittently in the ensuing years, with several changes in design. In 1993, the coverage and scope changed: wage controls limited an enterprise's wage bill growth to equal that of the product of the firm's total number of employees at the beginning of the year and the economywide average wage. The effects of wage controls were not clear because fines were not imposed until the enterprise exceeded the wage bill growth norm by 5 percent. Because policy changed often and enforcement was weak, it is unlikely that wage controls had a significant effect on wage growth or wage dispersion.

In 1991, a single minimum wage was established for the two republics. In October 1993, the Slovak government raised its minimum wage to 47 percent of the average economywide net wage, a level higher than that in the Czech Republic. (See table 1.) The minimum wage increase in the Slovak Republic may have mitigated the increase of wage inequality brought about by market forces there, relative to the Czech Republic where the minimum wage was not increased.

Social insurance

Social insurance is primarily composed of unemployment compensation and pensions. Both factors were likely to have mitigated the widening of income distribution in the two republics. Unemployment compensation did not exist in 1989 when there officially was no unemployment,[6] but it played a role in 1993 by replacing part of lost income for 6 months. The eligibility criteria, entitlement, and replacement rates were the same for the two countries in 1993. However, the level of benefits rose for some unemployed persons in the Slovak Republic when the minimum wage was raised. In addition, in both countries, unemployment benefits were not taxed. However, because the benefits were also not indexed for inflation, their value eroded over a spell of unemployment. Unemployment compensation is likely to have played a bigger role in income inequality in the Slovak Republic than in the Czech Republic.

Unlike unemployment compensation, government-designed pensions did exist in 1989. In both 1989 and 1993, men could retire with full pensions at age 60. For women, the retirement age was between 53 and 57, depending on the number of children they raised. In 1989, individuals could draw a pension and work for pay simultaneously and could easily retire early with a full pension. These options were no longer available for Czechs beginning in 1993, when a com-

Thesia I. Garner is an economist in the Office of Prices and Living Conditions, Bureau of Labor Statistics. Katherine Terrell is associate professor of international business and business economics, University of Michigan Business School and the William Davison Institute, Ann Arbor, Michigan.

prehensive law on pensions was passed. The law introduced a "work or retire" system and limited early retirement to a maximum of 3 years before the legal retirement age. The Slovak Republic did not have such a law in 1993. Because pensions were indexed for inflation in both republics, the average pension maintained its value over the 1989–93 period. Disability pensions were somewhat lower than old-age pensions in each republic, and widows' pensions were only about one-quarter of the average net wage. The changes in the pension system were likely to be countervailing: indexation would likely reduce inequality, but an increase in the number of persons becoming pensioners would likely increase inequality.

Social assistance system

Unlike unemployment compensation, a social assistance system did exist in 1989. Several legal changes were made in the system during the 1991–93 period, resulting in a complex web of legal norms and a variety of benefits. One important thrust of the changes was an increase in the number of means-tested benefits in 1993. Generally, transfers in 1993 were considered means-tested social assistance and nonmeans-tested social aid available primarily to families with children (family benefits).

In 1991, the right was established for everyone to receive "assistance essential for ensuring the basic living conditions." Minimum living standards were set for various types of households and served as a basis for means testing. The minimum living standard for each household was the sum of a personal minimum (based on whether one was an adult or a child) and a household minimum (a function of the number of individuals living in a household). Households could receive a cash benefit equal to the difference in their income and the minimum living standards. Prior to October 1993, the two republics had the same minimum living standards; afterward, the standard in the Slovak Republic rose, a result of the increase in the minimum wage.

The levels of social safety nets can be assessed by comparing the average levels of social assistance, pension, and unemployment benefits with the minimum wage and the average economywide net wage in 1993.[7] (See table 1.) Until October of 1993, the relative levels of the safety net were marginally lower in the Slovak Republic than in the Czech Republic. In the first half of 1993, the average person living alone could receive 36 percent of the average net wage as social assistance in the Slovak Republic, versus 41 percent in the Czech Republic. Unemployment benefits were 29 percent of the average net wage in the Slovak Republic and 33 in the Czech Republic.[8] The level of social assistance for large families was higher: an average family of four in the Slovak Republic could receive benefits equal to 109-132 percent of the average net wage; a comparable family in the Czech Republic could receive 129 percent of the average net wage. For low-wage workers in either country, this could be a substantial benefit.

Before 1994, households with children in the Slovak Republic could receive a package of family benefits, regardless of their level of income; a similar package was available before 1996 in the Czech Republic. Social support benefits were not taxable, but there was implicit taxation in that these benefits were included as part of total income of

Table 1. **Average monthly net wage and social transfers in the Slovak and Czech Republics, 1993**

Characteristic	Slovak Republic				Czech Republic	
	January to September		October to December		January to December	
	Monthly average (Slovak crowns)	Percent of net wage	Monthly average (Slovak crowns)	Percent of net wage	Monthly average (Czech crowns)	Percent of net wage
Gross wage (economywide)[1]	5,264	—	5,264	—	5,459	—
Net wage (economywide)[2]	4,669	100.0	4,669	100.0	4,788	100.0
Social transfers						
Minimum wage	2,200	47.1	2,450	52.5	2,200	46.0
Unemployment benefits:						
Average[3]	1,360	29.1	1,360	29.1	1,585	33.1
Maximum[4]	3,300	70.7	3,675	78.7	3,300	68.9
Minimum living standards for:						
One-member household	1,700	36.4	1,980	42.4	1,960	40.9
Two-member household[5]	2,900	62.1	3,510	75.2	3,500	73.1
Four-member household[6]	5,100	109.2	6,180	132.4	6,170	128.9
Average monthly pension:[7]						
Old-age	2,367	50.7	2,367	50.7	2,799	58.5
Disability	2,247	48.1	2,247	48.1	2,639	55.1
Widow	1,255	26.9	1,255	26.9	1,192	24.9

[1] Excludes small firms with fewer than 25 employees.

[2] Based on calculations (using data from the 1993 Family Budget Survey) of the ratio of average household after-tax income to before-tax income (0.886 in the Slovak Republic and 0.877 in the Czech Republic).

[3] Calculated as: (total amount of benefits paid out in the year/12) /(average number of persons unemployed and receiving benefits in a month).

[4] Maximum for the unemployed who were not taking a retraining course.

[5] Household consisting of two adults.

[6] Household consisting of two adults and two children aged 6 to 9 years and 10 to 15 years.

[7] Average monthly level of pensions for the year.

a household when applying for social assistance. The most important of these benefits are described below.

- *Child allowances* were provided from birth to the end of the child's education. In 1995, the amount of the benefit was a function of the age of the child, ranging from 6 percent (for a child younger than age 6) to 9 percent of the 1993 average gross wage (for a child older than age 15).
- *Parental allowances* provided payments to a parent personally caring full-time for a child up to age 3 (or up to age 7, if the child was handicapped). This benefit was only provided to a non-working parent, except in cases when the net income earned by the parent was less than or equal to the personal minimum living standard. In 1994, the maximum benefit was approximately 26 percent of the average economywide wage.
- *Maternity leave benefits* provided women 28 weeks of paid leave from work. This benefit was a function of the woman's previous wage, with a maximum level. The replacement ratio was reduced from 90 percent in 1991 to 69 percent in 1994, but the maximum level rose from 1.03 to 1.8 times the minimum wage.
- *Maternity and Pregnancy Compensation Benefits* were provided to women who had to move to a lower paying job due to pregnancy or child-care problems.

Taxes

Changes in the tax system were introduced throughout the 1989–93 period. However, in 1993, a new comprehensive tax law introduced two important changes in income taxes for both countries. (Policies concerning taxes which apply to goods and services also changed during this period, but are not discussed in this report.) The new tax system included:

- A more progressive income tax, with rates beginning at 15 percent (for yearly taxable incomes up to 60,000 crowns in both republics), rising to a maximum of 47 percent. Taxable income included wages and salaries, self-employment income, rental income, interest income, and dividends. A taxpayer allowance of 20,400 crowns per year could be deducted and there were exemptions for a spouse and children. Social insurance contributions also became deductible.
- A new payroll-based social insurance tax paid partly by employees and partly by employers. The employee-plus-employer combined rates were 27.2 for pensions, 4.8 for sickness benefits, and 4.0 for unemployment insurance.

The new system explicitly separated the tax for social benefits from the new income tax (in 1989, the tax for social benefits had been part of the wage tax). In their 1995 study, "Tax and Benefit Reform in the Czech and Slovak Republics," C. Heady and S. Smith conclude, "The new income tax plus the payroll taxes paid by employees is more progressive than the old wage tax but [the new income tax] provides smaller child tax allowances. The increased progressivity is a rational response to an expected increase in the degree of pre-tax income inequality, and the reduction in child tax allowances represents a reduction in a level of state support for children that had been very generous by western standards."[9]

Income inequality

How did income inequality in 1989, when the two republics were one country and operated primarily as a command economy, compare to inequality in 1993, when the two republics were separated and had functioned for 4 years under more market-oriented forces? In answering this question, it is helpful to review the macroeconomic condition in relation to income policies. In 1993, market forces may have contributed to the divergence of inequality in the two countries by creating more unemployment in the Slovak Republic and more private sector employment in the Czech Republic. The two governments' wage policies may have had an equalizing effect by not allowing wages to rise more rapidly, and by creating a minimum wage floor. The increase in the minimum wage in the Slovak Republic in 1993 could have improved incomes there relative to incomes in the Czech Republic. The higher minimum wage also implied a higher social safety net in the Slovak Republic, as it raised the minimum living standard and social assistance associated with it. Changes in social insurance are likely to have dampened the rate of growth of inequality in the two countries by protecting the income of pensioners and the unemployed, especially in the Slovak Republic where the incidence of unemployment was higher. Finally, revisions to the tax law may have contributed more to lowering after-tax income inequality in 1993, compared with the income inequality in 1989.

The Gini coefficient was used to measure after-tax income inequality in the two republics. As noted earlier, adult-equivalent household income with person-weighting was used for the analysis. The Family Budget Survey income data are used to show that inequality rose in the two countries by small amounts over the 1989–93 period. In accounting for the small overall increases in inequality over time, decomposition analysis was used to identify two countervailing effects which were likely to have primarily contributed to this result. In particular, the creation of labor markets and self-employment contributed considerably to increases in the Gini coefficients over time. However, government policies, specifically the tax and transfer systems, reduced the income inequality generated by the introduction of the market system.

It is interesting to note that although the overall change in inequality was nearly identical in the two republics, the magnitude of principal offsetting forces was greater in the Czech Republic. These principal forces affected prima-

rily taxes and transfers, and earnings. The relative impact of taxes and transfers differed in the two republics. By 1993, in the Czech Republic, changes in the transfer component contributed more to the reduction in the growth of inequality than changes in the tax component. The reverse was true in the Slovak Republic, where changes in the tax component were more important. The protection of pensioners' incomes was particularly effective, especially in the Czech Republic. However, the introduction of a "minimum living standard" also seems to have mitigated any increase in inequality by augmenting the incomes of the poor. Earnings, in contrast to taxes and transfers, contributed to increases in inequality. Earnings contributed the most to increasing after-tax income inequality in the Czech Republic, relative to the Slovak Republic, over the 1989–93 period. □

Footnotes

[1] This report is based on highlights from Thesia I. Garner and Katherine Terrell, "A Gini Decomposition Analysis of Inequality in the Czech and Slovak Republics During the Transition," *Economics of Transition,* Vol. 6(1), pp. 23–46.

[2] The 1989 and 1993 Family Budget Survey data were collected monthly using diaries. The Family Budget Survey sample design did not account for all households in the countries. A quota design was used with the following social groups sampled, as defined by the work status of the head of the household: workers, employees, the self-employed (in 1993, but not 1989), persons working in agriculture, and pensioner-headed households in which there are no economically active members. A household in which the head was employed at the time of sample selection, but then became unemployed for more than 6 months in a calendar year, resulted in the household being dropped from the sample. Not included at the time of the initial sample selection (as defined in June or so of the preceding year) were the following: households in which the head was a pensioner but in which there were other economically active members, and households headed by unemployed persons. The latter group also included households headed by students and other nonworking persons not receiving a pension or wage. In addition to social group, other selection criteria include the net income per capita for household members, the number of dependent children in economically active households, and the number of members in the pensioner households.

Using weights based on data from the 1988 Microcensus and 1989 Family Budget Survey, households in the Family Budget Survey represented about 95 percent of all households in the Czech Republic and 94 percent in the Slovak Republic in 1989 weights (the weights were created by T. I. Garner and M. Fratantoni, in "Creating Weights for the Czech and Slovak Family Budget Surveys Using Microcensus Data," unpublished data, Washington, D.C., Bureau of Labor Statistics, 1997). Using the 1992 Microcensus data, about 95 percent of Czech households were represented by the 1993 Family Budget Survey sample, compared with only 87 percent of Slovak households. Weights were created using region, social group, and household size. If there were shifts in the population from 1992 to 1993 as defined by these variables, the inequality results could differ. However, based on results from other studies, inequality was increasing in the Czech Republic more than in Slovakia during this period, but the increase was only marginal in both.

[3] Adult-equivalent household income is computed as total household income divided by the number of equivalent adults in the household. We used the scale adjustment factors proposed by the Organization for Economic Cooperation and Development (OECD) to determine the number of equivalent adults in each household. (See *The OECD List of Social Indicators,* Paris, OECD, 1982). The OECD scale factors assign a weight of 1 for the first adult, 0.7 for each additional adult, and 0.5 for each child. Because the focus of the research is the economic well-being of individuals, adult-equivalent income values were allocated to each person in the household. This weighting resulted in the individual distribution, rather than the household distribution, of incomes.

[4] Jiri Vecernik, *Markets and People: The Czech Reform Experience in a Comparative Perspective* (Aldershot, England, Avebury, Ashgate Publishing, Inc., 1996).

[5] See Garner and Terrell "A Gini Decomposition Analysis of Inequality."

[6] For more on the low unemployment rate in the Czech Republic, see Robert J. Gitter and Markus Scheuer, "Low unemployment in the Czech Republic: "miracle" or "mirage," *Monthly Labor Review*, August 1998, pp. 31–37.

[7] Because the minimum living standard and unemployment benefits did not exist in 1989, we could not carry out this comparison for 1989.

[8] In practice, the person would receive his or her unemployment benefit (from the district labor office) and then receive the difference between the minimum living standard and the unemployment benefit as a social assistance benefit (from the social assistance office).

[9] C. Heady and S. Smith, "Tax and Benefit Reform in the Czech and Slovak Republics," Centre for Economic Policy Research Discussion Paper Series No. 1151, March 1995.

Careers and displacement symposium

The October 1998 issue of *Industrial Relations* carried a five-article Minisymposium on Careers and Displacement. Dave E. Marcotte examined the possible impact of more short-term contracting, less stable employment relationships, and more common involuntary job separations on wage-tenure profiles. He finds that the seniority-wage premium may be becoming less important. This implies that there is less willingness on the part of firms and workers to make the joint investment in training necessary to sustain more sizable premia for tenure. Thus, Marcotte asserts, "[W]age growth over a career will depend less on these arrangements between workers and firms and more on workers' own efforts to continually develop marketable productive abilities."

James Monks and Steven D. Pizer analyze the turnover issue that Marcotte cited as underlying some of the unwillingness of workers to enter relationships that reward long seniority. They find that between 1971 and 1990, there had been an increase in the probability that a young man would change jobs. Monks and Pizer also found that the increase in turnover was reflected in both its voluntary and involuntary components. These findings raised the authors' concern that more frequent job changes would, along the lines laid out in Marcotte's article, lessen incentives for firms and workers to make joint investments that would benefit them both. Monks and Pizer also note that among white workers, most of the increase in turnover was involuntary, while among nonwhite workers, both voluntary and involuntary turnover increased.

Robert W. Fairlie and Lori G. Kletzer further refine the research they have done in the past on differences in the displacement and reemployment experiences of black and white workers. (See, for example, their articles in the July 1991 and September 1996 issues of this *Review*.) They find that during the 1980's, black men were almost 30 percent more likely to be displaced than were white men and were 30 percent less likely to be reemployed. In this study, they also decomposed some of the broad individual and labor market characteristics that could influence these differences. They find that slightly less than one-fifth of the displacement rate gap can be explained by racial differences in worker or job characteristics. Fairlie and Kletzer also conclude that a large part of the gap in reemployment is not explained by racial differences in job or other personal characteristics. They do suggest that differences in educational attainment and occupation are the most important identifiable characteristics, while any difference in industry of employment is not a significant factor.

Wendy A. Stock documents the fact that displacement from an industry with a smaller share of local employment is associated with a higher probability of switching industry on reemployment: At the mean, a 1-percentage point decline in employment share increases the probability of switching industry by approximately 3 percent. This is important because workers who switch industries typically endure larger earnings losses than those able to find a new job in their old industry. According to Stock, "Workers who switched industries on reemployment experienced approximately 16 percent larger earnings declines than those who remained in the same detailed industry. . . ."

The final piece in the symposium is an event study by Steven E. Abraham on the impact of Montana's adoption of a wrongful discharge statute. Although most calls for such statutes come from the employee side, the fact that Montana's judiciary had begun to weaken the State's statutory at-will employment doctrine in the mid-1970's led a coalition of business interests to lobby for the wrongful discharge law. Abraham's study of the impact of specific events in the law's enactment on the price of stock in firms with primary locations in Montana showed that those firms accumulated positive abnormal returns from the time the State Senate Judiciary Committee recommended passage of the bill it had received from the House. □

This department briefly summarizes those items we find to be at least interesting, if not essential, out of the tremendous amount of information that passes across our editors' desks. This month, all five items came from a single publication, the October 1998 issue of *Industrial Relations*. Our usual practice, however, is to précis three or four articles, newsletter items, reports, working papers, etc. per month on this page.

We are interested in your feedback on this column. Please let us know what you have found most interesting and what essential reading we may have missed. Write to: Executive Editor, *Monthly Labor Review*, 2 Massachusetts Avenue, N.E., Washington, DC 20212 or e-mail mlr@bls.gov.

When 'boomers' retire

When Baby Boom Women Retire. By Nancy Dailey. Westport, CT, Praeger Publishers, 1998, 150 pp. $55.

When Baby Boom Women Retire by Nancy Dailey is an in-depth study of the issues that affect the retirement of female baby-boomers. Baby-boom women make up slightly more than half of a generation of 76.5 million born between 1946 and 1964 during a period of high fertility in the United States. The first boomers will approach retirement age (65 years old) by 2010; however, evidence suggests that most workers will retire as soon as it is financially feasible, regardless of age.

The main point of the book is that the retirement of baby-boom women will not replicate the experience of their mothers or male counterparts. As such, more studies should be conducted departing from traditional models, which are built on men's working experience and where women's retirement depends on men's income. Dailey suggests that studies about the retirement of baby-boom women should consider marital status, education, occupation, and home ownership in addition to the usual predictors, such as age and income.

The book discusses who are the baby-boomers, the status of women in the retirement literature, the aging population of the United States, the nature of work, and the retirement income of women. The author focuses on six research questions but does not satisfactorily answer all of them. Also, as the author admits, some of the topics discussed raise additional questions. Examples are the Social Security discussion, the description of baby-boomers by race, and the recurring statement that female baby-boomers will be the first generation of women to reap retirement benefits as workers rather than spouses. Probably some of these topics could have been expanded, but this is not critical to the book's thesis.

Dailey analyzes a great deal of research studies and data, published and unpublished, from government and private sources. It is remarkable how the author combines such a wide variety of studies either to support her arguments or to present contrasting views about a particular issue. Combining all these resources does not come without risks. Sometimes it is not clear if the author herself is talking or if she is presenting somebody else's point of view. Nevertheless, the task of combining these research studies and data in a single document is one of the book's biggest contributions to the retirement literature. The book is rich in figures and tables but too condensed: the amount of data sometimes feels overwhelming, and it is easy to miss a detail or overlook a table and reach the wrong conclusions.

Baby-boom women have narrowed the existing gaps between males and females in educational attainment and job earnings. Still, these achievements will not necessarily translate into pension income. According to Dailey, pension receipts are highly correlated to pre-retirement income levels, the size of the primary employer (particularly due to the existence of pension and retirement plans), and educational attainment. As portrayed in the book, a female baby-boomer most likely will receive a pension upon retirement if she makes $40,000 or more per year, works for a large company, and has a master's degree. In addition, women who are married and own a house are in a better position to face their retirement years. Dailey claims that less than 20 percent of baby-boom women should feel comfortable about their retirement. Definitely, considerable work remains to be done in terms of policy, research, and educational awareness of the issues that affect female baby-boomers and their financial future.

As mentioned before, this book combines in one source all the important issues of baby-boom women's retirement; thus, it is a good tool for policymakers and lobbyists to comprehend better the intricate aspects of women's retirement. It also presents an implicit challenge for statistical agencies to collect employer-provided retirement data by age group, gender, and employees' utilization. Although its most important lessons pertain to a broader audience, only scholars and experts in the retirement field will be compelled to read this book.

—Iris S. Diaz
Office of Compensation and Working Conditions
Bureau of Labor Statistics

In defense of Keynes

Great Experiments in American Economic Policy: From Kennedy to Reagan. By Thomas Karier. Westport, CT, Praeger Publishers, 233 pp. $59.95.

From the time of the Great Depression through the 1960s, John Maynard Keynes dominated much of America's mainstream economics. Keynesian economics advocated fiscal policy as the most effective tool for managing national economies. Beginning in the 1980s, opposing theories promoted by conservative politicians and economists, such as Milton Friedman, came to dominate national economic policy. These theories shared a belief in a smaller, less intervening government.

Thomas Karier's book analyzes the Keynesian economics of the Kennedy Administration and later "post-Keynesian" policies and their results. He begins with a brief discussion of classical Keynesian economics as it was practiced from Franklin Roosevelt through the Kennedy Administration. In doing so, he sets the style for the book: define the theory and explain its origins, discuss the implementation process, and finally evaluate the results. When reviewing the Kennedy years, the author

finds that the Kennedy Administration did an admirable, although imperfect, job in managing the national economy.

Most of the book focuses on three specific economic "experiments": the Federal Reserve's monetarist policy in the early 1980s, supply-side economics as defined during the Reagan Administration, and the government's non-intervention approach to fluctuations in foreign currency values which also occurred during the Reagan Administration. He first discusses monetarism, a theory that predicts that policymakers can control inflation, and in some economists' view, a nation's entire economy, by controlling the growth of the country's money supply. While economists such as Milton Friedman had advocated such a viewpoint for several decades, it wasn't until the 1980s that the theory became popularly accepted and adapted by the Federal Reserve as policy.

Beginning with background on Milton Friedman's rationale for monetarism, Karier gives the reader some background on Milton Friedman's reasoning for monetarism, followed by a discussion of the political climate in which the theory was adapted by the Federal Reserve under the leadership of chairman Paul Volcker. After outlining the implementation problems, he identifies the flaws in monetarism and discusses its failure as an economic policy.

The second policy discussed in the book is supply-side economics. Identifying the policy's primary advocates, the author reviews supply-side theory and the economic conditions existing during the early 1980s, along with a discussion of the tax and budget policies that appeared during the early Reagan Administration. Finally, he points out the differences that arose among supporters of supply-side economics.

The third economic policy discussed in the book is the Reagan Administration's support for a free float of national currencies. Karier discusses the Reagan Administration's determination to minimize the role of government intervention in currency markets. Once more, Karier points out the shortcomings of the policy and the economic problems created by this policy. In the final chapters, Karier reviews the theories in light of their consequences and gives his views on the reasons for their failure.

Both the title and the book's preface imply an objective review of economic experiments conducted as American economic policy. Rather than being objective, the author has provided readers with a defense of currently out-of-favor Keynesian economic theory. Although not explicitly stated in the book, the chapters demonstrate the triumph of Keynesian thought and the subsequent failure of those economic policies pursued by conservative free-market economists.

Because this book contains a particular point of view, readers who share Karier's belief in Keynesian economics will doubtless praise the book as a useful discussion of modern American economic policies. Those who agree with the theories of economists such as Milton Friedman will most likely regard the book as a treatise on the superiority of Keynesian economics and a rebuttal of conservative economic theory. If approached as one economist's opinion of modern events, the book offers an interesting, if limited, perspective on how economic theories are shaped by the real world.

—Michael Wald

Bureau of Labor Statistics
Atlanta region

How good is it?

Managed Care: Made in America. By Arnold Birenbaum. Westport, CT, Praeger Publishers, 1997, 193 pp. $39.95.

Your wife complains of cramps that keep returning. Day after day she gets sicker. You ask your HMO to authorize a consultation with an outside specialist, but they refuse. Then, after months, they relent and you take her in, only to find out that she has terminal cancer. A year later she is dead and you are left wondering: Could she have been saved if they had allowed the consultation earlier?

Stories such as this are being presented to us almost daily. As a result, we find ourselves worrying about managed care: what is it; how does it work; and most important of all, is it good for us? It is to answer these and other questions that Arnold Birenbaum wrote his book.

Each of its ten chapters examines managed care from a different perspective. The first three discuss how managed care works in different settings. One of the best parts of the book is chapter three, where he examines the increasing use of HMOs for medicaid patients, the approaches different States have taken to implement such programs, and the factors that have lead to a beneficial experience for all involved.

Chapter four deals with what is perhaps the central question in the managed care debate: Do HMOs deliver an inferior quality of medicine? For the general public, Birenbaum finds that there is little difference in the quality of care provided by HMOs, compared to indemnity plans, although he finds the data insufficient to draw conclusions about subgroups such as children with special needs.

Later chapters examine how HMOs assure quality and customer satisfaction, and the efforts to protect consumers from perceived deficiencies through legislation. These sections come across very effectively as the author lays out in clear detail the broad array of survey instruments, standards of quality, and actual and proposed legislation that are being used in attempts to further these ends.

Birenbaum makes an intriguing point about the potential costs of the savings that HMOs claim to deliver. While he

acknowledges that managed care can legitimately reduce expenses by curtailing unwarranted tests and procedures, he points out that the deep discounts that HMOs have negotiated with hospitals may be cutting into their reserve fund that they have traditionally spent on caring for the uninsured. Similarly, HMO regulations may be denying doctors the opportunity to train medical students and hindering medical research. Thus, Birenbaum warns us to carefully examine exactly what is being cut in the war against "waste" being waged by HMOs.

Nevertheless, the book has three recurring flaws. First, its organization is frequently muddled. While no single example is egregious, they are common enough in some parts of the book to bog the reader down in confusion. All too often the reader has to search for some possible interpretation of what the author just said, and then assume that that was what he was trying to say.

Second, while Birenbaum's command of the facts is unquestionable, his reasoning can be shaky or even flat out bizarre. A good example of the former comes in chapter nine where he first asserts that the extreme competition among HMOs is making it a buyer's market for corporations. Then on the next page he describes the situation as one in which HMOs offer only slightly lower prices than traditional indemnity plans. Finally, two pages further on find him back to suggesting that there is fierce competition, to the point of threatening the profitability of HMOs. For a case of the latter, consider his charge in chapter four that the chronically ill are discouraged from participating in HMOs that provide their participants with discounted memberships to health clubs because they "don't look good in spandex."

Third, Birenbaum is better at raising questions and echoing public fear than he is at providing rational answers. Even his analysis of the damage that HMOs might cause by attempting to cut waste (cited above) is mostly conjecture.

Managed care is here to stay, and society is understandably confused over whether not that is a good thing. Unfortunately, while Birenbaum's knowledge helps find some enlightenment, his book may raise almost as many questions as it answers.

—Daniel Elmore

Office of Compensation and Working Conditions
Bureau of Labor Statistics

Current Labor Statistics

Notes on Current Labor Statistics

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics: series on labor force; employment; unemployment; labor compensation; consumer, producer, and international prices; productivity; international comparisons; and injury and illness statistics. In the notes that follow, the data in each group of tables are briefly described; key definitions are given; notes on the data are set forth; and sources of additional information are cited.

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted data appear in tables 1–14, 16–17, 39, and 43. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 1998 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 1998 *Review* and reflect the experience through March 1998. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 45 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Sources of information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Definitions of each series and notes on the data are contained in later sections of these Notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2490. Users also may wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 919. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on the back cover of this issue.

More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in the Bureau's monthly publication, *Employment and Earnings*. Historical unadjusted and seasonally adjusted data from the household survey are available on the Internet:

http://stats.bls.gov/cpshome.htm

Historically comparable unadjusted and seasonally adjusted data from the establishment survey also are available on the Internet:

http://stats.bls.gov/ceshome.htm

Additional information on labor force data for sub-States are provided in the BLS annual report, *Geographic Profile of Employment and Unemployment.*

For a comprehensive discussion of the Employment Cost Index, see *Employment Cost Indexes and Levels, 1975–95,* BLS Bulletin 2466. The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms; Employee Benefits in Small Private Establishments;* and *Employee Benefits in State and Local Governments.*

More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report* and *Producer Price Indexes*. For an overview of the 1998 revision of the CPI , see the December 1996 issue of the *Monthly Labor Review.* Additional data on international prices appear in monthly news releases.

For a listing of available industry productivity indexes and their components, see *Productivity Measures for Selected Industries,* BLS Bulletin 2491.

For additional information on international comparisons data, see *International Comparisons of Unemployment,* BLS Bulletin 1979.

Detailed data on the occupational injury and illness series are published in *Occupational Injuries and Illnesses in the United States, by Industry,* a BLS annual bulletin.

Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.
p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally, this revision reflects the availability of later data, but also may reflect other adjustments.

Comparative Indicators

(Tables 1–3)

Comparative indicators tables provide an overview and comparison of major BLS statistical series. Consequently, although many of the included series are available monthly, all measures in these comparative tables are presented quarterly and annually.

Labor market indicators include employment measures from two major surveys and information on rates of change in compensation provided by the Employment Cost Index (ECI) program. The labor force participation rate, the employment-to-population ratio, and unemployment rates for major demographic groups based on the Current Population ("household") Survey are presented, while measures of employment and average weekly hours by major industry sector are given using nonfarm payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

Data on **changes in compensation, prices, and productivity** are presented in table 2.

Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in consumer prices for all urban consumers; producer prices by stage of processing; overall prices by stage of processing; and overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which reflect the overall trend in labor costs, are summarized in table 3. Differences in concepts and scope, related to the specific purposes of the series, contribute to the variation in changes among the individual measures.

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data.

Employment and Unemployment Data

(Tables 1; 4–20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 50,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

Employed persons include (1) all those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff are also counted among the unemployed. **The unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. Persons **not in the labor force** are those not classified as employed or unemployed. This group includes discouraged workers, defined as persons who want and are available for a job and who have looked for work sometime in the the past 12 months (or since the end of their last job if they held one within the past 12 months), but are not currently looking, because they believe there are no jobs available or there are none for which they would qualify. The **civilian noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appears in the Explanatory Notes of *Employment and Earnings*.

Labor force data in tables 1 and 4–9 are seasonally adjusted. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the X-11 *ARIMA Seasonal Adjustment Method,* by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

At the end of each calendar year, historical seasonally adjusted data usually are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. Because of the redesign of the survey, seasonally adjusted data back to 1994 usually are revised. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period, but no revisions are made in the historical data.

Revisions to household data

Data beginning in 1998 are not strictly comparable with data for 1997 and earlier years because of the introduction of new composite estimation procedures and updated population controls. Additional information on these revisions appears in the February 1998 issue of *Employment and Earnings*.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 606–6378.

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by about 390,000 establishments representing all industries except agriculture. Industries are classified in accordance with the 1987 *Standard Industrial Classification (SIC) Manual.* In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

Employed persons are all persons who received pay (including holiday and sick pay) for any part of the payroll period including the 12th day of the month. Persons holding more than one job (about 5 percent of all persons in the labor force) are counted in each establishment which reports them.

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction

workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

Hours represent the average weekly hours of production or nonsupervisory workers for which pay was received, and are different from standard or scheduled hours. **Overtime hours** represent the portion of average weekly hours which was in excess of regular hours and for which overtime premiums were paid.

The **Diffusion Index** represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1997 benchmarks, was made with the release of May 1998 data, published in the July 1998 issue of the *Review*. Coincident with the benchmark adjustment, historical seasonally adjusted data were revised to reflect updated seasonal factors and refinement in the seasonal adjustment procedures. Unadjusted data from April 1997 forward and seasonally adjusted data from January 1994 forward are subject to revision in future benchmarks.

Revisions in State data (table 11) occurred with the publication of January 1998 data.

Beginning in June 1996, the BLS uses the X-12 ARIMA methodology to seasonally adjust establishment survey data. This procedure, developed by the Bureau of the Census, controls for the effect of varying survey intervals (also known as the 4- versus 5-week effect), thereby providing improved measurement of over-the-month changes and underlying economic trends. Revisions of data, usually for the most recent 5-year period, are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12–17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

FOR ADDITIONAL INFORMATION on establishment survey data, contact the Division of Monthly Industry Employment Statistics: (202) 606–6555.

Unemployment data by State

Description of the series

Data presented in this section are obtained from the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

Monthly estimates of the labor force, employment, and unemployment for States and sub-State areas are a key indicator of local economic conditions, and form the basis for determining the eligibility of an area for benefits under Federal economic assistance programs such as the Job Training Partnership Act. Seasonally adjusted unemployment rates are presented in table 10. Insofar as possible, the concepts and definitions underlying these data are those used in the national estimates obtained from the CPS.

Notes on the data

Data refer to State of residence. Monthly data for all States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates are revised to new population controls, usually with publication of January estimates, and benchmarked to annual average CPS levels.

FOR ADDITIONAL INFORMATION on data in this series, call (202) 606–6392 (table 10) or (202) 606–6559 (table 11).

Compensation and Wage Data

(Tables 1–3; 21–27)

COMPENSATION AND WAGE DATA are gathered by the Bureau from business establishments, State and local governments, labor unions, collective bargaining agreements on file with the Bureau, and secondary sources.

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor.

Statistical series on total compensation costs, on wages and salaries, and on benefit costs are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. The total compensation costs and wages and salaries series are also available for State and local government workers and for the civilian nonfarm economy, which consists of private industry and State and local government workers combined. Federal workers are excluded.

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensa-

tion, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

Total compensation costs include wages, salaries, and the employer's costs for employee benefits.

Wages and salaries consist of earnings before payroll deductions, including production bonuses, incentive earnings, commissions, and cost-of-living adjustments.

Benefits include the cost to employers for paid leave, supplemental pay (including nonproduction bonuses), insurance, retirement and savings plans, and legally required benefits (such as Social Security, workers' compensation, and unemployment insurance).

Excluded from wages and salaries and employee benefits are such items as payment-in-kind, free room and board, and tips.

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) are available on the Internet:

http://stats.bls.gov/ecthome.htm

FOR ADDITIONAL INFORMATION on the Employment Cost Index, contact the Office of Compensation Levels and Trends: (202) 606–6199.

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 6,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25 for medium and large private establishments and in table 26 for small private establishments and State and local government.

The survey covers paid leave benefits such as lunch and rest periods, holidays and vacations, and personal, funeral, jury duty, military, parental, and sick leave; sickness and accident, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid parental leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit, and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of care within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small establishments are conducted in even-numbered years and surveys of medium and large establishments are conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

FOR ADDITIONAL INFORMATION on the Employee Benefits Survey, contact the Office of Compensation Levels and Trends (202) 606–6222 or the Internet:

http://stats.bls.gov/ebshome.htm

Work stoppages

Description of the series

Data on work stoppages measure the number and duration of major strikes or lockouts (involving 1,000 workers or more) occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage. These data are presented in table 27.

Data are largely from newspaper accounts and cover only establishments directly involved in a stoppage. They do not measure the indirect or secondary effect of stoppages on other establishments whose employees are idle owing to material shortages or lack of service.

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 work-

ers or more and lasting a full shift or longer.

Workers involved: The number of workers directly involved in the stoppage.

Number of days idle: The aggregate number of workdays lost by workers involved in the stoppages.

Days of idleness as a percent of esti-mated working time: Aggregate workdays lost as a percent of the aggregate number of standard workdays in the period multiplied by total employment in the period.

Notes on the data

This series is not comparable with the one terminated in 1981 that covered strikes involving six workers or more.

FOR ADDITIONAL INFORMATION on work stoppages data, contact the Office of Compensation Levels and Trends: (202) 606–6282, or the Internet:

http://stats.bls.gov//lmrhome.htm

Price Data

(Tables 2; 28–38)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period—1982 = 100 for many Producer Price Indexes, 1982–84 = 100 for many Consumer Price Indexes (unless otherwise noted), and 1990 = 100 for International Price Indexes.

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all-urban consumer index (CPI-U), introduced in 1978, is representative of the 1993–95 buying habits of about 87 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI-W. In addition to wage earners and clerical workers, the CPI-U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items are kept essentially unchanged between major revisions so that only price changes will be measured. All taxes directly associated with the purchase and use of items are included in the index.

Data collected from more than 23,000 retail establishments and 5,800 housing units in 87 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 14 major urban centers are presented in table 29. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

In January 1983, the Bureau changed the way in which homeownership costs are meaured for the CPI-U. A rental equivalence method replaced the asset-price approach to homeownership costs for that series. In January 1985, the same change was made in the CPI-W. The central purpose of the change was to separate shelter costs from the investment component of home-ownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 606–7000.

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 80,000 quotations per month, selected to represent the movement of prices of all commodities produced in the manufacturing; agriculture, forestry, and fishing; mining; and gas and electricity and public utilities sectors. The stage-of-processing structure of PPI organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition. The industry and product structure of PPI organizes data in accordance with the Standard Industrial Classification (SIC) and the product code extension of the SIC developed by the U.S. Bureau of the Census.

To the extent possible, prices used in calculating Producer Price Indexes apply to the first significant commercial transaction in the United States from the production or central marketing point. Price data are generally collected monthly, primarily by mail questionnaire. Most prices are obtained directly from producing companies on a voluntary and confidential basis. Prices generally are reported for the Tuesday of the week containing the 13th day of the month.

Since January 1992, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1987. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

FOR ADDITIONAL INFORMATION on producer prices, contact the Division of Industrial Prices and Price Indexes: (202) 606–7705.

International Price Indexes

Description of the series

The **International Price Program** produces monthly and quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents.

The product universe for both the import and export indexes includes raw materials, agricultural products, semifinished manufactures, and finished manufactures, including both capital and consumer goods. Price data for these items are collected primarily by mail questionnaire. In nearly all cases, the data are collected directly from the exporter or importer, although in a few cases, prices are obtained from other sources.

To the extent possible, the data gathered refer to prices at the U.S. border for exports

and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first week of the month. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined according to the five-digit level of detail for the Bureau of Economic Analysis End-use Classification (SITC), and the four-digit level of detail for the Harmonized System. Aggregate import indexes by country or region of origin are also available.

BLS publishes indexes for selected categories of internationally traded services, calculated on an international basis and on a balance-of-payments basis.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each harmonized group and are then aggregated to the higher level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1990.

Because a price index depends on the same items being priced from period to period, it is necessary to recognize when a product's specifications or terms of transaction have been modified. For this reason, the Bureau's questionnaire requests detailed descriptions of the physical and functional characteristics of the products being priced, as well as information on the number of units bought or sold, discounts, credit terms, packaging, class of buyer or seller, and so forth. When there are changes in either the specifications or terms of transaction of a product, the dollar value of each change is deleted from the total price change to obtain the "pure" change. Once this value is determined, a linking procedure is employed which allows for the continued repricing of the item.

For the export price indexes, the preferred pricing is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation. An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f.(costs, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges. For a given product, only one price basis series is used in the construction of an index.

FOR ADDITIONAL INFORMATION on international prices, contact the Division of International Prices: (202) 606–7155.

Productivity Data

(Tables 2; 39–42)

Business sector and major sectors

Description of the series

The productivity measures relate real output to real input. As such, they encompass a family of measures which include single-factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

Corresponding indexes of hourly compensation, unit labor costs, unit nonlabor payments, and prices are also provided.

