February 2000

MONTHLY LABOR REVIEW

U.S. Department of Labor

Bureau of Labor Statistics

The job market in 1999

Counting the counters
Working overtime
Wage differentials

U.S. Department of Labor
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Bureau of Labor Statistics
Katharine G. Abraham, Commissioner

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Departments

The February *Review*

As the American economy entered 1999, it was approaching its ninth year of expansion following the recession of 1990–91. As the year ended, unemployment was at its lowest rate in 30 years and nonfarm employment had increased by 2.7 million. Jennifer L. Martel and Laura A. Kelter examine last year's strong job market in some detail. In one section, they analyze the impact the changing demographic composition of the labor force may have had: "If the age composition of the labor force in 1999 had been the same as in 1969, but each component age group retained its 1999 rate of unemployment, the overall unemployment rate in 1999 would have been about 0.4 percentage point higher."

Preparations for this year's census account for part of last year's growth in employment, according to the report by Laura A. Kelter. In fact, Census 2000 hiring became noticeable as early as August 1998, when the number of census workers rose by 12,000 over the month. At that early stage, the Census Bureau is compiling its address list. Particularly in rural areas with noncity-style addresses, this may involve door-to-door canvassing of substantial area. At its peak, Census employed nearly 40,000 workers during the Address Listing phase. *(Editors' note: We are sure it is unnecessary to admonish the Review's readers to participate in Census 2000.)*

Ron L. Hetrick summarizes the propensity of manufacturers to increase overtime hours rather than hire new employees during the 1990s. Although overtime hours were at relatively high levels at the beginning of the current expansion, they were increased by nearly half—roughly as much as they had been in earlier recoveries. Conversely, manufacturing employment grew by only 4 percent following its low point in 1993, in contrast to an increase of 15 percent in the long expansion of the 1960s.

Jane Osburn uses some relatively new capabilities in the Occupational Employment Statistics program to carry out a study of interindustry wage differentials. She finds that differentials are often associated with the primary mission of firms in an industry. For example, "Within the services sector, most of the occupations having the lowest correlation with the all-occupation wage differential are related to physical production activities, while those having the highest correlation are occupations having coordination functions...."

Shiskin Award nominations

Nominations are invited for the 2000 Julius Shiskin Award for Economic Statistics, a prize established in 1979 to recognize contributions to the development of economic stratistics or their use in interpreting the economy. A nomination form may be obtained by writing the Julius Shiskin Award Committee, American Statistical Association, 1429 Duke Street, Alexandria, Virginia, 22314–3415, or via e-mail to: NancyH@amstat.org. Completed forms must be received by April 1, 2000.

2000–01 *Occupational Outlook Handbook* released

The *Occupational Outlook Handbook* provides detailed discussions of the nature of work and the typical working conditions in more than 250 occupations. In addition, it gives details on the requirements for entering an occupation and the opportunities for advancement once in it. Each occupational statement discusses projected job growth relative to the entire economy over the next decade and, in some cases, the ease or difficulty of finding a job. Users also will find facts on current earnings, related occupations, and sources of additional information.

The 2000–01 edition of the *Handbook* will help guide workers into the new century, presenting essential information about prospective changes in the workplace and the qualifications that will be needed by tomorrow's work force. Copies of the *Occupational Outlook Handbook, 2000–01 Edition* (Bulletin 2520) can be purchased from the BLS Publications Sales Center, P.O. Box 2145,Chicago, IL 60690–2145, phone (312) 353–1880. The cost is $49 for soft cover; $51 for hard cover.

Factory worker compensation compared

For all foreign economies studied by the Bureau of Labor Statistics, average hourly compensation costs were $14.69 in 1998. This was 79 percent of the U.S. level, down from 95 percent in 1995. The widening gap reflected the continued appreciation of the U.S. dollar against most foreign currencies, particularly the Asian currencies. In the Asian newly industrializing economies (NIEs), hourly compensation costs in manufacturing were $5.72 in 1998. Hourly costs in the Asian NIEs are now less than one-third the U.S. level.

In Europe, hourly compensation costs in U.S. dollars for production workers in manufacturing were 11 percent higher than in the United States in 1998. Hourly compensation costs in U.S. dollars were $20.67 in Europe in 1998, compared with $18.56 in the United States. This gap of 11 percent is much smaller than it was 3 years earlier—in 1995, compensation costs in Europe exceeded those in the United States by 28 percent.

Learn more in "International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1998," news release USDL 00–07.

The job market remains strong in 1999

The unemployment rate hit a 30-year low; services led job growth, and the recent downward trend in manufacturing employment abated in the second half of the year

Jennifer L. Martel
and
Laura A. Kelter

The U.S. economy entered its 9th year of expansion in 1999. By the end of the year, 106 months of uninterrupted recovery from the 1990–91 recession had passed, equaling the lengthy expansion of the 1960s—the longest on record. Gross domestic product increased 4.3 percent in 1999, with the strength due, in large part, to exceptionally robust consumer spending. (See table 1.) Most indicators of labor market performance evidenced continued strength in 1999. Over the year, total nonfarm payroll employment increased by 2.7 million, to 129.6 million in the fourth quarter, and the unemployment rate declined to 4.1 percent by year's end, a 30-year low.

With employment continuing to grow and unemployment continuing to inch down, concerns about the economy overheating and resultant inflationary pressures prompted the Federal Reserve to raise interest rates several times in the second half of the year. As the year progressed, wage growth remained tepid, and by the end of the year, consumer prices were up by only 2.6 percent from a year earlier.

The service-producing industries provided the overwhelming majority of employment growth in 1999. Job growth in construction also was healthy, buoyed by low interest rates and strong consumer confidence, although the rise in mortgage interest rates in the second half of the year dampened employment in homebuilding a bit. Manufacturing continued to lose jobs in 1999, as export growth remained sluggish in the wake of recent economic turmoil in several Asian economies. However, the rate of job loss in manufacturing was slower than in the previous year.

Workers in most major demographic groups benefited from the healthy labor market in 1999, as unemployment rates fell to their lowest levels in decades. Almost half of the employment growth over the year occurred in the higher paying managerial and professional specialty occupations. Men, women, whites, blacks, and Hispanics all reported increases in real earnings.

This article provides snapshots of several important developments or issues related to the U.S. economy and labor market in 1999. The primary sources of data are the Current Employment Statistics (CES) survey of establishments and the Current Population Survey (CPS) of households.[1] Both of these surveys are conducted monthly; however, quarterly averages are used in the analysis that follows, unless otherwise noted, and over-the-year changes are based on comparisons of fourth-quarter 1998 and 1999 data, unless otherwise noted.

More than half of all job growth in 1999 was in services, and companies that provide services to businesses led the way. *Contracting for services and workers has grown at a rapid pace throughout the current expansion. Two factors*

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Table 1. Over-the-year percent change in selected broad economic indicators, 1993–99

Indicator	1997–98	1993–98 average	1998–99
Real gross domestic product[1]	4.6	3.9	4.3
Real exports[1]	1.9	8.3	6.2
Home mortgage interest rate	–11.4	.0	13.1
New home sales[1]	15.4	4.5	4.5
Sales of existing homes[1]	11.8	3.7	10.0
Consumer confidence[2]	–3.9	11.9	9.8
Consumer Price Index (CPI-U)	1.5	2.4	2.6

[1] Percent changes for 1998–99 are based on third-quarter comparisons.
[2] Not seasonally adjusted.
NOTE: Seasonally adjusted fourth-quarter data, unless otherwise noted.

provided further impetus for businesses to contract for services in 1999: tight labor markets and the need to rewrite computer programs so that they would work in the new century.

Nonfarm payroll employment grew by 2.7 million in 1999, somewhat less than the 2.9 million in 1998 (see table 2), but in line with the average for the current expansion. As in the past, the services industry led employment growth, adding almost 1.5 million employees during 1999. (See chart 1.) An industry ranking of jobs added within services reveals that the strongest performers were those industries that provided services to other businesses (business services and engineering and management services) instead of those driven by individual consumers or demographic trends (social services and health services). (See chart 2.)

Businesses purchase services for many reasons. Some companies maximize their flexibility to respond to changing demand for their products and services by contracting for those services instead of directly hiring permanent employees for peak periods. Others contract out for services for which they lack expertise, such as installing new computer programs or implementing new accounting systems. In some companies, the growth of output increases the demand for routine services such as payroll or facilities management. Many companies meet peak workloads by contracting for workers through a temporary help agency. Among the services that businesses purchased, management and public relations, computer and data processing services, and personnel supply services each experienced employment growth greater than 7 percent in 1999, compared with 2.1 percent for all industries.

The number of jobs in *management and public relations services* grew by 11.2 percent in 1999, almost equaling 1998's strong

Conceptual differences between employment estimates from the Current Population Survey (household survey) and the Current Employment Statistics survey (establishment survey)

The Bureau of Labor Statistics maintains two independent monthly data series on employment: the estimate of total nonfarm jobs, derived from the Current Employment Statistics (CES) survey, and the estimate of total employment, derived from the Current Population Survey (CPS).

The CES survey is an employer-based survey that provides data on the number of jobs within industries. The CPS is a survey of households that provides data on the labor force status (employed, unemployed, and not in the labor force) of individuals and includes information on their demographic as well as socioeconomic characteristics. The surveys are largely complementary.

Employment estimates from the CPS are for persons in any type of work arrangement: wage and salary workers, self-employed persons, and unpaid workers in family businesses. To be considered employed, an *unpaid family worker* must have worked 15 or more hours in an enterprise operated by a member of the family. Estimates from the CES survey refer only to persons on nonfarm payrolls. As a result, the count of employment from the CPS is larger than that from the CES survey.

Partially offsetting the higher estimates from the CPS is the fact that it is a count of persons, and individuals are counted only once, regardless of the number of jobs they hold. In contrast, the establishment survey is a count of jobs and includes each job for persons who work in more than one establishment.

There are other differences in the surveys' methodology and coverage. For example, the reference period for the CPS is the *week* that includes the 12th day of the month, while, for the CES survey, it is the *pay period* that includes the 12th of the month. Pay periods vary in length and can be longer than 1 week. It is therefore possible for the CES survey estimate of employment to reflect a longer reference period than that used for the CPS.

The universe for the CPS is the civilian noninstitutional population, which comprises persons 16 years of age and older residing in the United States who are not residents of institutions (for example, penal and mental facilities and homes for the aged) and who are not on active duty in the Armed Forces. In this regard, the coverage of the CES survey is broader: there is no age restriction, uniformed military personnel who hold civilian jobs are covered because of their civilian employment, and persons who commute into the United States from Mexico or Canada to work are counted as employed.

Table 2. Employees on nonfarm payrolls, by industry, seasonally adjusted quarterly averages, 1993–99

[Numbers in thousands]

Industry	Fourth quarter, 1993	Fourth quarter, 1998	Fourth quarter, 1999	Change, fourth quarter to fourth quarter					
				1997–98		Average, 1994–98		1998–99	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Total nonfarm	111,780	126,865	129,585	2,919	2.4	3,017	2.6	2,720	2.1
Total private	92,857	106,920	109,313	2,609	2.5	2,813	2.9	2,393	2.2
Goods-producing	23,486	25,319	25,245	138	.5	367	1.5	–74	–.3
Mining	607	574	528	–27	–4.5	–7	–1.1	–46	–8.0
Metal mining	49	50	48	–3	–5.7	0	.4	–2	–4.0
Oil and gas extraction	353	325	289	–21	–6.1	–6	–1.6	–36	–11.1
Nonmetallic minerals, except fuels	103	109	108	1	.9	1	1.1	–1	–.9
Construction	4,782	6,100	6,356	325	5.6	264	5.0	256	4.2
General building contractors	1,151	1,396	1,449	71	5.4	49	3.9	53	3.8
Heavy construction, except building	723	856	870	52	6.5	27	3.4	14	1.6
Special trade contractors	2,908	3,848	4,036	202	5.5	188	5.8	188	4.9
Manufacturing	18,097	18,645	18,361	–160	–.9	110	.6	–284	–1.5
Durable goods	10,247	11,098	10,956	–48	–.4	170	1.6	–142	–1.3
Lumber and wood products	725	820	830	17	2.1	19	2.5	10	1.2
Furniture and fixtures	492	533	544	15	2.9	8	1.6	11	2.1
Stone, clay, and glass products	521	568	570	13	2.3	9	1.7	2	.4
Primary metal industries	684	701	686	–15	–2.1	3	.5	–15	–2.1
Fabricated metal products	1,348	1,495	1,488	–2	–.1	29	2.1	–7	–.5
Industrial machinery and equipment	1,942	2,177	2,117	–23	–1.0	47	2.3	–60	–2.8
Computer and office equipment	356	372	358	–10	–2.6	3	.9	–14	–3.8
Electronic and other electrical equipment	1,532	1,675	1,665	–38	–2.2	29	1.8	–10	–.6
Electronic components and accessories	529	643	644	–26	–3.9	23	4.0	1	.2
Transportation equipment	1,738	1,887	1,835	8	.4	30	1.7	–52	–2.8
Motor vehicles and equipment	853	996	1,002	–3	–.3	29	3.1	6	.6
Aircraft and parts	515	520	467	3	.6	1	.2	–53	–10.2
Instruments and related products	882	855	832	–19	–2.2	–5	–.6	–23	–2.7
Miscellaneous manufacturing industries	382	387	389	–6	–1.5	1	.3	2	.5
Nondurable goods	7,850	7,547	7,405	–111	–1.4	–61	–.8	–142	–1.9
Food and kindred products	1,686	1,689	1,686	4	.2	1	.0	–3	–.2
Tobacco products	43	40	38	–1	–2.4	–1	–1.4	–2	–5.0
Textile mill products	672	586	551	–26	–4.2	–17	–2.7	–35	–6.0
Apparel and other textile products	976	730	662	–77	–9.5	–49	–5.6	–68	–9.3
Paper and allied products	690	667	655	–15	–2.2	–5	–.7	–12	–1.8
Printing and publishing	1,522	1,563	1,550	4	.3	8	.5	–13	–.8
Chemicals and allied products	1,076	1,042	1,033	2	.2	–7	–.6	–9	–.9
Petroleum and coal products	150	140	136	–1	–.7	–2	–1.4	–4	–2.9
Rubber and miscellaneous plastics products	919	1,010	1,023	8	.8	18	1.9	13	1.3
Leather and leather products	116	79	71	–9	–10.2	–7	–7.4	–8	–10.1
Service-producing	88,294	101,545	104,340	2,780	2.8	2,650	2.8	2,795	2.8
Transportation and public utilities	5,853	6,671	6,864	192	3.0	164	2.7	193	2.9
Transportation	3,638	4,334	4,476	158	3.8	139	3.6	142	3.3
Railroad transportation	244	231	227	4	1.8	–3	–1.1	–4	–1.7
Local and interurban passenger transit	387	474	487	18	3.9	17	4.1	13	2.7
Trucking and warehousing	1,471	1,768	1,834	71	4.2	59	3.7	66	3.7
Water transportation	170	183	181	7	4.0	3	1.5	–2	–1.1
Transportation by air	989	1,202	1,261	43	3.7	43	4.0	59	4.9
Pipelines, except natural gas	18	14	13	0	.0	–1	–4.9	–1	–7.1
Transportation services	360	462	473	16	3.6	20	5.1	11	2.4
				0					
Communications and public utilities	2,215	2,337	2,388	34	1.5	24	1.1	51	2.2
Communications	1,275	1,485	1,546	42	2.9	42	3.1	61	4.1
Electric, gas, and sanitary services	940	851	843	-9	–1.0	–18	–2.0	–8	–.9
Wholesale trade	6,023	6,889	7,071	175	2.6	173	2.7	182	2.6
Durable goods	3,466	4,073	4,195	100	2.5	121	3.3	122	3.0
Nondurable goods	2,557	2,816	2,876	75	2.7	52	1.9	60	2.1

See footnote at end of tables.

Table 2. Continued—Employees on nonfarm payrolls, by industry, seasonally adjusted quarterly averages, 1993–99

[Numbers in thousands]

Industry	Fourth quarter, 1993	Fourth quarter, 1998	Fourth quarter, 1999	Change, fourth quarter to fourth quarter					
				1997–98		Average, 1994–98		1998–99	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Retail trade	20,004	22,453	22,910	355	1.6	490	2.3	457	2.0
Building materials and garden supplies	795	962	1,004	33	3.6	33	3.9	42	4.4
General merchandise stores	2,498	2,751	2,763	34	1.3	51	1.9	12	.4
Department stores	2,158	2,448	2,457	46	1.9	58	2.6	9	.4
Food stores	3,247	3,487	3,481	8	.2	48	1.4	–6	–.2
Automotive dealers and service stations	2,047	2,362	2,426	42	1.8	63	2.9	64	2.7
New and used car dealers	927	1,055	1,096	10	1.0	26	2.6	41	3.9
Apparel and accessory stores	1,141	1,146	1,197	18	1.6	1	.1	51	4.5
Furniture and home furnishings stores	846	1,043	1,098	35	3.5	39	4.3	55	5.3
Eating and drinking places	6,933	7,817	7,946	135	1.8	177	2.4	129	1.7
Miscellaneous retail establishments	2,495	2,886	2,995	52	1.8	78	3.0	109	3.8
Finance, insurance, and real estate	6,856	7,519	7,679	312	4.3	133	1.9	160	2.1
Finance	3,290	3,652	3,726	167	4.8	72	2.1	74	2.0
Depository institutions	2,089	2,045	2,048	9	.4	–9	–.4	3	.1
Commercial banks	1,498	1,466	1,466	–4	–.3	–6	–.4	0	.0
Savings institutions	320	258	253	0	.0	–12	–4.2	–5	–1.9
Nondepository institutions	484	692	712	89	14.8	42	7.4	20	2.9
Security and commodity brokers	491	660	697	47	7.7	34	6.1	37	5.6
Holding and other investment offices	226	256	270	23	9.9	6	2.5	14	5.5
Insurance	2,224	2,374	2,412	85	3.7	30	1.3	38	1.6
Insurance carriers	1,549	1,619	1,638	62	4.0	14	.9	19	1.2
Insurance agents, brokers, and services	675	755	774	23	3.1	16	2.3	19	2.5
Real estate	1,342	1,493	1,540	60	4.2	30	2.2	47	3.1
Services[1]	30,637	38,069	39,544	1,438	3.9	1,486	4.4	1,475	3.9
Agricultural services	537	727	766	36	5.2	38	6.2	39	5.4
Hotels and other lodging places	1,615	1,783	1,807	25	1.4	34	2.0	24	1.3
Personal services	1,143	1,198	1,216	8	.7	11	.9	18	1.5
Business services[1]	5,895	8,779	9,347	549	6.7	577	8.3	568	6.5
Services to buildings	832	962	1,001	28	3.0	26	2.9	39	4.1
Personnel supply services	2,029	3,271	3,508	162	5.2	248	10.0	237	7.2
Help supply services	1,786	2,905	3,109	139	5.0	224	10.2	204	7.0
Computer and data processing services	909	1,675	1,831	201	13.6	153	13.0	156	9.3
Auto repair, services, and parking	934	1,159	1,197	30	2.7	45	4.4	38	3.3
Miscellaneous repair services	340	388	402	13	3.5	10	2.7	14	3.6
Motion pictures	421	576	611	11	1.9	31	6.5	35	6.1
Amusement and recreation services	1,285	1,638	1,723	77	4.9	71	5.0	85	5.2
Health services[1]	8,850	9,891	10,025	119	1.2	208	2.2	134	1.4
Offices and clinics of medical doctors	1,517	1,830	1,886	67	3.8	63	3.8	56	3.1
Nursing and personal care facilities	1,616	1,757	1,757	–7	–.4	28	1.7	0	.0
Hospitals	3,772	3,950	3,981	68	1.8	36	.9	31	.8
Home health care services	504	652	657	–58	–8.2	30	5.3	5	.8
Legal services	926	986	1,012	34	3.6	12	1.3	26	2.6
Private schools and other educational services	1,756	2,214	2,297	83	3.9	92	4.7	83	3.7
Social services[1]	2,106	2,695	2,836	134	5.2	118	5.1	141	5.2
Child day care services	482	615	642	29	4.9	27	5.0	27	4.4
Residential care	580	760	797	32	4.4	36	5.6	37	4.9
Museums and botanical and zoological gardens	77	94	95	3	3.3	3	4.1	1	1.1
Membership organizations	2,045	2,376	2,413	63	2.7	66	3.0	37	1.6
Engineering and management services[1]	2,535	3,271	3,502	216	7.1	147	5.2	231	7.1
Engineering and architectural services	761	919	960	40	4.6	32	3.8	41	4.5
Management and public relations	696	1,080	1,201	113	11.7	77	9.2	121	11.2
Government	18,922	19,945	20,272	310	1.6	205	1.1	327	1.6
Federal	2,898	2,712	2,647	27	1.0	–37	–1.3	–65	–2.4

See footnotes at end of tables.

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				1997–98		Average, 1994–98		1998–99	
				Thousands	Percent	Thousands	Percent	Thousands	Percent
Federal, except Postal Service	2,100	1,832	1,778	8	.4	–54	–2.7	–54	-2.9
State government	4,513	4,641	4,727	56	1.2	26	.6	86	1.9
State government, except education	2,663	2,715	2,761	37	1.4	10	.4	46	1.7
State government education	1,851	1,926	1,966	20	1.0	15	.8	40	2.1
Local government	11,511	12,592	12,898	226	1.8	216	1.8	306	2.4
Local government, except education	5,126	5,463	5,575	70	1.3	67	1.3	112	2.1
Local government education	6,385	7,129	7,323	157	2.3	149	2.2	194	2.7

[1]Includes other industries not shown separately.

SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

performance. Consulting companies often help businesses streamline their processes for managing people, performance, and liabilities, with the goal of improving productivity. Consultants are primarily skilled professionals and frequently are assigned a specific budget, task, and time horizon. With the turn of the century approaching, consulting services were called upon to replace or modernize information systems and to prepare contingency plans for potential computer problems related to the year-2000 date turnover. Like management and public relations services, the computer services industry also enjoyed continued strong growth in the past year. Employment in computer and data-processing services increased by 9.3 percent in 1999, not as fast as the growth in 1998, but still 4 times the pace for all industries.

Because, in 1999, businesses were already straining to find labor resources to meet increasing demand, many companies continued to turn to employment agencies or to temporary help services that year to help them survive seasonal increases, meet one-time requirements for specific tasks, or fill permanent positions. *Personnel supply services* provide businesses with employees whose occupations range from day laborers to computer scientists. The need to closely adjust labor input to handle fluctuations in consumer demand has particularly benefited the help supply industry, which typically supplies workers to businesses for defined, limited periods. However, the tight labor market in 1999 also prompted some businesses to turn to help supply industries to fill permanent positions. In this capacity, a temporary help agency not only recruits workers, but also may provide them with limited training, as well as a period of "trial" employment, before they are transferred to a permanent position on the business' payroll.[2]

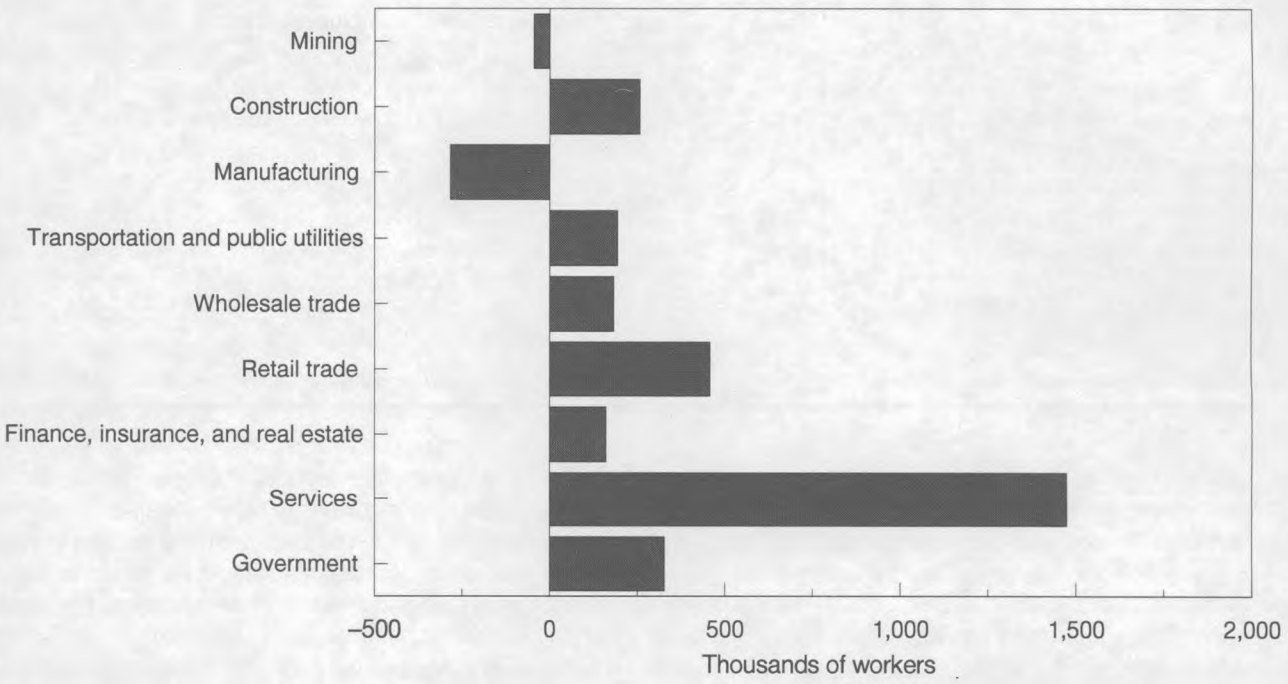
The number of workers employed in personnel supply services rose by 7.2 percent from 1998 to 1999. Even though this industry was among the fastest growing, the 1999 increase was below the average annual rate of growth of the industry for the past 5 years. While growth in employment in the personnel supply industry has been particularly robust throughout the current expansion,[3] growth in 1999 was tempered by a tight labor market. Thus, the scarcity of qualified persons available to be hired, which boosted the demand for personnel supply services, also limited the industry's ability to meet demand.[4]

The economy was buoyed by strong consumer confidence. *With consumers enjoying the benefits of low price inflation and continuing their pattern of spending rather than saving, consumer demand sustained the domestic economy even as most other economies around the world remained weak. The confidence workers had about the economy, combined with growth in real earnings and a soaring stock market, led to improved sales of most goods and services.*

The average hourly and weekly earnings of production and nonsupervisory workers in the private economy increased between the fourth quarters of 1998 and 1999 by 3.7 percent and 3.4 percent, respectively, before adjustment for inflation. Increases in hourly earnings slowed from the pace set over the past 2 years, but remained higher than the average over the current expansion. Real earnings growth lost much of its momentum of the previous year, partly due to smaller wage gains, but even more so because the increase in consumer prices, while still small, was greater than in 1998. Real earnings have grown by 6 percent thus far during the current expansion, which began in 1991. In constant dollars, the over-the-year growth in fourth-quarter hourly earnings was 0.9 percent in 1999, compared with 2.4 percent during 1998. Nevertheless, *any* increase in inflation-adjusted earnings indicates that consumers are able to purchase more goods and services.

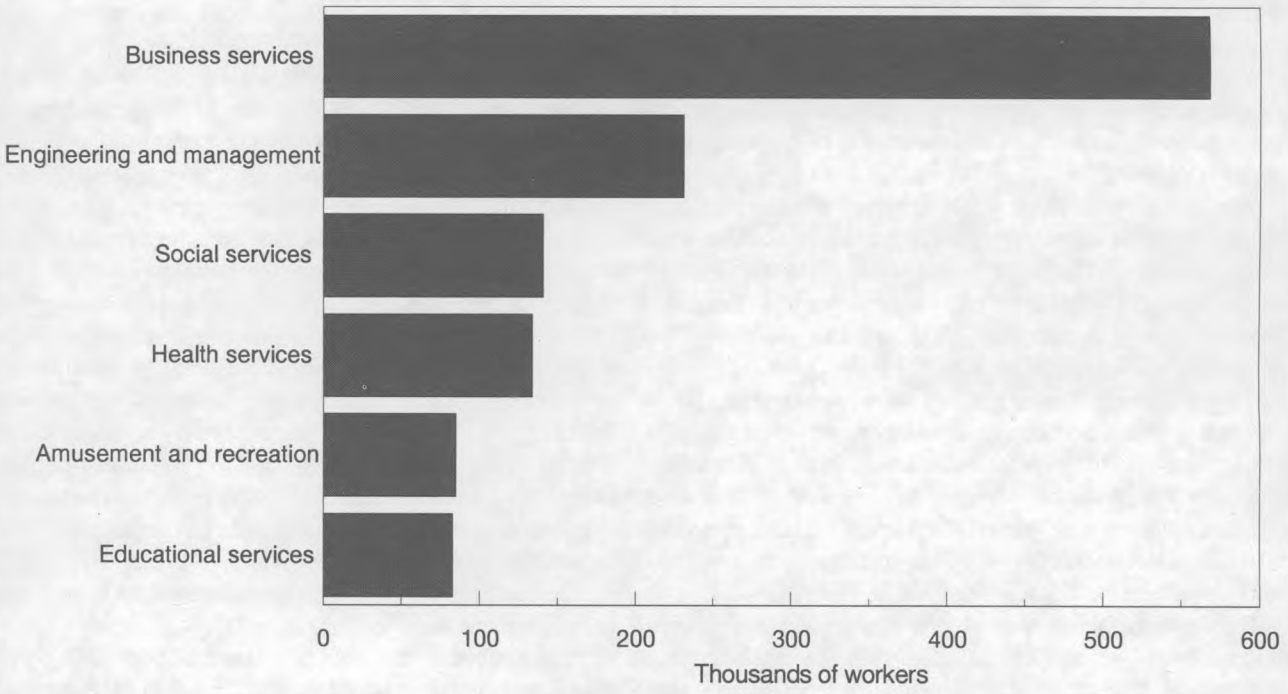
The continued growth in real earnings and the healthy gains in employment fueled consumer confidence,[5] which improved markedly over the year. Naturally, the retail trade industry benefited from consumer spending, but some detailed components within retail did much better than others. The growth rate in retail trade employment in 1999 was slightly ahead of that

Chart 1. Change in employment, by industry division, 1999



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

Chart 2. Services industries with most jobs added, 1999



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

experienced in 1998. The gains were made despite a highly competitive labor market, which would tend to make recruitment in relatively low-paying retail jobs even more difficult. In fact, employment slowed in the fall of the year, suggesting that retailers were having to wrestle with the problems of a dwindling supply of workers.[6]

Within retail trade, *miscellaneous retail establishments*, a category that encompasses a variety of stores, such as drugstores, liquor stores, and florists, as well as catalog companies and other nonstore retailers (including Internet companies), accounts for much of the improvement over 1998. The miscellaneous retail industry added 109,000 jobs during the year, twice as many as in 1998. Automotive dealerships, furniture and home furnishings stores, and apparel stores also exhibited much larger gains than in 1998. Employment growth in eating and drinking places, department stores, and food stores lagged behind that of 1998, bringing overall performance for retail trade to just below the average pace for the previous 5-year period.

Automotive dealerships reaped the benefits of strong consumption. Sales of motor vehicles in 1999 surpassed the record set in 1986, as income gains, low interest rates, and dealer incentives acted together to create a remarkably favorable climate for sales. A strong dollar also affected sales of motor vehicles, as cheaper imports prompted domestic manufacturers to offer discounts. Despite competition from on-line car sales, employment by new and used car dealers increased by 3.9 percent, the biggest rise since 1994.

Growth in *furniture and home furnishings stores* was led by *radio, television, and computer stores*. Consumers replaced computers with newer models that would provide uninterrupted use into the year 2000 and models that offered much-improved processing speeds. Competition in the computer market put downward pressure on prices in the industry in 1999, and many consumers took advantage of price reductions for computers and peripheral equipment.[7] Manufacturers' rebates and discounts from on-line service providers were common, making 1999 a very good year for computer purchases.[8] Reflecting this sales growth, employment in radio, television, and computer stores grew by over 6.3 percent in 1999, nearly matching the strong 6.7-percent average growth over the past 5 years.

Low interest rates benefited construction and related industries. *In the first quarter of 1999, the percentage of families able to buy American homes reached the highest level in recent history, as both low interest rates and healthy income gains helped make housing more affordable.[9] Despite increasing mortgage rates during the second half of the year, sales of new homes were sustained at very high levels throughout 1999, even outpacing the sales records of 1998.*

Employment in many construction-related industries posted continued growth during 1999, but the building boom eventually resulted in shortages, not only of labor, but also of materials.[10] Most of the job growth in *construction* supported *residential building* and the contracting of *specialized trades* such as plumbing, painting, and carpentry services. General building contractors, which include residential construction firms, increased employment by 3.8 percent in 1999, compared with 5.4 percent in 1998. Job gains in all construction industries were weaker in 1999 than their average for the current expansion overall and also weaker than in 1998.

Industries that produced basic construction materials increased their payrolls as they stepped up production. Demand for *lumber and wood products* grew at a moderate pace, with job growth in that manufacturing industry slightly below that of 1998. Companies that manufacture *furniture and fixtures* also increased their payrolls, although the rate of growth declined somewhat following an unusually high rate of gain in 1998. Employment across all *construction-related manufacturing* industries grew by 1.4 percent in 1999, compared with a decline in overall manufacturing of 1.5 percent.

The momentum in construction also spilled over into some areas of *retail trade*. Strong growth was evident in stores that sell *building materials and garden supplies*, lending further credence to the importance of the construction industry in explaining overall employment growth. Consumers also frequented retail stores to make purchases for their residences, resulting in a healthy 5.3-percent job gain in *furniture and appliance stores*. Orders tracked by the American Furniture Manufacturers Association reflect increased purchases over 1998, as bedroom, dining room, and occasional furniture all registered moderate gains.[11]

Agricultural services, which include *landscape services*, grew by 5.4 percent in 1999. The industry followed the pattern of the construction industry for the majority of the year. The contracting of agricultural services was in preparation for new-home sales, as well as for maintaining landscaping for existing homes and businesses.

Employment in *real estate* and *finance* continued to benefit from strong growth in the housing market, as job gains in *mortgage banks and brokerages*, *title insurance*, and *real estate agents* were robust through the first half of the year. However, employment related to refinancing slowed as interest rates increased, a trend that began early in the year. Declines in refinancing lowered the demand for mortgage bankers and brokers as the year progressed, and the industry shed jobs from June through the end of the year. Growth in the finance industries was dampened not only by these job losses, but also by continued consolidation among banks and savings institutions.

Industries that were affected by intense price competition and the weak world economy suffered in 1999. *Particularly affected by world economic conditions were industries that produced commodities rather than services. Most commodities underwent a slow price recovery from 1998 lows,[12] although overall, commodity prices remained below 1997 lev-*

els. While fuel prices rebounded strongly over the year, prices of many other goods were still making up for lost ground.

Employment in *mining* exhibited a weakness similar to that of a year earlier, as low oil prices continued through the first quarter of 1999. After plunging 32 percent in 1998, oil prices made nearly a full recovery by the fourth quarter of 1999. The recovery of employment, however, was only modest. (See chart 3.) *Oil and gas* companies continued to streamline operations. A number of mergers that took place in 1999 held employment gains to a minimum, as domestic companies strove to be more cost competitive with overseas suppliers.

The *steel*-producing industry also did not recover from 1998's price declines. While the bulk of the declines occurred in 1998, the recovery in prices has been slow. In mid-1999, steel production was almost unchanged over the year, and capacity utilization actually fell slightly. The U.S. International Trade Commission determined that domestic steel producers had been unfairly harmed by the flood of cheap imports, and then the United States negotiated agreements with Russia and Brazil to limit steel imports from those countries. Demand for domestically produced steel improved, and by the end of the year, both steel production and capacity utilization were up from 1998 levels. Employment in the primary metals industry recovered slightly over the fourth quarter, after declining by 14,000 during the first 9 months of the year.

Weakness in Southeast Asian and emerging economies reduced the demand for U.S. exports, particularly of industrial machinery, electrical equipment, and transportation equipment. These three industries account for 30 percent of manufacturing employment, so suppressed demand for their output has a large impact on overall manufacturing. An improvement in the performance of the Asian economies in 1999 coincided with a moderation in declines in monthly U.S. manufacturing employment by midyear. (See chart 4.) Employment declines in *electrical and electronic equipment* eased greatly in 1999 compared with 1998 (see chart 5), as job gains in the second half of the year nearly offset continued losses in the first half. In contrast, *apparel and other textile products* fared as poorly in 1999 as in 1998, losing another 9 percent of that industry's workforce and showing no signs of improvement. Employment declines accelerated in *industrial machinery*, with 3 times the number of jobs lost as in 1998; however, employment stabilized in the fourth quarter. *Aircraft and parts* also fared much worse in 1999, in part because of delayed or canceled orders from ailing countries in Southeast Asia. As was the case with the apparel industry, the job losses in aircraft continued throughout the year.

Special factors affected employment in 1999. *Two industries had unusual employment movements in 1999 that were unrelated to general economic trends: Federal payrolls benefited throughout the year from the preparation for the Census 2000, and, due to changes in legislation, the home health care industry began to recover from steep job losses incurred in 1998.*

Monthly swings in *Federal* employment in 1999 are largely explained by hiring for the Census 2000.[13] Most of the hiring took place during three preparation phases that caused corresponding peaks in Federal Government employment. Over the course of the year, total nonfarm employment averaged 19,000 higher than it would have been without the decennial workers. Excluding census workers, the number of other Federal workers (which includes U.S. Postal Service workers and civilian employees of the Department of Defense) fell throughout the year, and the declines were more precipitous than in the past few years.

Early in 1999, the *home health care* industry began to recover from more than a year of declines. The turnaround was slow, however: after losing more than 8 percent of its workforce during 1998, the industry grew by just 1 percent in 1999. (See chart 6.) The weak gains coincided with incremental relief from medicare restrictions that were put in place in 1998. July 1, 1999, marked the end of "sequential billing," a Balanced Budget Act provision that seriously hurt cash flow for home health agencies. This provision required medicare claims to be submitted in chronological order; each claim would then have to be paid or denied before another one could be submitted. As a result, some agencies refocused their patients loads, shifting away from medicare and medicaid clients and toward private payers.

As the current economic expansion entered its 9th year in 1999, total civilian employment continued to increase and the unemployment rate continued to decline. *Workers in most major demographic groups benefited from the improvements in the job market.*

Data from the CPS also depict a healthy job market in 1999. Employment grew by about 1.9 million, slightly more than in 1998.[14] The percentage of the population that was employed (the employment-population ratio) reached a record-high 64.3 percent in the first quarter of 1999 and finished out the year at that level. The number of unemployed persons fell by about 390,000 in 1999, and the unemployment rate continued to decline, reaching 4.1 percent by the fourth quarter—a 30-year low. (See table 3 and chart 7.)

Among persons aged 20 and older, employment increased by almost 1.8 million in 1999, compared with an increase of 1.4 million in 1998. Women accounted for a disproportionately large share of the employment growth in 1999. Almost three-fifths of the growth occurred among adult women, although they make up less than half of total employment. This pattern has typified the current expansion, with women accounting for more than half of overall employment growth since 1991.[15]

The employment-population ratio for adult women reached record highs in 1999, ending the year at 58.5 percent. For men, the ratio was virtually unchanged over the year, at 74.0 percent. During the current expansion, the ratios for men and

Table 3. Employment status of the civilian noninstitutional population 16 years and older, by selected characteristics, quarterly averages, seasonally adjusted, 1998–99

[Numbers in thousands]

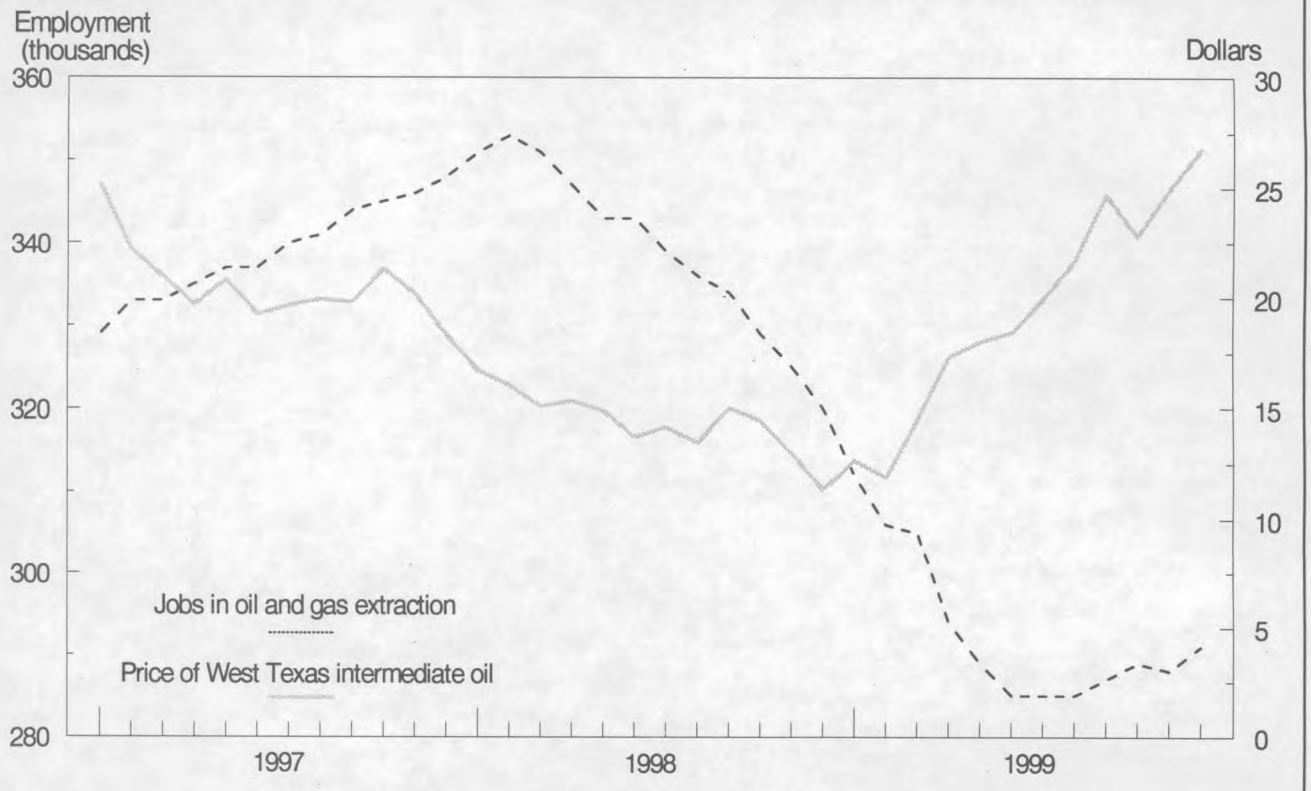
Characteristic	Fourth quarter, 1998	1999				Change, fourth quarter, 1998, to fourth quarter, 1999[1]
		First quarter	Second quarter	Third quarter	Fourth quarter	
Total						
Civilian labor force	138,321	139,058	139,144	139,394	139,880	1,501
Participation rate	67.1	67.2	67.1	67.0	67.0	.0
Employed	132,208	133,077	133,214	133,526	134,153	1,889
Employment-population ratio	64.1	64.3	64.2	64.2	64.3	.2
Unemployed	6,114	5,981	5,930	5,868	5,727	–389
Unemployment rate	4.4	4.3	4.3	4.2	4.1	–.3
Men, 20 years and older						
Civilian labor force	70,013	70,082	70,029	70,245	70,419	629
Participation rate	76.8	76.9	76.6	76.6	76.6	–.1
Employed	67,519	67,642	67,559	67,805	68,044	730
Employment-population ratio	74.1	74.2	73.9	74.0	74.0	.0
Unemployed	2,494	2,440	2,470	2,440	2,375	–101
Unemployment rate	3.6	3.5	3.5	3.5	3.4	–.2
Women, 20 years and older						
Civilian labor force	59,979	60,612	60,820	60,872	61,054	819
Participation rate	60.5	60.8	60.8	60.7	60.7	.2
Employed	57,591	58,283	58,489	58,585	58,865	1,032
Employment-population ratio	58.1	58.4	58.5	58.4	58.5	.4
Unemployed	2,388	2,329	2,332	2,287	2,188	–214
Unemployment rate	4.0	3.8	3.8	3.8	3.6	–.5
Both sexes, 16 to 19 years						
Civilian labor force	8,329	8,363	8,295	8,277	8,407	53
Participation rate	52.7	52.5	51.8	51.5	52.2	–.5
Employed	7,098	7,151	7,166	7,137	7,243	124
Employment-population ratio	44.9	44.8	44.7	44.4	44.9	.1
Unemployed	1,232	1,212	1,128	1,141	1,164	–73
Unemployment rate	14.8	14.5	13.6	13.8	13.8	–1.1
White						
Civilian labor force	115,850	116,349	116,352	116,535	116,788	1,012
Participation rate	67.3	67.5	67.3	67.3	67.2	–.1
Employed	111,390	112,008	111,966	112,268	112,703	1,381
Employment-population ratio	64.7	64.9	64.8	64.8	64.9	.3
Unemployed	4,459	4,341	4,385	4,267	4,085	–367
Unemployment rate	3.8	3.7	3.8	3.7	3.5	–.3
Black						
Civilian labor force	16,171	16,273	16,295	16,387	16,503	286
Participation rate	65.9	65.9	65.7	65.8	66.0	.1
Employed	14,829	14,968	15,044	15,041	15,172	301
Employment-population ratio	60.5	60.6	60.7	60.4	60.6	.1
Unemployed	1,343	1,304	1,251	1,346	1,332	–15
Unemployment rate	8.3	8.0	7.7	8.2	8.1	–.2
Hispanic origin						
Civilian labor force	14,470	14,503	14,571	14,698	14,893	649
Participation rate	67.8	67.9	67.6	67.6	67.9	.6
Employed	13,406	13,561	13,590	13,750	13,984	792
Employment-population ratio	62.8	63.5	63.1	63.2	63.7	1.5
Unemployed	1,064	943	981	948	909	–142
Unemployment rate	7.4	6.5	6.7	6.4	6.1	–1.3

[1] Estimates of over-the-year changes have been adjusted to reflect revisions to population controls introduced in January 1999.

NOTE: Details for racial 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.

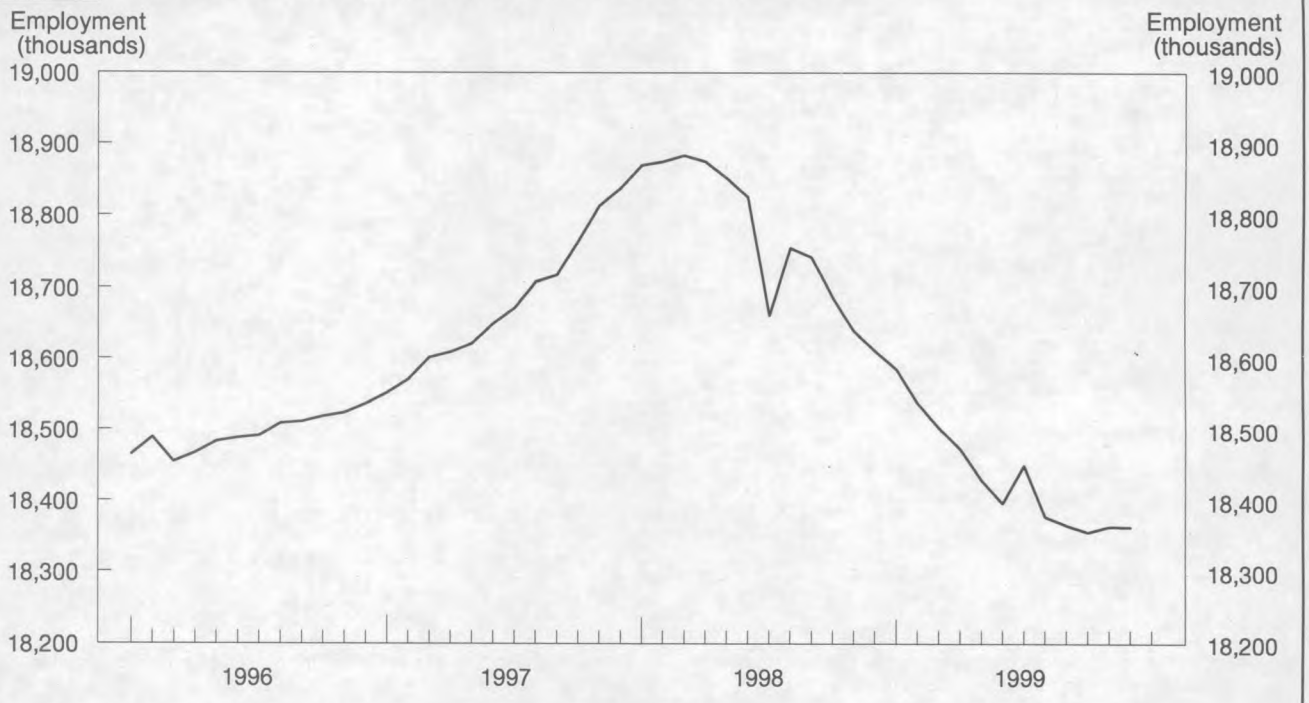
SOURCE: Bureau of Labor Statistics, Current Population Survey.

Chart 3. Employment in oil and gas extraction and oil prices, 1997–99, seasonally adjusted



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

Chart 4. Manufacturing employment, 1996–99, seasonally adjusted



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

women have continued the long-term pattern of convergence, with the women's ratio growing slightly faster than the men's. The number of unemployed adults decreased by about 320,000 in 1999. By the fourth quarter, the unemployment rate had edged down to 3.4 percent for adult men and 3.6 percent for adult women, the lowest rate in 26 years for men and in 31 years for women.

Women who maintained families showed marked improvement in their labor market situation in 1999. Employment for these women increased by about 450,000 over the year, to 8.4 million; this figure compares with an increase of about 200,000 in 1998.[16] In 1999, the percentage of such women who were employed reached 65.6 percent, an over-the-year increase of 1.3 percentage points. The number of unemployed women maintaining families edged down to about 550,000 in 1999, and their unemployment rate declined to 6.1 percent.

The labor market situation changed little for teenagers (persons aged 16 to 19 years) in 1999. The unemployment rate of teens improved slightly, ending the year at 13.8 percent, a low rate not seen since the early 1970s. The size of the teenage *labor force*—the sum of those who were employed and those who were unemployed—was about about unchanged. The teenage labor force participation rate—the proportion of the population that is in the labor force—was also about unchanged. During the current expansion, the teenage labor force participation rate has fluctuated, but shown no clear trend. However, the rate is down substantially from a historical peak of almost 59 percent in the late 1970s. The decrease reflects, in large part, a growing proportion of teens enrolled in school. In 1979, 67 percent of the teenage population was enrolled in school; by 1999, the ratio had risen to 77.4 percent.[17] Teenagers who are attending school have a lower labor force participation rate than those who are not attending, so an increase in the proportion of persons enrolled in school is often associated with a lower overall labor force participation rate.

The labor force expanded in 1999 for whites, blacks, and Hispanics. Since the first quarter of 1991 (the final quarter of the 1990–91 recession, as officially defined), the Hispanic labor force has grown by 38 percent, largely a reflection of the group's strong population growth. This increase compares with a 20-percent increase in the size of the black labor force and a 9-percent increase in the white labor force. In 1999, the labor force participation rates were 67.9 percent for Hispanics, 67.2 percent for whites, and 66.0 percent for blacks.