Definitions

Output per hour of all persons (labor productivity) is the quantity of goods and services produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the quantity of goods and services produced per unit of capital services input. **Multifactor productivity** is the quantity of goods and services produced per combined unit of labor and capital inputs.

Compensation per hour is total compensation divided by hours at work. Total compensation equals the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, plus an estimate of these payments for the self-employed (except for nonfinancial corporations in which there are no self-employed). **Real compensation per hour** is compensation per hour deflated by the change in the Consumer Price Index for All Urban Consumers.

Unit labor costs are the labor compensation costs expended in the production of a unit of output and are derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current-dollar value of output and dividing by output.

Unit nonlabor costs contain all the components of unit nonlabor payments except unit profits.

Unit profits include corporate profits with inventory valuation and capital consumption adjustments per unit of output.

Hours of all persons are the total hours at work of payroll workers, self-employed persons, and unpaid family workers.

Labor inputs are hours of all persons adjusted for the effects of changes in the education and experience of the labor force.

Capital services are the flow of services from the capital stock used in production. It is developed from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset.

Combined units of labor and capital inputs are derived by combining changes in labor and capital input with weights which represent each component's share of total output. The indexes for capital services, labor inputs, and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

Notes on the data

Business sector output is an annually-weighted index constructed by excluding from real gross domestic product (GDP) the following outputs: general government, nonprofit institutions, paid employees of private households, and the rental value of owner-occupied dwellings. Nonfarm business also excludes farming. Private business and private nonfarm business further exclude government enterprises. The measures are supplied by the U.S. Department of Commerce's Bureau of Economic Analysis. Annual estimates of manufacturing sectoral output are produced by the Bureau of Labor Statistics. Quarterly manufacturing output indexes from the Federal Reserve Board are adjusted to these annual output measures by the BLS. Compensation data are developed from data of the Bureau of Economic Analysis and the Bureau of Labor Statistics. Hours data are developed from data of the Bureau of Labor Statistics.

The productivity and associated cost measures in tables 39–42 describe the relationship between output in real terms and the labor and capital inputs involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to

hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; shifts in the composition of the labor force; capital investment; level of output; changes in the utilization of capacity, energy, material, and research and development; the organization of production; managerial skill; and characteristics and efforts of the work force.

FOR ADDITIONAL INFORMATION on this productivity series, contact the Division of Productivity Research: (202) 606–5606.

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per employee hour is derived by dividing an index of industry output by an index of aggregate hours of all employees. Output indexes are based on quantifiable units of products or services, or both, combined with value-share weights. Whenever possible, physical quantities are used as the unit of measurement for output. If quantity data are not available for a given industry, data on the constant-dollar value of production are used.

The **labor input** series consist of the hours of all employees (production and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agencies, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some transportation industries, only indexes of output per employee are prepared. For some trade and service industries, indexes of output per hour of all persons (including self-employed) are constructed.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Industry Productivity Studies: (202) 606–5618.

International Comparisons

(Tables 43–45)

Labor force and unemployment

Description of the series

Tables 43 and 44 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on Employment and Unemployment Data: Household survey data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and older. Therefore, the adjusted statistics relate to the population aged 16 and older in France, Sweden, and the United Kingdom; 15 and older in Canada, Australia, Japan, Germany, Italy from 1993 onward, and the Netherlands; and 14 and older in Italy prior to 1993. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

In the U.S. labor force survey, persons on layoff who are awaiting recall to their jobs are classified as unemployed. European and Japanese layoff practices are quite different in nature from those in the United States; therefore, strict application of the U.S. definition has not been made on this point. For further information, see *Monthly Labor Review*, December 1981, pp. 8–11.

The figures for one or more recent years for France, Germany, Italy, the Netherlands, and the United Kingdom are calculated using adjustment factors based on labor force surveys for earlier years and are considered preliminary. The recent-year measures for these countries, therefore, are subject to revision whenever data from more current labor force surveys become available.

There are breaks in the data series for the United States (1990, 1994), France (1992), Italy (1991, 1993), the Netherlands (1988), and Sweden (1987).

For the United States, the break in series reflects a major redesign of the labor force survey questionnaire and collection methodology introduced in January 1994. Revised population estimates based on the 1990 census, adjusted for the estimated undercount, also were incorporated. In 1996, previously published data for the 1990–93 period were revised to reflect the 1990 census-based population controls, adjusted for the undercount. Therefore, data for 1994 onward are not directly comparable with data for 1993 and earlier years because of the redesign, and data for 1990 onward are not directly comparable with data for 1989 and earlier years because of the introduction of the 1990 census-based population controls, adjusted for the undercount. See the Notes section on Employment and Unemployment Data of this *Review*.

For France, the 1992 break reflects the substitution of standardized European Union Statistical Office (EUROSTAT) unemployment statistics for the unemployment data estimated according to the International Labor Office (ILO) definition and published in the Organization for Economic Cooperation and Development (OECD) annual yearbook and quarterly update. This change was made because the EUROSTAT data are more up-to-date than the OECD figures. Also, since 1992, the EUROSTAT definitions are closer to the U.S. definitions than they were in prior years. The impact of this revision was to lower the unemployment rate by 0.1 percentage point in 1992 and 1993, by 0.4 percentage point in 1994, and 0.6 percentage point in 1995.

For Italy, the 1991 break reflects a revision in the method of weighting sample data. The impact was to increase the unemployment rate by approximately 0.3 percentage point, from 6.6 to 6.9 percent in 1991.

In October 1992, the survey methodology was revised and the definition of unemployment was changed to include only those who were actively looking for a job within the 30 days preceding the survey and who

were available for work. In addition, the lower age limit for the labor force was raised from 14 to 15 years. (Prior to these changes, BLS adjusted Italy's published unemployment rate downward by excluding from the unemployed those persons who had not actively sought work in the past 30 days.) The break in the series also reflects the incorporation of the 1991 population census results. The impact of these changes was to raise Italy's adjusted unemployment rate by approximately 1.2 percentage points, from 8.3 to 9.5 percent in fourth-quarter 1992. These changes did not affect employment significantly, except in 1993. Estimates by the Italian Statistical Office indicate that employment declined by about 3 percent in 1993, rather than the nearly 4 percent indicated by the data shown in table 44. This difference is attributable mainly to the incorporation of the 1991 population benchmarks in the 1993 data. Data for earlier years have not been adjusted to incorporate the 1991 census results.

For the Netherlands, a new survey questionnaire was introduced in 1992 that allowed for a closer application of ILO guidelines. EUROSTAT has revised the Dutch series back to 1988 based on the 1992 changes. The 1988 revised unemployment rate is 7.6 percent; the previous estimate for the same year was 9.3 percent.

There have been two breaks in series in the Swedish labor force survey, in 1987 and 1993. Adjustments have been made for the 1993 break back to 1987. In 1987, a new questionnaire was introduced. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes lowered Sweden's 1987 unemployment rate by 0.4 percentage point, from 2.3 to 1.9 percent. In 1993, the measurement period for the labor force survey was changed to represent all 52 weeks of the year rather than one week each month and a new adjustment for population totals was introduced. The impact was to raise the unemployment rate by approximately 0.5 percentage point, from 7.6 to 8.1 percent. Statistics Sweden revised its labor force survey data for 1987–92 to take into account the break in 1993. The adjustment raised the Swedish unemployment rate by 0.2 percentage point in 1987 and gradually rose to 0.5 percentage point in 1992.

Beginning with 1987, BLS has adjusted the Swedish data to classify students who also sought work as unemployed. The impact of this change was to increase the adjusted unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. By 1994, the adjusted unemployment rate had risen from 7.8 to 9.6 percent due to the adjustment to include students.

The net effect of the 1987 and 1993 changes and the BLS adjustment for students seeking work lowered Sweden's 1987 unemployment rate from 2.3 to 2.2 percent.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Manufacturing productivity and labor costs

Description of the series

Table 45 presents comparative indexes of manufacturing labor productivity (output per hour), output, total hours, compensation per hour, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are trend comparisons—that is, series that measure changes over time—rather than level comparisons. There are greater technical problems in comparing the levels of manufacturing output among countries.

BLS constructs the comparative indexes from three basic aggregate measures—output, total labor hours, and total compensation. The hours and compensation measures refer to all employed persons (wage and salary earners plus self-employed persons and unpaid family workers) in the United States, Canada, Japan, France, Germany, Norway, and Sweden, and to all employees (wage and salary earners) in the other countries.

Definitions

Output, in general, refers to value added in manufacturing from the national accounts of each country. However, the output series for Japan prior to 1970 is an index of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production. While methods of deriving national accounts measures differ from country to country, BLS has reviewed these methods and determined that the series are sufficiently comparable for measuring comparative trends in productivity and unit labor costs.

The 1977–94 output data for the United States are the gross product originating (value added) measures prepared by the Bureau of Economic Analysis of the U.S. Department of Commerce. Comparable manufacturing output data currently are not available prior to 1977. The 1994–95 percent changes in manufacturing output are based on the trend shown by the industrial production index published by the U.S. Federal Reserve Board for the manufacturing sector.

U.S. gross product originating is a chain-type annual-weighted series. (For more information on the U.S. measure, see Robert E. Yuskavage, "Improved Estimates of Gross Product by Industry, 1959–94," *Survey of Current Business*, August 1996, pp. 133–55.) The Japanese value added series is based upon one set of fixed price weights for the years 1970 through 1996. Output series for the other foreign economies also employ fixed price weights, but the weights are updated periodically (for example, every 5 or 10 years).

To preserve the comparability of the U.S. measures with those for other economies, BLS uses gross product originating in manufacturing for the United States for these comparative measures. The gross product originating series differs from the manufacturing output series that BLS publishes in its news releases on quarterly measures of U.S. productivity and costs (and that underlies the measures that appear in tables 39 and 41 in this section). The quarterly measures are on a "sectoral output" basis, rather than a value-added basis. Sectoral output is gross output less intrasector transactions.

Total labor hours refers to hours worked in all countries. The measures are developed from statistics of manufacturing employment and average hours. The series used for France (from 1970 forward), Norway, and Sweden are official series published with the national accounts. Where official total hours series are not available, the measures are developed by BLS using employment figures published with the national accounts, or other comprehensive employment series, and estimates of annual hours worked. For Germany, BLS uses estimates of average hours worked developed by a research institute connected to the Ministry of Labor for use with the national accounts employment figures. For the other countries, BLS constructs its own estimates of average hours.

Denmark has not published estimates of average hours for 1994–96; therefore, the BLS measure of labor input for Denmark ends in 1993.

Total compensation (labor cost) includes all payments in cash or in-kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. The measures are from the national accounts of each country, except those for Belgium, which are developed by BLS using statistics on employment, average hours, and hourly compensation. For France and Sweden, compensation is increased to account for other significant taxes on payroll or employment. For the United Kingdom, compensation is reduced between 1967 and 1991 to account for employment-related subsidies. Self-employed workers are included in the all-employed-persons measures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

In general, the measures relate to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (for all years) and Italy (beginning 1970) refer to mining and manufacturing less energy-related products, and the measures for Denmark include mining and exclude manufacturing handicrafts from 1960 to 1966.

The measures for recent years may be based on current indicators of manufacturing output (such as industrial production indexes), employment, average hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

FOR ADDITIONAL INFORMATION on this series, contact the Division of Foreign Labor Statistics: (202) 606–5654.

Occupational Injury and Illness Data

(Table 46–47)

Survey of Occupational Injuries and Illnesses

Description of the series

The Survey of Occupational Injuries and Illnesses collects data from employers about their workers' job-related nonfatal injuries and illnesses. The information that employers provide is based on records that they maintain under the Occupational Safety and Health Act of 1970. Self-employed individuals, farms with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies are excluded from the survey.

The survey is a Federal-State cooperative program with an independent sample selected for each participating State. A stratified random sample with a Neyman allocation is selected to represent all private industries in the State. The survey is stratified by Standard Industrial Classification and size of employment.

Definitions

Under the Occupational Safety and Health Act, employers maintain records of nonfatal work-related injuries and illnesses that involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment other than first aid.

Occupational injury is any injury such as a cut, fracture, sprain, or amputation that results from a work-related event or a single, instantaneous exposure in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to factors associated with employment. It includes acute and chronic illnesses or disease which may be caused by inhalation, absorption, ingestion, or direct contact.

Lost workday injuries and illnesses are cases that involve days away from work, or days of restricted work activity, or both.

Lost workdays include the number of workdays (consecutive or not) on which the employee was either away from work or at work in some restricted capacity, or both, because of an occupational injury or illness. BLS measures of the number and incidence rate of lost workdays were discontinued beginning with the 1993 survey. The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked, such as a Federal holiday, even though able to work.

Incidence rates are computed as the number of injuries and/or illnesses or lost work days per 100 full-time workers.

Notes on the data

The definitions of occupational injuries and illnesses are from *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (U.S. Department of Labor, Bureau of Labor Statistics, September 1986).

Estimates are made for industries and employment size classes for total recordable cases, lost workday cases, days away from work cases, and nonfatal cases without lost workdays. These data also are shown separately for injuries. Illness data are available for seven categories: occupational skin diseases or disorders, dust diseases of the lungs, respiratory conditions due to toxic agents, poisoning (systemic effects of toxic agents), disorders due to physical agents (other than toxic materials), disorders associated with repeated trauma, and all other occupational illnesses.

The survey continues to measure the number of new work-related illness cases which are recognized, diagnosed, and reported during the year. Some conditions, for example, long-term latent illnesses caused by exposure to carcinogens, often are difficult to relate to the workplace and are not adequately recognized and reported. These long-term latent illnesses are believed to be understated in the survey's illness measure. In contrast, the overwhelming majority of the reported new illnesses are those which are easier to directly relate to workplace activity (for example, contact dermatitis and carpal tunnel syndrome).

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses per 100 equivalent full-time workers. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Full detail on the available measures is presented in the annual bulletin, *Occupational Injuries and Illnesses: Counts, Rates, and Characteristics.*

Comparable data for more than 40 States and territories are available from the BLS Office of Safety, Health and Working Conditions. Many of these States publish data on State and local government employees in addition to private industry data.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration. Data from these organizations are included in both the national and State data published annually.

With the 1992 survey, BLS began publishing details on serious, nonfatal incidents resulting in days away from work. Included are some major characteristics of the injured and ill workers, such as occupation, age, gender, race, and length of service, as well as the circumstances of their injuries and illnesses (nature of the disabling condition, part of body affected, event and exposure, and the source directly producing the condition). In general, these data are available nationwide for detailed industries and for individual States at more aggregated industry levels.

FOR ADDITIONAL INFORMATION on occupational injuries and illnesses, contact the Office of Occupational Safety, Health and Working Conditions at (202) 606–6180, or access the Internet at:

http://www.bls.gov/oshhome.htm

Census of Fatal Occupational Injuries

The Census of Fatal Occupational Injuries compiles a complete roster of fatal job-related injuries, including detailed data about the fatally injured workers and the fatal events. The program collects and cross checks fatality information from multiple sources, including death certificates, State and Federal workers' compensation reports, Occupational Safety and Health Administration and Mine Safety and Health Administration records, medical examiner and autopsy reports, media accounts, State motor vehicle fatality records, and follow-up questionnaires to employers.

In addition to private wage and salary workers, the self-employed, family members, and Federal, State, and local government workers are covered by the program. Institutionalized persons, such as prison inmates, are excluded. To be included in the

fatality census, the decedent must have been employed (that is working for pay, compensation, or profit) at the time of the event, engaged in a legal work activity, or present at the site of the incident as a requirement of his or her job.

Definition

A fatal work injury is any intentional or unintentional wound or damage to the body resulting in death from acute exposure to energy, such as heat or electricity or kinetic energy from a crash, or from the absence of such essentials as heat or oxygen caused by a specific event or incident or series of events within a single workday or shift. Fatalities that occur during a person's commute to or from work are excluded from the census, as well as work-related illnesses, which can be difficult to identify due to long latency periods.

Notes on the data

Twenty-eight data elements are collected, coded, and tabulated in the fatality program, including information about the fatally injured worker, the fatal incident, and the machinery or equipment involved. Summary worker demographic data and event characteristics are included in a national news release that is available about 8 months after the end of the reference year. The Census of Fatal Occupational Injuries was initiated in 1992 as a joint Federal-State effort. Most States issue summary information at the time of the national news release.

FOR ADDITIONAL INFORMATION on the Census of Fatal Occupational Injuries contact the BLS Office of Safety, Health, and Working Conditions at (202) 606–6175, or the Internet at:

http://www.bls.gov/oshhome.htm

1. Labor market indicators

Selected indicators	1996	1997	1996	1997				1998		
			IV	I	II	III	IV	I	II	III
Employment data										
Employment status of the civilian noninstitutionalized population (household survey):[1]										
Labor force participation rate	66.8	67.1	67.0	67.1	67.1	67.1	67.1	67.3	67.0	67.0
Employment-population ratio	63.2	63.8	63.4	63.6	63.8	63.8	64.0	64.1	64.1	63.9
Unemployment rate	5.4	4.9	5.3	5.3	4.9	4.9	4.7	4.7	4.4	4.6
Men	5.4	4.9	5.2	5.2	4.8	4.8	4.7	4.5	4.2	4.5
16 to 24 years	12.6	11.8	12.3	12.3	11.5	11.8	11.6	11.4	10.5	11.6
25 years and over	4.1	3.6	3.9	3.9	3.6	3.5	3.4	3.3	3.1	3.2
Women	5.4	5.0	5.5	5.4	5.1	5.0	4.7	4.9	4.6	4.6
16 to 24 years	11.3	10.7	11.4	11.5	10.9	10.5	10.1	10.1	9.5	9.9
25 years and over	4.3	3.9	4.3	4.2	3.9	3.9	3.6	3.8	3.6	3.5
Employment, nonfarm (payroll data), in thousands:[1]										
Total	119,608	122,690	120,655	121,461	122,317	122,995	123,934	124,795	125,516	126,136
Private sector	100,189	103,120	101,223	102,001	102,797	103,392	104,271	105,084	105,714	106,239
Goods-producing	24,493	24,934	24,648	24,787	24,881	24,963	25,108	25,296	25,315	25,206
Manufacturing	18,495	18,657	18,526	18,579	18,625	18,672	18,756	18,825	18,804	18,657
Service-producing	95,115	97,756	96,008	96,674	97,436	98,032	98,826	99,500	100,201	100,933
Average hours:										
Private sector	34.4	34.6	34.5	34.6	34.6	34.6	34.7	34.7	34.6	34.5
Manufacturing	41.6	42.0	41.8	41.9	42.0	41.9	42.1	42.0	41.7	41.7
Overtime	4.5	4.8	4.5	4.8	4.8	4.8	4.9	4.8	4.6	4.6
Employment Cost Index[2]										
Percent change in the ECI, compensation:										
All workers (excluding farm, household and Federal workers)	2.9	3.3	.5	.8	.6	1.0	.8	.8	.8	1.2
Private industry workers	3.1	3.4	.6	.8	.8	.8	.9	.9	.9	1.1
Goods-producing[3]	2.8	2.4	.6	.4	1.0	.7	.4	.7	.8	.7
Service-producing[3]	3.2	3.9	.5	1.1	.7	1.0	1.1	1.0	.8	1.3
State and local government workers	2.6	2.3	.6	.4	.1	1.3	.5	.6	.3	1.5
Workers by bargaining status (private industry):										
Union	2.4	2.1	.5	.2	.6	1.1	.2	.4	1.0	1.1
Nonunion	3.1	3.8	.5	1.1	.8	.8	1.0	1.0	.8	1.1

[1] Quarterly data seasonally adjusted.

[2] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter.

[3] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

2. Annual and quarterly percent changes in compensation, prices, and productivity

Selected measures	1996	1997	1996	1997				1998		
			IV	I	II	III	IV	I	II	III
Compensation data[1,2]										
Employment Cost Index—compensation (wages, salaries, benefits):										
Civilian nonfarm	2.9	3.3	0.5	0.8	0.6	1.0	0.8	0.8	0.8	1.2
Private nonfarm	3.1	3.4	.6	.8	.8	.8	.9	.9	.9	1.1
Employment Cost Index—wages and salaries:										
Civilian nonfarm	3.3	3.8	.6	.9	.7	1.2	.9	.9	.7	1.3
Private nonfarm	3.4	3.9	.6	1.0	.9	1.0	1.0	1.1	.9	1.3
Price data[1]										
Consumer Price Index (All Urban Consumers): All Items	3.3	1.7	.5	.9	.2	.6	.1	.6	.5	.4
Producer Price Index:										
Finished goods	2.8	−1.2	.7	−.5	−.4	.2	−.5	−.8	.5	−.1
Finished consumer goods	3.6	−1.4	.6	−.6	−.2	.4	−.8	−1.0	.8	.0
Capital equipment	.4	−.6	1.0	.1	−.5	−.7	.5	.0	−.5	−.5
Intermediate materials, supplies, and components	.7	−.8	−.6	−.3	.1	.2	−.8	−1.4	.2	.1
Crude materials	14.7	−11.3	7.7	−11.5	−.4	1.3	−.6	−8.8	−1.8	−4.8
Productivity data[3]										
Output per hour of all persons:										
Business sector	2.7	1.7	1.5	1.0	2.0	3.7	.9	4.1	.1	2.4
Nonfarm business sector	2.4	1.4	1.2	.5	1.8	3.6	.9	3.5	.3	2.3
Nonfinancial corporations[4]	2.8	2.6	2.1	1.5	2.5	5.6	1.0	2.6	3.1	–

[1] Annual changes are December-to-December changes. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted, and the price data are not compounded.

[2] Excludes Federal and private household workers.

[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.

[4] Output per hour of all employees.

NOTE: Dash indicates data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ending—					
	1997			1998			1997			1998		
	II	III	IV	I	II	III	II	III	IV	I	II	III
Average hourly compensation:[1]												
All persons, business sector	2.6	4.1	5.3	4.9	4.1	3.8	3.5	3.5	4.0	4.2	4.6	4.5
All persons, nonfarm business sector	2.6	3.9	4.9	4.6	4.0	4.0	3.4	3.5	3.9	4.0	4.4	4.4
Employment Cost Index—compensation:												
Civilian nonfarm[2]	.6	1.0	.8	.8	.8	1.2	2.8	3.0	3.3	3.3	3.5	3.7
Private nonfarm	.8	.8	.9	.9	.9	1.1	2.9	3.2	3.4	3.5	3.5	3.8
Union	.6	1.1	.2	.4	1.0	1.1	1.6	2.4	2.1	2.3	2.7	2.7
Nonunion	.8	.8	1.0	1.0	.8	1.1	3.2	3.2	3.8	3.7	3.8	4.0
State and local governments	.1	1.3	.5	.6	.3	1.5	2.4	2.4	2.3	2.5	2.7	3.0
Employment Cost Index—wages and salaries:												
Civilian nonfarm[2]	.7	1.2	.9	.9	.7	1.3	3.2	3.5	3.8	3.7	3.8	4.0
Private nonfarm	.9	1.0	1.0	1.1	.9	1.3	3.3	3.6	3.9	4.0	4.0	4.3
Union	.7	1.1	.5	.5	.8	1.3	2.2	2.8	2.8	2.9	3.0	3.2
Nonunion	.9	1.0	1.1	1.1	.9	1.3	3.5	3.7	4.2	4.2	4.1	4.4
State and local governments	.1	1.6	.6	.5	.2	1.6	2.7	2.7	2.7	2.8	3.0	3.0

[1] Seasonally adjusted. "Quarterly average" is percent change from a quarter ago, at an annual rate.

4. Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
TOTAL															
Civilian noninstitutional population[1]	200,591	203,133	203,570	203,767	203,941	204,098	204,238	204,400	204,547	204,731	204,899	205,085	205,270	205,497	205,699
Civilian labor force	133,943	136,297	136,439	136,406	136,864	137,169	137,493	137,557	137,523	137,242	137,364	137,447	137,296	137,415	138,075
Participation rate	66.8	67.1	67.0	66.9	67.1	67.2	67.3	67.3	67.2	67.0	67.0	67.0	66.9	66.9	67.1
Employed	126,708	129,558	129,761	129,910	130,575	130,777	131,083	131,163	130,994	131,383	131,453	131,209	131,067	131,168	131,765
Employment-population ratio[2]	63.2	63.8	63.7	63.8	64.0	64.1	64.2	64.2	64.0	64.2	64.2	64.0	63.9	63.8	64.1
Unemployed	7,236	6,739	6,678	6,496	6,289	6,392	6,409	6,393	6,529	5,859	5,910	6,237	6,230	6,247	6,310
Unemployment rate	5.4	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7	4.3	4.3	4.5	4.5	4.5	4.6
Not in the labor force	66,647	66,837	67,131	67,361	67,077	66,929	66,745	66,844	67,024	67,489	67,535	67,639	67,973	68,064	67,624
Men, 20 years and over															
Civilian noninstitutional population[1]	88,606	89,879	90,068	90,140	90,251	90,339	90,391	90,476	90,502	90,580	90,622	90,700	90,802	90,889	91,003
Civilian labor force	68,044	69,166	69,136	69,193	69,500	69,561	69,652	69,601	69,451	69,697	69,624	69,545	69,790	69,490	69,829
Participation rate	76.8	77.0	76.8	76.8	77.0	77.0	77.1	76.9	76.7	76.9	76.8	76.7	76.9	76.5	76.7
Employed	64,897	66,284	66,298	66,337	66,824	66,676	67,008	66,990	66,753	67,301	67,190	66,950	67,040	66,901	67,185
Employment-population ratio[2]	73.2	73.7	73.6	73.6	74.0	73.8	74.1	74.0	73.8	74.3	74.1	73.8	73.8	73.6	73.8
Agriculture	2,356	2,356	2,383	2,298	2,323	2,314	2,282	2,264	2,168	2,420	2,324	2,333	2,394	2,443	2,424
Nonagricultural industries	62,541	63,927	63,915	64,039	64,501	64,362	64,726	64,726	64,585	64,881	64,866	64,617	64,646	64,457	64,761
Unemployed	3,146	2,882	2,838	2,856	2,676	2,885	2,644	2,611	2,699	2,396	2,434	2,595	2,750	2,589	2,645
Unemployment rate	4.6	4.2	4.1	4.1	3.9	4.1	3.8	3.8	3.9	3.4	3.5	3.7	3.9	3.7	3.8
Women, 20 years and over															
Civilian noninstitutional population[1]	97,050	97,889	98,082	98,144	98,212	98,300	98,420	98,471	98,534	98,583	98,668	98,735	98,778	98,901	98,994
Civilian labor force	58,094	59,198	59,432	59,338	59,348	59,624	59,652	59,721	59,771	59,486	59,573	59,599	59,359	59,712	59,804
Participation rate	59.9	60.5	60.6	60.5	60.4	60.7	60.6	60.6	60.7	60.3	60.4	60.4	60.1	60.4	60.4
Employed	55,311	56,613	56,883	56,919	56,953	57,255	57,040	57,146	57,186	57,075	57,253	57,172	57,000	57,286	57,435
Employment-population ratio[2]	57.0	57.8	58.0	58.0	58.0	58.2	58.0	58.0	58.0	57.9	58.0	57.9	57.7	57.9	58.0
Agriculture	827	798	826	814	833	845	811	801	717	705	755	747	793	819	773
Nonagricultural industries	54,484	55,815	56,057	56,105	56,120	56,410	56,229	56,345	56,470	56,370	56,499	56,424	56,207	56,468	56,663
Unemployed	2,783	2,585	2,549	2,419	2,395	2,369	2,612	2,575	2,585	2,411	2,320	2,427	2,359	2,426	2,368
Unemployment rate	4.8	4.4	4.3	4.1	4.0	4.0	4.4	4.3	4.3	4.1	3.9	4.1	4.0	4.1	4.0
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,934	15,365	15,420	15,483	15,478	15,459	15,427	15,453	15,511	15,569	15,609	15,651	15,690	15,689	15,702
Civilian labor force	7,806	7,932	7,871	7,875	8,016	7,984	8,189	8,235	8,300	8,059	8,166	8,302	8,147	8,213	8,442
Participation rate	52.3	51.6	51.0	50.9	51.8	51.6	53.1	53.3	53.5	51.8	52.3	53.0	51.9	52.4	53.8
Employed	6,500	6,661	6,580	6,654	6,798	6,846	7,035	7,028	7,055	7,007	7,010	7,088	7,027	6,981	7,145
Employment-population ratio[2]	43.5	43.4	42.7	43.0	43.9	44.3	45.6	45.5	45.5	45.0	44.9	45.3	44.8	44.5	45.5
Agriculture	261	244	213	215	228	226	227	270	247	225	256	262	254	267	322
Nonagricultural industries	6,239	6,417	6,367	6,439	6,570	6,620	6,809	6,758	6,808	6,782	6,754	6,826	6,773	6,715	6,823
Unemployed	1,306	1,271	1,291	1,221	1,218	1,138	1,154	1,207	1,245	1,052	1,156	1,215	1,120	1,232	1,297
Unemployment rate	16.7	16.0	16.4	15.5	15.2	14.3	14.1	14.7	15.0	13.1	14.2	14.6	13.8	15.0	15.4
White															
Civilian noninstitutional population[1]	168,317	169,993	170,290	170,427	170,545	170,649	170,810	170,917	171,016	171,141	171,257	171,387	171,513	171,655	171,804
Civilian labor force	113,108	114,693	114,758	114,784	115,073	115,263	115,253	115,392	115,297	115,057	115,309	115,137	114,975	115,275	115,776
Participation rate	67.2	67.5	67.4	67.4	67.5	67.5	67.5	67.5	67.4	67.2	67.3	67.2	67.0	67.2	67.4
Employed	107,808	109,856	109,904	110,063	110,604	110,729	110,689	110,842	110,605	110,859	111,025	110,535	110,630	110,708	111,233
Employment-population ratio[2]	64.1	64.6	64.5	64.6	64.9	64.9	64.8	64.9	64.7	64.8	64.8	64.5	64.5	64.5	64.7
Unemployed	5,300	4,836	4,854	4,721	4,469	4,534	4,555	4,550	4,692	4,198	4,284	4,602	4,346	4,567	4,543
Unemployment rate	4.7	4.2	4.2	4.1	3.9	3.9	4.0	3.9	4.1	3.6	3.7	4.0	3.8	4.0	3.9
Black															
Civilian noninstitutional population[1]	23,604	24,003	24,081	24,117	24,149	24,180	24,196	24,229	24,257	24,289	24,317	24,349	24,381	24,418	24,458
Civilian labor force	15,134	15,529	15,691	15,555	15,638	15,709	15,788	15,885	15,971	15,907	15,756	16,013	16,059	15,907	15,982
Participation rate	64.1	64.7	65.2	64.5	64.8	65.0	65.3	65.6	65.8	65.5	64.8	65.8	65.9	65.1	65.3
Employed	13,542	13,969	14,180	14,067	14,128	14,149	14,316	14,349	14,498	14,499	14,344	14,700	14,508	14,476	14,510
Employment-population ratio[2]	57.4	58.2	28.9	58.3	58.5	58.5	59.2	59.2	59.8	59.7	59.0	60.4	59.5	59.3	59.3
Unemployed	1,592	1,560	1,511	1,488	1,510	1,560	1,472	1,535	1,473	1,408	1,412	1,313	1,551	1,431	1,472
Unemployment rate	10.5	10.0	9.6	9.6	9.7	9.9	9.3	9.7	9.2	8.9	9.0	8.2	9.7	9.0	9.2

See footnotes at end of table.

4. Continued—Employment status of the population, by sex, age, race, and Hispanic origin, monthly data seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Hispanic origin															
Civilian noninstitutional population[1]	19,213	20,321	20,464	20,519	20,575	20,629	20,741	20,798	20,851	20,915	20,975	21,036	21,097	21,159	21,224
Civilian labor force	12,774	13,796	13,861	13,896	13,880	13,973	13,954	14,149	14,298	14,369	14,458	14,420	14,240	14,277	14,484
Participation rate	66.5	67.9	67.7	67.7	67.5	67.7	67.3	68.0	68.6	68.7	68.9	68.5	67.5	67.5	68.2
Employed	11,642	12,726	12,807	12,806	12,921	12,921	12,988	13,181	13,305	13,434	13,480	13,328	13,219	13,203	13,413
Employment-population ratio[2]	60.6	62.6	62.6	62.4	62.8	62.6	62.6	63.4	63.8	64.2	64.3	63.4	62.7	62.4	63.2
Unemployed	1,132	1,069	1,054	1,090	959	1,052	966	968	993	935	978	1,092	1,022	1,074	1,071
Unemployment rate	8.9	7.7	7.6	7.8	6.9	7.5	6.9	6.8	6.9	6.5	6.8	7.6	7.2	7.5	7.4

[1] The population figures are not seasonally adjusted.

[2] Civilian employment as a percent of the civilian noninstitutional population.

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

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Employed, 16 years and over	126,708	129,558	129,761	129,910	130,575	130,777	131,083	131,163	130,994	131,383	131,453	131,209	131,067	131,168	131,765
Men	68,207	69,685	69,656	69,785	70,352	70,195	70,518	70,459	70,297	70,831	70,685	70,570	70,605	70,441	70,751
Women	58,501	59,873	60,105	60,125	60,223	60,582	60,565	60,704	60,697	60,553	60,768	60,640	60,462	60,727	61,014
Married men, spouse present	42,417	42,642	42,648	42,771	42,967	42,952	42,977	42,915	42,779	42,865	42,471	42,539	42,837	42,883	43,255
Married women, spouse present	32,406	32,755	32,846	32,978	32,840	32,975	32,793	32,821	32,872	32,973	32,805	32,805	32,658	32,597	32,870
Women who maintain families	7,363	7,775	7,876	7,865	7,726	7,822	7,784	7,884	7,776	7,813	7,848	7,922	7,846	7,932	8,002
Class of worker															
Agriculture:															
Wage and salary workers	1,869	1,890	1,889	1,815	1,855	1,844	1,949	1,928	1,866	1,987	1,871	1,841	2,018	2,165	2,213
Self-employed workers	1,518	1,457	1,495	1,475	1,493	1,496	1,348	1,324	1,242	1,324	1,395	1,470	1,383	1,345	1,280
Unpaid family workers	56	51	44	55	49	54	44	41	32	28	51	48	30	28	43
Nonagricultural industries:															
Wage and salary workers	114,171	116,983	117,303	117,635	118,083	118,403	118,529	118,961	119,131	118,774	119,013	118,654	118,543	118,676	118,978
Government	18,217	18,131	18,109	18,075	18,170	18,248	18,421	18,378	18,072	18,202	18,034	18,497	18,364	18,257	18,415
Private industries	95,954	98,852	99,194	99,560	99,913	100,155	100,108	100,583	101,058	100,571	100,979	100,157	100,179	100,419	100,563
Private households	928	915	877	877	910	946	985	1,035	1,022	1,014	1,015	961	974	853	900
Other	95,025	97,937	98,317	98,683	99,003	99,209	99,123	99,547	100,037	99,557	99,964	99,195	99,205	99,566	99,663
Self-employed workers	8,971	9,056	8,949	8,930	9,004	8,886	8,964	8,761	8,784	9,069	9,023	8,969	9,094	8,947	9,159
Unpaid family workers	122	120	83	92	97	99	131	117	102	124	97	100	91	83	85
Persons at work part time[1]															
All industries:															
Part time for economic reasons	4,315	4,068	3,928	3,913	3,890	3,855	4,082	3,882	3,902	3,735	3,772	3,837	3,783	3,463	3,365
Slack work or business conditions	2,388	2,286	2,187	2,211	2,221	2,230	2,282	2,123	2,188	2,074	2,104	2,230	2,372	1,989	1,897
Could only find part-time work	1,605	1,468	1,455	1,406	1,386	1,323	1,400	1,455	1,445	1,300	1,344	1,246	1,192	1,175	1,152
Part time for noneconomic reasons	17,770	18,149	17,901	18,113	18,083	18,386	18,515	18,407	18,448	18,084	18,662	18,656	18,584	18,648	18,857
Nonagricultural industries:															
Part time for economic reasons	4,123	3,879	3,739	3,732	3,689	3,654	3,865	3,743	3,726	3,608	3,630	3,676	3,632	3,307	3,152
Slack work or business conditions	2,263	2,167	2,067	2,103	2,100	2,113	2,162	2,025	2,057	1,998	2,024	2,151	2,261	1,900	1,779
Could only find part-time work	1,576	1,433	1,417	1,378	1,346	1,291	1,373	1,433	1,416	1,276	1,315	1,199	1,162	1,143	1,113
Part time for noneconomic reasons	17,150	17,564	17,381	17,537	17,486	17,791	17,898	17,786	17,929	17,470	18,067	18,019	17,972	18,001	18,305

[1] Excludes persons "with a job but not at work" during the survey period for such reasons as vacation, illness, or industrial disputes.

6. Selected unemployment indicators, monthly data seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Characteristic															
Total, all workers	5.4	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7	4.3	4.3	4.5	4.5	4.5	4.6
Both sexes, 16 to 19 years	16.7	16.0	16.4	15.5	15.2	14.3	14.1	14.7	15.0	13.1	14.2	14.6	13.8	15.0	15.4
Men, 20 years and over	4.6	4.2	4.1	4.1	3.9	4.1	3.8	3.8	3.9	3.4	3.5	3.7	3.9	3.7	3.8
Women, 20 years and over	4.8	4.4	4.3	4.1	4.0	4.0	4.4	4.3	4.3	4.1	3.9	4.1	4.0	4.1	4.0
White, total	4.7	4.2	4.2	4.1	3.9	3.9	4.0	3.9	4.1	3.6	3.7	4.0	3.8	4.0	3.9
Both sexes, 16 to 19 years	14.2	13.6	14.1	13.4	12.3	11.2	11.6	12.3	12.8	11.8	12.0	13.7	11.1	13.1	13.0
Men, 16 to 19 years	15.5	14.3	14.4	14.3	12.8	11.3	14.2	14.7	14.9	12.7	14.0	14.7	13.1	14.3	15.0
Women, 16 to 19 years	12.9	12.8	13.7	12.3	11.6	11.1	8.8	9.8	10.6	10.7	9.8	12.6	8.9	11.9	10.7
Men, 20 years and over	4.1	3.6	3.6	3.6	3.4	3.6	3.3	3.2	3.4	2.9	3.1	3.3	3.3	3.3	3.4
Women, 20 years and over	4.1	3.7	3.7	3.5	3.4	3.4	3.7	3.6	3.7	3.4	3.3	3.5	3.3	3.5	3.3
Black, total	10.5	10.0	9.6	9.6	9.7	9.9	9.3	9.7	9.2	8.9	9.0	8.2	9.7	9.0	9.2
Both sexes, 16 to 19 years	33.6	32.4	32.7	29.5	33.3	34.4	30.1	31.5	29.1	24.7	29.4	20.2	28.6	28.8	30.4
Men, 16 to 19 years	36.9	36.5	37.6	30.1	35.0	36.2	31.8	34.7	27.8	23.9	30.2	20.4	30.6	29.7	34.1
Women, 16 to 19 years	30.3	28.7	28.6	28.8	31.9	33.1	28.5	28.4	30.3	25.3	28.8	20.1	26.4	28.1	26.8
Men, 20 years and over	9.4	8.5	7.9	8.3	7.8	8.6	7.9	7.8	7.6	7.4	6.7	6.9	8.9	7.8	7.2
Women, 20 years and over	8.7	8.8	8.4	8.3	8.4	8.1	8.0	8.6	8.2	8.2	8.4	7.7	7.9	7.6	8.1
Hispanic origin, total	8.9	7.7	7.6	7.8	6.9	7.5	6.9	6.8	6.9	6.5	6.8	7.6	7.2	7.5	7.4
Married men, spouse present	3.0	2.7	2.6	2.6	2.4	2.6	2.6	2.5	2.5	2.2	2.4	2.2	2.3	2.4	2.3
Married women, spouse present	3.6	3.1	3.1	2.8	2.8	2.8	3.1	3.1	3.3	2.8	2.8	2.9	2.8	3.2	2.6
Women who maintain families	8.2	8.1	7.8	7.8	8.1	7.7	7.6	7.6	7.6	7.6	7.7	6.9	6.8	6.8	7.6
Full-time workers	5.3	4.8	4.7	4.7	4.4	4.6	4.5	4.5	4.5	4.2	4.2	4.4	4.4	4.4	4.4
Part-time workers	5.8	5.5	5.5	5.3	5.4	5.0	5.4	5.2	5.7	4.8	4.7	5.2	5.3	5.4	5.3
Industry															
Nonagricultural wage and salary workers	5.5	5.0	5.0	4.8	4.7	4.8	4.7	4.7	4.7	4.3	4.5	4.7	4.6	4.7	4.8
Mining	5.1	3.8	3.4	4.5	3.3	3.3	4.0	2.6	3.7	2.3	1.3	3.9	3.7	3.9	3.0
Construction	10.1	9.0	8.7	8.7	7.9	8.9	7.9	7.8	8.6	6.3	8.0	8.0	6.7	7.4	9.0
Manufacturing	4.8	4.2	4.1	3.8	3.6	3.8	3.9	3.7	3.8	3.9	3.6	3.6	4.4	3.9	4.1
Durable goods	4.5	3.5	3.3	3.1	3.1	3.1	3.4	2.9	3.6	3.5	3.0	2.9	4.3	3.7	3.8
Nondurable goods	5.2	5.1	5.3	4.8	4.4	4.9	4.5	5.0	4.2	4.4	4.6	4.6	4.5	4.4	4.6
Transportation and public utilities	4.1	3.5	3.8	3.3	3.1	3.3	3.8	3.2	3.3	3.1	3.0	3.6	3.4	3.7	3.6
Wholesale and retail trade	6.4	6.2	6.2	6.1	6.2	5.8	5.9	5.8	5.4	5.2	5.1	5.7	5.6	5.6	5.8
Finance, insurance, and real estate	2.7	3.0	3.0	2.9	2.4	2.8	2.6	2.6	2.6	2.2	2.0	2.1	2.0	2.7	2.3
Services	5.4	4.6	4.6	4.3	4.4	4.5	4.3	4.7	4.7	4.3	4.8	4.7	4.5	4.7	4.4
Government workers	2.9	2.6	2.6	2.4	2.3	2.1	2.4	2.3	2.9	2.0	2.4	2.0	2.5	2.2	2.3
Agricultural wage and salary workers	10.2	9.1	9.0	9.6	8.6	9.7	10.6	8.6	9.7	8.0	7.9	8.1	8.2	7.0	7.9
Educational attainment[1]															
Less than a high school diploma	8.7	8.1	8.0	7.7	7.5	7.6	7.2	7.0	7.2	7.0	6.7	7.2	7.2	7.1	6.9
High school graduates, no college	4.7	4.3	4.2	4.2	3.8	4.1	3.9	4.0	4.2	3.9	3.7	4.0	4.1	4.0	4.1
Some college, less than a bachelor's degree	3.7	3.3	3.2	2.9	3.1	3.2	3.2	3.1	3.3	2.7	3.1	2.9	3.0	2.8	3.0
College graduates	2.2	2.0	2.0	1.9	1.8	1.8	1.9	1.9	1.9	1.7	1.6	1.7	1.7	1.8	1.6

[1] Data refer to persons 25 years and over.

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Less than 5 weeks	2,633	2,538	2,484	2,558	2,423	2,531	2,488	2,622	2,858	2,632	2,634	2,519	2,625	2,675	2,639
5 to 14 weeks	2,287	2,138	2,115	1,912	2,048	1,922	1,971	1,909	1,979	1,901	1,954	2,084	1,983	1,960	1,999
15 weeks and over	2,316	2,062	2,109	1,990	1,865	1,964	1,811	1,830	1,731	1,417	1,462	1,621	1,600	1,647	1,651
15 to 26 weeks	1,053	995	1,031	919	899	936	773	855	841	584	656	852	793	820	733
27 weeks and over	1,262	1,067	1,078	1,071	966	1,028	1,038	974	891	833	806	769	807	827	918
Mean duration, in weeks	16.7	15.8	15.9	16.3	15.6	16.3	15.6	15.6	14.3	14.3	14.6	13.8	14.3	13.5	14.3
Median duration, in weeks	8.3	8.0	8.1	7.7	7.8	7.7	7.4	7.2	6.8	6.4	5.9	6.6	6.6	6.9	6.6

8. Unemployed persons by reason for unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Job losers[1]	3,370	3,037	3,007	2,934	2,886	2,991	2,807	2,795	2,980	2,631	2,772	2,819	2,908	2,852	2,902
On temporary layoff	1,021	931	893	963	815	961	860	821	980	696	786	841	966	978	939
Not on temporary layoff	2,349	2,106	2,114	1,971	2,071	2,030	1,947	1,975	2,000	1,935	1,986	1,978	1,941	1,874	1,963
Job leavers	774	795	853	732	655	692	808	786	744	625	748	766	799	740	724
Reentrants	2,512	2,338	2,263	2,247	2,229	2,170	2,229	2,266	2,215	2,096	2,033	2,096	2,042	2,132	2,195
New entrants	580	569	560	555	560	552	518	543	549	511	493	532	463	503	487
Percent of unemployed															
Job losers[1]	46.6	45.1	45.0	45.4	45.6	46.7	44.1	43.7	45.9	44.9	45.8	45.4	46.8	45.8	46.0
On temporary layoff	14.1	13.8	13.4	14.9	12.9	15.0	13.5	12.8	15.1	11.9	13.0	13.5	15.6	15.7	14.9
Not on temporary layoff	32.5	31.3	31.6	30.5	32.7	31.7	30.6	30.9	30.8	33.0	32.8	31.8	31.3	30.1	31.1
Job leavers	10.7	11.8	12.8	11.3	10.3	10.8	12.7	12.3	11.5	10.7	12.4	12.3	12.9	11.9	11.5
Reentrants	34.7	34.7	33.9	34.7	35.2	33.9	35.0	35.5	34.1	35.7	33.6	33.7	32.9	34.2	34.8
New entrants	8.0	8.4	8.4	8.6	8.8	8.6	8.1	8.5	8.5	8.7	8.2	8.6	7.5	8.1	7.7
Percent of civilian labor force															
Job losers[1]	2.5	2.2	2.2	2.2	2.1	2.2	2.0	2.0	2.2	1.9	2.0	2.1	2.1	2.1	2.1
Job leavers	.6	.6	.6	.5	.5	.5	.6	.6	.5	.5	.5	.6	.6	.5	.5
Reentrants	1.9	1.7	1.7	1.6	1.6	1.6	1.6	1.6	1.6	1.5	1.5	1.5	1.5	1.6	1.6
New entrants	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.4	.3	.4	.4

[1] Includes persons who completed temporary jobs.

9. Unemployment rates by sex and age, monthly data seasonally adjusted

[Civilian workers]

Sex and age	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Total, 16 years and over	5.4	4.9	4.9	4.8	4.6	4.7	4.7	4.6	4.7	4.3	4.3	4.5	4.5	4.5	4.6
16 to 24 years	12.0	11.3	11.2	11.1	10.9	10.6	10.8	10.8	10.7	9.5	10.0	10.6	10.3	11.1	11.0
16 to 19 years	16.7	16.0	16.4	15.5	15.2	14.3	14.1	14.7	15.0	13.1	14.2	14.6	13.8	15.0	15.4
16 to 17 years	18.9	18.2	19.3	17.5	17.6	17.7	17.3	18.5	16.9	15.2	15.8	18.2	15.2	17.1	17.9
18 to 19 years	15.2	14.5	14.5	14.1	13.6	11.7	11.6	11.3	13.7	11.6	13.2	12.3	12.9	13.8	13.8
20 to 24 years	9.3	8.5	8.2	8.5	8.4	8.5	8.9	8.5	8.0	7.4	7.6	8.1	8.2	8.7	8.3
25 years and over	4.2	3.8	3.7	3.6	3.4	3.6	3.5	3.5	3.6	3.2	3.3	3.4	3.4	3.3	3.4
25 to 54 years	4.3	3.9	3.8	3.7	3.5	3.7	3.6	3.6	3.8	3.3	3.4	3.5	3.5	3.4	3.5
55 years and over	3.4	3.0	3.1	2.8	2.8	2.8	2.7	2.7	2.9	2.5	2.4	2.5	2.8	2.6	2.7
Men, 16 years and over	5.4	4.9	4.8	4.8	4.5	4.7	4.5	4.5	4.6	4.0	4.2	4.4	4.6	4.4	4.6
16 to 24 years	12.6	11.8	12.0	12.0	11.6	11.1	11.2	11.7	11.2	9.7	11.0	10.8	11.4	11.4	12.1
16 to 19 years	18.1	16.9	17.2	16.3	15.6	14.2	16.4	17.0	16.5	14.0	16.0	15.3	15.9	15.8	17.7
16 to 17 years	20.8	19.1	18.8	18.2	18.2	18.4	18.3	21.0	18.5	14.9	17.9	21.0	17.3	18.6	20.7
18 to 19 years	16.3	15.4	16.1	14.8	14.1	11.1	14.9	13.1	15.2	13.3	14.8	11.8	14.6	14.2	15.7
20 to 24 years	9.5	8.9	9.1	9.5	9.3	9.3	8.1	8.7	8.1	7.3	8.1	8.2	8.7	8.9	8.7
25 years and over	4.1	3.6	3.5	3.5	3.2	3.5	3.3	3.2	3.4	3.0	3.0	3.2	3.4	3.2	3.2
25 to 54 years	4.2	3.7	3.6	3.6	3.3	3.6	3.4	3.2	3.5	3.0	3.1	3.3	3.4	3.3	3.2
55 years and over	3.3	3.1	3.0	3.0	2.9	3.4	3.1	2.9	3.1	2.6	2.4	2.5	2.9	2.5	3.1
Women, 16 years and over	5.4	5.0	5.0	4.7	4.7	4.6	4.8	4.8	4.9	4.6	4.4	4.7	4.4	4.7	4.5
16 to 24 years	11.3	10.7	10.4	10.1	10.1	10.2	10.4	9.8	10.1	9.2	9.0	10.3	9.1	10.7	9.8
16 to 19 years	15.2	15.0	15.5	14.7	14.7	14.3	11.6	12.3	13.4	12.1	12.3	13.9	11.5	14.2	12.9
16 to 17 years	16.9	17.2	19.8	16.7	17.0	17.0	16.3	16.0	15.2	15.5	13.5	15.1	12.9	15.5	14.8
18 to 19 years	14.0	13.6	12.8	13.4	13.0	12.4	8.2	9.5	12.2	9.8	11.4	12.7	11.2	13.3	11.9
20 to 24 years	9.0	8.1	7.3	7.4	7.4	7.6	9.7	8.3	7.9	7.5	6.9	8.0	7.7	8.6	7.9
25 years and over	4.3	3.9	4.0	3.7	3.6	3.6	3.7	3.8	3.9	3.6	3.5	3.6	3.5	3.5	3.5
25 to 54 years	4.4	4.1	4.1	3.8	3.8	3.9	3.9	4.1	4.1	3.7	3.8	3.8	3.6	3.6	3.7
55 years and over	3.5	2.9	3.2	2.7	2.6	2.1	2.3	2.4	2.6	2.4	2.4	2.6	2.6	2.8	2.3

10. Unemployment rates by State, seasonally adjusted

State	Aug. 1997	July 1998	Aug. 1998[p]	State	Aug. 1997	July 1998	Aug. 1998[p]
Alabama	5.1	3.7	3.7	Missouri	4.1	4.2	4.1
Alaska	7.9	6.2	5.9	Montana	5.4	5.1	5.0
Arizona	4.4	3.8	4.2	Nebraska	2.6	2.1	2.3
Arkansas	5.3	4.7	4.5	Nevada	3.9	4.2	4.2
California	6.2	5.7	5.8	New Hampshire	3.0	2.4	2.1
Colorado	3.2	3.3	3.3	New Jersey	5.0	4.9	4.8
Connecticut	4.9	3.5	3.5	New Mexico	5.9	6.3	6.4
Delaware	3.8	4.1	3.6	New York	6.4	5.5	5.3
District of Columbia	8.0	8.3	8.8	North Carolina	3.6	3.3	3.6
Florida	4.7	4.3	4.3	North Dakota	2.3	2.2	2.2
Georgia	4.5	4.0	4.1	Ohio	4.5	4.7	4.3
Hawaii	6.4	5.8	5.7	Oklahoma	4.1	4.4	4.2
Idaho	5.4	4.9	4.9	Oregon	5.7	5.4	5.7
Illinois	4.6	4.5	4.2	Pennsylvania	5.2	4.5	4.4
Indiana	3.6	2.6	2.7	Rhode Island	5.2	4.4	4.8
Iowa	3.1	2.5	2.5	South Carolina	4.3	3.8	3.5
Kansas	3.6	3.7	3.5	South Dakota	3.0	2.8	2.3
Kentucky	5.2	4.2	4.4	Tennessee	5.3	3.9	4.1
Louisiana	6.1	5.9	6.1	Texas	5.4	4.9	5.0
Maine	5.3	4.6	4.4	Utah	3.1	3.6	3.3
Maryland	5.1	4.8	4.7	Vermont	3.9	3.5	2.9
Massachusetts	4.1	3.1	3.0	Virginia	4.0	3.0	3.1
Michigan	4.0	4.2	3.6	Washington	4.6	4.7	4.7
Minnesota	3.2	2.3	2.1	West Virginia	6.8	6.8	6.8
Mississippi	5.8	4.9	5.0	Wisconsin	3.7	3.4	3.2
				Wyoming	5.0	4.6	4.6

[p] = preliminary

11. Employment of workers on nonfarm payrolls by State, seasonally adjusted

[In thousands]

State	Aug. 1997	July 1998	Aug. 1998[p]	State	Aug. 1997	July 1998	Aug. 1998[p]
Alabama	1,869.5	1,881.5	1,883.0	Missouri	2,643.2	2,666.5	2,679.4
Alaska	269.5	276.1	274.8	Montana	367.9	370.9	371.0
Arizona	1,983.3	2,064.2	2,075.2	Nebraska	859.3	880.6	875.6
Arkansas	1,106.8	1,125.7	1,129.5	Nevada	893.8	931.8	934.3
California	13,224.5	13,586.2	13,623.3	New Hampshire	572.4	575.6	571.7
Colorado	1,985.8	2,054.9	2,053.8	New Jersey	3,724.1	3,796.4	3,803.9
Connecticut	1,616.1	1,643.8	1,652.2	New Mexico	709.5	720.5	721.1
Delaware	390.1	399.0	401.1	New York	8,032.9	8,138.4	8,166.7
District of Columbia	614.7	605.0	611.3	North Carolina	3,694.9	3,728.2	3,748.3
Florida	6,458.7	6,692.9	6,708.5	North Dakota	313.6	319.9	316.6
Georgia	3,626.1	3,724.9	3,735.7	Ohio	5,394.1	5,431.7	5,471.4
Hawaii	533.0	522.6	526.7	Oklahoma	1,388.7	1,421.9	1,427.9
Idaho	511.5	519.4	520.8	Oregon	1,527.0	1,564.5	1,568.0
Illinois	5,783.4	5,884.7	5,872.2	Pennsylvania	5,395.4	5,464.2	5,464.6
Indiana	2,862.4	2,861.6	2,876.6	Rhode Island	449.7	454.6	452.8
Iowa	1,404.7	1,450.6	1,443.2	South Carolina	1,725.9	1,794.9	1,797.3
Kansas	1,274.3	1,305.4	1,304.2	South Dakota	355.6	360.0	358.8
Kentucky	1,718.6	1,747.1	1,759.5	Tennessee	2,587.3	2,620.9	2,615.8
Louisiana	1,855.1	1,885.4	1,885.4	Texas	8,655.9	8,888.3	8,914.3
Maine	555.2	564.1	565.4	Utah	997.4	1,022.0	1,024.3
Maryland	2,255.5	2,279.2	2,288.2	Vermont	279.2	282.3	284.1
Massachusetts	3,125.8	3,212.4	3,210.6	Virginia	3,232.5	3,331.8	3,335.3
Michigan	4,451.3	4,474.9	4,543.3	Washington	2,522.8	2,606.1	2,616.4
Minnesota	2,496.0	2,554.7	2,559.6	West Virginia	706.9	713.3	717.2
Mississippi	1,111.0	1,128.9	1,121.8	Wisconsin	2,662.5	2,709.5	2,724.1
				Wyoming	226.7	227.9	228.8

[p] = preliminary

NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the data base.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
TOTAL	119,608	122,690	123,280	123,568	123,944	124,289	124,640	124,832	124,914	125,234	125,562	125,751	125,869	126,178	126,247
PRIVATE SECTOR	100,189	103,120	103,673	103,922	104,282	104,609	104,954	105,112	105,186	105,470	105,734	105,938	106,043	106,263	106,331
GOODS-PRODUCING	24,493	24,934	24,993	25,032	25,099	25,193	25,297	25,314	25,276	25,339	25,301	25,304	25,135	25,255	25,219
Mining[1]	580	592	594	592	591	592	592	590	587	582	579	578	571	571	571
Metal mining	54	54	53	53	53	52	52	52	51	51	51	51	50	50	50
Oil and gas extraction	322	335	338	337	337	338	338	338	336	332	329	330	325	323	323
Nonmetallic minerals, except fuels	106	108	108	107	107	108	108	107	107	107	107	107	107	108	108
Construction	5,418	5,686	5,713	5,722	5,750	5,810	5,881	5,902	5,860	5,930	5,917	5,946	5,970	5,991	5,971
General building contractors	1,257	1,316	1,320	1,326	1,335	1,351	1,365	1,371	1,373	1,385	1,388	1,401	1,410	1,414	1,408
Heavy construction, except building	777	795	792	789	788	805	817	813	805	819	819	821	828	830	818
Special trades contractors	3,384	3,575	3,601	3,607	3,627	3,654	3,699	3,718	3,682	3,726	3,710	3,724	3,723	3,747	3,745
Manufacturing	18,495	18,657	18,686	18,718	18,758	18,791	18,824	18,822	18,829	18,827	18,805	18,780	18,594	18,693	18,677
Production workers	12,776	12,896	12,915	12,945	12,970	13,001	13,023	13,024	13,013	13,007	12,971	12,943	12,746	12,841	12,856
Durable goods	10,789	10,987	11,030	11,060	11,094	11,118	11,154	11,159	11,166	11,170	11,156	11,144	10,989	11,109	11,080
Production workers	7,386	7,539	7,573	7,598	7,621	7,644	7,669	7,676	7,669	7,666	7,642	7,626	7,468	7,584	7,580
Lumber and wood products	778	793	794	794	795	798	800	800	801	802	803	801	802	804	805
Furniture and fixtures	504	510	509	510	511	513	517	519	520	524	526	524	528	525	523
Stone, clay, and glass products	544	552	553	554	554	555	562	561	558	561	559	562	561	564	562
Primary metal industries	711	711	714	714	715	716	719	718	719	718	716	717	706	715	713
Fabricated metal products	1,449	1,475	1,480	1,485	1,488	1,491	1,496	1,497	1,497	1,498	1,495	1,490	1,477	1,491	1,490
Industrial machinery and equipment	2,115	2,163	2,175	2,185	2,191	2,196	2,200	2,202	2,205	2,201	2,201	2,202	2,193	2,189	2,181
Computer and office equipment	362	375	379	380	379	381	381	381	381	377	376	375	375	371	369
Electronic and other electrical equipment	1,661	1,688	1,698	1,702	1,707	1,712	1,719	1,720	1,722	1,720	1,716	1,714	1,701	1,695	1,688
Electronic components and accessories	617	652	664	669	672	676	680	680	681	678	677	672	667	661	660
Transportation equipment	1,785	1,842	1,852	1,861	1,878	1,878	1,882	1,886	1,887	1,890	1,886	1,882	1,772	1,884	1,879
Motor vehicles and equipment	967	985	986	990	1,005	1,001	1,002	1,004	1,002	1,004	998	993	878	997	992
Aircraft and parts	458	500	510	513	516	519	521	523	525	525	524	524	526	526	524
Instruments and related products	855	863	865	866	867	869	870	866	868	867	866	864	861	857	854
Miscellaneous manufacturing industries	388	389	389	388	386	388	389	390	389	389	388	388	388	385	385
Nondurable goods	7,706	7,670	7,656	7,658	7,664	7,673	7,670	7,663	7,663	7,657	7,649	7,636	7,605	7,584	7,597
Production workers	5,390	5,357	5,342	5,347	5,349	5,357	5,354	5,348	5,344	5,341	5,329	5,317	5,278	5,257	5,276
Food and kindred products	1,692	1,691	1,688	1,689	1,696	1,702	1,702	1,703	1,704	1,708	1,710	1,706	1,696	1,690	1,705
Tobacco products	41	41	40	41	42	41	40	41	41	42	41	40	40	40	39
Textile mill products	627	616	613	612	611	611	608	606	604	605	603	599	594	592	595
Apparel and other textile products	868	826	817	814	810	808	805	796	796	787	780	776	772	759	758
Paper and allied products	684	685	685	685	686	686	688	688	688	686	685	682	680	680	680
Printing and publishing	1,540	1,553	1,556	1,558	1,560	1,561	1,564	1,564	1,564	1,565	1,566	1,570	1,571	1,567	1,564
Chemicals and allied products	1,034	1,034	1,033	1,034	1,035	1,036	1,035	1,036	1,036	1,035	1,039	1,037	1,038	1,036	1,035
Petroleum and coal products	142	140	139	139	138	139	136	136	136	137	136	137	135	134	135
Rubber and miscellaneous plastics products	983	995	997	998	999	1,002	1,006	1,007	1,009	1,008	1,006	1,006	998	1,006	1,007
Leather and leather products	96	90	88	88	87	87	86	86	85	84	83	83	81	80	79
SERVICE-PRODUCING	95,115	97,756	98,287	98,536	98,845	99,096	99,343	99,518	99,638	99,895	100,261	100,447	100,734	100,923	101,028
Transportation and public utilities	6,253	6,395	6,435	6,453	6,456	6,451	6,473	6,494	6,504	6,513	6,534	6,538	6,550	6,572	6,578
Transportation	4,019	4,106	4,141	4,149	4,147	4,135	4,148	4,164	4,170	4,173	4,191	4,196	4,208	4,236	4,245
Railroad transportation	231	227	227	227	228	230	231	231	231	231	232	232	231	233	234
Local and interurban passenger transit	437	451	451	452	453	455	456	459	460	453	459	458	466	470	471
Trucking and warehousing	1,637	1,667	1,680	1,680	1,678	1,676	1,684	1,688	1,690	1,702	1,703	1,709	1,709	1,719	1,719
Water transportation	174	180	180	180	180	179	177	181	183	181	185	183	188	192	191
Transportation by air	1,107	1,128	1,147	1,154	1,151	1,138	1,142	1,145	1,146	1,147	1,151	1,154	1,154	1,160	1,167
Pipelines, except natural gas	15	14	14	14	14	14	14	14	14	14	14	14	14	14	14
Transportation services	418	439	442	442	443	443	444	446	446	445	447	446	446	448	449
Communications and public utilities	2,234	2,290	2,294	2,304	2,309	2,316	2,325	2,330	2,334	2,340	2,343	2,342	2,342	2,336	2,333
Communications	1,351	1,424	1,432	1,443	1,449	1,457	1,466	1,471	1,475	1,484	1,486	1,488	1,488	1,484	1,483
Electric, gas, and sanitary services	884	866	862	861	860	859	859	859	859	856	857	854	854	852	850
Wholesale trade	6,482	6,648	6,679	6,697	6,711	6,731	6,759	6,769	6,783	6,798	6,815	6,821	6,827	6,834	6,848
Retail trade	21,597	22,011	22,078	22,105	22,206	22,245	22,280	22,283	22,259	22,335	22,423	22,448	22,547	22,537	22,574
Building materials and garden supplies	894	937	939	938	944	946	954	959	966	971	972	975	977	979	979
General merchandise stores	2,702	2,718	2,726	2,738	2,761	2,771	2,771	2,756	2,759	2,784	2,788	2,784	2,790	2,781	2,793
Department stores	2,367	2,389	2,397	2,409	2,433	2,434	2,439	2,427	2,428	2,447	2,462	2,457	2,454	2,456	2,459

See footnotes at end of table.

12. Continued—Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

[In thousands]

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[P]	Sept.[P]
Food stores	3,436	3,496	3,506	3,512	3,516	3,517	3,528	3,533	3,536	3,533	3,542	3,538	3,552	3,553	3,560
Automotive dealers and service stations	2,267	2,314	2,321	2,325	2,328	2,329	2,331	2,331	2,333	2,337	2,345	2,351	2,355	2,353	2,355
New and used car dealers	1,031	1,051	1,053	1,055	1,056	1,056	1,056	1,056	1,056	1,058	1,060	1,064	1,066	1,063	1,066
Apparel and accessory stores	1,098	1,098	1,100	1,103	1,105	1,103	1,108	1,100	1,098	1,105	1,106	1,108	1,111	1,113	1,118
Furniture and home furnishings stores	975	1,009	1,019	1,023	1,029	1,035	1,039	1,043	1,048	1,045	1,055	1,058	1,063	1,071	1,070
Eating and drinking places	7,517	7,636	7,641	7,630	7,666	7,682	7,685	7,694	7,645	7,681	7,714	7,726	7,781	7,766	7,793
Miscellaneous retail establishments	2,709	2,804	2,826	2,836	2,857	2,862	2,864	2,867	2,874	2,879	2,901	2,908	2,918	2,921	2,906
Finance, insurance, and real estate	6,911	7,091	7,125	7,151	7,172	7,194	7,213	7,232	7,258	7,289	7,311	7,333	7,370	7,372	7,395
Finance	3,303	3,413	3,434	3,451	3,463	3,478	3,485	3,496	3,512	3,521	3,536	3,547	3,565	3,572	3,580
Depository institutions	2,019	2,027	2,027	2,032	2,035	2,040	2,037	2,039	2,041	2,041	2,044	2,042	2,042	2,042	2,041
Commercial banks	1,458	1,460	1,459	1,462	1,464	1,466	1,463	1,464	1,465	1,463	1,463	1,459	1,459	1,458	1,457
Savings institutions	266	262	261	261	261	263	262	262	262	263	264	264	265	264	264
Nondepository institutions	522	567	576	581	582	586	589	593	602	605	611	616	624	628	629
Security and commodity brokers	553	597	606	611	616	620	625	629	633	636	641	648	655	657	662
Holding and other investment offices	210	222	225	227	230	232	234	235	236	239	240	241	244	245	248
Insurance	2,226	2,260	2,267	2,275	2,281	2,291	2,293	2,297	2,302	2,312	2,320	2,328	2,337	2,339	2,345
Insurance carriers	1,517	1,535	1,540	1,546	1,550	1,558	1,558	1,560	1,566	1,574	1,579	1,586	1,594	1,595	1,599
Insurance agents, brokers, and service	709	724	727	729	731	733	735	737	736	738	741	742	743	744	746
Real estate	1,382	1,419	1,424	1,425	1,428	1,425	1,435	1,439	1,444	1,456	1,455	1,458	1,468	1,461	1,470
Services[1]	34,454	36,040	36,363	36,484	36,638	36,795	36,932	37,020	37,106	37,196	37,350	37,494	37,614	37,693	37,717
Agricultural services	627	679	690	692	694	694	696	696	695	706	700	706	713	718	719
Hotels and other lodging places	1,715	1,744	1,745	1,754	1,754	1,754	1,762	1,756	1,755	1,767	1,769	1,773	1,781	1,785	1,779
Personal services	1,180	1,182	1,180	1,181	1,185	1,178	1,176	1,177	1,178	1,186	1,190	1,186	1,184	1,184	1,176
Business services	7,293	7,983	8,112	8,147	8,226	8,294	8,651	8,384	8,412	8,422	8,491	8,556	8,565	8,619	8,588
Services to buildings	907	937	947	948	947	955	960	961	966	965	975	975	980	978	982
Personnel supply services	2,654	2,968	3,013	3,030	3,074	3,111	3,139	3,152	3,149	3,140	3,156	3,189	3,151	3,176	3,139
Help supply services	2,352	2,646	2,686	2,694	2,741	2,783	2,804	2,820	2,819	2,806	2,818	2,853	2,815	2,848	2,804
Computer and data processing services	1,228	1,411	1,448	1,462	1,475	1,493	1,507	1,522	1,538	1,561	1,578	1,601	1,622	1,634	1,644
Auto repair services and parking	1,080	1,124	1,131	1,134	1,138	1,143	1,147	1,144	1,145	1,146	1,153	1,159	1,162	1,166	1,167
Miscellaneous repair services	372	376	378	378	379	380	381	382	382	383	385	387	385	386	388
Motion pictures	525	548	556	556	557	564	563	569	565	563	567	554	564	565	567
Amusement and recreation services	1,476	1,573	1,593	1,597	1,610	1,625	1,633	1,641	1,647	1,660	1,662	1,670	1,694	1,707	1,730
Health services	9,478	9,720	9,766	9,789	9,807	9,827	9,837	9,852	9,867	9,873	9,887	9,905	9,902	9,917	9,932
Offices and clinics of medical doctors	1,678	1,743	1,754	1,764	1,772	1,779	1,784	1,788	1,796	1,801	1,806	1,813	1,817	1,826	1,834
Nursing and personal care facilities	1,730	1,755	1,757	1,759	1,760	1,761	1,759	1,761	1,761	1,760	1,762	1,761	1,756	1,755	1,758
Hospitals	3,812	3,869	3,885	3,894	3,901	3,908	3,916	3,920	3,925	3,938	3,945	3,953	3,960	3,966	3,975
Home health care services	675	713	716	715	714	713	706	702	698	687	684	683	673	669	667
Legal services	928	947	953	956	959	963	964	967	970	972	977	980	984	986	989
Educational services	2,030	2,114	2,136	2,146	2,155	2,160	2,169	2,179	2,189	2,192	2,195	2,200	2,205	2,203	2,210
Social services	2,413	2,514	2,541	2,546	2,552	2,561	2,570	2,577	2,587	2,595	2,609	2,627	2,657	2,632	2,645
Child day care services	565	570	572	572	571	572	575	574	575	577	575	581	583	585	576
Residential care	677	717	726	728	730	736	736	741	744	746	749	747	749	752	760
Museums and botanical and zoological gardens	85	90	90	91	91	91	91	92	92	92	91	91	91	92	93
Membership organizations	2,201	2,248	2,250	2,252	2,247	2,255	2,260	2,261	2,263	2,265	2,266	2,270	2,272	2,273	2,268
Engineering and management services	2,844	3,005	3,048	3,070	3,089	3,111	3,137	3,148	3,164	3,178	3,212	3,234	3,259	3,264	3,270
Engineering and architectural services	836	869	876	881	885	892	897	899	904	910	913	921	925	928	924
Management and public relations	870	944	962	970	975	988	1,004	1,007	1,012	1,011	1,029	1,037	1,052	1,054	1,060
Government	19,419	19,570	19,607	19,646	19,662	19,680	19,686	19,720	19,728	19,764	19,828	19,813	19,826	19,915	19,916
Federal	2,757	2,699	2,684	2,690	2,689	2,688	2,670	2,676	2,671	2,674	2,671	2,674	2,672	2,683	2,682
Federal, except Postal Service	1,901	1,842	1,827	1,829	1,826	1,819	1,822	1,819	1,815	1,814	1,810	1,813	1,810	1,816	1,811
State	4,606	4,594	4,604	4,609	4,613	4,611	4,613	4,613	4,619	4,620	4,637	4,632	4,645	4,659	4,661
Education	1,911	1,912	1,921	1,922	1,923	1,924	1,924	1,924	1,928	1,925	1,932	1,933	1,938	1,947	1,944
Other State government	2,695	2,682	2,683	2,687	2,690	2,687	2,689	2,689	2,691	2,695	2,705	2,699	2,707	2,712	2,717
Local	12,056	12,276	12,319	12,347	12,360	12,381	12,403	12,431	12,438	12,470	12,520	12,507	12,509	12,573	12,573
Education	6,748	6,913	6,941	6,947	6,959	6,965	6,980	6,999	7,003	7,023	7,053	7,045	7,078	7,123	7,111
Other local government	5,308	5,363	5,378	5,400	5,401	5,416	5,423	5,432	5,435	5,447	5,467	5,462	5,431	5,450	5,462

[1] Includes other industries not shown separately.

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

13. Average weekly hours of production or nonsupervisory workers on private nonfarm payrolls, by industry, monthly data seasonally adjusted

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
PRIVATE SECTOR	34.4	34.6	34.6	34.6	34.7	34.7	34.8	34.7	34.6	34.5	34.7	34.6	34.6	34.6	34.4
GOODS-PRODUCING	41.1	41.3	41.3	41.3	41.2	41.4	41.6	41.4	41.0	40.8	41.1	41.0	41.1	41.1	40.7
MINING	45.3	45.4	45.1	45.2	45.2	44.9	45.4	44.4	43.8	44.1	44.6	43.8	44.8	43.8	42.2
MANUFACTURING	41.6	42.0	41.9	42.0	42.1	42.2	42.1	42.0	41.8	41.4	41.8	41.8	41.7	41.7	41.7
Overtime hours	4.5	4.8	4.7	4.8	4.9	4.9	4.9	4.8	4.8	4.5	4.6	4.6	4.6	4.6	4.5
Durable goods	42.4	42.8	42.7	42.8	42.9	43.0	42.8	42.8	42.5	41.9	42.4	42.3	42.2	42.3	42.3
Overtime hours	4.8	5.1	5.0	5.1	5.2	5.2	5.2	5.1	5.0	4.6	4.8	4.8	4.8	4.8	4.7
Lumber and wood products	40.8	41.0	40.9	41.0	41.1	41.0	41.2	41.1	41.2	41.2	41.2	41.3	41.2	41.4	40.8
Furniture and fixtures	39.4	40.2	40.4	40.4	40.6	40.7	41.0	41.0	40.7	40.7	40.7	41.0	40.7	40.7	40.1
Stone, clay, and glass products	43.3	43.2	43.2	43.2	42.9	43.6	43.7	43.6	43.2	43.3	43.5	43.2	43.5	43.6	43.0
Primary metal industries	44.2	44.9	45.0	45.2	45.2	45.2	45.2	44.8	44.6	43.9	44.5	44.4	43.6	44.0	43.8
Blast furnaces and basic steel products	44.5	44.9	45.0	45.4	45.3	45.4	46.0	45.4	45.3	44.9	45.6	45.1	43.8	44.5	44.1
Fabricated metal products	42.4	42.6	42.5	42.6	42.7	42.9	42.7	42.7	42.4	41.8	42.6	42.5	42.4	42.3	42.3
Industrial machinery and equipment	43.1	43.6	43.5	43.6	43.7	43.7	43.6	43.4	43.3	42.6	43.0	43.2	43.0	43.1	43.2
Electronic and other electrical equipment	41.5	42.0	41.8	41.9	42.0	42.0	41.8	41.9	41.4	41.1	41.4	41.4	41.3	41.6	41.2
Transportation equipment	44.0	44.5	44.0	44.3	44.1	44.5	43.9	43.8	43.4	42.1	43.3	42.7	42.6	42.6	43.7
Motor vehicles and equipment	44.9	45.0	44.3	44.6	44.5	44.9	43.9	43.8	43.5	42.0	43.3	42.4	41.7	42.1	44.3
Instruments and related products	41.7	42.0	42.0	42.0	42.2	41.9	41.9	42.0	41.5	41.3	41.4	41.3	41.3	41.4	40.8
Miscellaneous manufacturing	39.7	40.4	40.3	40.4	40.5	40.6	40.4	40.4	40.5	40.1	40.0	40.0	40.0	40.1	40.0
Nondurable goods	40.5	40.9	40.8	40.9	41.0	41.0	41.1	40.9	40.8	40.7	41.0	40.9	41.0	40.9	40.8
Overtime hours	4.1	4.4	4.3	4.4	4.5	4.4	4.4	4.4	4.4	4.2	4.4	4.4	4.4	4.3	4.3
Food and kindred products	41.0	41.3	41.2	41.3	41.5	41.6	41.8	41.5	41.5	41.3	41.8	41.7	42.0	41.6	41.8
Textile mill products	40.6	41.4	41.5	41.5	41.5	41.7	41.8	41.5	41.2	41.0	41.3	41.1	41.0	41.0	40.6
Apparel and other textile products	37.0	37.3	37.3	37.3	37.2	37.5	37.4	37.4	37.2	37.7	37.4	37.4	37.4	37.5	37.5
Paper and allied products	43.3	43.7	43.6	43.7	44.0	43.7	43.6	43.4	43.4	43.0	43.5	43.6	43.5	43.3	43.2
Printing and publishing	38.2	38.5	38.6	38.6	38.8	38.6	38.5	38.5	38.4	38.2	38.4	38.2	38.4	38.5	38.1
Chemicals and allied products	43.2	43.2	43.3	43.4	43.4	43.2	43.5	43.4	43.4	43.1	43.1	43.2	43.0	43.3	43.0
Rubber and miscellaneous plastics products	41.5	41.8	41.7	42.1	42.0	42.1	42.0	41.8	41.5	41.7	42.1	42.0	42.1	41.6	41.3
Leather and leather products	38.1	38.4	38.4	38.3	38.2	38.4	38.3	38.8	37.9	37.3	37.3	37.6	37.0	38.3	38.4
SERVICE-PRODUCING	32.7	32.9	32.8	32.9	32.9	32.9	33.0	33.0	32.8	32.9	33.0	32.9	32.9	32.9	32.8
TRANSPORTATION AND PUBLIC UTILITIES	39.6	39.7	39.9	39.8	39.9	39.9	40.0	39.9	39.8	39.6	39.8	39.5	39.6	39.4	39.0
WHOLESALE TRADE	38.3	38.4	38.4	38.4	38.5	38.3	38.5	38.5	38.3	38.3	38.5	38.2	38.3	38.4	38.2
RETAIL TRADE	28.8	28.9	28.9	29.0	29.0	28.9	29.0	29.0	28.9	29.0	29.1	29.0	29.1	29.0	29.1

[p] = preliminary.

14. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry, seasonally adjusted

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
PRIVATE SECTOR (in current dollars)	$ 11.82	$ 12.28	$12.37	$12.43	$12.47	$12.50	$12.54	$12.59	$12.63	$12.70	$12.73	$12.76	$12.79	$12.85	$12.86
Goods-producing	13.47	13.92	13.98	14.05	14.10	14.15	14.16	14.21	14.25	14.25	14.27	14.28	14.31	14.39	14.35
Mining	15.62	16.17	16.24	16.37	16.48	16.46	16.47	16.76	16.82	16.72	16.77	16.73	16.88	17.06	16.89
Construction	15.47	16.03	16.10	16.17	16.24	16.34	16.27	16.34	16.40	16.45	16.46	16.51	16.64	16.67	16.55
Manufacturing	12.77	13.17	13.22	13.30	13.34	13.37	13.38	13.42	13.46	13.44	13.47	13.47	13.42	13.53	13.55
Excluding overtime	12.12	12.45	12.50	12.58	12.61	12.63	12.66	12.69	12.73	12.76	12.78	12.76	12.71	12.82	12.84
Service-producing	11.26	11.73	11.83	11.88	11.93	11.95	12.00	12.06	12.10	12.19	12.23	12.26	12.30	12.35	12.38
Transportation and public utilities	14.45	14.93	15.01	15.05	15.10	15.16	15.21	15.25	15.27	15.32	15.31	15.29	15.33	15.38	15.37
Wholesale trade	12.87	13.44	13.54	13.63	13.72	13.71	13.75	13.81	13.84	13.88	14.00	13.98	14.07	14.15	14.12
Retail trade	7.99	8.34	8.42	8.46	8.49	8.51	8.56	8.59	8.64	8.70	8.72	8.73	8.78	8.82	8.87
Finance, insurance, and real estate	12.80	13.33	13.53	13.60	13.65	13.66	13.72	13.83	13.85	14.00	14.03	14.07	14.10	14.15	14.11
Services	11.79	12.28	12.38	12.43	12.48	12.50	12.54	12.60	12.65	12.76	12.81	12.87	12.90	12.95	13.01
PRIVATE SECTOR (in constant (1982) dollars)	7.43	7.55	7.58	7.60	7.62	7.63	7.66	7.69	7.72	7.74	7.73	7.75	7.75	7.78	–

– Data not available.