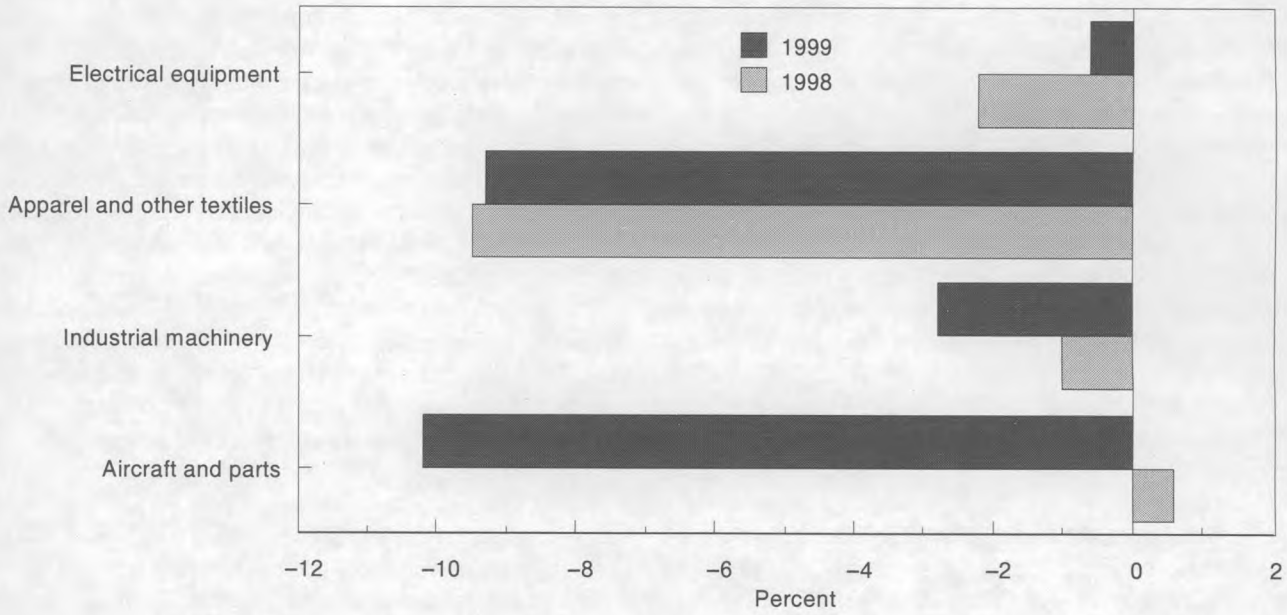
The unemployment rate for whites ended the year at a three-decade low of 3.5 percent. Blacks and Hispanics both achieved

Table 4. Employment by occupation, sex, race, and Hispanic origin, fourth quarter, 1998–99, and median usual weekly earnings by occupation, annual average, 1999

Occupation	Median usual weekly earnings	Total			Men			Women		
		Fourth quarter, 1998	Fourth quarter, 1999[1]	Change, fourth quarter, 1998, to fourth quarter, 1999[1]	Fourth quarter, 1998	Fourth quarter, 1999[1]	Change, fourth quarter, 1998, to fourth quarter, 1999[1]	Fourth quarter, 1998	Fourth quarter, 1999[1]	Change, fourth quarter, 1998, to fourth quarter, 1999[1]
Total, aged 16 and older	$549	132,578	134,534	1,956	71,135	71,774	639	61,443	62,760	1,317
Managerial and professional specialty	797	39,916	40,856	940	20,348	20,508	160	19,568	20,348	780
Executive, administrative, and managerial	792	19,496	19,700	204	10,828	10,684	–144	8,668	9,016	348
Professional specialty	800	20,420	21,156	736	9,520	9,824	304	10,900	11,332	432
Technical, sales, and administrative support	488	38,547	39,325	778	13,766	14,187	421	24,780	25,138	358
Technicians and related support	618	4,163	4,442	279	1,875	2,089	214	2,288	2,352	64
Sales occupations	523	16,107	16,427	320	7,915	8,035	120	8,192	8,393	201
Administrative support, including clerical	447	18,276	18,456	180	3,976	4,063	87	14,300	14,393	93
Service occupations	336	17,838	17,525	–313	7,215	6,899	–316	10,623	10,626	3
Private household	243	861	828	–33	45	36	–9	816	792	–24
Protective service	592	2,388	2,324	–64	1,955	1,864	–91	433	459	26
Service, except private household and protective	313	14,589	14,373	–216	5,216	4,998	–218	9,374	9,374	0
Precision production, craft, and repair	594	14,398	14,894	496	13,121	13,516	395	1,277	1,379	102
Mechanics and repairers	621	4,772	4,708	–64	4,595	4,468	–127	178	240	62
Construction trades	566	5,629	6,152	523	5,493	6,003	510	136	149	13
Other production, craft, and repair	588	3,996	4,035	39	3,033	3,045	12	963	990	27
Operators, fabricators, and laborers	429	18,475	18,678	203	13,915	14,027	112	4,560	4,651	91
Machine operators, assemblers, and inspectors	423	7,757	7,385	–372	4,910	4,517	–393	2,847	2,867	20
Transportation and material moving	513	5,516	5,803	287	4,948	5,186	238	569	618	49
Handlers, equipment cleaners, helpers, and laborers	363	5,201	5,490	289	4,057	4,324	267	1,145	1,166	21
Farming, forestry, and fishing	331	3,405	3,255	–150	2,771	2,637	–134	634	618	–16

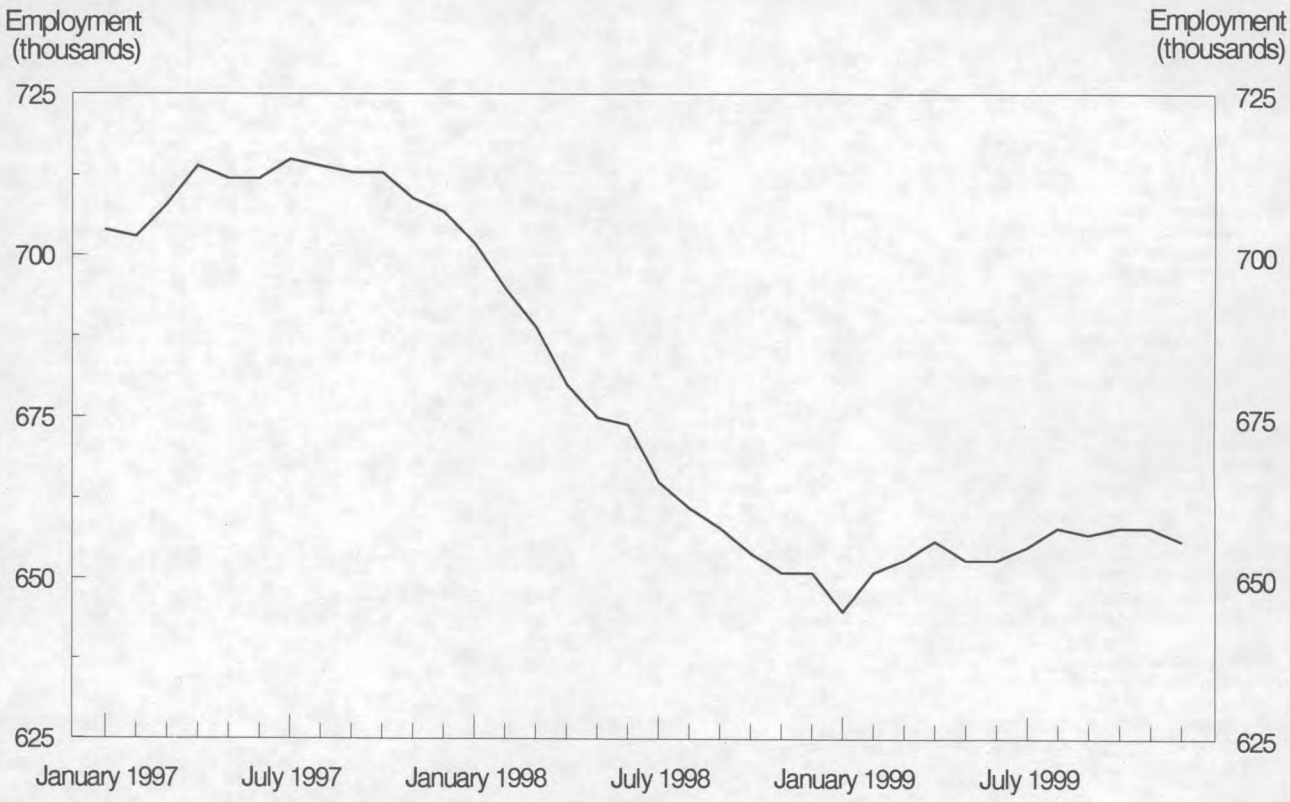
[1] Over-the-year changes were not adjusted for revised population controls. SOURCE: Bureau of Labor Statistics, Current Population Survey.

Chart 5. Percent change in employment for selected manufacturing industries, 1998 and 1999



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

Chart 6. Employment in home health care services, 1997–99, seasonally adjusted



SOURCE: Bureau of Labor Statistics, Current Employment Statistics survey.

record-low unemployment rates in 1999.[18] The black unemployment rate finished the year at 8.1 percent, the lowest on record prior to 1999. For Hispanics, the unemployment rate reached a record low in the first quarter and continued to decline in the last half of the year, bottoming out at 6.1 percent in the fourth quarter. The unemployment rates for blacks and Hispanics remained higher than that for whites in 1999, although the gap narrowed slightly between Hispanics and whites; the gap between blacks and whites showed no improvement.

Employment grew faster for minority workers than for whites in 1999. The number of employed persons increased by about 2.0 percent for blacks, to 15.2 million; 6.0 percent for Hispanics, to 14.0 million; and 1.2 percent for whites, to 112.7 million. The number of persons employed as a percentage of the population reached record highs for whites, blacks, and Hispanics during 1999 and ended the year strong: 64.9 percent, 60.6 percent, and 63.7 percent, respectively. Since the beginning of the current expansion, the employment-population ratio has grown more for blacks and Hispanics than for whites.

Employment increased in 1999 for persons aged 25 and older who had attended college; employment was about unchanged for persons with no college experience.[19] This difference continues the long-term trend in which the overall workforce is becoming more educated, reflecting a decline in the proportion of the population with no college experience. For example, since 1992,[20] the number of employed persons with less than a high school diploma decreased by about 159,000, to 11.3 million, while the number of employed persons with a college degree increased by 7.4 million, to 35.0 million. In 1999, the unemployment rate improved for work-

Table 5. Employment by occupation, sex, race, and Hispanic origin, fourth quarter, 1998–99

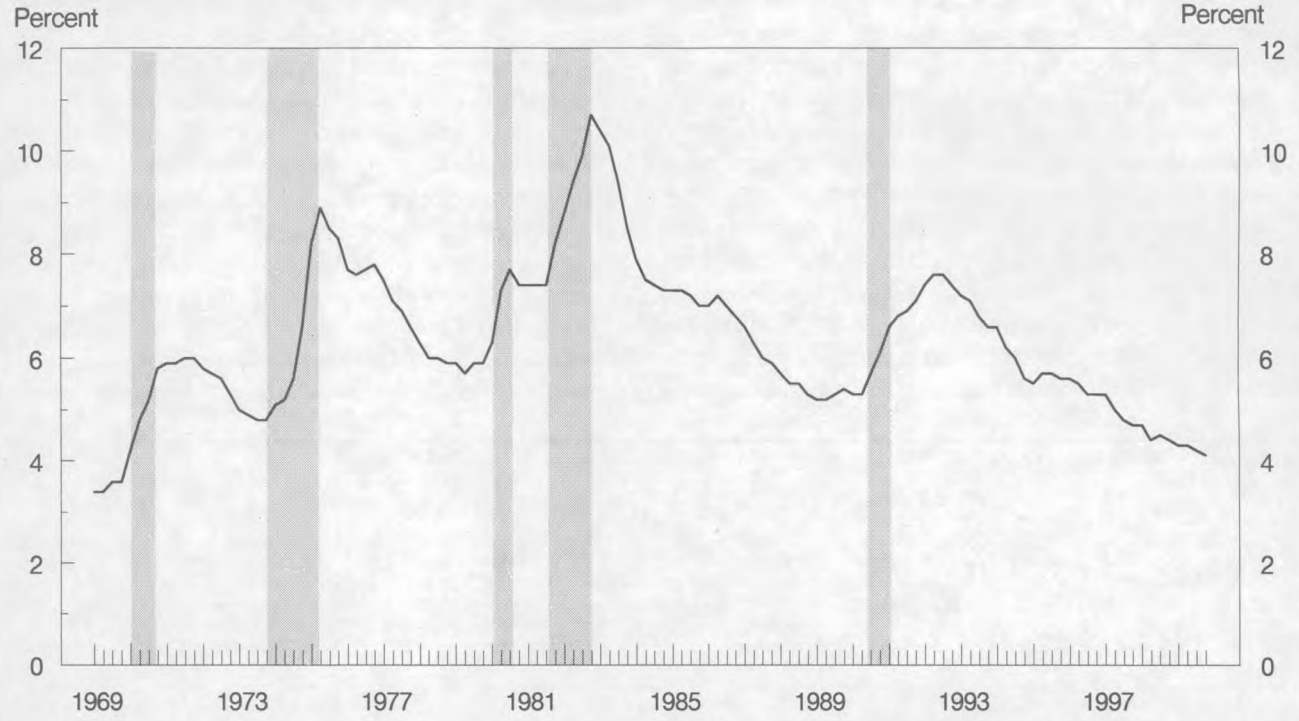
Occupation	Total			White			Black			Hispanic		
	Fourth quarter, 1998	Fourth quarter, 1999	Change, fourth quarter, 1998, to fourth quarter, 1999[1]	Fourth quarter, 1998	Fourth quarter, 1999	Change, fourth quarter, 1998, to fourth quarter, 1999[1]	Fourth quarter, 1998	Fourth quarter, 1999	Change, fourth quarter, 1998, to fourth quarter, 1999[1]	Fourth quarter, 1999	Fourth quarter, 1999	Change, fourth quarter, 1998, to fourth quarter, 1999[1]
Total, aged 16 and older	132,578	134,534	1,956	111,646	112,975	1,329	14,929	15,270	341	13,442	14,012	570
Managerial and professional specialty	39,916	40,856	940	34,774	35,384	610	3,086	3,333	247	1,932	2,009	77
Executive, administrative, and managerial	19,496	19,700	204	17,228	17,310	82	1,471	1,542	71	1,076	1,066	–10
Professional specialty occupations	20,420	21,156	736	17,546	18,074	528	1,615	1,791	176	856	944	88
Technical, sales, and administrative support	38,547	39,325	778	32,431	32,976	545	4,420	4,486	66	3,141	3,264	123
Technicians and related support	4,163	4,442	279	3,455	3,676	221	465	475	10	282	266	–16
Sales occupations	16,107	16,427	320	13,891	14,158	267	1,504	1,472	–32	1,260	1,281	21
Administrative support, including clerical	18,276	18,456	180	15,086	15,142	56	2,451	2,540	89	1,600	1,717	117
Service occupations	17,838	17,525	–313	13,723	13,415	–308	3,258	3,175	–83	2,706	2,714	8
Private households	861	828	–33	700	661	–39	134	125	–9	272	237	–35
Protective services	2,388	2,324	–64	1,907	1,812	–95	433	445	12	198	197	–1
Service, except private household and protective	14,589	14,373	–216	11,116	10,942	–174	2,691	2,605	–86	2,236	2,280	44
Precision production, craft, and repair	14,398	14,894	496	12,721	13,263	542	1,139	1,130	–9	1,872	2,034	162
Mechanics and repairers	4,772	4,708	–64	4,215	4,181	–34	392	368	–24	500	509	9
Construction trades	5,629	6,152	523	5,077	5,622	545	391	390	–1	808	991	183
Other production, craft, and repair	3,996	4,035	39	3,428	3,460	32	365	373	8	564	534	–30
Operators, fabricators, and laborers	18,475	18,678	203	14,856	14,915	59	2,852	2,993	141	2,995	3,222	227
Machine operators,assemblers, and inspectors	7,757	7,385	–372	6,147	5,816	–331	1,187	1,159	–28	1,347	1,403	56
Transportation and material moving	5,516	5,803	287	4,522	4,719	197	845	952	107	684	725	41
Handlers,equipment cleaners, helpers, and laborers	5,201	5,490	289	4,187	4,381	194	820	881	61	964	1,093	129
Farming, forestry, and fishing	3,405	3,255	–150	3,141	3,022	–119	174	153	–21	795	769	–26

[1] Over-the-year changes were not adjusted for revised population controls.

NOTE: Details for racial 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.

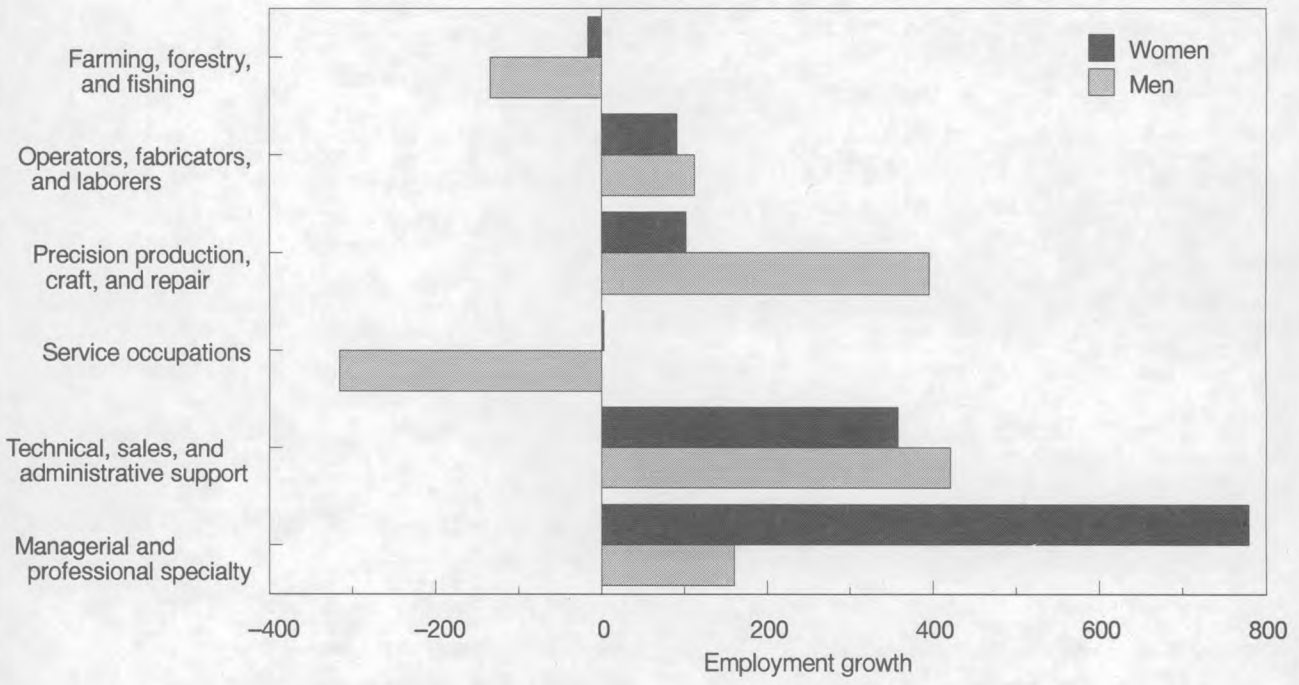
SOURCE: Bureau of Labor Statistics, Current Population Survey.

Chart 7. Unemployment rate, 1969–99, seasonally adjusted



NOTE: Shaded regions represent recessions as designated by the National Bureau of Economic Research. Data are quarterly.
SOURCE: Bureau of Labor Statistics, Current Population Survey.

Chart 8. Over-the-year employment growth, by occupation and gender, fourth-quarter 1998–99



SOURCE: Bureau of Labor Statistics, Current Population Survey.

ers of all educational backgrounds, ending the year at 1.7 percent for college graduates, 2.6 percent for persons with some college experience, but less than a bachelor's degree, 3.3 percent for high school graduates, and 6.3 percent for persons with less than a high school diploma.

Nearly half of the total employment growth over the year was in the generally high-paying managerial and professional specialty occupations. *Growth in these fields was particularly strong for women and blacks. The strongest gains among men were in technical, sales, and administrative support occupations and in precision production, craft, and repair occupations.*

Employment in managerial and professional specialty occupations expanded by 940,000 in 1999, accounting for about half of total employment growth during the year.[21] Employment growth in these occupations has been disproportionately strong for most of the current expansion. (Managerial and professional specialty occupations made up 30 percent of total employment in 1999.) Professional specialty occupations accounted for the majority of the growth in the managerial and professional specialty category in 1999. Notable employment gains occurred in many professional occupations, including computer systems analysts and computer scientists, schoolteachers, lawyers, and social workers. Technical, sales, and administrative support occupations also showed strong growth in 1999, accounting for two-fifths of total employment gains. (See table 4.)

For women, total employment grew by about 1.3 million in 1999. Nearly three-fifths of this net growth (780,000) was in the managerial and professional specialty fields. Employment growth in professional specialty occupations was slightly stronger than in managerial occupations. Among the professional occupations, female schoolteachers increased their numbers rapidly. (Women accounted for the majority of growth in this occupation.) Many women also found work in 1999 as registered nurses and social workers. Outside managerial and professional specialty occupations, most of the remaining employment gains among women were in the technical, sales, and administrative support occupations, particularly the lower paying sales and administrative support jobs. However, for every woman who found a job in these occupations, two found a job in managerial and professional specialty occupations. (See table 4 and chart 8.)

For men, employment expanded by about 640,000 over the year, with the largest gains in technical, sales, and administrative support occupations (420,000). Technicians and related support occupations, which tend to pay more than sales and administrative jobs, accounted for about half of these employment gains. Precision production, craft, and repair occupations accounted for the second-largest employment increase for men in 1999 (400,000), with most of the growth in construction trades. Among men, professional specialty occupations grew by about 300,000, although employment in executive, administrative, and managerial occupations decreased.

Employment in managerial and professional specialty occupations grew particularly rapidly for blacks in 1999, increasing by 8 percent, or 250,000. More than two-thirds of this growth was in the professional specialty fields and was well spread among the occupations. The number of blacks employed as operators, fabricators, and laborers also grew noticeably (140,000); much of the growth was among transportation and material moving workers. For blacks, the managerial and professional specialty and the operator, fabricator, and laborer occupations accounted for the majority of employment growth in 1999. (See table 5 and chart 9.)

For whites, employment in managerial and professional specialty occupations rose by about 610,000 in 1999, only slightly more than in technical, sales, and administrative support occupations (550,000) and precision production, craft, and repair occupations (540,000). Professional specialty jobs accounted for the vast majority of gains in the managerial and professional specialty group. Within the technical, sales, and administrative support category, growth was strongest for technicians and salesworkers. Construction trades accounted for nearly all of the employment gains in the precision production, craft, and repair field.

For Hispanics, there was comparatively little employment growth in managerial and professional specialty fields. Instead, employment growth was spread out among the remaining occupational categories. The number of Hispanics working as operators, fabricators, and laborers grew by about 230,000 in 1999, accounting for about two-fifths of the total employment gains among Hispanics. Within this broad "blue-collar" category, many Hispanics found jobs as handlers, equipment cleaners, helpers, and laborers. Precision production, craft, and repair occupations—particularly the construction trades—and technical, sales, and administrative support occupations—notably administrative support—contributed about half of total employment growth for Hispanics.

Demographic changes in the makeup of the labor force can affect various labor market indicators, including the unemployment rate. *Accordingly, it is important to take such changes into account in making comparisons across years. Among the demographic variables that can influence the unemployment rate over time are the age and sex compositions of the labor force. A simple exercise reveals that the unemployment rate would have been higher in 1999 had the composition of the labor force by age been the same as in past years (for example, 1969 and 1978).*

In 1999, the average unemployment rate was 4.2 percent,[22] the lowest annual rate since 1969, when the rate averaged 3.5 percent for the year. Given that the jobless rate was at its lowest in 30 years, it is reasonable to ask whether major demographic changes over that period could be partly responsible for the improvement in unemployment. Age is a particularly

important variable in this regard, because the unemployment rates for young workers (aged 16 to 24 years) tend to be much higher than those for older workers. For example, the unemployment rates for workers in the 16-to-19- and 20-to-24-year age groups were 13.9 percent and 7.5 percent, respectively, in 1999; these figures compare with an average unemployment rate of 3.1 percent for workers aged 25 and older. Thus, a decrease in the percentage of young workers in the labor force would exert downward pressure on the unemployment rate,[23] all else remaining equal. Indeed, in 1999, persons aged 16 to 24 years made up about 16 percent of the labor force, the lowest proportion since the late 1950s; in 1969 they accounted for about 21 percent, and in 1978 the proportion of these individuals peaked at more than 24 percent.[24] If the age composition of the labor force in 1999 had been the same as in 1969, but each component age group retained its 1999 rate of unemployment, the overall unemployment rate in 1999 would have been about 0.4 percentage point higher. The unemployment rate would have been even higher—by about 0.7 percentage point—if the age composition in 1999 had been the same as in 1978.

The composition of the labor force by sex also can influence unemployment rates. This occurs when the unemployment rate for one gender is higher than for the other. For example, in 1969, the unemployment rate for women, 4.7 percent, was much higher than that for men, 2.8 percent. As long as the jobless rate for women was higher than that for men, the influx of women into the job market—which was quite pronounced during the 1970s—exerted upward pressure on the unemployment rate. However, the unemployment rates for men and women have been quite close for the past two decades, thus limiting the effects of the changing composition of the labor force by sex.[25]

After accounting for inflation, median weekly earnings of full-time wage and salary workers increased in 1999, marking the third consecutive year of gains in real earnings. *Earnings increased slightly faster for women than for men. Earnings rose for whites, blacks, and Hispanics, and there were gains for adults of all educational backgrounds.*

Median[26] usual weekly earnings of full-time wage and salary workers were $549 in 1999, up 5.0 percent from $523 in 1998.[27] The earnings gain was greater than the 2.2-percent rise in prices from 1998 to 1999, as measured by the Consumer Price Index for All Urban Consumers (CPI-U). In 1999, median weekly earnings for men who usually work full time were $618, compared with $473 for women. Earnings were up for both men and women, but the gain was slightly larger for women. The ratio of women's to men's earnings thus edged up slightly, to 76.5 percent.[28] Over the course of the current expansion, the ratio has increased by 2.3 percentage points. During the previous expansion,[29] the ratio of women's to men's earnings increased by 5.5 percentage points.

The continuing disparity in earnings between men and women reflects many different factors, only some of which are measurable. Variables include differences in educational attainment, length of experience in the workforce, and discrimination. In addition, part of the pay difference reflects the occupational makeup of the groups. For example, although women accounted for about half of total employment in managerial and professional specialty occupations in 1999, within that broad group, they were less likely than men to work in higher paying occupations. Men were more likely to be em-

Table 6. Quartiles and selected deciles of usual weekly earnings of full-time wage and salary workers, by educational attainment, annual averages, 1998–99

Educational attainment	Number of workers (in thousands)	Upper limit of—				
		First decile	First quartile	Second quartile (median)	Third quartile	Ninth decile
1999						
Total, 25 years and older	86,352	$284	$393	$592	$872	$1,260
Less than a high school diploma	8,459	215	267	346	494	680
High school graduate, no college	27,314	270	349	490	688	932
Some college or associate's degree	23,949	300	404	580	798	1,079
College graduates, total	26,630	430	607	860	1,243	1,749
1998						
Total, 25 years and older	84,549	275	379	572	836	1,198
Less than a high school diploma	8,576	204	257	337	486	679
High school graduate, no college	27,131	259	338	479	667	899
Some college or associate's degree	23,210	291	391	558	774	1,040
College graduates, total	25,632	410	586	821	1,173	1,657

NOTE: Ten percent of all full-time wage and salary workers earn less than the upper limit of the first decile; 25 percent earn less than the upper limit of the first quartile; 50 percent earn less than the upper limit of the second quartile, or median; 75 percent earn less than the upper limit of the third quartile; and 90 percent earn less than the upper limit of the ninth decile.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 7. Unemployment rates for regions and divisions, quarterly averages, seasonally adjusted, 1998–99

Region and division	Fourth quarter, 1998	1999			
		First quarter	Second quarter	Third quarter	Fourth quarter
Northeast region	4.5	4.3	4.3	4.4	4.2
New England division	3.3	3.1	3.2	3.0	3.1
Middle Atlantic division	4.9	4.7	4.7	4.8	4.6
Midwest region	3.6	3.4	3.6	3.5	3.4
East North Central division	3.9	3.7	3.9	3.8	3.7
West North Central division	3.0	2.7	2.9	3.0	2.6
South region	4.3	4.2	4.1	4.0	4.0
South Atlantic division	3.9	3.8	3.7	3.7	3.7
East South Central division	4.3	4.3	4.2	4.1	4.2
West South Central division	4.9	4.7	4.6	4.4	4.4
West region	5.3	5.1	5.0	4.8	4.6
Mountain division	4.2	3.9	4.2	4.1	3.9
Pacific division	5.7	5.6	5.4	5.1	4.9

SOURCE: Bureau of Labor Statistics, Local Area Unemployment Statistics program.

ployed as engineers, mathematical and computer scientists, lawyers and judges, and physicians—some of the highest paid professional occupations. Women, on the other hand, were more likely to be employed in the lower paid professional occupations, such as schoolteachers, social workers, and registered nurses. Women accounted for three-fifths of the total employed in service occupations, which include some of the lowest paid workers. In the higher paying blue-collar fields—precision production, craft, and repair occupations—women accounted for only 9 percent of the employed.

Among the major racial and ethnic groups, median weekly earnings rose by 5.1 percent for whites in 1999, to $573. Earnings rose by 4.5 percent for blacks, to $445, and by 4.1 percent for Hispanics, to $385. Differences in educational attainment, age, and experience—as well as discrimination in the workplace—are but a few of the possible reasons for variations in earnings between minorities and whites. As with men and women, the pay difference also reflects the occupational makeup of the groups. For example, in 1999, only 12 percent of whites were employed in the relatively low-paying service occupations, while 22 percent of blacks and 20 percent of Hispanics were employed in those occupations. Thirty-one percent of whites were employed in the managerial and professional specialty occupations, in which pay is relatively high; the corresponding figures were 21 percent for blacks and 15 percent for Hispanics.

Median weekly earnings increased for workers in all four major educational groups in 1999. However, median weekly earnings for those with a college degree increased the most, rising by 4.8 percent over the year, to $860. Earnings for persons with some college experience or an associate's degree increased by 3.9 percent, to $580, while earnings for persons with a high school diploma increased by 2.3 percent, to $490, and earnings for those with less than a high school diploma increased by 2.7 percent, to $346. (See table 6.)

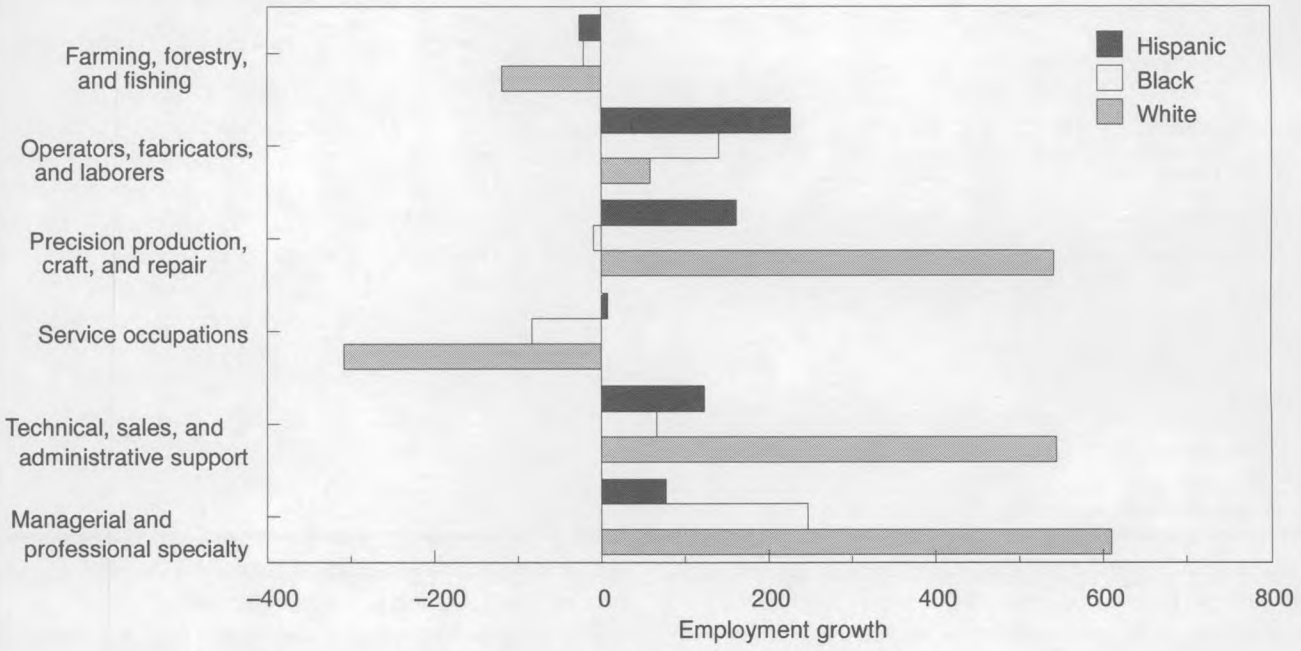
For the 3rd consecutive year, earnings for the lowest paid workers in all education groups increased. For persons with less than a high school diploma, earnings at the upper limit of the first decile[30] increased 5.4 percent, to $215.[31] Earnings at the upper limit of the first decile increased 4.2 percent for workers with a high school education, 3.1 percent for those with some college or an associate's degree, and 4.9 percent for college graduates.

The highest paid workers within most educational groups also saw earnings gains in 1999. The fastest earnings growth occurred for those with a college degree; earnings at the ninth decile increased by 5.6 percent for this group. Earnings at the ninth decile increased by 3.8 percent for those with some college or an associate's degree and by 3.7 percent for high school graduates. Weekly earnings at the ninth decile were essentially unchanged for workers with less than a high school education.

With the unemployment rate remaining at low levels in 1999 and employment continuing to increase, many economists began looking closely for signs of tightness in the labor market. *Some concern arose as to whether the supply of workers would be adequate to meet demand. When employment growth did not result in marked earnings pressure, questions were raised regarding where the increase in workers came from over the year. The* CPS *is able to provide information that can be used, in a limited way, as a measure of the potential supply of workers. It is also able to show, to some degree, where the newly employed came from in 1999.*

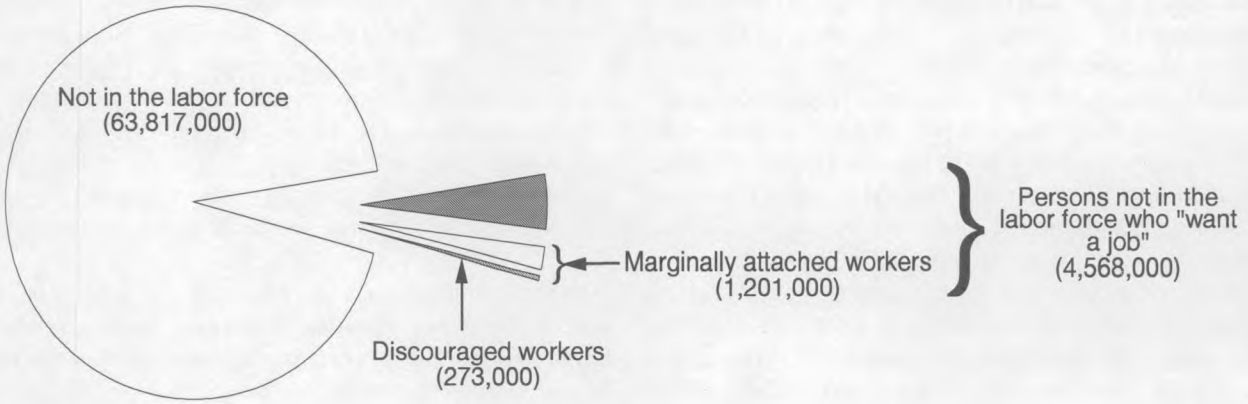
One widely used indicator of the *potential* supply of workers is the number of persons outside of the labor force who indicate that they currently want a job. In 1999, an average of

Chart 9. Over-the-year employment growth, by occupation and race or Hispanic origin, fourth quarter, 1998–99



SOURCE: Bureau of Labor Statistics, Current Population Survey.

Chart 10. Persons not in the labor force, annual average, 1999



NOTE: Persons not in the labor force who "want a job" are neither working nor currently looking for work, but have simply expressed a desire for a job. Marginally attached workers are persons who are not in the labor force, who want and are available for a job, and who have looked for work sometime in 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. Discouraged workers are a subset of the marginally attached who are not currently looking for work because they believe that no jobs are available or that there are none for which they would qualify.

SOURCE: Bureau of Labor Statistics, Current Population Siurvey.

4.6 million persons who were not in the labor force reported that they indeed wanted a job.[32] Of these workers, 1.2 million reported that they actually searched for work within the past 12 months and were available to take a job if one were offered. (This group is often referred to as those who are "marginally attached" to the labor force.) Among marginally attached workers, 273,000 had looked for work in the previous 12 months, but were not currently looking,[33] because they believed that no jobs were available for them or that there were none for which they would qualify. (This group is known as discouraged workers.)[34] (See chart 10.)

Since 1994,[35] the number of persons outside the labor force who want a job has declined by 27 percent. The number who were currently available, and actually looked, for work within 12 months of being surveyed fell by 34 percent over the period. The count of discouraged workers declined even more dramatically, by 45 percent between 1994 and 1999. These numbers suggest that there may have been significant movement into the labor force by those previously not participating.

The labor market is very dynamic, with changes in employment reflecting both changes in population and changes in the proportion of the population that is employed; the latter are largely tied to the performance of the economy. From 1998 to 1999, the civilian noninstitutional population increased by 2.2 million, and employment grew by about 2.0 million. Approximately three-fourths of net employment growth can be attributed to the growth in population. That is, if the proportion of the population employed had not changed, employment still would have increased by about 1.4 million. However, the percent of the population with jobs increased slightly, and that increase accounted for the balance (about 550,000, or one-fourth) of the total change in employment. The rise in the employment-population ratio reflected *net* declines in the proportions of the population who were unemployed or not in the labor force, but who wanted a job.[36]

Strong job growth continued in the West and South, while already tight labor markets in the Midwest tightened even further.[37] *The decline in unemployment was widespread, with many States enjoying their lowest unemployment rates on record.*[38]

Unemployment. All four regions had lower unemployment rates in 1999 than a year earlier. (See table 7.) The West, where the rate declined rather steadily all year, registered the largest decrease, –0.7 percentage point. Despite this improvement, the West had the highest jobless rate, 4.6 percent, for the eighth consecutive year. The Midwest had the lowest rate (3.4 percent), as it has in the fourth quarter of every year this decade. At year's end, three regions had unemployment rates at historical lows. The exception was the Northeast, where the rate was only slightly above the 4.0 percent recorded during three different quarters in 1988–89.

All nine geographic divisions experienced at least small unemployment rate declines in 1999. The largest decreases occurred in the Pacific (–0.8 percentage point) and West South Central (–0.5 percentage point) divisions. The West North Central registered the lowest jobless rate (2.6 percent) among all divisions for the 10th straight year, while the Pacific division reported the highest rate (4.9 percent) for the 8th year in a row. Only the Middle Atlantic division failed to equal or better its historical low unemployment rate during some quarter of 1999. Two-thirds of the States, including all those in the East North Central and East South Central divisions, established new low monthly unemployment rates in 1999.

Employment. Nonfarm payroll employment increased in all four census regions in 1999, with the most rapid expansions occurring in the West (2.5 percent) and South (2.2 percent). The Midwest, with its continuing low unemployment rate, high labor force participation rate, and high multiple-jobholding rate, had the slowest rate of increase (0.8 percent). Labor shortages may have curtailed job growth in this region. Among the nine geographic divisions, gains ranged from 0.7 percent in the East North Central to 2.7 percent in the Mountain division. The South Atlantic (2.6 percent), Pacific (2.4 percent), and West South Central (2.3 percent) divisions also had above-average growth rates. The following tabulation lists nonfarm payroll employment growth in 1999 (in thousands):

Region	*Number*	*Percent*
West	673	2.5
South	996	2.2
Northeast	357	1.5
Midwest	254	.8

In all major industries, except mining and manufacturing, every geographic region and division posted net job growth in 1999. In the two exceptions, the opposite was seen: widespread declines across the United States. As in most recent years, services accounted for the greatest number of new jobs in each region and geographic division. Trade ranked second in job creation in all regions and divisions. Meanwhile, construction had the highest growth rate in three regions (most notably, the West, at 6.4 percent) and in seven divisions. Both transportation and services grew at greater than a 3.0-percent pace in the West and South.

THE LABOR MARKET ENDED THE 20TH CENTURY on a strong note. Employment grew by about 2 percent in 1999, with more than half of the growth in services; job gains were particularly robust in industries that provided services to other businesses. Construction, the industry with the highest percentage of job growth, benefited from the low interest rates that prevailed for much of the

year. Employment growth in retail trade, which was slightly ahead of that in 1998, was sustained by strong consumer spending. Although employment declined in manufacturing, the rate of decrease slowed in the second half of the year.

Adult women accounted for a disproportionately large share of employment growth in 1999, and the employment-population ratio for adult women reached a record high. Employment grew faster for minority workers than for whites over the year; employment growth was the fastest for Hispanics. Overall, almost half of employment growth was in managerial and professional specialty occupations. The unemployment rate ended the year at 4.1 percent, the lowest level in 30 years; workers of all major demographic groups shared in the improvement, as did the four regions of the United States. □

Notes

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[1] See box on page 4 for an explanation of conceptual differences between the two surveys.

[2] "Surveys find more employers relying on staffing firms," *Staffing Industry Review*, May/June 1998, p. 42.

[3] See "'Just in Time' Inventories and Labor: a Study of Two Industries, 1990–1998," *Report on the American Workforce* (U.S. Department of Labor, 1999).

[4] Manpower, Inc., "No Relief of Labor-Shortage in New Year," *Employment Outlook Survey*, Nov. 22, 1999; on the Internet at **http://www.manpower.com/news/1Q00.htm** (visited December 1999).

[5] The Conference Board, "The Conference Board's Consumer Confidence Climbs," press release, Nov. 30, 1999; on the Internet at **http://www.conference-board.org/products/frames.cfm?main=c-consumer.cfm** (visited December 1999).

[6] Federal Reserve Board, *Beige Book Summary*, Sept. 22, 1999, December 1999; on the Internet at **http://www.bog.frb.fed.us/fomc/BeigeBook/1999/19990922/default.htm**.

[7] The Consumer Price Index for personal computers and peripheral equipment declined from 78.2 in 1998 to 53.5 in 1999.

[8] International Data Corporation, "IDC Forecasts Healthy Worldwide Q4 1999 PC Demand with 17% Unit Growth Over Q4 1998—Consumer Demand Offsets Quake and Y2K," Dec. 7, 1999; on the Internet at **http://www.idc.com/Data/Personal/content/PS120799PR.htm**.

[9] "Housing Opportunity Index Hits Record High in This Year's First Quarter," June 17, 1999; on the Internet at **http://www.nahb.org/news/hoiqtrl.htm.** (no longer accessible). The index, computed from 524,324 closings of new and existing homes in 181 markets, was the highest since the National Association of Home Builders began tabulating it in 1992. Through the first quarter, families earning the median U.S. household income of $47,800 could afford to buy an unprecedented 69.6 percent of homes sold nationwide.

[10] Shortages of skilled labor, wallboard, brick, and insulation were reported by the National Association of Home Builders, and shortages of labor were also cited in various "Beige Book" reports by the Federal Reserve.

[11] Total orders were up 8.4 percent over the year. (See *Survey of Current Business*, August 1999 results, published Oct. 8, 1999.)

[12] Bureau of Labor Statistics, Producer Price Index. The index for fuel has caught up to 1997 levels, but prices of most other commodities have not.

[13] See "Counting the Counters," this issue, pp. 24–29.

[14] Effective with data for January 1999, revised population controls were introduced into the CPS. The revised controls resulted in an increase of 307,000 in the estimated size of the civilian noninstitutional population aged 16 and older. They also increased the estimated size of the civilian labor force and of employment by about 60,000 each, with more substantial, but offsetting, changes among population subgroups. Over-the-year changes in this article, which are generally based on fourth-quarter-1998 to fourth-quarter-1999 comparisons, have been adjusted for the effects of these revised population controls, unless otherwise noted.

[15] The National Bureau of Economic Research determined that the trough of the recession in the early 1990s occurred in March 1991; hence, the expansion of the 1990s officially began in that month and year. However, it should be noted that many labor market indicators showed weakness well into 1992. The unemployment rate, for example, did not peak until June 1992.

[16] Over-the-year changes for women maintaining families were not adjusted for revised population controls because adjustment factors were not available for the group.

[17] The figure for 1979 was taken from the October 1979 supplement to the CPS, from which information is obtained on school enrollment for teenagers. The figure for October 1999 is from data on school enrollment obtained in the basic CPS. October data are used because schools are usually in session that month.

[18] Historical data on unemployment are available beginning in 1954 for whites, 1972 for blacks, and 1973 for Hispanics.

[19] Over-the-year changes in employment status by educational attainment have not been adjusted to reflect revised population controls because adjustment factors were not available.

[20] Data on educational attainment for years prior to 1992 are not strictly comparable to data for 1992 and later years because of survey changes. Prior to 1992, the respondents were asked how many years of school they had completed. Beginning in 1992, respondents were asked instead about the highest degree they had obtained.

[21] Over-the-year changes in this part of the article were not adjusted for revised population controls because adjustment factors were available neither for employment by race or Hispanic origin crossed by occupation nor by detailed occupation alone.

[22] In this part of the article, all data are annual averages.

[23] The concept of a changing age distribution affecting unemployment rates has been considered on numerous occasions in the literature over the years; among the more recent contributions is an article by Lawrence F. Katz and Alan B. Krueger ("The High-pressure U.S. Labor Market of the 1990s," Working Paper #416 (Princeton, NJ, Princeton University, Industrial Relations Section, May 1999)), who found that the unemployment rate in 1998 would have been about 5.2 percent (as opposed to the official rate of 4.5 percent) if the age composition of the labor force had been the same as the average over the 1960–98 period.

[24] The year 1969 was chosen as a point of comparison because the unemployment rate in 1999 was the lowest since 1969, on an annual-average basis. The year 1978 was chosen as another point because in that year the proportion of young people in the labor force was the highest of all years over the 1948–99 period.

[25] Of course, age and sex are not the only variables that can exert an influence on unemployment rates. Other factors may be race and educational attainment. A more indepth analysis would simultaneously take into account a wide range of variables affecting unemployment.

[26] The *median* (or upper limit of the second quartile) is the amount that

divides a given earnings distribution into two equal groups, one having earnings above the median and the other having earnings below the median.

[27] The data presented in this part of the article are annual averages, and changes are based on a comparison of 1998 and 1999 figures. Over-the-year changes in median weekly earnings were not adjusted for revised population controls because adjustment factors were not available.

[28] This aggregate ratio does not control for differences in many variables that may affect earnings. For more information on trends in the earnings of women, see Mary Bowler, "Women's earnings: an overview," *Monthly Labor Review*, December 1999, pp. 13–21.

[29] The National Bureau of Economic Research (NBER) determined that November 1982 was the trough of the 1981–82 recession and that the ensuing expansion peaked in July 1990. The NBER designated March 1991 as the trough of the 1990–91 recession. In this part of the article, the 1982–89 period is used to represent the expansion of the 1980s and the 1992–99 period is used for the expansion of the 1990s, because the cyclical low points in median weekly earnings prior to the two expansions (in constant dollars, using the CPI-U and CPI-U-X1) occurred in 1981 and 1991, respectively.

[30] At the upper limit of the *first decile*, 90 percent of workers have higher earnings, and 10 percent have lower earnings, than that limit. At the upper limit of the *ninth decile*, 90 percent of workers have lower earnings than that limit.

[31] In the case of over-the-year earnings growth by educational attainment, the trends exhibited by the first decile are consistent with the observed trends at the first quartile. Likewise, the trends shown by the ninth decile are consistent with those at the third quartile. At the upper limit of the *first quartile*, 75 percent of workers have higher earnings, and 25 percent have lower earnings, than that limit. At the upper limit of the *third quartile*, 25 percent of workers have higher earnings than the limit.

[32] The data in this part of the article are annual averages.

[33] *Currently looking* refers to job search activity conducted within the 4 weeks preceding the survey. Had these persons been looking within that period, they would have been counted as *unemployed* rather than *not in the labor force*.

[34] An analysis of data on persons *not* in the labor force, but who indicate that they want a job, reveals that their labor market attachment is generally weak. Specifically, Monica Castillo ("Persons outside the labor force who want a job," *Monthly Labor Review*, July 1998, pp. 34–42) found that only 41 percent of persons not in the labor force in 1994 who said they wanted a job were actually in the labor force a year later. The percentage was slightly higher for marginally attached workers (48 percent). For discouraged workers, 45 percent were in the labor force in 1995.

[35] In 1994, a redesigned CPS was introduced in which some of the categories of persons not in the labor force were subject to major changes in definition. As a result, historical comparisons for these categories are possible only back to that year.

[36] To calculate the change in employment that is due to population growth, the employment-population ratio for the first period is applied to the population for the second, and the employment level that is derived is compared with the employment level for the first period. To calculate the change in employment due to shifts in the proportion of the population among the separate labor force categories, the change in the ratios for the other labor force categories is divided by the change in the employment-population ratio, and the change in employment not due to population growth is multiplied by the resulting distribution. The change that results is the *net* change between labor force categories, not the gross flows between categories.

[37] Estimates of both nonfarm employment and the labor force are the sum of State estimates and are not intended to add to national totals. In addition, both series are subject to revision resulting from reestimation and updated seasonal adjustment effective with the release of January 2000 data. The four regions and nine divisions are composed of the following States and the District of Columbia: NORTHEAST: *New England division*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; *Middle Atlantic division*—New Jersey, New York, Pennsylvania; SOUTH: *South Atlantic division*—Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; *East South Central division*—Alabama, Kentucky, Mississippi, Tennessee; *West South Central division*—Arkansas, Louisiana, Oklahoma, Texas; MIDWEST: *East North Central division*—Illinois, Indiana, Michigan, Ohio, Wisconsin; *West North Central division*—Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota; WEST: *Mountain division*—Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; *Pacific division*—Alaska, California, Hawaii, Oregon, Washington.

[38] Monthly data for the West region, Pacific division, and California begin in 1980; the other regional, divisional, and State series begin in 1978.

Counting the counters: effects of Census 2000 on employment

In order to distinguish the underlying employment trends from the effects of Census 2000 hiring, the affected BLS employment estimates must be adjusted in each of the months in which intermittent census employees are hired

Laura A. Kelter

Once every 10 years, the U.S. Bureau of the Census undertakes the constitutionally mandated Census of Population and Housing for apportioning of the House of Representatives. This decennial census is designed to collect demographic data about all persons living in the United States, Puerto Rico and the island areas.[1] In addition to Congressional redistricting, census figures are used for redistricting State legislatures and for distributing Federal funds for schools, housing assistance, highway construction, and programs for the elderly.[2] Because of its magnitude, the decennial census requires years of planning and thousands of employees to accomplish. For this reason, employment levels in the Bureau of Labor Statistics Current Employment Statistics (CES) survey, particularly in certain industries, are affected—both in the actual year in which the census is conducted and, to a lesser degree, up to 21 months prior to the census. Hiring for the census is reflected in data for Federal Government, as well as in the aggregate, total nonfarm employment.[3] Detailing the amount of census effect within the CES data is essential to understanding the underlying employment trends in the affected industries.

Historical overview

From its level at the end of the year prior to the census to its peak level during the census year, employment increases ranged from almost 125,000 during the 1970 census to nearly 370,000 during the 1990 census. (See chart 1.) During each of the last four decennial censuses, Federal employment spiked between March and May of the census year, corresponding with hiring for the Nonresponse Followup portion of the census, which was conducted from April through July. In addition, prior to the census year, relatively small temporary increases in employment occur as workers are hired by the Bureau of the Census for "*Address List*" development and Preparation Field Operations.

In order to analyze the underlying employment trends in estimates affected by the decennial censuses, the affected CES employment series must be adjusted for each of the months in which intermittent census employees were hired. An example from the 1990 census helps illustrate this point. Prior to adjustment, Federal employment shows a sharp spike of growth in May and then a corresponding quick downturn 2 months later. (See chart 2.) Conversely, after adjusting for the temporary census workers, employment remained basically unchanged during the first half of the census year; it began to decline slightly in August, as the Nation entered the 1990–91 recession.

Similarly, prior to adjustment for the temporary census workers, total nonfarm employment peaked in May 1990 before declining sharply. (See chart 3.) After adjusting for the census workers, however, the increase in employment and the subsequent decline were more modest.

Analysis of Census 2000 data

Hiring for the Census 2000 began in February 1998, but its effects did not become noticeable in the overall employment counts until August

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Chart 1. Employment in Federal Government, 1958–99, seasonally adjusted

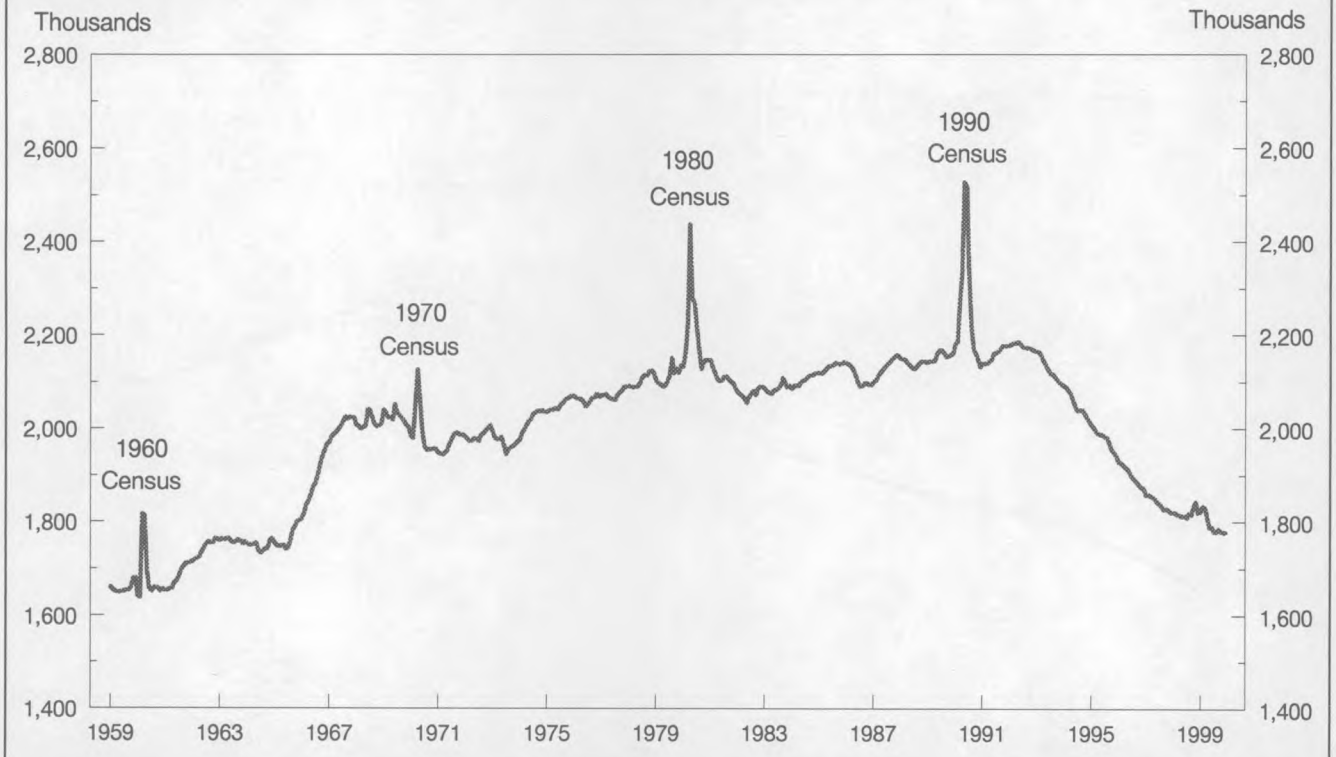


Chart 2. Employment in Federal Government, including and excluding Census 2000 workers, January 1989 to December 1990, seasonally adjusted

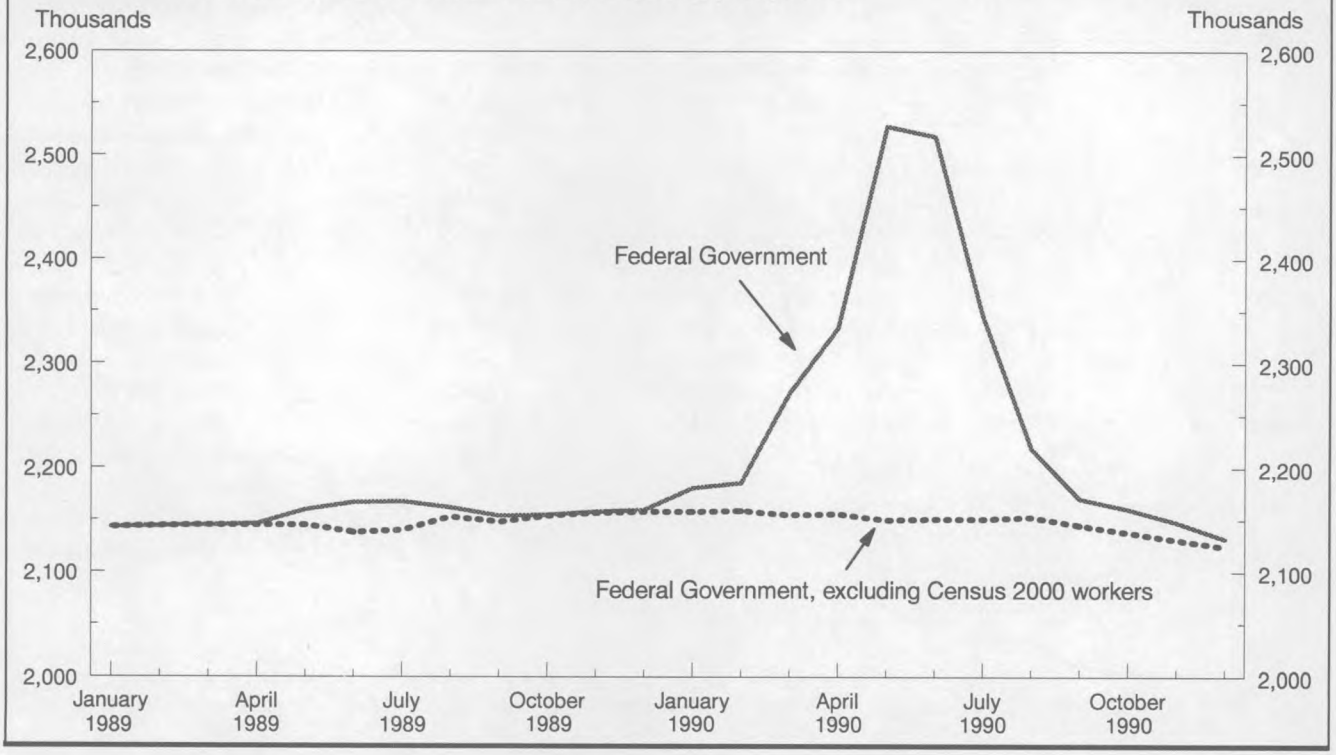


Chart 3. **Total nonfarm employment, including and excluding Census 2000 workers, January 1989 to December 1990, seasonally adjusted**

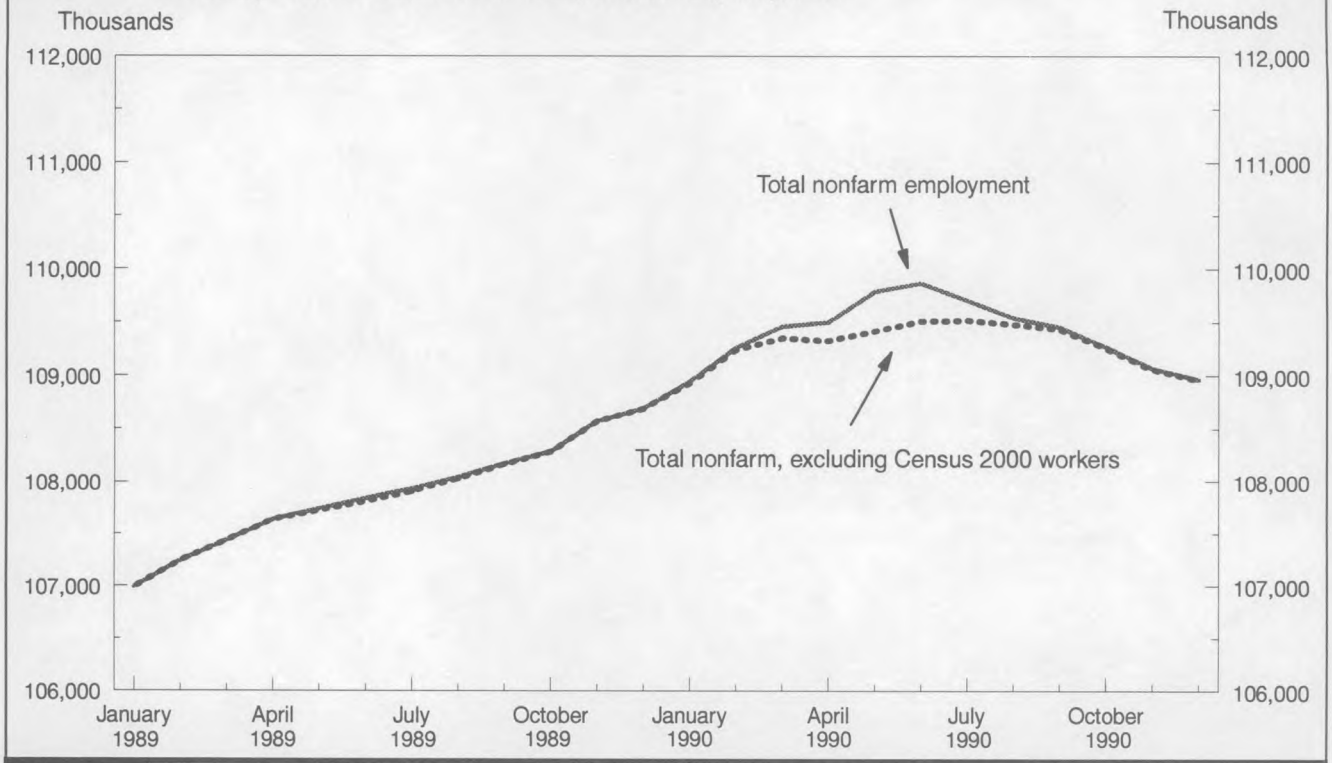


Chart 4. **Employment of Census 2000 workers and phases of census, October 1997 to December 1999**

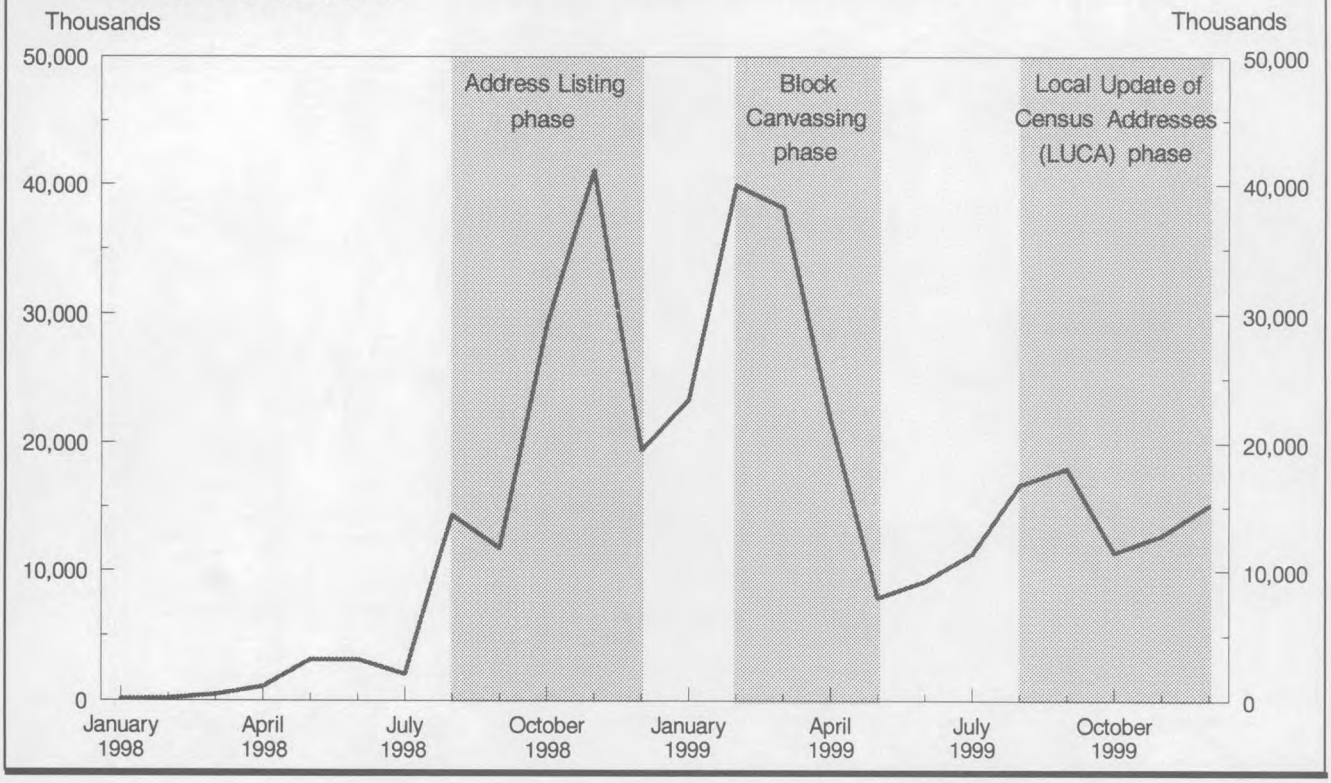


Chart 5. **Employment in Federal Government, including and excluding Census 2000 workers, January 1998 to December 1999, seasonally adjusted**

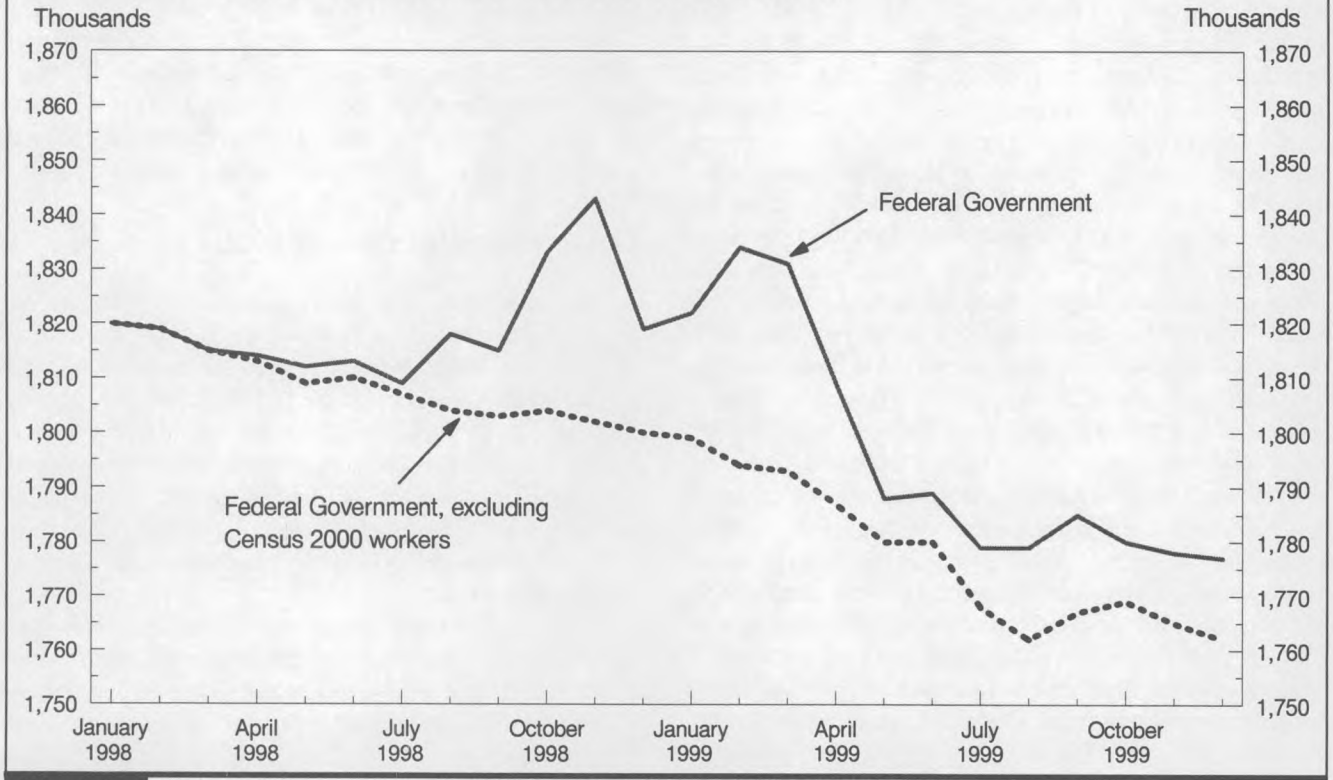
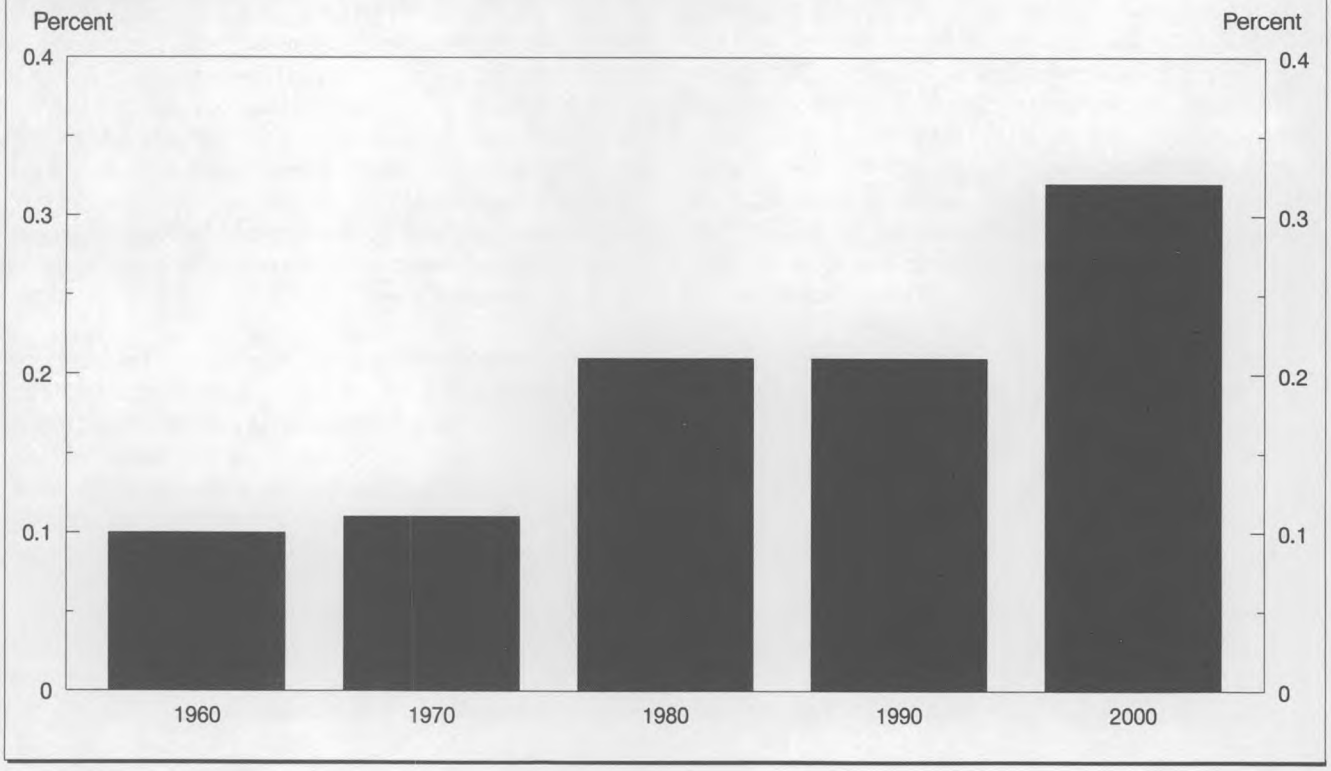


Chart 6. **Decennial census workers as percent of population, 1960–2000**



1998, when the level of census enumerators grew by more than 12,000 workers over the month. (See chart 4.) This was the beginning of the agency's Address Listing phase of the census. Through Address Listing, the Bureau of the Census develops an address list for areas with non-city-style addresses, such as rural routes and box numbers. Address Listing allows census workers to document, on census maps, the street address or comparable location, the mailing address if different from the street address, and the census block location of all living quarters in the United States, Puerto Rico, and the island areas. In areas with non-city-style addresses, census workers canvassed assigned areas door-to-door, identifying each mailing address and describing its physical location. Employment during Address Listing peaked in November 1999 at a level of more than 41,000 jobs; the level then dropped back down to around 20,000 jobs in December.

Following Address Listing, the Bureau of the Census began its Block Canvassing phase for city-style areas with street and number addresses (about 94 million addresses.) In this phase, employees covered 100 percent of the ground, knocking on every third door. (In multiunit structures, all units were visited.) Also during this phase, census workers verified addresses, asked if there were additional units at the address or on the property, and inquired about surrounding addresses. Employment during Block Canvassing reached a peak of nearly 40,000 employees in February and March 1999 and then rapidly declined to fewer than 8,000 employees by May.

Following Block Canvassing and progressing through the end of 1999, the Bureau of the Census initiated its Local Update of Census Addresses (LUCA) operation. During this phase, local government officials were given an opportunity to review and provide updates to the address list of housing units, special places, and group quarters for their jurisdiction, as well as to update census maps. To that end, the Accuracy and Coverage Evaluation Survey and the Special Place Facility Questionnaire Operation were conducted. Employment of census workers reached a peak of approximately 18,000 workers during this phase.

Employment in Federal Government including the decennial census workers declined by 43,000 jobs between January 1998 and December 1999. When the decennial census workers are excluded, however, the industry declined at a slightly faster rate—58,000 jobs over the 2-year period. Even though both series were at about the same employment levels by December 1999, the hiring of Census 2000 workers clearly masked a downward trend in Federal employment. (See chart 5.) Decennial census workers averaged an additional 15,000 jobs per month during the period. Effects of the census hiring during 1998 were too small to be noticed at the total nonfarm employment level, with the exception of the few peak months during Address Listing and Block Canvassing phases of the census. Most of the significant effects will come in 2000.

During preliminary work for the 1990 census, the pattern was similar, although not as dramatic during the early phases of the census. The hiring of the 1990 decennial census workers made employment in Federal Government appear to have grown when actually it had remained basically unchanged.

Expectations for Census 2000

As the size of the population has increased, it has taken more employees to conduct the census (See chart 6.) The Bureau of the Census has stated that, to account for the anticipated 118 million housing units in the United States and a population expected to reach 275 million people, more than half-a-million census takers and support personnel will be needed. The temporary positions can last from as little as one day to several weeks, and most census workers will fill two or three of the more than 860,000 field positions needed to accomplish Census 2000. [4]

Forecasting its employment requirements has been difficult, for several reasons. First, the Supreme Court ruled in January 1999 that the Bureau of the Census could not use statistical sampling to supplement any count used to allocate Congressional seats. Second, the most labor intensive field operation, Nonresponse Followup, depends upon the actual percentage of census forms returned by the U.S. public.

Significant hiring for Census 2000 is planned to begin in March 2000 as preparations are made to conduct major field operations. Following Census Day—April 1, 2000—and continuing through early July, the agency will proceed into its Nonresponse Followup operation, the most labor-intensive field operation. Judging from the past, peak census employment, as measured by the CES, should occur between March and May 2000.[5] Following peak employment, significant layoffs should occur the following month and continue through December 2000.

THE CES EMPLOYMENT REPORT is a major coincident economic indicator. It is important that analysts understand the magnitude of Census 2000 hiring to distinguish underlying employment trends from this special activity that occurs once a decade. The most significant period of employment increases and subsequent declines due to Census 2000 will occur between March and September 2000. Throughout the period, the monthly BLS Employment Situation news release, which publishes data from the CES and the Current Population Survey, will identify the impact of census workers on the employment estimates. Early in 2001, BLS will publish a detailed account of the effects of Census 2000 on employment. □

Notes

[1] The island areas include the Northern Mariana Islands, Guam, American Samoa, and the U.S. Virgin Islands.

[2] See Census 2000 Home Page, on the Internet at **http://www.census.gov/dmd/www/2khome.htm**, accessed February 2000. The Census 2000 Home Page is part of the official Bureau of the Census website at **http://www.census.gov**.

[3] Universe counts for Federal workers are provided to the CES survey by the United States Office of Personnel Management, Office of Workforce Information. The data reflect the number of temporary decennial census workers receiving at least one paycheck during the reference month. For the purpose of this article, the series, "Federal Government, excluding Postal Service," is used for Federal workers.

[4] Census 2000 Home Page, on the Internet at **http://www.census.gov/dmd/www/2khome.htm**, accessed February 2000.

[5] A peak is reached in the month in which the employment trend changes from positive to negative. For example, during the 1990 census, employment in the series continued to expand through its peak level in May before declining in June.

Erratum

In the article, "Industry output and employment projections to 2008," by Allison Thomson (*Monthly Labor Review*, November 1999), some data in tables 1, 2, and 4 are incorrect. Therefore, some quantitative comparisons in the article may be incorrect. However, the qualitative analyses and conclusions remain unchanged. A revised version is on the Internet at:

http://www.bls.gov/opub/mlr/mlrhome.htm

For a reprint of the article, contact mlr@bls.gov or James Franklin, Office of Employment Projections, Bureau of Labor Statistics, Washington, DC 20212;, telephone: 202-691-5709.

Analyzing the recent upward surge in overtime hours

During the economic expansion of the 1990s, employers in manufacturing industries were more likely than in previous recessions to increase overtime hours among existing employees than to hire new workers

Ron L. Hetrick

From March 1991, the end of the last recession, to early 1997, average weekly overtime in manufacturing increased by 1.6 hours, reaching its highest level—4.9 hours—since BLS began publishing the series in 1956.[1] Overtime remained at or near this high level over the next year, retreating slightly by the end of 1998. These data are from the BLS Current Employment Statistics (CES) survey, a monthly survey of payroll, hours, and earnings collected from a sample of more than 400,000 of the Nation's employers. The CES program defines overtime as hours for which premiums were paid because they exceeded the number of straight-time workday or workweek hours. Average overtime is computed by dividing the total number of overtime hours in a given industry by the number of production workers in that industry, including those that work no overtime at all.

Historically, average overtime has increased with recoveries and fallen with recessions, with the level never exceeding 4.1 hours. Average overtime fell from 3.7 to 3.3 hours during the 1990-91 recession, but the current expansion has seen overtime reach an unprecendented level. This article analyzes the striking growth in overtime from March 1991 to January 1998 and its relationship to employment.

Overtime growth in the 1990s

Following the 1990–91 recession, cyclical job loss in manufacturing continued until mid-1993. Indeed, after losing 683,000 jobs during the downturn, another 400,000 manufacturing jobs were lost *after* the recession officially ended in March 1991. Interestingly, however, the cyclical trend in manufacturing overtime hours turned around exactly the same month that the recession ended. By the time that manufacturing employment started its cyclical recovery in July 1993, average overtime had increased from 3.3 to 4.1 hours. (See chart 1.) Overtime hours continued to surge, reaching 4.8 hours in the last quarter of 1994. Manufacturing employment expanded until April 1995, adding a total of 541,000 jobs in a period of less than 2 years.

Average factory overtime fell by 0.6 hour in 1995. In 1996, it started inching upwards again, while employment in the industry experienced a mild downward trend. By December of 1996, average weekly overtime had reached 4.6 hours, after starting the year at 4.2 hours. Employment also started back on a growth trend early in 1996, but at a very slow pace. By March 1997, overtime had reached a record high of 4.9 hours—a level it sustained for the next 2 months and then revisited at the end of the year. In contrast, employment, while still growing, ended 1997 at a level nearly 700,000 *lower* than its prerecession peak in March 1989.

Sources of overtime growth

Manufacturing's record-setting increase in average weekly overtime is the result of two factors. The first, as shown in table 1, is that, from March 1991 to January 1998, overtime increased in all but one of the component industries in manufacturing. The increases ranged from a notable 3-hour gain in transportation equipment to a relatively slight increase of 0.6 hour in apparel products. As

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Chart 1. Employment and average weekly overtime hours in manufacturing, 1990-98, seasonally adjusted

the table illustrates, more than half of the 20 industries within manufacturing had increases of at least 1 hour over the 1991–98 period. In fact, many of these industries had set records for their overtime series by early 1997.[2]

Some specific industries made exceptional contributions to the growth in overtime hours. Within transportation, for example, overtime in the motor vehicle manufacturing industry jumped by a remarkable 4.4 hours. Similarly, within primary metals, overtime in iron and steel foundries grew by 3.7 hours, and within industrial machinery and equipment, refrigeration and service machinery overtime increased by 2.9 hours.[3]

The second factor driving the increase in overtime is that the distribution of employment in manufacturing was shifting towards component industries that were adding the most overtime over the 1991–98 period. This effect can be quantified by dividing the industries in the table into two groups. The 10 industries that had the greatest increase in overtime after the recession together averaged 5.2 overtime hours, which was 1.2 hours more than the average for the other 10 industries. At the same time, the 10 industries with the highest average overtime increase also had an accumulated increase in production workers of 11.2 percent, while the bottom 10 *lost* 4.7 percent of their production workers.

The combined effect of the growth in overtime in nearly every industry and the employment increases in industries with large gains in overtime can be seen in aggregate overtime (the product of production workers and average weekly overtime hours). The top ten overtime gainers accounted for 68 percent of the total manufacturing aggregate overtime in January 1998, compared with 60 percent in March 1991.

Overtime hours also would increase if employment in industries with high overtime levels grew faster than employment in industries with lower levels of overtime. To determine whether this was a factor, manufacturing overtime in 1998 was computed using the employment distribution of March 1991. The results showed that the shift in industry mix contributed little to the increase in overtime, adding just 0.1 hour.

Substituting overtime for employment

Historically, both employment and overtime have increased as the U.S. economy emerged from recessions, with overtime gains generally occurring prior to the employment gains. While this has remained the case since March 1991, employers appeared to rely more heavily on overtime in the current expansion than on hiring new employees. This part of the analysis focuses on overtime growth from the beginning of the current recovery until overtime hours peaked 82 months later, in January 1998, comparing it with employment growth over the same period. The data are compared with two other expansions that lasted at least 82 months. (See table 2.)

When the recoveries that began in March 1961 and Decem-

Table 1. Change in overtime hours in manufacturing industries, March 1991–January 1998

SIC code	Industry	March 1991	January 1998	Level change	Percent change
20–39	Total, manufacturing	3.3	4.9	1.6	48.5
37	Transportation equipment	3.1	6.1	3.0	96.8
33	Primary metal industries	4.2	6.8	2.6	61.9
34	Fabricated metal products	3.1	5.2	2.1	67.7
32	Stone, clay, and glass products	4.2	6.2	2.0	47.6
35	Industrial machinery and equipment	3.6	5,6	2,0	55.6
25	Furniture and fixtures	2.0	3,9	1.9	95.0
30	Rubber and miscellaneous plastics products	3.2	4.7	1.5	46.9
22	Textile mill products	3.5	4.9	1.4	40.0
24	Lumber and wood products	3.0	4.3	1.3	43.3
	Electronic and other electrical equipment	3.1	4.3	1.2	38.7
28	Chemicals and allied products	4.3	5.3	1.0	23.3
26	Paper and allied products	4.7	5.7	1.0	21.3
38	Instruments and related products	2.9	3.8	.9	31.0
31	Leather and leather products	1.6	2.5	.9	56.3
39	Miscellaneous manufacturing	2.4	3,2	.8	33.3
20	Food and kindred products	4.3	5.1	.8	18.6
27	Printing and publishing	2.6	3.4	.8	30.8
21	Tobacco products	2.1	2.8	.7	33.3
23	Apparel and other textile products	1.6	2.2	.6	37.5
29	Petroleum and coal products	6.1	6.1	.0	.0

NOTE: These data are seasonally adjusted; only not seasonally adjusted data for overtime are published on a monthly basis. Industries are listed in descending order, beginning with the industry having the greatest change over the period in the *level* of overtime and ending with the industry having the least change in overtime.

ber 1982 were 82 months old, they had added 3.5 million and 1.3 million manufacturing jobs, respectively. The peak levels of average overtime associated with those recoveries were 4.1 hours in February through April 1966 and 4.0 hours in February and April 1989. The current recovery's overtime gain of 1.6 hours is slightly below the two previous recoveries; however, because the *level* at the onset of the current expansion was significantly higher, the peak levels of the two previous recoveries were superseded in less than 2 years. Even with this record-setting strength in overtime, employment grew by only 397,000, or just 17 percent of the average job growth in the two earlier recoveries.

The implied substitution of overtime for hiring can be quantified using full-time equivalents. Full-time equivalents are computed by taking the aggregate overtime and dividing it by 40, the number of hours in a standard workweek. For example, if 20 people worked 6 hours of overtime, the full-time equivalent of that overtime would be 3—that is, 3 extra production workers could have been hired rather than existing workers accumulating 120 weekly overtime hours.

From March 1991 to January 1998, the number of production workers in manufacturing increased by 601,000. Over the same period, the full-time equivalent of the aggregate overtime change in manufacturing was 571,000 jobs. (See table 3.) That means that if employers had hired new workers instead of increasing overtime, nearly twice as many production workers would have been hired.

The table also shows where these workers would have been hired. Transportation equipment, which includes auto and aircraft assembly, had an overtime change valued at 107,000 full-time equivalent jobs, or one-fifth of the total for all manufacturing. Industrial machinery and fabricated metals also would have accounted for a large portion of the hiring during this period. Other industries with relatively large full-time equivalents included rubber and plastics, electronics, and primary metals.

A common factor among the industries that added the most overtime was a highly skilled workforce. The data suggest that when the overall skill level among workers in an industry is relatively high, firms tend to increase overtime during expansions rather than hire new workers. Training highly skilled workers is costly, especially if many of them may be laid off during the next recession. For similar reasons, workers in some highly skilled occupations are in short supply and thus may not be available to the hiring establishment. The 10 industries within manufacturing with the largest overtime gains since the recession had more than 17 percent of their employment in highly skilled positions; the comparable figure for the 10 industries with the least gains is 8 percent.[4]

Employment and overtime in 1998

After starting 1998 at the record-setting level of 4.9 hours, by the end of the year, average weekly overtime in manufacturing had fallen by 0.4 hour. (See table 4.) Meanwhile, employment in manufacturing declined by 238,000 over the same period, as many export-sensitive industries reacted to the economic crises then occurring in Southeast Asia, Russia, and Brazil. The industry groups with the largest aggregate overtime declines in 1998 included specific (three-digit) industries that were the most export-sensitive of all manufacturing industries, including computers, aerospace, semiconductors, and household audio and video equipment.[5] The 0.4-hour reduction in manufacturing overtime is equal to 157,000 full-time equivalents—that is, had overtime not been reduced

Table 2. Manufacturing peak overtime in selected recoveries and employment growth after 82 months of expansion

Start date	Overtime hours		Employment (in thousands)		
	Peak level	Change	Level change	Percent change	Average monthly change
March 1961	4.1	2.0	3,505	21.8	43
December 1982	4.0	1.7	1,280	7.1	16
Average	4.1	1.9	2,393	14.4	30
March 1991	4.9	1.6	397	2,2	5

by 0.4 hour, employers would have had to lay off an additional 157,000 factory workers in 1998.

UNLIKE IN PREVIOUS EXPANSIONS, manufacturing employers in the 1990s were more likely to increase overtime hours among existing employees than to hire new employees. Despite beginning the current expansion at historically high levels, overtime increased by nearly as many hours as in the earlier expansions of the 1960s and 1980s, bringing the level to a record high (4.9 hours) by the end of 1997. From its low of 3.3 hours in March 1991, overtime increased by 48 percent. The gains in overtime were spread throughout the manufacturing industry groups, with the largest gains occurring in durable goods, especially transportation equipment and primary metal industries.

Table 3. Production worker and full-time equivalent growth in manufacturing, March 1991 to January 1998

[Numbers in thousands]

Industry	Production worker growth	Full-time equivalent growth[1]	Combined total[2]
Total manufacturing	601	571	1,172
Durable goods	722	443	1,165
Lumber and wood products	115	30	145
Furniture and fixtures	47	22	69
Stone, clay, and glass products	36	26	62
Primary metal industries	13	38	51
Fabricated metal products	146	71	217
Industrial machinery and equipment	178	86	264
Electronic and other electrical equipment	85	39	124
Transportation equipment	141	107	248
Instruments and related products	–53	6	–47
Miscellaneous manufacturing	14	6	20
Nondurable goods	–121	123	2
Food and kindred products	46	30	76
Tobacco products	–4	0	–4
Textile mill products	–53	13	–40
Apparel and other textile products	–187	2	–185
Paper and allied products	5	14	19
Printing and publishing	–6	17	11
Chemicals and allied products	–2	14	12
Petroleum and coal products	–11	–2	–13
Rubber and miscellaneous plastics products	126	39	165
Leather and leather products	–35	0	–35

[1] Full-time equivalents are computed by taking the total number of overtime hours and dividing it by 40, the number of hours in a standard workweek. This analytical tool provides an estimate of the number of production workers that could have been hired if employers had hired new workers instead of increasing overtime.

[2] This *hypothetical* total is obtained by combining the figures for actual production worker growth over the period with those for full-time equivalents. Thus, these figures represent the total number of production workers that could have been hired had employers not increased overtime.

Table 4. Change in production workers, full-time equivalents and overtime hours in selected industries, 1997–98

[In thousands except for overtime]

Industry	Change in production workers	Change in full-time equivalents	Change in overtime hours
Total, manufacturing	–238	–157	–.4
Industrial machinery and equipment	–25	–41	–1.1
Transportation equipment	–40	–34	–.9
Electronic and other electrical equipment	–50	–21	–.6
Primary metal industries	–16	–14	–.8
Fabricated metal products	–11	–13	–.4

NOTE: Changes are calculated from December 1997 to December 1998, using seasonally adjusted figures.

Meanwhile, employment in manufacturing grew quite modestly during the 1990s expansion, increasing by about 4 percent from its trough in June 1993 to its peak in March 1998. Over comparable periods in the 1960s and 1980s, by contrast, employment increased by 15 percent and 5 percent, respectively. Largely as a result of economic crises abroad, employment began to decline in early 1998, with losses concentrated in export-sensitive industries. But just as overtime had substituted for job gains in the current expansion through 1997, it acted as a cushion against job loss in 1998. In fact, had overtime not been reduced by 0.4 hour in 1998, instead of a loss of nearly a quarter-million jobs in manufacturing, the loss would have been closer to 400,000. Manufacturing employment continued to decline in 1999, while overtime hours held steady, rising slightly by the end of the year. □

Notes

[1] The "official" starting and ending dates of recessions and expansions are determined by the National Bureau of Economic Research (NBER)—a private, nonprofit, nonpartisan research organization dedicated to promoting a greater understanding of how the economy works. NBER identifies economic turning points—that is, dates when economic activity turned in the opposite direction. For more information, see NBER's website, on the Internet at **http://www.nber.org/**, accessed February 2000.

[2] Industries are defined by the Standard Industrial Classification (SIC) system. The 20 component industries within manufacturing are those at the two-digit SIC level of aggregation. For more information on the SIC system, see *Standard Industrial Classification Manual, 1987* (Washington, DC, Office of Management and Budget, 1987).

[3] Overtime data for specific (three-digit) industries within transportation equipment, primary metals, and industrial machinery are not seasonally adjusted. Therefore, to avoid seasonal fluctuations, overtime hours are measured from December 1990 to December 1997.

[4] Data from the BLS 1996 Occupational Employment Statistics program.. Highly skilled positions were defined as engineers, technicians, scientists, and precision workers and assemblers.

[5] This analysis is based on the percent of employment tied to exports in 1993; data are from the BLS Office of Employment Projections.

Interindustry wage differentials: patterns and possible sources

Data from the Occupational Employment Statistics survey are used to investigate wage differences among industries and reveal that occupations that are most closely related to the primary mission of the firm have the greatest differential

Jane Osburn

Do workers with similar skills in similar occupations receive similar wages across industries? Differences in interindustry wages have been widely documented over the last two decades, and researchers continue to discuss these differences. In particular, they seek the sources of wage dispersion among individual workers, employers, industries, and geographic areas. Recent attempts to explore the role of particular technologies, including microprocessor technologies, in wage dispersion has heightened interest in this issue.[1]

This article examines interindustry wage differentials, using data from the Occupational Employment Statistics (OES) survey. The OES classifies employment and wages of individuals by detailed occupation and three-digit Standard Industrial Classification (SIC) industry.[2] The OES survey solicits employment and wage data for more than 700 occupations in three-digit SIC industries using a sample of 1.2 million establishments.[3] Estimates of occupational employment and wages are developed for the Nation, individual States, and metropolitan statistical areas, as well as Guam, Puerto Rico, and the Virgin Islands. This article uses data from the 1996, 1997, and 1998 surveys, which when combined account for the total OES sample. (Hereafter referred to as the 1998 OES data.)[4]

The OES is useful for investigating wage differences among industries because its data provide high levels of both occupational and industrial detail. Data by detailed occupation allow researchers to examine wage differences among industries that hold constant a relatively detailed description of individuals' job tasks and duties. Because several of the proposed explanations of interindustry wage differentials have implications for the types of tasks and duties that are expected to be most closely associated with wage differences among industries, OES data have considerable potential to add to our understanding of this issue.

Comparisons with other surveys

Most of the earlier (pre-1985) studies of wage dispersion among industries have used data obtained from households, such as the data from the Current Population Survey or those collected from the decennial census. These data contain information about workers' occupation and industry of employment, in addition to information about workers' demographic characteristics such as age, sex, work experience, and education level.[5] Recently, more studies have used data that are collected at the firm or establishment level. These data contain relatively detailed information about workers' occupation, industry of employment, and demographic characteristics.[6]

Wage data from alternative sources have different strengths. One key measure illustrates wage differences across industries for workers with similar levels of education and other "human capital" characteristics. Data obtained from household surveys that describe the demographic char-

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acteristics of workers are used to measure the portion of the difference in the wages of workers in similar occupations that is attributable to average differences in the level of workers' "human capital." Wage differences among industries represent a problem for researchers because differences in the demographic characteristics of workers in similar occupations explain only a portion of the wage differences among industries. The demographic information collected by household surveys is thus a very important strength of these data, relative to surveys that collect data classified by occupation and industry alone.

The OES estimates of wage differences among industries compare the wages of workers employed in the same detailed occupations, without also controlling for demographic characteristics. Controlling for detailed occupation holds the following factors constant: job-specific skills and tasks, differences among occupations in labor market power and conditions, and systematic differences among occupations in the wage setting practices of firms. Recent studies suggest that data by detailed occupation and industry implicitly control well for differences in demographic characteristics such as age, education, and experience. In a 1992 study, David I. Levine found that controls for standard human capital variables explained none of the wage variation among employers after controlling for occupation. Earlier studies by Erica L. Groshen and Jonathan Leonard produced similar findings.[7]

Data that control for detailed occupations are especially appropriate for studying interindustry wage differentials because many of the theories that attempt to explain such differentials suggest that the skills and tasks of certain jobs might play an important role. For example, one explanation suggests that wage premiums are paid in an effort to ameliorate workplace problems, such as shirking, by increasing the cost of job loss to the employee. Jobs for which the configuration of duties and tasks are especially costly to monitor should, for this reason, be paid higher premiums than those that are not as expensive. Another explanation suggests a similar rationale for paying wage premiums in the case of high job turnover. Many jobs plagued by high rates of turnover often have in common a set of particularly undesirable tasks or duties.[8]

Table 1 shows a sample of the OES data containing the mean hourly wages of a range of occupations in selected industries. The size of the wage differences among industries for given occupations is striking. For example, the wages of general managers range from $17.40 in bowling centers to $44.89 in the industrial organic chemicals industry, and the wages of janitors range from $6.69 in bowling centers to $16.36 in motor vehicles and equipment manufacturing. For most occupations, the table reveals a clear pattern of higher wages in industries near the top of the table and lower wages in industries at the bottom. However, this pattern is not apparent for computer programmers, who appear to have similar wages regardless of industry.

OES data provide an important tool for investigating interindustry wage differentials because they permit such wage range analyses and other types of comparisons of wage characteristics across detailed occupations. The OES data do, however, pose some limitations on the analysis of interindustry wage differentials. For example, the survey provides information for an unusually large number of distinct occupations, but does not incorporate information on the scope and responsibility of these jobs. To illustrate this limitation, we use the occupation, "general manager." It is likely that systematic differences exist in the responsibilities of general managers across industries. For example, among other differences, managers in bowling centers are more likely to be managers of relatively small establishments, while managers in the petroleum refining industries are more likely to be corporate executives. Although the lack of information on the scope and responsibility of certain jobs is not a problem for most occupations across industries, it is a problem for some occupations.[9]

Patterns of wage differentials

Interindustry wage differentials have largely remained a mystery, although research dating back to 1950 has found that industry affiliation accounts for a significant portion of wage differentials after controlling for education, race, sex, and other "human capital" characteristics of workers. The firms in some industries pay both low skilled and high skilled workers wages that are considerably above the average than those in other industries.[10]

Most of what is known about wage differences among industries can be summarized in three basic facts:

- Industry wage differentials are amazingly uniform across occupations. For example, janitors and managers, alike, appear to receive similar wage differentials, depending on the industry in which they work.
- Industry differentials have been remarkably stable over time; wage differentials are largely unchanged from the pattern of the 1950s.
- Industry wage differentials are positively associated with industry characteristics including capital intensity, industry concentration (based on a four-firm concentration ratio[11]), profitability, unionization, and low percentages of women.[12]

Industry wage differentials, calculated using 1998 OES wage and employment data for selected three-digit SIC industries are shown in table 2. The industries selected include manufacturing, trade, and service. Note that these industry wage differentials were constructed from 1998 OES wage and employment data using a method which takes into account the detailed

Table 1. Mean hourly wages of selected occupations in selected industries, 1998

SIC	Industry	Occupation						
		General managers	Accountants	Computer programmers	Secretaries	Janitors	Machinery mechanics	Truck drivers
371	Motor vehicles and equipment manufacturing	$37.78	$23.36	$22.22	$14.24	$16.36	$18.44	$16.49
291	Petroleum refining	44.27	22.65	24.67	15.65	11.09	20.25	16.26
461	Pipelines, except natural gas	40.63	23.06	25.50	14.09	14.44	20.81	15.25
491	Electric services	37.27	22.42	25.42	14.60	11.93	18.26	15.58
372	Aircraft and parts manufacturing	40.88	23.58	24.81	15.18	10.95	19.02	18.34
286	Industrial organic chemicals manufacturing	44.89	24.35	25.28	15.20	11.89	15.72	19.93
363	Household appliances manufacturing	39.39	18.94	26.31	12.47	9.71	14.80	13.25
874	Management and public relations services	38.20	20.54	26.58	13.39	8.27	17.34	14.11
731	Advertising services	39.79	19.80	22.56	13.06	8.67	–	–
513	Apparel, piece goods, and notions wholesale	35.97	22.11	23.51	11.24	8.77	14.72	13.53
394	Toys and sporting goods manufacturing	33.40	20.46	26.31	13.05	8.70	15.00	14.65
317	Handbags and personal leather goods manufacturing	33.62	23.09	27.10	13.39	9.67	–	–
302	Rubber and plastics footwear manufacturing	39.56	18.85	22.49	12.67	8.82	16.40	13.12
422	Public warehousing and storage services	27.89	19.10	22.50	11.00	7.53	14.47	13.56
314	Footwear, except rubber manufacturing	36.20	17.81	20.12	10.95	8.10	13.84	12.95
736	Personnel supply services	33.10	17.38	29.43	10.99	7.14	14.51	12.82
214	Tobacco stemming and redrying	39.61	17.81	13.93	13.29	7.07	12.17	10.30
799	Miscellaneous amusement, recreation services	22.47	16.21	23.41	10.31	7.51	14.22	12.08
723	Beauty shops	18.12	15.46	20.07	9.55	7.03	–	–
581	Eating and drinking places	20.07	17.15	25.37	10.59	6.78	8.09	8.39
793	Bowling centers	17.40	14.13	14.08	8.73	6.69	9.86	12.62
564	Children's and infants' wear stores	19.08	20.15	25.82	12.47	7.61	16.39	12.43
566	Shoe stores	18.83	16.98	23.91	10.90	6.81	15.20	13.55

NOTE: Dashes indicate data not available.

occupation of workers in addition to the detailed industry in which the worker is employed. These categories correspond to a total of 730 detailed occupations and 378 three-digit SIC industries. The industry wage differentials examined in most previous studies use demographic information, such as that available from the Current Population Survey, which takes into account a worker's "human capital" characteristics such as education, job tenure, and sex, in addition to the detailed industry and occupation in which the worker is employed.[13]

The industry wage differential examined here is the employment-weighted average of the occupation-specific wage differentials for each occupation in the industry. The occupation-specific wage differential is the ratio of the average wage of the occupation in a particular industry to the average wage of the occupation in some industry that is used as a base for comparison. The wage differential for each occupation in a given industry is weighted by its share of the industry's total employment. The weighted wage differentials for each occupation in the industry are then summed to produce the average wage differential, or "all-occupation" wage differential, for the industry as a whole.

All calculations in this article utilize data at the five-digit occupation code level, the most detailed level of occupational aggregation that is produced in the OES survey. In the calculation for any given industry, occupations that have no employment in the industry are excluded from the calculation, as are occupations for which there is no employment in the base industry. The miscellaneous plastics manufacturing industry, SIC 308, is used as the base for the calculations in table 2. It was chosen as the base due to the large number of occupations that are in this industry. Otherwise, the choice of base industry is arbitrary. Accuracy and consistency of the calculations was assured by comparing the wage differentials using the miscellaneous plastics manufacturing industry as the base with the differentials using the wholesale trade of motor vehicles (SIC 501) as the base. The wholesale trade of motor vehicles industry contains a large number of occupations that are common to service sector industries. The wage differentials in table 2 reflect an industry ranking that is the same, regardless of which industry is used as a base for calculation.

Table 2 shows that the industry wage differential or "all-occupation" wage differential for motor vehicles manufacturing is 0.32. This means that, on average, the wages paid

any given occupation in the motor vehicles manufacturing industry are 32 percent higher than those in the miscellaneous plastics manufacturing industry.

The 1998 OES wage and employment data confirm much that is known about static differences among industries in the level of occupational pay. A striking feature of table 2 is the magnitude of interindustry wage differentials. Among the industries included in the table, the wages paid to given occupations range from 32 percent above those of the miscellaneous plastics manufacturing industry in motor vehicles manufacturing to 72 percent below the wages of miscellaneous plastics manufacturing in shoe stores. The data also accord with existing knowledge about the industrial pattern of industry wage differentials: most high wage industries are manufacturing industries, while lower wage industries tend to be concentrated in the trade and services sectors. Within the manufacturing sector, higher wage industries tend to be those that are large, unionized, highly concentrated, and capital intensive. These industries also tend to employ relatively few women, and have low ratios of labor costs to total cost.

Also visible within the set of industries included in table 2 is a divide between industries that have been more and less affected by technological change and globalization of competition. As discussed by Michael Piore and Charles F. Sabel, Thierry J. Noyelle, and recently by Ray Marshall, global competition and new technology have drastically altered the lines of fragmentation among industries. While, in the decades following World War II, employment and wage-setting policies were clearly related to the degree of market sheltering enjoyed by the industry, these policies were increasingly related to the competitive strategy employed by firms during the 1980s and 1990s. In industries such as bowling centers, shoe stores, and wood products manufacturing, most firms continue to employ a cost-cutting strategy, and tend to have low wages, while in industries including motor vehicles manufacturing, paperboard mills, and business services, firms have largely shifted to a productivity-increasing strategy, and tend to have higher wages.[14]

Causes of wage differentials

The causal connections between industry wage differentials and industry characteristics such as capital intensity and industry concentration are not fully understood. Wage differences between industries do, however, accord closely with some of the well known causes of wage differences, such as skill level.

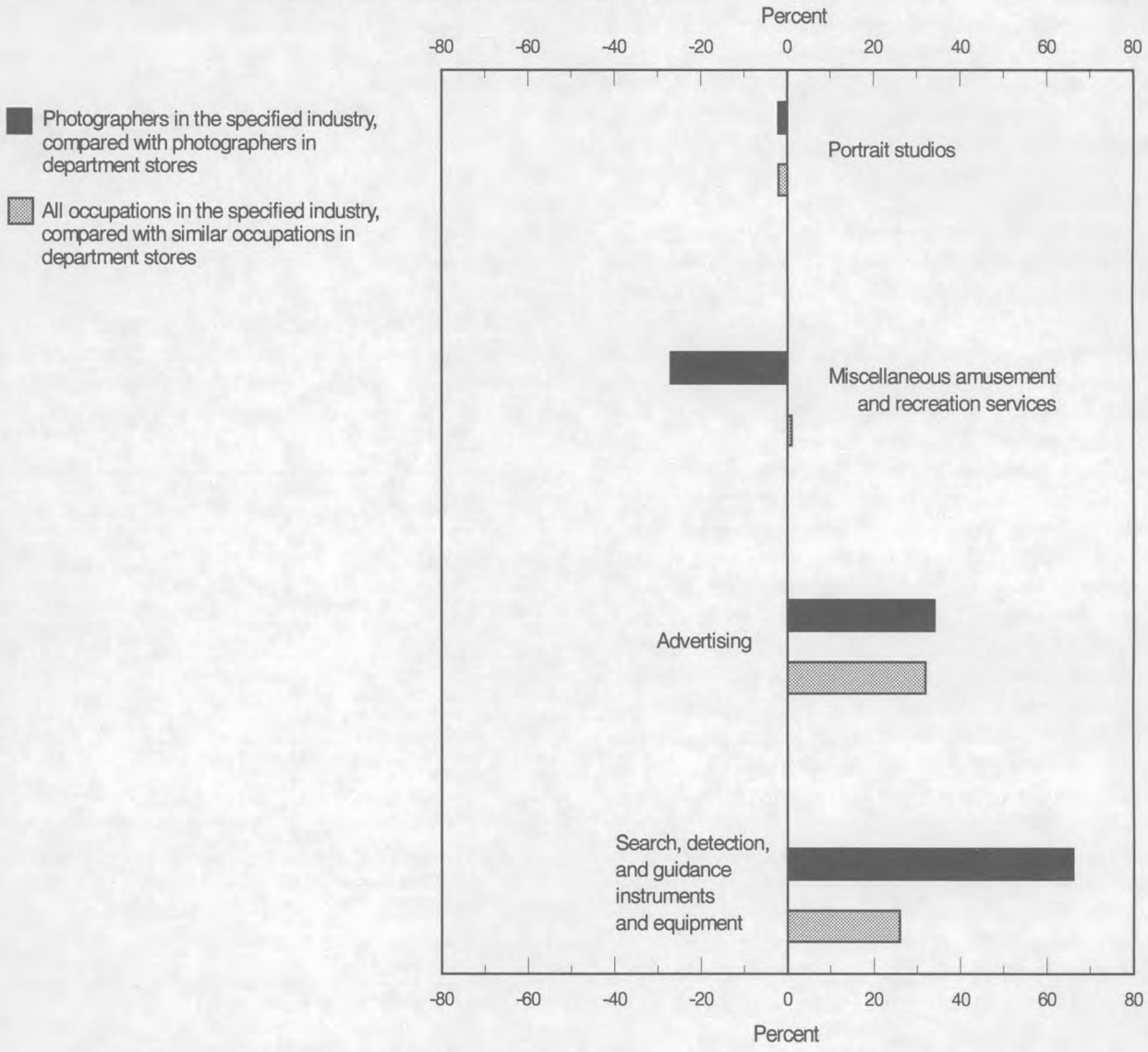
Skills. Some of the wage level differences among industries are explained by differing levels of skill required of workers employed in given occupations. Photographers are an example of an occupation for which skill levels vary greatly among industries. Chart 1 shows the all-occupation wage differentials for selected industries along with the average wage of photographers in selected industries relative to the average wage of photographers in the department store industry.[15] According to the chart, occupations in the miscellaneous amusement and recreation services industry, on average, have a 1-percent higher wage than do similar occupations in the department store industry. The average wage of photographers in this industry is 27 percent lower than the average wage of photographers in the department store industry. By contrast, the wages of photographers working in the search, detection, and guidance instruments and equipment manufacturing industry are higher (39 percent), relative to the average wage of photographers in the department store industry (24 percent) than is true of other occupations in the industry. Much of the higher earnings of photographers working in the search, detection, and guidance instruments and equipment manufacturing industry, as well as in the advertising industry, probably reflects the

Table 2. Industry wage differentials for selected manufacturing and service industries, 1998

SIC	Industry	All-occupation industry wage differential (base = SIC 308)[1]
371	Motor vehicles and equipment manufacturing	.32
291	Petroleum refining	.29
461	Pipelines, except natural gas	.27
491	Electric services	.25
372	Aircraft and parts manufacturing	.23
286	Industrial organic chemical manufacturing	.21
263	Paperboard mills	.21
363	Household appliances manufacturing	.15
731	Advertising services	.05
874	Management and public relations services	.05
513	Apparel, piece goods, and notions wholesale	−.03
394	Toys and sporting goods manufacturing	−.03
302	Rubber and plastics footwear manufacturing	−.05
317	Handbags and personal leather goods manufacturing	−.05
422	Public warehousing and storage services	−.07
249	Miscellaneous wood products manufacturing	−.08
314	Footwear, except rubber manufacturing	−.15
736	Personnel supply services	−.17
214	Tobacco stemming and redrying	−.20
799	Miscellaneous amusement, recreation services	−.28
723	Beauty shops	−.35
581	Eating and drinking places	−.36
793	Bowling centers	−.45
564	Children's and infants' wear stores	−.68
566	Shoe stores	−.72

[1] Service sector industries include SICs 400–899, and regulated, trade, and service industries. Occupations not surveyed in the base industry are excluded from the calculation.