[p] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

15. Average hourly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[P]	Sept.[P]
PRIVATE SECTOR	$ 11.82	$ 12.28	$12.40	$12.45	$12.53	$12.53	$12.60	$12.65	$12.68	$12.69	$12.70	$12.66	$12.66	$12.74	$12.87
MINING	15.62	16.17	16.26	16.23	16.41	16.52	16.65	16.89	16.89	16.84	16.73	16.73	16.81	16.90	16.91
CONSTRUCTION	15.47	16.03	16.30	16.33	16.28	16.37	16.25	16.21	16.29	16.34	16.42	16.44	16.63	16.74	16.75
MANUFACTURING	12.77	13.17	13.23	13.28	13.36	13.47	13.40	13.41	13.47	13.46	13.47	13.43	13.37	13.45	13.56
Durable goods	13.33	13.73	13.80	13.88	13.95	14.07	13.96	13.96	14.02	13.96	13.98	13.94	13.77	13.94	14.04
Lumber and wood products	10.44	10.77	10.87	10.87	10.91	10.93	10.90	10.91	10.95	10.99	11.06	11.10	11.18	11.20	11.22
Furniture and fixtures	10.15	10.55	10.70	10.67	10.69	10.79	10.75	10.77	10.80	10.85	10.79	10.81	10.90	10.95	11.03
Stone, clay, and glass products	12.82	13.18	13.27	13.32	13.36	13.39	13.39	13.45	13.46	13.63	13.58	13.58	13.60	13.61	13.75
Primary metal industries	14.97	15.22	15.27	15.33	15.38	15.42	15.47	15.46	15.52	15.66	15.54	15.53	15.56	15.44	15.57
Blast furnaces and basic steel products	17.80	18.03	18.30	18.26	18.28	18.15	18.33	18.34	18.32	18.66	18.55	18.53	18.49	18.41	18.44
Fabricated metal products	12.50	12.79	12.81	12.86	12.93	13.03	12.99	12.98	13.01	12.89	13.02	13.00	12.89	13.08	13.14
Industrial machinery and equipment	13.59	14.07	14.19	14.23	14.30	14.41	14.34	14.36	14.36	14.32	14.36	14.40	14.42	14.44	14.47
Electronic and other electrical equipment	12.18	12.70	12.85	12.91	13.00	13.13	13.00	12.97	13.06	13.09	13.05	13.08	13.15	13.16	13.23
Transportation equipment	17.19	17.56	17.57	17.88	17.94	18.09	17.75	17.77	17.92	17.71	17.65	17.45	16.88	17.32	17.46
Motor vehicles and equipment	17.74	18.06	18.02	18.47	18.53	18.66	18.24	18.31	18.52	18.35	18.16	17.84	16.87	17.61	17.75
Instruments and related products	13.13	13.51	13.62	13.59	13.66	13.68	13.64	13.67	13.73	13.75	13.75	13.71	13.74	13.76	13.88
Miscellaneous manufacturing	10.38	10.59	10.64	10.64	10.71	10.80	10.79	10.79	10.79	10.76	10.79	10.82	10.84	10.83	10.94
Nondurable goods	11.97	12.33	12.40	12.39	12.48	12.58	12.56	12.57	12.63	12.71	12.71	12.69	12.79	12.73	12.88
Food and kindred products	11.20	11.49	11.51	11.45	11.60	11.71	11.67	11.64	11.70	11.75	11.78	11.76	11.80	11.76	11.95
Tobacco products	19.35	19.27	18.32	18.05	17.88	18.69	18.49	18.24	18.54	18.94	20.35	20.89	20.66	19.10	18.15
Textile mill products	9.69	10.03	10.10	10.11	10.16	10.25	10.26	10.26	10.29	10.39	10.37	10.36	10.36	10.38	10.42
Apparel and other textile products	7.96	8.25	8.32	8.32	8.32	8.42	8.41	8.38	8.43	8.47	8.46	8.50	8.48	8.52	8.53
Paper and allied products	14.67	15.04	15.17	15.17	15.22	15.27	15.18	15.20	15.27	15.44	15.50	15.45	15.63	15.53	15.89
Printing and publishing	12.65	13.05	13.21	13.19	13.24	13.30	13.27	13.32	13.36	13.32	13.32	13.33	13.43	13.46	13.64
Chemicals and allied products	16.17	16.58	16.63	16.65	16.85	16.92	16.89	16.94	16.97	17.15	17.11	17.05	17.19	17.14	17.32
Petroleum and coal products	19.32	20.18	20.24	20.29	20.39	20.55	20.63	20.91	21.16	20.99	20.80	20.71	20.81	20.77	20.83
Rubber and miscellaneous plastics products	11.24	11.57	11.64	11.63	11.64	11.76	11.74	11.77	11.78	11.84	11.85	11.81	11.91	11.83	11.92
Leather and leather products	8.57	8.98	9.11	9.16	9.14	9.21	9.32	9.29	9.32	9.28	9.33	9.35	9.16	9.29	9.29
TRANSPORTATION AND PUBLIC UTILITIES	14.45	14.93	15.06	15.09	15.19	15.17	15.27	15.29	15.24	15.27	15.21	15.22	15.31	15.36	15.42
WHOLESALE TRADE	12.87	13.44	13.53	13.57	13.76	13.72	13.77	13.85	13.86	13.90	13.96	13.89	13.99	14.12	14.11
RETAIL TRADE	7.99	8.34	8.45	8.47	8.51	8.51	8.63	8.62	8.67	8.70	8.71	8.70	8.71	8.73	8.90
FINANCE, INSURANCE, AND REAL ESTATE	12.80	13.33	13.48	13.56	13.72	13.64	13.70	13.95	13.97	13.98	13.99	13.93	13.94	14.10	14.05
SERVICES	11.79	12.28	12.36	12.41	12.57	12.61	12.66	12.75	12.77	12.77	12.75	12.70	12.67	12.75	12.98

[P] = preliminary.

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

16. Average weekly earnings of production or nonsupervisory workers on private nonfarm payrolls, by industry

Industry	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.[p]	Sept.[p]
PRIVATE SECTOR															
Current dollars	$ 406.61	$ 424.89	$431.52	$432.02	$436.04	$436.04	$430.92	$437.69	$437.46	$434.00	$439.42	$439.30	$440.57	$448.45	$441.44
Seasonally adjusted	–	–	428.00	430.08	432.71	433.75	436.39	436.87	437.00	438.15	441.73	441.50	442.53	444.61	442.38
Constant (1982) dollars	255.73	261.31	264.09	264.07	266.53	267.02	263.56	267.54	267.07	264.31	266.96	266.57	267.17	270.85	267.26
MINING	707.59	734.12	739.83	735.22	748.30	746.70	749.25	743.16	733.03	730.86	742.81	736.12	739.64	743.60	715.29
CONSTRUCTION	603.33	623.57	653.63	649.93	615.38	630.25	607.75	614.36	617.39	620.92	643.66	642.80	666.86	671.27	626.45
MANUFACTURING															
Current dollars	531.23	553.14	560.95	560.42	569.14	579.21	561.46	559.20	561.70	549.17	563.05	561.37	549.51	560.87	562.74
Constant (1982) dollars	334.11	340.18	343.30	342.56	347.89	354.69	343.40	341.81	342.92	334.45	342.07	340.89	333.24	339.46	341.44
Durable goods	565.19	587.64	594.78	596.84	604.04	617.67	594.70	593.30	594.45	576.55	594.15	591.06	571.46	588.27	586.87
Lumber and wood products	425.95	441.57	451.11	451.11	451.67	450.32	438.18	441.86	446.76	448.39	457.88	461.76	460.62	468.16	454.41
Furniture and fixtures	399.91	424.11	439.77	434.27	440.43	454.26	436.45	436.19	436.32	430.75	432.68	441.05	439.27	448.95	440.10
Stone, clay, and glass products	555.11	569.38	586.53	584.75	575.82	585.14	566.40	572.97	572.05	584.73	596.16	594.80	594.32	600.20	602.31
Primary metal industries	661.67	683.38	691.73	691.38	699.79	710.86	702.34	691.06	690.64	679.64	691.53	689.53	670.64	674.73	681.97
Blast furnaces and basic steel products	792.10	809.55	827.16	821.70	831.74	834.90	846.85	828.97	828.06	835.97	842.17	833.85	811.71	813.72	815.05
Fabricated metal products	530.00	544.85	550.83	550.41	559.87	573.32	553.37	549.05	549.02	527.20	553.35	553.80	536.22	551.98	547.94
Industrial machinery and equipment	585.73	613.45	620.10	617.58	629.20	645.57	625.22	624.66	624.66	600.01	618.92	622.08	609.97	615.14	613.53
Electronic and other electrical equipment	505.47	533.40	540.99	540.93	555.10	565.90	543.40	539.55	540.68	528.84	537.66	541.51	533.89	544.82	541.11
Transportation equipment	756.36	781.42	778.35	795.66	798.33	824.90	777.45	773.00	783.10	733.19	771.31	748.61	692.08	739.56	749.03
Motor vehicles and equipment	796.53	812.70	803.69	831.15	830.14	863.96	797.09	794.65	813.03	756.02	800.86	761.77	668.05	744.90	768.58
Instruments and related products	547.52	567.42	573.40	569.42	581.92	586.87	571.52	575.51	572.54	558.25	566.50	566.22	557.84	565.54	562.14
Miscellaneous manufacturing	412.09	427.84	434.11	434.11	441.25	447.12	430.52	433.76	437.00	423.94	430.52	431.72	424.93	432.12	431.04
Nondurable goods	484.79	504.30	513.36	509.23	517.92	525.84	513.70	510.34	514.04	508.40	518.57	519.02	519.27	521.93	529.37
Food and kindred products	459.20	474.54	486.87	478.61	489.52	496.50	483.14	476.08	478.53	474.70	488.87	488.04	490.88	493.92	510.27
Tobacco products	774.00	749.60	721.81	714.78	706.26	749.47	698.92	682.18	685.98	700.78	793.65	833.51	811.94	750.63	687.89
Textile mill products	393.41	415.24	424.20	418.55	425.70	432.55	426.82	421.69	423.95	416.64	426.21	429.94	418.54	427.66	428.26
Apparel and other textile products	294.52	307.73	312.00	312.83	312.83	320.80	313.69	310.90	313.60	309.16	316.40	321.30	313.76	320.35	316.46
Paper and allied products	635.21	657.25	669.00	664.45	675.77	681.04	663.37	653.60	658.14	656.20	671.15	672.08	672.09	669.34	692.80
Printing and publishing	483.23	502.43	517.83	513.09	520.33	521.36	504.26	508.82	513.02	503.50	507.49	505.21	511.68	518.21	526.50
Chemicals and allied products	698.54	716.26	723.41	720.95	736.35	744.48	734.72	733.50	736.50	735.74	735.73	736.56	734.01	737.02	746.49
Petroleum and coal products	842.35	869.76	876.39	878.56	884.93	867.21	918.04	882.40	914.11	898.37	892.32	894.67	932.29	911.80	916.52
Rubber and miscellaneous plastics products	466.46	483.63	488.88	487.30	494.70	505.68	491.91	489.63	488.87	485.44	496.52	496.02	489.50	489.76	492.30
Leather and leather products	326.52	344.83	355.29	353.58	351.89	357.35	352.30	353.02	351.36	338.72	348.94	356.24	338.00	357.67	355.81
TRANSPORTATION AND PUBLIC UTILITIES	572.22	592.72	606.92	600.58	613.68	603.77	600.11	610.07	600.46	597.06	600.80	602.71	607.81	614.40	604.46
WHOLESALE TRADE	492.92	516.10	519.55	521.09	532.51	526.85	524.64	533.23	532.22	529.59	536.06	531.99	535.82	546.44	537.59
RETAIL TRADE	230.11	241.03	245.05	243.94	245.09	248.49	242.50	247.39	248.83	249.69	252.59	254.91	259.56	261.03	259.88
FINANCE, INSURANCE, AND REAL ESTATE	459.52	481.21	482.58	486.80	503.52	489.68	494.57	517.55	514.10	504.68	505.04	501.48	503.23	520.29	504.40
SERVICES	382.00	400.33	401.70	404.57	412.30	411.09	410.18	418.20	417.58	413.75	414.38	415.29	416.84	423.30	419.25

[p] = preliminary.
NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. Diffusion indexes of employment change, seasonally adjusted

[In percent]

Timespan and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1996	50.8	64.6	59.6	56.6	62.8	61.0	57.3	61.5	56.0	62.5	62.2	60.7
1997	58.0	61.4	59.8	63.6	60.1	54.6	61.1	59.1	60.0	64.3	62.4	64.9
1998	63.8	58.7	59.6	56.9	56.6	59.0	55.1	53.2	49.0	–	–	–
Over 3-month span:												
1996	61.9	62.8	64.0	63.8	63.5	64.9	64.2	61.5	63.9	64.2	67.0	66.6
1997	64.9	63.3	65.6	66.2	63.9	61.2	60.1	65.9	67.4	68.1	70.8	71.9
1998	68.4	67.3	64.2	61.7	60.4	58.4	57.6	53.4	–	–	–	–
Over 6-month span:												
1996	62.8	65.4	64.7	65.7	66.2	65.0	66.4	66.0	66.2	67.6	66.9	66.3
1997	67.6	67.0	65.3	64.9	65.6	67.3	68.0	67.3	70.6	72.3	73.3	72.6
1998	72.1	70.9	69.4	63.5	63.8	59.1	–	–	–	–	–	–
Over 12-month span:												
1996	64.5	66.7	64.5	65.6	68.5	67.3	67.7	66.4	68.0	69.9	69.1	68.3
1997	69.8	67.6	69.2	70.1	69.8	69.8	71.2	71.2	71.1	73.0	72.9	72.3
1998	71.2	69.8	69.5	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1996	42.8	54.7	48.2	42.1	55.4	50.7	47.1	55.4	47.8	52.9	54.3	55.4
1997	49.3	54.3	50.0	56.8	51.4	52.2	50.4	48.9	56.5	57.2	56.1	60.8
1998	55.8	51.8	52.5	48.6	45.0	47.8	39.6	47.5	38.8	–	–	–
Over 3-month span:												
1996	43.9	46.8	46.0	47.5	46.4	49.3	51.4	50.0	53.6	51.1	57.6	54.7
1997	54.3	49.3	54.3	54.0	55.4	50.4	47.5	52.2	57.9	62.6	64.7	65.5
1998	60.1	59.0	50.7	46.4	43.2	38.8	37.8	33.1	–	–	–	–
Over 6-month span:												
1996	42.1	45.3	46.4	47.1	48.2	48.6	51.1	50.4	52.9	52.9	53.2	52.2
1997	54.3	54.3	51.4	52.9	51.4	55.0	56.8	57.6	60.4	64.4	67.6	65.8
1998	61.5	56.8	52.2	39.2	40.6	34.5	–	–	–	–	–	–
Over 12-month span:												
1996	43.5	47.5	45.3	45.3	50.4	49.6	50.4	48.6	51.1	55.0	54.0	51.8
1997	57.2	52.5	54.7	56.5	57.9	57.6	58.6	58.6	60.4	60.4	59.4	58.3
1998	50.7	51.8	51.1	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

18. Annual data: Employment status of the population

[Numbers in thousands]

Employment status	1989	1990	1991	1992	1993	1994	1995	1996	1997
Civilian noninstitutional population	186,393	189,164	190,925	192,805	194,838	196,814	198,584	200,591	203,133
Civilian labor force	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297
Labor force participation rate	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1
Employed	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558
Employment-population ratio	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8
Agriculture	3,199	3,223	3,269	3,247	3,115	3,409	3,440	3,443	3,399
Nonagricultural industries	114,142	115,570	114,499	115,245	117,144	119,651	121,460	123,264	126,159
Unemployed	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739
Unemployment rate	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9
Not in the labor force	62,523	63,324	64,578	64,700	65,638	65,758	66,280	66,647	66,837

19. Annual data: Employment levels by industry

[In thousands]

Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total employment	107,884	109,403	108,249	108,601	110,713	114,163	117,191	119,608	122,690
Private sector	90,105	91,098	89,847	89,956	91,872	95,036	97,885	100,189	103,120
Goods-producing	25,254	24,905	23,745	23,231	23,352	23,908	24,265	24,493	24,934
Mining	692	709	689	635	610	601	581	580	592
Construction	5,171	5,120	4,650	4,492	4,668	4,986	5,160	5,418	5,686
Manufacturing	19,391	19,076	18,406	18,104	18,075	18,321	18,524	18,495	18,657
Service-producing	82,630	84,497	84,504	85,370	87,361	90,256	92,925	95,115	97,756
Transportation and public utilities	5,614	5,777	5,755	5,718	5,811	5,984	6,132	6,253	6,395
Wholesale trade	6,187	6,173	6,081	5,997	5,981	6,162	6,378	6,482	6,648
Retail trade	19,475	19,601	19,284	19,356	19,773	20,507	21,187	21,597	22,011
Finance, insurance, and real estate	6,668	6,709	6,646	6,602	6,757	6,896	6,806	6,911	7,091
Services	26,907	27,934	28,336	29,052	30,197	31,579	33,117	34,454	36,040
Government	17,779	18,304	18,402	18,645	18,841	19,128	19,305	19,419	19,570
Federal	2,988	3,085	2,966	2,969	2,915	2,870	2,822	2,757	2,699
State	4,182	4,305	4,355	4,408	4,488	4,576	4,635	4,606	4,594
Local	10,609	10,914	11,081	11,267	11,438	11,682	11,849	12,056	12,276

NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

20. Annual data: Average hours and earnings of production or nonsupervisory workers on nonfarm payrolls, by industry

Industry	1989	1990	1991	1992	1993	1994	1995	1996	1997
Private sector:									
Average weekly hours	34.6	34.5	34.3	34.4	34.5	34.7	34.5	34.4	34.6
Average hourly earnings (in dollars)	9.66	10.01	10.32	10.57	10.83	11.12	11.43	11.82	12.28
Average weekly earnings (in dollars)	334.24	345.35	353.98	363.61	373.64	385.86	394.34	406.61	424.89
Mining:									
Average weekly hours	43.0	44.1	44.4	43.9	44.3	44.8	44.7	45.3	45.4
Average hourly earnings (in dollars)	13.26	13.68	14.19	14.54	14.60	14.88	15.30	15.62	16.17
Average weekly earnings (in dollars)	570.18	603.29	630.04	638.31	646.78	666.62	683.91	707.59	734.12
Construction:									
Average weekly hours	37.9	38.2	38.1	38.0	38.5	38.9	38.9	39.0	38.9
Average hourly earnings (in dollars)	13.54	13.77	14.00	14.15	14.38	14.73	15.09	15.47	16.03
Average weekly earnings (in dollars)	513.17	526.01	533.40	537.70	553.63	573.00	587.00	603.33	623.57
Manufacturing:									
Average weekly hours	41.0	40.8	40.7	41.0	41.4	42.0	41.6	41.6	42.0
Average hourly earnings (in dollars)	10.48	10.83	11.18	11.46	11.74	12.07	12.37	12.77	13.17
Average weekly earnings (in dollars)	429.68	441.86	455.03	469.86	486.04	506.94	514.59	531.23	553.14
Transportation and public utilities:									
Average weekly hours	38.3	38.4	38.1	38.3	39.3	39.7	39.4	39.6	39.7
Average hourly earnings (in dollars)	12.57	12.92	13.20	13.43	13.55	13.78	14.13	14.45	14.93
Average weekly earnings (in dollars)	481.43	496.13	502.92	514.37	532.52	547.07	556.72	572.22	592.72
Wholesale trade:									
Average weekly hours	38.0	38.1	38.1	38.2	38.2	38.4	38.3	38.3	38.4
Average hourly earnings (in dollars)	10.39	10.79	11.15	11.39	11.74	12.06	12.43	12.87	13.44
Average weekly earnings (in dollars)	394.82	411.10	424.82	435.10	448.47	463.10	476.07	492.92	516.10
Retail trade:									
Average weekly hours	28.9	28.8	28.6	28.8	28.8	28.9	28.8	28.8	28.9
Average hourly earnings (in dollars)	6.53	6.75	6.94	7.12	7.29	7.49	7.69	7.99	8.34
Average weekly earnings (in dollars)	188.72	194.40	198.48	205.06	209.95	216.46	221.47	230.11	241.03
Finance, insurance, and real estate:									
Average weekly hours	35.8	35.8	35.7	35.8	35.8	35.8	35.9	35.9	36.1
Average hourly earnings (in dollars)	9.53	9.97	10.39	10.82	11.35	11.83	12.32	12.80	13.33
Average weekly earnings (in dollars)	341.17	356.93	370.92	387.36	406.33	423.51	442.29	459.52	481.21
Services:									
Average weekly hours	32.6	32.5	32.4	32.5	32.5	32.5	32.4	32.4	32.6
Average hourly earnings (in dollars)	9.38	9.83	10.23	10.54	10.78	11.04	11.39	11.79	12.28
Average weekly earnings (in dollars)	305.79	319.48	331.45	342.55	350.35	358.80	369.04	382.00	400.33

21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
Civilian workers[2]	129.2	130.2	130.9	132.0	132.8	134.1	135.2	136.3	137.4	0.8	3.5
Workers, by occupational group:											
White-collar workers	130.0	131.3	131.9	133.1	133.9	135.2	136.5	137.7	138.7	.7	3.6
Professional specialty and technical	131.4	132.6	133.1	133.7	134.6	135.8	136.7	137.5	138.3	.6	2.7
Executive, administrative, and managerial	129.1	131.1	131.5	133.2	134.0	135.3	137.3	139.1	139.7	.4	4.3
Administrative support, including clerical	130.8	132.0	132.6	133.6	134.6	135.8	136.9	138.0	139.3	.9	3.5
Blue-collar workers	127.7	128.3	129.1	129.8	130.9	131.8	132.4	133.2	134.3	.8	2.6
Service occupations	128.7	129.7	131.0	132.0	132.7	134.6	135.6	136.9	132.7	.7	3.9
Workers, by industry division:											
Goods-producing	129.3	130.1	130.9	131.5	132.7	133.6	134.1	135.1	136.3	.9	2.7
Manufacturing	130.4	131.3	132.1	132.6	133.8	134.6	135.3	136.4	137.2	.6	2.5
Service-producing	129.1	130.2	130.9	132.1	132.9	134.2	135.5	136.8	137.7	.7	3.6
Services	131.2	132.5	133.2	134.1	134.9	136.5	137.6	138.3	139.0	.5	3.0
Health services	133.4	134.1	134.4	135.2	135.7	136.7	137.9	138.0	138.5	.4	2.1
Hospitals	132.9	133.6	133.8	134.2	134.6	135.6	136.7	137.1	138.2	.8	2.7
Educational services	130.8	133.2	133.9	134.0	134.2	136.5	137.0	137.5	137.7	.1	2.6
Public administration[3]	129.6	130.7	131.8	133.0	133.0	134.1	135.1	136.4	137.4	.7	3.3
Nonmanufacturing	128.8	129.8	130.5	131.7	132.5	133.8	135.1	136.2	137.3	.8	3.6
Private industry workers	129.0	129.8	130.6	131.7	132.8	133.9	135.1	136.3	137.5	.9	3.5
Excluding sales occupations	129.2	130.2	130.8	131.9	133.0	134.1	135.2	136.4	137.5	.8	3.4
Workers, by occupational group:											
White-collar workers	130.0	131.1	131.7	133.1	134.1	135.2	136.7	138.1	139.4	.9	4.0
Excluding sales occupations	130.7	132.0	132.5	133.7	134.8	135.9	137.4	138.8	139.9	.8	3.8
Professional specialty and technical occupations	132.6	133.3	133.7	134.6	135.9	136.7	137.8	138.8	140.1	.9	3.1
Executive, administrative, and managerial occupations	128.8	130.9	131.3	133.0	133.9	135.2	137.4	139.4	140.0	.4	4.6
Sales occupations	126.9	126.7	128.1	130.1	130.7	132.2	133.5	135.3	137.3	1.5	5.0
Administrative support occupations, including clerical	130.8	132.0	132.5	133.7	134.7	135.9	137.0	138.2	139.6	1.0	3.6
Blue-collar workers	127.6	128.1	129.0	129.6	130.8	131.7	132.3	133.1	134.3	.9	2.7
Precision production, craft, and repair occupations	127.7	128.2	129.1	129.6	130.9	131.7	131.9	132.9	134.4	1.1	2.7
Machine operators, assemblers, and inspectors	128.1	128.7	129.5	130.0	131.2	132.2	133.0	133.6	134.7	.8	2.7
Transportation and material moving occupations	124.7	124.9	125.2	126.1	126.8	128.0	128.9	129.3	129.9	.5	2.4
Handlers, equipment cleaners, helpers, and laborers	129.3	130.0	131.3	132.8	133.4	134.2	135.8	137.0	137.6	.4	3.1
Service occupations	126.5	127.4	128.9	129.8	130.9	133.1	134.1	135.3	136.0	.5	3.9
Production and nonsupervisory occupations[4]	128.6	129.2	130.0	131.1	132.1	133.2	134.2	135.3	136.6	1.0	3.4
Workers, by industry division:											
Goods-producing	129.3	130.1	130.9	131.4	132.7	133.6	134.1	135.1	136.2	.8	2.6
Excluding sales occupations	129.0	129.8	130.5	131.1	132.3	133.1	133.6	134.5	135.6	.8	2.5
White-collar occupations	131.0	132.2	132.9	133.5	134.8	135.6	136.2	137.7	138.8	.8	3.0
Excluding sales occupations	130.2	131.5	132.1	132.6	133.8	134.5	135.0	136.3	137.4	.8	2.7
Blue-collar occupations	128.3	128.9	129.6	130.2	131.4	132.4	132.8	133.5	134.6	.8	2.4
Construction	125.3	125.9	126.4	127.2	128.7	129.7	129.7	130.6	132.7	1.6	3.1
Manufacturing	130.4	131.3	132.1	132.6	133.8	134.6	135.3	136.4	137.2	.6	2.5
White-collar occupations	131.6	132.8	133.6	133.9	135.2	135.8	136.7	138.2	139.1	.7	2.9
Excluding sales occupations	130.5	131.8	132.5	132.8	133.8	134.5	135.3	136.5	137.3	.6	2.6
Blue-collar occupations	129.5	130.2	131.1	131.7	132.8	133.7	134.3	135.0	135.9	.7	2.3
Durables	131.2	131.9	132.6	133.0	134.1	135.0	135.7	136.5	137.4	.7	2.5
Nondurables	128.9	130.0	131.0	131.7	133.0	133.7	134.5	135.9	136.7	.6	2.8
Service-producing	128.6	129.5	130.2	131.6	132.5	133.8	135.3	136.7	137.8	.8	4.0
Excluding sales occupations	129.2	130.3	130.9	132.2	133.3	134.5	136.1	137.4	138.5	.8	3.9
White-collar occupations	129.6	130.6	131.1	132.7	133.7	134.9	136.6	138.0	139.3	.9	4.2
Excluding sales occupations	130.9	132.2	132.6	134.0	135.1	136.3	138.1	139.5	140.6	.8	4.1
Blue-collar occupations	126.0	126.4	127.3	128.2	129.2	130.0	130.9	132.1	133.2	.8	3.1
Service occupations	126.1	127.1	128.6	129.5	130.6	132.7	133.9	135.0	135.8	.6	4.0
Transportation and public utilities	128.4	129.3	130.4	131.3	131.7	132.9	134.2	135.8	137.1	1.0	4.1
Transportation	127.7	128.2	129.2	130.6	130.9	132.1	133.4	134.0	134.9	.7	3.1
Public utilities	129.1	130.4	131.7	132.0	132.5	133.7	135.1	137.9	139.7	1.3	5.4
Communications	127.5	129.1	131.1	130.2	130.5	131.8	134.0	136.6	139.2	1.9	6.7
Electric, gas, and sanitary services	131.1	132.0	132.4	134.2	134.9	136.0	136.4	139.6	140.3	.5	4.0
Wholesale and retail trade	126.4	127.5	128.6	130.1	131.2	132.4	132.9	134.7	135.8	.8	3.5
Excluding sales occupations	126.4	128.0	129.0	130.4	131.9	133.0	134.0	135.5	136.3	.6	3.3
Wholesale trade	129.3	129.9	130.9	132.9	133.8	134.6	135.1	137.7	138.6	.7	3.6
Excluding sales occupations	128.7	130.0	130.9	132.6	133.7	134.5	135.4	137.0	138.2	.9	3.4
Retail trade	124.8	126.2	127.4	128.5	129.7	131.1	131.7	133.1	134.4	1.0	3.6
Food stores	124.4	127.0	128.4	128.2	128.2	129.8	129.4	131.3	132.9	1.2	3.7
General merchandise stores	123.6	124.6	126.3	126.4	127.7	128.6	130.0	131.2	133.0	1.4	4.2

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
Finance, insurance, and real estate	126.3	126.7	126.0	128.6	129.4	130.5	134.5	136.7	138.4	1.2	7.0
Excluding sales occupations	128.5	129.7	129.2	131.5	132.4	133.5	137.6	140.2	141.3	.8	6.7
Banking, savings and loan, and other credit agencies	128.2	130.3	128.0	130.6	131.6	133.1	140.6	143.3	145.3	1.4	10.4
Insurance	128.2	129.3	129.6	131.9	132.1	133.1	134.8	137.4	138.9	1.1	5.1
Services	131.7	132.7	133.4	134.6	135.7	137.0	138.5	139.3	140.3	.7	3.4
Business services	129.2	130.2	131.8	133.3	134.2	136.3	138.6	139.5	140.7	.9	4.8
Health services	133.5	134.2	134.5	135.5	135.9	137.0	138.1	138.2	138.7	.4	2.1
Hospitals	132.8	133.4	133.7	134.0	134.4	135.4	136.5	136.7	138.2	1.1	2.8
Educational services	134.8	137.5	138.0	138.5	138.8	141.6	142.6	143.4	143.9	.3	3.7
Colleges and universities	136.2	138.6	139.1	139.5	139.9	142.5	143.7	144.3	144.8	.3	3.5
Nonmanufacturing	128.2	129.1	129.8	131.1	132.1	133.3	134.7	136.0	137.2	.9	3.9
White-collar workers	129.5	130.5	131.1	132.7	133.6	134.9	136.5	137.9	139.2	.9	4.2
Excluding sales occupations	130.8	132.1	132.5	134.0	135.1	136.2	137.9	139.3	140.5	.9	4.0
Blue-collar occupations	125.6	125.9	126.7	127.5	128.6	129.4	130.1	131.0	132.4	1.1	3.0
Service occupations	126.0	127.0	128.6	129.4	130.5	132.7	133.8	134.9	135.7	.6	4.0
State and local government workers	130.2	131.9	132.7	133.2	133.3	135.0	135.7	136.5	136.9	.3	2.7
Workers, by occupational group:											
White-collar workers	129.9	131.8	132.5	132.9	133.0	134.8	135.5	136.1	136.2	.1	2.4
Professional specialty and technical	129.5	131.6	132.3	132.5	132.5	134.6	135.1	135.6	135.6	.0	2.3
Executive, administrative, and managerial	131.0	132.0	132.9	134.1	134.4	135.6	136.4	137.5	137.9	.3	2.6
Administrative support, including clerical	130.4	131.8	133.0	133.3	133.5	135.3	136.1	136.9	137.2	.2	2.8
Blue-collar workers	129.5	130.3	131.2	132.1	132.3	133.3	134.2	135.0	135.2	.1	2.2
Workers, by industry division:											
Services	130.3	132.4	133.1	133.2	133.3	135.4	136.0	136.5	136.6	.1	2.5
Services excluding schools[5]	130.8	131.9	132.0	132.5	132.9	134.4	135.3	136.1	132.9	.1	2.5
Health services	133.1	134.0	134.1	134.5	134.9	136.0	137.2	137.9	138.0	.1	2.3
Hospitals	133.2	134.2	134.3	134.8	135.2	136.3	137.6	138.4	138.4	.0	2.4
Educational services	130.0	132.3	133.0	133.1	133.2	135.4	135.9	136.3	136.5	.1	2.5
Schools	130.3	132.6	133.4	133.4	133.5	135.7	136.2	136.6	136.7	.1	2.4
Elementary and secondary	130.5	132.6	133.1	133.1	133.3	135.5	135.8	136.1	136.2	.1	2.2
Colleges and universities	129.9	132.5	134.0	134.3	134.1	136.3	137.2	137.9	138.1	.1	3.0
Public administration[3]	129.6	130.7	131.8	133.0	133.0	134.1	135.1	136.4	137.4	.7	3.3

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consists of legislative, judicial, administrative, and regulatory activities.

[4] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[5] Includes, for example, library, social, and health services.

22. Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
Civilian workers[1]	126.1	127.2	128.0	129.2	130.1	131.6	132.8	134.0	135.0	0.7	3.8
Workers, by occupational group:											
White-collar workers	127.3	128.6	129.3	130.6	131.5	133.0	134.3	135.6	136.7	.8	4.0
Professional specialty and technical	128.8	130.2	130.7	131.4	132.3	134.0	135.0	135.8	136.6	.6	3.3
Executive, administrative, and managerial	127.0	129.0	129.4	131.0	132.0	133.5	135.6	137.4	138.3	.7	4.8
Administrative support, including clerical	127.1	128.4	129.1	130.4	131.4	132.7	133.7	135.0	136.2	.9	3.7
Blue-collar workers	123.9	124.5	125.4	126.2	127.5	128.4	129.3	130.4	131.4	.8	3.1
Service occupations	124.9	126.2	127.6	128.6	129.3	131.5	132.6	133.7	134.5	.6	4.0
Workers, by industry division:											
Goods-producing	125.1	126.1	126.8	127.6	128.9	129.9	130.6	132.0	133.3	1.0	3.4
Manufacturing	126.5	127.7	128.4	129.1	130.3	131.3	132.2	133.7	134.6	.7	3.3
Service-producing	126.5	127.7	128.5	129.8	130.6	132.2	133.6	134.8	135.7	.7	3.9
Services	128.9	130.3	131.1	132.0	132.9	134.8	136.0	136.9	137.6	.5	3.5
Health services	130.0	130.8	131.4	132.4	133.1	134.3	135.4	136.2	136.5	.2	2.6
Hospitals	129.2	130.0	130.5	131.0	131.5	132.5	133.6	134.2	135.1	.7	2.7
Educational services	129.1	131.6	132.3	132.5	132.6	135.3	135.9	136.3	136.5	.1	2.9
Public administration[2]	125.3	126.6	127.7	128.9	129.0	130.3	131.4	132.7	133.2	.4	3.3
Nonmanufacturing	125.9	127.0	127.8	129.1	130.0	131.5	132.8	134.0	135.1	.8	3.9
Private industry workers	125.6	126.5	127.3	128.6	129.7	131.0	132.3	133.7	134.9	.9	4.0
Excluding sales occupations	125.7	126.8	127.5	128.6	129.9	131.2	132.4	133.7	134.8	.8	3.8
Workers, by occupational group:											
White-collar workers	127.0	128.0	128.7	130.2	131.3	132.7	134.2	135.7	137.0	1.0	4.3
Excluding sales occupations	127.6	129.0	129.4	130.8	132.0	133.4	134.8	136.3	137.5	.9	4.2
Professional specialty and technical occupations	128.8	129.6	129.9	131.0	132.4	133.7	134.8	135.9	137.1	.9	3.5
Executive, administrative, and managerial occupations	126.8	128.9	129.3	131.0	132.1	133.6	135.8	137.8	138.7	.7	5.0
Sales occupations	124.4	123.9	125.9	127.8	128.3	129.8	131.4	133.1	135.2	1.6	5.4
Administrative support occupations, including clerical	127.3	128.5	129.2	130.6	131.7	132.9	133.9	135.3	136.7	1.0	3.8
Blue-collar workers	123.7	124.3	125.1	126.0	127.3	128.3	129.1	130.2	131.3	.8	3.1
Precision production, craft, and repair occupations	123.7	124.2	125.1	125.8	127.4	128.2	128.7	129.8	131.2	1.1	3.0
Machine operators, assemblers, and inspectors	124.5	125.4	126.4	127.2	128.5	129.5	130.6	131.6	132.7	.8	3.3
Transportation and material moving occupations	120.6	121.0	121.1	122.3	123.0	124.1	125.1	125.9	126.4	.4	2.8
Handlers, equipment cleaners, helpers, and laborers	125.1	125.8	127.1	128.4	129.3	130.2	131.8	133.2	133.7	.4	3.4
Service occupations	123.0	124.1	125.7	126.6	127.6	129.9	131.1	132.1	133.0	.7	4.2
Production and nonsupervisory occupations[3]	124.9	125.6	126.5	127.7	128.8	130.1	131.2	132.3	133.6	1.0	3.7
Workers, by industry division:											
Goods-producing	125.1	126.1	126.8	127.5	128.9	129.9	130.6	132.0	133.2	.9	3.3
Excluding sales occupations	124.6	125.7	126.3	127.0	128.3	129.3	130.0	131.3	132.5	.9	3.3
White-collar occupations	127.3	128.6	129.1	130.0	131.4	132.3	132.9	135.0	136.3	1.0	3.7
Excluding sales occupations	126.3	127.7	128.1	128.9	130.0	130.9	131.6	133.3	134.6	1.0	3.5
Blue-collar occupations	123.7	124.5	125.3	126.0	127.3	128.4	129.2	130.1	131.3	.9	3.1
Construction	119.6	120.4	120.8	122.0	123.6	124.7	124.9	126.0	128.1	1.7	3.6
Manufacturing	126.5	127.7	128.4	129.1	130.3	131.3	132.2	133.7	134.6	.7	3.3
White-collar occupations	128.2	129.6	130.1	130.6	131.9	132.8	133.6	135.6	136.8	.9	3.7
Excluding sales occupations	127.0	128.4	128.9	129.3	130.5	131.3	132.2	133.8	135.0	1.2	3.4
Blue-collar occupations	125.4	126.3	127.3	128.0	129.2	130.2	131.2	132.3	133.1	.6	3.0
Durables	126.5	127.7	128.4	129.0	130.1	131.2	131.9	133.4	134.5	.8	3.4
Nondurables	126.5	127.6	128.5	129.3	130.6	131.4	132.6	134.2	134.9	.5	3.3
Service-producing	125.8	126.7	127.5	129.0	130.1	131.5	133.1	134.4	135.6	.9	4.2
Excluding sales occupations	126.5	127.6	128.3	129.7	130.9	132.3	133.9	135.2	136.2	.7	4.0
White-collar occupations	126.8	127.8	128.5	130.1	131.2	132.6	134.3	135.7	137.0	1.0	4.4
Excluding sales occupations	128.1	129.5	129.9	131.5	132.7	134.2	135.9	137.3	138.4	.8	4.3
Blue-collar occupations	123.5	123.8	124.8	126.0	127.2	127.9	128.9	130.2	131.1	.7	3.1
Service occupations	122.8	124.0	125.6	126.5	127.5	129.8	131.0	132.1	133.0	.7	4.3
Transportation and public utilities	125.0	125.9	127.0	128.2	128.8	130.1	131.3	132.1	132.8	.5	3.1
Transportation	123.2	123.8	124.7	126.5	126.9	128.5	129.5	130.1	130.4	.2	2.8
Public utilities	127.1	128.4	129.8	130.1	130.9	132.0	133.5	134.5	135.7	.9	3.7
Communications	126.5	128.2	130.3	129.8	130.6	131.8	134.0	134.4	135.8	1.0	4.0
Electric, gas, and sanitary services	127.7	128.5	129.0	130.4	131.2	132.2	132.9	134.7	135.6	.7	3.4
Wholesale and retail trade	124.8	125.8	127.0	128.5	129.7	130.9	131.6	133.3	134.6	1.0	3.8
Excluding sales occupations	124.9	126.5	127.7	129.3	131.1	132.2	133.2	134.7	135.6	.7	3.4
Wholesale trade	128.0	128.5	129.6	131.4	132.2	133.0	133.6	136.2	137.1	.7	3.7
Excluding sales occupations	127.6	128.9	129.8	131.8	132.8	133.9	135.0	136.5	137.8	1.0	3.8
Retail trade	123.1	124.4	125.8	127.1	128.5	129.9	130.6	131.9	133.3	1.1	3.7
Food stores	121.2	123.1	124.7	124.8	124.7	126.7	127.0	129.0	130.5	1.2	4.7
General merchandise stores	121.7	122.6	124.7	125.0	126.2	126.7	128.4	129.4	131.5	1.6	4.2

See footnotes at end of table.