Chart 1. Industry wage differentials for photographers and for all occupations within selected industries, compared with the department store industry, 1998



NOTE: This chart shows, for example, that the average wage of photographers in advertising is 34 percent higher than the average wage of photographers in the department store industry, and the wages of occupations in advertising are on average 32 percent higher than the wages of similar occupations in the department store industry.

higher skill requirements for jobs in these industries.[16]

Industry wage differentials remain a problem for researchers because only a portion of the differences in wage levels among industries are explained by workers' skill levels. A sizable portion of the differences appears to be somehow related to industry characteristics including capital intensity, profitability, unionization, and the percentage of female employment. A full discussion of theories attempting to explain industry wage differentials is beyond the scope of this article. However, a brief review of the main explanations is offered here to illustrate the potential usefulness of OES data for the study of this issue.[17]

At least partially accounting for the unexplained portion of wage differences between industries, according to most researchers, are workers' skills that are not captured by the standard "human capital" measures of worker characteristics such as age, sex, years of education, and work experience. Workers certainly vary greatly by skill level in the way they negotiate,

persuade, or handle uncertainty, for example. However, few of these skills are measured in the data currently available to researchers. Theories emphasizing the importance of unmeasured skills suggest a variety of mechanisms by which industry characteristics, such as capital intensity, affect both the measured and unmeasured skills that are required of workers. Because measured and unmeasured abilities are not perfectly correlated, such theories would explain why measured skills account for only a portion of industry wage differentials. The portion of the wage differential that actually makes up payment to unmeasured worker characteristics appears to the observer as an unexplained portion of the wage differential, or one that is somehow due to industry affiliation alone.[18]

Job conditions. For many occupations within the manufacturing sector, another important source of wage variation is the degree of workers' exposure to unpleasant, risky, or hazardous conditions on the job. Dangerous or risky working conditions necessitate the payment of a *compensating differential* that brings the net benefits from work into line with those enjoyed by individuals working under less hazardous conditions.[19] Welders, for example, receive a compensating differential. Chart 2 shows the all-occupation wage differential for selected industries, along with the average wage of welders in each industry, relative to the average wage of welders in the miscellaneous plastics industry.[20] The chart shows that the wages of welders working in electric and petroleum-related industries are much higher, relative to the average wage of welders in the miscellaneous plastics industry. This holds true in comparisons with other occupations in these industries. Some of the higher earnings for welders can likely be attributed to the danger of working close to highly combustible materials. It also seems likely that some portion of these higher earnings is actually a skill differential associated with specialized skills and training that equip welders to work under such conditions with maximum safety.

Efficiency wage theories. Some research suggests that certain industries provide wage differentials to ameliorate workplace problems, such as high rates of employee turnover, absenteeism, or shirking. Efficiency wage theories argue that higher wages reduce the incidence of such problems, and thus increase productivity, by increasing the effective cost of job loss to the employee. According to the efficiency wage argument, a portion of the observed wage differentials between industries reflect differences in the costs of such problems, and thus in the wage payments that are made in an effort to deal with them.[21]

One variant of the efficiency wage approach suggests that higher wages increase efficiency by insulating the internal labor market of the firm from the external labor market. Above-market wage rates may increase efficiency by eliminating the need for frequent and costly adjustment of the firm's wage schedules, in response to fluctuations in the external labor market. Another argument suggests similar savings for multiplant firms that pay uniform above-market wages across all plants regardless of location. Such a policy has the advantage of increasing the firm's flexibility in transferring workers between locations.[22]

Other explanations. Some other explanations of interindustry wage differentials represent a more dramatic departure from the standard competitive assumptions of most economic theorizing on this issue. *Rent sharing* models suggest that, under certain conditions including the existence of a discretionary margin of profits and worker bargaining power, firms choose to pay workers wages above the competitive wage. The size of the noncompetitive wage premium in given industries is affected by the degree of worker bargaining power across the occupational spectrum, the size of the profit margin, and the degree of managerial altruism.[23]

Also representing a departure from the standard competitive assumptions normally applied to this issue are sociological models, such as that proposed by G. Akerlof, which incorporate elements from both the efficiency wage and rent sharing models. Akerlof suggests that higher wages are a positive incentive for work effort that affects workers' subjective feelings about the job, in addition to providing an economic reward. The now long standing experience with the use of team production in most industries has, indeed, convinced many that above average wage rates improve group work norms by raising morale and loyalty.[24]

Models of worker *sorting* suggest that individual employers consistently hire workers from a single quality stratum, regardless of occupation. In this view, establishments tend to hire only high, average, or low skill workers, depending on factors that affect the competitive strategy of the firm, such as the skill-sensitivity of the technology used.[25] The theoretical framework for such a divide between firms is provided by Lawrence R. Klein, who argues that firms have only two choices of how to compete: on the basis of cutting costs or on the basis of improving productivity.[26] The former strategy involves the use of low-skilled workers who earn low wages, and the high productivity strategy involves the use of higher skilled workers who earn higher wages, along with a host of other workplace innovations affecting work organization, organization structure, and culture.[27] Worker sorting models suggest that wage differences between industries partially reflect differences in technology and other factors that affect worker sorting, and thus, the proportion of firms within industries that choose to pay high wages.[28]

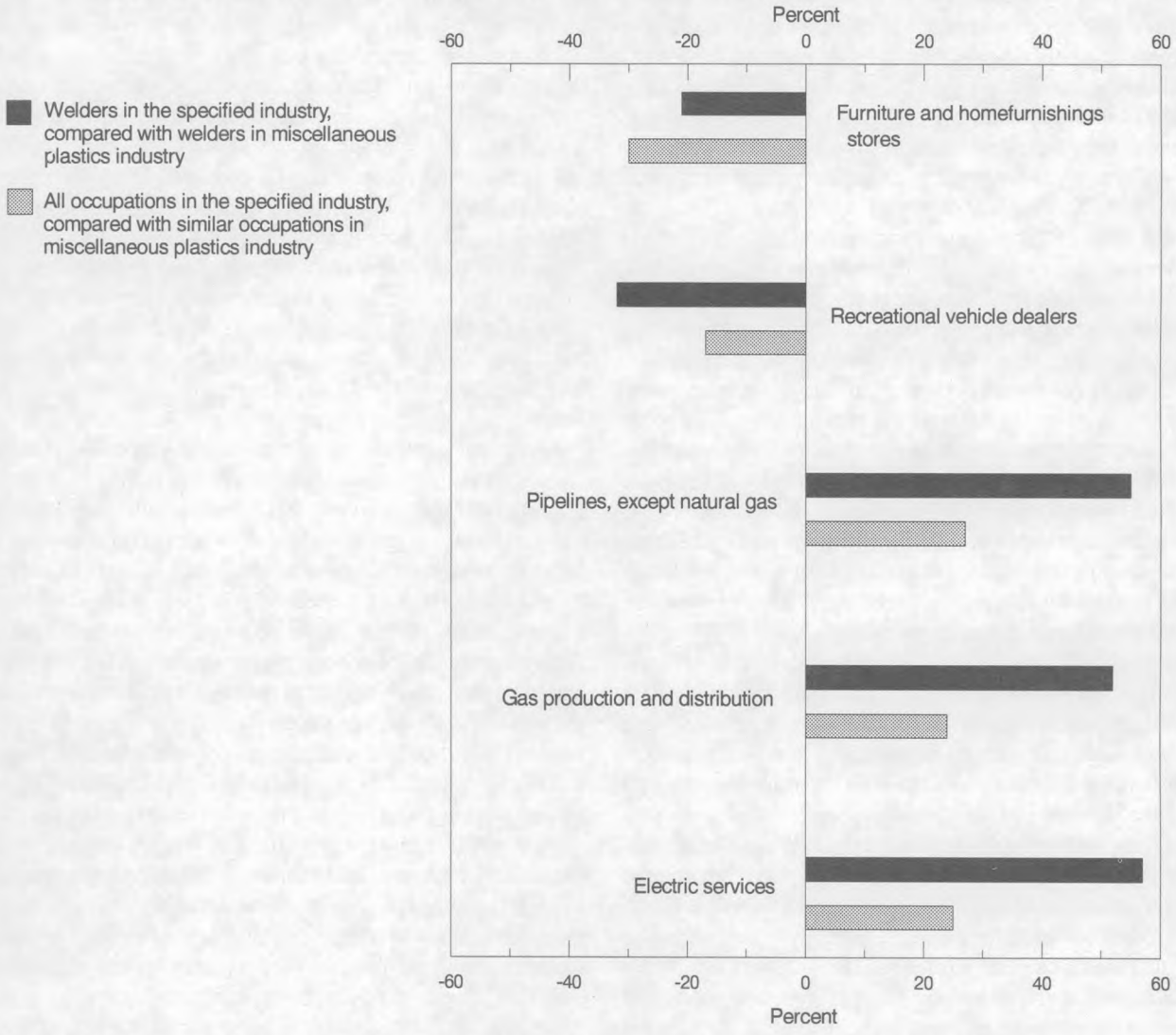
Several recent studies have emphasized the role of technology in the worker sorting model. While the technologies used in the services sector certainly vary among firms and industries, some of the most basic differences are seen in the

manufacturing sector, in which production processes are relatively easily identifiable as either mass production, batch production, or continuous process production. Shoshona Zuboff and others argue that a dynamic similar to a sorting model explanation may be especially important in explaining high wages in the continuous process industries, in which the characteristics of the production process tend to require a high level of commitment, competence, and skill from most workers.[29] Recently, some economists have argued that the sorting model also might apply in the case of alternative strategies for employing microprocessor technologies in the workplace. According to a study by Timothy F. Bresnahan, Erik Brynjolfsson, and Lorin M. Hitt, alternative strategies that employ microprocessor technologies in the workplace differ in the degree to which decisionmakers recognize and are guided by complementarities that exist when employing high skilled workers, decentralized decisionmaking, and information technology.[30]

Potential uses of OES data

The various explanations of industry wage differentials have

Chart 2. Industry wage differentials for welders in specified industries and for all occupations within selected industries, compared with the miscellaneous plastics industry, 1998



NOTE: This chart shows, for example, that the average wage of welders in the pipelines industry is 55 percent higher than the average wage of welders in the miscellaneous plastics industry, and the wages of occupations in the pipelines industry are on average 27 percent higher than the wages of similar occupations in the miscellaneous plastics industry.

differing implications for the wage characteristics that we should expect to observe for particular occupations. These explanations differ with respect to which occupations should be most affected by industry characteristics such as capital intensity, or which occupations should have wage differentials of similar magnitude. While the theory of rent sharing suggests that wage differentials should accrue relatively evenly across differing types of occupations, explanations that emphasize the role of unmeasured abilities suggest that occupations requiring similar types of such unmeasured skills should have wage differentials that are similar to each other. Examples might include the negotiation skills of managers and team leaders, the computer skills needed of clerical occupations, or the skill of certain production occupations that use auditory cues to detect errors in the settings of a machine.

Three characteristics of the industry wage differentials of detailed occupations provide useful information for understanding the causes of wage differences among the industries. The first characteristic is the association between the industry wage differential of given detailed occupations and the all-occupation average wage differential for the industry as a whole. This analysis provides information about which occupations contribute most strongly and consistently to the overall industry effect. A clear pattern wherein the wages of some occupations are more highly correlated with the all-occupation average wage differential would suggest that these occupations are more strongly affected by one or more of the industry-specific factors mentioned earlier. Any similarities in the characteristics of these occupations would further provide important clues about the type of mechanism responsible for the pattern. If, for example, the wages of occupations sharing particular types of skills are more highly correlated with the overall industry wage differential, this could suggest the importance of skill-based explanations such as those emphasizing unmeasured abilities or efficiency wages. Alternatively, a similar degree of correlation between the wages of a broad array of occupations and the all-occupation differential would suggest a rent sharing model or one emphasizing other sociological considerations.

The second characteristic is the association between the industry wage differential of given detailed occupations and a measure of capital intensity of the industry in which the occupation is employed. Because, as mentioned earlier, the pattern of wage differences among industries is correlated with the degree of industry capital intensity, information about which occupations appear to be most important in this relationship also should help narrow the range of plausible explanations for wage differences.[31] And, because capital intensity is a rough proxy for production technology, a clear pattern whereby certain types of occupations are more correlated with capital intensity would seem to argue in favor of explanations emphasizing the role of technology, such as the worker sorting model.

The third characteristic is the degree of correlation between the industry wage differentials of detailed occupations. Identification of groups of occupations for which the industry wage effect is similar also should provide valuable information for understanding this issue. A clear pattern of correlation among the industry wage differentials of similar types of occupations would seem to argue in favor of a skills-based explanation, such as those emphasizing unmeasured abilities or efficiency wages. A clear pattern whereby only certain groups of occupations have highly correlated wage differentials could further indicate the types of skills driving the pattern, and thereby suggest particular efficiency wage or unmeasured skills explanations. Alternatively, a similar degree of correlation between occupations across broad occupational groups would suggest a rent sharing or other sociological explanation.

The degree of association between the variables in all three sets of analyses was measured using the Pearson product moment coefficient of correlation (r).[32] This statistic equals 1 (–1) for variables that positively (negatively) covary exactly, and has a lesser magnitude for variables that only partially covary.

Table 3 shows the correlations between the industry wage differential of selected occupations and the all-occupation wage differential for manufacturing and services combined and for the manufacturing and services sectors separately.[33] The pattern for the combined manufacturing and services sectors shows a rather evenly high degree of correlation between the wages of most occupations and the all-occupation industry differential, with a few exceptions. Most highly correlated with the all-occupation industry wage differential are occupations involved in coordination activities, including purchasing managers, general managers, personnel, training, and labor relations specialists, and clerical worker supervisors. Least correlated with the all-occupation differential are engineering managers, purchasing agents, systems analysts, computer support specialists, plastic molding machine operators, and machinists. These latter results appear to be driven by the low correlations in the services sector between the wages of these occupations and the all-occupation industry differential.

Within the services sector, most of the occupations having the lowest correlation with the all-occupation wage differential are related to physical production activities, while those having the highest correlation are occupations engaged in coordination functions, including purchasing managers, general managers, personnel, training and labor relations specialists, and clerical worker supervisors. Within the manufacturing sector, occupations having the highest degree of correlation with the all-occupation wage differential are occupations that coordinate production activities, including industrial production managers, personnel, training, and labor relations specialists, supervisors of operators, and production inspectors. Occupations having the lowest degree of correlation

Table 3. Correlation between the all-occupation industry wage differential and the industry wage differential of selected detailed occupations, 1998

Occupation	Services and manufacturing	Services	Manufacturing
Purchasing managers	0.80	0.75	0.69
Engineering managers	.21	[1]	.73
Industrial production managers	.35	.26	.84
General managers	.81	.78	.66
Accountants and auditors	.73	.68	.72
Purchasing agents	.12	[1]	.73
Personnel, training, and labor relations specialists	.79	.75	.80
Systems analysts	.13	[1]	.61
Computer support specialists	.40	.32	.45
Clerical worker supervisors	.82	.78	.77
Adjustment clerks	.79	.75	.52
Secretaries	.61	.54	.76
Receptionists	.74	.71	.51
Supervisors of mechanics	.55	.43	.72
Supervisors of operators	.64	.59	.79
Production inspectors	.46	.43	.83
Machinery maintenance mechanics	.59	.52	.70
Machinists	.08	.09	.62
Plastic molding machine operators	.34	[1]	.26
Machine feeders	.61	[1]	.69
Truck drivers	.48	.43	.52

[1] The calculation is not statistically significant at p = 0.1.

NOTE: Service sector industries include SICs 400–899; regulated, trade, and service industries.

with the all-occupation industry wage differential tend to be non-production-related occupations, including computer support specialists, adjustment clerks, and receptionists.

Overall, the analyses in table 3 suggest that the occupations most strongly affected by factors resulting in wage differentials among industries are those having duties and tasks that are most closely related to the primary mission of the firm. Systematic differences between industries in the wages paid to the occupations most closely involved in the primary activity of the firm are suggestive of attempts by the firms in some industries to increase the productivity of these workers by paying higher wages. These results seem to suggest the importance of either the sociological version of the efficiency wage explanation (suggested by G. Akerlof, which emphasizes the positive effect of higher wages on the morale and productivity of workers) or a version of the sorting model.

Table 4 shows the correlations between the industry wage differential of detailed occupations within the manufacturing sector and a measure of capital intensity of the industry in which the occupation is employed.[34] The table shows that occupations for which the wage differential is most highly correlated with capital intensity include stock clerks, supervisors of operators and mechanics, machinists, machine forming operators, production inspectors, and machinery maintenance mechanics. Occupations having wages that are least correlated with capital include engineering managers, purchasing agents, secretaries, and computer support specialists These patterns suggest that manufacturing sector occupations for which wages are closely associated with capital intensity are production occupations and occupations engaged in the coordination of production activities.

The results of the analyses in table 4 are consistent with those reported in table 3 for the manufacturing sector. They further suggest, in the case of manufacturing industries, that the relatively larger role of production occupations in accounting for interindustry wage differentials is related to the production technology, for which capital intensity is a rough proxy. The relatively high correlations between the wages of skilled production workers and capital intensity suggest a dynamic along the lines of a sorting model, in which factors such as the production technology affect the proportion of firms that choose to organize work in accordance with a high wage strategy.

Tables 5 and 6 show the correlations between the industry wage differentials of detailed occupations, produced separately for the manufacturing and services sectors.[35] Both sectors reveal a pattern of association between the wages of similar types of workers. The wages of occupations engaged in coordination functions, including general managers; purchasing managers; personnel, training, and labor relations specialists; and clerical worker supervisors are all highly correlated. The wages of clerical worker supervisors are most highly correlated with other occupations engaged in either

Table 4. Correlations between the industry wage differential of selected occupations and industry capital intensity in manufacturing, 1998

Occupation	Correlation coefficient
Engineering managers	0.13
Industrial production managers	.31
General managers	.23
Purchasing agents	.20
Personnel, training, and labor relations specialists	.24
Computer support specialists	.21
Clerical worker supervisors	.28
Adjustment clerks	.26
Secretaries	.21
Supervisors of mechanics	.46
Supervisors of operators	.50
Production inspectors	.32
Machinery maintenance mechanics	.35
Machinists	.34
Machine forming operators	.36
Machine feeders	.30
Janitors	.25
Stock clerks	.50

NOTE: All calculations are statistically significant at p = 0.1.

Table 5. Pearson coefficients of correlation between the wages of occupations in service sector industries

Occupation	Purchasing managers	General managers	Accountants	Personnel, training, and labor relations specialists	Systems analysts	Computer support specialists	Clerical worker supervisors	Ajustment clerks	Secretaries	Receptionists	Supervisors of mechanics	Production inspectors	Machinery maintenance mechanics
Purchasing managers	1.00												
General managers	.76	1.00											
Accountants and auditors	.66	.75	1.00										
Personnel, training, and labor relations specialists	71	.78	.69	1.00									
Systems analysts	.17	(1)	.28	.15	1.00								
Computer support specialists	.43	.42	.45	.31	.51	1.00							
Clerical worker supervisors	.73	.76	.76	.80	(1)	.33	1.00						
Adjustment clerks	.64	.69	.49	.78	(1)	.19	.71	1.00					
Secretaries	.63	.71	.60	.58	.19	.58	.58	.44	1.00				
Receptionists	.65	.67	.54	.71	.15	.40	.70	.62	.65	1.00			
Supervisors of mechanics	.47	.42	.49	.44	.20	.35	.57	.35	.41	.48	1.00		
Production inspectors	.33	.39	.51	.30	(1)	.30	.36	.24	.46	.36	.39	1.00	
Machinery maintenance mechanics	.52	.62	.36	.63	(1)	–.04	.51	.69	.37	.34	.38	.12	1.00

[1]Indicates calculation not significant at p = 0.1.

Table 6. Pearson cooefficient of correlation between the wages of occupations in manufacturing sector industries

Occupation	Purchasing managers	Industrial production managers	General managers	Accountants and auditors	Purchasing agents	Personnel, training, and labor relations specialists	Clerical worker supervisors	Ajustment clerks	Secretaries	Supervisors of mechanics	Supervisors of operators	Machinery maintenance mechanics	Machinists	Plastic molding machine operators
Purchasing managers	1.00													
Industrial production managers	.71	1.00												
General managers	.65	.79	1.00											
Accountants and auditors	.77	.67	.65	1.00										
Purchasing agents	.84	.67	.54	.80	1.00									
Personnel, training, and labor relations specialists	.77	.79	.57	.70	.79	1.00								
Clerical worker supervisors	.68	.78	.81	.71	.64	.71	1.00							
Adjustment clerks	.52	.59	.67	.47	.50	.48	.58	1.00						
Secretaries	.78	.85	.83	.75	.72	.77	.80	.55	1.00					
Supervisors of mechanics	.59	.73	.64	.57	.59	.69	.73	.54	.68	1.00				
Supervisors of operators	.57	.79	.56	.53	.61	.71	.68	.60	.63	.76	1.00			
Machinery maintenance mechanics	.59	.68	.51	.66	.67	.73	.60	.41	.68	.68	.67	1.00		
Machinists	.56	.66	.58	.46	.50	.63	.62	.47	.67	.62	.69	.62	1.00	
Plastic molding machine operators	.24	.22	.19	.30	.29	.26	.22	.10	.25	.11	.13	.17	.12	1.00

coordination activities or clerical functions, including purchasing managers; general managers; accountants; personnel, training, and labor relations specialists; adjustment clerks; and secretaries. In the manufacturing sector, the correlation coefficients between the wages of each pair of occupations in the group including supervisors of mechanics, supervisors of operators, industrial production managers, and machinery maintenance mechanics, are all above 0.5. The wages of purchasing managers are most highly correlated with the wages of purchasing agents and secretaries, and the wages of industrial production managers are most highly correlated with the wages of general managers; personnel, training, and labor relations specialists; supervisors of mechanics; supervisors of operators; and clerical worker supervisors, and secretaries.

The results reported in tables 5 and 6 suggest that occupations having similar wage differentials tend to be either interrelated in the production process or require similar types of tasks and skills. These results suggest a skill-based explanation of industry wage differentials such as an efficiency wage or unmeasured ability argument. The generally high intercorrelations among the wages of most occupations are also suggestive, however, of a rent sharing explanation, in which all occupations share relatively equally in the wage differential of the industry.

IN SUMMARY, the analyses of OES survey data suggest that industry wage differentials are associated with occupations most closely associated with the primary mission of the firm. These results suggest that interindustry wage differentials might reflect a motivational role in the use of higher wages. The results of table 4 further suggest that this motivational effect might be somewhat contingent on the production technology, as is emphasized in a sorting model. The results of tables 5 and 6 are consistent with these results and further suggest a pattern of association among the wages of similar types of occupations. □

Notes

[1] See for example, David H. Autor, Lawrence F. Katz, and Alan B. Krueger, "Computing Inequality: Have Computers Changed the Labor Market?" *Quarterly Journal of Economics*, vol. 113, no. 4, 1998, pp. 1169–1213. Also see Eli Berman, John Bound, and Zvi Griliches, "Changes in the Demand for Skilled Labor Within U.S. Manufacturing Industries: Evidence From the Annual Survey of Manufacturers," *Quarterly Journal of Economics*, vol. 109, no. 2, 1994, pp. 367–97; and Mark Doms, Timothy Dunne, and Kenneth R. Troske, "Workers, Wages, and Technology," *Quarterly Journal of Economics*, vol. 112, no. 1, 1997, pp. 253–90.

[2] See *Standard Industrial Classification Manual, 1987*, Office of Management and Budget.

[3] The full Occupational Employment Statistics sample includes, with certainty, all Federal and State government employees and all establishments employing more than 250 workers, together making up approximately one-third of total U.S. employment. The remaining two-thirds of all workers are surveyed with probability equal to the reciprocal of the probability of selection of the establishment in which they are employed. The average number of workers included in the sample for any given three-digit SIC industry/occupation cell is roughly 1,500 individuals.

[4] Data for these 3 years were combined by first adjusting the 1996 and 1997 wage rates to reflect wage change over the 1996–98 period, using wage change indices obtained from the Employment Cost Index program.

The Occupational Employment Statistics (OES) survey is a cooperative Federal/State effort that provides occupational employment and wage data for more than 760 occupations in detailed industrial sectors. The Department of Labor provides the funding and technical support for the program, and the States collect the data as well as provide the results in published form. OES was initiated in 1971, with 15 participating States, and has expanded throughout the years to include all 50 States and U.S. territories. As a result of a redesign effort in 1996, the OES survey now also provides occupational wage data by detailed industry. The 1996 redesign effort also expanded the scope of the OES sur-vey to include all industries every year. For more information on the technical aspects of the OES survey, contact the Office of Employment and Unemployment Statistics, room 4840, 2 Massachusetts Avenue, NE, Washington DC 20212; telephone (202) 691-6569; or e-mail at: **oesinfo@bls.gov.**

[5] For a survey of studies, including data references, see William T. Dickens and Lawrence F. Katz. "Inter-industry Wage Differences and Industry Characteristics," in Kevin Lang and Jonathan S. Leonard, *eds.*, *Unemployment and the Structure of Labor Markets* (New York, Basil Blackwell, 1987), ch. 3, pp. 41–54.

[6] For examples of studies using establishment data, see Alejandra Mizala and Pilar Romaguera, "Wage Differentials and Occupational Wage Premia: Firm-Level Evidence for Brazil and Chile," *Review of Income and Wealth*, vol. 44, no. 2, 1998, 239–57; and Andrew K.G. Hildreth and Andrew J. Oswald, "Rent Sharing and Wages: Evidence from Company and Establishment Panels," *Journal of Labor Economics*, vol. 15, no. 2, 1997, pp. 318–37.

[7] See David I. Levine, "Can Wage Increases Pay for Themselves? Tests With a Production Function," *Economic Journal*, vol. 102, no. 414, 1992, pp. 1102–15. Also see Erica L. Groshen, "Sources of Intra-Industry Wage Dispersion: How Much do Employers Matter?" *Quarterly Journal of Economics*, vol. 106, no. 3, 1991, pp. 869–84; and Jonathan S. Leonard, "Executive Pay and Firm Performance," *Industrial and Labor Relations Review*, vol. 43, no. 3, 1990, pp. S13–29.

[8] A more detailed discussion of theories of interindustry wage differentials appears later in the article.

[9] The Bureau of Labor Statistics has another data set—the National Compensation Survey—that does address some of the issues of scope and responsibility, albeit for a smaller number of occupations. See Brooks Pierce, "Using the National Compensation Survey to Predict Wage Rates," *Compensation and Working Conditions*, Winter 1999, pp. 8–16.

[10] See Erica L. Groshen, "Five Reasons Why Wages Vary Among Employers," *Industrial Relations*, vol. 30, no. 3, 1991, pp. 350–81. Goshen used Current Population Survey data to show that about 50 percent of the variation in wages among industries is accounted for by worker education, age, sex, race, union affiliation, industry (two-digit SIC), and occupation. Also see Alan Krueger and L. Summers, "Efficiency Wages and the Inter-Industry Wage Structure," *Econometrica*, vol. 56, no. 2, 1988, pp. 259–93; and K. M. Murphy, and R. H. Topel, "Efficiency Wages Reconsidered: Theory and Evidence," in Y. Weiss, and G. Fishelson, eds., *Advances in the Theory and Measurement of Unemployment* (London, Macmillan, 1990), pp. 204–42.

For early research on interindustry wage differentials, see Sumner H. Slichter, "Notes on the Structure of Wages," *Review of Economics and Statistics,* vol. 32, 1950, pp. 80–91.

[11] This ratio provides a measure of the share of industry sales accounted for by the largest four firms.

[12] For an exhaustive investigation of the characteristics of interindustry wage differentials, see Dickens and Katz, "Inter-industry Wage Differences and Industry Characteristics." This article also contains a review of the empirical research on interindustry wage differentials, including data sources.

[13] *Ibid.*

[14] For a discussion of changes in the nature of product markets that have altered the imperatives of competition for firms in most industries over the last two decades, see Ray Marshall, "Job and Skill Demands in the New Economy," in Lewis C. Solmon and Alec R. Levenson, eds., *Labor Markets, Employment Policy, and Job Creation* (Oxford, The Westview Press, 1994). Also see Michael Piore, and Charles F. Sabel, *The Second Industrial Divide: Possibilities for Prosperity* (New York, Basic Books, 1984); and Thierry J. Noyelle, *Beyond Industrial Dualism; Market and Job Segmentation in the New Economy* (Oxford, The Westview Press, 1987). For a discussion of case studies examining the implementation of new technologies in pulp mills, see Shoshona Zuboff, *In the Age of the Smart Machine: The Future of Work and Power (*New York, Basic Books, 1988).

[15] The department store industry also is used as the base for the calculation of the all-occupation industry wage differential.

[16] For information about the average level of vocational preparation of photographers employed in different industries, see *The Dictionary of Occupational Titles* (U.S. Department of Labor, Employment and Training Administration, 1991), vols. 1–2.

[17] For a description of explanations of both inter-industry wage variation and inter-establishment wage variation, see Groshen, "Five Reasons Why Wages Vary Among Employers," *Industrial Relations.*

[18] See Michael Keane, "Individual Heterogeneity and Inter-industry Wage Differentials," *Journal of Human Resources,* vol. 28, no. 1, 1993. Also see McKinley Blackburn, and David Newmark, "Unobserved Ability, Efficiency Wages, and Inter-industry Wage Differentials," *Quarterly Journal of Economics*, vol. 107, no.4, 1992, pp. 1421–36. Keane and Blackburn and Newmark have recently estimated the proportion of industry wage differentials that is due to unobserved worker characteristics. Keane found that 50 percent of industry wage variation is explained by variation in unobserved worker skills, and Blackburn and Newmark found that 20 to 30 percent of the variation is explained by unobserved worker characteristics. Also see K. M. Murphy and R. H. Topel, "Unemployment, Risk, and Earnings: Testing for Equalizing Differences in the Labor Market" in Kevin Lang and Jonathan S. Leonard, eds., *Unemployment and the Structure of Labor Markets* (Oxford, Basil Blackwell, 1987).

Unmeasured skills also play a role in other theories of industry wage differentials. Hae-shin Hwang and others, for example, argue that failure to adequately account for unmeasured skills has led to the underestimation of the importance of compensating differentials in explaining wage differentials among industries. See Hae-shin Hwang, Robert W. Reed, and Carlton Hubbard, "Compensating Wage Differentials and Unobserved Productivity," *Journal of Political Economy,* vol.100, no. 4., 1992.

[19] For a general discussion of compensating wage differentials, see S. Rosen, "The Theory of Equalizing Differences," in O. Ashenfelter, and R. Layard, eds., *Handbook of Labor Economics* (New York, Elsevier Science Publishers, 1986). For a discussion of compensating differentials in the case of occupational hazard, see Jean Michel Cousineau, Robert Lacroix and Anne-Marie Girard, "Occupational Hazard and Wage Compensating Differentials," *The Review of Economics and Statistics,* vol. 74, no. 1, 1992.

[20] The miscellaneous plastics industry also is used as a base for the calculation of the all-occupation wage differential for each industry.

[21] See Alan B. Krueger, and Lawrence H. Summers, "Efficiency Wages and the Inter-industry Wage Structure," *Econometrica,* vol. 56, no. 2, 1988, pp. 259–93.

[22] Peter B. Doeringer, and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Lexington, MA, D.C. Heath and Co., 1971).

[23] The rent sharing explanation of industry wage differentials is discussed in A. Krueger and L. Summers, "Reflections on the Inter-Industry Wage Structure," in Kevin Lang and Jonathan S. Leonard, eds., *Unemployment and the Structure of Labor Markets* (Oxford, Basil Blackwell, 1987), pp. 17–47. Also see S. Nickell, and S. Wadhwani, "Insider Forces and Wage Determination," *Economic Journal,* vol. 100, no. 401, 1990, pp. 496–509; David G. Blanchflower, Andrew J. Oswald, and Mario D. Garrett, "Insider Power in Wage Determination," *Economica,* vol. 57, no. 226, 1990; and Andrew K.G. Hildreth, and Andrew J. Oswald, "Rent-Sharing and Wages: Evidence from Company and Establishment Panels," *Journal of Labor Economics,* vol. 15, no. 2, 1997.

[24] See G. Akerlof, "Gift Exchange and Efficiency Wage Theory: Four Views," *American Economic Review, Papers and Proceedings*, vol. 74, no. 2, 1984, pp. 79–83.

[25] Erica L. Groshen, 1991, "Five Reasons Why Wages Vary Among Employers," *Industrial Relations.*

[26] See Lawrence R. Klein, "Components of Competitiveness," *Science*, vol. 241, 1988, pp. 308–15. In this article, Klein explains the competitiveness problem by decomposing output prices into unit cost, the reciprocal of labor productivity, the profit margin, and the foreign exchange value of the currency. The decomposition shows that firms have two choices for competition: the basis of competition is either cutting costs or improving productivity.

[27] See Eileen Appelbaum and Rosemary Batt, *The New American Workplace: Transformiing Work Systems in the United States, (*Ithaca, ILR Press, 1994).

[28] See Dae Il Kim, "Reinterpreting Industry Premiums: Match-Specific Productivity," *Journal of Labor Economics,* vol. 16, no. 3, 1998, pp. 479–504. Also see Stephen G. Bronars, and Melissa Famulari, "Wage, Tenure, and Wage Growth Variation Within and Across Establishments," *Journal of Labor Economics,* vol. 15, no. 2, 1997, pp. 285–317; and Robert Gibbons and Lawrence F. Katz "Does Unmeasured Ability Explain Inter-Industry Wage Differentials?" *Review of Economic Studies,* vol. 59, no. 3, 1992, pp. 515–35.

[29] See Zuboff, *In the Age of the Smart Machine.*

[30] See Timothy F. Bresnahan, Erik Brynjolfsson, and Lorin M. Hitt, "Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence," NBER Working Paper no. 7136 (National Bureau of Economic Research, Cambridge, Massachusetts, 1999).

[31] The capital stock data used in this analysis were obtained from the National Bureau of Economic Research, Manufacturing Productivity Database, which covers the years 1958–94. These data were extrapolated to include the years 1995 and 1996, using Annual Survey of Manufacturer's data on nominal investment by 4-digit SIC industry for the years 1995 and 1996, and extrapolated rates of capital depreciation by three-digit SIC industry. The capital stock figures by four-digit SIC industry were then aggregated to the three-digit SIC level. Data on capital depreciation rates and on investment expenditures for the years 1995 and 1996 were obtained from Randy Becker, U.S. Bureau of the Census.

[32] $$R = \frac{\sum(X_i - \overline{X})(Y_i - \overline{Y})}{\text{SQRT}\ \sum(X_i - \overline{X})^2 \sum(Y_i - \overline{Y})^2}$$

Where:

X_i = industry wage differential for occupation X in industry i

$\overline{X}$ = mean industry wage differential for occupation X

Y_i = industry wage differential for occupation Y in industry i

$\overline{Y}$ = mean industry wage differential for occupation Y

[33] All calculations in table 3 use the miscellaneous plastics industry, SIC 308, as the base.

[34] All calculations in table 4 use the miscellaneous plastics industry, SIC 308, as the base for comparison.

[35] The calculations for the manufacturing sectors use the miscellaneous plastics manufacturing industry, SIC 308, as the base for comparison. The calculations for the services sector use the wholesale trade of motor vehicles industry, SIC 501, as the base for comparison. More information is available from the author at (202) 691-6504 or by e-mail at **Osburn_J@bls.gov**.

Unemployment and wealth

To what extent are workers able to finance their unemployment spells with their own wealth holdings? Jonathan Gruber of the Massachusetts Institute of Technology addresses this and related questions in NBER Working Paper No. 7348, "The Wealth of the Unemployed: Adequacy and Implications for Unemployment Insurance."

Gruber notes that the unemployed have a number of possible sources for financing consumption, including savings, unemployment insurance benefits, other government transfers such as food stamps, and transfers from relatives or charitable organizations. In this study, Gruber focuses on wealth as a mechanism for financing unemployment.

Data for his analysis are from the 1984–92 panels of the Survey of Income and Program Participation (SIPP). The SIPP interviews respondent households every four months over the course of two to three years in order to gather information on income and labor force participation—in addition, the survey gathers some data on wealth holdings, usually at two points in the panel.

Gruber finds that the median worker has savings that could finance about two-thirds of the income loss from a spell of unemployment. However, nearly a third of workers are not able to even replace 10 percent of income loss.

High performance practices

The subject of high-performance work practices came up in two recent pieces. In the Winter 2000 *EPI Journal*, Eileen Appelbaum briefly reviews some of the major findings of her book *Manufacturing Advantage: Why high performance work systems pay off* (co-authored with Tom Bailey, Peter Berg, and Arne Kalleberg). Their surveys in three manufacturing industries indicate that, "with some variance within these industries, workplace practices that promoted coherent work systems produced benefits such as increased productivity, better financial performance, higher target wages for workers, as well as reduced inventory, space requirements, and excess labor costs." A separate survey of workers found that, at least in the steel and apparel industries, workers in high-performance systems tend to have higher wages.

Peter Cappelli and David Neumark also examined these two aspects of the high-performance work practices issue in "Do 'High Performance' Work Practices Improve Establishment-Level Outcomes?" (NBER Working Paper 7374). On one hand, their results suggest that practices that expand employee involvement do not have an unambiguous effect on productivity, although the results point more toward positive effects. The evidence is stronger for the idea that such practices raise average labor costs per employee. However, their data suggest that high performance work practices do not adversely affect labor efficiency as measured by output per dollar of labor costs. "Thus," they conclude, "despite raising labor cost/compensation implementing such practices should not hurt competitiveness."

Both Appelbaum and Cappelli and Neumark discuss the fact that high-performance work practices also have a positive effect on factors that are beneficial to the work establishment and workers, but may not be captured by the chosen performance measures. Examples of such effects include, higher morale, greater adaptability, lower waste, increased trust, better job satisfaction, and stronger commitment.

Going back to work

Over roughly the past 50 years, labor force participation among the mothers of young children has gone up dramatically. According to Lisa Barrow's article, "Child care costs and the return-to-work decisions of new mothers," in the Federal Reserve Bank of Chicago's *Economic Perspectives*, the participation rate of women with pre-school aged children rose from 12.0 percent in 1947 to 62.3 percent in 1996. Her analysis goes on to model the return-to-work decisions that contribute to the latter figure.

Barrow finds that while higher wages and lower child care costs would certainly have a significant impact on the decision to return to work within a year of bearing a first child, delayed child bearing may have a greater impact on the labor force participation rate. Other factors that influence the decision to work include education and having had at age 14 a female role model that worked. Factors that tended to work against a decision to return to work included higher income earned by a spouse or partner and higher local unemployment rates in the year following the child's birth.

Erratum

The final clause of the second paragraph of our December 1999 precis of "Assessing Affirmative Action" by Harry Holzer and Davis Neumark should have read: " ...—this is in contrast to laws that only prohibit actions that disadvantage women and members of minority groups, such as refusing to employ them." □

Gazing into the future

Capital For Our Time: The Economic, Legal, and Management Challenges of Intellectual Capital. Edited by Nicholas Imparto. Stanford, CA, Hoover Institution Press, 1999, 448 pp. $14.95, paper.

Working in the Twenty-First Century: Policies for Economic Growth Through Training, Opportunity, and Education. By David I. Levine. Armonk, NY, M.E. Sharpe, Inc., 1998, 64 pp. $61.95, hardback; $24.95, paper.

In American society, now is the time to think about the future. Several convergent factors are shaping our present discourse in all areas of society, including the area of economics. First, we are preparing for a mathematically symbolic moment, as the world enters a new millennium, although it is not clear that this moment has any real meaning except to legacy computer systems. We are also in a period of economic prosperity that gives us confidence in ourselves and the ability to shape our future. Finally, the first two events come at a time of technological revolution, perhaps as significant as the building of railroads or the application of electricity to our lives. Technology offers the chance to re-mix the odds of economic players—holders of the new technology have the opportunity to reinvent themselves into the new social and economic elite. A transforming technology has the same effect as reshuffling the cards in poker—everyone has a new opportunity to be a winner.

The shift from "things" to "ideas" is a captivating idea in itself. Is the value of this article a "thing" like the computer that was used to write it, or is it an idea conveyed by a "thing," such as words on the page of a book? Is the value in bytes or in the ideas transmitted to the reader? At what point do my ideas have economic value and when do they turn from my intellectual property into my intellectual capital, something I can assign an economic value?

Capital for Our Time deals precisely with these questions. Written as a series of essays by different authors, the book addresses the primary issues evolving as intangible ideas take on tangible value. The book begins with a series of essays on economics. After all, economists teach that paying for something will induce producers to create more of it. There is no evidence that intellectual property is immune from the laws of economics. If intellectual property is treated as another form of capital, it gains value and should encourage more intellectual property to be created and sold. As it gains value, this intellectual property takes on issues more traditionally reserved for other types of capital. Once ideas are defined as having value, then issues of management and law come into play. While there are essays in the book dealing with economics, accounting, and management, the discussion turns to matters of legal rights.

Our Anglo-Saxon ideas of value derive from our understanding of land. Property laws have a strong history, having been built up over a series of centuries, but applying them to ideas can be problematic. Land itself is a tangible. I can see it, measure it, and quickly decide whether someone else is using it without my permission. These facts are less clear in the area of ideas. What is the value of my name when it is used on the Internet? Who has the right to that name and if someone else uses my name, what are my rights? The challenges these questions present in a standard legal system based on years of law and tradition are multiplied when applied to global communities. Even if a set of case law develops in the United States to address these issues, the Internet is truly a global matrix, and international law can be much murkier. Several of the essays can be summarized as discussion on creating a body of law that allows labor to benefit from its intellectual capital.

Ideas demand a different set of skills both to produce them and move them into intellectual capital that has tangible worth. Preparing a work force that will successfully adapt to this new environment is the focus of *Working in the Twenty-First Century.* Levine cites public policy strategies that embrace a future with great potential but less stability than in present society. Through a series of chapters, focused on current policies, he described present societal problems, how we got into the current situation, and how we can find a way out of it. His chapter four, "Getting Out of This Mess: Invest and Reinvent," summarizes much of his philosophy. Through systematic investment in institutions, including government, and incentive plans that encourage people, government, and business to move in the correct direction, he believes that society can plan its way into a bright future.

Unlike some policymakers, Levine maintains an abiding faith in the value of government as a tool in this transformation. While he cites present government policies that work against the new economy, he has an abiding faith that a reinvented government will be a positive tool for change in the next century. His vision is of an inclusive society, motivated and guided by enlightened policies, accountable for their actions and empowered by an energized government. By adopting best practices, institutions as diverse as business corporations and schools can work for a common goal.

Both books offer thought-provoking ideas about the future, but they share a common faith in it. While they acknowledge a future that is less stable than the present, they both approach the future as a stable commodity where change comes at a planned pace event and where tomorrow may be different than today, but not surprising. Neither book envisions radical and wrenching change—change that destroys as well as creates and comes so quickly as to be unmanageable. While both books should be commended for recommending solutions as well as identifying problems, the value of these books is in their illumination of the present situation. Readers may wish to

use them to access points to their own vision of tomorrow.

—Michael Wald
Bureau of Labor Statistics
Atlanta region

Empowering employees

The Business of Employee Empowerment: Democracy and Ideology in the Workplace. By Thomas A. Potterfield. Westport, CT, Quorum Books, 1999, 161 pp. $55.

The opening scene of Shakespeare's tragedy Macbeth has three witches stirring their satanic brew while the play's namesake comments that "so foul and fair a day I have not seen." While reading this book, one might conjure similar thoughts that so foul and yet fair a book I have not read in a long time. At times, *The Business of Employee Empowerment* is brilliant, interesting, and remarkably analytical. Yet, there are some assertions that are frustrating, incongruous, or misleading. These distractions, however, are only minor problems. Thomas Potterfield has written a valuable contribution to the growing literature and understanding of employee empowerment, participatory management, total quality management, or whatever the term used to describe the various and myriad constructs of labor-management cooperation.

The author segments the process and evolution of the empowerment into three basic categories: ideology, domination, and freedom. These segments, he asserts, are grossly misunderstood, and those misunderstandings are perpetuated in literature, and become too structured for the process to substantially succeed. Thus, complete power-sharing between employees and managers never occurs in the world of work. Workers never really escape the industrial serfdom of the job site.

The book is basically divided into two distinct sections: the first section analyzes the theoretical development of the segments, and the second illustrates the validity of Potterfield's theories as applied to a case study of a fictitiously named Fortune 100 company. In the author's words, one of the chief goals of the publication is to illustrate how the current and past structures of "empowerment" distorted reality in ways that serve to protect and sustain existing relations of power and dominance within the corporation.

Without citing it as a reference, this parallels the "paradigm theory" of the often cited psychologist Thomas Kuhn. Kuhn's theory is that any existing school of thought is dominant until challenged by a new paradigm. The established paradigm immediately tries to eliminate or absorb the new ideology, and if unsuccessful is replaced by that new theory. The new paradigm or hybrid of the old one is dominant until it is challenged. Political economists following the seminal theories of Harry Braverman in the seminal work *Labor and Monopoly Capitalism* will easily recognize this process as it applies to labor-management relations. Basically, Potterfield argues that the so-called "empowerment" process is a band-aid attempt to stem the hemorrhaging of corporatist capitalism in a rapidly changing global and technological society. It adapts the current system to market forces by giving workers a sense of workplace control without really changing the institutional structure.

Yet this is not, in the author's opinion, such an evil or pernicious thing. If capitalism had to evolve to provide true workplace democracy it would benefit the system and workers. Potterfield works for the truest capitalistic institution, the multinational corporation. He apparently is not a practicing radical, except perhaps in theoretical thinking. His resources for this book are very balanced, running from radical theorists Karl Marx and Herbert Marcuse to management icons Philip Crosby, Edwards Demming, and Peter Drucker. In between, he consults a range of labor-management and organizational development experts such as Tom Peters and Robert Waterman (*Getting to Yes*); MIT Professor Thomas Kochan (*The Transformation of Industrial Relations);* and former Secretary of Labor Robert Reich (*The Work of Nations*). In reading this book, and the psychological implications for empowerment as a means to pacify the workforce, I was reminiscent of Marx's adage that religion is the opiate of the masses.

As mentioned, there are some frustrating flaws in *The Business of Employee Empowerment.* The misreading of labor history is probably the most glaring error. "Unlike many of the earlier attempts at participatory management, empowerment has really taken hold of the collective imaginations of corporate leaders and management theorists," the book claims. Later it states that empowerment is an attempt to create more democratic and participatory approaches to management beginning in the 1950s and 1960s. The 1994 Commission on the Future of Worker-Management Relations (which the author fails to cite in the bibliography as a resource), chaired by Harvard Professor and former Secretary of Labor John Dunlop, acknowledges that Filene's Department Store in the 1890s marked the first real acceptance of employee empowerment by management. In addition, the often cited book, *The American Idea of Industrial Democracy*, by Milton Derber, gives a complete history of employee participation from the Civil War through the 1960s.

It will also appear obvious to the serious student of industrial relations that some basic resource materials published within the last 10 years or so are missing. While no study can cite all the sources on any given topic, such works as *Negotiating for the Future*, by Irving and Barry Bluestone, the former one of the architects of the Saturn experi-

ment, should have been cited. As a result, those persons interested in fully understanding the process of employee empowerment should read other resources to complement this book. Obviously, *The Business of Employee Empowerment* is not for the casual reader, but then it was not meant to be.

It should also be noted that the trade unionist is likely to take issue with some of the claims made in the book. The contributions and participation of unions is not even mentioned until far into the book. Potterfield's statement that corporate America gave workers a middle class standard of living will also draw the attention of trade unionist readers. Even if one considers the impact of "welfare capitalism," they must accept that this was a reaction against unions and an attempt to circumvent their influence.

Yet despite minor and frustrating errors, the book is very good and worthwhile. The shop-floor team leader, the human resource director, or the student of "work" theory, however, will find it easy to digest. The author leaves readers pondering the question, "Are there companies where empowerment's emancipatory potential is more fully developed, where employees participate fully in all of the decisions that affect their working lives?" Potterfield, as well as many industrial relations scholars, are waiting for an answer. Most workers would like that answer to be "yes."

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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 2000 issue of the *Review*. Seasonally adjusted establishment survey data shown in tables 1, 12–14 and 16–17 were revised in the July 1999 *Review* and reflect the experience through March 1999. 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 areas below the national level 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.

Listings of industries for which productivity indexes are available may be found on the Internet:

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

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 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 beginning 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. The historical seasonally adjusted data usually are revised for only the most recent 5 years. 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 in the household survey

Data beginning in 2000 are not strictly comparable with data for 1999 and earlier years because of the introduction of revised population controls. Additional information appears in the February 2000 issue of *Employment and Earnings*.

FOR ADDITIONAL INFORMATION on national household survey data, contact the Division of Labor Force Statistics: (202) 691–6378.

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 1998 benchmarks, was made with the release of May 1999 data, published in the July 1999 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 1998 forward and seasonally adjusted data from January 1995 forward are subject to revision in future benchmarks.

Revisions in State data (table 11) occurred with the publication of January 1999 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) 691–6555.

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) 691–6392 (table 10) or (202) 691–6559 (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) 691–6199.

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 9,000 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 holidays and vacations, and personal, funeral, jury duty, military, family, and sick leave; short-term disability, 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 family 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 (if any), 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 coverage 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 private establishments were conducted in even-numbered years, and surveys of medium and large establishments were 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 on 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 work time lost because of stoppage. These data are presented in table 27.

Data are largely from a variety of published sources 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 estimated 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 and Working Conditions: (202) 691–6282, or the Internet:

http://stats.bls.gov/cbahome.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 and January 1998 data.

FOR ADDITIONAL INFORMATION on consumer prices, contact the Division of Consumer Prices and Price Indexes: (202) 691–7000.

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) 691–7705.

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) 691–7155.

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 hour, output per unit of labor input, 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 inputs. For private business and private nonfarm business, inputs include labor and capital units. For manufacturing, inputs include labor, capital, energy, non-energy materials, and purchased business services.

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 cost. Combined units of labor, capital, energy, materials, and purchased business services are similarly derived by combining changes in each input with weights that represent each input's share of total costs. The indexes for each input and for combined units 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 mea-

sures 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) 691–5606.

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 hour is derived by dividing an index of industry output by an index of labor input. For most industries, **output** indexes are derived from data on the value of industry output adjusted for price change. For the remaining industries, output indexes are derived from data on the physical quantity of production.

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) 691–5618.

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, 1997, 1998), France (1992), Germany (1991), 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. In 1997, revised population controls were introduced into the household survey. Therefore, the data are not strictly conparable with prior years. In 1998, new composite estimation procedures and minor revisions in population controls were introduced into the household survey. Therefore, the data are not strictly comparable with data for 1997 and earlier years. 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 0.5 percentage point in 1995.

For Germany, the 1991 break reflects the introduction of comparative labor force measures for unified Germany. Data for years prior to 1991 relate to the former West Ger-

many. The impact of including the former East Germany was to increase the unemployment rate from 4.3 to 5.6 percent in 1991.

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 were available for and sought work as unemployed. The impact of this change was to increase the unemployment rate by 0.1 percentage point in 1987 and by 1.8 percentage points in 1994, when unemployment was higher. In 1998, the unemployment rate was increased by 1.9 percentage points, from 6.5 to 8.4 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) 691–5654.

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, Sweden, and the United Kingdom, 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 and for the Netherlands prior to 1960 are indexes of industrial production, and the national accounts measures for the United Kingdom are essentially identical to their indexes of industrial production.

The 1977–98 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.

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 1998. 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, Sweden, and Canada 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 1994-98; 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. For Canada, 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-per-

sons 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 (through 1989) 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) 691-5654.

Occupational Injury and Illness Data

(Tables 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) 691–6180, 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 govern-

ment workers are covered by the program. 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) 691–6175, or the Internet at:

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

Bureau of Labor Statistics Internet

The Bureau of Labor Statistics World Wide Web site on the Internet contains a range of data on consumer and producer prices, employment and unemployment, occupational compensation, employee benefits, workplace injuries and illnesses, and productivity. The homepage can be accessed using any Web browser:

http://stats.bls.gov

Also, some data can be accessed through anonymous FTP or Gopher at

stats.bls.gov

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

Selected measures	1997	1998	1997		1998				1999		
			III	IV	I	II	III	IV	I	II	III
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.3	3.4	1.0	0.8	0.8	0.8	1.2	0.6	0.4	1.0	1.1
Private nonfarm	3.4	3.5	.8	.9	.9	.9	1.1	.6	.4	1.1	.9
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.8	3.7	1.2	.9	.9	.7	1.3	.7	.5	1.0	1.1
Private nonfarm	3.9	3.9	1.0	1.0	1.1	.9	1.3	.6	.5	1.2	.9
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	1.7	1.6	.6	.1	.6	.5	.4	.2	.7	.7	1.0
Producer Price Index:											
Finished goods	−1.2	.0	.2	−.5	−.8	.5	−.1	.4	.0	1.2	1.6
Finished consumer goods	−1.4	.0	.4	−.8	−1.0	.8	.0	.2	.0	1.8	2.2
Capital equipment	−.6	.0	−.7	.5	.0	−.5	−.4	.9	−.1	−.4	−.4
Intermediate materials, supplies, and components	−.8	−3.3	.2	−.8	−1.4	.2	−.5	−1.6	−.2	1.9	1.8
Crude materials	−11.3	−16.7	1.3	−.6	−8.8	−1.8	−5.6	−2.5	−.1	1.9	9.8
Productivity data[3]											
Output per hour of all persons:											
Business sector	2.2	2.8	3.6	1.2	4.6	.6	3.4	4.3	3.0	.8	4.7
Nonfarm business sector	2.0	2.8	3.3	1.2	4.4	.9	3.1	4.1	2.7	.6	4.9
Nonfinancial corporations[4]	3.0	4.0	6.3	2.8	3.7	3.9	5.9	3.2	4.1	3.2	4.7

[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.

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

Selected measures	1997	1998	1997		1998				1999		
			III	IV	I	II	III	IV	I	II	III
Compensation data[1,2]											
Employment Cost Index—compensation (wages, salaries, benefits):											
Civilian nonfarm	3.3	3.4	1.0	0.8	0.8	0.8	1.2	0.6	0.4	1.0	1.1
Private nonfarm	3.4	3.5	.8	.9	.9	.9	1.1	.6	.4	1.1	.9
Employment Cost Index—wages and salaries:											
Civilian nonfarm	3.8	3.7	1.2	.9	.9	.7	1.3	.7	.5	1.0	1.1
Private nonfarm	3.9	3.9	1.0	1.0	1.1	.9	1.3	.6	.5	1.2	.9
Price data[1]											
Consumer Price Index (All Urban Consumers): All Items	1.7	1.6	.6	.1	.6	.5	.4	.2	.7	.7	1.0
Producer Price Index:											
Finished goods	−1.2	.0	.2	−.5	−.8	.5	−.1	.4	.0	1.2	1.6
Finished consumer goods	−1.4	.0	.4	−.8	−1.0	.8	.0	.2	.0	1.8	2.2
Capital equipment	−.6	.0	−.7	.5	.0	−.5	−.4	.9	−.1	−.4	−.4
Intermediate materials, supplies, and components	−.8	−3.3	.2	−.8	−1.4	.2	−.5	−1.6	−.2	1.9	1.8
Crude materials	−11.3	−16.7	1.3	−.6	−8.8	−1.8	−5.6	−2.5	−.1	1.9	9.8
Productivity data[3]											
Output per hour of all persons:											
Business sector	2.2	2.8	3.6	1.2	4.6	.6	3.4	4.3	3.0	.8	4.7
Nonfarm business sector	2.0	2.8	3.3	1.2	4.4	.9	3.1	4.1	2.7	.6	4.9
Nonfinancial corporations[4]	3.0	4.0	6.3	2.8	3.7	3.9	5.9	3.2	4.1	3.2	4.7

[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.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ending—					
	1998			1999			1998			1999		
	II	III	IV	I	II	III	II	III	IV	I	II	III
Average hourly compensation:[1]												
All persons, business sector	5.5	6.1	4.9	4.9	5.1	4.6	5.5	5.8	5.4	5.4	5.3	4.9
All persons, nonfarm business sector	5.6	6.2	4.6	4.2	4.8	4.7	5.3	5.7	5.3	5.1	4.9	4.6
Employment Cost Index—compensation:												
Civilian nonfarm[2]	.8	1.2	.6	.4	1.0	1.1	3.5	3.7	3.4	3.0	3.2	3.1
Private nonfarm	.9	1.1	.6	.4	1.1	.9	3.5	3.8	3.5	3.0	3.3	3.1
Union	1.0	1.1	.5	.4	.7	.9	2.7	2.7	3.0	3.0	2.7	2.5
Nonunion	.8	1.1	.6	.5	1.2	.9	3.8	4.0	3.5	3.0	3.4	3.2
State and local governments	.3	1.5	.6	.5	.4	1.5	2.7	3.0	3.0	2.9	3.0	2.9
Employment Cost Index—wages and salaries:												
Civilian nonfarm[2]	.7	1.3	.7	.5	1.0	1.1	3.8	4.0	3.7	3.3	3.6	3.3
Private nonfarm	.9	1.3	.6	.5	1.2	.9	4.0	4.3	3.9	3.3	3.6	3.2
Union	.8	1.3	.5	.4	.8	.7	3.0	3.2	3.3	3.1	3.1	2.5
Nonunion	.9	1.3	.7	.5	1.2	.9	4.1	4.4	4.0	3.3	3.7	3.3
State and local governments	.2	1.6	.7	.4	.4	1.9	3.0	3.0	3.1	2.9	3.1	3.3

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

[2] Excludes Federal and household workers.

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

[Numbers in thousands]

Employment status	Annual average		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
TOTAL															
Civilian noninstitutional population[1]	205,220	207,753	206,270	206,719	206,873	207,036	207,236	207,427	207,632	207,828	208,038	208,265	208,483	208,666	208,832
Civilian labor force	137,673	139,368	138,545	139,232	139,137	138,804	139,086	139,013	139,332	139,336	139,372	139,475	139,697	139,834	140,108
Participation rate	67.1	67.1	67.2	67.4	67.3	67.0	67.1	67.0	67.1	67.0	67.0	67.0	67.0	67.0	67.1
Employed	131,463	133,488	132,517	133,225	133,029	132,976	133,054	133,190	133,398	133,399	133,530	133,650	133,940	134,098	134,420
Employment-population ratio[2]	64.1	64.3	64.2	64.4	64.3	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.2	64.3	64.4
Unemployed	6,210	5,880	6,028	6,007	6,108	5,828	6,032	5,823	5,934	5,937	5,842	5,825	5,757	5,736	5,688
Unemployment rate	4.5	4.2	4.4	4.3	4.4	4.2	4.3	4.2	4.3	4.3	4.2	4.2	4.1	4.1	4.1
Not in the labor force	67,547	68,385	67,725	67,487	67,736	68,232	68,150	68,414	68,300	68,492	68,666	68,790	68,786	68,832	68,724
Men, 20 years and over															
Civilian noninstitutional population[1]	90,790	91,555	91,220	91,124	91,189	91,215	91,302	91,368	91,487	91,561	91,692	91,793	91,896	91,986	92,052
Civilian labor force	69,715	70,194	70,044	70,202	70,111	69,934	69,992	69,978	70,116	70,167	70,240	70,328	70,339	70,388	70,529
Participation rate	76.8	76.7	76.8	77.0	76.9	76.7	76.7	76.6	76.6	76.6	76.6	76.6	76.5	76.5	76.6
Employed	67,135	67,761	67,528	67,771	67,527	67,628	67,562	67,470	67,645	67,703	67,768	67,943	67,898	68,037	68,197
Employment-population ratio[2]	73.9	74.0	74.0	74.4	74.1	74.1	74.0	73.8	73.9	73.9	73.9	74.0	73.9	74.0	74.1
Agriculture	2,350	2,244	2,254	2,304	2,231	2,239	2,305	2,224	2,246	2,256	2,237	2,189	2,206	2,262	2,227
Nonagricultural industries	64,785	65,517	65,274	65,467	65,296	65,389	65,257	65,246	65,399	65,447	65,531	65,754	65,692	65,775	65,970
Unemployed	2,580	2,433	2,516	2,431	2,584	2,306	2,430	2,508	2,471	2,464	2,472	2,385	2,441	2,351	2,332
Unemployment rate	3.7	3.5	3.6	3.5	3.7	3.3	3.5	3.6	3.5	3.5	3.5	3.4	3.5	3.3	3.3
Women, 20 years and over															
Civilian noninstitutional population[1]	98,786	100,158	99,181	99,686	99,746	99,833	99,923	100,008	100,131	100,203	100,285	100,385	100,458	100,573	100,666
Civilian labor force	59,702	60,840	60,118	60,691	60,591	60,554	60,765	60,708	60,988	60,852	60,904	60,860	60,955	61,052	61,154
Participation rate	60.4	60.7	60.6	60.9	60.7	60.7	60.8	60.7	60.9	60.7	60.7	60.6	60.7	60.7	60.7
Employed	57,278	58,555	57,776	58,373	58,261	58,216	58,336	58,483	58,647	58,477	58,648	58,630	58,800	58,838	58,958
Employment-population ratio[2]	58.0	58.5	58.3	58.6	58.4	58.3	58.4	58.5	58.6	58.4	58.5	58.4	58.5	58.5	58.6
Agriculture	768	803	767	802	822	821	803	820	851	798	780	778	800	768	791
Nonagricultural industries	56,510	57,752	57,009	57,571	57,439	57,395	57,533	57,663	57,796	57,679	57,868	57,852	58,000	58,070	58,167
Unemployed	2,424	2,285	2,342	2,318	2,330	2,338	2,429	2,225	2,341	2,375	2,256	2,230	2,155	2,214	2,196
Unemployment rate	4.1	3.8	3.9	3.8	3.8	3.9	4.0	3.7	3.8	3.9	3.7	3.7	3.5	3.6	3.6
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	15,644	16,040	15,777	15,909	15,939	15,988	16,011	16,051	16,014	16,065	16,061	16,086	16,129	16,107	16,114
Civilian labor force	8,256	8,333	8,383	8,339	8,435	8,316	8,329	8,327	8,228	8,317	8,228	8,287	8,403	8,394	8,425
Participation rate	52.8	52.0	52.9	52.4	52.9	52.0	52.0	51.9	51.4	51.8	51.2	51.5	52.1	52.1	52.3
Employed	7,051	7,172	7,213	7,081	7,241	7,132	7,156	7,237	7,106	7,219	7,114	7,077	7,242	7,223	7,265
Employment-population ratio[2]	45.1	44.7	45.5	44.5	45.4	44.6	44.7	45.1	44.4	44.9	44.3	44.0	44.9	44.8	45.1
Agriculture	261	234	220	191	275	230	233	246	233	224	217	212	232	280	261
Nonagricultural industries	6,790	6,938	6,993	6,890	6,966	6,902	6,923	6,991	6,873	6,995	6,897	6,865	7,010	6,943	7,004
Unemployed	1,205	1,162	1,170	1,258	1,194	1,184	1,173	1,090	1,122	1,098	1,114	1,210	1,161	1,171	1,160
Unemployment rate	14.6	13.9	14.0	15.1	14.2	14.2	14.1	13.1	13.6	13.2	13.5	14.6	13.8	14.0	13.8
White															
Civilian noninstitutional population[1]	171,478	173,085	172,197	172,394	172,491	172,597	172,730	172,859	172,999	173,133	173,275	173,432	173,585	173,709	173,821
Civilian labor force	115,415	116,509	115,980	116,356	116,455	116,237	116,344	116,193	116,518	116,492	116,619	116,495	116,654	116,703	117,008
Participation rate	67.3	67.3	67.4	67.5	67.5	67.3	67.4	67.2	67.4	67.3	67.3	67.2	67.2	67.2	67.3
Employed	110,931	112,235	111,539	111,978	112,017	112,030	111,886	111,898	112,115	112,193	112,308	112,303	112,548	112,611	112,951
Employment-population ratio[2]	64.7	64.8	64.8	65.0	64.9	64.9	64.8	64.7	64.8	64.8	64.8	64.8	64.8	64.8	65.0
Unemployed	4,484	4,273	4,441	4,378	4,438	4,207	4,458	4,295	4,403	4,299	4,311	4,192	4,106	4,092	4,057
Unemployment rate	3.9	3.7	3.8	3.8	3.8	3.6	3.8	3.7	3.8	3.7	3.7	3.6	3.5	3.5	3.5
Black															
Civilian noninstitutional population[1]	24,373	24,855	24,529	24,665	24,697	24,729	24,765	24,798	24,833	24,867	24,904	24,946	24,985	25,019	25,051
Civilian labor force	15,982	16,365	16,155	16,337	16,250	16,231	16,288	16,290	16,308	16,366	16,321	16,474	16,489	16,508	16,513
Participation rate	65.6	65.8	65.8	66.2	65.8	65.6	65.8	65.7	65.7	65.8	65.5	66.0	66.0	66.0	65.9
Employed	14,556	15,056	14,894	15,056	14,924	14,925	15,011	15,053	15,069	14,962	15,047	15,114	15,124	15,187	15,204
Employment-population ratio[2]	59.7	60.6	60.6	61.0	60.4	60.4	60.6	60.7	60.7	60.2	60.4	60.6	60.5	60.7	60.7
Unemployed	1,426	1,309	1,261	1,281	1,326	1,306	1,277	1,237	1,239	1,404	1,274	1,360	1,365	1,321	1,309
Unemployment rate	8.9	8.0	7.8	7.8	8.2	8.0	7.8	7.6	7.6	8.6	7.8	8.3	8.3	8.0	7.9

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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Hispanic origin															
Civilian noninstitutional population[1]	21,070	21,650	21,405	21,296	21,355	21,414	21,483	21,548	21,618	21,684	21,752	21,820	21,881	21,947	22,008
Civilian labor force	14,317	14,665	14,512	14,448	14,520	14,542	14,535	14,555	14,624	14,617	14,710	14,766	14,809	14,887	14,984
Participation rate	67.9	67.7	67.8	67.8	68.0	67.9	67.7	67.5	67.6	67.4	67.6	67.7	67.7	67.8	68.1
Employed	13,291	13,720	13,379	13,473	13,536	13,673	13,541	13,574	13,655	13,696	13,759	13,795	13,879	13,979	14,095
Employment-population ratio[2]	63.1	63.4	62.5	63.3	63.4	63.8	63.0	63.0	63.2	63.2	63.3	63.2	63.4	63.7	64.0
Unemployed	1,026	945	1,133	975	984	869	994	981	969	921	951	971	930	908	889
Unemployment rate	7.2	6.4	7.8	6.7	6.8	6.0	6.8	6.7	6.6	6.3	6.5	6.6	6.3	6.1	5.9

[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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Characteristic															
Employed, 16 years and over	131,463	133,488	132,517	133,225	133,029	132,976	133,054	133,190	133,398	133,399	133,530	133,650	133,940	134,098	134,420
Men	70,693	71,446	71,173	71,368	71,230	71,269	71,208	71,207	71,330	71,437	71,436	71,630	71,623	71,732	71,927
Women	60,771	62,042	61,344	61,857	61,799	61,707	61,846	61,983	62,068	61,962	62,094	62,020	62,317	62,366	62,493
Married men, spouse present	42,923	43,254	43,205	43,440	43,077	43,164	43,210	42,997	43,279	43,350	43,368	43,367	43,206	43,273	43,283
Married women, spouse present	32,872	33,450	33,077	33,526	33,130	33,167	33,284	33,442	33,758	33,387	33,504	33,275	33,521	33,635	33,762
Women who maintain families	7,904	8,229	8,087	8,089	8,103	8,142	8,081	8,081	8,028	8,272	8,335	8,312	8,398	8,526	8,375
Class of worker															
Agriculture:															
Wage and salary workers	2,000	1,944	1,867	1,962	1,900	1,905	1,930	1,930	1,923	1,939	1,908	1,930	1,936	2,049	2,018
Self-employed workers	1,341	1,297	1,332	1,324	1,376	1,358	1,399	1,330	1,341	1,292	1,266	1,198	1,267	1,216	1,211
Unpaid family workers	38	40	34	31	43	39	33	36	39	45	46	40	42	41	36
Nonagricultural industries:															
Wage and salary workers	119,019	121,323	120,365	120,777	120,967	120,939	120,925	121,311	121,006	121,188	121,150	121,583	121,654	121,965	122,426
Government	18,383	18,903	18,709	18,829	18,783	18,778	18,778	18,771	19,007	19,032	19,114	19,080	18,817	18,902	18,959
Private industries	100,637	102,420	101,656	101,948	102,184	102,161	102,147	102,540	101,999	102,156	102,036	102,503	102,837	103,063	103,467
Private households	962	933	937	895	861	926	935	914	983	944	873	1,035	939	944	948
Other	99,674	101,487	100,719	101,053	101,323	101,235	101,212	101,626	101,016	101,212	101,163	101,468	101,898	102,119	102,519
Self-employed workers	8,962	8,790	8,829	8,840	8,733	8,730	8,801	8,726	8,840	8,820	9,000	8,791	8,833	8,686	8,662
Unpaid family workers	103	95	119	110	108	127	65	61	88	77	93	100	101	108	98
Persons at work part time[1]															
All industries:															
Part time for economic reasons	3,665	3,357	3,448	3,489	3,425	3,509	3,403	3,399	3,377	3,316	3,279	3,283	3,179	3,274	3,320
Slack work or business conditions	2,095	1,968	1,938	2,051	1,985	2,018	1,937	1,950	2,048	1,974	1,904	1,922	1,928	1,930	1,951
Could only find part-time work	1,258	1,079	1,144	1,122	1,131	1,181	1,117	1,116	1,045	1,050	1,057	1,073	993	1,032	1,025
Part time for noneconomic reasons	18,530	18,758	18,721	18,589	18,677	18,622	18,752	18,692	18,716	18,983	19,230	18,801	18,799	18,651	18,618
Nonagricultural industries:															
Part time for economic reasons	3,501	3,189	3,271	3,341	3,282	3,325	3,225	3,229	3,209	3,142	3,127	3,112	2,983	3,105	3,157
Slack work or business conditions	1,997	1,861	1,851	1,948	1,900	1,927	1,845	1,845	1,902	1,850	1,813	1,806	1,807	1,815	1,843
Could only find part-time work	1,228	1,056	1,115	1,099	1,101	1,128	1,087	1,089	1,031	1,034	1,041	1,063	964	1,013	1,018
Part time for noneconomic reasons	17,954	18,197	18,187	18,033	18,094	18,031	18,159	18,138	18,106	18,466	18,652	18,273	18,249	18,083	18,061

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

5. Selected employment indicators, monthly data seasonally adjusted

[In thousands]

Selected categories	Annual average		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Characteristic															
Employed, 16 years and over	131,463	133,488	132,517	133,225	133,029	132,976	133,054	133,190	133,398	133,399	133,530	133,650	133,940	134,098	134,420
Men	70,693	71,446	71,173	71,368	71,230	71,269	71,208	71,207	71,330	71,437	71,436	71,630	71,623	71,732	71,927
Women	60,771	62,042	61,344	61,857	61,799	61,707	61,846	61,983	62,068	61,962	62,094	62,020	62,317	62,366	62,493
Married men, spouse present	42,923	43,254	43,205	43,440	43,077	43,164	43,210	42,997	43,279	43,350	43,368	43,367	43,206	43,273	43,283
Married women, spouse present	32,872	33,450	33,077	33,526	33,130	33,167	33,284	33,442	33,758	33,387	33,504	33,275	33,521	33,635	33,762
Women who maintain families	7,904	8,229	8,087	8,089	8,103	8,142	8,081	8,081	8,028	8,272	8,335	8,312	8,398	8,526	8,375
Class of worker															
Agriculture:															
Wage and salary workers	2,000	1,944	1,867	1,962	1,900	1,905	1,930	1,930	1,923	1,939	1,908	1,930	1,936	2,049	2,018
Self-employed workers	1,341	1,297	1,332	1,324	1,376	1,358	1,399	1,330	1,341	1,292	1,266	1,198	1,267	1,216	1,211
Unpaid family workers	38	40	34	31	43	39	33	36	39	45	46	40	42	41	36
Nonagricultural industries:															
Wage and salary workers	119,019	121,323	120,365	120,777	120,967	120,939	120,925	121,311	121,006	121,188	121,150	121,583	121,654	121,965	122,426
Government	18,383	18,903	18,709	18,829	18,783	18,778	18,778	18,771	19,007	19,032	19,114	19,080	18,817	18,902	18,959
Private industries	100,637	102,420	101,656	101,948	102,184	102,161	102,147	102,540	101,999	102,156	102,036	102,503	102,837	103,063	103,467
Private households	962	933	937	895	861	926	935	914	983	944	873	1,035	939	944	948
Other	99,674	101,487	100,719	101,053	101,323	101,235	101,212	101,626	101,016	101,212	101,163	101,468	101,898	102,119	102,519
Self-employed workers	8,962	8,790	8,829	8,840	8,733	8,730	8,801	8,726	8,840	8,820	9,000	8,791	8,833	8,686	8,662
Unpaid family workers	103	95	119	110	108	127	65	61	88	77	93	100	101	108	98
Persons at work part time[1]															
All industries:															
Part time for economic reasons	3,665	3,357	3,448	3,489	3,425	3,509	3,403	3,399	3,377	3,316	3,279	3,283	3,179	3,274	3,320
Slack work or business conditions	2,095	1,968	1,938	2,051	1,985	2,018	1,937	1,950	2,048	1,974	1,904	1,922	1,928	1,930	1,951
Could only find part-time work	1,258	1,079	1,144	1,122	1,131	1,181	1,117	1,116	1,045	1,050	1,057	1,073	993	1,032	1,025
Part time for noneconomic reasons	18,530	18,758	18,721	18,589	18,677	18,622	18,752	18,692	18,716	18,983	19,230	18,801	18,799	18,651	18,618
Nonagricultural industries:															
Part time for economic reasons	3,501	3,189	3,271	3,341	3,282	3,325	3,225	3,229	3,209	3,142	3,127	3,112	2,983	3,105	3,157
Slack work or business conditions	1,997	1,861	1,851	1,948	1,900	1,927	1,845	1,845	1,902	1,850	1,813	1,806	1,807	1,815	1,843
Could only find part-time work	1,228	1,056	1,115	1,099	1,101	1,128	1,087	1,089	1,031	1,034	1,041	1,063	964	1,013	1,018
Part time for noneconomic reasons	17,954	18,197	18,187	18,033	18,094	18,031	18,159	18,138	18,106	18,466	18,652	18,273	18,249	18,083	18,061

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

7. Duration of unemployment, monthly data seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov,	Dec.
Less than 5 weeks	2,622	2,568	2,573	2,397	2,585	2,521	2,741	2,502	2,540	2,640	2,599	2,582	2,545	2,601	2,620
5 to 14 weeks	1,950	1,832	1,884	2,012	1,925	1,884	1,868	1,832	1,775	1,778	1,798	1,805	1,811	1,760	1,694
15 weeks and over	1,637	1,480	1,572	1,491	1,539	1,467	1,474	1,519	1,634	1,511	1,463	1,412	1,434	1,401	1,388
15 to 26 weeks	763	755	759	776	754	752	794	784	806	779	747	708	719	725	693
27 weeks and over	875	725	813	715	785	715	680	735	828	732	716	704	715	676	695
Mean duration, in weeks	14.5	13.4	14.0	13.5	13.8	13.6	13.2	13.4	14.3	13.5	13.2	13.0	13.2	13.0	12.9
Median duration, in weeks	6.7	6.4	6.8	6.8	6.9	6.8	6.1	6.6	6.3	5.8	6.4	5.9	6.3	6.2	5.9

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

[Numbers in thousands]

Reason for unemployment	Annual average		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Job losers[1]	2,822	2,622	2,795	2,708	2,721	2,646	2,695	2,678	2,670	2,670	2,629	2,573	2,518	2,493	2,401
On temporary layoff	866	848	865	863	854	833	843	837	876	847	893	869	802	851	795
Not on temporary layoff	1,957	1,774	1,930	1,845	1,867	1,813	1,852	1,841	1,794	1,823	1,736	1,704	1,716	1,642	1,606
Job leavers	734	783	719	729	750	774	810	781	831	768	793	758	778	821	825
Reentrants	2,132	2,005	1,994	2,009	2,090	2,007	2,039	2,034	2,038	2,003	1,942	1,967	1,958	1,935	2,036
New entrants	520	469	503	519	498	446	473	440	359	459	481	504	511	485	453
Percent of unemployed															
Job losers[1]	45.5	44.6	46.5	45.4	44.9	45.1	44.8	45.1	45.3	45.3	45.0	44.3	43.7	43.5	42.0
On temporary layoff	13.9	14.4	14.4	14.5	14.1	14.2	14.0	14.1	14.9	14.4	15.3	15.0	13.9	14.8	13.9
Not on temporary layoff	31.5	30.2	32.1	30.9	30.8	30.9	30.8	31.0	30.4	30.9	29.7	29.4	29.8	28.6	28.1
Job leavers	11.8	13.3	12.0	12.2	12.4	13.2	13.5	13.2	14.1	13.0	13.6	13.1	13.5	14.3	14.4
Reentrants	34.3	34.1	33.2	33.7	34.5	34.2	33.9	34.3	34.6	33.9	33.2	33.9	34.0	33.7	35.6
New entrants	8.4	8.0	8.4	8.7	8.2	7.6	7.9	7.4	6.1	7.8	8.2	8.7	8.9	8.5	7.9
Percent of civilian labor force															
Job losers[1]	2.1	1.9	2.0	1.9	2.0	1.9	1.9	1.9	1.9	1.9	1.9	1.8	1.8	1.8	1.7
Job leavers	.5	.6	.5	.5	.5	.6	.6	.6	.6	.6	.6	.5	.6	.6	.6
Reentrants	1.5	1.4	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.4	1.5
New entrants	.4	.3	.4	.4	.4	.3	.3	.3	.3	.3	.3	.4	.4	.3	.3

[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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total, 16 years and over	4.5	4.2	4.4	4.3	4.4	4.2	4.3	4.2	4.3	4.3	4.2	4.2	4.1	4.1	4.1
16 to 24 years	10.4	9.9	9.8	10.1	10.2	10.0	10.0	9.6	9.8	9.7	9.6	10.0	10.0	10.0	9.8
16 to 19 years	14.6	13.9	14.0	15.1	14.2	14.2	14.1	13.1	13.6	13.2	13.5	14.6	13.9	14.0	13.8
16 to 17 years	17.2	16.3	16.7	17.9	15.8	16.6	16.6	16.1	16.3	15.4	15.9	16.1	15.9	16.5	16.5
18 to 19 years	12.8	12.4	12.2	12.9	13.0	12.7	12.4	11.2	11.8	11.7	12.1	13.8	12.4	12.3	12.1
20 to 24 years	7.9	7.5	7.2	7.1	7.7	7.4	7.5	7.5	7.6	7.6	7.3	7.2	7.7	7.7	7.4
25 years and over	3.4	3.1	3.3	3.2	3.3	3.1	3.3	3.2	3.2	3.2	3.2	3.1	3.0	3.0	3.0
25 to 54 years	3.5	3.2	3.3	3.3	3.4	3.2	3.3	3.2	3.3	3.3	3.2	3.2	3.1	3.1	3.0
55 years and over	2.7	2.8	2.9	2.9	2.9	2.8	2.9	2.7	3.0	2.9	2.7	2.6	2.7	2.6	2.7
Men, 16 years and over	4.4	4.1	4.3	4.2	4.3	4.0	4.1	4.2	4.1	4.1	4.1	4.0	4.1	4.0	4.0
16 to 24 years	11.1	10.3	10.6	10.7	10.3	10.1	10.5	10.2	10.5	10.2	9.9	9.9	10.4	10.2	10.6
16 to 19 years	16.2	14.7	16.0	16.4	14.9	15.0	14.8	13.9	14.3	13.8	13.9	14.6	14.2	14.9	15.2
16 to 17 years	19.1	17.0	19.1	19.3	16.0	17.3	18.3	17.6	16.8	16.1	16.2	16.6	15.5	16.9	17.7
18 to 19 years	14.1	13.1	13.7	14.3	13.9	13.5	12.6	11.5	12.7	12.2	12.6	13.2	13.2	13.6	13.5
20 to 24 years	8.1	7.7	7.4	7.3	7.6	7.2	7.9	8.0	8.3	8.1	7.6	7.2	8.2	7.5	7.8
25 years and over	3.2	3.0	3.2	3.0	3.2	2.8	3.0	3.1	3.0	3.0	3.1	3.0	2.9	2.8	2.8
25 to 54 years	3.3	3.0	3.2	3.1	3.2	2.9	3.0	3.1	3.0	3.0	3.1	3.0	3.0	2.9	2.9
55 years and over	2.8	2.8	3.0	2.8	2.9	2.6	2.7	2.8	2.7	3.0	2.9	2.9	2.8	2.6	2.5
Women, 16 years and over	4.6	4.3	4.4	4.4	4.4	4.5	4.6	4.2	4.4	4.4	4.3	4.3	4.2	4.2	4.1
16 to 24 years	9.8	9.5	8.9	9.5	10.0	9.9	9.5	8.9	9.1	9.1	9.3	10.0	9.6	9.8	8.9
16 to 19 years	12.9	13.2	11.8	13.7	13.4	13.4	13.4	12.2	13.0	12.6	13.2	14.7	13.4	13.0	12.2
16 to 17 years	15.1	15.5	14.1	16.3	15.5	15.9	14.8	14.5	15.7	14.7	15.6	15.6	16.3	16.1	15.1
18 to 19 years	11.5	11.6	10.6	11.5	12.0	11.7	12.1	10.9	10.9	11.2	11.6	14.5	11.4	10.8	10.5
20 to 24 years	7.8	7.2	7.1	7.0	7.9	7.7	7.1	6.9	6.8	7.1	7.0	7.2	7.2	7.9	7.0
25 years and over	3.6	3.3	3.5	3.4	3.4	3.4	3.6	3.3	3.5	3.5	3.3	3.2	3.1	3.1	3.2
25 to 54 years	3.8	3.4	3.6	3.5	3.5	3.5	3.7	3.4	3.5	3.6	3.4	3.4	3.2	3.3	3.2
55 years and over	2.6	2.8	2.8	3.0	2.8	3.1	3.1	2.6	3.3	2.9	2.4	2.1	2.5	2.6	2.9

10. Unemployment rates by State, seasonally adjusted

State	Nov. 1998	Oct. 1999	Nov. 1999[P]	State	Nov. 1998	Oct. 1999	Nov. 1999[P]
Alabama	4.1	4.4	4.4	Missouri	3.5	2.7	2.6
Alaska	5.5	5.7	5.9	Montana	5.6	4.9	4.8
Arizona	4.0	4.0	4.0	Nebraska	2.7	2.5	2.6
Arkansas	5.5	4.2	4.3	Nevada	3.6	4.4	4.5
California	5.9	4.9	4.8	New Hampshire	2.9	2.5	2.6
Colorado	3.6	3.0	2.8	New Jersey	4.5	4.5	4.3
Connecticut	3.2	3.0	2.9	New Mexico	6.4	6.0	6.0
Delaware	3.4	3.2	3.3	New York	5.5	5.2	5.0
District of Columbia	8.2	5.9	5.9	North Carolina	3.2	3.3	3.2
Florida	4.2	4.0	4.0	North Dakota	2.9	2.8	2.8
Georgia	4.0	3.6	3.7	Ohio	4.1	4.2	4.0
Hawaii	6.1	5.3	5.4	Oklahoma	4.5	3.1	3.2
Idaho	4.9	5.1	4.6	Oregon	5.5	5.5	5.1
Illinois	4.4	4.3	4.2	Pennsylvania	4.5	4.2	4.3
Indiana	3.0	2.7	2.9	Rhode Island	4.4	3.7	3.8
Iowa	2.7	2.2	2.1	South Carolina	4.0	4.4	4.7
Kansas	3.8	3.2	3.3	South Dakota	2.8	2.7	2.5
Kentucky	4.3	4.1	3.9	Tennessee	4.1	3.6	3.7
Louisiana	5.3	5.6	4.9	Texas	4.8	4.7	4.4
Maine	4.0	3.9	3.5	Utah	3.4	3.4	2.9
Maryland	4.0	3.5	3.2	Vermont	3.1	2.9	2.6
Massachusetts	3.1	3.2	3.2	Virginia	2.9	2.8	2.8
Michigan	3.8	3.7	3.7	Washington	4.9	4.8	4.0
Minnesota	2.5	2.2	2.4	West Virginia	6.2	6.7	6.6
Mississippi	5.2	5.2	4.5	Wisconsin	3.6	2.8	2.9
				Wyoming	4.7	4.6	4.4

[P] = preliminary

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

[In thousands]

State	Nov. 1998	Oct. 1999	Nov. 1999[P]	State	Nov. 1998	Oct. 1999	Nov. 1999[P]
Alabama	1,916.8	1,931.6	1,934.6	Missouri	2,708.5	2,707.6	2,711.2
Alaska	276.6	278.6	278.8	Montana	376.4	384.1	384.5
Arizona	2,113.4	2,176.3	2,182.2	Nebraska	882.6	879.2	880.3
Arkansas	1,132.0	1,144.3	1,146.6	Nevada	943.9	989.1	990.3
California	13,748.8	14,067.9	14,113.5	New Hampshire	591.2	596.8	602.2
Colorado	2,074.6	2,111.0	2,118.4	New Jersey	3,821.1	3,882.0	3,888.3
Connecticut	1,652.5	1,674.1	1,678.6	New Mexico	725.3	733.1	735.6
Delaware	403.9	415.2	415.9	New York	8,293.1	8,443.6	8,456.6
District of Columbia	616.4	621.7	620.5	North Carolina	3,814.5	3,843.5	3,849.7
Florida	6,773.0	7,014.1	7,033.5	North Dakota	317.5	316.4	318.9
Georgia	3,782.9	3,904.5	3,922.5	Ohio	5,498.2	5,522.4	5,527.8
Hawaii	528.3	531.2	531.4	Oklahoma	1,451.6	1,486.5	1,487.9
Idaho	527.1	532.6	531.7	Oregon	1,571.2	1,592.2	1,596.0
Illinois	5,937.5	5,967.4	5,985.2	Pennsylvania	5,515.5	5,546.0	5,541.3
Indiana	2,931.5	2,958.8	2,957.9	Rhode Island	430.9	469.0	468.4
Iowa	1,460.8	1,492.9	1,494.6	South Carolina	1,806.0	1,842.0	1,849.6
Kansas	1,328.4	1,346.9	1,349.5	South Dakota	363.7	363.1	365.1
Kentucky	1,763.3	1,797.2	1,799.8	Tennessee	2,653.9	2,677.0	2,678.5
Louisiana	1,913.3	1,920.9	1,926.5	Texas	9,046.6	9,267.8	9,294.2
Maine	576.1	587.9	589.8	Utah	1,034.2	1,061.4	1,063.0
Maryland	2,346.6	2,384.8	2,391.0	Vermont	287.1	292.7	294.0
Massachusetts	3,191.6	3,234.6	3,235.8	Virginia	3,341.7	3,403.5	3,406.1
Michigan	4,543.9	4,570.6	4,578.8	Washington	2,619.0	2,661.2	2,669.5
Minnesota	2,584.8	2,627.3	2,631.8	West Virginia	722.6	725.3	727.2
Mississippi	1,133.8	1,131.7	1,131.2	Wisconsin	2,725.1	2,748.6	2,750.0
				Wyoming	227.4	231.1	231.8

[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		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
TOTAL	125,826	128,610	127,186	127,378	127,730	127,813	128,134	128,162	128,443	128,816	128,945	129,048	129,332	129,554	129,869
PRIVATE SECTOR	106,007	108,450	107,213	107,386	107,676	107,726	108,035	108,085	108,338	108,663	108,735	108,830	109,095	109,296	109,547
GOODS-PRODUCING	25,347	25,240	25,354	25,315	25,329	25,285	25,288	25,199	25,180	25,247	25,148	25,186	25,198	25,260	25,277
Mining	590	535	570	560	553	550	538	531	526	528	524	527	528	527	529
Metal mining	50	49	50	50	50	50	49	49	48	48	47	48	48	49	48
Oil and gas extraction	339	293	320	312	306	305	294	287	285	285	285	287	289	288	291
Nonmetallic minerals, except fuels	109	109	110	109	109	108	109	109	109	110	109	109	109	108	107
Construction	5,985	6,273	6,173	6,170	6,238	6,232	6,277	6,239	6,258	6,270	6,246	6,293	6,314	6,369	6,385
General building contractors	1,372	1,434	1,404	1,410	1,426	1,429	1,428	1,427	1,430	1,432	1,426	1,440	1,445	1,451	1,452
Heavy construction, except building	838	862	876	871	869	864	874	854	857	857	852	857	861	869	881
Special trades contractors	3,744	3,977	3,893	3,889	3,943	3,939	3,975	3,958	3,971	3,981	3,968	3,996	4,008	4,049	4,052
Manufacturing	18,772	18,432	18,611	18,585	18,538	18,503	18,473	18,429	18,396	18,449	18,378	18,366	18,356	18,364	18,363
Production workers	12,930	12,662	12,795	12,773	12,730	12,714	12,696	12,662	12,623	12,691	12,622	12,617	12,608	12,616	12,616
Durable goods	11,170	10,986	11,074	11,050	11,027	11,014	10,993	10,971	10,960	11,015	10,975	10,959	10,952	10,958	10,959
Production workers	7,643	7,512	7,568	7,548	7,529	7,527	7,519	7,504	7,487	7,549	7,513	7,496	7,489	7,494	7,487
Lumber and wood products	813	826	823	826	827	827	824	824	824	826	826	827	829	830	830
Furniture and fixtures	530	540	534	534	535	535	536	537	538	546	543	544	546	543	543
Stone, clay, and glass products	563	569	570	569	571	569	570	569	568	571	568	569	568	571	571
Primary metal industries	712	690	699	696	695	693	691	689	687	692	688	685	685	687	687
Fabricated metal products	1,501	1,489	1,493	1,495	1,491	1,490	1,489	1,487	1,485	1,493	1,484	1,486	1,487	1,488	1,490
Industrial machinery and equipment	2,203	2,129	2,167	2,148	2,146	2,139	2,132	2,129	2,128	2,131	2,122	2,117	2,116	2,117	2,118
Computer and office equipment	379	360	370	362	362	360	361	362	364	360	359	358	358	357	359
Electronic and other electrical equipment	1,704	1,662	1,669	1,663	1,659	1,659	1,658	1,658	1,657	1,667	1,662	1,662	1,665	1,664	1,667
Electronic components and accessories	660	639	640	637	636	636	635	635	637	639	641	640	643	643	645
Transportation equipment	1,884	1,855	1,882	1,884	1,871	1,873	1,864	1,853	1,849	1,863	1,859	1,848	1,838	1,836	1,831
Motor vehicles and equipment	990	1,000	994	996	989	992	996	996	998	1,014	1,012	1,006	1,001	1,002	1,002
Aircraft and parts	524	490	518	517	510	511	503	498	491	488	483	476	471	467	463
Instruments and related products	868	839	851	849	847	844	842	839	837	840	836	833	830	833	833
Miscellaneous manufacturing industries	393	387	386	386	385	385	387	386	387	386	387	388	388	389	389
Nondurable goods	7,602	7,446	7,537	7,535	7,511	7,489	7,480	7,458	7,436	7,434	7,403	7,407	7,404	7,406	7,404
Production workers	5,287	5,151	5,227	5,225	5,201	5,187	5,177	5,158	5,136	5,142	5,109	5,121	5,119	5,122	5,129
Food and kindred products	1,686	1,685	1,693	1,699	1,695	1,693	1,689	1,688	1,680	1,681	1,666	1,679	1,680	1,686	1,691
Tobacco products	41	39	40	40	40	39	38	38	39	39	36	38	38	38	38
Textile mill products	598	561	582	579	575	571	567	563	560	559	557	553	551	552	550
Apparel and other textile products	763	684	724	718	707	702	698	691	686	679	672	669	666	663	658
Paper and allied products	675	659	666	664	664	662	662	661	659	659	658	657	655	655	655
Printing and publishing	1,565	1,554	1,560	1,561	1,559	1,557	1,555	1,551	1,552	1,554	1,553	1,552	1,552	1,550	1,548
Chemicals and allied products	1,043	1,035	1,042	1,041	1,041	1,037	1,038	1,036	1,033	1,032	1,030	1,033	1,033	1,033	1,033
Petroleum and coal products	140	137	140	139	139	139	139	138	137	138	136	137	136	136	135
Rubber and miscellaneous plastics products	1,009	1,019	1,012	1,016	1,015	1,014	1,019	1,018	1,016	1,021	1,022	1,017	1,021	1,022	1,026
Leather and leather products	83	74	78	78	76	75	75	74	74	72	73	72	72	71	70
SERVICE-PRODUCING	100,480	103,370	101,832	102,063	102,401	102,528	102,846	102,963	103,263	103,569	103,797	103,862	104,134	104,294	104,592
Transportation and public utilities	6,600	6,791	6,684	6,708	6,723	6,732	6,750	6,758	6,781	6,799	6,813	6,831	6,841	6,860	6,892
Transportation	4,276	4,425	4,340	4,356	4,367	4,378	4,397	4,402	4,423	4,438	4,445	4,455	4,458	4,472	4,498
Railroad transportation	231	230	231	233	233	235	234	233	233	230	226	227	227	227	228
Local and interurban passenger transit	468	482	474	474	475	476	483	480	483	483	488	486	486	487	487
Trucking and warehousing	1,745	1,812	1,769	1,786	1,789	1,796	1,800	1,802	1,810	1,817	1,817	1,825	1,828	1,833	1,842
Water transportation	180	181	183	182	181	177	180	180	181	182	182	182	182	181	180
Transportation by air	1,183	1,237	1,205	1,204	1,213	1,218	1,220	1,226	1,234	1,240	1,246	1,250	1,251	1,259	1,273
Pipelines, except natural gas	14	13	14	14	14	14	14	13	13	13	13	13	13	13	13
Transportation services	455	469	464	463	462	462	466	468	469	473	473	472	471	472	475
Communications and public utilities	2,324	2,366	2,344	2,352	2,356	2,354	2,353	2,356	2,358	2,361	2,368	2,376	2,383	2,388	2,394
Communications	1,469	1,522	1,492	1,502	1,507	1,506	1,508	1,513	1,513	1,519	1,525	1,533	1,541	1,545	1,551
Electric, gas, and sanitary services	855	845	852	850	849	848	845	843	845	842	843	843	842	843	843
Wholesale trade	6,831	7,003	6,901	6,924	6,937	6,947	6,965	6,977	6,993	7,012	7,031	7,041	7,064	7,066	7,082
Retail trade	22,296	22,784	22,525	22,556	22,648	22,611	22,724	22,748	22,796	22,903	22,888	22,862	22,891	22,887	22,952
Building materials and garden supplies	948	987	967	972	979	982	982	979	982	986	988	992	1,001	1,004	1,007
General merchandise stores	2,730	2,773	2,758	2,773	2,781	2,794	2,799	2,784	2,782	2,778	2,774	2,762	2,756	2,750	2,784
Department stores	2,426	2,471	2,456	2,470	2,475	2,489	2,499	2,486	2,482	2,476	2,468	2,460	2,455	2,447	2,469

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		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
Food stores	3,482	3,483	3,487	3,481	3,492	3,490	3,492	3,487	3,479	3,478	3,484	3,478	3,481	3,478	3,485
Automotive dealers and service stations	2,341	2,406	2,370	2,377	2,390	2,392	2,399	2,400	2,403	2,407	2,409	2,415	2,420	2,424	2,434
New and used car dealers	1,048	1,082	1,059	1,061	1,065	1,069	1,074	1,077	1,080	1,085	1,089	1,091	1,092	1,096	1,099
Apparel and accessory stores	1,143	1,181	1,147	1,152	1,167	1,167	1,163	1,172	1,178	1,192	1,191	1,189	1,200	1,199	1,191
Furniture and home furnishings stores	1,026	1,085	1,048	1,055	1,064	1,070	1,081	1,084	1,091	1,090	1,094	1,097	1,099	1,093	1,101
Eating and drinking places	7,760	7,903	7,857	7,843	7,855	7,785	7,863	7,880	7,911	7,989	7,960	7,932	7,922	7,943	7,970
Miscellaneous retail establishments	2,867	2,965	2,891	2,903	2,920	2,931	2,945	2,962	2,970	2,983	2,988	2,997	3,009	2,996	2,980
Finance, insurance, and real estate	7,407	7,633	7,542	7,570	7,581	7,595	7,611	7,621	7,636	7,647	7,650	7,653	7,668	7,678	7,690
Finance	3,593	3,707	3,663	3,675	3,681	3,690	3,697	3,706	3,709	3,715	3,716	3,715	3,719	3,725	3,735
Depository institutions	2,042	2,048	2,047	2,049	2,051	2,051	2,050	2,047	2,045	2,044	2,046	2,047	2,047	2,047	2,049
Commercial banks	1,468	1,466	1,467	1,469	1,470	1,469	1,467	1,465	1,463	1,462	1,464	1,466	1,464	1,465	1,468
Savings institutions	258	256	257	258	258	258	257	256	256	256	255	255	254	253	252
Nondepository institutions	658	714	698	705	708	712	716	720	721	721	719	713	711	710	714
Security and commodity brokers	645	679	661	663	661	664	668	672	676	682	685	686	691	697	702
Holding and other investment offices	248	266	257	258	261	263	263	267	267	268	266	269	270	271	270
Insurance	2,344	2,401	2,379	2,383	2,386	2,392	2,395	2,399	2,402	2,404	2,407	2,410	2,414	2,411	2,412
Insurance carriers	1,598	1,634	1,624	1,627	1,628	1,632	1,631	1,635	1,638	1,635	1,636	1,637	1,641	1,636	1,637
Insurance agents, brokers, and service	746	767	755	756	758	760	764	764	764	769	771	773	773	775	775
Real estate	1,471	1,525	1,500	1,512	1,514	1,513	1,519	1,516	1,525	1,528	1,527	1,528	1,535	1,542	1,543
Services[1]	37,526	38,999	38,207	38,313	38,458	38,556	38,697	38,782	38,952	39,055	39,205	39,257	39,433	39,545	39,654
Agricultural services	706	758	739	747	751	747	755	751	757	760	757	763	766	774	758
Hotels and other lodging places	1,776	1,798	1,783	1,785	1,786	1,789	1,791	1,786	1,797	1,807	1,813	1,811	1,806	1,810	1,804
Personal services	1,195	1,206	1,202	1,205	1,201	1,200	1,204	1,189	1,200	1,207	1,207	1,210	1,210	1,214	1,224
Business services	8,584	9,124	8,829	8,869	8,922	8,963	9,010	9,047	9,088	9,148	9,186	9,204	9,303	9,331	9,408
Services to buildings	950	988	964	971	971	973	978	979	984	992	998	1,000	1,003	1,003	997
Personnel supply services	3,230	3,407	3,292	3,308	3,331	3,343	3,350	3,366	3,387	3,422	3,418	3,440	3,490	3,504	3,531
Help supply services	2,872	3,019	2,922	2,933	2,954	2,967	2,975	2,986	3,000	3,025	3,024	3,032	3,099	3,101	3,125
Computer and data processing services	1,599	1,781	1,691	1,708	1,724	1,734	1,749	1,765	1,781	1,794	1,806	1,814	1,823	1,828	1,841
Auto repair services and parking	1,144	1,185	1,163	1,168	1,175	1,176	1,178	1,182	1,184	1,185	1,185	1,190	1,196	1,198	1,197
Miscellaneous repair services	382	397	390	392	392	393	396	398	395	395	396	398	400	401	405
Motion pictures	573	600	577	573	582	580	587	604	611	609	608	608	612	614	606
Amusement and recreation services	1,601	1,695	1,647	1,653	1,656	1,660	1,668	1,675	1,695	1,694	1,712	1,713	1,730	1,728	1,711
Health services	9,846	9,973	9,899	9,905	9,919	9,932	9,951	9,954	9,964	9,975	9,993	9,999	10,009	10,025	10,041
Offices and clinics of medical doctors	1,803	1,866	1,833	1,840	1,844	1,850	1,856	1,860	1,864	1,868	1,874	1,876	1,880	1,887	1,890
Nursing and personal care facilities	1,762	1,755	1,756	1,756	1,755	1,754	1,753	1,755	1,755	1,754	1,755	1,756	1,756	1,755	1,760
Hospitals	3,926	3,970	3,952	3,954	3,959	3,963	3,966	3,966	3,969	3,968	3,973	3,977	3,978	3,979	3,987
Home health care services	672	654	651	645	651	653	656	653	653	655	658	657	658	658	656
Legal services	973	1,002	988	989	992	995	998	999	1,002	1,000	1,004	1,007	1,009	1,012	1,015
Educational services	2,177	2,269	2,223	2,218	2,237	2,243	2,254	2,265	2,272	2,278	2,288	2,289	2,288	2,298	2,304
Social services	2,644	2,782	2,708	2,721	2,734	2,744	2,755	2,760	2,778	2,763	2,799	2,803	2,817	2,841	2,850
Child day care services	605	632	618	621	625	627	628	629	633	632	631	631	634	644	648
Residential care	747	781	762	765	768	769	772	775	777	781	785	788	792	798	802
Museums and botanical and zoological gardens	93	94	94	94	94	95	94	93	94	94	95	94	95	95	95
Membership organizations	2,361	2,402	2,380	2,385	2,389	2,392	2,392	2,394	2,409	2,403	2,409	2,408	2,409	2,411	2,419
Engineering and management services	3,185	3,420	3,292	3,316	3,335	3,354	3,370	3,391	3,411	3,441	3,458	3,464	3,487	3,498	3,521
Engineering and architectural services	905	944	922	926	930	933	939	940	942	948	948	948	954	960	965
Management and public relations	1,034	1,158	1,090	1,103	1,111	1,123	1,133	1,143	1,153	1,165	1,178	1,180	1,193	1,195	1,215
Government	19,819	20,160	19,973	19,992	20,054	20,087	20,099	20,077	20,105	20,153	20,210	20,218	20,237	20,258	20,322
Federal	2,686	2,669	2,701	2,702	2,713	2,710	2,688	2,666	2,664	2,656	2,651	2,654	2,643	2,646	2,652
Federal, except Postal Service	1,819	1,796	1,819	1,822	1,834	1,831	1,809	1,788	1,789	1,779	1,779	1,785	1,780	1,778	1,777
State	4,612	4,695	4,652	4,644	4,670	4,680	4,688	4,677	4,675	4,682	4,706	4,717	4,722	4,725	4,735
Education	1,916	1,953	1,932	1,920	1,941	1,948	1,955	1,941	1,934	1,947	1,965	1,965	1,960	1,965	1,974
Other State government	2,695	2,743	2,720	2,724	2,729	2,732	2,733	2,736	2,741	2,735	2,741	2,752	2,762	2,760	2,761
Local	12,521	12,795	12,620	12,646	12,671	12,697	12,723	12,734	12,766	12,815	12,853	12,847	12,872	12,887	12,935
Education	7,082	7,265	7,148	7,165	7,181	7,200	7,206	7,225	7,239	7,268	7,308	7,295	7,305	7,315	7,350
Other local government	5,440	5,531	5,472	5,481	5,490	5,497	5,517	5,509	5,527	5,547	5,545	5,552	5,567	5,572	5,585

[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		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
PRIVATE SECTOR	34.6	34.5	34.6	34.6	34.6	34.5	34.4	34.4	34.5	34.5	34.5	34.4	34.5	34.5	34.5
GOODS-PRODUCING	41.0	41.0	41.1	41.1	41.0	40.8	40.9	41.0	41.2	41.2	41.1	41.1	41.1	41.3	41.0
MINING	43.9	43.9	43.3	42.9	43.0	42.9	43.8	44.1	44.0	45.1	44.2	44.3	44.1	44.2	44.9
MANUFACTURING	41.7	41.7	41.7	41.6	41.6	41.5	41.6	41.7	41.7	41.9	41.8	41.8	41.8	41.7	41.7
Overtime hours	4.6	4.6	4.5	4.5	4.5	4.5	4.3	4.6	4.7	4.7	4.7	4.7	4.7	4.6	4.7
Durable goods	42.3	42.3	42.2	42.2	42.2	42.0	42.1	42.2	42.3	42.5	42.4	42.4	42.3	42.2	42.1
Overtime hours	4.8	4.8	4.6	4.6	4.6	4.6	4.3	4.7	4.8	4.9	4.9	4.9	4.8	4.7	4.8
Lumber and wood products	41.1	41.1	41.5	41.7	41.1	41.2	41.2	41.2	41.1	41.1	41.3	41.1	41.1	41.0	40.8
Furniture and fixtures	40.6	40.3	40.2	40.4	40.3	40.3	40.4	40.4	40.4	40.6	40.3	40.4	40.2	40.0	40.5
Stone, clay, and glass products	43.5	43.4	43.8	43.8	43.4	42.9	43.1	43.4	43.4	43.6	43.6	43.6	43.4	43.9	43.1
Primary metal industries	44.2	44.2	43.7	43.7	43.8	43.9	44.0	44.3	44.3	44.5	44.4	44.4	44.3	44.3	44.5
Blast furnaces and basic steel products	44.6	44.8	43.3	43.8	43.8	43.9	44.5	44.8	45.2	45.2	45.1	45.0	45.0	45.4	45.8
Fabricated metal products	42.3	42.2	42.2	42.1	42.1	42.1	41.8	42.1	42.1	42.3	42.4	42.3	42.1	42.1	42.1
Industrial machinery and equipment	42.8	42.2	42.1	42.1	42.1	41.9	41.9	42.1	42.0	42.4	42.4	42.4	42.4	42.3	42.4
Electronic and other electrical equipment	41.4	41.4	41.1	41.2	41.2	41.0	41.1	41.5	41.5	41.7	41.7	41.6	41.6	41.5	41.4
Transportation equipment	43.4	43.8	44.1	43.5	44.0	43.7	44.0	43.5	44.2	44.4	44.0	44.0	43.9	43.5	43.0
Motor vehicles and equipment	43.5	45.0	44.9	44.3	45.0	44.7	45.1	44.4	45.4	46.0	45.2	45.2	45.3	44.7	44.1
Instruments and related products	41.3	41.5	41.1	41.2	41.3	41.2	41.6	41.6	41.5	41.7	41.6	41.6	41.5	41.6	41.7
Miscellaneous manufacturing	39.9	39.8	39.6	39.6	39.7	39.8	39.6	40.2	40.0	40.1	40.1	40.0	39.8	39.6	39.7
Nondurable goods	40.9	40.9	40.9	40.8	40.8	40.8	40.9	41.0	41.0	41.1	40.9	40.9	41.0	41.0	41.0
Overtime hours	4.3	4.4	4.3	4.4	4.3	4.4	4.2	4.4	4.5	4.5	4.4	4.4	4.5	4.4	4.6
Food and kindred products	41.7	41.8	42.0	41.8	41.7	41.7	41.9	41.8	41.8	42.0	41.6	41.7	42.0	41.8	41.7
Textile mill products	41.0	41.0	40.8	40.8	40.6	40.4	41.0	41.0	40.6	41.3	40.9	40.8	41.3	41.2	41.4
Apparel and other textile products	37.3	37.4	37.3	37.0	37.5	37.4	37.5	37.8	37.7	37.5	37.3	37.5	37.5	37.3	37.5
Paper and allied products	43.4	43.5	43.4	43.5	43.5	43.7	43.6	43.5	43.5	43.5	43.7	43.5	43.5	43.5	43.3
Printing and publishing	38.3	38.2	38.1	38.2	38.1	37.9	38.1	38.3	38.3	38.4	38.3	38.3	38.4	38.3	38.3
Chemicals and allied products	43.2	43.0	42.7	42.9	42.8	42.8	43.0	43.0	43.0	43.1	43.3	43.2	43.1	43.2	43.1
Rubber and miscellaneous plastics products	41.7	41.7	41.7	41.4	41.7	41.8	41.5	41.9	41.8	41.7	41.6	41.7	41.5	41.6	41.5
Leather and leather products	37.6	37.8	37.5	37.3	37.7	37.7	38.1	38.4	37.9	37.9	38.2	37.2	37.5	37.8	37.7
SERVICE-PRODUCING	32.9	32.8	32.9	32.9	33.0	32.8	32.8	32.8	32.8	32.9	32.9	32.8	32.8	32.8	32.9
TRANSPORTATION AND PUBLIC UTILITIES	39.5	38.7	39.1	39.3	39.2	39.1	39.0	38.8	38.9	38.7	38.9	38.6	38.5	38.1	38.3
WHOLESALE TRADE	38.4	38.4	38.4	38.4	38.5	38.4	38.4	38.3	38.4	38.4	38.4	38.5	38.6	38.4	38.5
RETAIL TRADE	29.0	29.0	29.0	29.0	29.2	29.0	29.0	29.1	29.1	29.1	29.0	28.8	28.9	28.9	29.0

[P] = preliminary.