22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
Finance, insurance, and real estate	121.9	122.2	122.2	124.5	125.3	126.4	130.6	132.6	134.8	1.7	7.6
Excluding sales occupations	124.5	126.0	125.3	127.2	128.1	129.3	133.6	135.9	137.5	1.2	7.3
Banking, savings and loan, and other credit agencies	124.2	126.8	123.8	125.9	126.8	128.9	138.3	140.9	143.2	1.6	12.9
Insurance	124.1	125.4	126.0	127.9	128.0	128.7	130.2	133.1	134.8	1.3	5.3
Services	128.7	129.7	130.5	131.8	133.0	134.7	136.2	137.2	138.3	.8	4.0
Business services	127.7	128.5	130.1	131.4	132.4	134.9	137.3	137.6	139.2	1.2	5.1
Health services	130.1	130.8	131.4	132.5	133.2	134.3	135.4	136.2	136.5	.2	2.5
Hospitals	129.1	129.7	130.3	130.7	131.2	132.2	133.2	133.6	134.7	.8	2.7
Educational services	130.4	133.3	133.8	134.5	134.8	137.8	138.4	139.1	139.6	.4	3.6
Colleges and universities	130.9	133.4	133.8	134.6	135.0	137.8	138.7	139.1	139.7	.4	3.5
Nonmanufacturing	125.1	125.9	126.8	128.2	129.3	130.7	132.1	133.4	134.7	1.0	4.2
White-collar workers	126.6	127.6	128.3	129.9	131.0	132.4	134.1	135.5	136.8	1.0	4.4
Excluding sales occupations	127.8	129.2	129.6	131.2	132.4	133.8	135.5	136.9	138.1	.9	4.3
Blue-collar occupations	122.0	122.4	123.1	124.1	125.5	126.4	127.1	128.2	129.5	1.0	3.2
Service occupations	122.7	123.9	125.5	126.4	127.4	129.7	130.9	132.0	132.9	.7	4.3
State and local government workers	128.1	130.1	130.9	131.4	131.5	133.6	134.4	135.1	135.4	.2	3.0
Workers, by occupational group:											
White-collar workers	128.2	130.3	131.1	131.4	131.5	133.7	134.5	135.0	135.2	.1	2.8
Professional specialty and technical	128.6	131.1	131.7	131.9	132.0	134.4	135.1	135.5	135.6	.1	2.7
Executive, administrative, and managerial	128.0	129.3	130.2	131.3	131.7	133.1	134.1	135.1	135.6	.4	3.0
Administrative support, including clerical	126.1	127.7	129.0	129.2	129.5	131.4	132.3	133.0	133.3	.2	2.9
Blue-collar workers	127.0	127.9	128.8	129.6	129.8	131.2	132.3	133.1	133.5	.3	2.9
Workers, by industry division:											
Services	128.9	131.2	131.9	132.1	132.2	134.7	135.3	135.7	135.9	.1	2.8
Services excluding schools[4]	128.7	130.1	130.5	131.2	131.6	133.3	134.4	135.4	135.5	.1	3.0
Health services	129.9	131.1	131.4	132.1	132.6	133.9	135.3	136.3	136.5	.1	2.9
Hospitals	129.7	130.9	131.3	131.9	132.4	133.7	135.2	136.3	136.5	.1	3.1
Educational services	128.8	131.3	132.0	132.1	132.2	134.8	135.3	135.7	135.8	.1	2.7
Schools	128.9	131.4	132.2	132.2	132.3	134.9	135.5	135.8	136.0	.1	2.8
Elementary and secondary	129.5	132.0	132.4	132.4	132.6	135.3	135.7	136.0	136.1	.1	2.6
Colleges and universities	127.1	129.8	131.2	131.5	131.4	133.6	134.6	135.2	135.5	.2	3.1
Public administration[2]	125.3	126.6	127.7	128.9	129.0	130.3	131.4	132.7	133.2	.4	3.3

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

[3] This series has the same industry and occupational coverage as the Hourly Earnings index, which was discontinued in January 1989.

[4] Includes, for example, library, social, and health services.

23. Employment Cost Index, benefits, private industry workers by occupation and industry group

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
Private industry workers	137.4	138.1	138.6	139.4	140.1	140.8	141.8	142.6	143.7	0.8	2.6
Workers, by occupational group:											
White-collar workers	138.4	139.5	139.7	140.8	141.5	142.0	143.4	144.7	145.6	.6	2.9
Blue-collar workers	136.1	136.2	137.0	137.2	138.0	138.8	139.0	139.1	140.4	.9	1.7
Workers, by industry division:											
Goods-producing	138.6	138.8	139.7	139.9	140.9	141.5	141.5	141.5	142.5	.7	1.1
Service-producing	136.2	137.2	137.4	138.5	139.2	139.8	141.4	142.7	143.8	.8	3.3
Manufacturing	138.5	138.8	139.8	139.9	141.0	141.4	141.7	141.7	142.4	.5	1.0
Nonmanufacturing	136.7	137.5	137.9	138.9	139.5	140.2	141.5	142.7	143.9	.8	3.2

24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1996			1997				1998		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1998	
COMPENSATION											
Workers, by bargaining status[1]											
Union	129.7	130.1	130.8	131.0	131.8	133.2	133.5	134.0	135.3	1.0	2.7
Goods-producing	129.0	129.2	129.8	130.0	131.2	132.3	132.5	132.7	134.3	1.2	2.4
Service-producing	130.3	131.0	131.7	131.9	132.4	134.0	134.5	135.3	136.2	.7	2.9
Manufacturing	129.8	129.8	130.6	130.8	131.7	133.0	133.3	133.6	134.6	.7	2.2
Nonmanufacturing	129.2	129.9	130.4	130.6	131.5	132.9	133.2	133.9	135.3	1.0	2.9
Nonunion	128.7	129.7	130.4	131.8	132.8	133.9	135.3	136.7	137.8	.8	3.8
Goods-producing	129.4	130.4	131.3	132.0	133.2	134.0	134.7	135.9	136.9	.7	2.8
Service-producing	128.3	129.2	129.9	131.5	132.5	133.7	135.3	136.7	138.0	1.0	4.2
Manufacturing	130.5	131.7	132.5	133.1	134.4	135.1	135.9	137.2	138.0	.6	2.7
Nonmanufacturing	128.0	128.9	129.6	131.1	132.2	133.4	134.9	136.3	137.5	.9	4.0
Workers, by region[1]											
Northeast	129.7	130.6	131.1	132.2	133.1	134.0	135.0	136.0	137.0	.7	2.9
South	127.8	128.8	129.7	130.8	131.5	132.5	134.6	135.5	136.4	.7	3.7
Midwest (formerly North Central)	130.7	131.3	132.1	133.3	134.7	136.2	136.9	138.3	139.6	.9	3.6
West	127.3	128.3	128.9	130.3	131.4	132.5	133.4	135.2	136.6	1.0	4.0
Workers, by area size[1]											
Metropolitan areas	129.1	130.0	130.6	131.7	132.8	133.9	135.1	136.4	137.5	.8	3.5
Other areas	128.0	128.7	130.2	131.4	132.4	133.8	135.3	135.9	137.1	.9	3.5
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	124.2	124.8	125.4	126.0	126.9	128.3	128.9	129.6	130.7	.8	3.0
Goods-producing	122.5	123.2	123.6	124.1	125.4	126.6	127.1	127.9	129.4	1.2	3.2
Service-producing	126.2	126.8	127.6	128.2	128.8	130.4	131.2	131.8	132.2	.3	2.6
Manufacturing	123.9	124.5	125.2	125.6	126.5	127.8	128.6	129.6	130.4	.6	3.1
Nonmanufacturing	124.3	124.9	125.5	126.1	127.1	128.6	129.1	129.6	130.8	.9	2.9
Nonunion	125.9	126.9	127.7	129.1	130.3	131.6	133.0	134.5	135.7	.9	4.1
Goods-producing	126.1	127.3	128.0	128.9	130.2	131.2	132.0	133.6	134.7	.8	3.5
Service-producing	125.7	126.6	127.5	129.1	130.2	131.6	133.2	134.6	135.9	1.0	4.4
Manufacturing	127.5	128.8	129.6	130.3	131.7	132.6	133.5	135.1	136.2	.8	3.4
Nonmanufacturing	125.2	126.1	127.0	128.5	129.7	131.1	132.6	134.0	135.3	1.0	4.3
Workers, by region[1]											
Northeast	126.0	127.0	127.7	128.8	129.8	130.7	131.6	132.6	133.8	.9	3.1
South	125.1	126.0	127.0	128.5	129.4	130.6	133.0	134.0	134.9	.7	4.3
Midwest (formerly North Central)	126.2	126.9	127.7	129.0	130.4	132.2	133.0	134.7	136.0	1.0	4.3
West	124.8	125.8	126.5	127.7	128.9	130.2	131.2	132.9	134.5	1.2	4.3
Workers, by area size[1]											
Metropolitan areas	125.8	126.7	127.4	128.7	129.9	131.1	132.3	133.8	135.1	1.0	4.0
Other areas	124.2	125.0	126.5	127.7	128.8	130.4	132.0	132.5	133.4	.7	3.6

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, medium and large private establishments, selected years, 1980–93

Item	1980	1982	1984	1986	1988	1989	1991	1993
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728
Number of employees (in 000's):								
With medical care	20,711	20,412	20,383	20,238	27,953	29,834	25,865	23,519
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015
Time-off plans								
Participants with:								
Paid lunch time	10	9	9	10	11	10	8	9
Average minutes per day	–	25	26	27	29	26	30	29
Paid rest time	75	76	73	72	72	71	67	68
Average minutes per day	–	25	26	26	26	26	28	26
Paid funeral leave	–	–	–	88	85	84	80	83
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0
Paid holidays	99	99	99	99	96	97	92	91
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4
Paid personal leave	20	24	23	25	24	22	21	21
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1
Paid vacations	100	99	99	100	98	97	96	97
Paid sick leave	62	67	67	70	69	68	67	65
Unpaid maternity leave	–	–	–	–	33	37	37	60
Unpaid paternity leave	–	–	–	–	16	18	26	53
Insurance plans								
Participants in medical care plans	97	97	97	95	90	92	83	82
Percent of participants with coverage for:								
Home health care	–	–	46	66	76	75	81	86
Extended care facilities	58	62	62	70	79	80	80	82
Physical exam	–	–	8	18	28	28	30	42
Percent of participants with employee contribution required for:								
Self coverage	26	27	36	43	44	47	51	61
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55
Family coverage	46	51	58	63	64	66	69	76
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42
Participants in life insurance plans	96	96	96	96	92	94	94	91
Percent of participants with:								
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76
Survivor income benefits	–	–	–	10	8	7	6	5
Retiree protection available	–	64	64	59	49	42	44	41
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44
Retirement plans								
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56
Percent of participants with:								
Normal retirement prior to age 65	55	58	63	64	59	62	55	52
Early retirement available	98	97	97	98	98	97	98	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6
Terminal earnings formula	53	52	54	57	55	64	56	61
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48
Participants in defined contribution plans	–	–	–	60	45	48	48	49
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43
Other benefits								
Employees eligible for:								
Flexible benefits plans	–	–	–	2	5	9	10	12
Reimbursement accounts	–	–	–	5	12	23	36	52

NOTE: Dash indicates data not available.

26. Percent of full-time employees participating in employer-provided benefit plans, and in selected features within plans, small private establishments and State and local governments, 1987, 1990, 1992, and 1994

Item	Small private establishments			State and local governments			
	1990	1992	1994	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	10,321	12,972	12,466	12,907
Number of employees (in 000's):							
With medical care	22,402	24,396	23,536	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	9,599	11,675	10,845	11,708
Time-off plans							
Participants with:							
Paid lunch time	8	9	–	17	11	10	–
Average minutes per day	37	37	–	34	36	34	–
Paid rest time	48	49	–	58	56	53	–
Average minutes per day	27	26	–	29	29	29	–
Paid funeral leave	47	50	50	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	38	39	38	38
Average days per year	2.8	2.6	2.6	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	72	67	67	66
Paid sick leave	47	53	50	97	95	95	94
Unpaid leave	17	18	–	57	51	59	–
Unpaid paternity leave	8	7	–	30	33	44	–
Unpaid family leave	–	–	47	–	–	–	93
Insurance plans							
Participants in medical care plans	69	71	66	93	93	90	87
Percent of participants with coverage for:							
Home health care	79	80	–	76	82	87	84
Extended care facilities	83	84	–	78	79	84	81
Physical exam	26	28	–	36	36	47	55
Percent of participants with employee contribution required for:							
Self coverage	42	47	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	85	88	89	87
Percent of participants with:							
Accidental death and dismemberment insurance	78	76	79	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	2
Retiree protection available	19	25	20	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	14	21	22	21
Retirement plans							
Participants in defined benefit pension plans	20	22	15	93	90	87	91
Percent of participants with:							
Normal retirement prior to age 65	54	50	–	92	89	92	92
Early retirement available	95	95	–	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	33	16	10	13
Terminal earnings formula	58	54	–	100	100	100	99
Benefit coordinated with Social Security	49	46	–	18	8	10	49
Participants in defined contribution plans	31	33	34	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	45	45	24
Other benefits							
Employees eligible for:							
Flexible benefits plans	1	2	3	5	5	5	5
Reimbursement accounts	8	14	19	5	31	50	64

[1] Methods used to calculate the average number of paid holidays were revised in 1994 to count partial days more precisely. Average holidays for 1994 are not comparable with those reported in 1990 and 1992.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1997						1998						
	1996	1997	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.[p]	Feb.[p]	Mar.[p]	Apr.[p]	May.[p]	June[p]	July[p]
Number of stoppages:															
Beginning in period	37	29	3	2	6	3	1	0	1	3	1	0	4	4	1
In effect during period	38	38	5	3	6	5	3	2	1	3	2	0	4	6	4
Workers involved:															
Beginning in period (in thousands)	273	339	30.8	184.5	30.3	4.4	8.9	.0	8.0	10.8	1.0	.0	6.1	162.9	2.5
In effect during period (in thousands)	275	351	41.5	189.3	30.3	8.6	11.1	2.2	8.0	10.8	2.1	.0	6.1	165.4	160.1
Days idle:															
Number (in thousands)	4,889	4,497	247.1	2,075.4	128.4	64.0	48.5	43.8	16.0	38.6	21.5	0.0	72.7	1,542.9	2,007.2
Percent of estimated working time[1]	.02	.01	.01	.08	.00	.00	.00	.00	[2]	.00	.00	.00	.00	.05	.06

[1] Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in " 'Total economy' measures of strike idleness," *Monthly Labor Review*, October 1968, pp. 54–56.

[2] Less than 0.005.

28. Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	156.9	160.5	161.2	161.6	161.5	161.3	161.6	161.9	162.2	162.5	162.8	163.0	163.2	163.4	163.6
Food and beverages	153.7	157.7	158.4	158.7	158.9	159.1	160.3	159.8	160.1	160.2	160.7	160.6	160.9	161.4	161.5
Food	153.3	157.3	157.9	158.2	158.5	158.7	159.9	159.4	159.7	159.8	160.3	160.1	160.5	161.0	161.1
Food at home	154.3	158.1	158.6	159.0	159.1	159.2	161.0	160.0	160.2	160.2	160.7	160.5	160.8	161.4	161.2
Cereals and bakery products	174.0	177.6	178.1	178.4	178.0	178.4	179.0	179.7	179.6	180.2	180.5	181.6	181.8	182.7	181.9
Meats, poultry, fish, and eggs	144.8	148.5	149.1	148.9	149.3	148.4	148.3	147.5	147.2	146.3	146.2	146.3	146.9	148.2	147.5
Dairy and related products[1]	142.1	145.5	143.5	145.7	147.0	147.8	148.3	147.7	148.4	148.5	148.1	148.1	148.2	150.5	152.9
Fruits and vegetables	183.9	187.5	188.1	188.5	189.5	191.3	202.1	193.8	196.1	197.5	203.9	198.1	198.2	195.9	193.5
Nonalcoholic beverages and beverage materials	128.6	133.4	136.7	136.6	134.7	133.1	134.1	134.8	134.2	133.9	132.9	132.8	132.3	132.0	132.2
Other foods at home	142.9	147.3	148.9	149.0	147.7	147.7	148.7	149.1	149.5	149.6	149.3	150.4	151.1	152.1	152.2
Sugar and sweets	143.7	147.8	148.5	148.2	147.4	147.9	150.3	149.6	150.8	150.1	149.5	150.5	149.9	150.2	150.8
Fats and oils	140.5	141.7	142.0	141.7	140.4	140.3	140.5	141.5	142.2	140.7	141.2	143.3	147.6	149.7	152.4
Other foods	156.2	161.2	161.9	162.5	161.5	162.8	163.6	164.2	164.3	165.0	164.7	165.6	165.9	166.9	166.3
Other miscellaneous foods[1,2]	–	–	–	–	–	100.0	100.4	100.4	101.5	101.7	101.4	102.5	102.6	103.5	103.6
Food away from home[1]	152.7	157.0	157.8	158.2	158.6	159.0	159.2	159.6	159.9	160.2	160.6	160.7	161.1	161.5	162.1
Other food away from home[1,2]	–	–	–	–	–	100.0	100.1	100.4	100.3	100.6	100.6	101.0	101.6	102.3	102.7
Alcoholic beverages	158.5	162.8	163.5	163.7	163.7	164.0	164.6	165.0	165.1	165.2	165.2	165.5	165.6	165.7	166.3
Housing	152.8	156.8	157.7	157.7	157.7	157.7	158.3	158.8	159.2	159.5	159.7	160.6	161.2	161.5	161.5
Shelter	171.0	176.3	177.2	177.8	177.7	178.1	179.2	180.1	180.8	181.0	181.2	181.8	182.6	183.3	183.4
Rent of primary residence	162.0	166.7	167.8	168.2	168.7	169.1	169.5	169.9	170.3	170.7	171.1	171.7	172.2	172.8	173.4
Lodging away from home[2]	–	–	–	–	–	100.0	105.1	109.3	111.2	110.2	108.7	109.6	111.7	112.9	109.8
Owners' equivalent rent of primary residence[3]	176.8	181.9	183.2	183.6	184.2	184.7	185.1	185.5	185.9	186.4	186.8	187.4	188.0	188.5	189.2
Tenants' and household insurance[1,2]	–	–	–	–	–	100.0	100.3	100.2	100.3	100.4	99.6	99.1	99.3	99.2	99.2
Fuels and utilities	127.5	130.8	132.1	130.8	131.1	130.0	128.8	127.4	127.1	127.0	127.9	131.2	131.3	130.6	130.0
Fuels	115.2	117.9	119.7	117.4	117.7	115.8	114.5	112.8	112.5	112.3	113.2	116.8	116.8	115.9	115.2
Fuel oil and other fuels	99.2	99.8	93.7	95.3	96.6	97.2	96.4	95.2	94.4	92.8	91.8	89.5	87.8	86.7	85.9
Gas (piped) and electricity	122.1	125.1	128.1	125.1	125.3	123.0	121.6	119.7	119.4	119.4	120.5	124.7	124.9	124.0	123.3
Household furnishings and operations	124.7	125.4	125.4	125.4	125.2	125.1	125.6	126.1	126.3	127.0	126.6	126.7	127.2	126.8	126.5
Apparel	131.7	132.9	133.0	134.9	134.7	131.6	129.8	131.9	134.9	135.8	135.3	132.5	129.6	131.6	133.6
Men's and boys' apparel	127.7	130.1	131.4	133.1	133.0	131.2	129.8	130.8	133.6	133.4	133.5	131.0	129.4	130.6	131.1
Women's and girls' apparel	124.7	126.1	126.0	128.3	128.8	123.6	120.2	124.3	129.9	130.9	129.7	125.8	120.6	123.8	127.8
Infants' and toddlers' apparel[1]	129.7	129.0	126.7	126.2	126.0	125.8	124.8	123.1	124.4	126.6	126.9	124.7	122.0	124.4	124.9
Footwear	126.6	127.6	127.4	130.6	129.3	128.2	127.4	126.6	126.5	127.9	128.3	128.2	127.0	127.7	128.6
Transportation	143.0	144.3	144.3	144.5	143.9	143.2	142.7	142.1	141.4	141.5	142.0	141.7	141.8	141.2	140.7
Private transportation	140.0	141.0	141.0	140.9	140.6	140.0	139.3	138.4	137.5	137.7	138.4	138.2	138.0	137.4	137.0
New and used motor vehicles[2]	–	–	99.3	99.6	99.9	100.0	100.2	100.2	100.1	100.1	99.9	99.7	99.9	99.9	99.8
New vehicles	143.7	144.3	142.7	143.3	144.0	144.1	144.4	144.4	144.4	144.3	143.3	142.6	142.7	142.8	142.3
Used cars and trucks[1]	157.0	151.1	148.2	147.9	147.6	147.9	148.1	148.4	147.3	148.2	150.0	150.9	151.3	151.1	151.9
Motor fuel	106.3	106.2	109.3	106.7	104.6	101.9	97.8	94.1	90.9	91.7	94.7	94.8	93.7	91.6	90.0
Gasoline (all types)	105.9	105.8	109.2	106.5	104.1	101.3	97.2	93.5	90.3	91.1	94.2	94.3	93.2	91.1	89.5
Motor vehicle parts and equipment	102.2	101.9	101.7	101.4	101.6	101.4	101.3	101.4	101.2	100.5	100.6	101.0	101.1	101.2	101.2
Motor vehicle maintenance and repair	158.4	162.7	163.5	163.9	164.0	164.7	165.0	165.5	165.7	165.7	165.9	166.5	166.8	167.3	168.3
Public transportation	181.9	186.7	186.0	190.9	185.9	184.3	187.1	191.2	193.7	193.4	190.4	188.2	192.0	192.2	190.2
Medical care	228.2	234.6	235.4	235.8	236.4	237.1	238.1	239.3	239.8	240.7	241.4	242.0	242.7	243.5	243.9
Medical care commodities	210.4	215.3	215.3	215.6	215.8	216.8	217.6	218.4	218.5	220.2	221.5	222.1	222.2	223.1	224.0
Medical care services	232.4	239.1	240.0	240.5	241.2	241.8	242.9	244.2	244.8	245.4	245.9	246.5	247.4	248.2	248.4
Professional services	208.3	215.4	216.4	216.8	217.1	217.5	218.5	219.7	220.4	221.1	221.7	222.5	222.8	223.3	223.7
Hospital and related services	269.5	278.4	279.4	280.2	281.3	282.5	283.5	285.2	285.2	285.6	285.6	285.8	288.2	289.5	289.2
Recreation[2]	–	–	99.9	100.0	100.0	100.0	100.3	100.7	101.0	101.1	101.0	101.2	101.1	101.3	101.3
Video and audio[1,2]	–	–	99.9	99.9	100.3	100.0	100.6	101.2	101.4	101.4	101.2	101.2	101.1	101.2	101.4
Education and communication[2]	–	–	99.7	99.9	100.0	100.0	99.9	99.8	99.9	99.9	100.1	100.1	100.0	100.1	100.9
Education[2]	–	–	99.6	99.9	99.9	100.0	100.3	100.4	100.5	100.7	100.9	100.8	101.0	102.6	104.3
Educational books and supplies	226.9	238.4	241.5	242.4	242.4	242.8	245.1	246.9	247.5	248.8	248.9	248.6	249.0	249.1	253.7
Tuition, other school fees, and child care	267.1	280.4	288.2	288.3	288.5	289.2	289.2	289.2	289.5	290.0	290.5	290.4	291.1	295.8	300.9
Communication[1,2]	–	–	99.8	100.0	100.1	100.0	99.6	99.2	99.3	99.3	99.4	99.4	99.1	97.9	97.9
Information and information processing[1,2]	–	–	99.8	100.0	100.1	100.0	99.6	99.1	99.3	99.2	99.3	99.3	99.0	97.7	97.7
Telephone services[1,2]	–	–	–	–	–	100.0	99.9	100.0	100.4	100.5	101.1	101.4	101.5	100.4	100.7
Information and information processing other than telephone services[1,4]	57.2	50.1	48.5	48.9	47.6	47.4	46.2	44.3	43.4	42.8	41.5	40.6	39.1	37.6	36.7
Personal computers and peripheral equipment[1,2]	–	–	–	–	–	100.0	96.9	91.3	88.7	86.6	82.7	80.0	75.2	71.1	68.5
Other goods and services	215.4	224.8	228.1	229.4	229.9	230.1	231.3	233.1	232.4	234.7	236.7	236.4	237.8	238.0	240.4
Tobacco and smoking products	232.8	243.7	246.5	250.2	250.7	251.2	253.8	261.2	254.1	263.5	270.0	266.9	273.2	273.7	283.5
Personal care[1]	150.1	152.7	152.7	153.3	154.3	154.0	154.6	155.0	155.5	155.9	156.6	156.8	157.0	157.1	157.5
Personal care products[1]	144.3	144.2	143.7	144.5	146.1	145.3	146.1	146.7	147.3	147.3	149.3	149.2	149.1	148.5	149.1
Personal care services[1]	156.6	162.4	162.7	163.4	163.5	163.9	164.3	164.3	164.7	165.2	165.4	165.3	166.1	166.6	167.1
Miscellaneous personal services	215.6	226.1	228.4	228.9	229.5	230.0	230.9	232.1	232.8	233.5	234.0	234.7	235.1	235.7	236.2

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Commodity and service group:															
Commodities	139.9	141.8	142.1	142.4	142.3	141.7	141.6	141.5	141.5	142.0	142.3	141.8	141.6	141.7	141.8
Food and beverages	153.7	157.7	158.4	158.7	158.9	159.1	160.3	159.8	160.1	160.2	160.7	160.6	160.9	161.4	161.5
Commodities less food and beverages	131.5	132.2	132.2	132.5	132.2	131.2	130.5	130.5	130.4	131.0	131.3	130.6	130.1	130.0	130.2
Nondurables less food and beverages	133.0	134.6	135.5	135.8	135.3	133.5	132.0	132.1	132.1	133.0	134.0	133.0	131.8	131.9	132.6
Apparel	131.7	132.9	133.0	134.9	134.7	131.6	129.8	131.9	134.9	135.8	135.3	132.5	129.6	131.6	133.6
Nondurables less food, beverages, and apparel	138.6	140.6	141.9	141.3	140.6	139.5	138.1	137.2	135.6	136.6	138.4	138.2	138.0	137.1	137.1
Durables	129.4	128.7	127.6	127.8	127.9	128.0	128.2	128.2	128.0	128.1	127.6	127.4	127.5	127.2	126.8
Services	174.1	179.4	180.6	181.0	181.0	181.0	181.8	182.4	182.9	183.2	183.4	184.2	184.9	185.3	185.5
Rent of shelter[3]	178.0	183.4	184.4	185.0	185.0	185.3	186.5	187.5	188.1	188.4	188.6	189.3	190.1	190.8	191.0
Transporatation services	180.5	185.0	184.7	186.9	186.2	186.0	187.1	187.9	188.4	188.3	187.8	187.1	187.8	187.8	187.3
Other services	201.4	209.6	212.2	212.7	212.7	213.1	213.7	214.4	215.1	215.6	216.1	216.6	216.9	217.6	219.0
Special indexes:															
All items less food	157.5	161.1	161.8	162.2	162.1	161.8	161.9	162.3	162.6	163.0	163.3	163.5	163.6	163.9	164.1
All items less shelter	152.8	155.9	156.6	156.9	156.8	156.4	156.4	156.4	156.5	156.9	157.3	157.3	157.3	157.4	157.6
All items less medical care	152.8	156.3	157.1	157.4	157.3	157.0	157.3	157.5	157.8	158.1	158.4	158.6	158.7	159.0	159.2
Commodities less food	132.6	133.4	133.5	133.8	133.5	132.6	131.9	131.9	131.8	132.4	132.7	132.1	131.5	131.4	131.6
Nondurables less food	134.5	136.3	137.2	137.4	137.0	135.3	133.9	134.1	134.1	135.0	135.9	134.9	133.8	133.9	134.6
Nondurables less food and apparel	139.5	141.8	143.0	142.5	141.9	141.0	139.8	138.9	137.5	138.4	140.1	139.9	139.7	138.9	138.9
Nondurables	143.5	146.4	147.1	147.4	147.3	146.5	146.2	146.1	146.2	146.7	147.5	146.9	146.4	146.8	147.1
Services less rent of shelter[3]	182.5	188.1	189.5	189.8	189.8	189.5	189.9	190.1	190.6	190.8	191.1	192.1	192.6	192.7	193.0
Services less medical care services	168.7	173.9	175.1	175.5	175.4	175.4	176.1	176.6	177.2	177.4	177.6	178.4	179.0	179.5	179.6
Energy	110.1	111.5	113.9	111.5	110.7	108.4	105.9	103.2	101.6	101.9	103.8	105.7	105.2	103.8	102.7
All items less energy	163.1	167.1	167.6	168.3	168.3	168.3	169.0	169.6	170.1	170.4	170.5	170.5	170.8	171.2	171.6
All items less food and energy	165.6	169.5	170.0	170.8	170.8	170.7	171.2	172.1	172.6	173.0	173.1	173.0	173.3	173.8	174.2
Commodities less food and energy	141.3	142.3	142.0	142.7	142.8	142.1	142.0	142.7	143.1	143.8	143.6	142.8	142.4	142.7	143.2
Energy commodities	105.7	105.7	107.7	105.7	103.9	101.6	97.8	94.3	91.3	91.8	94.6	94.5	93.3	91.3	89.8
Services less energy	179.4	185.0	186.0	186.7	186.7	186.9	187.9	188.8	189.4	189.7	189.8	190.3	190.9	191.5	191.8
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	154.1	157.6	158.3	158.5	158.5	158.2	158.4	158.5	158.7	159.1	159.5	159.7	159.8	160.0	160.2
Food and beverages	153.2	157.2	157.8	158.1	158.3	158.5	159.6	159.2	159.4	159.5	159.9	159.9	160.2	160.7	160.8
Food	152.8	156.8	157.4	157.7	157.9	158.1	159.3	158.8	159.1	159.1	159.6	159.5	159.8	160.4	160.4
Food at home	153.5	157.2	157.7	158.0	158.1	158.2	159.9	158.9	159.2	159.1	159.6	159.4	159.7	160.4	160.2
Cereals and bakery products	173.6	177.3	177.7	178.0	177.8	178.1	178.8	179.4	179.3	179.9	180.3	181.4	181.6	182.5	181.8
Meats, poultry, fish, and eggs	144.5	148.2	148.7	148.5	149.0	148.0	148.0	147.2	146.9	146.0	145.8	145.9	146.6	147.9	147.1
Dairy and related products[1]	141.9	145.2	143.2	145.5	146.8	147.5	147.9	147.4	148.1	148.2	147.8	147.7	147.8	150.1	152.6
Fruits and vegetables	183.1	186.6	187.5	187.7	188.4	190.0	200.9	192.4	194.8	196.3	202.8	197.1	197.3	194.9	192.5
Nonalcoholic beverages and beverage materials	128.1	132.3	135.2	135.2	133.3	131.7	132.9	133.6	133.1	132.7	131.6	131.6	131.2	130.7	130.9
Other foods at home	142.6	146.8	148.2	148.4	147.0	147.1	148.1	148.5	148.9	148.9	148.7	149.8	150.5	151.5	151.7
Sugar and sweets	143.6	147.7	148.4	148.0	147.3	147.7	150.2	149.5	151.0	150.0	149.4	150.5	149.9	150.3	150.6
Fats and oils	140.3	141.4	141.7	141.4	140.2	140.0	140.4	141.4	141.9	140.4	141.1	143.1	147.3	149.3	151.9
Other foods	156.0	161.1	161.8	162.3	161.3	162.7	163.6	164.1	164.3	165.0	164.6	165.5	165.9	166.8	166.3
Other miscellaneous foods[1,2]	–	–	–	–	–	100.0	100.5	100.5	101.8	101.7	101.5	102.5	102.8	103.5	103.7
Food away from home[1]	152.6	157.0	157.8	158.2	158.6	159.0	159.3	159.6	159.9	160.2	160.6	160.8	161.1	161.4	162.0
Other food away from home[1,2]	–	–	–	–	–	100.0	100.1	100.3	100.3	100.6	100.6	101.0	101.5	102.2	102.8
Alcoholic beverages	157.9	162.1	162.6	162.8	162.8	163.1	163.6	163.9	164.0	164.2	164.1	164.3	164.5	164.6	165.1
Housing	149.6	153.4	154.4	154.4	154.5	154.4	154.8	155.1	155.5	155.8	156.1	157.0	157.6	157.7	157.8
Shelter	166.2	171.2	172.2	172.7	172.8	173.1	173.9	174.6	175.2	175.5	175.7	176.4	177.0	177.6	177.9
Rent of primary residence	161.6	166.3	167.5	167.9	168.4	168.8	169.2	169.6	170.0	170.3	170.8	171.3	171.8	172.4	173.0
Lodging away from home[2]	–	–	–	–	–	100.0	104.8	108.6	110.8	110.3	108.6	110.0	111.9	112.8	109.8
Owners' equivalent rent of primary residence[3]	161.2	165.8	167.0	167.4	167.9	168.3	168.7	169.1	169.5	169.9	170.2	170.8	171.2	171.8	172.4
Tenants' and household insurance[1,2]	–	–	–	–	–	100.0	100.4	100.2	100.5	100.5	99.7	99.3	99.4	99.4	99.4
Fuels and utilities	127.2	130.5	131.9	130.6	130.9	129.7	128.6	127.1	126.9	126.9	127.9	131.3	131.5	130.6	130.0
Fuels	114.7	117.3	119.3	116.8	117.3	115.2	113.9	112.2	111.9	111.8	112.9	116.5	116.6	115.6	114.9
Fuel oil and other fuels	99.0	99.6	93.4	95.0	96.4	97.0	96.2	95.1	94.5	93.1	92.0	90.0	88.2	87.0	86.2
Gas (piped) and electricity	121.6	124.6	127.6	124.6	124.9	122.4	121.0	119.2	118.9	118.9	120.2	124.5	124.6	123.6	122.9
Household furnishings and operations	123.2	123.9	123.9	123.9	123.7	123.6	124.1	124.7	125.0	125.6	125.2	125.2	125.6	125.2	124.9
Apparel	130.9	132.1	132.1	133.9	133.6	130.3	128.7	130.4	133.0	134.0	133.7	131.0	128.2	129.9	132.0
Men's and boys' apparel	127.4	129.9	131.2	132.4	132.7	130.7	129.4	130.1	132.8	132.9	133.1	130.7	129.1	129.9	130.7
Women's and girls' apparel	123.6	124.9	124.6	126.8	127.0	121.5	118.5	122.3	127.3	128.3	127.4	123.4	118.6	121.3	125.5
Infants' and toddlers' apparel[1]	130.8	130.1	128.3	127.7	127.1	126.5	125.3	123.1	124.5	126.9	127.4	125.4	122.7	125.0	125.8
Footwear	127.6	128.5	128.3	131.8	130.4	129.2	128.4	127.4	127.1	128.4	129.0	128.8	127.4	128.4	129.3
Transportation	142.8	143.6	143.6	143.6	143.1	142.4	141.7	140.9	140.1	140.3	141.1	140.9	140.8	140.2	139.6
Private transportation	140.7	141.3	141.4	141.1	140.8	140.1	139.3	138.4	137.4	137.7	138.6	138.5	138.2	137.6	137.1
New and used motor vehicles[2]	–	–	99.4	99.7	99.9	100.0	100.1	100.2	100.0	100.1	100.1	100.0	100.2	100.2	100.1
New vehicles	144.7	145.5	144.0	144.7	145.1	145.3	145.6	145.5	145.6	145.5	144.5	143.8	143.9	144.0	143.4
Used cars and trucks[1]	158.2	152.6	149.7	149.4	149.2	149.5	149.7	149.9	148.8	149.5	151.3	152.3	152.7	152.4	153.2

28. Continued—Consumer Price Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

[1982–84 = 100, unless otherwise indicated]