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

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

Industry	Annual average		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
PRIVATE SECTOR (in current dollars)	$ 12.78	$ 13.24	$12.98	$13.04	$13.06	$13.11	$13.14	$13.18	$13.24	$13.28	$13.29	$13.35	$13.39	$13.40	$13.46
Goods-producing	14.34	14.82	14.51	14.53	14.56	14.61	14.67	14.75	14.85	14.90	14.90	14.93	14.97	15.00	15.04
Mining	16.90	17.05	17.18	17.07	16.97	17.00	16.87	17.05	16.96	17.23	17.12	17.09	17.09	16.92	17.10
Construction	16.59	17.13	16.80	16.80	16.83	16.92	16.97	17.08	17.16	17.18	17.15	17.21	17.27	17.32	17.43
Manufacturing	13.49	13.91	13.60	13.64	13.67	13.71	13.79	13.85	13.95	14.02	14.03	14.04	14.07	14.07	14.10
Excluding overtime	12.79	13.18	12.90	12.93	12.97	13.00	13.09	13.13	13.20	13.26	13.28	13.29	13.33	13.33	13.36
Service-producing	12.27	12.74	12.49	12.56	12.58	12.63	12.65	12.68	12.73	12.77	12.79	12.85	12.89	12.90	12.97
Transportation and public utilities	15.31	15.66	15.47	15.49	15.51	15.53	15.60	15.65	15.65	15.70	15.70	15.76	15.76	15.80	15.89
Wholesale trade	14.06	14.60	14.30	14.36	14.36	14.42	14.44	14.48	14.56	14.61	14.63	14.74	14.80	14.85	14.95
Retail trade	8.73	9.08	8.89	8.93	8.95	8.98	9.03	9.04	9.06	9.10	9.13	9.15	9.18	9.20	9.26
Finance, insurance, and real estate	14.06	14.61	14.40	14.46	14.49	14.51	14.58	14.60	14.62	14.68	14.63	14.70	14.72	14.72	14.74
Services	12.85	13.39	13.08	13.17	13.22	13.27	13.28	13.33	13.38	13.42	13.44	13.49	13.55	13.55	13.62
PRIVATE SECTOR (in constant (1982) dollars)	7.75	–	7.81	7.83	7.84	7.86	7.83	7.85	7.89	7.88	7.87	7.86	7.87	7.86	–

– 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		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
PRIVATE SECTOR	$12.78	$13.24	$13.00	$13.11	$13.10	$13.12	$13.16	$13.19	$13.14	$13.15	$13.20	$13.38	$13.41	$13.44	$13.48
MINING	16.90	17.05	17.29	17.23	17.08	17.01	16.93	17.00	16.93	17.12	17.01	17.10	17.00	16.94	17.22
CONSTRUCTION	16.59	17.13	16.87	16.74	16.66	16.79	16.85	17.02	17.08	17.22	17.26	17.41	17.49	17.38	17.43
MANUFACTURING	13.49	13.91	13.69	13.66	13.66	13.73	13.80	13.85	13.91	13.92	13.95	14.11	14.04	14.09	14.22
Durable goods	13.98	14.40	14.16	14.11	14.12	14.20	14.27	14.34	14.40	14.38	14.47	14.63	14.55	14.58	14.73
Lumber and wood products	11.10	11.47	11.33	11.28	11.26	11.31	11.37	11.42	11.45	11.52	11.53	11.55	11.59	11.60	11.68
Furniture and fixtures	10.90	11.23	11.10	11.10	11.06	11.10	11.14	11.14	11.16	11.24	11.28	11.33	11.33	11.35	11.49
Stone, clay, and glass products	13.60	13.91	13.70	13.66	13.64	13.70	13.75	13.87	13.94	14.00	13.97	14.12	14.02	14.09	14.07
Primary metal industries	15.49	15.85	15.36	15.39	15.41	15.53	15.62	15.75	15.91	16.03	15.99	16.20	16.02	16.14	16.22
Blast furnaces and basic steel products	18.43	18.87	18.18	18.41	18.50	18.56	18.59	18.79	19.05	19.12	18.99	19.05	18.96	19.18	19.23
Fabricated metal products	13.06	13.46	13.34	13.29	13.29	13.33	13.36	13.45	13.46	13.45	13.50	13.61	13.50	13.57	13.70
Industrial machinery and equipment	14.47	15.02	14.73	14.69	14.72	14.81	14.85	14.95	14.99	15.07	15.13	15.23	15.18	15.20	15.39
Electronic and other electrical equipment	13.09	13.45	13.26	13.26	13.25	13.27	13.31	13.38	13.40	13.49	13.51	13.62	13.58	13.57	13.68
Transportation equipment	17.53	18.09	17.56	17.47	17.50	17.66	17.88	17.98	18.20	17.94	18.23	18.56	18.47	18.46	18.69
Motor vehicles and equipment	17.86	18.47	17.73	17.65	17.71	17.98	18.31	18.40	18.68	18.23	18.61	19.04	18.93	18.87	19.16
Instruments and related products	13.81	14.17	14.00	13.91	13.94	13.97	14.07	14.10	14.13	14.25	14.28	14.30	14.36	14.36	14.42
Miscellaneous manufacturing	10.89	11.33	11.12	11.16	11.17	11.19	11.25	11.25	11.30	11.32	11.34	11.46	11.47	11.46	11.62
Nondurable goods	12.76	13.18	12.99	12.99	12.97	13.03	13.09	13.11	13.15	13.22	13.18	13.35	13.27	13.34	13.45
Food and kindred products	11.80	12.10	12.02	11.94	11.91	11.93	12.07	12.11	12.16	12.15	12.08	12.19	12.10	12.23	12.32
Tobacco products	18.55	19.03	17.05	17.14	17.80	19.33	19.99	20.63	20.79	21.15	20.99	18.88	17.77	17.76	17.70
Textile mill products	10.39	10.71	10.56	10.63	10.60	10.62	10.68	10.69	10.76	10.71	10.72	10.78	10.72	10.79	10.86
Apparel and other textile products	8.52	8.87	8.71	8.68	8.65	8.78	8.83	8.81	8.89	8.83	8.88	9.01	8.99	9.04	9.12
Paper and allied products	15.51	15.98	15.78	15.73	15.70	15.78	15.83	15.91	15.98	16.05	15.98	16.27	16.12	16.14	16.25
Printing and publishing	13.45	13.83	13.68	13.66	13.67	13.73	13.73	13.74	13.73	13.80	13.82	13.97	13.97	14.01	14.11
Chemicals and allied products	17.12	17.48	17.31	17.24	17.20	17.18	17.27	17.39	17.35	17.49	17.51	17.78	17.72	17.74	17.87
Petroleum and coal products	20.92	21.46	21.22	21.22	21.43	21.59	21.49	21.05	21.14	21.35	21.29	21.62	21.68	21.81	21.87
Rubber and miscellaneous plastics products	11.87	12.31	12.08	12.19	12.16	12.20	12.23	12.21	12.25	12.35	12.32	12.46	12.37	12.40	12.53
Leather and leather products	9.32	9.69	9.43	9.64	9.56	9.55	9.59	9.59	9.57	9.61	9.77	9.86	9.83	9.82	9.88
TRANSPORTATION AND PUBLIC UTILITIES	15.31	15.66	15.50	15.57	15.56	15.51	15.57	15.55	15.56	15.66	15.67	15.78	15.76	15.86	15.89
WHOLESALE TRADE	14.06	14.60	14.32	14.42	14.38	14.34	14.48	14.53	14.44	14.55	14.65	14.73	14.78	14.86	14.98
RETAIL TRADE	8.73	9.08	8.88	9.00	8.98	9.00	9.03	9.03	9.02	9.02	9.04	9.18	9.20	9.21	9.25
FINANCE, INSURANCE, AND REAL ESTATE	14.06	14.61	14.40	14.48	14.55	14.53	14.61	14.72	14.50	14.53	14.61	14.63	14.68	14.72	14.74
SERVICES	12.85	13.39	13.18	13.30	13.32	13.33	13.32	13.34	13.23	13.20	13.25	13.48	13.54	13.60	13.71

[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		1998	1999											
	1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.[P]	Dec.[P]
PRIVATE SECTOR															
Current dollars	$442.19	$456.78	$451.10	$445.74	$449.33	$448.70	$451.39	$456.37	$454.64	$456.31	$463.32	$458.93	$463.99	$463.68	$466.41
Seasonally adjusted	–	–	449.11	451.18	451.88	452.30	452.02	453.39	456.78	458.16	458.51	459.24	461.96	462.30	464.37
Constant (1982) dollars	268.32	–	272.07	268.19	270.19	269.33	268.84	271.65	270.62	270.81	274.15	269.96	272.45	272.11	273.71
MINING	741.91	748.50	755.57	728.83	729.32	717.82	733.07	751.40	748.31	765.26	756.95	759.24	758.20	757.22	778.34
CONSTRUCTION	643.69	668.07	659.62	634.45	633.08	632.98	650.41	668.89	679.78	687.08	690.40	672.03	699.60	686.51	674.54
MANUFACTURING															
Current dollars	562.53	580.05	583.19	564.16	564.16	568.42	574.08	577.55	581.44	573.50	583.11	588.39	589.68	594.60	605.77
Constant (1982) dollars	341.34	–	351.74	339.45	339.24	341.19	341.92	343.78	346.10	340.36	345.04	346.11	346.26	348.94	355.50
Durable goods	591.35	609.12	613.13	591.21	591.63	596.40	602.19	606.58	610.56	598.21	612.08	615.92	618.38	622.57	634.86
Lumber and wood products	456.21	471.42	472.46	459.10	453.78	461.45	468.44	472.79	476.32	473.47	480.80	472.40	479.83	479.08	481.22
Furniture and fixtures	442.54	452.57	460.65	445.11	440.19	444.00	447.83	443.37	449.75	451.85	459.10	457.73	458.87	459.68	477.98
Stone, clay, and glass products	591.60	603.69	600.06	580.55	576.97	578.14	594.00	607.51	611.97	613.20	616.08	621.28	616.88	621.37	606.42
Primary metal industries	684.66	700.57	685.06	674.08	673.42	681.77	688.84	699.30	706.40	698.91	705.16	717.66	709.69	721.46	736.39
Blast furnaces and basic steel products	821.98	845.38	794.47	810.04	808.45	814.78	829.11	843.67	861.06	854.66	852.65	855.35	851.30	870.77	890.35
Fabricated metal products	552.44	568.01	578.96	555.52	555.52	557.19	562.46	566.25	569.36	558.18	571.05	568.90	572.40	579.44	594.58
Industrial machinery and equipment	619.32	633.84	636.34	619.92	619.71	623.50	626.67	630.89	631.08	628.42	635.46	635.09	642.11	647.52	667.93
Electronic and other electrical equipment	541.93	556.83	560.90	543.66	544.58	541.42	547.04	551.26	556.10	551.74	562.02	562.51	567.64	572.65	582.77
Transportation equipment	760.80	792.34	802.49	756.45	768.25	775.27	790.30	789.32	802.62	757.07	796.65	816.64	814.53	814.09	833.57
Motor vehicles and equipment	776.91	831.15	829.76	776.60	796.95	810.90	834.94	831.68	848.07	780.24	831.87	866.32	857.53	852.92	879.44
Instruments and related products	570.35	588.06	588.00	573.09	578.51	578.36	583.91	583.74	586.40	584.25	591.19	587.73	594.50	603.12	614.29
Miscellaneous manufacturing	434.51	450.93	447.02	435.24	442.33	447.60	448.88	451.13	450.87	444.88	453.60	454.96	461.09	460.69	467.12
Nondurable goods	521.88	539.06	540.38	527.39	525.29	529.02	532.76	536.20	539.15	538.05	540.38	547.35	548.05	552.28	562.21
Food and kindred products	492.06	505.78	514.46	495.51	489.50	490.32	497.28	503.78	505.86	507.87	506.15	513.20	513.04	518.55	523.60
Tobacco products	710.47	761.20	639.38	639.32	662.16	736.47	767.62	821.07	833.68	854.46	841.70	753.31	753.45	758.35	782.34
Textile mill products	425.99	439.11	437.18	432.64	426.12	427.99	436.81	437.22	441.16	434.83	440.59	438.75	444.88	448.86	456.12
Apparel and other textile products	317.80	331.74	330.11	318.56	322.65	328.37	332.01	333.02	338.71	326.71	333.00	331.57	338.92	339.90	347.47
Paper and allied products	673.13	695.13	699.05	684.26	675.10	684.85	690.19	688.90	695.13	690.15	693.53	712.63	706.06	708.55	719.88
Printing and publishing	515.14	528.31	530.78	514.98	515.36	520.37	523.11	522.12	520.37	525.78	530.69	539.24	539.24	543.59	550.29
Chemicals and allied products	739.58	751.64	752.99	737.87	734.44	735.30	737.43	744.29	746.05	746.82	754.68	769.87	763.73	771.69	782.71
Petroleum and coal products	912.11	927.07	948.53	931.56	927.92	943.48	917.62	896.73	909.02	924.46	906.95	931.82	936.58	937.83	962.28
Rubber and miscellaneous plastics products	494.98	513.33	515.82	503.45	503.42	509.96	511.21	511.60	513.28	506.35	510.05	517.09	514.59	520.80	532.53
Leather and leather products	350.43	366.28	359.28	353.79	355.63	359.08	363.46	367.30	367.49	359.41	377.12	367.78	370.59	375.12	378.40
TRANSPORTATION AND PUBLIC UTILITIES	604.75	606.04	606.05	602.56	606.84	601.79	601.00	603.34	606.84	609.17	617.40	607.53	605.18	605.85	607.00
WHOLESALE TRADE	539.90	560.64	549.89	547.96	550.75	547.79	554.58	560.86	554.50	558.72	566.96	564.16	570.51	570.62	576.73
RETAIL TRADE	253.17	263.32	259.30	252.90	256.83	257.40	259.16	262.77	265.19	268.80	270.30	264.38	264.96	264.33	270.10
FINANCE, INSURANCE, AND REAL ESTATE	511.78	528.88	521.28	521.28	528.17	523.08	524.50	535.81	520.55	525.99	539.11	526.68	529.95	529.92	532.11
SERVICES	418.91	436.51	429.67	429.59	432.90	431.89	431.57	436.22	431.30	432.96	439.90	435.40	442.76	444.72	448.32

[P] = preliminary.
NOTE: See "Notes on the data" for a description of the most recent benchmark revision. Dash indicates data not available.

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:												
1997	56.2	61.0	61.9	62.8	58.8	56.3	60.7	61.0	59.4	65.4	63.6	62.1
1998	63.8	57.9	58.8	60.5	55.9	57.9	58.0	55.8	54.6	52.9	59.1	58.6
1999	54.4	58.3	52.1	58.8	51.5	57.0	57.6	50.0	55.1	57.2	58.7	54.4
Over 3-month span:												
1997	63.8	63.6	67.7	67.3	62.6	61.7	61.4	66.2	67.3	69.9	70.8	71.2
1998	66.7	66.2	64.5	63.9	61.4	58.7	60.0	58.4	57.6	57.6	59.0	60.4
1999	60.7	55.9	59.6	54.6	56.3	56.2	56.2	59.0	57.4	60.7	59.8	–
Over 6-month span:												
1997	67.4	68.3	65.6	67.0	65.6	64.9	66.3	68.4	69.7	71.3	71.3	71.9
1998	70.6	66.9	65.9	62.4	62.6	61.1	58.0	59.8	60.0	60.8	60.8	58.0
1999	61.1	58.8	57.3	59.0	55.2	57.4	56.9	62.1	60.0	–	–	–
Over 12-month span:												
1997	69.0	67.3	68.3	69.7	69.5	70.1	70.1	70.4	70.5	69.7	69.8	71.3
1998	70.4	68.3	67.1	64.0	62.1	61.7	61.8	63.8	59.8	59.0	59.3	58.6
1999	60.1	57.3	57.0	57.6	58.0	58.7	–	–	–	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1997	50.0	52.9	53.6	56.1	52.2	53.2	51.1	55.4	53.6	62.2	61.2	55.4
1998	58.6	51.8	50.4	50.4	40.6	46.8	40.3	45.3	42.1	36.3	39.9	45.0
1999	40.3	42.4	39.6	44.6	36.3	45.3	57.2	38.5	42.8	48.9	54.3	48.9
Over 3-month span:												
1997	51.8	51.4	57.6	56.8	54.3	51.8	53.6	55.4	59.7	68.3	65.8	64.4
1998	59.4	57.9	51.8	44.2	41.7	34.9	37.4	37.1	38.1	34.2	35.6	35.3
1999	37.4	31.7	37.1	30.2	33.8	43.9	43.2	44.6	38.5	48.9	50.7	–
Over 6-month span:												
1997	54.7	54.0	51.4	54.3	52.5	52.2	55.4	61.2	61.5	64.7	66.2	65.1
1998	59.7	49.3	48.2	36.7	36.7	36.7	28.4	31.3	33.5	35.3	32.7	28.1
1999	33.1	29.1	28.1	36.0	30.9	34.5	36.3	46.0	45.0	–	–	–
Over 12-month span:												
1997	54.7	52.5	54.0	54.0	55.4	56.8	57.2	57.9	58.3	56.5	55.4	57.2
1998	54.0	49.3	46.0	40.6	35.6	33.8	30.9	32.0	26.6	26.6	25.5	26.3
1999	32.7	25.9	28.4	29.5	28.4	30.9	–	–	–	–	–	–

– 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	1991	1992	1993	1994	1995	1996	1997	1998	1999
Civilian noninstitutional population	190,925	192,805	194,838	196,814	198,584	200,591	203,133	205,220	207,753
Civilian labor force	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673	139,368
Labor force participation rate	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1	67.1
Employed	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463	133,488
Employment-population ratio	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1	64.3
Agriculture	3,269	3,247	3,115	3,409	3,440	3,443	3,399	3,378	3,281
Nonagricultural industries	114,499	115,245	117,144	119,651	121,460	123,264	126,159	128,085	130,207
Unemployed	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210	5,880
Unemployment rate	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5	4.2
Not in the labor force	64,578	64,700	65,638	65,758	66,280	66,647	66,837	67,547	68,385

19. Annual data: Employment levels by industry

[In thousands]

Industry	1991	1992	1993	1994	1995	1996	1997	1998	1999[p]
Total employment	108,249	108,601	110,713	114,163	117,191	119,608	122,690	125,826	128,610
Private sector	89,847	89,956	91,872	95,036	97,885	100,189	103,133	106,007	108,450
Goods-producing	23,745	23,231	23,352	23,908	24,265	24,493	24,962	25,347	25,240
Mining	689	635	610	601	581	580	596	590	535
Construction	4,650	4,492	4,668	4,986	5,160	5,418	5,691	5,985	6,273
Manufacturing	18,406	18,104	18,075	18,321	18,524	18,495	18,675	18,772	18,432
Service-producing	84,504	85,370	87,361	90,256	92,925	95,115	97,727	100,480	103,370
Transportation and public utilities	5,755	5,718	5,811	5,984	6,132	6,253	6,408	6,600	6,791
Wholesale trade	6,081	5,997	5,981	6,162	6,378	6,482	6,648	6,831	7,003
Retail trade	19,284	19,356	19,773	20,507	21,187	21,597	21,966	22,296	22,784
Finance, insurance, and real estate	6,646	6,602	6,757	6,896	6,806	6,911	7,109	7,407	7,633
Services	28,336	29,052	30,197	31,579	33,117	34,454	36,040	37,526	38,999
Government	18,402	18,645	18,841	19,128	19,305	19,419	19,557	19,819	20,160
Federal	2,966	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669
State	4,355	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,695
Local	11,081	11,267	11,438	11,682	11,849	12,056	12,276	12,521	12,795

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	1991	1992	1993	1994	1995	1996	1997	1998	1999[p]
Private sector:									
Average weekly hours	34.3	34.4	34.5	34.7	34.5	34.4	34.6	34.6	34.5
Average hourly earnings (in dollars)	10.32	10.57	10.83	11.12	11.43	11.82	12.28	12.78	13.24
Average weekly earnings (in dollars)	353.98	363.61	373.64	385.86	394.34	406.61	424.89	442.19	456.78
Mining:									
Average weekly hours	44.4	43.9	44.3	44.8	44.7	45.3	45.4	43.9	43.9
Average hourly earnings (in dollars)	14.19	14.54	14.60	14.88	15.30	15.62	16.15	16.90	17.05
Average weekly earnings (in dollars)	630.04	638.31	646.78	666.62	683.91	707.59	733.21	741.91	748.50
Construction:									
Average weekly hours	38.1	38.0	38.5	38.9	38.9	39.0	39.0	38.8	39.0
Average hourly earnings (in dollars)	14.00	14.15	14.38	14.73	15.09	15.47	16.04	16.59	17.13
Average weekly earnings (in dollars)	533.40	537.70	553.63	573.00	587.00	603.33	625.56	643.69	668.07
Manufacturing:									
Average weekly hours	40.7	41.0	41.4	42.0	41.6	41.6	42.0	41.7	41.7
Average hourly earnings (in dollars)	11.18	11.46	11.74	12.07	12.37	12.77	13.17	13.49	13.91
Average weekly earnings (in dollars)	455.03	469.86	486.04	506.94	514.59	531.23	553.14	562.53	580.05
Transportation and public utilities:									
Average weekly hours	38.1	38.3	39.3	39.7	39.4	39.6	39.7	39.5	38.7
Average hourly earnings (in dollars)	13.20	13.43	13.55	13.78	14.13	14.45	14.92	15.31	15.66
Average weekly earnings (in dollars)	502.92	514.37	532.52	547.07	556.72	572.22	592.32	604.75	606.04
Wholesale trade:									
Average weekly hours	38.1	38.2	38.2	38.4	38.3	38.3	38.4	38.4	38.4
Average hourly earnings (in dollars)	11.15	11.39	11.74	12.06	12.43	12.87	13.45	14.06	14.60
Average weekly earnings (in dollars)	424.82	435.10	448.47	463.10	476.07	492.92	516.48	539.90	560.64
Retail trade:									
Average weekly hours	28.6	28.8	28.8	28.9	28.8	28.8	28.9	29.0	29.0
Average hourly earnings (in dollars)	6.94	7.12	7.29	7.49	7.69	7.99	8.33	8.73	9.08
Average weekly earnings (in dollars)	198.48	205.06	209.95	216.46	221.47	230.11	240.74	253.17	263.32
Finance, insurance, and real estate:									
Average weekly hours	35.7	35.8	35.8	35.8	35.9	35.9	36.1	36.4	36.2
Average hourly earnings (in dollars)	10.39	10.82	11.35	11.83	12.32	12.80	13.34	14.06	14.61
Average weekly earnings (in dollars)	370.92	387.36	406.33	423.51	442.29	459.52	481.57	511.78	528.88
Services:									
Average weekly hours	32.4	32.5	32.5	32.5	32.4	32.4	32.6	32.6	32.6
Average hourly earnings (in dollars)	10.23	10.54	10.78	11.04	11.39	11.79	12.28	12.85	13.39
Average weekly earnings (in dollars)	331.45	342.55	350.35	358.80	369.04	382.00	400.33	418.91	436.51

21. Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
Civilian workers[2]	134.1	135.2	136.3	137.4	139.0	139.8	140.4	141.8	143.3	1.1	3.1
Workers, by occupational group:											
White-collar workers	135.2	136.5	137.7	138.7	140.6	141.4	141.9	143.3	145.0	1.2	3.1
Professional specialty and technical	135.8	136.7	137.5	138.3	140.0	141.0	141.3	142.2	143.9	1.2	2.8
Executive, administrative, and managerial	135.3	137.3	139.1	139.7	141.7	141.8	143.5	145.4	147.3	1.3	4.0
Administrative support, including clerical	135.8	136.9	138.0	139.3	140.4	141.3	142.5	143.4	144.7	.9	3.1
Blue-collar workers	131.8	132.4	133.2	134.3	135.3	136.1	137.1	138.3	139.5	.9	3.1
Service occupations	134.6	135.6	136.9	137.9	139.4	140.0	141.3	142.4	143.1	.5	2.7
Workers, by industry division:											
Goods-producing	133.6	134.1	135.1	136.3	137.2	137.9	139.0	140.0	141.2	.9	2.9
Manufacturing	134.6	135.3	136.4	137.2	138.2	138.9	139.9	140.9	142.1	.9	2.8
Service-producing	134.2	135.5	136.8	137.7	139.6	140.4	140.9	142.4	144.0	1.1	3.2
Services	136.5	137.6	138.3	139.0	140.8	141.7	142.3	143.2	145.1	1.3	3.1
Health services	136.7	137.9	138.0	138.5	139.1	139.1	140.5	141.4	142.7	.9	2.6
Hospitals	135.6	136.7	137.1	138.2	139.4	140.2	141.3	142.2	143.4	.8	2.9
Educational services	136.5	137.0	137.5	137.7	140.2	141.0	141.3	141.7	144.6	2.0	3.1
Public administration[3]	134.1	135.1	136.4	137.4	138.9	139.9	140.8	141.5	142.4	.6	2.5
Nonmanufacturing	133.8	135.1	136.2	137.3	139.0	139.9	140.5	141.9	143.4	1.1	3.2
Private industry workers	133.9	135.1	136.3	137.5	139.0	139.8	140.4	142.0	143.3	.9	3.1
Excluding sales occupations	134.1	135.2	136.4	137.5	138.8	139.4	140.5	141.9	143.2	.9	3.2
Workers, by occupational group:											
White-collar workers	135.2	136.7	138.1	139.4	141.1	142.0	142.4	144.1	145.6	1.0	3.2
Excluding sales occupations	135.9	137.4	138.8	139.9	141.3	141.9	143.0	144.5	146.0	1.0	3.3
Professional specialty and technical occupations	136.7	137.8	138.8	140.1	141.6	142.6	142.9	144.1	145.2	.8	2.5
Executive, administrative, and managerial occupations	135.2	137.4	139.4	140.0	141.9	141.8	143.7	145.8	147.7	1.3	4.1
Sales occupations	132.2	133.5	135.3	137.3	140.4	142.6	139.6	142.6	144.1	1.1	2.6
Administrative support occupations, including clerical	135.9	137.0	138.2	139.6	140.6	141.4	142.6	143.7	145.0	.9	3.1
Blue-collar workers	131.7	132.3	133.1	134.3	135.2	135.9	136.9	138.2	139.4	.9	3.1
Precision production, craft, and repair occupations	131.7	131.9	132.9	134.4	135.4	136.1	137.2	138.4	139.6	.9	3.1
Machine operators, assemblers, and inspectors	132.2	133.0	133.6	134.7	135.7	136.8	137.3	138.4	139.9	1.1	3.1
Transportation and material moving occupations	128.0	128.9	129.3	129.9	130.7	130.7	131.6	133.6	134.4	.6	2.8
Handlers, equipment cleaners, helpers, and laborers	134.2	135.8	137.0	137.6	138.5	139.2	141.0	142.3	143.2	.6	3.4
Service occupations	133.1	134.1	135.3	136.0	137.3	138.0	139.5	140.6	141.0	.3	2.7
Production and nonsupervisory occupations[4]	133.2	134.2	135.3	136.6	138.0	139.0	139.3	140.8	141.9	.8	2.8
Workers, by industry division:											
Goods-producing	133.6	134.1	135.1	136.2	137.1	137.8	138.9	139.9	141.1	.9	2.9
Excluding sales occupations	133.1	133.6	134.5	135.6	136.5	137.2	138.3	139.3	140.5	.9	2.9
White-collar occupations	135.6	136.2	137.7	138.8	139.7	140.2	141.7	142.7	143.9	.8	3.0
Excluding sales occupations	134.5	135.0	136.3	137.4	138.3	138.8	140.4	141.3	142.5	.8	3.0
Blue-collar occupations	132.4	132.8	133.5	134.6	135.5	136.3	137.1	138.3	139.4	.8	2.9
Construction	129.7	129.7	130.6	132.7	133.4	134.3	135.6	136.9	137.9	.7	3.4
Manufacturing	134.6	135.3	136.4	137.2	138.2	138.9	139.9	140.9	142.1	.9	2.8
White-collar occupations	135.8	136.7	138.2	139.1	140.1	140.5	141.8	143.0	144.3	.9	3.0
Excluding sales occupations	134.5	135.3	136.5	137.3	138.3	138.7	140.1	141.3	142.5	.8	3.0
Blue-collar occupations	133.7	134.3	135.0	135.9	136.8	137.7	138.5	139.4	140.5	.8	2.7
Durables	135.0	135.7	136.5	137.4	138.5	139.2	139.9	141.0	142.3	.9	2.7
Nondurables	133.7	134.5	135.9	136.7	137.6	138.2	139.6	140.4	141.5	.8	2.8
Service-producing	133.8	135.3	136.7	137.8	139.6	140.5	140.9	142.8	144.1	.9	3.2
Excluding sales occupations	134.5	136.1	137.4	138.5	140.0	140.6	141.7	143.3	144.6	.9	3.3
White-collar occupations	134.9	136.6	138.0	139.3	141.2	142.2	142.3	144.3	145.8	1.0	3.3
Excluding sales occupations	136.3	138.1	139.5	140.6	142.2	142.8	143.8	145.5	147.0	1.0	3.4
Blue-collar occupations	130.0	130.9	132.1	133.2	134.3	134.8	136.2	137.8	139.1	.9	3.6
Service occupations	132.7	133.9	135.0	135.8	137.0	137.8	139.3	140.5	140.8	.2	2.8
Transportation and public utilities	132.9	134.2	135.8	137.1	138.5	139.3	139.7	140.9	141.8	.6	2.4
Transportation	132.1	133.4	134.0	134.9	136.7	137.3	136.8	138.1	138.7	.4	1.5
Public utilities	133.7	135.1	137.9	139.7	140.7	141.9	143.4	144.6	145.7	.8	3.6
Communications	131.8	134.0	136.6	139.2	140.5	141.7	143.3	144.9	146.1	.8	4.0
Electric, gas, and sanitary services	136.0	136.4	139.6	140.3	141.0	142.1	143.4	144.2	145.1	.6	2.9
Wholesale and retail trade	132.4	132.9	134.7	135.8	137.6	138.2	138.9	141.1	142.2	.8	3.3
Excluding sales occupations	133.0	134.0	135.5	136.3	138.1	138.8	139.9	141.9	142.8	.6	3.4
Wholesale trade	134.6	135.1	137.7	138.6	140.8	142.8	142.7	144.6	146.3	1.2	3.9
Excluding sales occupations	134.5	135.4	137.0	138.2	140.0	141.2	142.4	144.0	145.8	1.3	4.1
Retail trade	131.1	131.7	133.1	134.4	135.9	135.6	136.8	139.1	140.0	.6	3.0
General merchandise stores	128.6	130.0	131.2	133.0	133.2	134.0	135.0	135.6	137.2	1.2	3.0
Food stores	129.8	129.4	131.3	132.9	133.7	132.7	134.3	135.7	137.0	1.0	2.5

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

[June 1989 = 100]

Series	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
Finance, insurance, and real estate	130.5	134.5	136.7	138.4	141.0	142.5	141.5	145.8	147.6	1.2	4.7
Excluding sales occupations	133.5	137.6	140.2	141.3	143.2	143.3	145.6	148.8	151.0	1.5	5.4
Banking, savings and loan, and other credit agencies	133.1	140.6	143.3	145.3	148.4	146.7	148.8	155.4	159.3	2.5	7.3
Insurance	133.1	134.8	137.4	138.9	141.9	141.7	141.7	144.0	144.5	.3	1.8
Services	137.0	138.5	139.3	140.3	141.8	142.7	143.5	144.6	146.1	1.0	3.0
Business services	136.3	138.6	139.5	140.7	143.5	145.9	147.5	148.7	150.7	1.3	5.0
Health services	137.0	138.1	138.2	138.7	139.0	139.0	140.5	141.4	142.6	.8	2.6
Hospitals	135.4	136.5	136.7	138.2	139.1	139.9	141.2	142.1	143.0	.6	2.8
Educational services	141.6	142.6	143.4	143.9	147.0	147.7	148.3	148.7	152.2	2.4	3.5
Colleges and universities	142.5	143.7	144.3	144.8	147.8	148.5	149.2	149.6	152.6	2.0	3.2
Nonmanufacturing	133.3	134.7	136.0	137.2	138.9	139.7	140.3	142.0	143.4	1.0	3.2
White-collar workers	134.9	136.5	137.9	139.2	141.1	142.0	142.3	144.1	145.6	1.0	3.2
Excluding sales occupations	136.2	137.9	139.3	140.5	142.0	142.7	143.7	145.3	146.8	1.0	3.4
Blue-collar occupations	129.4	130.1	131.0	132.4	133.4	134.0	135.2	136.8	138.0	.9	3.4
Service occupations	132.7	133.8	134.9	135.7	136.9	137.7	139.2	140.4	140.7	.2	2.8
State and local government workers	135.0	135.7	136.5	136.9	139.0	139.8	140.5	141.0	143.1	1.5	2.9
Workers, by occupational group:											
White-collar workers	134.8	135.5	136.1	136.2	138.4	139.3	139.8	140.2	142.6	1.7	3.0
Professional specialty and technical	134.6	135.1	135.6	135.6	137.7	138.5	138.8	139.3	142.0	1.9	3.1
Executive, administrative, and managerial	135.6	136.4	137.5	137.9	140.4	141.6	142.6	142.8	144.5	1.2	2.9
Administrative support, including clerical	135.3	136.1	136.9	137.2	139.5	140.3	141.4	141.3	143.0	1.2	2.5
Blue-collar workers	133.3	134.2	135.0	135.2	136.8	137.8	138.8	139.5	140.9	1.0	3.0
Workers, by industry division:											
Services	135.4	136.0	136.5	136.6	139.0	139.7	140.0	140.5	143.2	1.9	3.0
Services excluding schools[5]	134.4	135.3	136.1	136.2	138.7	138.8	139.6	140.3	142.6	1.6	2.8
Health services	136.0	137.2	137.9	138.0	140.3	140.7	141.2	142.0	144.2	1.5	2.8
Hospitals	136.3	137.6	138.4	138.4	140.7	141.2	141.7	142.7	144.8	1.5	2.9
Educational services	135.4	135.9	136.3	136.5	138.8	139.6	139.9	140.3	143.1	2.0	3.1
Schools	135.7	136.2	136.6	136.7	139.1	139.9	140.2	140.6	143.5	2.1	3.2
Elementary and secondary	135.5	135.8	136.1	136.2	138.8	139.3	139.6	140.0	142.9	2.1	3.0
Colleges and universities	136.3	137.2	137.9	138.1	140.4	141.5	141.7	142.1	144.8	1.9	3.4
Public administration[3]	134.1	135.1	136.4	137.4	138.9	139.9	140.8	141.5	142.4	.6	2.5

[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	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
Civilian workers[1]	131.6	132.8	134.0	135.0	136.8	137.7	138.4	139.8	141.3	1.1	3.3
Workers, by occupational group:											
White-collar workers	133.0	134.3	135.6	136.7	138.8	139.7	140.1	141.6	143.3	1.2	3.2
Professional specialty and technical	134.0	135.0	135.8	136.6	138.5	139.4	140.1	141.0	142.6	1.1	3.0
Executive, administrative, and managerial	133.5	135.6	137.4	138.3	140.5	140.3	141.6	143.8	145.9	1.5	3.8
Administrative support, including clerical	132.7	133.7	135.0	136.2	137.5	138.6	140.0	140.9	142.3	1.0	3.5
Blue-collar workers	128.4	129.3	130.4	131.4	132.6	133.3	134.5	135.8	137.0	.9	3.3
Service occupations	131.5	132.6	133.7	134.5	136.1	137.0	138.3	139.4	140.1	.5	2.9
Workers, by industry division:											
Goods-producing	129.9	130.6	132.0	133.3	134.4	135.2	136.3	137.4	138.6	.9	3.1
Manufacturing	131.3	132.2	133.7	134.6	136.0	136.8	137.9	139.0	140.2	.9	3.1
Service-producing	132.2	133.6	134.8	135.7	137.8	138.7	139.2	140.7	142.3	1.1	3.3
Services	134.8	136.0	136.9	137.6	139.6	140.5	141.5	142.3	144.1	1.3	3.2
Health services	134.3	135.4	136.2	136.5	137.6	137.6	138.8	139.7	140.9	.9	2.4
Hospitals	132.5	133.6	134.2	135.1	136.4	137.1	138.1	138.8	140.1	.9	2.7
Educational services	135.3	135.9	136.3	136.5	139.1	140.0	140.2	140.6	143.7	2.2	3.3
Public administration[2]	130.3	131.4	132.7	133.2	134.8	135.9	136.9	137.8	139.5	1.2	3.5
Nonmanufacturing	131.5	132.8	134.0	135.1	137.0	137.8	138.4	139.9	141.5	1.1	3.3
Private industry workers	131.0	132.3	133.7	134.9	136.6	137.4	138.1	139.7	141.0	.9	3.2
Excluding sales occupations	131.2	132.4	133.7	134.8	136.3	136.9	138.2	139.6	140.8	.9	3.3
Workers, by occupational group:											
White-collar workers	132.7	134.2	135.7	137.0	139.0	139.9	140.3	142.1	143.5	1.0	3.2
Excluding sales occupations	133.4	134.8	136.3	137.5	139.1	139.7	141.0	142.5	143.9	1.0	3.5
Professional specialty and technical occupations	133.7	134.8	135.9	137.1	138.7	139.7	140.7	141.8	142.6	.6	2.8
Executive, administrative, and managerial occupations	133.6	135.8	137.8	138.7	140.9	140.5	141.9	144.3	146.4	1.5	3.9
Sales occupations	129.8	131.4	133.1	135.2	138.8	141.3	137.3	140.5	142.1	1.1	2.4
Administrative support occupations, including clerical	132.9	133.9	135.3	136.7	137.9	138.9	140.4	141.4	142.7	.9	3.5
Blue-collar workers	128.3	129.1	130.2	131.3	132.4	133.2	134.3	135.6	136.8	.9	3.3
Precision production, craft, and repair occupations	128.2	128.7	129.8	131.2	132.3	133.0	134.3	135.6	136.7	.8	3.3
Machine operators, assemblers, and inspectors	129.5	130.6	131.6	132.7	133.8	134.9	135.7	136.7	138.3	1.2	3.4
Transportation and material moving occupations	124.1	125.1	125.9	126.4	127.6	127.8	129.1	131.0	131.9	.7	3.4
Handlers, equipment cleaners, helpers, and laborers	130.2	131.8	133.2	133.7	135.1	135.8	137.3	138.3	139.4	.8	3.2
Service occupations	129.9	131.1	132.1	133.0	134.4	135.3	136.7	137.8	138.0	.1	2.7
Production and nonsupervisory occupations[3]	130.1	131.2	132.3	133.6	135.2	136.4	136.8	138.2	139.3	.8	3.0
Workers, by industry division:											
Goods-producing	129.9	130.6	132.0	133.2	134.3	135.2	136.3	137.3	138.5	.9	3.1
Excluding sales occupations	129.3	130.0	131.3	132.5	133.6	134.4	135.5	136.6	137.8	.9	3.1
White-collar occupations	132.3	132.9	135.0	136.3	137.4	138.2	139.4	140.5	141.7	.9	3.1
Excluding sales occupations	130.9	131.6	133.3	134.6	135.7	136.4	137.8	138.8	140.1	.9	3.2
Blue-collar occupations	128.4	129.2	130.1	131.3	132.3	133.3	134.3	135.4	136.6	.9	3.3
Construction	124.7	124.9	126.0	128.1	128.5	129.3	130.7	131.9	133.0	.8	3.5
Manufacturing	131.3	132.2	133.7	134.6	136.0	136.8	137.9	139.0	140.2	.9	3.1
White-collar occupations	132.8	133.6	135.6	136.8	138.3	139.0	140.1	141.4	142.7	.9	3.2
Excluding sales occupations	131.3	132.2	133.8	135.0	136.3	137.1	138.3	139.6	140.8	.9	3.3
Blue-collar occupations	130.2	131.2	132.3	133.1	134.3	135.3	136.3	137.2	138.4	.9	3.1
Durables	131.2	131.9	133.4	134.5	135.9	136.9	137.9	139.1	140.4	.9	3.3
Nondurables	131.4	132.6	134.2	134.9	136.0	136.8	138.0	138.7	139.7	.7	2.7
Service-producing	131.5	133.1	134.4	135.6	137.6	138.4	138.9	140.8	142.1	.9	3.3
Excluding sales occupations	132.3	133.9	135.2	136.2	137.9	138.5	139.8	141.4	142.6	.8	3.4
White-collar occupations	132.6	134.3	135.7	137.0	139.2	140.1	140.3	142.3	143.8	1.1	3.3
Excluding sales occupations	134.2	135.9	137.3	138.4	140.2	140.7	142.0	143.7	145.1	1.0	3.5
Blue-collar occupations	127.9	128.9	130.2	131.1	132.4	132.9	134.4	135.9	137.0	.8	3.5
Service occupations	129.8	131.0	132.1	133.0	134.2	135.2	136.7	137.8	138.0	.1	2.8
Transportation and public utilities	130.1	131.3	132.1	132.8	134.3	135.1	135.4	136.8	137.5	.5	2.4
Transportation	128.5	129.5	130.1	130.4	132.4	132.9	132.3	133.7	134.4	.5	1.5
Public utilities	132.0	133.5	134.5	135.7	136.5	137.8	139.2	140.6	141.5	.6	3.7
Communications	131.8	134.0	134.4	135.8	136.7	138.0	139.4	141.1	141.9	.6	3.8
Electric, gas, and sanitary services	132.2	132.9	134.7	135.6	136.3	137.4	138.9	140.0	140.9	.6	3.4
Wholesale and retail trade	130.9	131.6	133.3	134.6	136.6	137.0	137.7	139.6	140.7	.8	3.0
Excluding sales occupations	132.2	133.2	134.7	135.6	137.6	138.2	139.5	141.1	141.8	.5	3.1
Wholesale trade	133.0	133.6	136.2	137.1	139.3	141.3	140.7	142.3	144.3	1.4	3.6
Excluding sales occupations	133.9	135.0	136.5	137.8	139.6	140.8	141.9	143.0	144.8	1.3	3.7
Retail trade	129.9	130.6	131.9	133.3	135.2	134.8	136.2	138.3	138.9	.4	2.7
General merchandise stores	126.7	128.4	129.4	131.5	132.2	133.0	133.7	134.3	135.6	1.0	2.6
Food stores	126.7	127.0	129.0	130.5	131.7	130.5	131.8	132.8	133.9	.8	1.7

See footnotes at end of table.

22. Continued—Employment Cost Index, wages and salaries, by occupation and industry group

[June 1989 = 100]

Series	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
Finance, insurance, and real estate	126.4	130.6	132.6	134.8	138.1	139.8	137.2	142.4	144.5	1.5	4.6
Excluding sales occupations	129.3	133.6	135.9	137.5	139.7	139.6	141.0	144.8	147.5	1.9	5.6
Banking, savings and loan, and other credit agencies	128.9	138.3	140.9	143.2	147.0	144.4	146.1	154.5	159.2	3.0	8.3
Insurance	128.7	130.2	133.1	134.8	138.7	138.5	137.4	139.8	140.2	.3	1.1
Services	134.7	136.2	137.2	138.3	140.0	140.8	142.2	143.2	144.5	.9	3.2
Business services	134.9	137.3	137.6	139.2	141.8	144.1	145.4	146.3	148.5	1.5	4.7
Health services	134.3	135.4	136.2	136.5	137.5	137.4	138.7	139.6	140.6	.7	2.3
Hospitals	132.2	133.2	133.6	134.7	135.8	136.5	137.6	138.3	139.3	.7	2.6
Educational services	137.8	138.4	139.1	139.6	142.8	143.5	143.9	144.2	147.5	2.3	3.3
Colleges and universities	137.8	138.7	139.1	139.7	142.8	143.6	144.1	144.4	147.2	1.9	3.1
Nonmanufacturing	130.7	132.1	133.4	134.7	136.5	137.4	137.9	139.7	141.0	.9	3.3
White-collar workers	132.4	134.1	135.5	136.8	138.9	139.8	140.1	142.0	143.5	1.1	3.3
Excluding sales occupations	133.8	135.5	136.9	138.1	139.8	140.3	141.6	143.2	144.6	1.0	3.4
Blue-collar occupations	126.4	127.1	128.2	129.5	130.5	131.1	132.4	134.0	135.1	.8	3.5
Service occupations	129.7	130.9	132.0	132.9	134.1	135.1	136.5	137.7	137.9	.1	2.8
State and local government workers	133.6	134.4	135.1	135.4	137.6	138.5	139.0	139.6	142.2	1.9	3.3
Workers, by occupational group:											
White-collar workers	133.7	134.5	135.0	135.2	137.6	138.5	138.9	139.3	142.1	2.0	3.3
Professional specialty and technical	134.4	135.1	135.5	135.6	137.9	138.7	138.9	139.4	142.5	2.2	3.3
Executive, administrative, and managerial	133.1	134.1	135.1	135.6	138.0	139.3	140.1	140.5	142.7	1.6	3.4
Administrative support, including clerical	131.4	132.3	133.0	133.3	135.4	136.5	137.4	137.5	139.6	1.5	3.1
Blue-collar workers	131.2	132.3	133.1	133.5	135.1	136.0	136.9	137.6	139.4	1.3	3.2
Workers, by industry division:											
Services	134.7	135.3	135.7	135.9	138.4	139.2	139.5	139.9	142.9	2.1	3.3
Services excluding schools[4]	133.3	134.4	135.4	135.5	137.8	138.2	139.0	139.6	142.1	1.8	3.1
Health services	133.9	135.3	136.3	136.5	138.7	139.2	139.7	140.4	142.8	1.7	3.0
Hospitals	133.7	135.2	136.3	136.5	138.6	139.1	139.7	140.6	142.8	1.6	3.0
Educational services	134.8	135.3	135.7	135.8	138.4	139.3	139.5	139.8	142.9	2.2	3.3
Schools	134.9	135.5	135.8	136.0	138.5	139.5	139.6	140.0	143.1	2.2	3.3
Elementary and secondary	135.3	135.7	136.0	136.1	138.7	139.3	139.5	139.9	143.1	2.3	3.2
Colleges and universities	133.6	134.6	135.2	135.5	137.7	139.6	139.6	139.8	142.6	2.0	3.6
Public administration[2]	130.3	131.4	132.7	133.2	134.8	135.9	136.9	137.8	139.5	1.2	3.5

[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	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
Private industry workers	140.8	141.8	142.6	143.7	144.5	145.2	145.8	147.3	148.6	0.9	2.8
Workers, by occupational group:											
White-collar workers	142.0	143.4	144.7	145.6	146.6	147.4	147.9	149.4	151.0	1.1	3.0
Blue-collar workers	138.8	139.0	139.1	140.4	141.0	141.6	142.2	143.6	144.8	.8	2.7
Workers, by industry division:											
Goods-producing	141.5	141.5	141.5	142.5	143.0	143.2	144.3	145.2	146.3	.8	2.3
Service-producing	139.8	141.4	142.7	143.8	144.9	145.7	146.1	147.9	149.4	1.0	3.1
Manufacturing	141.4	141.7	141.7	142.4	142.6	142.7	143.6	144.5	145.7	.8	2.2
Nonmanufacturing	140.2	141.5	142.7	143.9	145.0	145.8	146.3	148.0	149.4	.9	3.0

24. Employment Cost Index, private nonfarm workers by bargaining status, region, and area size

[June 1989 = 100]

Series	1997		1998				1999			Percent change	
	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	3 months ended	12 months ended
										Sept. 1999	
COMPENSATION											
Workers, by bargaining status[1]											
Union	133.2	133.5	134.0	135.3	136.8	137.5	138.0	139.0	140.2	0.9	2.5
Goods-producing	132.3	132.5	132.7	134.3	135.6	136.5	136.8	138.2	139.2	.7	2.7
Service-producing	134.0	134.5	135.3	136.2	138.0	138.5	139.2	139.7	141.0	.9	2.2
Manufacturing	133.0	133.3	133.6	134.6	136.0	136.9	137.0	138.1	139.1	.7	2.2
Nonmanufacturing	132.9	133.2	133.9	135.3	136.9	137.4	138.1	139.2	140.3	.8	2.5
Nonunion	133.9	135.3	136.7	137.8	139.3	140.1	140.8	142.5	143.8	.9	3.2
Goods-producing	134.0	134.7	135.9	136.9	137.7	138.3	139.7	140.5	141.8	.9	3.0
Service-producing	133.7	135.3	136.7	138.0	139.7	140.6	141.1	143.0	144.4	1.0	3.4
Manufacturing	135.1	135.9	137.2	138.0	138.9	139.4	140.7	141.7	143.0	.9	3.0
Nonmanufacturing	133.4	134.9	136.3	137.5	139.1	140.0	140.6	142.4	143.8	1.0	3.4
Workers, by region[1]											
Northeast	134.0	135.0	136.0	137.0	138.7	139.5	140.5	141.5	143.2	1.2	3.2
South	132.5	134.6	135.5	136.4	137.6	138.1	139.1	140.7	141.8	.8	3.1
Midwest (formerly North Central)	136.2	136.9	138.3	139.6	140.9	141.4	141.7	143.6	145.0	1.0	2.9
West	132.5	133.4	135.2	136.6	138.5	140.0	140.3	142.1	143.3	.8	3.5
Workers, by area size[1]											
Metropolitan areas	133.9	135.1	136.4	137.5	139.1	139.8	140.4	142.0	143.3	.9	3.0
Other areas	133.8	135.3	135.9	137.1	138.2	139.4	140.5	141.8	143.1	.9	3.5
WAGES AND SALARIES											
Workers, by bargaining status[1]											
Union	128.3	128.9	129.6	130.7	132.4	133.1	133.6	134.7	135.7	.7	2.5
Goods-producing	126.6	127.1	127.9	129.4	131.0	131.7	132.3	133.8	134.9	.8	3.0
Service-producing	130.4	131.2	131.8	132.2	134.1	134.8	135.4	135.8	136.8	.7	2.0
Manufacturing	127.8	128.6	129.6	130.4	132.2	133.0	133.6	134.7	135.8	.8	2.7
Nonmanufacturing	128.6	129.1	129.6	130.8	132.4	133.1	133.7	134.6	135.6	.7	2.4
Nonunion	131.6	133.0	134.5	135.7	137.4	138.3	139.0	140.7	142.0	.9	3.3
Goods-producing	131.2	132.0	133.6	134.7	135.7	136.5	137.8	138.8	140.0	.9	3.2
Service-producing	131.6	133.2	134.6	135.9	137.9	138.8	139.3	141.3	142.6	.9	3.4
Manufacturing	132.6	133.5	135.1	136.2	137.3	138.2	139.4	140.5	141.7	.9	3.2
Nonmanufacturing	131.1	132.6	134.0	135.3	137.1	138.0	138.6	140.5	141.8	.9	3.4
Workers, by region[1]											
Northeast	130.7	131.6	132.6	133.8	135.4	136.4	137.1	138.2	139.9	1.2	3.3
South	130.6	133.0	134.0	134.9	136.5	136.7	137.9	139.4	140.2	.6	2.7
Midwest (formerly North Central)	132.2	133.0	134.7	136.0	137.5	138.0	138.9	141.0	142.4	1.0	3.6
West	130.2	131.2	132.9	134.5	136.7	138.4	138.2	140.2	141.3	.8	3.4
Workers, by area size[1]											
Metropolitan areas	131.1	132.3	133.8	135.1	136.9	137.7	138.3	139.9	141.2	.9	3.1
Other areas	130.4	132.0	132.5	133.4	134.7	136.0	137.1	138.4	139.8	1.0	3.8

[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, 1980–97

Item	1980	1982	1984	1986	1988	1989	1991	1993	1995	1997
Scope of survey (in 000's)	21,352	21,043	21,013	21,303	31,059	32,428	31,163	28,728	33,374	38,409
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	25,546	29,340
With life insurance	20,498	20,201	20,172	20,451	28,574	30,482	29,293	26,175	29,078	33,495
With defined benefit plan	17,936	17,676	17,231	16,190	19,567	20,430	18,386	16,015	17,417	19,202
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	80	81
Average days per occurrence	–	–	–	3.2	3.2	3.3	3.3	3.0	3.3	3.7
Paid holidays	99	99	99	99	96	97	92	91	89	89
Average days per year	10.1	10.0	9.8	10.0	9.4	9.2	10.2	9.4	9.1	9.3
Paid personal leave	20	24	23	25	24	22	21	21	22	20
Average days per year	–	3.8	3.6	3.7	3.3	3.1	3.3	3.1	3.3	3.5
Paid vacations	100	99	99	100	98	97	96	97	96	95
Paid sick leave [1]	62	67	67	70	69	68	67	65	58	56
Unpaid maternity leave	–	–	–	–	33	37	37	60	–	–
Unpaid paternity leave	–	–	–	–	16	18	26	53	–	–
Unpaid family leave	–	–	–	–	–	–	–	–	84	93
Insurance plans										
Participants in medical care plans	97	97	97	95	90	92	83	82	77	76
Percent of participants with coverage for:										
Home health care	–	–	46	66	76	75	81	86	78	85
Extended care facilities	58	62	62	70	79	80	80	82	73	78
Physical exam	–	–	8	18	28	28	30	42	56	63
Percent of participants with employee contribution required for:										
Self coverage	26	27	36	43	44	47	51	61	67	69
Average monthly contribution	–	–	$11.93	$12.80	$19.29	$25.31	$26.60	$31.55	$33.92	$39.14
Family coverage	46	51	58	63	64	66	69	76	78	80
Average monthly contribution	–	–	$35.93	$41.40	$60.07	$72.10	$96.97	$107.42	$118.33	$130.07
Participants in life insurance plans	96	96	96	96	92	94	94	91	87	87
Percent of participants with:										
Accidental death and dismemberment insurance	69	72	74	72	78	71	71	76	77	74
Survivor income benefits	–	–	–	10	8	7	6	5	7	6
Retiree protection available	–	64	64	59	49	42	44	41	37	33
Participants in long-term disability insurance plans	40	43	47	48	42	45	40	41	42	43
Participants in sickness and accident insurance plans	54	51	51	49	46	43	45	44	–	–
Participants in short-term disability plans [1]	–	–	–	–	–	–	–	–	53	55
Retirement plans										
Participants in defined benefit pension plans	84	84	82	76	63	63	59	56	52	50
Percent of participants with:										
Normal retirement prior to age 65	55	58	63	64	59	62	55	52	52	52
Early retirement available	98	97	97	98	98	97	98	95	96	95
Ad hoc pension increase in last 5 years	–	–	47	35	26	22	7	6	4	10
Terminal earnings formula	53	52	54	57	55	64	56	61	58	56
Benefit coordinated with Social Security	45	45	56	62	62	63	54	48	51	49
Participants in defined contribution plans	–	–	–	60	45	48	48	49	55	57
Participants in plans with tax-deferred savings arrangements	–	–	–	33	36	41	44	43	54	55
Other benefits										
Employees eligible for:										
Flexible benefits plans	–	–	–	2	5	9	10	12	12	13
Reimbursement accounts [2]	–	–	–	5	12	23	36	52	38	32
Premium conversion plans	–	–	–	–	–	–	–	–	5	7

[1] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1995 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-terms disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[2] Prior to 1995, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

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, 1994, and 1996

Item	Small private establishments				State and local governments			
	1990	1992	1994	1996	1987	1990	1992	1994
Scope of survey (in 000's)	32,466	34,360	35,910	39,816	10,321	12,972	12,466	12,907
Number of employees (in 000's):								
With medical care	22,402	24,396	23,536	25,599	9,599	12,064	11,219	11,192
With life insurance	20,778	21,990	21,955	24,635	8,773	11,415	11,095	11,194
With defined benefit plan	6,493	7,559	5,480	5,883	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	51	56	63	65	62
Average days per occurrence	2.9	3.0	3.1	3.0	3.7	3.7	3.7	3.7
Paid holidays	84	82	82	80	81	74	75	73
Average days per year[1]	9.5	9.2	7.5	7.6	10.9	13.6	14.2	11.5
Paid personal leave	11	12	13	14	38	39	38	38
Average days per year	2.8	2.6	2.6	3.0	2.7	2.9	2.9	3.0
Paid vacations	88	88	88	86	72	67	67	66
Paid sick leave [2]	47	53	50	50	97	95	95	94
Unpaid leave	17	18	–	–	57	51	59	–
Unpaid paternity leave	8	7	–	–	30	33	44	–
Unpaid family leave	–	–	47	48	–	–	–	93
Insurance plans								
Participants in medical care plans	69	71	66	64	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	52	35	38	43	47
Average monthly contribution	$25.13	$36.51	$40.97	$42.63	$15.74	$25.53	$28.97	$30.20
Family coverage	67	73	76	75	71	65	72	71
Average monthly contribution	$109.34	$150.54	$159.63	$181.53	$71.89	$117.59	$139.23	$149.70
Participants in life insurance plans	64	64	61	62	85	88	89	87
Percent of participants with:								
Accidental death and dismemberment insurance	78	76	79	77	67	67	74	64
Survivor income benefits	1	1	2	1	1	1	1	2
Retiree protection available	19	25	20	13	55	45	46	46
Participants in long-term disability insurance plans	19	23	20	22	31	27	28	30
Participants in sickness and accident insurance plans	6	26	26	–	14	21	22	21
Participants in short-term disability plans [2]	–	–	–	29	–	–	–	–
Retirement plans								
Participants in defined benefit pension plans	20	22	15	15	93	90	87	91
Percent of participants with:								
Normal retirement prior to age 65	54	50	–	47	92	89	92	92
Early retirement available	95	95	–	92	90	88	89	87
Ad hoc pension increase in last 5 years	7	4	–	–	33	16	10	13
Terminal earnings formula	58	54	–	53	100	100	100	99
Benefit coordinated with Social Security	49	46	–	44	18	8	10	49
Participants in defined contribution plans	31	33	34	38	9	9	9	9
Participants in plans with tax-deferred savings arrangements	17	24	23	28	28	45	45	24
Other benefits								
Employees eligible for:								
Flexible benefits plans	1	2	3	4	5	5	5	5
Reimbursement accounts [3]	8	14	19	12	5	31	50	64
Premium conversion plans	–	–	–	7	–	–	–	–

[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.