Series	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Motor fuel	106.3	106.2	109.2	106.6	104.4	101.7	97.6	94.1	91.0	91.9	95.0	95.0	93.9	91.7	90.1
Gasoline (all types)	105.9	105.8	109.2	106.3	104.0	101.2	97.1	93.6	90.5	91.3	94.5	94.5	93.4	91.2	89.6
Motor vehicle parts and equipment	101.3	101.0	100.8	100.6	100.7	100.8	100.7	100.9	100.7	99.9	99.9	100.3	100.5	100.5	100.5
Motor vehicle maintenance and repair	159.3	163.7	164.5	164.9	165.1	165.7	166.0	166.5	166.7	166.8	167.0	167.6	168.0	168.4	169.4
Public transportation	179.6	184.2	183.5	187.8	183.9	182.5	184.7	187.9	190.2	190.1	187.4	185.5	188.7	188.9	186.5
Medical care	227.6	234.0	234.7	235.2	235.8	236.5	237.4	238.7	239.1	239.9	240.6	241.4	242.1	242.8	243.2
Medical care commodities	207.8	212.6	212.5	212.9	213.1	214.1	214.7	215.4	215.5	217.0	218.3	218.9	219.1	219.9	220.8
Medical care services	232.1	238.8	239.7	240.3	240.8	241.6	242.5	244.0	244.5	245.1	245.6	246.4	247.2	248.0	248.2
Professional services	209.5	216.7	217.8	218.1	218.5	218.9	219.8	221.0	221.8	222.5	223.2	224.1	224.4	224.8	225.3
Hospital and related services	266.5	274.7	275.6	276.4	277.4	278.7	279.6	281.4	281.4	281.7	281.7	282.0	284.3	285.6	285.3
Recreation[2]	–	–	100.0	100.1	100.0	100.0	100.3	100.7	101.0	101.0	100.9	101.0	100.9	101.1	101.0
Video and audio[1,2]	–	–	99.9	99.9	100.3	100.0	100.5	101.2	101.4	101.4	101.1	101.1	101.0	101.1	101.3
Education and communication[2]	–	–	99.7	99.9	100.0	100.0	100.0	99.8	100.0	100.1	100.3	100.3	100.2	100.3	101.1
Education[2]	–	–	99.6	99.8	99.9	100.0	100.3	100.4	100.5	100.7	100.9	100.9	101.1	102.6	104.3
Educational books and supplies	228.2	240.4	243.9	244.7	244.7	245.2	247.5	249.4	250.0	251.2	251.3	250.9	251.3	251.3	255.9
Tuition, other school fees, and child care	261.0	274.6	281.5	282.1	282.3	282.7	283.5	283.5	283.9	284.4	284.9	284.7	285.3	289.9	294.9
Communication[1,2]	–	–	99.8	99.9	100.1	100.0	99.7	99.3	99.5	99.5	99.7	99.8	99.6	98.4	98.5
Information and information processing[1,2]	–	–	99.8	99.9	100.1	100.0	99.6	99.3	99.5	99.5	99.7	99.8	99.5	98.3	98.4
Telephone services[1,2]	–	–	–	–	–	100.0	99.9	100.0	100.4	100.5	101.2	101.4	101.5	100.5	100.8
Information and information processing other than telephone services[1,4]	57.7	51.1	49.5	50.1	49.3	48.9	47.7	45.8	44.8	44.1	42.6	41.8	40.2	38.9	38.2
Personal computers and peripheral equipment[1,2]	–	–	–	–	–	100.0	96.6	91.1	88.3	86.0	81.9	79.5	74.4	71.2	69.0
Other goods and services	212.2	221.6	224.6	226.1	226.7	226.9	228.2	230.6	229.3	232.3	234.8	234.0	236.0	236.2	239.4
Tobacco and smoking products	232.5	243.3	246.1	249.9	250.5	250.9	253.6	261.1	253.7	263.6	270.1	266.8	273.4	273.7	283.7
Personal care[1]	150.1	152.6	152.6	153.3	154.3	153.9	154.5	155.0	155.5	155.9	156.7	156.8	157.0	157.2	157.7
Personal care products[1]	145.0	145.1	144.7	145.4	147.1	146.1	147.0	147.6	148.2	148.4	150.5	150.3	150.1	149.6	150.1
Personal care services[1]	156.6	162.5	163.0	163.5	163.7	164.1	164.5	164.5	164.9	165.5	165.7	165.6	166.4	167.0	167.4
Miscellaneous personal services	214.7	225.2	227.3	227.7	228.3	228.9	229.8	231.1	231.7	232.5	233.0	233.6	233.9	234.9	236.0
Commodity and service group:															
Commodities	139.9	141.8	142.1	142.3	142.1	141.6	141.4	141.3	141.1	141.6	142.1	141.7	141.5	141.5	141.7
Food and beverages	153.2	157.2	157.8	158.1	158.3	158.5	159.6	159.2	159.4	159.5	159.9	159.9	160.2	160.7	160.8
Commodities less food and beverages	131.8	132.4	132.5	132.7	132.3	131.3	130.5	130.5	130.1	130.9	131.4	130.7	130.3	130.0	130.3
Nondurables less food and beverages	132.8	134.5	135.5	135.7	135.1	133.1	131.5	131.5	131.2	132.3	133.6	132.5	131.4	131.3	132.1
Apparel	130.9	132.1	132.1	133.9	133.6	130.3	128.7	130.4	133.0	134.0	133.7	131.0	128.2	129.9	132.0
Nondurables less food, beverages, and apparel	138.3	140.4	141.9	141.2	140.5	139.3	137.6	136.7	134.8	136.0	138.2	137.8	137.7	136.6	136.6
Durables	129.2	128.4	127.2	127.3	127.3	127.5	127.7	127.7	127.5	127.6	127.3	127.2	127.3	127.0	126.7
Services	174.1	176.5	177.7	178.0	178.1	178.2	178.7	179.1	179.6	179.9	180.3	181.1	181.6	181.9	182.2
Rent of shelter[3]	159.9	164.7	165.8	166.2	166.3	166.6	167.4	168.1	168.6	169.0	169.2	169.8	170.4	171.0	171.3
Transporatation services	178.3	182.6	182.3	184.2	184.0	183.9	184.9	185.3	185.8	185.7	185.4	184.9	185.2	185.1	184.7
Other services	198.1	206.4	209.0	209.4	209.5	209.9	210.5	211.2	211.9	212.4	213.0	213.4	213.7	214.3	215.7
Special indexes:															
All items less food	154.3	157.6	158.4	158.6	158.5	158.1	158.1	158.4	158.5	159.0	159.4	159.6	159.7	159.8	160.0
All items less shelter	151.0	154.0	154.6	154.8	154.7	154.2	154.2	154.1	154.2	154.6	155.1	155.1	155.0	155.1	155.3
All items less medical care	150.7	154.0	154.7	154.9	154.9	154.5	154.7	154.8	154.9	155.3	155.7	155.9	156.0	156.1	156.3
Commodities less food	132.8	133.6	133.7	133.9	133.5	132.5	131.8	131.8	131.5	132.2	132.7	132.1	131.5	131.4	131.7
Nondurables less food	134.3	136.2	137.1	137.3	136.7	135.0	133.5	133.5	133.2	134.2	135.5	134.4	133.4	133.3	134.0
Nondurables less food and apparel	139.3	141.6	142.9	142.4	141.7	140.7	139.2	138.3	136.6	137.8	139.7	139.4	139.3	138.3	138.4
Nondurables	143.3	146.2	147.0	147.2	147.0	146.2	145.9	145.6	145.6	146.2	147.1	146.5	146.1	146.3	146.7
Services less rent of shelter[3]	162.7	167.6	168.8	169.0	169.1	168.8	169.1	169.2	169.6	169.8	170.2	171.2	171.5	171.5	171.8
Services less medical care services	166.2	171.2	172.4	172.7	172.8	172.7	173.2	173.6	174.1	174.4	174.7	175.5	176.0	176.3	176.6
Energy	109.8	111.1	113.5	111.0	110.1	107.7	105.0	102.4	100.8	101.1	103.2	105.0	104.5	102.9	101.8
All items less energy	160.4	164.1	164.6	165.2	165.3	165.2	165.8	166.3	166.7	167.1	167.3	167.2	167.4	167.8	168.3
All items less food and energy	162.3	166.0	166.5	167.1	167.2	167.1	167.5	168.2	168.6	169.1	169.3	169.2	169.4	169.8	170.3
Commodities less food and energy	140.9	141.9	141.5	142.2	142.2	141.5	141.5	142.1	142.3	143.1	143.1	142.3	142.0	142.2	142.8
Energy commodities	105.9	105.9	108.1	105.8	104.0	101.6	97.7	94.3	91.4	92.1	95.0	94.8	93.7	91.5	90.0
Services less energy	176.8	182.2	183.3	183.9	184.0	184.3	185.1	185.8	186.4	186.7	186.9	187.3	187.9	188.4	188.8

[1] Not seasonally adjusted.

[2] Indexes on a December 1997 = 100 base.

[3] Indexes on a December 1982 = 100 base.

[4] Indexes on a December 1988 = 100 base.

– Data not available.

NOTE: Index applies to a month as a whole, not to any specific date.

29. Consumer Price Index: U.S. city average and available local area data: all items

[1982–84 = 100, unless otherwise indicated]

Area	Pricing schedule[1]	All Urban Consumers							Urban Wage Earners						
		1997		1998					1997		1998				
		Aug.	Sept.	May	June	July	Aug.	Sept.	Aug.	Sept.	May	June	July	Aug.	Sept.
U.S. city average	M	160.8	161.2	162.8	163.0	163.2	163.4	163.6	157.8	158.3	159.5	159.7	159.8	160.0	160.2
Region and area size[2]															
Northeast urban	M	167.8	168.4	169.4	169.6	169.9	170.5	170.6	164.9	165.6	166.4	166.5	166.6	167.1	167.4
Size A—More than 1,500,000	M	168.4	169.2	170.2	170.4	170.7	171.4	171.7	164.5	165.4	166.1	166.3	166.5	167.1	167.5
Size B/C—50,000 to 1,500,000[3]	M	101.2	101.3	101.8	101.9	102.0	102.2	102.2	101.0	101.1	101.5	101.5	101.5	101.7	101.8
Midwest urban[4]	M	157.2	157.5	159.4	159.5	159.8	159.5	159.9	153.6	153.9	155.6	155.7	155.9	155.6	156.0
Size A—More than 1,500,000	M	158.0	158.3	160.5	160.8	161.2	161.0	161.4	153.6	153.9	155.9	156.2	156.5	156.4	156.7
Size B/C—50,000 to 1,500,000[3]	M	100.9	101.2	102.3	102.2	102.2	102.0	102.2	100.8	101.1	102.1	101.9	101.9	101.7	101.9
Size D—Nonmetropolitan (less than 50,000)	M	152.6	153.4	153.4	153.3	153.5	153.3	154.0	150.9	151.5	151.3	151.3	151.7	151.4	152.2
South urban	M	157.1	157.5	158.8	159.1	159.3	159.5	159.5	155.5	155.9	156.7	157.1	157.2	157.5	157.5
Size A—More than 1,500,000	M	155.9	156.4	157.7	158.4	158.5	158.9	158.8	154.0	154.5	155.3	155.9	156.1	156.3	156.3
Size B/C—50,000 to 1,500,000[3]	M	101.4	101.5	102.2	102.3	102.4	102.5	102.5	101.1	101.3	101.8	101.8	101.9	102.1	102.1
Size D—Nonmetropolitan (less than 50,000)	M	156.4	157.1	159.3	160.0	160.0	160.2	160.1	157.0	157.7	159.6	160.4	160.4	160.6	160.6
West urban	M	161.5	162.1	164.3	164.2	164.3	164.8	165.1	158.0	158.6	160.3	160.3	160.3	160.7	160.9
Size A—More than 1,500,000	M	161.7	162.3	165.0	165.0	165.1	165.6	165.9	156.5	157.2	159.4	159.3	159.3	159.7	160.0
Size B/C—50,000 to 1,500,000[3]	M	101.5	101.8	102.4	102.3	102.3	102.5	102.7	101.5	101.8	102.2	102.1	102.1	102.3	102.5
Size classes:															
A[5]	M	145.1	145.6	147.3	147.5	147.7	148.1	148.2	143.9	144.4	145.8	146.0	146.2	146.4	146.6
B/C[3]	M	101.3	101.4	102.2	102.2	102.3	102.4	102.4	101.1	101.3	101.9	101.8	101.9	101.9	102.0
D	M	156.8	157.4	158.8	159.2	159.3	159.4	159.7	156.0	156.6	157.8	158.1	158.3	158.3	158.7
Selected local areas[6]															
Chicago–Gary–Kenosha, IL–IN–WI	M	162.5	162.1	165.6	166.0	166.5	165.4	165.3	156.7	156.4	159.9	160.2	160.6	159.6	159.6
Los Angeles–Riverside–Orange County, CA	M	159.7	160.5	162.3	162.2	162.1	162.6	162.6	154.0	154.7	156.2	156.1	155.9	156.1	156.1
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA.	M	170.8	171.7	173.0	173.1	173.6	174.2	174.4	166.7	167.7	168.6	168.8	169.1	169.7	169.9
Boston–Brockton–Nashua, MA–NH–ME–CT	1	–	167.8	170.9	–	170.7	–	172.1	–	166.2	168.9	–	168.8	–	169.9
Cleveland–Akron, OH	1	–	157.3	159.2	–	159.9	–	161.5	–	149.2	151.2	–	152.1	–	153.3
Dallas–Ft Worth, TX	1	151.2	–	153.0	–	154.2	–	154.5	151.1	–	152.8	–	154.0	–	154.3
Washington–Baltimore, DC–MD–VA–WV[7]	1	–	101.4	101.5	–	102.8	–	102.9	–	101.4	101.3	–	102.5	–	102.7
Atlanta, GA	2	–	–	–	162.0	–	161.9	–	–	–	–	159.3	–	159.1	–
Detroit–Ann Arbor–Flint, MI	2	156.9	–	–	159.4	–	160.5	–	151.6	–	–	154.0	–	155.1	–
Houston–Galveston–Brazoria, TX	2	145.4	–	–	146.4	–	147.4	–	144.9	–	–	145.1	–	146.1	–
Miami–Ft. Lauderdale, FL	2	–	158.5	–	160.2	–	160.8	–	–	156.1	–	157.6	–	158.0	–
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	166.8	168.6	–	168.0	–	168.6	–	165.9	167.9	–	167.4	–	167.9	–
San Francisco–Oakland–San Jose, CA	2	161.2	161.6	–	165.5	–	166.6	–	158.1	158.6	–	161.7	–	162.7	–
Seattle–Tacoma–Bremerton, WA	2	–	–	–	167.5	–	168.5	–	–	–	–	162.8	–	163.8	–

[1] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:
M—Every month.
1—January, March, May, July, September, and November.
2—February, April, June, August, October, and December.

[2] Regions defined as the four Census regions.

[3] Indexes on a December 1996 = 100 base.

[4] The "North Central" region has been renamed the "Midwest" region by the Census Bureau. It is composed of the same geographic entities.

[5] Indexes on a December 1986 = 100 base.

[6] In addition, the following metropolitan areas are published semiannually and appear in tables 34 and 39 of the January and July issues of the *CPI Detailed Report*: Anchorage, AK; Cincinnati–Hamilton, OH–KY–IN; Denver–Boulder–Greeley, CO; Honolulu, HI; Kansas City, MO–KS; Milwaukee–Racine, WI; Minneapolis–St. Paul, MN–WI; Pittsburgh, PA; Portland–Salem, OR–WA; St Louis, MO–IL; San Diego, CA; Tampa–St. Petersburg–Clearwater, FL.

[7] Indexes on a November 1996 = 100 base.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Each local index has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error. As a result, local area indexes show greater volatility than the national index, although their long-term trends are similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in their escalator clauses.

Index applies to a month as a whole, not to any specific date.

30. Annual data: Consumer Price Index, U.S. city average, all items and major groups

[1982–84 = 100]

Series	1989	1990	1991	1992	1993	1994	1995	1996	1997
Consumer Price Index for All Urban Consumers:									
All items:									
Index	124.0	130.7	136.2	140.3	144.5	148.2	152.4	156.9	160.5
Percent change	4.8	5.4	4.2	3.0	3.0	2.6	2.8	3.0	2.3
Food and beverages:									
Index	124.9	132.1	136.8	138.7	141.6	144.9	148.9	153.7	157.7
Percent change	5.7	5.8	3.6	1.4	2.1	2.3	2.8	3.2	2.6
Housing:									
Index	123.0	128.5	133.6	137.5	141.2	144.8	148.5	152.8	156.8
Percent change	3.8	4.5	4.0	2.9	2.7	2.5	2.6	2.9	2.6
Apparel:									
Index	118.6	124.1	128.7	131.9	133.7	133.4	132.0	131.7	132.9
Percent change	2.8	4.6	3.7	2.5	1.4	–.2	–1.0	–0.2	.9
Transportation:									
Index	114.1	120.5	123.8	126.5	130.4	134.3	139.1	143.0	144.3
Percent change	5.0	5.6	2.7	2.2	3.1	3.0	3.6	2.8	0.9
Medical care:									
Index	149.3	162.8	177.0	190.1	201.4	211.0	220.5	228.2	234.6
Percent change	7.7	9.0	8.7	7.4	5.9	4.8	4.5	3.5	2.8
Other goods and services:									
Index	147.7	159.0	171.6	183.3	192.9	198.5	206.9	215.4	224.8
Percent change	7.8	7.7	7.9	6.8	5.2	2.9	4.2	4.1	4.4
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	122.6	129.0	134.3	138.2	142.1	145.6	149.8	154.1	157.6
Percent change	4.8	5.2	4.1	2.9	2.8	2.5	2.9	2.9	2.3

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		1997				1998								
	1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Finished goods	131.3	131.8	131.8	132.3	131.7	131.1	130.3	130.2	130.1	130.4	130.6	130.6	130.9	130.6	130.6
Finished consumer goods	129.5	130.2	130.5	130.7	130.1	129.4	128.3	128.2	128.1	128.5	128.9	128.9	129.4	129.1	129.2
Finished consumer foods	133.6	134.5	134.7	135.1	134.6	134.4	133.1	133.6	133.4	133.8	133.6	133.6	134.6	135.0	135.4
Finshed consumer goods excluding foods	127.6	128.2	128.6	128.7	128.0	127.2	126.1	125.6	125.6	126.0	126.7	126.8	127.0	126.4	126.3
Nondurable goods less food	123.3	124.3	125.8	124.6	123.9	123.0	121.5	120.8	120.9	121.5	122.8	123.0	123.3	122.7	122.8
Durable goods	134.2	133.7	131.4	134.7	134.1	133.4	133.4	133.4	133.2	133.0	132.3	132.0	132.0	131.3	131.0
Capital equipment	138.3	138.2	137.2	138.5	138.3	137.9	137.9	137.9	137.9	137.7	137.3	137.3	137.2	136.7	136.5
Intermediate materials, supplies, and components	125.7	125.6	126.0	125.5	125.5	125.0	124.2	123.8	123.3	123.3	123.5	123.4	123.4	123.1	123.0
Materials and components for manufacturing	128.6	128.3	128.3	128.0	128.2	128.0	127.5	127.3	127.0	126.9	126.8	126.4	126.1	126.0	125.6
Materials for food manufacturing	125.3	123.2	123.1	122.4	124.2	123.2	119.9	121.6	121.0	121.7	123.7	122.9	122.6	123.3	124.6
Materials for nondurable manufacturing	130.5	129.6	129.8	129.9	130.0	130.2	129.9	129.1	128.6	128.2	127.9	127.7	127.2	126.7	125.5
Materials for durable manufacturing	131.3	132.8	133.0	132.3	132.1	131.4	130.5	130.3	129.8	130.0	129.2	128.2	127.7	127.8	127.1
Components for manufacturing	126.9	126.4	126.2	126.0	126.0	126.0	126.0	126.0	126.0	126.0	126.0	125.9	125.9	125.8	125.8
Materials and components for construction	143.6	146.5	146.8	146.4	146.6	146.4	146.3	146.4	146.7	147.0	146.9	146.7	147.0	147.3	147.2
Processed fuels and lubricants	90.0	89.3	91.0	89.1	88.3	86.1	83.3	81.6	79.6	80.1	81.7	82.2	82.6	81.7	82.6
Containers	141.1	136.0	135.4	136.4	138.1	139.9	141.4	141.9	141.6	141.0	141.7	141.5	141.6	140.7	140.9
Supplies	135.9	135.9	136.2	135.8	136.1	136.0	135.5	135.3	135.5	135.1	134.8	134.8	135.0	134.7	134.3
Crude materials for further processing	113.8	111.1	108.5	112.7	114.7	107.8	101.7	100.1	99.4	100.0	100.5	98.5	97.1	94.6	92.9
Foodstuffs and feedstuffs	121.5	112.2	110.6	110.1	110.4	109.0	105.5	105.1	106.3	105.8	106.2	105.6	103.8	103.0	100.9
Crude nonfood materials	104.5	106.4	103.2	110.3	113.4	103.2	95.4	93.0	91.0	92.9	92.9	90.1	88.9	85.4	84.1
Special groupings:															
Finished goods, excluding foods	130.5	130.9	130.9	131.3	130.8	130.1	129.4	129.0	129.0	129.2	129.6	129.6	129.8	129.2	129.1
Finished energy goods	83.2	83.4	85.3	83.2	81.9	80.2	77.5	75.9	74.2	74.7	76.3	76.7	76.9	75.5	75.4
Finished goods less energy	139.6	140.2	139.7	140.9	140.6	140.3	140.0	140.3	140.7	140.9	140.7	140.6	141.0	140.9	141.0
Finished consumer goods less energy	140.1	141.0	140.6	141.8	141.4	141.2	140.8	141.2	141.8	142.0	141.9	141.9	142.4	142.5	142.7
Finished goods less food and energy	142.0	142.4	141.6	143.0	142.8	142.6	142.7	142.8	143.5	143.5	143.4	143.3	143.4	143.2	143.1
Finished consumer goods less food and energy	144.3	145.1	144.4	146.0	145.8	145.5	145.7	146.0	147.1	147.3	147.3	147.2	147.4	147.4	147.4
Consumer nondurable goods less food and energy	151.4	153.4	154.2	154.3	154.4	154.5	154.8	155.3	157.5	158.2	158.8	158.8	159.2	159.8	160.0
Intermediate materials less foods and feeds	125.6	125.7	126.1	125.6	125.6	125.1	124.5	124.1	123.7	123.8	123.9	123.9	123.9	123.6	123.5
Intermediate foods and feeds	128.1	125.4	126.0	122.6	124.3	123.5	118.7	118.5	116.9	116.0	116.3	115.7	116.1	115.6	114.8
Intermediate energy goods	89.8	89.0	90.7	88.8	88.0	85.9	83.0	81.4	79.4	79.9	81.5	81.9	82.3	81.4	82.3
Intermediate goods less energy	133.6	133.7	133.8	133.5	133.8	133.7	133.3	133.2	133.1	133.0	132.9	132.6	132.5	132.4	132.0
Intermediate materials less foods and energy	134.0	134.2	134.3	134.2	134.4	134.3	134.3	134.2	134.1	134.1	133.9	133.7	133.6	133.5	133.2
Crude energy materials	85.0	87.3	83.2	92.8	97.1	84.3	74.9	71.7	69.6	72.7	72.7	69.2	68.8	65.3	64.2
Crude materials less energy	130.0	123.5	122.2	121.5	121.6	120.1	117.0	116.8	117.2	116.4	116.6	116.0	113.8	112.5	110.4
Crude nonfood materials less energy	155.8	156.5	156.0	155.0	154.3	152.5	150.5	150.7	149.2	147.6	147.2	146.8	143.4	140.3	138.1

32. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		1997				1998								
		1996	1997	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
–	**Total mining industries**	84.4	86.1	82.9	90.2	93.2	83.2	76.4	73.6	72.2	74.1	74.2	71.1	70.7	68.2	67.3
10	Metal mining	92.1	85.8	84.0	83.2	78.9	74.8	73.5	74.2	74.6	76.6	75.5	74.0	73.3	73.9	74.5
12	Coal mining (12/85 = 100)	91.4	92.2	91.9	91.3	91.0	93.2	88.2	90.2	89.7	90.7	90.2	91.8	89.5	89.7	87.8
13	Oil and gas extraction (12/85 = 100)	84.8	87.5	83.5	93.4	98.0	84.5	76.2	72.0	70.2	72.3	72.6	68.3	68.3	64.8	63.8
14	Mining and quarrying of nonmetallic minerals, except fuels	127.1	128.8	129.3	129.6	129.7	129.9	130.6	131.0	131.4	132.2	132.2	131.9	132.4	132.8	132.7
–	**Total manufacturing industries**	127.1	127.5	127.3	127.6	127.5	127.0	126.4	126.1	125.9	126.2	126.4	126.2	126.2	126.0	126.0
20	Food and kindred products	127.1	127.9	127.9	127.5	127.5	127.1	125.8	126.0	125.5	125.5	125.9	126.3	126.6	127.4	127.2
21	Tobacco manufactures	199.1	210.8	219.4	219.4	219.3	219.3	219.6	223.7	223.7	231.0	237.7	238.0	238.0	246.4	247.0
22	Textile mill products	118.2	118.8	118.9	119.1	119.0	119.2	119.0	119.3	119.2	119.1	119.1	119.1	118.8	118.7	118.4
23	Apparel and other finished products made from fabrics and similar materials	122.3	123.4	123.7	123.4	124.2	124.2	124.4	124.3	124.5	124.7	124.9	124.7	124.9	124.9	125.0
24	Lumber and wood products, except furniture	153.5	158.9	158.9	157.3	158.2	157.9	157.4	158.2	158.2	158.5	157.4	155.5	156.6	158.0	157.1
25	Furniture and fixtures	136.2	138.2	138.6	138.6	138.9	138.9	139.1	139.3	139.4	139.4	139.7	139.4	139.5	139.6	139.7
26	Paper and allied products	138.6	133.5	134.1	134.6	135.9	137.3	137.7	137.8	137.5	137.0	137.0	136.7	137.1	136.2	135.6
27	Printing, publishing, and allied industries	165.6	169.1	169.2	170.7	171.1	171.3	173.2	173.0	173.1	174.0	173.9	173.8	173.5	173.8	174.2
28	Chemicals and allied products	145.8	147.1	147.1	147.3	147.3	147.3	147.3	147.1	149.2	149.8	149.7	148.9	149.9	149.6	149.2
29	Petroleum refining and related products	87.4	85.6	86.1	84.8	83.6	79.1	73.8	70.1	65.6	67.9	70.2	67.8	66.3	63.6	64.4
30	Rubber and miscellaneous plastics products	123.1	122.8	122.9	122.7	122.8	122.8	122.7	122.6	122.5	122.5	122.3	122.2	122.0	121.8	121.8
31	Leather and leather products	134.7	137.1	137.0	137.5	137.9	137.4	137.4	137.4	137.4	137.1	137.2	137.2	137.2	137.4	137.2
32	Stone, clay, glass, and concrete products	125.8	127.4	127.5	127.8	127.8	127.7	127.6	127.8	127.9	128.7	129.0	129.3	129.9	129.9	130.3
33	Primary metal industries	123.7	124.7	125.2	124.8	124.5	123.9	123.3	123.0	122.7	122.6	122.1	121.6	121.0	120.7	120.1
34	Fabricated metal products, except machinery and transportation transportation equipment	126.2	127.6	128.0	128.1	128.2	128.1	128.3	128.4	128.5	128.6	128.8	128.9	128.9	128.9	128.9
35	Machinery, except electrical	119.2	118.5	118.2	118.1	118.0	118.0	118.1	118.0	117.9	117.8	117.7	117.7	117.5	117.4	117.5
36	Electrical and electronic machinery, equipment, and supplies	113.2	111.6	111.1	110.8	110.8	110.8	110.8	110.6	110.7	110.5	110.4	110.5	110.6	110.3	110.2
37	Transportation	134.2	134.1	131.8	135.0	134.4	133.7	133.8	134.0	133.9	133.8	133.0	132.7	132.8	131.9	131.6
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	125.0	125.6	125.8	125.7	125.8	125.8	125.6	125.9	126.1	126.3	126.2	126.2	126.5	126.5	126.2
39	Miscellaneous manufacturing industries (12/85 = 100)	127.8	129.0	129.2	129.4	129.1	129.1	129.6	129.6	129.7	129.6	129.7	129.6	129.8	129.8	129.9
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	106.3	108.9	109.4	109.3	109.0	109.4	110.5	110.6	110.7	110.9	111.3	111.4	111.8	111.8	112.4
43	U.S. Postal Service (06/89 = 100)	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3	132.3
44	Water transportation (12/92 = 100)	103.7	104.2	103.8	104.6	104.1	103.3	103.0	102.7	102.3	102.2	105.3	103.0	104.3	108.3	108.7
45	Transportation by air (12/92 = 100)	121.1	125.3	122.5	123.7	123.4	123.3	122.6	123.7	123.7	124.3	124.3	124.8	124.7	124.2	126.3
46	Pipelines, except natural gas (12/92 = 100)	104.6	98.8	98.7	98.7	98.7	98.7	99.3	99.3	99.3	99.3	99.3	99.4	99.2	99.2	99.2

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1989	1990	1991	1992	1993	1994	1995	1996	1997
Finished goods									
Total	113.6	119.2	121.7	123.2	124.7	125.5	127.9	131.3	131.8
Foods	118.7	124.4	124.1	123.3	125.7	126.8	129.0	133.6	134.5
Energy	65.7	75.0	78.1	77.8	78.0	77.0	78.1	83.2	83.4
Other	122.1	126.6	131.1	134.2	135.8	137.1	140.0	142.0	142.4
Intermediate materials, supplies, and components									
Total	112.0	114.5	114.4	114.7	116.2	118.5	124.9	125.7	125.6
Foods	112.7	117.9	115.3	113.9	115.6	118.5	119.5	125.3	123.2
Energy	76.1	85.5	85.1	84.3	84.6	83.0	84.1	89.8	89.0
Other	120.2	120.9	121.4	122.0	123.8	127.1	135.2	134.0	134.2
Crude materials for further processing									
Total	103.1	108.9	101.2	100.4	102.4	101.8	102.7	113.8	111.1
Foods	111.2	113.1	105.5	105.1	108.4	106.5	105.8	121.5	112.2
Energy	75.9	85.9	80.4	78.8	76.7	72.1	69.4	85.0	87.3
Other	95.8	107.3	97.5	94.2	94.1	97.0	105.8	105.7	103.5

34. U.S. export price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1997				1998								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
0	**Food and live animals**	99.5	98.5	97.6	96.7	94.9	92.5	92.5	90.8	91.3	90.9	92.3	89.6	86.7
01	Meat and meat preparations	95.2	95.2	96.1	94.6	91.4	90.9	92.1	92.2	93.7	97.8	97.9	98.4	96.3
04	Cereals and cereal preparations	95.0	93.5	94.9	94.4	88.9	91.5	90.4	86.2	85.9	82.6	82.3	74.9	70.2
05	Vegetables, fruit, and nuts, prepared fresh or dry	97.6	98.2	93.4	92.0	99.8	88.6	91.7	92.9	96.4	98.4	101.6	102.2	99.2
2	**Crude materials, inedible, except fuels**	91.6	88.7	88.9	87.8	84.7	85.0	84.2	83.2	83.0	82.0	82.0	79.9	77.8
21	Hides, skins, and furskins, raw	100.1	101.6	103.6	102.6	80.9	83.3	90.1	87.9	85.9	84.8	81.8	83.9	83.5
22	Oilseeds and oleaginous fruits	120.2	108.3	118.2	116.5	110.8	113.1	108.4	105.4	106.7	102.6	106.6	95.3	91.8
24	Cork and wood	90.9	88.6	85.8	85.6	85.8	85.2	84.0	84.0	82.6	82.0	82.4	82.4	81.8
25	Pulp and waste paper	68.2	69.4	68.3	66.8	63.8	64.7	65.0	64.2	63.5	64.0	64.5	64.5	62.7
26	Textile fibers and their waste	83.9	83.4	81.2	80.0	78.2	78.0	77.9	76.0	77.4	79.3	78.5	76.9	76.3
27	Crude fertilizers and crude minerals	97.9	97.9	97.8	97.4	97.5	97.2	97.1	97.1	97.0	97.0	97.1	96.9	96.9
28	Metalliferous ores and metal scrap	94.4	90.0	85.9	83.9	82.1	81.4	79.7	80.3	79.8	76.6	73.0	72.6	69.7
3	**Mineral fuels, lubricants, and related products**	111.8	112.6	112.0	112.8	109.4	108.5	106.2	104.8	104.7	103.2	96.3	94.7	93.5
32	Coal, coke, and briquettes	101.9	102.2	101.8	101.3	101.0	101.0	101.0	100.1	100.1	100.1	99.9	99.5	99.4
33	Petroleum, petroleum products, and related materials	121.8	121.3	120.1	119.0	116.0	114.3	110.5	108.7	108.7	106.8	95.2	92.9	90.8
4	**Animal and vegetable oils, fats, and waxes**	94.9	97.9	106.8	106.5	104.5	101.3	100.8	101.4	106.6	107.9	104.4	103.4	102.7
5	**Chemicals and related products, n.e.s.**	95.5	95.4	95.2	94.9	94.9	94.5	93.6	93.5	93.1	92.6	92.2	92.1	91.8
54	Medicinal and pharmaceutical products	101.2	100.8	100.9	100.9	101.9	101.6	102.3	101.6	101.6	101.6	101.6	101.6	101.6
55	Essential oils; polishing and cleaning preparations	103.7	103.6	102.1	101.9	101.3	102.0	101.5	101.2	101.4	101.4	101.4	101.4	102.7
57	Plastics in primary forms (12/92 = 100)	93.7	93.9	93.6	93.1	92.9	92.4	91.7	90.9	90.5	88.9	88.8	87.9	87.6
58	Plastics in nonprimary forms (12/92 = 100)	98.9	98.7	98.5	98.7	100.3	100.2	99.7	99.8	99.1	97.9	97.2	97.6	97.3
59	Chemical materials and products, n.e.s.	103.6	103.4	103.0	101.9	101.9	101.8	100.5	101.8	100.4	100.6	100.4	100.4	100.0
6	**Manufactured goods classified chiefly by materials**	98.7	98.7	98.9	98.5	98.1	98.5	98.3	98.3	98.2	97.9	97.5	97.3	96.8
62	Rubber manufactures, n.e.s.	101.9	102.2	102.1	102.1	101.8	101.8	102.1	101.9	101.6	101.9	102.2	102.7	102.2
64	Paper, paperboard, and articles of paper, pulp, and paperboard	85.0	85.3	85.2	85.1	84.7	85.0	84.7	84.6	84.1	83.8	82.7	82.2	81.3
66	Nonmetallic mineral manufactures, n.e.s.	106.1	106.1	106.3	107.1	106.7	107.3	107.0	107.0	106.9	106.7	106.6	106.8	106.8
68	Nonferrous metals	93.2	91.9	93.4	91.0	89.5	91.3	91.2	91.5	93.6	88.1	87.4	86.7	85.6
7	**Machinery and transport equipment**	100.1	100.0	100.1	99.8	99.6	99.5	99.3	99.1	99.2	98.7	98.4	98.3	98.2
71	Power generating machinery and equipment	106.2	106.2	106.3	106.2	106.8	106.7	106.8	107.0	107.0	107.1	106.8	106.8	107.0
72	Machinery specialized for particular industries	104.5	104.5	104.5	104.9	104.6	105.1	105.0	104.8	105.1	105.2	105.3	105.3	105.5
74	General industrial machines and parts, n.e.s., and machine parts	105.2	105.4	105.4	105.4	105.6	105.6	105.8	105.9	106.2	106.1	106.3	106.5	106.4
75	Computer equipment and office machines	83.7	83.0	82.7	81.6	80.8	80.5	79.8	79.1	79.0	76.5	76.0	75.4	74.7
76	Telecommunications and sound recording and reproducing apparatus and equipment	99.2	99.5	99.4	98.7	98.6	98.3	98.6	98.3	98.7	98.7	98.1	98.1	98.2
77	Electrical machinery and equipment	95.1	94.8	94.9	94.4	94.0	93.6	93.1	92.7	92.6	92.1	91.3	91.2	91.2
78	Road vehicles	101.7	101.8	101.9	102.0	102.0	101.9	101.8	101.9	101.9	101.9	102.0	102.0	102.0
87	**Professional, scientific, and controlling instruments and apparatus**	103.4	103.3	103.3	103.5	103.5	103.6	103.6	103.6	103.8	103.8	103.9	103.8	103.8

35. U.S. import price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1997				1998								
		Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
0	**Food and live animals**	101.3	100.4	99.4	99.6	99.2	97.5	97.9	99.4	97.5	98.0	97.4	93.9	95.5
01	Meat and meat preparations	103.9	102.7	102.7	104.2	101.3	101.3	101.2	101.7	101.3	98.3	97.7	97.8	97.2
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	104.5	107.4	107.3	105.6	105.4	106.4	107.1	107.4	107.2	109.4	106.1	103.9	103.7
05	Vegetables, fruit, and nuts, prepared fresh or dry	103.4	103.1	103.8	102.5	102.9	93.8	95.7	100.8	99.0	103.5	111.7	98.1	106.7
07	Coffee, tea, cocoa, spices, and manufactures thereof	100.0	92.1	86.2	92.1	94.7	97.1	94.0	92.9	86.1	82.1	73.6	79.4	77.4
1	**Beverages and tobacco**	107.8	107.9	108.4	108.6	109.0	109.5	109.2	109.2	109.3	109.6	109.8	109.7	109.7
11	Beverages	104.3	104.4	105.1	105.2	105.4	105.9	105.8	105.8	105.9	106.3	106.5	106.3	106.4
2	**Crude materials, inedible, except fuels**	96.6	94.8	94.0	93.5	91.4	95.1	91.1	89.8	89.3	87.7	87.3	85.7	85.7
23	Crude rubber (including synthetic and reclaimed)	74.5	72.4	71.2	69.1	62.4	64.9	63.9	61.3	57.7	58.8	54.9	53.8	53.8
24	Cork and wood	121.2	113.1	114.0	113.1	109.7	110.0	110.6	110.1	106.6	101.2	105.5	106.6	107.3
25	Pulp and waste paper	68.2	69.0	69.2	68.7	68.3	64.5	64.2	63.7	62.9	66.1	64.6	62.5	60.8
28	Metalliferous ores and metal scrap	104.5	103.7	102.5	102.3	100.3	100.0	100.4	100.7	100.8	98.6	96.0	94.2	92.9
29	Crude animal and vegetable materials, n.e.s.	103.1	113.2	104.8	107.0	108.6	158.2	110.0	102.0	116.0	113.1	113.4	100.9	105.2
3	**Mineral fuels, lubricants, and related products**	107.0	113.1	111.8	103.3	93.5	87.2	80.3	80.5	80.9	77.6	74.3	73.6	75.9
33	Petroleum, petroleum products, and related materials	105.5	111.5	107.8	100.1	89.7	83.7	76.1	76.5	76.9	73.4	69.5	69.4	72.1
34	Gas, natural and manufactured	123.7	132.0	149.7	133.4	127.4	117.3	114.7	113.1	114.3	111.9	112.6	106.8	107.1
5	**Chemicals and related products, n.e.s.**	96.2	95.6	95.2	95.2	94.2	93.9	93.5	93.0	93.6	93.6	92.9	92.3	92.0
52	Inorganic chemicals	99.7	99.7	99.0	97.3	94.1	94.2	94.8	95.5	97.2	97.8	96.1	94.6	93.9
53	Dying, tanning, and coloring materials	94.0	94.2	96.3	96.9	95.3	94.9	94.9	94.7	94.8	94.9	94.6	94.8	94.8
54	Medicinal and pharmaceutical products	95.7	96.2	96.2	96.8	96.4	95.8	95.8	95.5	95.4	95.3	95.0	94.9	94.6
55	Essential oils; polishing and cleaning preparations	96.9	97.4	96.6	97.5	96.2	96.3	94.4	94.1	94.6	94.8	94.3	93.4	93.8
57	Plastics in primary forms (12/92 = 100)	92.6	92.7	91.6	92.0	92.4	96.5	94.4	94.1	94.1	94.0	93.1	91.2	91.6
58	Plastics in nonprimary forms (12/92 = 100)	86.9	85.9	82.9	82.8	82.6	82.6	81.5	80.2	80.0	79.1	77.1	76.4	74.7
59	Chemical materials and products, n.e.s.	103.2	102.8	102.8	103.1	102.9	101.4	101.7	101.3	101.8	101.4	100.4	100.3	100.5
6	**Manufactured goods classified chiefly by materials**	96.8	96.7	96.6	96.0	95.2	94.8	94.7	94.6	94.7	94.0	93.2	93.1	92.7
62	Rubber manufactures, n.e.s.	95.1	95.3	95.4	95.5	95.2	95.2	94.7	94.7	94.7	95.0	94.7	94.2	94.3
64	Paper, paperboard, and articles of paper, pulp, and paperboard	88.8	88.9	89.7	88.5	87.6	87.5	87.9	87.9	87.6	87.5	87.4	86.9	87.0
66	Nonmetallic mineral manufactures, n.e.s.	102.1	102.2	102.2	101.7	101.3	100.7	100.6	100.8	100.7	100.6	100.2	100.4	100.1
68	Nonferrous metals	96.9	95.3	93.4	92.1	90.5	90.6	91.2	91.8	94.2	90.9	88.0	87.9	86.3
69	Manufactures of metals, n.e.s.	98.1	98.5	98.3	98.5	97.9	97.5	97.3	96.9	96.3	96.5	96.2	96.2	96.6
7	**Machinery and transport equipment**	94.8	94.5	94.3	94.0	93.6	93.2	92.9	92.5	92.2	91.8	91.4	91.1	90.9
72	Machinery specialized for particular industries	98.4	98.6	99.0	99.1	98.7	98.1	98.1	97.6	97.6	97.6	97.3	97.1	96.7
74	General industrial machines and parts, n.e.s., and machine parts	97.2	97.4	97.3	97.3	97.1	96.5	96.6	96.3	96.4	96.7	96.3	96.5	96.6
75	Computer equipment and office machines	78.2	77.1	76.7	76.8	75.5	74.4	73.0	71.9	70.9	70.4	69.8	69.3	68.7
76	Telecommunications and sound recording and reproducing apparatus and equipment	92.6	92.3	91.9	91.7	91.4	90.9	90.8	90.7	90.6	89.4	88.9	88.8	88.6
77	Electrical machinery and equipment	89.2	88.6	87.7	86.6	86.2	85.7	85.5	85.5	85.4	84.5	83.8	83.4	83.0
78	Road vehicles	101.3	101.6	101.6	101.5	101.4	101.3	101.5	101.5	101.2	101.1	101.0	100.8	100.7
85	Footwear	100.8	101.0	101.0	101.2	101.2	101.1	100.7	100.6	100.6	100.7	100.8	100.9	100.9
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	93.6	93.4	92.6	93.1	92.3	92.1	91.8	91.6	91.2	91.0	90.9	90.6	90.1