[2] The definitions for paid sick leave and short-term disability (previously sickness and accident insurance) were changed for the 1996 survey. Paid sick leave now includes only plans that specify either a maximum number of days per year or unlimited days. Short-term disability now includes all insured, self-insured, and State-mandated plans available on a per-disability basis, as well as the unfunded per-disability plans previously reported as sick leave. Sickness and accident insurance, reported in years prior to this survey, included only insured, self-insured, and State-mandated plans providing per-disability benefits at less than full pay.

[3] Prior to 1996, reimbursement accounts included premium conversion plans, which specifically allow medical plan participants to pay required plan premiums with pretax dollars. Also, reimbursement accounts that were part of flexible benefit plans were tabulated separately.

NOTE: Dash indicates data not available.

27. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1998			1999									
	1997	1998	Oct.	Nov.	Dec.	Jan.[P]	Feb.[P]	Mar.[P]	Apr.[P]	May[P]	June[P]	July[P]	Aug.[P]	Sept.[P]	Oct.[P]
Number of stoppages:															
Beginning in period	29	34	5	3	3	1	2	0	1	3	2	1	1	2	0
In effect during period	34	34	7	7	6	5	5	2	3	6	6	6	3	5	2
Workers involved:															
Beginning in period (in thousands)	339	387	8.0	7.1	3.8	1.4	4.1	.0	8.0	9.6	2.2	1.7	11.0	19.1	.0
In effect during period (in thousands)	351	387	10.6	13.7	10.4	9.2	10.3	4.4	12.4	22.0	21.6	16.3	15.4	34.5	10.1
Days idle:															
Number (in thousands)	4,497	5,116	148.7	160.3	171.0	129.0	104.1	101.2	256.8	314.8	309.4	266.4	118.8	176.2	67.1
Percent of estimated working time[1]	.01	.02	.01	.01	.01	.01	.00	.00	.01	.01	.01	.01	.00	.01	.00

[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.
[P] = preliminary.

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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS															
All items	163.0	166.6	163.9	164.3	164.5	165.0	166.2	166.2	166.2	166.7	167.1	167.9	168.2	168.3	168.3
All items (1967 = 100)	488.3	499.0	491.0	492.3	492.9	494.4	497.8	497.7	497.9	499.2	500.7	502.9	503.9	504.1	504.1
Food and beverages	161.1	164.6	162.7	163.9	163.8	163.7	163.9	164.2	164.1	164.2	164.7	165.1	165.5	165.7	165.9
Food	160.7	164.1	162.3	163.6	163.3	163.3	163.4	163.7	163.6	163.8	164.2	164.6	165.1	165.2	165.4
Food at home	161.1	164.2	162.6	164.3	163.8	163.4	163.5	163.9	163.7	163.7	164.1	164.5	165.1	165.1	165.4
Cereals and bakery products	181.1	185.0	182.3	184.2	183.8	183.5	184.8	185.1	185.7	186.3	184.9	185.2	185.2	184.8	185.9
Meats, poultry, fish, and eggs	147.3	147.9	147.3	146.4	147.0	146.8	146.7	146.7	147.2	147.3	148.5	149.2	149.2	150.5	149.8
Dairy and related products[1]	150.8	159.6	157.6	161.2	162.3	161.5	156.1	156.2	156.1	155.7	156.5	158.7	164.1	164.6	162.1
Fruits and vegetables	198.2	203.1	200.7	208.6	200.3	199.9	203.3	207.2	203.2	202.0	202.1	202.6	202.2	201.2	204.5
Nonalcoholic beverages and beverage materials	133.0	134.3	131.7	133.5	134.5	134.5	134.3	134.2	134.3	134.3	134.5	134.2	134.6	133.9	134.7
Other foods at home	150.8	153.5	152.4	153.0	153.3	152.9	153.6	153.4	153.6	153.7	154.2	153.9	153.7	153.0	153.3
Sugar and sweets	150.2	152.3	150.1	151.7	151.3	151.0	151.7	153.0	152.4	152.4	152.7	153.5	153.3	152.1	152.3
Fats and oils	146.9	148.3	151.9	150.5	150.9	149.4	149.0	147.2	147.5	148.1	148.6	148.5	149.0	145.3	145.1
Other foods	165.5	168.9	166.9	167.7	168.2	168.1	169.2	168.7	169.2	169.3	169.9	169.2	168.7	169.0	169.4
Other miscellaneous foods[1,2]	102.6	104.9	104.9	104.1	105.9	104.9	105.6	105.0	104.9	104.2	104.8	105.3	104.3	103.9	105.7
Food away from home[1]	161.1	165.1	163.0	163.5	163.8	164.2	164.5	164.6	164.6	165.1	165.6	165.8	166.2	166.5	166.8
Other food away from home[1,2]	101.6	105.2	103.3	103.5	103.7	103.7	104.0	104.3	104.4	105.5	105.8	106.4	106.8	106.9	106.9
Alcoholic beverages	165.7	169.7	167.2	167.6	168.6	168.4	168.8	169.3	169.5	169.9	170.2	170.7	170.5	171.2	171.8
Housing	160.4	163.9	161.3	161.8	162.3	162.8	163.0	163.0	164.1	164.7	165.0	165.2	165.0	164.9	164.8
Shelter	182.1	187.3	184.0	184.7	185.5	186.3	186.6	186.5	187.2	188.0	188.3	188.3	188.5	188.6	188.6
Rent of primary residence	172.1	177.5	174.9	175.3	175.6	176.0	176.4	176.7	177.1	177.5	177.9	178.4	178.8	179.8	180.3
Lodging away from home[2]	109.0	112.3	103.8	107.1	110.5	114.5	114.6	111.8	113.8	117.1	117.1	113.8	113.1	108.5	105.8
Owners' equivalent rent of primary residence[3]	187.8	192.9	190.7	191.0	191.3	191.5	191.9	192.2	192.6	193.0	193.4	193.9	194.2	194.9	195.2
Tenants' and household insurance[1,2]	99.8	101.3	99.9	99.7	100.1	100.2	100.3	100.5	102.2	102.1	102.2	102.3	102.2	102.1	102.2
Fuels and utilities	128.5	128.8	126.6	126.2	126.0	125.9	125.7	126.5	130.2	131.1	131.4	132.7	130.3	130.0	129.6
Fuels	113.7	113.5	111.4	110.9	110.6	110.5	110.2	111.0	115.1	116.0	116.2	117.6	115.0	114.6	114.1
Fuel oil and other fuels	90.0	91.4	86.1	86.6	86.2	86.2	87.7	87.7	87.3	87.5	89.2	93.9	97.6	100.7	106.3
Gas (piped) and electricity	121.2	120.9	118.9	118.3	118.0	117.9	117.5	118.4	123.0	124.0	124.1	125.3	122.0	121.4	120.3
Household furnishings and operations	126.6	126.7	126.6	126.8	126.7	126.7	127.2	126.7	126.8	126.8	126.8	127.0	126.6	126.4	126.4
Apparel	133.0	131.3	130.7	127.9	129.7	132.7	135.2	134.2	130.9	127.3	127.5	131.8	134.6	133.6	130.1
Men's and boys' apparel	131.8	131.1	130.3	128.1	129.9	131.4	133.5	133.8	131.4	128.3	127.1	130.5	134.0	133.2	131.5
Women's and girls' apparel	126.0	123.3	122.4	117.7	120.6	126.3	128.7	127.3	122.6	116.1	117.9	125.4	128.4	126.6	121.8
Infants' and toddlers' apparel[1]	126.1	129.0	129.6	130.0	126.4	125.6	128.2	127.6	126.8	127.4	128.3	129.9	132.4	132.6	133.0
Footwear	128.0	125.7	127.5	125.6	124.8	126.4	129.2	127.4	125.4	125.2	123.8	124.7	126.1	126.4	123.7
Transportation	141.6	144.4	140.7	140.4	139.8	140.6	144.3	144.2	143.4	144.7	145.7	146.5	147.3	147.6	148.3
Private transportation	137.9	140.5	137.2	136.7	135.9	136.4	140.1	140.2	139.7	140.6	141.9	142.9	143.3	143.6	144.4
New and used motor vehicles[2]	100.1	100.1	100.9	100.6	99.9	99.6	99.7	99.7	99.7	99.8	99.7	100.1	100.5	100.9	101.1
New vehicles	143.4	142.9	144.1	144.4	143.8	143.4	143.3	142.9	142.5	142.0	141.4	141.6	142.3	143.1	143.6
Used cars and trucks[1]	150.6	152.0	153.1	150.6	148.3	147.4	148.3	149.6	150.9	152.3	153.8	155.7	156.4	156.1	155.0
Motor fuel	92.2	100.7	86.2	85.0	83.6	86.3	100.9	101.4	99.2	102.5	107.8	110.3	110.0	109.3	112.2
Gasoline (all types)	91.6	100.1	85.7	84.5	83.1	85.8	100.4	100.8	98.6	101.9	107.2	109.7	109.4	108.7	111.5
Motor vehicle parts and equipment	101.1	100.5	101.2	101.2	100.9	100.1	100.3	100.2	100.1	100.0	100.1	100.6	100.5	101.2	100.8
Motor vehicle maintenance and repair	167.1	171.9	169.6	169.8	170.4	170.6	170.9	171.3	171.7	172.1	172.1	172.8	173.2	173.6	173.8
Public transportation	190.3	197.7	188.4	190.4	193.1	198.8	201.4	198.4	192.6	200.8	197.1	194.7	201.5	202.2	201.2
Medical care	242.1	250.6	245.2	246.6	247.7	248.3	249.1	249.5	250.2	251.1	251.9	252.3	252.8	253.3	254.2
Medical care commodities	221.8	230.7	225.6	225.9	226.8	227.7	229.3	229.4	230.5	231.7	232.5	233.1	233.2	233.7	234.6
Medical care services	246.8	255.1	249.6	251.3	252.6	253.1	253.5	254.0	254.6	255.5	256.2	256.6	257.1	257.7	258.5
Professional services	222.2	229.2	224.6	225.8	226.8	227.4	228.2	228.6	229.3	229.8	230.1	230.4	230.9	231.4	231.7
Hospital and related services	287.5	299.5	291.4	294.4	296.2	296.6	296.3	297.0	297.6	299.3	301.3	302.1	302.9	303.9	306.3
Recreation[2]	101.1	102.1	101.2	101.7	101.8	101.8	102.0	102.2	102.2	102.2	102.2	101.7	101.8	101.9	102.0
Video and audio[1,2]	101.1	100.7	100.7	101.4	101.6	101.2	101.0	100.9	100.7	100.6	100.9	100.1	100.1	100.1	100.1
Education and communication[2]	100.3	101.2	100.7	100.9	100.9	100.8	100.7	100.4	100.3	100.4	101.2	101.9	102.1	102.2	102.3
Education[2]	102.1	107.0	104.7	105.0	105.3	105.4	105.5	105.6	105.7	106.0	107.5	109.4	109.6	109.3	109.3
Educational books and supplies	250.8	261.7	257.3	258.4	261.3	261.4	261.2	261.6	262.1	262.3	264.5	267.0	269.0	255.7	256.0
Tuition, other school fees, and child care	294.2	308.4	301.7	302.4	303.3	303.5	303.8	304.1	304.4	305.4	309.9	315.3	315.9	316.3	316.3
Communication[1,2]	98.7	96.0	97.1	97.3	96.9	96.6	96.3	95.7	95.5	95.5	95.6	95.3	95.3	95.9	95.9
Information and information processing[1,2]	98.5	95.5	96.9	96.9	96.5	96.1	95.8	95.2	94.9	94.9	95.0	94.7	94.7	95.3	95.4
Telephone services[1,2]	100.7	100.1	100.3	100.7	100.4	100.2	100.0	99.6	99.7	99.5	99.8	99.6	99.8	100.6	100.7
Information and information processing other than telephone services[1,4]	39.9	30.5	34.8	33.8	33.3	32.4	32.1	30.9	29.8	30.0	29.8	29.3	28.7	28.2	28.2
Personal computers and peripheral equipment[1,2]	78.2	53.5	64.2	61.4	59.7	57.6	56.8	55.7	54.5	52.9	50.9	49.7	48.2	47.0	47.2
Other goods and services	237.7	258.3	250.3	255.4	255.0	253.3	256.1	255.8	255.9	258.3	257.6	262.6	263.2	263.0	263.0
Tobacco and smoking products	274.8	355.8	331.2	354.2	348.7	335.9	349.9	345.5	343.2	356.0	350.1	373.8	373.3	369.8	369.1
Personal care[1]	156.7	161.1	158.3	158.9	159.4	160.0	160.2	160.7	161.1	161.1	161.4	161.8	162.4	162.8	162.9
Personal care products[1]	148.3	151.8	148.7	149.9	149.8	150.8	150.9	150.9	152.6	152.0	152.3	153.0	153.4	153.3	152.5
Personal care services[1]	166.0	171.4	168.3	168.8	169.3	169.9	170.3	171.0	170.9	171.4	171.9	172.1	172.9	173.9	174.3

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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Miscellaneous personal services	234.7	243.0	237.8	238.9	240.6	241.1	241.4	242.1	242.4	242.9	243.9	244.6	245.6	246.0	246.6
Commodity and service group:															
Commodities	141.9	144.4	142.2	142.5	142.2	142.6	144.6	144.5	143.9	143.9	144.5	145.8	146.4	146.2	146.1
Food and beverages	161.1	164.6	162.7	163.9	163.8	163.7	163.9	164.2	164.1	164.2	164.7	165.1	165.5	165.7	165.9
Commodities less food and beverages	130.5	132.5	130.2	129.9	129.6	130.2	133.2	132.8	131.9	131.9	132.5	134.3	134.9	134.6	134.4
Nondurables less food and beverages	132.6	137.5	132.1	131.8	131.9	133.2	138.6	138.2	136.6	136.7	138.0	141.0	141.9	141.3	140.9
Apparel	133.0	131.3	130.7	127.9	129.7	132.7	135.2	134.2	130.9	127.3	127.5	131.8	134.6	133.6	130.1
Nondurables less food, beverages, and apparel	137.4	146.0	137.8	138.8	138.0	138.5	145.7	145.6	144.8	146.8	148.8	151.2	151.2	150.7	152.1
Durables	127.6	126.0	127.4	127.1	126.4	126.0	126.1	125.8	125.7	125.6	125.4	125.7	125.9	126.0	125.9
Services	184.2	188.8	185.7	186.3	186.9	187.6	187.8	187.9	188.6	189.5	189.9	190.1	190.2	190.5	190.5
Rent of shelter[3]	189.6	195.0	191.5	192.3	193.1	193.9	194.3	194.2	194.9	195.7	196.1	196.1	196.3	196.3	196.3
Transporatation services	187.9	190.7	188.4	188.8	189.3	190.7	191.0	190.4	189.3	191.0	190.2	189.9	191.9	192.7	192.8
Other services	216.9	223.1	219.5	220.5	221.1	221.3	221.7	221.9	222.2	222.6	223.9	224.5	225.1	226.0	226.5
Special indexes:															
All items less food	163.4	167.0	164.2	164.5	164.7	165.3	166.7	166.6	166.7	167.2	167.7	168.5	168.8	168.8	168.8
All items less shelter	157.2	160.2	157.8	158.1	158.1	158.5	159.9	159.9	159.7	160.1	160.6	161.6	162.0	162.1	162.1
All items less medical care	158.6	162.0	159.4	159.8	160.0	160.5	161.6	161.6	161.6	162.0	162.5	163.2	163.6	163.6	163.6
Commodities less food	132.0	134.0	131.7	131.4	131.1	131.7	134.6	134.3	133.4	133.4	134.0	135.8	136.3	136.1	135.9
Nondurables less food	134.6	139.4	134.2	133.9	134.0	135.3	140.4	140.1	138.6	138.7	139.9	142.8	143.7	143.1	142.8
Nondurables less food and apparel	139.2	147.5	139.7	140.7	140.0	140.5	147.0	147.0	146.3	148.2	150.0	152.3	152.3	151.9	153.2
Nondurables	146.9	151.2	147.5	147.9	147.9	148.5	151.4	151.4	150.5	150.6	151.5	153.2	154.0	153.7	153.7
Services less rent of shelter[3]	191.8	195.8	192.8	193.3	193.8	194.2	194.5	194.7	195.6	196.5	196.9	197.3	197.4	197.9	198.0
Services less medical care services	178.4	182.7	179.8	180.3	180.9	181.5	181.8	181.8	182.6	183.4	183.8	183.9	184.1	184.3	184.3
Energy	102.9	106.6	98.9	98.1	97.3	98.4	105.0	105.6	106.8	108.7	111.3	113.2	111.6	111.2	112.2
All items less energy	170.9	174.4	172.3	172.9	173.2	173.7	174.2	174.1	174.0	174.3	174.5	175.1	175.7	175.8	175.7
All items less food and energy	173.4	177.0	174.8	175.3	175.7	176.2	176.8	176.6	176.6	176.9	177.1	177.7	178.3	178.4	178.2
Commodities less food and energy	143.2	144.1	143.9	143.7	143.7	143.9	144.9	144.5	143.7	143.2	143.0	144.6	145.3	145.0	144.2
Energy commodities	92.1	100.0	86.3	85.2	83.9	86.4	99.9	100.3	98.3	101.3	106.3	109.1	109.1	108.7	111.8
Services less energy	190.6	195.7	192.5	193.2	194.0	194.7	195.0	195.0	195.3	196.1	196.5	196.6	197.2	197.5	197.7
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS															
All items	159.7	163.2	160.7	161.0	161.1	161.4	162.7	162.8	162.8	163.3	163.8	164.7	165.0	165.1	165.1
All items (1967 = 100)	475.6	486.2	478.6	479.7	479.8	480.9	484.7	484.9	485.0	486.3	487.8	490.5	491.5	491.7	491.8
Food and beverages	160.4	163.8	161.9	163.1	163.0	162.9	163.0	163.3	163.3	163.4	163.9	164.3	164.7	164.9	165.2
Food	160.0	163.4	161.5	162.8	162.6	162.6	162.6	162.9	162.8	163.0	163.5	163.9	164.4	164.5	164.7
Food at home	160.0	163.0	161.3	163.1	162.6	162.3	162.2	162.6	162.5	162.5	162.9	163.5	164.0	164.0	164.2
Cereals and bakery products	180.9	184.7	182.0	184.0	183.5	183.2	184.5	184.8	185.5	186.1	184.8	185.0	185.0	184.5	185.7
Meats, poultry, fish, and eggs	147.0	147.6	146.9	146.0	146.7	146.4	146.3	146.1	146.9	146.8	148.2	148.9	148.8	150.1	149.4
Dairy and related products[1]	150.4	159.4	157.4	161.1	162.2	161.5	155.7	155.8	155.7	155.3	156.0	158.4	164.0	164.6	161.9
Fruits and vegetables	197.0	201.8	199.0	207.3	199.3	198.7	201.7	205.3	201.9	201.0	201.2	201.6	201.0	199.8	202.8
Nonalcoholic beverages and beverage materials	131.8	133.2	130.4	132.5	133.4	133.6	133.2	133.1	133.2	133.1	133.2	133.0	133.4	132.7	133.5
Other foods at home	150.2	152.8	151.7	152.4	152.6	152.3	153.0	152.6	152.8	153.0	153.5	153.3	152.9	152.3	152.7
Sugar and sweets	150.1	152.2	150.0	151.8	151.3	151.1	151.7	152.8	152.0	152.0	152.6	153.3	153.2	152.0	152.3
Fats and oils	146.5	147.9	151.2	150.1	150.6	148.9	148.6	147.0	147.2	147.8	148.3	148.1	148.6	144.9	144.7
Other foods	165.4	168.8	166.7	167.7	168.1	168.0	169.0	168.5	169.0	169.2	169.7	169.2	168.5	168.8	169.4
Other miscellaneous foods[1,2]	102.6	104.6	104.9	104.2	105.9	105.0	105.2	104.7	104.4	103.9	104.4	105.1	103.8	103.4	105.2
Food away from home[1]	161.1	165.0	163.0	163.5	163.8	164.1	164.4	164.5	164.4	164.9	165.5	165.8	166.1	166.5	166.8
Other food away from home[1,2]	101.6	105.1	103.4	103.6	103.7	103.8	104.1	104.2	104.5	105.3	105.8	106.2	106.6	106.8	106.9
Alcoholic beverages	164.6	168.8	166.2	166.5	167.6	167.3	167.8	168.5	168.7	169.1	169.2	169.8	169.5	170.4	171.0
Housing	156.7	160.0	157.8	158.1	158.4	158.8	159.1	159.2	160.2	160.7	161.0	161.3	161.0	161.1	161.1
Shelter	176.6	181.6	178.8	179.3	179.9	180.5	180.8	180.9	181.5	182.0	182.4	182.6	182.8	183.1	183.3
Rent of primary residence	171.7	177.1	174.6	174.9	175.3	175.6	176.0	176.4	176.8	177.1	177.5	178.0	178.4	179.3	179.9
Lodging away from home[2]	109.0	122.2	104.0	107.1	110.3	114.2	114.5	112.0	113.8	116.7	116.8	113.8	113.1	108.4	105.7
Owners' equivalent rent of primary residence[3]	171.1	175.7	173.7	173.9	174.2	174.5	174.8	175.1	175.4	175.7	176.1	176.5	176.8	177.4	177.8
Tenants' and household insurance[1,2]	100.0	101.6	100.3	100.1	100.4	100.6	100.6	100.9	102.3	102.2	102.3	102.5	102.4	102.3	102.4
Fuels and utilities	128.4	128.7	126.4	126.0	125.8	125.8	125.5	126.3	130.2	131.1	131.4	132.6	130.1	129.8	129.2
Fuels	113.3	113.0	110.9	110.4	110.2	110.0	109.7	110.6	114.7	115.7	115.9	117.2	114.4	114.0	113.5
Fuel oil and other fuels	90.3	91.7	86.6	87.1	86.8	85.8	88.1	88.0	87.8	87.6	89.3	93.9	97.7	100.7	106.0
Gas (piped) and electricity	120.8	120.4	118.4	117.7	117.5	117.3	116.9	117.9	122.6	123.6	123.7	124.9	121.5	120.9	119.8
Household furnishings and operations	125.0	124.7	124.8	125.0	124.8	124.9	125.2	124.8	124.8	124.9	124.7	124.8	124.5	124.2	124.2
Apparel	131.6	130.1	129.8	127.1	128.5	131.1	133.7	133.0	129.6	126.4	126.4	130.5	133.1	132.3	129.0
Men's and boys' apparel	131.4	131.2	130.2	128.1	129.9	131.6	133.6	134.0	131.6	128.6	127.2	130.3	134.0	133.3	131.6
Women's and girls' apparel	123.9	121.3	121.0	116.4	118.8	123.9	126.5	125.5	120.6	114.4	116.0	123.3	126.0	124.4	119.8
Infants' and toddlers' apparel[1]	126.7	130.3	130.9	130.8	127.2	126.5	129.3	128.9	128.0	128.4	129.6	131.4	134.1	134.3	134.8
Footwear	128.7	126.2	128.2	126.1	125.4	126.8	129.5	127.9	125.8	125.8	124.4	125.1	126.6	126.9	124.2
Transportation	140.5	143.4	139.6	139.1	138.3	139.1	142.9	143.1	142.4	143.7	145.0	146.0	146.6	146.9	147.6
Private transportation	138.0	140.7	137.1	136.5	135.6	136.2	140.1	140.3	139.9	140.9	142.4	143.6	143.9	144.2	145.0
New and used motor vehicles[2]	100.3	100.4	101.1	100.6	99.9	99.5	99.7	99.8	100.0	100.1	100.2	100.7	101.2	101.5	101.5

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		1998	1999											
	1998	1999	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
New vehicles	144.6	144.0	145.3	145.5	145.0	144.5	144.5	144.0	143.6	143.2	142.6	142.8	143.5	144.3	144.7
Used cars and trucks[1]	152.0	153.3	154.3	151.8	149.6	148.7	149.6	150.9	152.2	153.7	155.2	157.0	157.7	157.3	156.3
Motor fuel	92.2	100.8	86.0	85.0	83.5	86.4	100.8	101.3	99.2	102.6	107.8	110.6	110.0	109.5	112.3
Gasoline (all types)	91.7	100.2	85.5	84.5	83.0	85.9	100.3	100.8	98.7	102.1	107.3	110.0	109.4	108.9	111.7
Motor vehicle parts and equipment	100.5	100.0	100.5	100.6	100.5	99.8	99.6	99.7	99.6	99.5	99.6	99.9	99.8	100.6	100.2
Motor vehicle maintenance and repair	168.2	173.3	170.9	171.2	171.8	172.0	172.3	172.7	173.1	173.5	173.5	174.3	174.7	175.1	175.2
Public transportation	187.1	193.1	185.1	186.8	189.1	194.1	196.4	193.9	189.0	195.7	192.5	190.7	196.3	197.0	196.0
Medical care	241.4	249.7	244.4	245.8	246.9	247.5	248.2	248.7	249.4	250.3	251.0	251.4	251.9	252.5	253.2
Medical care commodities	218.6	226.8	222.1	222.4	223.2	223.9	225.7	225.7	226.6	227.8	228.4	229.0	229.1	229.5	230.2
Medical care services	246.6	254.9	249.4	251.0	252.3	252.8	253.3	253.8	254.5	255.3	256.0	256.4	257.0	257.6	258.4
Professional services	223.7	230.8	226.2	227.3	228.3	228.9	229.7	230.2	231.0	231.4	231.7	232.0	232.5	233.1	233.4
Hospital and related services	283.6	295.5	287.4	290.4	292.4	292.8	292.3	293.0	293.6	295.3	297.3	298.2	298.9	299.8	302.1
Recreation[2]	100.9	101.3	100.8	101.2	101.3	101.3	101.4	101.5	101.6	101.6	101.5	101.0	101.1	101.0	101.2
Video and audio[1,2]	101.1	100.5	100.7	101.3	101.4	101.0	100.8	100.6	100.5	100.4	100.7	99.8	99.9	99.9	99.8
Education and communication[2]	100.4	101.5	100.9	101.2	101.2	101.0	100.9	100.7	100.7	100.8	101.5	102.1	102.3	102.5	102.5
Education[2]	102.1	107.2	104.7	105.1	105.5	105.6	105.7	105.9	106.0	106.3	107.7	109.5	109.7	109.4	109.4
Educational books and supplies	253.1	264.1	259.7	260.8	263.9	264.0	263.9	264.3	264.8	265.0	267.2	269.9	271.8	256.5	256.9
Tuition, other school fees, and child care	288.5	302.8	295.8	296.6	297.8	298.0	298.3	298.7	299.2	300.2	304.1	309.5	310.0	310.4	310.4
Communication[1,2]	99.1	96.9	97.8	98.1	97.7	97.4	97.0	96.5	96.4	96.3	96.5	96.2	96.3	96.9	97.0
Information and information processing[1,2]	99.0	96.5	97.7	97.8	97.4	97.1	96.7	96.2	96.0	96.0	96.1	95.8	95.9	96.6	96.6
Telephone services[1,2]	100.7	100.2	100.4	100.8	100.5	100.4	100.0	99.8	99.9	99.7	99.9	99.7	100.0	100.8	100.9
Information and information processing other than telephone services[1,4]	41.2	31.6	36.0	35.0	34.4	33.5	33.0	31.8	30.8	31.1	30.8	30.3	29.9	29.3	29.3
Personal computers and peripheral equipment[1,2]	77.9	53.1	64.0	61.1	59.3	56.9	55.9	55.1	54.0	52.5	50.6	49.4	48.1	46.9	46.9
Other goods and services	236.1	261.9	252.6	259.2	258.3	255.6	259.5	258.8	258.7	262.0	260.7	267.3	267.9	267.4	267.3
Tobacco and smoking products	274.8	356.2	332.0	354.5	348.9	336.0	350.5	345.9	343.5	356.6	350.6	374.4	374.0	370.4	369.7
Personal care[1]	156.8	161.3	158.3	159.1	159.6	160.3	160.4	160.8	161.3	161.3	161.6	161.9	162.6	163.0	163.1
Personal care products[1]	149.3	152.5	149.6	150.7	150.8	151.6	151.7	151.6	153.3	152.7	153.1	153.7	154.1	154.0	153.1
Personal care services[1]	166.3	171.7	168.6	169.1	169.6	170.2	170.6	171.4	171.2	171.8	172.2	172.4	173.2	174.4	174.7
Miscellaneous personal services	234.0	243.1	237.4	239.1	240.8	241.4	241.7	242.3	242.6	243.2	243.8	244.5	245.5	245.9	246.7
Commodity and service group:															
Commodities	141.8	144.7	142.3	142.5	142.2	142.5	144.7	144.6	144.0	144.2	144.8	146.3	146.8	146.6	146.6
Food and beverages	160.4	163.8	161.9	163.1	163.0	162.9	163.0	163.3	163.3	163.4	163.9	164.3	164.7	164.9	165.2
Commodities less food and beverages	130.6	133.2	130.6	130.4	129.9	130.3	133.6	133.4	132.5	132.7	133.4	135.4	165.9	135.6	135.4
Nondurables less food and beverages	132.1	138.1	132.1	132.0	131.8	133.1	139.1	138.8	137.0	137.5	138.8	142.1	142.9	142.2	142.0
Apparel	131.6	130.1	129.8	127.1	128.5	131.1	133.7	133.0	129.6	126.4	126.4	130.5	133.1	132.3	129.0
Nondurables less food, beverages, and apparel	137.0	147.2	137.9	139.2	138.2	138.7	146.7	146.6	145.7	148.1	150.2	153.2	153.1	152.5	153.9
Durables	127.3	126.0	127.4	126.9	126.1	125.7	125.8	125.6	125.6	125.7	125.7	126.1	126.3	126.4	126.3
Services	181.0	185.3	182.5	183.0	183.5	184.0	184.2	184.4	185.2	185.9	186.3	186.6	186.7	187.1	187.2
Rent of shelter[3]	170.1	174.9	172.2	172.7	173.2	173.8	174.1	174.2	174.7	175.3	175.6	175.8	176.1	176.3	176.5
Transporatation services	185.4	187.9	186.1	186.4	186.8	187.8	187.9	187.5	186.7	188.0	187.4	187.3	189.0	189.8	189.9
Other services	213.7	219.6	216.1	217.1	217.7	217.8	218.1	218.4	218.8	219.2	220.3	220.9	221.6	222.3	222.9
Special indexes:															
All items less food	159.5	163.1	160.4	160.5	160.6	161.1	162.6	162.6	162.7	163.2	163.7	164.7	165.0	165.1	165.1
All items less shelter	155.0	158.1	155.6	155.9	155.8	156.1	157.7	157.7	157.6	158.0	158.6	159.7	160.1	160.1	160.1
All items less medical care	155.8	159.2	156.8	157.1	157.1	157.5	158.8	158.8	158.8	159.2	159.7	160.7	161.0	161.1	161.1
Commodities less food	132.0	134.6	132.0	131.8	131.3	131.8	135.0	134.8	133.9	134.2	134.8	136.7	137.2	137.0	136.8
Nondurables less food	134.1	140.0	134.1	134.1	134.0	135.1	140.8	140.6	138.9	139.4	140.7	143.8	144.6	144.0	143.8
Nondurables less food and apparel	138.7	148.4	139.7	140.9	140.0	140.5	147.9	147.9	147.0	149.3	151.2	154.0	153.8	153.4	154.7
Nondurables	146.5	151.3	147.3	147.8	147.7	148.3	151.4	151.4	150.5	150.8	151.7	153.6	154.3	154.0	154.0
Services less rent of shelter[3]	170.7	174.1	171.5	171.9	172.3	172.6	172.7	173.0	174.0	174.7	175.0	175.5	175.4	175.8	175.9
Services less medical care services	175.4	179.5	176.9	177.3	177.8	178.2	178.4	178.6	179.4	180.1	180.4	180.7	180.8	181.1	181.2
Energy	102.1	106.1	97.8	97.0	96.1	97.5	104.5	105.2	106.2	108.4	111.1	113.1	111.4	111.0	112.1
All items less energy	167.6	171.1	169.3	169.8	170.0	170.2	170.7	170.7	170.6	170.9	171.1	171.8	172.4	172.6	172.5
All items less food and energy	169.6	173.1	171.3	171.6	171.9	172.2	172.9	172.8	172.7	172.9	173.1	173.9	174.5	174.7	174.5
Commodities less food and energy	142.7	144.3	144.1	144.0	143.7	143.7	144.8	144.5	143.8	143.5	143.3	145.0	145.7	145.4	144.6
Energy commodities	92.3	100.3	86.2	85.2	83.8	86.6	100.2	100.6	98.6	101.8	106.8	109.7	109.4	109.1	112.1
Services less energy	187.7	192.6	189.7	190.3	190.9	191.5	191.8	191.9	192.2	192.8	193.2	193.4	194.0	194.4	194.7

[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.

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						
		1998		1999					1998		1999				
		Nov.	Dec.	Aug.	Sept.	Oct.	Nov.	Dec.	Nov.	Dec.	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. city average	M	164.0	163.9	167.1	167.9	168.2	168.3	168.3	160.7	160.7	163.8	164.7	165.0	165.1	165.1
Region and area size[2]															
Northeast urban	M	171.2	171.2	174.1	174.8	175.5	175.5	175.5	168.2	168.2	170.9	171.9	172.5	172.6	172.6
Size A—More than 1,500,000	M	172.2	172.2	175.1	175.7	176.4	176.5	176.3	168.2	168.2	171.0	171.8	172.5	172.7	172.4
Size B/C—50,000 to 1,500,000[3]	M	102.6	102.5	104.3	105.1	105.3	105.1	105.4	102.2	102.3	103.8	104.7	105.0	105.0	105.2
Midwest urban[4]	M	160.1	159.8	163.2	164.3	164.3	164.6	164.4	156.2	156.0	159.4	160.6	160.6	160.9	160.7
Size A—More than 1,500,000	M	161.3	161.0	164.8	165.7	165.7	165.6	165.5	156.7	156.5	160.2	161.1	161.1	161.0	161.1
Size B/C—50,000 to 1,500,000[3]	M	102.4	102.3	104.2	105.1	105.0	105.6	105.3	102.1	102.0	104.0	105.1	105.0	105.5	105.3
Size D—Nonmetropolitan (less than 50,000)	M	154.7	155.0	157.7	158.6	158.7	159.3	158.9	152.9	153.3	156.1	157.1	157.2	157.6	157.3
South urban	M	159.6	159.6	162.6	163.2	163.6	163.5	163.6	157.7	157.8	160.6	161.5	161.9	161.8	162.0
Size A—More than 1,500,000	M	158.6	158.3	161.9	162.7	163.2	162.9	163.0	156.2	156.0	159.5	160.4	160.9	160.6	160.9
Size B/C—50,000 to 1,500,000[3]	M	102.8	102.8	104.4	104.8	105.1	105.1	105.2	102.4	102.5	104.0	104.6	104.9	104.9	105.0
Size D—Nonmetropolitan (less than 50,000)	M	160.0	160.4	163.7	164.1	164.1	164.1	163.5	160.6	160.8	164.1	164.8	164.8	165.0	164.6
West urban	M	165.8	165.8	169.5	170.0	170.4	170.4	170.5	161.8	161.8	165.3	165.8	166.2	166.2	166.4
Size A—More than 1,500,000	M	166.5	166.5	170.5	171.2	171.6	171.6	171.7	160.7	160.8	164.7	165.3	165.6	165.7	165.8
Size B/C—50,000 to 1,500,000[3]	M	103.5	103.4	105.2	105.2	105.5	105.5	105.7	103.3	103.3	105.1	105.1	105.4	105.3	105.5
Size classes:															
A[5]	M	148.5	148.4	151.6	152.2	152.6	152.5	152.5	147.0	146.9	150.1	150.8	151.2	151.2	151.2
B/C[3]	M	102.8	102.7	104.5	105.0	105.2	105.3	105.3	102.4	102.5	104.1	104.8	105.0	105.0	105.2
D	M	159.9	160.2	163.1	163.7	163.8	164.2	163.7	159.1	159.2	162.1	163.0	163.1	163.5	163.1
Selected local areas[6]															
Chicago–Gary–Kenosha, IL–IN–WI	M	165.4	165.1	169.3	169.7	169.7	169.3	169.2	159.9	159.6	163.5	164.1	164.0	163.7	163.7
Los Angeles–Riverside–Orange County, CA	M	163.4	163.5	166.3	167.2	167.2	167.1	167.3	157.0	157.2	159.8	160.7	160.7	160.6	160.9
New York, NY–Northern NJ–Long Island, NY–NJ–CT–PA	M	174.7	174.7	177.6	178.2	178.9	178.8	178.6	170.5	170.5	173.2	173.9	174.5	174.6	174.3
Boston–Brockton–Nashua, MA–NH–ME–CT	1	172.1	–	–	176.8	–	179.2	–	171.5	–	–	175.2	–	177.8	–
Cleveland–Akron, OH	1	161.5	–	–	164.2	–	163.8	–	152.8	–	–	156.4	–	156.1	–
Dallas–Ft Worth, TX	1	154.5	–	–	159.8	–	160.1	–	153.8	–	–	159.6	–	159.8	–
Washington–Baltimore, DC–MD–VA–WV[7]	1	102.9	–	–	105.4	–	105.0	–	102.2	–	–	105.3	–	104.9	–
Atlanta, GA	2	–	161.6	165.9	–	166.5	–	167.0	–	158.8	163.2	–	164.0	–	164.6
Detroit–Ann Arbor–Flint, MI	2	–	161.2	164.2	–	165.9	–	165.6	–	155.9	158.7	–	160.4	–	160.4
Houston–Galveston–Brazoria, TX	2	–	146.1	148.9	–	151.2	–	150.3	–	144.8	147.9	–	149.9	–	149.2
Miami–Ft. Lauderdale, FL	2	–	161.1	162.3	–	164.1	–	164.8	–	158.7	160.0	–	161.9	–	162.7
Philadelphia–Wilmington–Atlantic City, PA–NJ–DE–MD	2	–	169.0	173.1	–	174.4	–	172.9	–	168.5	172.6	–	174.3	–	172.8
San Francisco–Oakland–San Jose, CA	2	–	167.4	173.5	–	175.2	–	174.5	–	163.7	170.0	–	171.2	–	170.9
Seattle–Tacoma–Bremerton, WA	2	–	169.4	173.4	–	174.7	–	174.4	–	164.9	168.8	–	170.2	–	170.1

[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	1991	1992	1993	1994	1995	1996	1997	1998	1999
Consumer Price Index for All Urban Consumers:									
All items:									
Index	136.2	140.3	144.5	148.2	152.4	156.9	160.5	163.0	166.6
Percent change	4.2	3.0	3.0	2.6	2.8	3.0	2.3	1.6	2.2
Food and beverages:									
Index	136.8	138.7	141.6	144.9	148.9	153.7	157.7	161.1	164.6
Percent change	3.6	1.4	2.1	2.3	2.8	3.2	2.6	2.2	2.2
Housing:									
Index	133.6	137.5	141.2	144.8	148.5	152.8	156.8	160.4	163.9
Percent change	4.0	2.9	2.7	2.5	2.6	2.9	2.6	2.3	2.2
Apparel:									
Index	128.7	131.9	133.7	133.4	132.0	131.7	132.9	133.0	131.3
Percent change	3.7	2.5	1.4	–.2	–1.0	–.2	.9	.1	–1.3
Transportation:									
Index	123.8	126.5	130.4	134.3	139.1	143.0	144.3	141.6	144.4
Percent change	2.7	2.2	3.1	3.0	3.6	2.8	0.9	–1.9	2.0
Medical care:									
Index	177.0	190.1	201.4	211.0	220.5	228.2	234.6	242.1	250.6
Percent change	8.7	7.4	5.9	4.8	4.5	3.5	2.8	3.2	3.5
Other goods and services:									
Index	171.6	183.3	192.9	198.5	206.9	215.4	224.8	237.7	258.3
Percent change	7.9	6.8	5.2	2.9	4.2	4.1	4.4	5.7	8.7
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	134.3	138.2	142.1	145.6	149.8	154.1	157.6	159.7	163.2
Percent change	4.1	2.9	2.8	2.5	2.9	2.9	2.3	1.3	2.2

31. Producer Price Indexes, by stage of processing

[1982 = 100]

Grouping	Annual average		1998	1999											
	1998	1999[p]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Finished goods	130.7	133.1	131.1	131.4	130.8	131.1	131.9	132.4	132.7	132.9	133.7	134.8	135.0	135.0	135.0
Finished consumer goods	128.9	132.1	129.4	129.7	129.0	129.4	130.4	131.2	131.7	132.1	133.2	134.6	134.4	134.5	134.4
Finished consumer foods	134.3	135.1	134.5	135.6	134.1	134.7	133.4	134.5	135.1	134.6	135.9	137.0	135.6	135.4	135.7
Finshed consumer goods excluding foods	126.4	130.6	127.1	127.1	126.6	127.0	129.0	129.6	130.0	130.8	131.9	133.4	133.7	133.9	133.7
Nondurable goods less food	122.2	127.9	122.7	122.9	122.2	122.9	125.7	126.6	127.5	128.9	130.4	132.8	131.6	132.0	131.8
Durable goods	132.9	133.0	133.8	133.3	133.5	133.1	133.1	132.8	132.3	131.7	131.6	131.1	134.8	134.6	134.6
Capital equipment	137.6	137.6	137.9	137.8	138.0	137.7	137.8	137.6	137.2	137.0	136.9	136.7	138.5	138.3	138.3
Intermediate materials, supplies, and components	123.0	123.2	120.9	120.9	120.4	120.7	121.6	122.2	123.0	123.9	124.6	125.2	125.2	125.4	125.6
Materials and components for manufacturing	126.1	124.5	124.1	123.9	123.5	123.4	123.2	123.8	124.1	124.6	125.0	125.1	125.9	126.0	126.1
Materials for food manufacturing	123.2	120.9	124.0	124.3	122.2	121.4	118.1	119.6	120.0	119.0	121.1	122.5	122.4	121.4	118.5
Materials for nondurable manufacturing	126.7	124.8	123.3	123.0	122.5	122.6	122.7	123.3	123.8	124.8	125.5	125.8	127.3	127.8	128.4
Materials for durable manufacturing	128.0	125.1	124.2	123.5	123.2	123.2	123.2	124.3	124.8	126.1	126.2	125.8	126.5	126.8	127.4
Components for manufacturing	125.9	125.7	125.8	125.8	125.7	125.7	125.7	125.6	125.7	125.6	125.6	125.6	125.9	125.7	125.7
Materials and components for construction	146.8	148.9	146.6	146.9	147.3	147.8	148.0	148.5	149.5	150.5	150.4	149.7	149.2	149.3	149.7
Processed fuels and lubricants	81.1	84.9	75.8	76.1	74.9	76.2	80.6	82.5	84.9	87.6	90.0	92.5	90.3	91.2	91.7
Containers	140.8	142.5	138.7	138.3	138.0	138.5	140.4	141.6	142.2	142.1	143.6	146.3	146.6	146.5	146.5
Supplies	134.8	134.2	134.3	134.1	133.8	133.7	133.8	133.7	133.9	133.9	134.2	134.4	134.9	135.1	135.2
Crude materials for further processing	96.8	98.2	89.8	90.1	88.2	89.0	91.1	97.4	97.4	97.9	103.1	106.9	104.9	108.6	103.9
Foodstuffs and feedstuffs	103.9	98.8	97.0	101.2	98.2	98.8	95.4	99.6	99.5	96.2	100.1	100.5	99.6	99.5	96.8
Crude nonfood materials	88.4	94.3	81.6	79.2	78.1	79.1	84.8	92.3	92.5	95.5	101.5	107.4	104.7	110.9	105.0
Special groupings:															
Finished goods, excluding foods	129.5	132.3	130.0	130.0	129.7	129.9	131.3	131.6	131.8	132.3	133.0	134.0	134.7	134.8	134.7
Finished energy goods	75.1	78.9	70.8	71.3	70.1	71.2	75.9	77.5	78.6	80.7	83.5	85.9	83.6	84.0	83.8
Finished goods less energy	141.1	143.0	142.9	143.0	142.7	142.7	142.3	142.5	142.6	142.3	142.5	143.2	144.2	144.0	144.0
Finished consumer goods less energy	142.5	145.2	144.9	145.1	144.6	144.7	144.2	144.6	144.8	144.5	144.9	145.9	146.5	146.4	146.5
Finished goods less food and energy	143.7	146.1	146.1	145.9	146.0	145.8	145.8	145.6	145.5	145.3	145.2	145.6	147.5	147.4	147.4
Finished consumer goods less food and energy	147.7	151.7	151.6	151.2	151.3	151.2	151.2	151.0	151.0	150.9	150.7	151.6	153.5	153.5	153.4
Consumer nondurable goods less food and energy	159.1	166.3	165.4	165.2	165.2	165.3	165.2	165.2	165.7	165.9	165.7	167.7	168.0	168.3	168.1
Intermediate materials less foods and feeds	123.4	123.9	121.3	121.2	120.9	121.2	122.3	122.9	123.7	124.7	125.4	125.9	125.9	126.2	126.5
Intermediate foods and feeds	116.2	111.1	114.5	114.6	112.6	111.0	109.0	109.8	110.2	109.1	110.9	112.1	112.5	112.0	110.0
Intermediate energy goods	80.8	84.6	75.5	75.9	74.7	76.0	80.3	82.2	84.6	87.2	89.6	92.1	90.0	90.9	91.4
Intermediate goods less energy	132.4	131.7	131.1	130.9	130.6	130.6	130.7	131.1	131.5	131.9	132.3	132.4	132.9	133.0	133.1
Intermediate materials less foods and energy	133.5	133.1	132.1	131.9	131.8	131.9	132.1	132.5	132.9	133.4	133.7	133.7	134.2	134.4	134.6
Crude energy materials	68.6	78.4	64.2	61.0	58.8	60.5	68.1	77.1	77.1	80.4	87.3	94.1	89.6	97.5	89.0
Crude materials less energy	113.6	108.0	104.9	108.1	106.4	106.6	103.9	107.6	107.7	105.8	109.4	110.4	110.6	110.6	109.3
Crude nonfood materials less energy	142.1	135.3	128.1	128.8	130.9	129.9	129.1	131.4	132.2	134.2	136.8	139.6	142.5	142.8	145.5

32. Producer Price Indexes for the net output of major industry groups

[December 1984 = 100, unless otherwise indicated]