36. U.S. export price indexes by end-use category

[1995 = 100]

Category	1997				1998								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	99.0	98.6	98.6	98.2	97.5	97.2	96.9	96.5	96.6	96.1	95.9	95.4	94.5
Foods, feeds, and beverages	101.8	99.8	100.2	99.3	96.9	95.0	94.4	92.9	93.8	93.2	94.4	90.9	88.3
Agricultural foods, feeds, and beverages	102.2	100.1	100.7	100.0	97.6	96.2	95.3	93.7	94.7	94.1	94.7	90.5	87.9
Nonagricultural (fish, beverages) food products	98.5	98.0	95.7	94.1	90.9	83.8	86.2	85.7	85.6	84.7	91.6	97.1	94.6
Industrial supplies and materials	95.1	94.8	94.5	93.7	92.3	92.0	91.4	91.0	90.9	90.4	89.3	88.9	88.0
Agricultural industrial supplies and materials	93.0	93.1	94.0	92.7	88.3	87.1	88.2	87.0	87.5	90.3	88.9	88.0	87.0
Fuels and lubricants	110.9	111.3	110.7	110.2	107.1	106.1	103.3	102.2	102.2	100.8	95.8	94.1	92.8
Nonagricultural supplies and materials, excluding fuel and building materials	92.8	92.4	92.3	91.4	90.4	90.3	89.7	89.5	89.4	88.7	87.9	87.6	86.8
Selected building materials	92.8	91.2	89.3	89.3	89.1	88.5	88.0	87.5	86.6	86.0	86.3	86.7	86.7
Capital goods	99.5	99.3	99.3	98.9	98.8	98.8	98.5	98.3	98.2	97.7	97.6	97.4	97.3
Electric and electrical generating equipment	101.8	101.9	102.2	102.2	101.7	101.1	101.3	100.8	100.8	100.5	100.5	100.3	100.3
Nonelectrical machinery	96.7	96.5	96.4	95.9	95.8	95.8	95.5	95.2	95.2	94.5	94.4	94.2	94.0
Automotive vehicles, parts, and engines	102.1	102.2	102.3	102.3	102.3	102.2	102.2	102.3	102.3	102.3	102.4	102.4	102.4
Consumer goods, excluding automotive	102.6	102.6	102.6	102.7	102.5	102.5	102.5	102.2	102.3	101.9	101.9	101.9	102.0
Nondurables, manufactured	102.3	102.1	102.0	102.1	102.2	102.2	102.3	102.1	102.2	102.0	102.1	101.8	101.9
Durables, manufactured	101.9	102.2	102.1	102.0	101.7	101.6	101.3	101.1	101.3	100.7	100.5	100.9	100.9
Agricultural commodities	100.2	98.4	99.1	98.3	95.6	94.2	93.7	92.2	93.1	93.1	93.4	89.7	87.4
Nonagricultural commodities	98.8	98.6	98.5	98.1	97.7	97.5	97.2	97.0	96.9	96.4	96.1	96.0	95.7

37. U.S. import price indexes by end-use category

[1995 = 100]

Category	1997				1998								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
ALL COMMODITIES	97.8	98.0	97.6	96.6	95.3	94.4	93.6	93.3	93.2	92.6	91.8	91.5	91.4
Foods, feeds, and beverages	99.6	98.8	97.9	98.1	97.7	96.7	96.6	97.4	96.4	97.1	96.4	94.1	95.6
Agricultural foods, feeds, and beverages	97.9	96.3	95.2	95.7	95.3	93.6	93.4	94.3	92.7	92.8	92.6	89.8	92.2
Nonagricultural (fish, beverages) food products	104.1	105.2	105.2	104.1	103.9	104.7	104.9	105.5	105.8	108.3	106.2	105.3	104.5
Industrial supplies and materials	101.1	102.5	101.8	98.6	94.6	92.2	89.9	89.7	89.9	88.2	86.4	86.2	86.1
Fuels and lubricants	107.2	113.2	111.5	103.3	93.9	87.9	81.0	81.2	81.7	78.5	75.1	75.3	76.1
Petroleum and petroleum products	105.7	111.6	107.7	100.4	90.4	84.5	76.9	77.2	77.6	74.2	70.3	70.9	71.7
Paper and paper base stocks	83.4	83.7	84.4	83.3	82.4	81.3	81.6	81.4	80.9	81.7	81.2	80.3	79.2
Materials associated with nondurable supplies and materials	95.4	94.6	94.3	93.8	92.7	92.2	91.8	91.3	91.3	91.1	89.8	89.1	88.7
Selected building materials	111.6	107.6	108.3	107.6	105.0	104.7	104.6	104.3	102.5	99.7	102.8	104.2	104.5
Unfinished metals associated with durable goods	98.5	97.4	96.4	95.5	94.0	93.8	94.0	94.1	95.4	92.9	90.6	90.2	89.0
Nonmetals associated with durable goods	94.1	94.2	94.2	94.2	93.7	92.6	92.3	91.6	91.3	91.5	89.8	89.4	88.6
Capital goods	90.5	89.8	89.4	89.0	88.2	87.4	87.0	86.5	86.2	85.6	85.0	84.7	84.3
Electric and electrical generating equipment	96.8	96.8	96.6	96.0	95.5	95.8	95.5	95.0	94.7	94.8	94.1	94.1	92.8
Nonelectrical machinery	88.3	87.4	87.0	86.5	85.7	84.7	84.2	83.7	83.4	82.7	82.0	81.7	81.4
Automotive vehicles, parts, and engines	101.2	101.4	101.4	101.3	101.3	101.3	101.4	101.3	101.1	101.0	100.9	100.7	100.6
Consumer goods, excluding automotive	99.2	99.3	99.1	99.2	99.0	99.2	98.6	98.3	98.3	98.2	98.1	97.9	97.8
Nondurables, manufactured	100.8	101.1	100.8	101.0	101.0	101.0	100.9	100.7	100.7	100.9	100.8	100.8	100.8
Durables, manufactured	97.4	97.3	97.1	97.2	96.9	96.6	96.3	95.9	95.8	95.3	95.1	94.9	94.8
Nonmanufactured consumer goods	99.9	101.4	100.1	99.4	98.9	105.8	98.1	97.5	99.3	98.7	98.7	97.1	97.7

38. U.S. international price indexes for selected categories of services

[1990 = 100, unless otherwise indicated]

Category	1996		1997				1998		
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.
Air freight (inbound) (9/90 = 100)	95.6	95.0	89.5	89.9	88.5	86.5	82.9	83.4	81.8
Air freight (outbound) (9/92 = 100)	98.9	99.2	99.8	99.2	99.6	97.7	97.2	96.0	95.8
Air passenger fares (U.S. carriers)	107.3	101.6	97.1	112.1	109.2	99.5	99.3	107.8	107.3
Air passenger fares (foreign carriers)	105.5	100.7	98.5	106.1	104.6	99.7	97.6	102.4	104.2
Ocean liner freight (inbound)	98.0	98.4	97.6	96.8	94.9	92.9	93.0	103.2	105.0

39. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	Quarterly indexes												
	1995		1996				1997				1998		
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Business													
Output per hour of all persons	101.0	101.8	102.9	103.8	103.8	104.2	104.5	105.0	106.0	106.2	107.3	107.3	108.1
Compensation per hour	107.2	108.2	108.8	110.3	111.4	112.3	113.4	114.1	115.3	116.8	118.2	119.4	120.5
Real compensation per hour	98.3	98.6	98.4	98.9	99.3	99.3	99.7	100.0	100.5	101.3	102.4	102.9	103.4
Unit labor costs	106.1	106.2	105.7	106.3	107.3	107.8	108.5	108.7	108.8	110.0	110.2	111.3	111.5
Unit nonlabor payments	108.9	109.6	111.9	112.1	111.5	111.8	112.4	113.1	113.8	112.4	112.2	110.5	110.4
Implicit price deflator	107.1	107.4	107.9	108.4	108.8	109.2	109.9	110.3	110.6	110.8	110.9	111.0	111.1
Nonfarm business													
Output per hour of all persons	101.3	102.0	103.0	103.8	103.8	104.1	104.2	104.7	105.6	105.9	106.8	106.8	107.6
Compensation per hour	107.0	107.9	108.6	110.0	111.0	112.0	113.1	113.8	114.9	116.3	117.6	118.8	120.0
Real compensation per hour	98.2	98.4	98.3	98.6	98.9	98.9	99.4	99.7	100.2	100.9	101.9	102.4	103.0
Unit labor costs	105.6	105.8	105.4	106.0	107.0	107.5	108.5	108.7	108.8	109.9	110.2	111.2	111.5
Unit nonlabor payments	110.0	110.3	112.3	112.3	111.6	112.2	112.8	113.6	114.5	113.3	113.2	111.5	111.4
Implicit price deflator	107.2	107.4	107.9	108.2	108.6	109.2	110.0	110.4	110.8	111.1	111.2	111.3	111.4
Nonfinancial corporations													
Output per hour of all employees	105.3	106.0	106.4	107.2	108.0	108.6	109.0	109.7	111.2	111.4	112.2	113.0	114.3
Compensation per hour	106.4	107.3	107.7	109.0	110.1	110.9	111.8	112.6	113.7	115.1	116.2	117.5	118.7
Real compensation per hour	97.6	97.8	97.4	97.7	98.1	98.0	98.3	98.6	99.2	99.9	100.6	101.2	101.8
Total unit costs	100.4	100.5	100.6	100.7	100.8	100.9	101.2	101.2	100.7	101.3	101.4	101.7	101.6
Unit labor costs	101.1	101.1	101.2	101.7	101.9	102.1	102.6	102.6	102.3	103.3	103.5	103.9	103.8
Unit nonlabor costs	98.4	98.8	98.7	97.9	97.5	97.4	97.3	97.1	96.4	95.7	95.4	95.5	95.2
Unit profits	148.5	149.0	153.7	154.1	155.3	155.4	156.6	157.3	161.7	155.7	153.5	150.4	151.6
Unit nonlabor payments	112.3	112.7	113.9	113.5	113.5	113.5	113.7	113.8	114.5	112.3	111.5	110.7	110.8
Implicit price deflator	104.8	104.9	105.4	105.5	105.7	105.8	106.2	106.3	106.3	106.3	106.2	106.1	106.1
Manufacturing													
Output per hour of all persons	110.0	111.2	112.5	113.9	115.5	116.4	117.5	118.8	121.4	122.7	123.2	124.4	126.0
Compensation per hour	108.8	109.3	109.2	110.3	111.2	111.9	113.0	114.0	115.5	117.8	119.0	119.7	120.7
Real compensation per hour	99.8	99.6	98.8	98.9	99.1	98.9	99.3	99.9	100.7	102.2	103.1	103.2	103.6
Unit labor costs	98.8	98.3	97.1	96.8	96.3	96.1	96.2	95.9	95.2	96.0	96.6	96.3	95.8

40. Annual indexes of multifactor productivity and related measures, selected years

[1992 = 100]

Item	1960	1970	1973	1980	1989	1990	1991	1993	1994	1995	1996
Private business											
Productivity:											
Output per hour of all persons	50.8	70.1	75.5	83.8	95.4	96.1	96.7	100.2	100.5	100.5	102.6
Output per unit of capital services	119.1	117.8	122.0	108.1	103.9	102.1	98.6	100.7	102.3	101.5	101.3
Multifactor productivity	70.9	86.6	94.6	95.4	99.9	99.5	98.1	100.2	100.6	100.3	101.3
Output	34.0	51.6	61.3	72.6	97.8	98.6	96.9	102.7	107.0	109.6	113.4
Inputs:											
Labor input	60.7	68.4	72.6	80.5	99.7	100.3	99.0	102.8	107.2	109.9	112.0
Capital services	28.6	43.8	50.3	67.2	94.1	96.6	98.3	102.0	104.6	108.0	112.0
Combined units of labor and capital input	48.0	59.6	64.8	76.1	97.9	99.1	98.8	102.6	106.4	109.3	112.0
Capital per hour of all persons	42.7	59.5	63.9	77.5	91.8	94.1	98.1	99.5	98.3	99.1	101.3
Private nonfarm business											
Productivity:											
Output per hour of all persons	54.3	72.2	80.3	85.5	95.7	96.2	96.9	100.1	100.5	100.7	102.6
Output per unit of capital services	127.4	124.3	128.2	111.3	104.5	102.5	98.8	100.8	102.1	101.4	101.1
Multifactor productivity	75.0	89.3	97.5	97.5	100.4	99.7	98.3	100.2	100.5	100.3	101.2
Output	33.7	51.8	61.8	73.1	98.1	98.8	97.0	103.0	107.1	109.9	113.7
Inputs:											
Labor input	56.5	66.7	71.2	79.4	99.6	100.3	98.9	103.1	107.3	110.0	112.3
Capital services	26.5	41.7	48.2	65.6	93.9	96.4	98.2	102.2	104.9	108.4	112.5
Combined units of labor and capital input	44.9	58.0	63.4	74.9	97.8	99.1	98.6	102.8	106.6	109.5	112.4
Capital per hour of all persons	42.6	58.1	62.6	76.8	91.6	93.9	98.0	99.3	98.4	99.3	101.5
Manufacturing											
Productivity:											
Output per hour of all persons	41.0	54.8	62.2	70.5	90.8	93.0	94.9	102.0	105.2	109.6	114.7
Output per unit of capital services	126.3	119.6	129.1	103.1	103.7	101.1	97.2	101.7	105.3	106.7	107.4
Multifactor productivity	71.7	83.2	90.8	86.9	99.6	99.2	98.3	101.3	104.3	108.3	111.1
Output	37.7	57.1	68.7	75.8	97.4	97.5	95.4	103.4	109.1	114.1	118.8
Inputs:											
Hours of all persons	92.0	104.2	110.5	107.6	107.2	104.8	100.6	101.4	103.7	104.1	103.6
Capital services	29.8	47.8	53.2	73.5	93.9	96.5	98.2	101.7	103.7	106.9	110.6

NOTE: Productivity and output in this table have not been revised for consistency with the December 1991 comprehensive revisions to the National Income and Product Accounts.

41. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1973	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997
Business													
Output per hour of all persons	51.4	70.6	78.4	84.2	94.7	95.5	96.1	96.7	100.1	100.7	101.0	103.7	105.4
Compensation per hour	13.7	23.6	29.0	54.5	83.6	85.9	90.8	95.1	102.5	104.4	106.8	110.7	114.9
Real compensation per hour	64.7	85.4	91.6	92.8	99.1	97.2	97.4	98.0	99.5	98.8	98.4	99.0	100.5
Unit labor costs	26.6	33.5	37.0	64.7	88.3	90.0	94.4	98.3	102.4	103.7	105.8	106.8	109.0
Unit nonlabor payments	24.6	30.6	36.6	59.6	84.1	91.3	93.5	96.6	102.7	106.8	108.8	111.8	112.9
Implicit price deflator	25.8	32.4	36.8	62.8	86.8	90.4	94.1	97.7	102.5	104.8	106.9	108.6	110.4
Nonfarm business													
Output per hour of all persons	54.8	72.7	80.7	86.0	95.3	95.8	96.3	97.0	100.1	100.6	101.2	103.7	105.1
Compensation per hour	14.3	23.8	29.2	54.8	83.7	86.0	90.7	95.1	102.2	104.2	106.7	110.4	114.5
Real compensation per hour	67.8	86.1	92.3	93.4	99.3	97.3	97.3	98.0	99.3	98.7	98.2	98.7	100.1
Unit labor costs	26.1	32.8	36.2	63.8	87.8	89.7	94.2	98.1	102.2	103.6	105.4	106.5	109.0
Unit nonlabor payments	24.0	30.3	34.3	58.6	83.8	90.7	93.1	96.8	103.1	107.4	109.9	112.1	113.6
Implicit price deflator	25.3	31.9	35.5	61.9	86.4	90.0	93.8	97.6	102.5	104.9	107.0	108.5	110.6
Nonfinancial corporations													
Output per hour of all employees	54.5	69.1	74.5	80.4	96.9	95.5	96.1	97.6	101.1	103.5	104.7	107.6	110.4
Compensation per hour	15.6	25.4	30.8	56.7	84.9	87.1	91.5	95.7	102.0	104.1	106.2	109.5	113.4
Real compensation per hour	73.9	91.7	97.2	96.5	100.7	98.5	98.2	98.5	99.1	98.5	97.8	97.9	99.1
Total unit costs	27.8	36.1	40.3	70.2	88.2	92.5	96.2	99.3	100.5	100.3	100.8	100.7	101.1
Unit labor costs	28.6	36.7	41.3	70.5	87.7	91.1	95.2	98.0	100.9	100.6	101.4	101.7	102.7
Unit nonlabor costs	25.3	34.3	37.5	69.2	89.7	96.3	99.1	103.0	99.4	99.7	99.0	97.9	96.6
Unit profits	47.7	42.0	52.8	64.4	103.8	96.0	94.6	93.9	113.3	134.5	143.6	154.6	157.8
Unit nonlabor payments	31.5	36.4	41.7	67.9	93.6	96.2	97.9	100.5	103.2	109.4	111.4	113.6	113.6
Implicit price deflator	29.6	36.6	41.5	69.7	89.6	92.8	96.1	98.8	101.7	103.4	104.7	105.6	106.3
Manufacturing													
Output per hour of all persons	40.9	54.7	62.2	70.5	90.9	90.9	93.0	95.0	102.0	105.2	109.6	114.6	120.1
Compensation per hour	14.9	23.8	28.7	55.8	84.2	86.9	91.0	95.8	102.9	105.8	108.3	110.7	115.1
Real compensation per hour	70.7	86.2	90.6	95.0	99.9	98.3	97.7	98.7	99.9	100.1	99.7	99.0	100.6
Unit labor costs	36.5	43.6	46.1	79.2	92.6	95.5	97.8	100.9	100.9	100.4	98.8	96.6	95.8
Unit nonlabor payments	26.4	30.0	36.8	79.2	90.8	95.5	99.2	98.6	100.8	102.9	106.7	109.2	–
Implicit price deflator	30.2	35.2	40.4	79.2	91.5	95.5	98.7	99.4	100.8	101.9	103.7	104.4	–

– Data not available.

42. Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996
Copper ores	102	109.2	106.6	102.7	100.5	115.2	118.1	126.0	117.2	115.8
Gold and silver ores	104	101.5	113.3	122.3	127.4	141.6	159.8	160.8	144.2	134.8
Bituminous coal and lignite mining	122	111.7	117.3	118.7	122.4	133.0	141.2	148.1	155.9	170.4
Crude petroleum and natural gas	131	101.0	98.0	97.0	97.9	102.1	105.9	112.4	119.4	126.5
Crushed and broken stone	142	101.3	98.7	102.2	99.8	105.0	103.6	108.7	105.3	107.8
Meat products	201	100.1	99.3	97.1	99.7	104.6	104.3	101.2	102.4	97.7
Dairy products	202	108.4	107.8	107.3	108.4	111.5	109.7	111.9	116.6	115.9
Preserved fruits and vegetables	203	97.0	97.8	95.6	99.2	100.6	106.8	107.6	109.1	109.4
Grain mill products	204	101.3	107.6	105.3	104.9	107.7	109.1	108.4	115.3	107.7
Bakery products	205	96.8	96.1	92.7	90.6	93.8	94.4	96.4	97.3	95.4
Sugar and confectionery products	206	99.4	101.5	102.8	101.3	99.1	103.9	105.4	107.5	112.7
Fats and oils	207	108.9	116.4	118.1	120.1	114.1	112.6	111.8	120.3	111.1
Beverages	208	106.0	112.7	117.7	120.5	127.6	127.0	130.9	134.3	135.7
Miscellaneous food and kindred products	209	107.0	99.3	99.3	101.6	101.6	105.3	101.0	103.1	107.6
Cigarettes	211	101.2	109.0	113.2	107.6	111.6	106.5	126.6	142.9	147.7
Broadwoven fabric mills, cotton	221	99.6	99.8	103.1	111.2	110.3	117.8	122.1	134.0	137.8
Broadwoven fabric mills, manmade	222	99.2	106.3	111.3	116.2	126.2	131.7	142.5	145.2	151.1
Narrow fabric mills	224	108.4	92.7	96.5	99.6	112.9	111.4	120.1	118.9	127.5
Knitting mills	225	96.3	108.0	107.5	114.1	119.5	128.1	134.3	138.6	150.8
Textile finishing, except wool	226	90.3	88.7	83.4	79.9	78.6	79.3	81.2	78.5	79.8
Carpets and rugs	227	98.6	97.8	93.2	89.2	96.1	97.1	93.3	95.8	101.2
Yarn and thread mills	228	102.1	104.2	110.2	111.4	119.6	126.6	130.7	137.4	146.6
Miscellaneous textile goods	229	101.6	109.1	109.2	104.6	106.5	110.4	118.5	123.7	125.4
Men's and boys' suits and coats	231	105.1	97.7	93.9	90.2	89.0	97.4	97.7	92.5	96.5
Men's and boys' furnishings	232	100.1	100.1	102.1	108.4	109.1	108.4	111.7	123.4	134.0
Women's and misses' outerwear	233	101.4	96.8	104.1	104.3	109.4	121.8	127.4	135.5	144.2
Women's and children's undergarments	234	105.4	94.6	102.1	113.6	117.4	124.5	138.0	161.3	171.6
Hats, caps, and millinery	235	99.0	96.4	89.2	91.1	93.6	87.2	77.7	84.3	80.9
Miscellaneous apparel and accessories	238	101.3	88.4	90.6	91.8	91.3	94.0	105.5	116.8	121.3
Miscellaneous fabricated textile products	239	96.6	95.7	99.9	100.7	107.5	108.5	107.8	109.2	106.3
Logging	241	93.7	89.4	86.3	86.0	96.2	88.6	87.8	86.0	86.0
Sawmills and planing mills	242	100.7	99.6	99.8	102.6	108.1	101.9	103.3	110.2	114.9
Millwork, plywood, and structural members	243	98.9	97.1	98.0	98.0	99.9	97.0	94.5	92.7	92.2
Wood containers	244	103.1	108.8	111.2	113.1	109.4	100.1	100.9	106.1	106.5
Wood buildings and mobile homes	245	97.8	98.8	103.1	103.0	103.1	103.8	98.3	97.0	97.0
Miscellaneous wood products	249	95.9	102.4	107.7	110.5	114.2	115.3	111.8	115.4	114.2
Household furniture	251	99.4	102.0	104.5	107.1	110.5	110.6	112.5	116.9	122.2
Office furniture	252	94.3	97.5	95.0	94.1	102.5	103.2	100.5	101.1	106.8
Public building and related furniture	253	109.6	113.7	119.8	120.2	140.6	161.0	157.4	173.3	179.9
Partitions and fixtures	254	95.7	92.4	95.6	93.0	102.7	107.4	98.9	101.2	97.3
Miscellaneous furniture and fixtures	259	103.6	101.9	103.5	102.1	99.5	103.6	104.7	110.0	113.6
Pulp mills	261	99.6	107.4	116.7	128.3	137.3	122.5	128.9	131.9	132.7
Paper mills	262	103.9	103.6	102.3	99.2	103.3	102.4	110.2	119.0	111.9
Paperboard mills	263	105.5	101.9	100.6	101.4	104.4	108.4	114.9	119.5	118.7
Paperboard containers and boxes	265	99.7	101.5	101.3	103.4	105.2	107.9	108.4	105.1	106.5
Miscellaneous converted paper products	267	101.1	101.6	101.4	105.4	105.5	108.0	110.8	113.4	114.6
Newspapers	271	96.9	95.2	90.6	85.8	81.5	79.4	79.9	79.0	77.1
Periodicals	272	97.9	98.3	93.9	89.5	92.9	89.6	82.4	88.5	90.9
Books	273	99.1	94.1	96.6	100.8	97.7	103.5	103.0	101.5	100.5
Miscellaneous publishing	274	96.7	89.0	92.2	95.9	105.8	104.5	97.5	94.8	93.4
Commercial printing	275	100.0	101.1	102.5	102.0	108.0	106.9	106.5	107.2	108.7
Manifold business forms	276	98.7	89.7	93.0	89.1	94.5	91.1	82.0	76.9	74.5
Greeting cards	277	100.1	109.1	100.6	92.7	96.7	91.4	89.0	92.5	91.8
Blankbooks and bookbinding	278	95.6	94.2	99.4	96.1	103.6	98.7	105.4	108.7	115.0
Printing trade services	279	99.9	94.3	99.3	100.6	112.0	115.3	111.0	116.7	126.7
Industrial inorganic chemicals	281	105.7	104.2	106.7	109.6	109.6	105.4	102.0	109.2	110.4
Plastics materials and synthetics	282	98.8	99.7	100.9	100.0	107.5	111.9	125.0	128.7	125.1
Drugs	283	101.1	102.9	103.9	104.7	99.6	100.0	105.5	108.9	112.9
Soaps, cleaners, and toilet goods	284	102.0	100.7	103.8	105.3	104.4	108.7	111.2	118.6	121.4
Paints and allied products	285	101.4	103.3	106.3	104.3	102.9	108.8	116.7	118.0	124.2
Industrial organic chemicals	286	109.8	110.3	101.4	95.8	94.5	92.2	100.0	98.8	98.4
Agricultural chemicals	287	103.8	104.5	105.0	99.9	99.9	104.3	105.7	109.0	111.4
Miscellaneous chemical products	289	95.4	95.2	97.3	96.1	101.8	107.1	105.7	107.8	110.2
Petroleum refining	291	105.3	109.6	109.2	106.6	111.3	120.1	123.8	132.3	142.0
Asphalt paving and roofing materials	295	98.3	95.3	98.0	94.1	100.4	108.0	104.9	111.2	114.4
Miscellaneous petroleum and coal products	299	98.4	101.9	94.8	90.6	101.5	104.2	96.3	87.4	86.4
Tires and inner tubes	301	102.9	103.8	103.0	102.4	107.8	116.5	124.1	131.1	138.8
Hose and belting and gaskets and packing	305	103.7	96.3	96.1	92.4	97.8	99.7	102.7	104.6	107.2
Fabricated rubber products, n.e.c.	306	104.3	105.5	109.2	110.1	115.3	123.2	119.2	121.6	120.3
Miscellaneous plastics products, n.e.c.	308	100.5	101.7	105.6	108.1	114.1	116.4	120.4	120.7	124.9

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996
Footwear, except rubber	314	101.3	101.1	101.1	94.4	104.2	105.2	113.0	117.1	125.8
Luggage	316	93.7	104.8	106.2	100.3	90.7	89.5	92.3	90.5	108.5
Handbags and personal leather goods	317	98.5	93.1	96.5	98.7	111.2	97.8	86.8	81.8	83.9
Flat glass	321	91.9	90.7	84.5	83.6	92.7	97.7	97.6	99.6	104.2
Glass and glassware, pressed or blown	322	100.6	100.2	104.8	102.3	108.9	108.7	112.9	115.7	121.9
Products of purchased glass	323	95.9	90.1	92.6	97.7	101.5	106.2	105.9	106.1	124.5
Cement, hydraulic	324	103.2	110.2	112.4	108.3	115.1	119.9	125.6	124.3	127.9
Structural clay products	325	98.8	103.1	109.6	109.8	111.5	105.8	113.0	111.6	119.5
Pottery and related products	326	99.6	97.1	98.6	95.8	99.5	100.3	108.4	109.3	119.4
Concrete, gypsum, and plaster products	327	100.8	102.4	102.3	101.2	102.5	104.6	101.5	104.5	107.5
Miscellaneous nonmetallic mineral products	329	103.0	95.5	95.4	94.0	104.3	104.5	106.3	107.8	111.3
Blast furnace and basic steel products	331	112.6	108.0	109.6	107.8	117.1	133.5	142.4	142.7	153.6
Iron and steel foundries	332	104.0	105.4	106.1	104.5	107.2	112.1	113.0	112.7	115.7
Primary nonferrous metals	333	107.8	106.1	102.3	110.9	102.0	108.0	105.4	111.1	111.0
Nonferrous rolling and drawing	335	95.5	93.6	92.7	90.9	95.8	98.2	101.1	99.1	103.9
Nonferrous foundries (castings)	336	102.6	105.1	104.0	103.6	103.6	108.5	112.1	117.8	122.6
Miscellaneous primary metal products	339	106.6	105.0	113.7	109.1	114.5	111.3	134.5	152.2	149.6
Metal cans and shipping containers	341	106.5	108.5	117.6	122.9	127.8	132.3	140.9	144.2	155.2
Cutlery, handtools, and hardware	342	97.8	101.7	97.3	96.8	100.1	104.0	109.2	111.3	117.9
Plumbing and heating, except electric	343	103.7	101.5	102.6	102.0	98.4	102.0	109.1	109.2	118.6
Fabricated structural metal products	344	100.4	96.9	98.8	100.0	103.9	104.8	107.7	105.8	106.7
Screw machine products, bolts, etc	345	98.5	96.1	96.1	97.9	102.3	104.4	107.2	109.7	110.4
Metal forgings and stampings	346	101.5	99.8	95.6	92.9	103.7	108.7	108.5	109.3	113.7
Metal services, n.e.c	347	108.3	102.4	104.7	99.4	111.6	120.6	123.0	127.7	127.5
Ordnance and accessories, n.e.c	348	97.7	89.8	82.1	81.5	88.6	84.6	83.6	87.6	87.4
Miscellaneous fabricated metal products	349	101.4	95.9	97.5	97.3	100.9	101.8	103.0	106.4	108.6
Engines and turbines	351	106.8	110.7	106.5	105.8	103.3	109.2	122.3	122.7	136.9
Farm and garden machinery	352	106.3	110.7	116.5	112.9	113.9	118.6	125.0	134.7	136.6
Construction and related machinery	353	106.5	108.3	107.0	99.1	102.0	108.2	117.7	122.1	123.8
Metalworking machinery	354	101.0	103.5	101.1	96.4	104.3	107.4	109.9	114.8	114.7
Special industry machinery	355	104.6	108.3	107.5	108.3	106.0	113.6	121.2	132.3	134.7
General industrial machinery	356	106.0	101.6	101.5	101.6	101.6	104.8	106.7	109.0	110.0
Refrigeration and service machinery	358	102.1	106.0	103.6	100.7	104.9	108.6	110.7	112.7	114.4
Industrial machinery, n.e.c	359	106.5	107.1	107.3	109.0	116.9	118.4	127.3	138.8	142.1
Electric distribution equipment	361	105.4	105.0	106.3	106.5	119.6	122.2	131.8	143.0	145.1
Electrical industrial apparatus	362	104.5	107.3	107.5	106.8	116.8	132.5	134.5	150.4	154.1
Household appliances	363	103.0	104.7	105.8	106.5	115.0	123.4	131.4	127.3	126.7
Electric lighting and wiring equipment	364	101.9	100.2	99.9	97.5	105.7	107.8	113.4	113.7	117.4
Communications equipment	366	110.4	107.0	120.9	123.8	145.4	149.0	164.8	169.6	189.6
Miscellaneous electrical equipment & supplies	369	102.8	99.6	90.6	98.6	101.3	108.2	110.5	114.1	123.0
Motor vehicles and equipment	371	103.2	103.3	102.4	96.6	104.2	105.3	107.1	104.1	104.1
Aircraft and parts	372	100.5	98.2	98.8	108.1	112.2	115.1	109.5	107.8	112.6
Ship and boat building and repairing	373	99.4	97.6	103.7	96.3	102.7	106.2	103.8	97.9	100.5
Railroad equipment	374	113.5	135.3	141.1	146.9	147.9	151.0	152.5	150.0	146.3
Motorcycles, bicycles, and parts	375	92.6	94.6	93.8	99.8	108.4	130.9	125.1	120.3	123.3
Guided missiles, space vehicles, parts	376	104.8	110.5	115.7	109.8	109.3	120.9	117.5	118.7	127.3
Search and navigation equipment	381	104.8	105.8	112.7	118.9	122.1	129.1	132.1	149.5	141.8
Measuring and controlling devices	382	103.1	101.3	106.1	112.9	119.9	124.0	133.8	146.4	150.4
Medical instruments and supplies	384	104.4	107.2	116.3	118.4	123.3	126.9	126.1	130.9	140.4
Ophthalmic goods	385	112.6	123.3	121.2	125.1	144.5	157.8	160.6	167.2	188.9
Photographic equipment & supplies	386	105.6	113.0	107.8	110.2	116.4	126.9	132.7	129.5	129.0
Jewelry, silverware, and plated ware	391	100.1	102.9	99.3	95.8	96.7	96.7	99.5	100.2	103.2
Musical instruments	393	101.8	96.1	97.1	96.9	96.0	95.6	88.7	86.9	78.9
Toys and sporting goods	394	104.8	106.0	108.1	109.7	104.9	114.2	109.7	113.6	120.0
Pens, pencils, office, and art supplies	395	108.6	113.3	118.7	117.3	111.7	112.0	130.2	135.4	144.4
Costume jewelry and notions	396	102.0	93.8	105.3	106.7	110.8	115.8	129.0	143.7	142.3
Miscellaneous manufactures	399	104.5	102.8	107.9	109.9	109.6	107.8	106.2	108.2	113.5
U.S. postal service	431	99.9	99.7	104.0	103.7	104.5	107.1	106.6	106.5	104.7
Air transportation	4512,13,22 (pts.)	99.5	95.8	92.9	92.5	96.9	100.2	105.7	108.6	111.0
Telephone communications	481	106.2	111.6	113.3	119.8	127.7	135.5	142.2	148.1	162.2
Radio and television broadcasting	483	103.1	106.2	104.9	106.1	108.3	106.7	110.1	109.6	105.0
Cable and other pay TV services	484	102.0	99.7	92.5	87.5	88.3	85.1	83.3	84.3	81.1
Electric utilities	491,3 (pt.)	104.9	107.7	110.1	113.4	115.2	120.6	126.8	135.0	146.2
Gas utilities	492,3 (pt.)	105.5	103.5	94.8	94.0	95.3	107.0	102.2	107.5	114.6
Lumber and other building materials dealers	521	101.0	99.1	103.6	101.3	105.4	109.1	115.4	113.4	115.7
Paint, glass, and wallpaper stores	523	102.8	101.7	106.0	99.4	106.5	108.4	116.7	115.0	120.1
Hardware stores	525	108.6	115.2	110.5	102.5	107.2	106.6	114.3	111.0	119.2
Retail nurseries, lawn and garden supply stores	526	106.7	103.4	83.9	88.5	100.4	102.4	108.1	104.9	118.5
Department stores	531	99.2	97.0	94.2	98.2	100.9	105.0	107.1	108.5	112.7
Variety stores	533	101.9	124.4	151.2	154.2	167.7	169.9	159.7	157.3	175.0

See footnotes at end of table.

42. Continued—Annual indexes of output per hour for selected 3-digit SIC industries

[1987 = 100]

Industry	SIC	1988	1989	1990	1991	1992	1993	1994	1995	1996
Miscellaneous general merchandise stores	539	100.8	109.8	116.4	121.8	136.1	160.0	161.7	165.3	163.2
Grocery stores	541	98.9	95.4	94.6	93.7	93.3	92.6	92.2	90.9	89.1
Meat and fish (seafood) markets	542	99.0	97.6	96.8	88.4	95.8	95.9	95.4	95.8	86.5
Retail bakeries	546	89.8	83.3	89.7	94.7	94.0	85.6	85.6	84.5	77.4
New and used car dealers	551	103.4	102.5	106.1	104.1	106.5	107.4	108.3	106.5	107.3
Auto and home supply stores	553	103.2	101.6	102.7	99.0	100.0	98.9	102.8	106.0	105.6
Gasoline service stations	554	103.0	105.2	102.6	104.3	109.7	112.3	114.4	117.1	114.5
Men's and boys' wear stores	561	106.0	109.6	113.7	119.2	118.2	117.7	122.6	125.1	129.0
Women's clothing stores	562	97.8	99.5	101.5	103.0	112.2	117.7	119.3	128.6	130.6
Family clothing stores	565	102.0	104.9	104.5	106.4	111.7	111.1	114.0	123.1	130.9
Shoe stores	566	102.7	107.2	106.1	105.1	111.5	110.8	120.4	124.9	131.5
Miscellaneous apparel and accessory stores	569	96.3	95.2	88.6	78.8	89.1	89.0	92.4	107.9	115.8
Furniture and homefurnishings stores	571	98.6	100.9	101.8	101.5	108.4	108.7	110.6	114.8	118.2
Household appliance stores	572	98.5	103.5	102.8	105.2	113.9	114.4	115.4	129.2	128.1
Radio, television, computer, and music stores	573	118.6	114.6	119.6	128.3	137.8	148.7	167.6	180.0	185.0
Eating and drinking places	581	102.8	102.2	104.0	103.1	102.5	103.0	101.5	101.5	98.3
Drug and proprietary stores	591	101.9	102.5	103.6	104.7	103.6	104.6	104.2	104.4	105.6
Liquor stores	592	98.2	101.1	105.2	105.9	108.4	100.3	98.4	102.6	110.1
Used merchandise stores	593	105.3	104.9	100.3	98.6	110.4	109.3	109.8	109.0	96.8
Miscellaneous shopping goods stores	594	100.7	104.2	104.2	105.0	102.7	104.8	108.7	112.7	117.0
Nonstore retailers	596	105.6	110.8	108.8	109.3	122.1	122.0	131.9	128.7	129.0
Fuel dealers	598	95.6	92.0	84.4	85.3	84.4	85.4	85.5	89.0	90.7
Retail stores, n.e.c.	599	105.9	103.1	113.7	103.2	111.6	113.1	116.3	112.6	126.6
Commercial banks	602	102.8	104.8	107.7	110.1	111.0	120.2	122.3	127.6	131.5
Hotels and motels	701	97.6	95.0	96.1	99.1	107.8	106.2	109.6	110.1	109.5
Laundry, cleaning, and garment services	721	97.2	99.7	101.8	99.2	98.3	98.6	103.6	105.2	108.2
Photographic studios, portrait	722	100.1	94.9	96.6	92.8	97.7	105.5	116.7	128.1	122.2
Beauty shops	723	95.1	99.6	96.8	94.8	99.6	95.6	99.3	102.7	104.6
Barber shops	724	108.8	111.6	100.2	94.1	112.1	120.7	117.7	114.4	123.0
Funeral services and crematories	726	102.5	97.9	90.9	89.5	103.2	98.5	104.0	99.7	97.0
Automotive repair shops	753	105.7	108.1	106.9	98.7	103.3	103.5	111.7	118.5	112.9
Motion picture theaters	783	107.1	114.3	115.8	116.0	110.8	109.3	104.8	99.3	100.5

n.e.c. = not elsewhere classified.

NOTE: Output per employee is used for SIC 4512, 13, 22.

43. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1996	1997				1998		
	1996	1997	IV	I	II	III	IV	I	II	III
United States	5.4	4.9	5.3	5.3	4.9	4.9	4.7	4.7	4.4	4.6
Canada	9.7	9.2	9.9	9.6	9.4	9.0	8.9	8.6	8.4	8.3
Australia	8.6	8.6	8.6	8.7	8.7	8.6	8.3	8.1	8.1	8.2
Japan	3.4	3.4	3.3	3.3	3.4	3.4	3.5	3.7	4.2	4.3
France	12.5	12.4	12.6	12.4	12.5	12.5	12.3	12.0	11.8	11.7
Germany	7.2	–	7.5	7.7	7.7	7.8	7.8	7.7	7.5	7.4
Italy[1]	12.1	12.3	12.0	12.3	12.3	12.2	12.3	12.1	12.4	12.4
Sweden	9.9	–	10.4	10.6	10.4	9.5	8.8	8.4	8.2	8.2
United Kingdom	8.2	–	7.9	7.4	7.2	6.9	6.6	6.4	–	–

[1] Quarterly rates are for the first month of the quarter.

– Data not available.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures. See "Notes on the data" for information on breaks in series. For further qualifications and historical data, see *Comparative Labor Force Statistics, 10 Countries* (Bureau of Labor Statistics, August 1996).

44. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Civilian labor force										
United States[1]	121,669	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297
Canada	13,900	14,151	14,329	14,408	14,482	14,663	14,832	14,928	15,145	15,354
Australia	7,974	8,228	8,444	8,490	8,562	8,619	8,776	9,001	9,127	9,220
Japan	60,860	61,920	63,050	64,280	65,040	65,470	65,780	65,990	66,450	67,200
France	23,980	24,170	24,300	24,490	24,570	24,660	24,760	24,810	25,080	25,170
Germany	28,610	28,840	29,410	29,760	30,030	29,950	29,860	29,710	29,590	–
Italy	22,660	22,530	22,670	22,940	22,910	22,760	22,640	22,700	22,820	22,860
Netherlands	6,310	6,430	6,640	6,750	6,950	7,090	7,190	7,270	7,320	–
Sweden	4,494	4,552	4,597	4,591	4,520	4,443	4,418	4,460	4,459	–
United Kingdom	28,270	28,580	28,730	28,610	28,410	28,310	28,280	28,480	28,620	–
Participation rate[2]										
United States[1]	65.9	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1
Canada	67.2	67.5	67.3	66.7	65.9	65.5	65.3	64.8	64.9	64.8
Australia	63.3	64.0	64.6	64.1	63.9	63.6	63.9	64.6	64.6	64.3
Japan	61.9	62.2	62.6	63.2	63.4	63.3	63.1	62.9	63.0	63.2
France	56.2	56.1	56.0	56.0	55.8	55.6	55.5	55.2	55.4	55.2
Germany	55.1	55.2	55.3	55.4	55.1	54.2	53.7	53.2	52.8	–
Italy	47.4	47.3	47.2	47.7	47.5	48.1	47.5	47.6	47.7	47.7
Netherlands	54.2	54.7	56.1	56.5	57.8	58.5	59.0	59.3	59.4	–
Sweden	66.9	67.3	67.4	67.0	65.7	64.5	63.9	64.3	64.3	–
United Kingdom	63.5	64.0	64.1	63.7	63.1	62.8	62.5	62.7	62.7	–
Employed										
United States[1]	114,968	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558
Canada	12,819	13,086	13,165	12,916	12,842	13,015	13,292	13,506	13,676	13,941
Australia	7,398	7,720	7,859	7,676	7,637	7,680	7,921	8,235	8,344	8,429
Japan	59,310	60,500	61,710	62,920	63,620	63,810	63,860	63,890	64,200	64,900
France	21,520	21,850	22,100	22,140	22,010	21,750	21,710	21,890	21,950	22,040
Germany	26,800	27,200	27,950	28,480	28,660	28,230	27,920	27,770	27,470	–
Italy	20,870	20,770	21,080	21,360	21,230	20,430	20,080	19,970	20,050	20,050
Netherlands	5,830	5,980	6,230	6,350	6,560	6,620	6,670	6,760	6,850	–
Sweden	4,410	4,480	4,513	4,447	4,265	4,028	3,992	4,056	4,019	–
United Kingdom	25,850	26,510	26,740	26,090	25,530	25,340	25,550	26,000	26,280	–
Employment-population ratio[3]										
United States[1]	62.3	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8
Canada	62.0	62.4	61.9	59.8	58.4	58.2	58.5	58.6	58.6	58.9
Australia	58.7	60.1	60.1	57.9	57.0	56.6	57.7	59.1	59.1	58.8
Japan	60.4	60.8	61.3	61.8	62.0	61.7	61.3	60.9	60.9	61.0
France	50.4	50.7	50.9	50.6	50.0	49.1	48.7	48.7	48.5	48.4
Germany	51.6	52.0	52.6	53.0	52.6	51.1	50.2	49.7	49.0	–
Italy	43.7	43.6	43.9	44.5	44.0	43.1	42.1	41.8	41.9	41.9
Netherlands	50.0	50.9	52.6	53.2	54.5	54.7	54.7	55.2	55.6	–
Sweden	65.7	66.2	66.1	64.9	62.0	58.5	57.6	58.4	57.9	–
United Kingdom	58.1	59.3	59.6	58.0	56.7	56.2	56.5	57.2	57.6	–
Unemployed										
United States[1]	6,701	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739
Canada	1,082	1,065	1,164	1,492	1,640	1,649	1,541	1,422	1,469	1,414
Australia	576	508	585	814	925	939	856	766	783	791
Japan	1,550	1,420	1,340	1,360	1,420	1,660	1,920	2,100	2,250	2,300
France	2,460	2,320	2,200	2,350	2,560	2,910	3,050	2,920	3,130	3,130
Germany	1,810	1,640	1,460	1,280	1,370	1,720	1,940	1,940	2,120	–
Italy	1,790	1,760	1,590	1,580	1,680	2,330	2,560	2,720	2,760	2,810
Netherlands	480	450	410	400	390	470	520	510	470	–
Sweden	84	72	84	144	255	415	426	404	440	–
United Kingdom	2,420	2,070	1,990	2,520	2,880	2,970	2,730	2,480	2,340	–
Unemployment rate										
United States[1]	5.5	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9
Canada	7.8	7.5	8.1	10.4	11.3	11.2	10.4	9.5	9.7	9.2
Australia	7.2	6.2	6.9	9.6	10.8	10.9	9.7	8.5	8.6	8.6
Japan	2.5	2.3	2.1	2.1	2.2	2.5	2.9	3.2	3.4	3.4
France	10.3	9.6	9.1	9.6	10.4	11.8	12.3	11.8	12.5	12.4
Germany	6.3	5.7	5.0	4.3	4.6	5.7	6.5	6.5	7.2	–
Italy	7.9	7.8	7.0	6.9	7.3	10.2	11.3	12.0	12.1	12.3
Netherlands	7.6	7.0	6.2	5.9	5.6	6.6	7.2	7.0	6.4	–
Sweden	1.9	1.6	1.8	3.1	5.6	9.3	9.6	9.1	9.9	–
United Kingdom	8.6	7.2	6.9	8.8	10.1	10.5	9.7	8.7	8.2	–

[1] Data for 1994 are not directly comparable with data for 1993 and earlier years. For additional information, see the box note under "Employment and Unemployment Data" in the notes to this section.

[2] Labor force as a percent of the working-age population.

[3] Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for the United States, France, Italy, the Netherlands, and Sweden. Dash indicates data not available.

45. Annual indexes of manufacturing productivity and related measures, 12 countries

[1992 = 100]

Item and country	1960	1970	1973	1980	1987	1988	1989	1990	1991	1993	1994	1995	1996	1997
Output per hour														
United States	–	–	–	71.9	94.3	97.8	97.0	97.7	98.2	102.1	108.1	115.1	120.2	125.6
Canada	40.7	59.2	69.6	75.2	91.1	91.0	92.4	95.2	95.0	103.3	105.7	108.4	106.6	109.6
Japan	14.0	38.0	48.1	63.9	81.2	84.8	89.5	95.4	99.4	100.5	101.8	109.3	111.9	118.8
Belgium	17.8	32.7	42.6	64.5	88.7	91.8	96.7	96.9	99.1	104.1	110.0	109.4	110.6	116.8
Denmark	29.9	52.7	66.9	90.3	90.6	94.1	99.6	99.1	99.6	105.5	–	–	–	–
France	23.0	45.5	53.9	70.5	86.7	92.7	97.4	99.1	98.7	101.8	110.4	114.3	117.9	125.9
Germany	29.1	52.0	61.0	77.2	88.3	91.5	94.3	98.9	101.8	100.7	108.0	112.0	116.7	123.6
Italy	19.6	36.8	43.9	64.0	85.0	86.6	89.4	92.8	95.3	104.5	107.4	113.9	114.4	117.4
Netherlands	19.5	38.6	48.8	69.8	91.7	93.8	97.1	98.5	99.6	101.9	114.2	119.6	122.6	–
Norway	36.7	57.8	67.6	76.7	93.3	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.6	103.2
Sweden	27.6	52.8	62.1	74.0	90.1	90.8	93.8	95.0	95.0	106.7	116.1	122.4	125.4	133.6
United Kingdom	30.2	43.3	51.4	54.4	78.1	82.6	86.2	89.2	93.9	105.6	109.2	107.6	106.2	107.2
Output														
United States	–	–	–	77.3	97.9	104.5	104.0	102.5	98.7	103.5	112.2	119.8	124.5	124.5
Canada	34.2	60.5	76.8	85.4	103.2	109.3	110.8	106.6	98.8	105.9	112.7	118.3	119.5	126.8
Japan	10.7	38.8	50.0	59.9	78.4	84.6	90.2	96.3	101.4	96.0	95.4	100.6	103.2	108.6
Belgium	30.7	57.6	70.6	78.2	88.7	93.1	98.9	101.0	100.7	96.9	101.4	104.5	104.7	109.4
Denmark	40.8	68.0	79.5	91.3	99.3	100.8	104.3	102.7	101.7	100.0	101.2	106.2	109.3	114.0
France	32.4	66.9	80.1	92.7	91.1	96.3	101.6	103.5	101.7	96.2	101.3	105.3	107.5	112.8
Germany	41.5	70.9	78.5	85.3	88.0	90.9	94.0	99.1	102.8	91.8	93.5	94.3	93.8	97.0
Italy	21.5	44.8	54.1	78.7	88.5	94.8	98.6	100.4	99.7	96.6	101.9	107.5	106.1	108.6
Netherlands	31.9	59.8	68.0	77.8	89.5	92.8	96.9	100.1	100.6	98.2	104.2	107.5	109.1	–
Norway	56.5	89.1	102.2	103.6	110.7	105.3	101.3	100.2	98.3	102.7	106.7	109.0	111.4	114.8
Sweden	46.5	81.7	88.5	91.8	107.7	110.2	111.6	110.6	103.6	101.3	115.7	130.1	132.9	140.3
United Kingdom	67.8	90.4	99.7	87.2	94.5	101.5	105.5	105.4	100.1	101.5	106.2	108.0	108.3	109.9
Total hours														
United States	92.2	104.5	110.5	107.6	103.9	106.8	107.2	104.9	100.6	101.4	103.8	104.1	103.6	104.7
Canada	84.2	102.2	110.4	113.6	113.2	120.2	120.0	112.0	103.9	102.5	106.6	109.1	112.1	115.8
Japan	76.3	102.3	104.0	93.8	96.6	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.4
Belgium	172.1	176.3	165.6	121.4	100.0	101.5	102.3	104.3	101.6	93.2	92.2	95.6	94.6	93.7
Denmark	136.5	129.0	118.8	101.1	109.6	107.2	104.7	103.7	102.1	94.8	–	–	–	–
France	140.6	147.0	148.7	131.5	105.1	104.0	104.4	104.5	103.0	94.5	91.8	92.0	91.2	89.7
Germany	142.6	136.3	128.6	110.5	99.7	99.3	99.6	100.2	101.0	91.2	86.6	84.2	80.4	78.5
Italy	109.6	121.8	123.4	123.0	104.1	109.5	110.2	108.2	104.6	92.4	94.8	94.4	92.8	92.5
Netherlands	163.3	155.1	139.3	111.4	97.6	98.9	99.7	101.6	101.0	96.4	91.3	89.8	89.0	–
Norway	154.0	154.3	151.2	135.0	118.6	114.3	107.1	103.7	100.8	102.1	105.2	106.9	108.6	111.3
Sweden	168.3	154.7	142.5	124.0	119.5	121.4	119.0	116.4	109.0	94.9	99.6	106.3	106.0	105.0
United Kingdom	224.6	208.8	194.1	160.5	121.0	122.8	122.4	118.1	106.6	96.1	97.3	100.4	102.0	102.5
Compensation per hour														
United States	14.9	23.8	28.6	55.8	80.8	84.0	86.8	91.0	95.7	102.9	105.6	108.7	112.1	116.1
Canada	10.6	18.1	22.3	48.3	75.9	78.5	83.2	89.5	94.7	99.8	100.4	103.7	106.0	108.8
Japan	4.3	16.5	26.8	58.6	77.9	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.5	114.0
Belgium	5.6	14.1	21.7	52.7	79.3	81.0	85.2	89.9	95.4	105.0	108.4	111.6	114.1	116.5
Denmark	4.6	13.3	20.5	49.6	80.1	82.9	87.7	92.7	95.9	102.4	–	–	–	–
France	4.3	10.5	14.9	41.3	79.7	82.7	87.2	91.8	96.3	103.6	106.2	107.7	109.4	112.6
Germany	8.1	20.8	29.1	53.8	76.5	79.5	83.3	89.4	95.0	106.0	111.8	117.8	123.7	126.5
Italy	1.6	4.6	7.0	27.9	66.1	68.7	75.5	84.0	93.1	107.1	106.6	112.3	119.4	125.2
Netherlands	6.4	20.3	31.8	64.7	87.8	87.7	88.5	90.8	95.2	103.7	108.2	111.1	114.5	–
Norway	4.7	11.8	17.0	39.0	78.5	83.3	87.2	92.3	97.5	101.5	104.4	109.2	114.4	119.6
Sweden	4.1	10.8	15.2	37.4	67.3	71.7	79.4	87.6	95.4	98.0	101.1	106.2	113.4	118.3
United Kingdom	3.1	6.4	9.6	33.7	65.9	70.3	75.1	83.4	92.9	106.2	108.2	108.6	110.9	115.2
Unit labor costs: National currency basis														
United States	–	–	–	77.6	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.5	93.3	92.4
Canada	26.0	30.5	32.0	64.2	83.3	86.3	90.0	94.0	99.6	96.6	95.0	95.6	99.4	99.3
Japan	30.9	43.3	55.7	91.7	96.0	93.4	94.0	95.0	96.5	104.1	104.9	100.1	98.8	96.0
Belgium	31.2	43.3	50.8	81.8	89.5	88.3	88.1	92.7	96.3	100.9	98.6	102.0	103.1	99.7
Denmark	15.4	25.2	30.6	55.0	88.4	88.2	88.1	93.6	96.3	97.0	99.7	101.9	101.2	102.2
France	18.7	23.0	27.6	58.6	92.0	89.3	89.5	92.6	97.6	101.8	96.2	94.2	92.8	89.4
Germany	28.0	40.0	47.7	69.7	86.7	86.9	88.3	90.4	93.3	105.3	103.6	105.2	106.0	102.4
Italy	8.0	12.6	16.0	43.7	77.8	79.4	84.4	90.5	97.7	102.5	99.2	98.6	104.4	106.6
Netherlands	33.0	52.7	65.1	92.7	95.8	93.5	91.1	92.1	95.6	101.8	94.8	92.9	93.4	–
Norway	12.9	20.4	25.1	50.8	84.1	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.5	115.9
Sweden	14.9	20.5	24.4	50.6	74.7	79.0	84.7	92.3	100.4	91.8	87.0	86.8	90.4	88.5
United Kingdom	10.3	14.8	18.8	62.1	84.5	85.0	87.2	93.5	99.0	100.5	99.1	101.0	104.4	107.5
Unit labor costs: U.S. dollar basis														
United States	–	–	–	77.6	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.5	93.3	92.4
Canada	32.4	35.3	38.7	66.4	75.9	84.8	91.9	97.3	105.0	90.5	84.0	84.2	88.1	86.6
Japan	10.9	15.3	26.1	51.5	84.2	92.4	86.3	83.1	90.9	118.8	130.1	135.1	115.1	100.5
Belgium	20.1	28.0	42.1	90.0	77.0	77.1	71.9	89.2	90.6	93.8	94.8	111.3	107.0	89.5
Denmark	13.5	20.3	30.7	58.9	77.9	79.0	72.6	91.3	90.8	90.3	94.7	109.8	105.3	93.4
France	20.2	22.0	32.9	73.5	81.0	79.3	74.3	90.0	91.5	95.1	91.8	100.0	96.1	81.1
Germany	10.5	17.1	28.1	59.9	75.3	77.3	73.4	87.3	87.7	99.4	99.8	114.7	110.0	92.2
Italy	15.9	24.7	34.0	62.9	73.9	75.1	75.8	93.0	97.0	80.3	75.8	74.6	83.4	77.1
Netherlands	15.4	25.6	41.2	82.1	83.1	83.1	75.5	88.9	89.8	96.3	91.6	101.8	97.4	–
Norway	11.3	17.8	27.2	63.9	77.5	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.3	101.6
Sweden	16.8	23.0	32.7	69.6	68.5	75.0	76.4	90.8	96.6	68.6	65.7	70.8	78.5	67.5
United Kingdom	16.4	20.1	26.0	81.7	78.4	85.8	80.8	94.5	99.1	85.5	86.0	90.2	92.3	99.6

– Data not available.

46. Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1985	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]
PRIVATE SECTOR[5]												
Total cases	7.9	7.9	8.3	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4
Lost workday cases	3.6	3.6	3.8	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4
Lost workdays	64.9	65.8	69.9	76.1	78.7	84.0	86.5	93.8	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	11.4	11.2	11.2	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7
Lost workday cases	5.7	5.6	5.7	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9
Lost workdays	91.3	93.6	94.1	101.8	100.9	112.2	108.3	126.9	–	–	–	–
Mining												
Total cases	8.4	7.4	8.5	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4
Lost workday cases	4.8	4.1	4.9	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2
Lost workdays	145.3	125.9	144.0	152.1	137.2	119.5	129.6	204.7	–	–	–	–
Construction												
Total cases	15.2	15.2	14.7	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9
Lost workday cases	6.8	6.9	6.8	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5
Lost workdays	128.9	134.5	135.8	142.2	143.3	147.9	148.1	161.9	–	–	–	–
General building contractors:												
Total cases	15.2	14.9	14.2	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0
Lost workday cases	6.8	6.6	6.5	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0
Lost workdays	120.4	122.7	134.0	132.2	137.3	137.6	132.0	142.7	–	–	–	–
Heavy construction, except building:												
Total cases	14.5	14.7	14.5	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0
Lost workday cases	6.3	6.3	6.4	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3
Lost workdays	127.3	132.9	139.1	162.3	147.1	144.6	160.1	165.8	–	–	–	–
Special trades contractors:												
Total cases	15.4	15.6	15.0	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4
Lost workday cases	7.0	7.2	7.1	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8
Lost workdays	133.3	140.4	135.7	141.1	144.9	153.1	151.3	168.3	–	–	–	–
Manufacturing												
Total cases	10.4	10.6	11.9	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6
Lost workday cases	4.6	4.7	5.3	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9
Lost workdays	80.2	85.2	95.5	107.4	113.0	120.7	121.5	124.6	–	–	–	–
Durable goods:												
Total cases	10.9	11.0	12.5	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6
Lost workday cases	4.7	4.8	5.4	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1
Lost workdays	82.0	87.1	96.8	111.1	116.5	123.3	122.9	126.7	–	–	–	–
Lumber and wood products:												
Total cases	18.5	18.9	18.9	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2
Lost workday cases	9.3	9.7	9.6	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8
Lost workdays	171.4	177.2	176.5	189.1	177.5	172.5	172.0	165.8	–	–	–	–
Furniture and fixtures:												
Total cases	15.0	15.2	15.4	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2
Lost workday cases	6.3	6.3	6.7	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4
Lost workdays	100.4	103.0	103.6	115.7	–	–	–	128.4	–	–	–	–
Stone, clay, and glass products:												
Total cases	13.9	13.6	14.9	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4
Lost workday cases	6.7	6.5	7.1	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0
Lost workdays	127.8	126.0	135.8	141.0	149.8	160.5	156.0	152.2	–	–	–	–
Primary metal industries:												
Total cases	12.6	13.6	17.0	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0
Lost workday cases	5.7	6.1	7.4	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8
Lost workdays	113.8	125.5	145.8	161.3	168.3	180.2	169.1	175.5	–	–	–	–
Fabricated metal products:												
Total cases	16.3	16.0	17.0	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4
Lost workday cases	6.9	6.8	7.2	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2
Lost workdays	110.1	115.5	121.9	138.8	147.6	155.7	146.6	144.0	–	–	–	–
Industrial machinery and equipment:												
Total cases	10.8	10.7	11.3	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9
Lost workday cases	4.2	4.2	4.4	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0
Lost workdays	69.3	72.0	72.7	82.8	86.8	88.9	86.6	87.7	–	–	–	–
Electronic and other electrical equipment:												
Total cases	6.4	6.4	7.2	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8
Lost workday cases	2.7	2.7	3.1	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1
Lost workdays	45.7	49.8	55.9	64.6	77.5	79.4	83.0	81.2	–	–	–	–
Transportation equipment:												
Total cases	9.0	9.6	13.5	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3
Lost workday cases	3.9	4.1	5.7	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0
Lost workdays	71.6	79.1	105.7	134.2	138.6	153.7	166.1	186.6	–	–	–	–
Instruments and related products:												
Total cases	5.2	5.3	5.8	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1
Lost workday cases	2.2	2.3	2.4	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3
Lost workdays	37.9	42.2	43.9	51.5	55.4	57.8	64.4	65.3	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	9.7	10.2	10.7	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5
Lost workday cases	4.2	4.3	4.6	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4
Lost workdays	73.2	70.9	81.5	91.0	97.6	113.1	104.0	108.2	–	–	–	–

See footnotes at end of table.

46. Continued—Occupational injury and illness rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]											
	1985	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]
Nondurable goods:												
Total cases	9.6	10.0	11.1	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2
Lost workday cases	4.4	4.6	5.1	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6
Lost workdays	77.6	82.3	93.5	101.7	107.8	116.9	119.7	121.8	–	–	–	–
Food and kindred products:												
Total cases	16.7	16.5	17.7	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0
Lost workday cases	8.1	8.0	8.6	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0
Lost workdays	138.0	137.8	153.7	169.7	174.7	202.6	207.2	211.9	–	–	–	–
Tobacco products:												
Total cases	7.3	6.7	8.6	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7
Lost workday cases	3.0	2.5	2.5	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8
Lost workdays	51.7	45.6	46.4	53.0	64.2	62.3	52.0	42.9	–	–	–	–
Textile mill products:												
Total cases	7.5	7.8	9.0	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8
Lost workday cases	3.0	3.1	3.6	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6
Lost workdays	57.4	59.3	65.9	78.8	81.4	85.1	88.3	87.1	–	–	–	–
Apparel and other textile products:												
Total cases	6.7	6.7	7.4	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4
Lost workday cases	2.6	2.7	3.1	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3
Lost workdays	44.1	49.4	59.5	68.2	80.5	92.1	99.9	104.6	–	–	–	–
Paper and allied products:												
Total cases	10.2	10.5	12.8	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9
Lost workday cases	4.7	4.7	5.8	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8
Lost workdays	94.6	99.5	122.3	124.3	132.9	124.8	122.7	125.9	–	–	–	–
Printing and publishing:												
Total cases	6.3	6.5	6.7	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0
Lost workday cases	2.9	2.9	3.1	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8
Lost workdays	49.2	50.8	55.1	59.8	63.8	69.8	74.5	74.8	–	–	–	–
Chemicals and allied products:												
Total cases	5.1	6.3	7.0	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8
Lost workday cases	2.3	2.7	3.1	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4
Lost workdays	38.8	49.4	58.8	59.0	63.4	61.6	62.4	64.2	–	–	–	–
Petroleum and coal products:												
Total cases	5.1	7.1	7.3	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6
Lost workday cases	2.4	3.2	3.1	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5
Lost workdays	49.9	67.5	65.9	68.4	68.1	77.3	68.2	71.2	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	13.4	14.0	15.9	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3
Lost workday cases	6.3	6.6	7.6	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3
Lost workdays	107.4	118.2	130.8	142.9	147.2	151.3	150.9	153.3	–	–	–	–
Leather and leather products:												
Total cases	10.3	10.5	12.4	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7
Lost workday cases	4.6	4.8	5.8	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5
Lost workdays	88.3	83.4	114.5	128.2	130.4	152.3	140.8	128.5	–	–	–	–
Transportation and public utilities												
Total cases	8.6	8.2	8.4	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7
Lost workday cases	5.0	4.8	4.9	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1
Lost workdays	107.1	102.1	108.1	118.6	121.5	134.1	140.0	144.0	–	–	–	–
Wholesale and retail trade												
Total cases	7.4	7.7	7.7	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8
Lost workday cases	3.2	3.3	3.4	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9
Lost workdays	50.7	54.0	56.1	60.9	63.5	65.6	72.0	80.1	–	–	–	–
Wholesale trade:												
Total cases	7.2	7.2	7.4	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6
Lost workday cases	3.5	3.6	3.7	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4
Lost workdays	59.8	62.5	64.0	69.2	71.9	71.5	79.2	82.4	–	–	–	–
Retail trade:												
Total cases	7.5	7.8	7.8	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9
Lost workday cases	3.1	3.2	3.3	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8
Lost workdays	47.0	50.5	52.9	57.6	60.0	63.2	69.1	79.2	–	–	–	–
Finance, insurance, and real estate												
Total cases	2.0	2.0	2.0	2.0	2.0	2.4	2.4	2.9	2.9	2.7	2.6	2.4
Lost workday cases	.9	.9	.9	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9
Lost workdays	15.4	17.1	14.3	17.2	17.6	27.3	24.1	32.9	–	–	–	–
Services												
Total cases	5.4	5.3	5.5	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0
Lost workday cases	2.6	2.5	2.7	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6
Lost workdays	45.4	43.0	45.8	47.7	51.2	56.4	60.0	68.6	–	–	–	–

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual*, 1987 Edition. For this reason, they are not strictly comparable with data for the years 1985–88, which were based on the *Standard Industrial Classification Manual*, 1972 Edition, 1977 Supplement.

[2] Beginning with the 1992 survey, the annual survey measures only nonfatal injuries and illnesses, while past surveys covered both fatal and nonfatal incidents. To better address fatalities, a basic element of workplace safety, BLS implemented the Census of Fatal Occupational Injuries.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays;

EH = total hours worked by all employees during the calendar year; and

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

[4] Beginning with the 1993 survey, lost workday estimates will not be generated. As of 1992, BLS began generating percent distributions and the median number of days away from work by industry and for groups of workers sustaining similar work disabilities.

[5] Excludes farms with fewer than 11 employees since 1976.

– Data not available.

47. Fatal occupational injuries by event or exposure, 1992–96

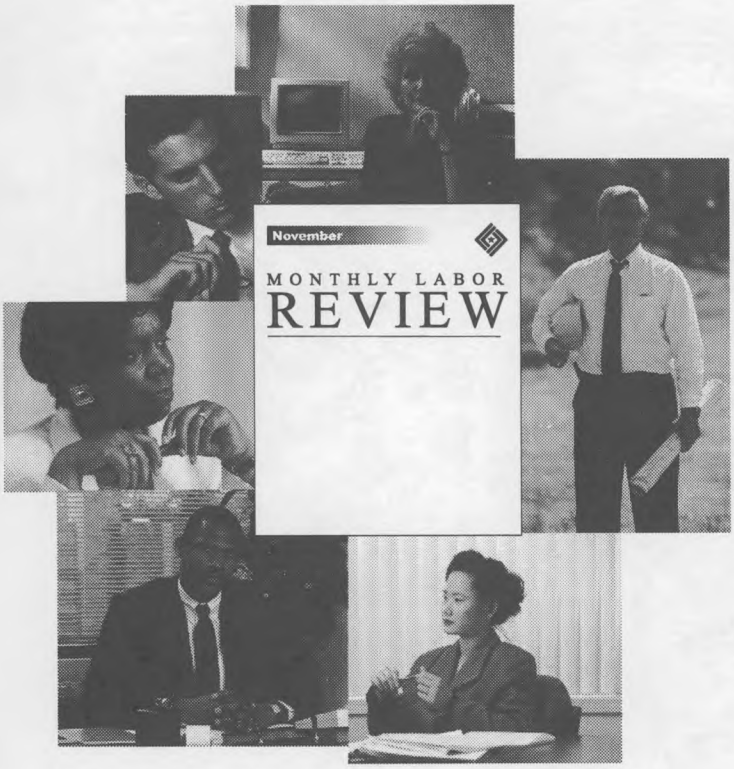
Event or exposure[1]	Fatalities					
	1992	1993	1994	1995	1996	
	Number	Number	Number	Number	Number	Percent
Total	6,217	6,331	6,632	6,275	6,112	100
Transportation incidents	2,484	2,499	2,762	2,588	2,556	42
Highway incident	1,158	1,242	1,343	1,345	1,324	22
Collision between vehicles, mobile equipment	578	659	654	642	656	11
Moving in same direction	78	100	120	127	95	2
Moving in opposite directions, oncoming	201	245	230	246	214	4
Moving in intersection	107	123	144	99	153	3
Vehicle struck stationary object or equipment	192	189	255	275	240	4
Noncollision incident	301	336	373	351	348	6
Jackknifed or overturned—no collision	213	236	274	261	264	4
Nonhighway (farm, industrial premises) incident	436	392	409	389	369	6
Overturned	208	214	226	210	204	3
Worker struck by vehicle	346	365	391	388	349	6
Railway incident	66	86	81	82	75	1
Water vehicle incident	109	119	94	87	107	2
Aircraft incident	353	282	426	283	320	5
Assaults and violent acts	1,281	1,329	1,321	1,280	1,144	19
Homicides	1,044	1,074	1,080	1,036	912	15
Hitting, kicking, beating	52	35	47	46	47	1
Shooting	852	884	934	762	751	12
Stabbing	90	95	60	67	79	1
Self-inflicted injuries	205	222	214	221	199	3
Contact with objects and equipment	1,004	1,045	1,017	916	1,005	16
Struck by object	557	565	590	547	579	9
Struck by falling object	361	346	372	341	402	7
Struck by flying object	77	81	68	63	58	1
Caught in or compressed by equipment or objects	316	311	280	255	283	5
Caught in running equipment or machinery	159	151	147	131	146	2
Caught in or crushed in collapsing materials	110	138	132	99	130	2
Falls	600	618	665	650	684	11
Fall to lower level	507	534	580	577	607	10
Fall from ladder	78	76	86	97	95	2
Fall from roof	108	120	129	143	148	2
Fall from scaffold, staging	66	71	89	82	88	1
Fall on same level	62	49	63	53	49	1
Exposure to harmful substances or environments	605	592	641	609	523	9
Contact with electric current	334	325	348	348	279	5
Contact with overhead power lines	140	115	132	139	116	2
Contact with temperature extremes	33	38	50	56	32	1
Exposure to caustic, noxious, or allergenic substances	127	116	133	107	119	2
Inhalation of substances	83	68	84	62	75	1
Oxygen deficiency	111	112	109	97	92	2
Drowning, submersion	78	90	89	77	67	1
Fires and explosions	167	204	202	207	184	3
Other events or exposures[2]	76	44	24	25	16	–

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] Includes the category "Bodily reaction and exertion."

NOTE: Totals for major categories may include subcategories not shown separately. Percentages may not add to totals because of rounding. Dashes indicate less that 0.5 percent or data that are not available or that do not meet publication criteria.

Are you prepared for the labor market of the 21st century?



Before you answer,
get the facts.

Before you decide,
check the research.

Before you act,
subscribe to

Monthly Labor Review

Stay tuned-in year-round to our analyses on the labor force, consumer and producer prices, labor productivity and technology, and many other topics.

Order today!

United States Government
INFORMATION

Order Processing Code:

*5338

Credit card orders are welcome!
Fax your orders (202) 512-2250
Phone your orders (202) 512-1800

☐ YES, please send _____subscriptions to:

Monthly Labor Review (MLR) at $27 each ($33.75 foreign) per year.

The total cost of my order is $ _____.

Price includes regular shipping & handling and is subject to change.

Name or title (Please type or print)

Company name Room, floor, suite

Street address

City State Zip code+4

Daytime phone including area code

Purchase order number (optional)

Mail to: Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250–7954

Important: Please include this completed order form with your remittance.

For privacy protection, check the box below:

☐ Do not make my name available to other mailers

Check method of payment:

☐ Check payable to: Superintendent of Documents

☐ GPO Deposit Account ☐☐☐☐☐☐☐–☐

☐ VISA ☐ MasterCard ☐ Discover

☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐

(expiration date)

☐☐☐☐

Thank you for your order!

Authorizing signature 7/98

Issues

in Labor Statistics

U.S. Department of Labor
Bureau of Labor Statistics

Freebies From BLS To Keep You Informed

The Bureau's series of issue papers provides you with succinct, up-to-the-minute background data in a readily digested form. They're convenient, current, easy to read, and available free from BLS. To be added to the ***Issues in Labor Statistics*** mailing list (No. 336), write to: *Bureau of Labor Statistics, Office of Publications and Special Studies, Room 2850, 2 Massachusetts Ave., NE., Washington, DC 20212-0001*, or FAX the coupon below to (202) 606-7891.

Here are some recent *Issues.*

- Health Insurance Premiums Dominate Health care Budget of Consumers
- Violence in the Workplace Comes Under Close Scrutiny
- The Demographics of Family Spending
- What's Behind U.S. Competitiveness?
- Women's Labor Force Growth Appears Stalled
- Unpaid Family Leave
- Outdoor Occupations Exhibit High Rates of Fatal Injury
- Displacement Spreads to Higher Paid Managers and Professionals
- Health and Social Services Provide Rich Soil for New Occupations
- Hispanic Spending Patterns Compared with Others'
- Injuries to Caregivers in Patients' Homes
- Workers Are On the Job More Hours Over the Course of the Year
- Warm Areas Continue Hottest Job Growth
- Health Expenditures and the Aging Population
- Looking for a Job While Employed
- Serious Injuries Befall Workers Struck by Objects

Yes, please add my name to mailing list J336, ***Issues In Labor Statistics***.

Name_____

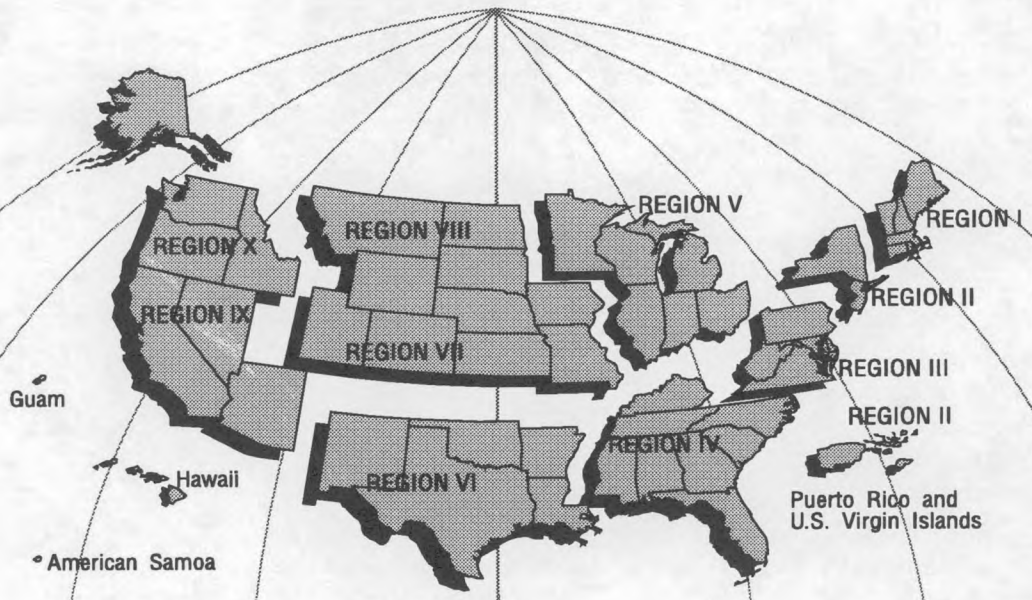
Organization _____

Street_____

City_____State_____Zip_____

BUREAU OF LABOR STATISTICS

REGIONAL OFFICES



Your Bureau of Labor Statistics Regional Office is prepared to...

- **Help you find the information you need about prices, the labor force, wages, employee benefits, safety and health, productivity, and other current statistical series.**
- **Explain what the data mean to your region, your industry, your labor market.**
- **Help you use the data correctly.**
- **Deliver the information promptly.**

For the address of your nearest Bureau of Labor Statistics Regional Office, see the inside front cover of this issue of the ***Monthly Labor Review.***

Need information from the Bureau of Labor Statistics?
You can get it now on the WEB.
Here are the Bureau's addresses.

Bureau of Labor Statistics	http://stats.bls.gov
Division of Information Services	http://stats.bls.gov/opbinfo.htm
BLS Regional Offices	http://stats.bls.gov/regnhome.htm

Employment and Unemployment:

National establishment data	http://stats.bls.gov/ceshome.htm
State and area establsihment data	http://stats.bls.gov/790home.htm
National labor force data	http://stats.bls.gov/cpshome.htm
Region, State, and metropolitan area labor force data	http://stats.bls.gov/lauhome.htm
Longitudinal research	http://stats.bls.gov/nlshome.htm
Covered employment and wages	http://stats.bls.gov/cewhome.htm
Occupational employment statistics	http://stats.bls.gov/oeshome.htm
Mass layoff statistics	http://stats.bls.gov/lauhome.htm

Prices and Living Conditions:

Consumer price indexes	http://stats.bls.gov/cpihome.htm
Producer price indexes	http://stats.bls.gov/ppihome.htm
Consumer Expenditure Survey	http://stats.bls.gov/csxhome.htm

Compensation and Working Conditions:

National Compensation Survey	http://stats.bls.gov/comhome.htm
Collective bargaining	http://stats.bls.gov/lmrhome.htm
Employment cost trends	http://stats.bls.gov/ecthome.htm
Employee Benefits Survey	http://stats.bls.gov/ebshome.htm
Occupational Compensation Survey	http://stats.bls.gov/ocshome.htm
Occupational injuries and illnesses	http://stats.bls.gov/oshhome.htm

Productivity:

Quarterly labor productivity	http://stats.bls.gov/lprhome.htm
Industry productivity	http://stats.bls.gov/iprhome.htm
Federal Government productivity	http://stats.bls.gov/gprhome.htm
Multifactor productivity	http://stats.bls.gov/mprhome.htm

Employment Projections ..... http://stats.bls.gov/emphome.htm

International data:

Foreign labor statistics	http://stats.bls.gov/flshome.htm
U.S. import and export price indexes	http://stats.bls.gov/ipphome.htm
Foreign direct investment	http://stats.bls.gov/fdihome.htm

U.S. DEPARTMENT OF LABOR
Bureau of Labor Statistics
Postal Square Building, Rm. 2850
2 Massachusetts Ave., NE
Washington, DC 20212-0001

Official Business
Penalty for Private Use, $300
Address Service Requested

Periodicals
Postage and Fees Paid
U.S. Department of Labor
USPS 987-800

Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	November 6	October	December 5	November	January 9	December	1; 4–20
Productivity and costs	November 10	3rd quarter	December 4	3rd quarter			2; 39–42
U.S. Import and Export Price Indexes	November 18	October	December 11	November	January 14	December	34–38
Producer Price Indexes	November 13	October	December 12	November	January 8	December	2; 31–33
Consumer Price indexes	November 17	October	December 16	November	January 13	December	2; 28–30
Real earnings	November 17	October	December 16	November	January 13	December	14, 16
Employment Cost Indexes					January 27	4th quarter	1–3; 21–24