SIC	Industry	Annual average		1998	1999										
		1998	1999[P]	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
–	**Total mining industries**	70.8	78.0	66.8	64.1	62.5	63.4	68.9	76.5	76.3	78.7	84.7	90.9	88.4	93.9	87.5
10	Metal mining	73.2	70.5	69.5	68.2	69.3	68.3	69.8	69.7	67.3	68.8	69.3	71.0	77.8	73.5	72.6
12	Coal mining (12/85 = 100)	89.5	87.2	91.4	85.5	89.2	89.3	89.9	87.8	88.2	86.9	86.9	84.0	86.9	86.5	85.1
13	Oil and gas extraction (12/85 = 100)	68.3	78.5	62.9	60.3	57.3	58.6	65.7	76.3	76.2	79.6	87.6	96.4	91.9	99.8	91.6
14	Mining and quarrying of nonmetallic minerals, except fuels	132.2	133.9	132.7	133.0	133.5	133.6	133.8	133.8	134.2	134.2	134.2	133.8	134.0	134.2	134.4
–	**Total manufacturing industries**	126.2	128.3	125.9	126.2	125.9	126.3	127.4	127.7	127.8	128.3	129.0	129.7	130.1	130.3	130.6
20	Food and kindred products	126.3	126.3	126.1	126.6	125.8	125.6	124.3	125.3	126.0	125.9	126.8	127.6	127.4	127.2	126.7
21	Tobacco manufactures	243.1	325.7	316.0	316.5	316.3	315.8	316.0	316.1	316.2	316.1	316.5	344.4	344.4	344.6	345.0
22	Textile mill products	118.6	116.3	117.6	117.1	116.6	117.0	116.4	116.4	116.3	115.9	116.0	115.9	116.1	116.0	116.1
23	Apparel and other finished products made from fabrics and similar materials	124.8	125.3	124.9	125.0	125.1	125.2	125.3	125.3	125.1	125.1	125.5	124.9	125.5	125.6	125.6
24	Lumber and wood products, except furniture	157.0	161.8	155.7	156.7	158.3	160.1	160.2	161.9	165.2	168.5	166.9	162.9	159.9	160.0	160.9
25	Furniture and fixtures	139.7	141.2	140.2	140.5	140.5	140.6	140.7	140.9	141.1	141.3	141.6	141.5	141.8	141.8	142.2
26	Paper and allied products	136.2	136.4	133.5	133.0	132.6	133.3	134.2	134.8	135.8	136.3	137.3	138.8	139.8	140.2	140.3
27	Printing, publishing, and allied industries	174.0	177.5	175.2	176.4	176.5	177.0	177.1	177.2	177.2	177.4	177.7	177.7	178.3	178.8	179.2
28	Chemicals and allied products	148.7	149.5	147.9	147.5	147.3	147.5	147.7	148.2	149.0	149.9	150.0	150.3	151.9	152.2	152.5
29	Petroleum refining and related products	66.3	76.8	56.3	58.6	56.2	59.9	73.7	75.4	74.2	79.6	85.3	89.9	86.8	89.6	92.8
30	Rubber and miscellaneous plastics products	122.1	122.2	121.8	121.5	121.4	121.3	121.7	121.6	121.9	122.1	122.5	122.7	122.8	123.2	123.3
31	Leather and leather products	137.1	136.5	136.7	135.8	136.1	136.1	136.1	136.0	136.5	136.7	136.7	137.0	137.1	137.2	137.3
32	Stone, clay, glass, and concrete products	129.3	132.6	130.2	130.7	131.5	131.7	132.1	132.5	132.7	132.7	133.1	133.3	133.5	133.7	133.6
33	Primary metal industries	120.9	115.7	116.9	115.9	115.1	114.8	114.7	114.9	115.0	115.4	115.7	115.8	117.0	116.9	117.2
34	Fabricated metal products, except machinery and transportation transportation equipment	128.7	129.1	128.7	128.8	128.8	128.7	128.9	128.9	129.1	129.1	129.1	129.2	129.4	129.4	129.6
35	Machinery, except electrical	117.7	117.3	117.3	117.4	117.4	117.4	117.5	117.5	117.5	117.3	117.2	117.1	117.2	117.2	117.2
36	Electrical and electronic machinery, equipment, and supplies	110.4	109.6	110.0	110.0	109.9	109.8	109.7	109.7	109.5	109.5	109.5	109.6	109.2	109.4	109.4
37	Transportation	133.6	134.4	134.9	134.5	134.8	134.4	134.5	134.1	133.6	133.0	132.9	132.4	136.5	136.1	136.0
38	Measuring and controlling instruments; photographic, medical, and optical goods; watches and clocks	126.0	125.7	125.9	126.6	126.6	126.4	126.4	125.9	125.3	125.1	125.0	125.4	125.6	125.3	125.4
39	Miscellaneous manufacturing industries industries (12/85 = 100)	129.7	130.3	129.8	130.2	130.3	130.4	130.4	130.5	130.5	130.5	130.1	130.1	130.4	130.2	130.6
	Service industries:															
42	Motor freight transportation and warehousing (06/93 = 100)	111.6	114.7	112.7	113.6	113.9	114.1	114.2	114.3	114.6	114.8	115.1	115.7	115.4	115.3	115.8
43	U.S. Postal Service (06/89 = 100)	132.3	135.3	132.3	135.4	135.4	135.4	135.4	135.4	135.2	135.2	135.2	135.2	135.2	135.2	135.2
44	Water transportation (12/92 = 100)	105.6	113.3	105.7	106.0	106.0	105.8	106.0	114.4	116.8	117.4	117.2	118.4	117.5	116.3	117.2
45	Transportation by air (12/92 = 100)	124.5	130.8	126.5	126.6	128.4	128.9	129.6	130.0	130.9	131.4	131.7	132.2	132.4	133.0	133.7
46	Pipelines, except natural gas (12/92 = 100)	99.2	98.4	99.2	98.4	98.2	98.2	98.4	98.5	98.6	98.2	98.2	98.6	98.5	98.4	98.4

33. Annual data: Producer Price Indexes, by stage of processing

[1982 = 100]

Index	1991	1992	1993	1994	1995	1996	1997	1998	1999[P]
Finished goods									
Total	121.7	123.2	124.7	125.5	127.9	131.3	131.8	130.7	133.1
Foods	124.1	123.3	125.7	126.8	129.0	133.6	134.5	134.3	135.1
Energy	78.1	77.8	78.0	77.0	78.1	83.2	83.4	75.1	78.9
Other	131.1	134.2	135.8	137.1	140.0	142.0	142.4	143.7	146.1
Intermediate materials, supplies, and components									
Total	114.4	114.7	116.2	118.5	124.9	125.7	125.6	123.0	123.2
Foods	115.3	113.9	115.6	118.5	119.5	125.3	123.2	123.2	120.9
Energy	85.1	84.3	84.6	83.0	84.1	89.8	89.0	80.8	84.6
Other	121.4	122.0	123.8	127.1	135.2	134.0	134.2	133.5	133.1
Crude materials for further processing									
Total	101.2	100.4	102.4	101.8	102.7	113.8	111.1	96.8	98.2
Foods	105.5	105.1	108.4	106.5	105.8	121.5	112.2	103.9	98.8
Energy	80.4	78.8	76.7	72.1	69.4	85.0	87.3	68.6	78.4
Other	97.5	94.2	94.1	97.0	105.8	105.7	103.5	84.5	91.1

34. U.S. export price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1998	1999										
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	**Food and live animals**	89.5	90.4	89.2	87.8	88.2	89.2	89.2	87.4	87.6	86.6	86.4	86.4	85.5
01	Meat and meat preparations	89.9	90.2	93.3	90.0	88.9	89.9	91.5	94.2	97.3	97.5	97.4	97.7	101.0
04	Cereals and cereal preparations	78.9	79.3	77.8	75.8	76.7	76.2	75.9	70.9	73.3	72.7	69.5	70.1	68.5
05	Vegetables, fruit, and nuts, prepared fresh or dry	99.7	103.2	97.9	94.9	94.8	97.6	98.5	99.8	97.8	94.3	96.6	94.3	90.2
2	**Crude materials, inedible, except fuels**	76.3	75.6	75.0	74.0	74.1	74.6	74.9	74.7	76.5	77.7	78.1	77.8	78.9
21	Hides, skins, and furskins, raw	85.7	82.7	81.4	81.5	78.9	79.0	79.0	80.3	83.4	86.5	88.6	87.8	91.6
22	Oilseeds and oleaginous fruits	95.6	91.4	84.9	78.3	80.4	79.5	79.2	72.8	80.1	85.0	82.3	78.2	79.6
24	Cork and wood	81.4	81.4	81.5	81.5	81.8	81.7	82.0	82.9	83.0	82.8	83.5	83.8	84.7
25	Pulp and waste paper	57.7	59.7	61.3	62.0	61.9	62.9	66.0	71.5	73.5	75.2	77.1	78.7	81.0
26	Textile fibers and their waste	70.6	70.4	70.8	69.7	69.8	70.1	68.6	65.2	65.1	64.4	64.5	63.4	62.5
27	Crude fertilizers and crude minerals	95.1	93.4	93.4	93.6	93.5	93.5	93.5	93.6	93.0	93.3	93.1	93.8	94.1
28	Metalliferous ores and metal scrap	67.9	67.7	68.8	69.8	68.6	70.6	70.7	72.3	73.0	73.5	75.1	77.0	78.1
3	**Mineral fuels, lubricants, and related products**	93.7	93.3	93.4	93.1	99.6	100.7	102.0	109.0	113.8	115.3	116.9	119.6	126.2
32	Coal, coke, and briquettes	99.4	99.3	99.3	99.3	98.3	98.4	98.3	98.2	98.3	97.6	97.6	97.6	97.6
33	Petroleum, petroleum products, and related materials	92.2	91.4	91.4	90.9	103.3	105.3	107.6	119.8	126.4	128.6	131.3	133.4	140.1
4	**Animal and vegetable oils, fats, and waxes**	99.7	98.0	90.6	82.6	82.8	81.9	76.6	76.8	77.1	78.8	81.9	79.0	78.0
5	**Chemicals and related products, n.e.s.**	91.0	90.6	90.6	90.5	90.4	90.7	91.2	91.6	91.8	92.3	93.2	93.3	93.3
54	Medicinal and pharmaceutical products	100.6	100.1	100.2	100.4	100.6	100.6	100.6	100.3	99.9	99.8	99.8	99.7	100.2
55	Essential oils; polishing and cleaning preparations	101.6	101.3	101.4	101.5	101.4	101.8	101.9	101.9	101.8	102.1	102.3	103.5	103.4
57	Plastics in primary forms (12/92 = 100)	85.6	84.6	84.4	84.4	85.5	86.6	88.4	89.7	90.6	92.1	94.9	95.6	95.6
58	Plastics in nonprimary forms (12/92 = 100)	95.4	95.9	95.4	96.4	96.1	96.3	97.2	97.4	97.4	97.6	97.9	97.8	98.0
59	Chemical materials and products, n.e.s.	101.2	100.4	100.8	100.4	99.9	99.5	99.6	99.4	99.3	99.2	98.9	98.8	98.9
6	**Manufactured goods classified chiefly by materials**	96.4	96.7	96.8	96.4	96.5	96.6	96.8	97.1	97.3	97.5	97.8	98.0	98.2
62	Rubber manufactures, n.e.s.	106.0	106.5	107.6	106.8	105.9	105.9	105.5	105.6	105.8	106.9	108.2	108.4	108.7
64	Paper, paperboard, and articles of paper, pulp, and paperboard	81.3	80.3	80.8	80.9	81.9	82.9	83.4	84.4	85.4	86.3	87.2	87.6	87.5
66	Nonmetallic mineral manufactures, n.e.s.	107.3	106.9	106.9	106.5	106.6	106.3	106.3	106.3	106.3	106.1	106.0	106.0	106.0
68	Nonferrous metals	83.9	84.5	85.4	84.0	84.3	84.7	85.0	85.3	87.0	88.0	90.2	90.7	92.0
7	**Machinery and transport equipment**	98.2	98.1	98.1	97.9	98.0	97.8	97.6	97.3	97.3	97.2	97.4	97.5	97.4
71	Power generating machinery and equipment	108.5	109.1	109.3	109.4	109.6	109.5	109.6	110.1	110.1	110.1	110.2	111.1	111.1
72	Machinery specialized for particular industries	105.2	105.7	105.6	105.7	105.9	105.9	106.1	105.8	105.8	105.9	106.0	106.1	106.0
74	General industrial machines and parts, n.e.s., and machine parts	106.5	107.0	107.4	107.2	107.3	107.2	107.3	107.5	107.5	107.6	107.7	107.7	107.6
75	Computer equipment and office machines	74.4	73.6	73.3	73.0	72.7	72.2	71.6	71.0	71.0	70.2	70.5	70.4	70.3
76	Telecommunications and sound recording and reproducing apparatus and equipment	97.6	97.6	97.4	97.5	97.3	97.1	96.9	97.0	96.9	96.9	96.6	96.6	96.6
77	Electrical machinery and equipment	90.6	89.9	89.9	89.3	89.6	89.0	88.6	87.7	87.5	87.6	87.4	87.3	87.0
78	Road vehicles	102.1	102.1	102.3	102.2	102.2	102.3	102.5	102.4	102.3	102.4	103.1	103.1	103.1
87	**Professional, scientific, and controlling instruments and apparatus**	104.1	104.8	104.8	105.0	105.2	105.4	105.2	105.4	105.4	105.4	105.5	105.6	105.4

35. U.S. import price indexes by Standard International Trade Classification

[1995 = 100, unless otherwise indicated]

SITC Rev. 3	Industry	1998	1999										
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	**Food and live animals**	95.2	96.3	93.2	93.2	94.5	94.9	93.3	92.6	92.0	91.5	90.6	91.9	94.6
01	Meat and meat preparations	91.8	91.9	92.2	94.0	94.5	93.7	94.5	94.3	96.7	99.4	98.4	97.7	98.4
03	Fish and crustaceans, mollusks, and other aquatic invertebrates	100.1	100.9	102.7	103.3	106.0	106.0	104.3	104.2	103.8	103.1	103.7	106.7	106.5
05	Vegetables, fruit, and nuts, prepared fresh or dry	110.6	112.8	102.1	101.7	104.9	108.1	103.2	103.5	102.6	101.6	96.5	96.9	104.6
07	Coffee, tea, cocoa, spices, and manufactures thereof	75.0	76.2	72.3	71.0	69.5	68.4	69.4	64.3	63.2	61.4	62.0	66.0	70.3
1	**Beverages and tobacco**	109.9	110.4	110.0	110.4	110.6	110.4	110.4	110.6	111.2	112.2	111.5	111.5	112.0
11	Beverages	106.6	106.7	106.7	106.9	107.2	107.2	107.2	107.6	107.7	109.1	108.5	108.5	108.7
2	**Crude materials, inedible, except fuels**	84.1	84.3	87.4	86.3	86.1	88.5	90.3	93.1	92.7	91.7	91.3	90.7	92.8
23	Crude rubber (including synthetic and reclaimed)	51.0	–	–	–	–	–	–	–	–	–	–	–	–
24	Cork and wood	106.9	108.6	113.7	113.2	113.6	118.3	122.3	131.9	128.9	121.7	116.7	114.9	118.7
25	Pulp and waste paper	57.8	57.2	57.9	57.6	57.3	58.1	60.6	61.4	61.1	66.0	66.6	69.4	70.8
28	Metalliferous ores and metal scrap	92.8	90.9	90.4	89.9	89.5	90.9	91.9	91.9	93.8	94.3	98.4	98.0	99.7
29	Crude animal and vegetable materials, n.e.s.	99.4	103.4	120.7	109.4	108.6	107.8	101.7	102.8	105.0	111.1	112.1	106.5	111.9
3	**Mineral fuels, lubricants, and related products**	64.6	67.5	66.6	73.2	86.3	93.1	92.7	105.3	117.1	126.5	127.9	132.7	139.3
33	Petroleum, petroleum products, and related materials	58.7	61.7	61.3	70.2	84.9	91.1	91.3	103.8	115.9	125.7	127.4	130.7	139.0
34	Gas, natural and manufactured	110.7	113.5	107.3	97.4	99.3	112.1	106.5	123.1	134.1	142.2	140.8	158.1	152.3
5	**Chemicals and related products, n.e.s.**	91.1	91.4	91.1	90.8	90.6	90.6	90.6	90.6	90.4	91.3	91.8	92.2	91.8
52	Inorganic chemicals	90.9	90.1	88.7	88.6	86.9	86.8	86.7	86.4	86.2	86.6	87.2	87.7	88.1
53	Dying, tanning, and coloring materials	96.5	94.7	94.0	94.3	92.6	91.7	91.9	90.6	90.5	90.2	90.6	91.4	89.7
54	Medicinal and pharmaceutical products	95.7	97.0	97.4	96.7	96.1	95.6	96.2	96.2	96.3	97.0	97.5	97.9	97.4
55	Essential oils; polishing and cleaning preparations	95.2	94.6	94.3	93.5	93.1	92.7	92.4	91.7	91.8	92.3	91.8	92.3	90.2
57	Plastics in primary forms (12/92 = 100)	91.3	91.8	92.2	92.0	92.5	93.4	93.6	93.7	93.1	93.8	93.8	93.9	94.0
58	Plastics in nonprimary forms (12/92 = 100)	73.7	73.5	73.0	73.1	73.5	74.0	75.6	75.8	76.1	77.9	78.9	79.4	80.2
59	Chemical materials and products, n.e.s.	99.4	98.8	98.1	97.9	98.5	98.0	97.4	98.0	98.1	98.1	98.6	98.4	98.8
6	**Manufactured goods classified chiefly by materials**	91.7	91.6	91.8	91.8	91.7	91.8	92.0	91.9	92.4	92.6	93.3	94.0	94.0
62	Rubber manufactures, n.e.s.	94.4	94.6	94.7	94.5	94.2	94.7	94.3	94.4	94.5	95.0	94.9	94.4	94.4
64	Paper, paperboard, and articles of paper, pulp, and paperboard	86.1	85.6	85.7	85.8	85.1	85.2	83.7	83.6	83.5	83.7	84.3	87.6	87.0
66	Nonmetallic mineral manufactures, n.e.s.	100.6	100.7	100.9	101.3	100.9	100.8	100.9	100.8	100.9	101.1	101.2	101.6	101.1
68	Nonferrous metals	83.0	82.9	84.4	85.9	85.7	85.8	87.7	87.6	89.9	91.1	94.8	95.4	95.5
69	Manufactures of metals, n.e.s.	96.6	97.1	96.8	95.9	95.9	96.4	96.1	95.8	95.6	95.8	95.6	95.9	95.7
7	**Machinery and transport equipment**	91.2	91.2	91.3	90.9	90.6	90.6	90.3	89.9	89.9	89.9	89.9	89.8	89.7
72	Machinery specialized for particular industries	98.4	98.5	98.8	98.3	98.1	97.8	97.6	97.3	97.2	97.6	97.8	98.2	97.8
74	General industrial machines and parts, n.e.s., and machine parts	98.4	98.6	99.1	98.4	97.9	97.7	97.6	97.3	97.3	97.4	97.2	97.2	96.8
75	Computer equipment and office machines	66.7	66.6	65.9	64.4	63.7	63.6	63.1	62.0	61.8	61.6	61.4	61.4	61.4
76	Telecommunications and sound recording and reproducing apparatus and equipment	88.3	88.3	88.5	88.4	87.9	87.8	87.6	87.3	87.0	87.1	86.0	85.9	85.8
77	Electrical machinery and equipment	84.1	83.7	84.1	83.8	83.5	83.3	82.7	81.9	82.1	82.5	82.6	82.2	82.2
78	Road vehicles	101.5	101.9	102.0	101.9	102.0	102.3	102.3	102.4	102.4	102.2	102.4	102.4	102.3
85	Footwear	100.9	101.3	101.4	101.1	101.2	100.5	100.7	100.7	100.6	100.8	100.8	100.8	100.7
88	Photographic apparatus, equipment, and supplies, and optical goods, n.e.s.	91.1	91.9	92.1	91.8	91.4	91.4	91.3	91.2	91.1	91.4	92.2	92.5	92.4

– Data not avaliable.

36. U.S. export price indexes by end-use category

[1995 = 100]

Category	1998	1999											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ALL COMMODITIES	94.8	94.8	94.6	94.2	94.4	94.5	94.5	94.4	94.7	94.8	95.1	95.2	95.3
Foods, feeds, and beverages	91.2	91.5	89.4	87.3	88.2	89.0	88.9	86.7	87.9	87.6	87.4	86.7	85.9
Agricultural foods, feeds, and beverages	91.0	91.1	88.7	85.9	86.4	86.8	86.8	85.0	86.9	86.7	86.4	85.6	84.7
Nonagricultural (fish, beverages) food products	94.9	97.5	98.7	103.5	108.5	114.2	113.1	106.8	99.5	98.2	99.7	100.5	100.7
Industrial supplies and materials	87.1	86.8	86.8	86.5	86.8	87.2	87.5	88.3	89.0	89.5	90.3	91.0	91.5
Agricultural industrial supplies and materials	82.7	82.4	81.9	79.9	79.6	79.5	78.4	76.2	76.3	76.6	77.5	76.6	76.7
Fuels and lubricants	92.8	92.8	92.7	92.4	97.8	98.4	99.8	106.1	110.5	111.8	113.5	115.2	120.0
Nonagricultural supplies and materials, excluding fuel and building materials	86.0	85.7	85.7	85.5	85.3	85.7	86.0	86.6	87.0	87.5	88.3	89.1	89.1
Selected building materials	86.1	86.3	86.8	87.3	87.5	87.5	87.8	88.0	88.4	87.4	87.8	87.7	88.5
Capital goods	97.1	97.1	97.1	96.9	97.0	96.7	96.5	96.2	96.2	96.1	96.2	96.3	96.2
Electric and electrical generating equipment	99.5	99.1	99.1	99.1	99.1	98.9	99.0	98.2	98.0	98.3	98.3	98.4	98.5
Nonelectrical machinery	93.7	93.6	93.6	93.4	93.5	93.2	92.9	92.6	92.6	92.4	92.4	92.5	92.3
Automotive vehicles, parts, and engines	102.8	102.9	103.1	103.0	102.9	103.0	103.2	103.2	103.2	103.3	104.0	104.0	104.0
Consumer goods, excluding automotive	101.8	101.9	101.9	101.8	101.8	101.8	102.0	101.9	102.0	101.9	102.2	102.3	102.4
Nondurables, manufactured	101.8	102.1	102.3	102.1	102.0	102.0	102.1	102.0	102.0	102.1	102.4	102.5	102.8
Durables, manufactured	100.7	100.6	100.3	100.3	100.4	100.3	100.5	100.6	100.8	100.7	100.8	100.9	100.8
Agricultural commodities	89.2	89.2	87.1	84.5	84.9	85.2	85.0	83.1	84.7	84.6	84.5	83.7	82.9
Nonagricultural commodities	95.4	95.4	95.5	95.3	95.5	95.5	95.6	95.7	95.8	95.9	96.3	96.6	96.7

37. U.S. import price indexes by end-use category

[1995 = 100]

Category	1998	1999											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
ALL COMMODITIES	90.4	90.8	90.7	90.9	91.9	92.5	92.4	93.3	94.3	95.2	95.4	96.0	96.7
Foods, feeds, and beverages	95.1	95.9	93.3	93.0	94.0	94.8	93.7	92.8	92.5	92.3	91.4	92.7	94.8
Agricultural foods, feeds, and beverages	92.3	93.3	89.2	88.7	89.1	90.3	89.3	88.0	87.7	87.6	86.1	87.0	89.9
Nonagricultural (fish, beverages) food products	102.1	102.6	103.8	104.4	106.5	106.5	105.2	105.4	105.0	104.9	105.2	107.6	107.4
Industrial supplies and materials	81.8	82.6	82.5	84.8	89.0	91.5	91.8	96.1	99.9	103.1	104.3	106.3	108.9
Fuels and lubricants	65.5	68.1	67.2	73.9	86.7	93.4	93.2	105.4	116.7	126.0	128.1	132.4	138.9
Petroleum and petroleum products	59.5	62.0	61.7	70.3	84.6	90.8	91.2	103.5	115.6	125.2	127.3	130.7	138.6
Paper and paper base stocks	78.8	78.3	78.6	78.4	77.5	77.7	77.0	77.0	76.9	78.4	79.1	82.7	82.6
Materials associated with nondurable supplies and materials	87.9	87.5	87.3	87.5	87.4	87.3	87.4	87.0	86.9	87.7	88.3	88.8	89.0
Selected building materials	102.8	104.2	107.6	107.9	108.3	110.5	114.2	120.6	118.9	113.4	110.1	108.4	111.2
Unfinished metals associated with durable goods	86.8	86.6	86.6	86.9	86.7	87.3	88.3	87.7	89.0	89.7	93.0	94.4	94.8
Nonmetals associated with durable goods	88.5	88.8	88.6	88.2	87.3	87.3	87.0	86.7	86.7	87.3	87.5	87.5	87.2
Capital goods	84.5	84.5	84.5	83.7	83.3	83.0	82.6	81.9	81.9	82.0	81.9	81.8	81.7
Electric and electrical generating equipment	93.7	93.5	93.6	92.8	92.5	92.3	91.5	91.1	91.2	91.6	91.7	91.8	91.9
Nonelectrical machinery	81.5	81.5	81.5	80.7	80.2	79.9	79.5	78.7	78.7	78.8	78.6	78.5	78.3
Automotive vehicles, parts, and engines	101.3	101.4	101.5	101.4	101.5	101.8	101.7	101.8	101.9	101.9	102.0	102.0	101.9
Consumer goods, excluding automotive	97.9	98.1	98.4	98.0	97.7	97.6	97.5	97.4	97.4	97.7	97.5	97.5	97.4
Nondurables, manufactured	100.8	101.0	101.1	101.0	100.8	100.5	100.4	100.2	100.3	100.8	100.5	100.6	100.4
Durables, manufactured	95.0	95.2	95.2	94.8	94.4	94.5	94.4	94.3	94.1	94.2	94.1	94.2	94.1
Nonmanufactured consumer goods	97.1	97.7	100.9	99.0	98.9	98.8	98.0	98.3	99.1	99.9	100.0	98.8	99.8

38. U.S. international price indexes for selected categories of services

[1990 = 100, unless otherwise indicated]

Category	1998				1999			
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Air freight (inbound) (9/90 = 100)	82.9	83.4	81.8	87.4	88.0	86.2	87.9	90.7
Air freight (outbound) (9/92 = 100)	97.2	96.0	95.8	95.2	92.7	92.8	92.7	89.5
Air passenger fares (U.S. carriers)	99.3	107.8	107.3	103.1	104.5	112.3	114.2	106.8
Air passenger fares (foreign carriers)	97.6	102.4	104.0	101.1	98.9	106.3	108.6	102.2
Ocean liner freight (inbound)	93.0	103.2	105.0	104.2	102.6	133.7	148.0	139.4

39. Indexes of productivity, hourly compensation, and unit costs, quarterly data seasonally adjusted

[1992 = 100]

Item	Quarterly indexes												
	1996		1997				1998				1999		
	III	IV	I	II	III	IV	I	II	III	IV	I	II	III
Business													
Output per hour of all persons	105.4	105.9	106.3	107.1	108.1	108.4	109.7	109.8	110.7	111.9	112.7	113.0	114.3
Compensation per hour	110.7	111.6	112.5	113.2	114.6	116.4	117.8	119.4	121.2	122.7	124.2	125.7	127.1
Real compensation per hour	99.8	99.8	100.1	100.4	101.2	102.4	103.4	104.4	105.6	106.5	107.4	107.8	108.3
Unit labor costs	105.0	105.3	105.9	105.7	106.0	107.4	107.5	108.8	109.5	109.6	110.2	111.3	111.3
Unit nonlabor payments	113.5	113.9	114.5	115.9	116.0	114.1	114.2	112.6	112.1	112.1	112.1	110.9	111.5
Implicit price deflator	108.2	108.5	109.1	109.5	109.7	109.9	110.0	110.2	110.4	110.5	110.9	111.2	111.4
Nonfarm business													
Output per hour of all persons	105.3	105.8	106.1	106.9	107.8	108.1	109.3	109.5	110.4	111.5	112.2	112.4	113.8
Compensation per hour	110.3	111.2	112.2	112.9	114.1	115.9	117.2	118.8	120.6	122.0	123.3	124.7	126.2
Real compensation per hour	99.4	99.5	99.8	100.1	100.8	101.9	102.9	103.9	105.1	105.9	106.6	106.9	107.5
Unit labor costs	104.7	105.0	105.7	105.6	105.8	107.2	107.3	108.5	109.3	109.4	109.8	111.0	110.9
Unit nonlabor payments	113.6	114.4	115.0	116.6	117.0	115.3	115.8	114.1	113.1	112.7	113.1	112.2	112.8
Implicit price deflator	107.9	108.4	109.1	109.6	109.9	110.1	110.4	110.5	110.7	110.6	111.0	111.4	111.6
Nonfinancial corporations													
Output per hour of all employees	108.6	109.6	110.1	110.7	112.4	113.2	114.2	115.3	117.0	117.9	119.1	120.0	121.4
Compensation per hour	109.5	110.3	111.2	112.0	113.3	115.1	116.4	118.0	119.8	121.3	122.7	124.2	125.6
Real compensation per hour	98.7	98.7	98.9	99.3	100.0	101.2	102.2	103.2	104.4	105.3	106.1	106.5	107.0
Total unit costs	100.6	100.4	100.7	100.8	100.3	100.8	100.8	101.2	101.2	101.8	101.7	102.1	102.3
Unit labor costs	100.8	100.6	101.0	101.1	100.7	101.6	101.9	102.3	102.4	102.9	103.0	103.4	103.4
Unit nonlabor costs	99.9	99.9	99.8	99.9	99.2	98.6	98.0	98.2	98.0	99.2	98.4	98.8	99.5
Unit profits	151.4	153.9	155.6	156.2	161.1	155.3	153.7	150.1	152.6	145.3	149.5	148.5	145.4
Unit nonlabor payments	112.4	113.0	113.4	113.6	114.3	112.4	111.5	110.8	111.3	110.4	110.8	110.9	110.7
Implicit price deflator	104.8	104.8	105.3	105.4	105.4	105.3	105.2	105.2	105.5	105.5	105.7	106.0	105.9
Manufacturing													
Output per hour of all persons	114.7	115.7	116.9	118.4	120.9	122.0	122.7	123.9	126.3	128.2	130.4	132.2	133.5
Compensation per hour	109.6	110.3	111.8	112.6	113.6	115.5	117.0	118.6	120.6	121.4	122.8	124.5	126.4
Real compensation per hour	98.8	98.7	99.5	99.9	100.3	101.5	102.7	103.7	105.1	105.4	106.2	106.8	107.7
Unit labor costs	95.6	95.4	95.7	95.1	94.0	94.6	95.3	95.7	95.5	94.7	94.1	94.2	94.7

– Data not available.

40. Annual indexes of multifactor productivity and related measures, selected years

[1992 = 100]

Item	1960	1970	1980	1989	1990	1991	1993	1994	1995	1996	1997
Private business											
Productivity:											
Output per hour of all persons	50.8	70.1	83.8	95.5	96.1	96.7	100.1	100.6	101.0	103.7	105.2
Output per unit of capital services	117.3	117.1	107.3	103.8	102.1	98.6	100.7	102.3	101.9	102.3	102.6
Multifactor productivity	70.7	86.5	95.3	100.0	99.6	98.1	100.1	100.6	100.7	102.4	103.1
Output	34.0	51.6	72.6	97.8	98.6	96.9	102.7	107.0	110.0	114.7	120.1
Inputs:											
Labor input	60.6	68.3	80.5	99.6	100.2	99.0	102.9	107.1	109.8	112.0	116.2
Capital services	29.0	44.1	67.7	94.2	96.5	98.3	102.0	104.6	108.0	112.2	117.1
Combined units of labor and capital input	48.1	59.7	76.2	97.8	99.0	98.7	102.6	106.3	109.3	112.1	116.5
Capital per hour of all persons	43.3	59.9	78.1	92.0	94.1	98.1	99.4	98.3	99.2	101.4	102.6
Private nonfarm business											
Productivity:											
Output per hour of all persons	54.3	72.2	85.6	95.9	96.3	96.9	100.1	100.6	101.2	103.7	104.9
Output per unit of capital services	126.1	124.1	111.4	104.6	102.6	98.8	100.8	102.1	101.8	102.1	102.1
Multifactor productivity	74.9	89.4	97.6	100.5	99.8	98.4	100.1	100.5	100.8	102.3	102.7
Output	33.7	51.8	73.1	98.1	98.8	97.0	103.0	107.1	110.4	115.0	120.2
Inputs:											
Labor input	56.4	66.6	79.3	99.5	100.2	98.8	103.1	107.2	109.9	112.3	116.6
Capital services	26.7	41.8	65.6	93.9	96.3	98.2	102.2	104.8	108.4	112.6	117.7
Combined units of labor and capital input	45.0	58.0	74.9	97.7	99.0	98.6	102.9	106.5	109.5	112.4	117.0
Capital per hour of all persons	43.0	58.2	76.8	91.7	93.8	98.1	99.3	98.5	99.4	101.6	102.8
Manufacturing											
Productivity:											
Output per hour of all persons	42.1	54.5	70.4	90.7	93.0	95.1	102.2	105.3	109.4	113.8	–
Output per unit of capital services	125.6	116.3	101.5	103.5	101.3	97.3	101.8	105.2	106.8	107.0	–
Multifactor productivity	72.9	84.2	87.3	100.4	99.8	98.6	101.2	104.4	108.4	110.7	–
Output	38.7	56.8	75.7	97.1	97.5	95.5	103.6	109.1	113.8	118.0	–
Inputs:											
Hours of all persons	92.0	104.2	107.5	107.1	104.8	100.4	101.4	103.6	104.0	103.7	–
Capital services	30.9	48.8	74.6	93.8	96.3	98.2	101.7	103.6	106.6	110.3	–
Energy	51.5	85.4	92.5	96.8	99.9	100.1	103.7	107.3	109.5	107.0	–
Nonenergy materials	39.1	46.0	74.5	88.3	91.3	93.1	103.0	104.4	101.4	105.4	–
Purchased business services	27.3	47.4	71.9	88.9	91.8	91.9	104.3	107.8	111.0	111.6	–
Combined units of all factor inputs	53.1	67.4	86.7	96.7	97.7	96.9	102.3	104.5	105.0	106.6	–

– Data not available.

41. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years

[1992 = 100]

Item	1960	1970	1980	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998
Business													
Output per hour of all persons	48.0	66.2	79.8	92.4	93.3	94.5	95.9	100.1	101.4	102.2	105.2	107.5	110.5
Compensation per hour	13.6	23.5	54.3	83.4	85.7	90.6	94.9	102.4	104.5	106.7	110.1	114.2	120.3
Real compensation per hour	59.9	79.0	89.7	97.3	95.8	96.4	97.4	99.9	99.7	99.1	99.6	101.1	105.1
Unit labor costs	28.4	35.6	68.1	90.3	91.9	95.9	99.0	102.3	103.0	104.4	104.7	106.2	108.8
Unit nonlabor payments	25.5	32.0	62.1	86.2	92.5	94.6	97.4	102.9	106.9	109.8	113.5	115.1	112.7
Implicit price deflator	27.3	34.3	65.9	88.8	92.1	95.4	98.4	102.5	104.4	106.4	107.9	109.5	110.3
Nonfarm business													
Output per hour of all persons	51.2	68.0	81.3	92.9	93.5	94.6	96.1	100.1	101.4	102.4	105.2	107.2	110.2
Compensation per hour	14.3	23.7	54.7	83.6	85.8	90.5	94.9	102.1	104.3	106.5	109.8	113.8	119.7
Real compensation per hour	62.8	79.7	90.3	97.4	95.8	96.3	97.4	99.6	99.5	98.9	99.3	100.7	104.5
Unit labor costs	27.9	34.9	67.2	89.9	91.7	95.7	98.8	102.1	102.9	104.0	104.4	106.1	108.6
Unit nonlabor payments	24.9	31.7	61.1	85.9	91.9	94.2	97.5	103.4	107.4	110.8	113.8	115.9	113.9
Implicit price deflator	26.8	33.7	65.0	88.5	91.8	95.1	98.3	102.6	104.5	106.5	107.8	109.7	110.5
Nonfinancial corporations													
Output per hour of all employees	52.6	66.3	76.9	94.7	93.8	94.9	96.9	101.5	104.3	105.6	108.4	111.7	116.2
Compensation per hour	15.6	25.3	56.6	84.8	87.0	91.4	95.5	102.1	104.3	106.2	109.0	113.0	119.0
Real compensation per hour	68.6	85.1	93.6	98.9	97.2	97.2	98.0	99.5	99.5	98.6	98.6	100.0	103.9
Total unit costs	28.9	37.4	72.5	89.5	93.6	97.1	99.8	100.3	100.0	100.6	100.4	100.6	101.3
Unit labor costs	29.7	38.2	73.7	89.6	92.7	96.4	98.6	100.6	100.0	100.5	100.5	101.1	102.4
Unit nonlabor costs	26.8	35.4	69.4	89.1	95.9	99.0	102.9	99.6	100.2	100.9	100.1	99.4	98.4
Unit profits	53.2	47.1	72.6	110.3	99.0	95.5	94.0	112.5	130.5	137.5	151.5	157.1	150.4
Unit nonlabor payments	33.2	38.3	70.2	94.2	96.6	98.1	100.7	102.7	107.6	109.8	112.6	113.4	111.0
Implicit price deflator	30.9	38.2	72.5	91.2	94.1	97.0	99.3	101.3	102.6	103.7	104.7	105.3	105.3
Manufacturing													
Output per hour of all persons	42.1	54.4	70.4	90.5	90.7	93.0	95.1	102.2	105.3	109.4	113.8	119.6	125.3
Compensation per hour	14.9	23.7	55.6	84.0	86.6	90.8	95.6	102.7	105.6	107.9	109.3	113.4	119.4
Real compensation per hour	65.4	79.7	91.8	97.9	96.8	96.6	98.0	100.2	100.8	100.2	98.9	100.4	104.3
Unit labor costs	35.3	43.6	78.9	92.8	95.5	97.6	100.4	100.5	100.3	98.6	96.0	94.8	95.3
Unit nonlabor payments	26.7	29.4	79.9	90.4	95.2	99.6	98.9	101.1	102.9	107.2	110.2	–	–
Implicit price deflator	30.1	34.9	79.5	91.4	95.3	98.8	99.5	100.9	101.9	103.9	104.7	–	–

– Data not available.

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	1997
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	–
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	–
Transportation											
U.S. postal service[1]	431	99.9	99.7	104.0	103.7	104.5	107.1	106.6	106.5	104.7	108.3
Air transportation [2]	4512,13,22 (pts.)	99.5	95.8	92.9	92.5	96.9	100.2	105.7	108.6	111.1	112.1
Communications and utilities											
Telephone communications	481	106.2	111.6	113.3	119.8	127.7	135.5	142.2	148.1	159.4	160.2
Radio and television broadcasting	483	103.1	106.2	104.9	106.1	108.3	106.7	110.1	109.6	105.9	101.3
Cable and other pay TV services	484	102.0	99.7	92.5	87.5	88.3	85.1	83.3	84.3	81.6	84.1
Electric utilities	491,3 (pt.)	104.9	107.7	110.1	113.4	115.2	120.6	126.8	135.0	146.5	150.5
Gas utilities	492,3 (pt.)	105.5	103.5	94.8	94.0	95.3	107.0	102.2	107.5	116.0	119.9

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	1997
Wholesale and retail trade											
Lumber and other building materials dealers	521	101.0	99.1	103.6	101.3	105.4	110.3	117.9	117.0	121.5	124.0
Paint, glass, and wallpaper stores	523	102.8	101.7	106.0	99.4	106.5	112.1	124.6	126.8	132.1	132.3
Hardware stores	525	108.6	115.2	110.5	102.5	107.2	106.5	114.2	110.7	115.2	115.8
Retail nurseries, lawn and garden supply stores	526	106.7	103.4	83.9	88.5	100.4	106.6	116.6	117.1	136.6	119.3
Department stores	531	99.2	97.0	94.2	98.2	100.9	108.1	111.2	113.4	121.0	125.7
Variety stores	533	101.9	124.4	151.2	154.2	167.7	185.5	191.8	205.8	232.6	246.1
Miscellaneous general merchandise stores	539	100.8	109.8	116.4	121.8	136.1	159.7	160.9	164.0	165.1	165.7
Grocery stores	541	98.9	95.4	94.6	93.7	93.3	93.0	92.9	91.9	90.2	89.1
Meat and fish (seafood) markets	542	99.0	97.6	96.8	88.4	95.8	95.8	95.3	95.5	88.8	90.8
Retail bakeries	546	89.8	83.3	89.7	94.7	94.0	88.0	90.1	91.2	87.3	97.6
New and used car dealers	551	103.4	102.5	106.1	104.1	106.5	107.6	108.7	107.1	108.2	107.3
Auto and home supply stores	553	103.2	101.6	102.7	99.0	100.0	100.9	107.0	112.6	113.9	109.7
Gasoline service stations	554	103.0	105.2	102.6	104.3	109.7	113.3	116.5	120.4	117.2	116.5
Men's and boys' wear stores	561	106.0	109.6	113.7	119.2	118.2	115.6	118.1	117.9	126.3	139.1
Women's clothing stores	562	97.8	99.5	101.5	103.0	112.2	116.8	115.8	122.8	133.6	134.1
Family clothing stores	565	102.0	104.9	104.5	106.4	111.7	114.9	121.2	135.2	140.5	143.2
Shoe stores	566	102.7	107.2	106.1	105.1	111.5	112.4	124.4	131.5	142.6	143.5
Miscellaneous apparel and accessory stores	569	96.3	95.2	88.6	78.8	89.1	95.2	105.4	131.2	139.9	128.0
Furniture and homefurnishings stores	571	98.6	100.9	101.8	101.5	108.4	108.5	110.5	114.7	122.5	125.7
Household appliance stores	572	98.5	103.5	102.8	105.2	113.9	115.0	116.8	131.6	132.0	149.4
Radio, television, computer, and music stores	573	118.6	114.6	119.6	128.3	137.8	153.4	178.8	200.0	209.3	220.4
Eating and drinking places	581	102.8	102.2	104.0	103.1	102.5	101.7	98.9	97.6	95.2	93.7
Drug and proprietary stores	591	101.9	102.5	103.6	104.7	103.6	104.8	104.5	105.2	107.5	113.8
Liquor stores	592	98.2	101.1	105.2	105.9	108.4	100.1	98.1	102.0	110.3	107.8
Used merchandise stores	593	105.3	104.9	100.3	98.6	110.4	110.4	111.6	111.6	121.6	122.1
Miscellaneous shopping goods stores	594	100.7	104.2	104.2	105.0	102.7	106.2	111.5	117.2	119.5	124.5
Nonstore retailers	596	105.6	110.8	108.8	109.3	122.1	121.8	130.6	125.7	138.3	148.0
Fuel dealers	598	95.6	92.0	84.4	85.3	84.4	92.2	99.7	112.3	113.3	106.5
Retail stores, n.e.c.	599	105.9	103.1	113.7	103.2	111.6	115.5	121.3	120.5	130.6	137.8
Finance and services											
Commercial banks	602	102.8	104.8	107.7	110.1	111.0	118.9	122.3	127.6	130.9	134.1
Hotels and motels	701	97.6	95.0	96.1	99.1	107.8	106.2	109.6	110.1	109.7	107.9
Laundry, cleaning, and garment services	721	97.2	99.7	101.8	99.2	98.3	98.9	104.0	105.5	108.7	108.1
Photographic studios, portrait	722	100.1	94.9	96.6	92.8	97.7	105.9	117.4	129.3	126.4	135.4
Beauty shops	723	95.1	99.6	96.8	94.8	99.6	95.7	99.8	103.5	106.3	108.9
Barber shops	724	108.8	111.6	100.2	94.1	112.1	120.8	117.7	114.6	127.6	153.4
Funeral services and crematories	726	102.5	97.9	90.9	89.5	103.2	98.2	103.8	99.7	97.1	101.3
Automotive repair shops	753	105.7	108.1	106.9	98.7	103.3	104.0	112.3	119.5	114.1	115.8
Motion picture theaters	783	107.1	114.3	115.8	116.0	110.8	109.8	106.5	101.4	100.4	100.8

[1] Refers to output per full-time equivalent employee year on fiscal basis.

[2] Refers to output per employee.

n.e.c. = not elsewhere classified.

NOTE: Dash indicates data not available.

43. Unemployment rates, approximating U.S. concepts, in nine countries, quarterly data seasonally adjusted

Country	Annual average		1997	1998				1999		
	1997	1998	IV	I	II	III	IV	I	II	III
United States	4.9	4.5	4.7	4.7	4.4	4.5	4.4	4.3	4.3	4.2
Canada	9.2	8.3	8.9	8.6	8.4	8.3	8.0	7.8	8.0	7.6
Australia	8.6	8.0	8.3	8.1	8.0	8.1	7.7	7.4	7.4	7.2
Japan	3.4	4.1	3.5	3.7	4.2	4.3	4.4	4.7	4.8	4.8
France	12.4	11.7	12.3	12.0	11.7	11.7	11.5	11.3	11.2	11.1
Germany	9.9	9.4	10.0	9.9	9.5	9.1	9.1	9.0	9.0	9.1
Italy[1]	12.3	12.3	12.3	12.2	12.3	12.4	12.4	12.3	12.1	–
Sweden	10.1	8.4	9.1	8.8	8.6	8.5	7.7	7.4	7.0	7.1
United Kingdom	7.0	6.3	6.6	6.4	6.3	6.3	6.3	6.3	6.1	–

[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 Civilian Labor Force Statistics, Ten Countries, 1959–1998* (Bureau of Labor Statistics, Oct. 22, 1999).

44. Annual data: Employment status of the working-age population, approximating U.S. concepts, 10 countries

[Numbers in thousands]

Employment status and country	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Civilian labor force										
United States[1]	123,869	125,840	126,346	128,105	129,200	131,056	132,304	133,943	136,297	137,673
Canada	14,151	14,329	14,408	14,482	14,663	14,832	14,928	15,145	15,354	15,632
Australia	8,228	8,444	8,490	8,562	8,619	8,776	9,001	9,127	9,221	9,347
Japan	61,920	63,050	64,280	65,040	65,470	65,780	65,990	66,450	67,200	67,240
France	24,170	24,300	24,490	24,550	24,650	24,760	24,820	25,080	25,140	25,390
Germany[2]	28,840	29,410	39,120	39,040	39,130	39,210	39,050	39,180	39,450	39,430
Italy	22,530	22,670	22,940	22,910	22,760	22,640	22,700	22,820	22,850	23,000
Netherlands	6,430	6,640	6,750	6,950	7,090	7,190	7,270	7,370	7,530	7,720
Sweden	4,552	4,597	4,591	4,520	4,443	4,418	4,460	4,459	4,418	4,402
United Kingdom	28,580	28,730	28,610	28,410	28,310	28,280	28,480	28,620	28,760	28,870
Participation rate[3]										
United States[1]	66.5	66.5	66.2	66.4	66.3	66.6	66.6	66.8	67.1	67.1
Canada	67.5	67.3	66.7	65.9	65.5	65.3	64.8	64.9	64.8	65.1
Australia	64.0	64.6	64.1	63.9	63.6	63.9	64.6	64.6	64.3	64.4
Japan	62.2	62.6	63.2	63.4	63.3	63.1	62.9	63.0	63.2	62.8
France	56.1	56.0	56.0	55.8	55.6	55.5	55.2	55.4	55.2	55.6
Germany[2]	55.2	55.3	58.9	58.3	58.0	57.6	57.2	57.4	57.6	57.6
Italy	47.3	47.2	47.7	47.5	48.1	47.5	47.5	47.7	47.7	47.8
Netherlands	54.7	56.1	56.5	57.8	58.5	59.0	59.3	59.8	60.7	62.0
Sweden	67.3	67.4	67.0	65.7	64.5	63.7	64.1	64.0	63.4	63.1
United Kingdom	64.0	64.1	63.7	63.1	62.8	62.5	62.7	62.7	62.8	62.7
Employed										
United States[1]	117,342	118,793	117,718	118,492	120,259	123,060	124,900	126,708	129,558	131,463
Canada	13,086	13,165	12,916	12,842	13,015	13,292	13,506	13,676	13,941	14,326
Australia	7,720	7,859	7,676	7,637	7,680	7,921	8,235	8,344	8,429	8,597
Japan	60,500	61,710	62,920	63,620	63,810	63,860	63,890	64,200	64,900	64,450
France	21,850	22,100	22,140	21,990	21,740	21,710	21,890	21,950	22,010	22,410
Germany[2]	27,200	27,950	36,910	36,420	36,020	35,900	35,850	35,680	35,540	35,720
Italy	20,770	21,080	21,360	21,230	20,430	20,080	19,980	20,060	20,050	20,170
Netherlands	5,980	6,230	6,350	6,560	6,620	6,670	6,760	6,900	7,130	7,410
Sweden	4,480	4,513	4,447	4,265	4,028	3,992	4,056	4,019	3,973	4,034
United Kingdom	26,510	26,740	26,090	25,530	25,340	25,550	26,000	26,280	26,740	27,050
Employment-population ratio[4]										
United States[1]	63.0	62.8	61.7	61.5	61.7	62.5	62.9	63.2	63.8	64.1
Canada	62.4	61.9	59.8	58.4	58.2	58.5	58.6	58.6	58.9	59.7
Australia	60.1	60.1	57.9	57.0	56.6	57.7	59.1	59.1	58.8	59.2
Japan	60.8	61.3	61.8	62.0	61.7	61.3	60.9	60.9	61.0	60.2
France	50.7	50.9	50.6	49.9	49.0	48.7	48.7	48.5	48.3	49.1
Germany[2]	52.0	52.6	55.5	54.4	53.4	52.8	52.5	52.2	51.9	52.2
Italy	43.6	43.9	44.5	44.0	43.1	42.1	41.8	41.9	41.8	41.9
Netherlands	50.9	52.6	53.2	54.5	54.7	54.7	55.1	55.9	57.5	59.5
Sweden	66.2	66.1	64.9	62.0	58.5	57.6	58.3	57.6	57.0	57.8
United Kingdom	59.3	59.6	58.0	56.7	56.2	56.5	57.2	57.6	58.3	58.8
Unemployed										
United States[1]	6,528	7,047	8,628	9,613	8,940	7,996	7,404	7,236	6,739	6,210
Canada	1,065	1,164	1,492	1,640	1,649	1,541	1,422	1,469	1,414	1,305
Australia	508	585	814	925	939	856	766	783	791	750
Japan	1,420	1,340	1,360	1,420	1,660	1,920	2,100	2,250	2,300	2,790
France	2,320	2,210	2,350	2,560	2,910	3,050	2,920	3,130	3,120	2,980
Germany[2]	1,640	1,460	2,210	2,620	3,110	3,320	3,200	3,500	3,910	3,710
Italy	1,760	1,590	1,580	1,680	2,330	2,560	2,720	2,760	2,800	2,840
Netherlands	450	410	400	390	470	520	510	470	400	310
Sweden	72	84	144	255	415	426	404	440	445	368
United Kingdom	2,070	1,990	2,520	2,880	2,970	2,730	2,480	2,340	2,020	1,820
Unemployment rate										
United States[1]	5.3	5.6	6.8	7.5	6.9	6.1	5.6	5.4	4.9	4.5
Canada	7.5	8.1	10.4	11.3	11.2	10.4	9.5	9.7	9.2	8.3
Australia	6.2	6.9	9.6	10.8	10.9	9.7	8.5	8.6	8.6	8.0
Japan	2.3	2.1	2.1	2.2	2.5	2.9	3.2	3.4	3.4	4.1
France	9.6	9.1	9.6	10.4	11.8	12.3	11.8	12.5	12.4	11.7
Germany[2]	5.7	5.0	5.6	6.7	7.9	8.5	8.2	8.9	9.9	9.4
Italy	7.8	7.0	6.9	7.3	10.2	11.3	12.0	12.1	12.3	12.3
Netherlands	7.0	6.2	5.9	5.6	6.6	7.2	7.0	6.4	5.3	4.0
Sweden	1.6	1.8	3.1	5.6	9.3	9.6	9.1	9.9	10.1	8.4
United Kingdom	7.2	6.9	8.8	10.1	10.5	9.7	8.7	8.2	7.0	6.3

[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] Data from 1991 onward refer to unified Germany. See *Comparative Civilian Labor Force Statistics, Ten Countries, 1959–1998*, October 22, 1999, on the Internet at **http://stats.bls.gov/flsdata.htm**.

[3] Labor force as a percent of the working-age population.

[4] 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, Germany, 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	1980	1987	1988	1989	1990	1991	1993	1994	1995	1996	1997	1998
Output per hour														
United States	–	–	71.9	94.4	98.0	97.1	97.8	98.3	102.1	108.3	114.9	117.3	122.1	127.0
Canada	40.7	59.2	75.3	91.3	91.1	92.4	95.3	95.1	102.5	106.2	108.9	107.3	110.0	111.7
Japan	14.0	38.0	63.9	81.2	84.8	89.5	95.4	99.4	100.5	101.8	109.3	115.8	120.2	120.5
Belgium	18.0	32.9	65.4	88.9	92.0	96.9	96.8	99.1	102.5	108.4	113.2	114.7	121.7	122.4
Denmark	29.9	52.7	90.3	90.6	94.1	99.6	99.1	99.6	104.5	–	–	–	–	–
France	21.8	43.1	66.7	81.8	87.4	91.9	93.5	96.9	100.6	108.5	114.5	115.0	123.3	127.5
Germany	29.2	52.0	77.2	88.1	91.5	94.6	99.0	101.9	100.6	107.9	111.2	115.1	121.8	127.1
Italy	19.6	36.8	64.1	85.1	86.7	89.4	92.5	95.2	102.9	105.6	109.3	110.3	113.4	113.6
Netherlands	19.3	38.1	69.2	91.7	93.8	97.1	98.6	99.6	101.9	114.2	119.9	124.4	130.7	132.8
Norway	36.7	57.8	76.7	93.3	92.1	94.6	96.6	97.5	100.6	101.4	102.0	102.0	101.9	104.1
Sweden	27.6	52.8	74.0	90.1	90.8	93.8	95.0	95.0	106.7	116.1	122.4	125.4	133.6	136.5
United Kingdom	31.2	44.7	56.2	79.5	82.4	86.2	88.4	92.2	104.1	106.8	104.7	103.3	103.8	104.8
Output														
United States	–	–	77.3	97.9	104.5	104.0	102.5	98.7	103.5	112.2	119.6	121.6	128.8	134.2
Canada	34.2	60.5	85.4	103.2	109.3	110.8	106.6	98.8	105.1	113.2	118.8	120.2	128.0	133.0
Japan	10.7	38.8	59.9	78.4	84.6	90.2	96.3	101.4	96.0	95.4	100.6	106.7	110.0	103.9
Belgium	30.7	57.6	78.2	88.8	93.3	99.1	101.0	100.7	97.0	101.4	104.2	104.2	109.0	111.8
Denmark	40.8	68.0	91.3	99.3	100.8	104.3	102.7	101.7	99.0	109.3	115.1	119.0	121.7	127.3
France	31.0	64.1	88.7	87.2	92.2	97.2	99.1	99.8	95.7	100.3	104.9	104.6	110.3	114.6
Germany	41.5	70.9	85.3	88.0	90.9	94.0	99.1	102.8	91.8	93.5	93.7	92.5	95.8	100.7
Italy	21.4	44.7	78.4	88.2	94.5	98.1	99.6	99.2	96.4	102.2	107.2	106.7	110.4	112.5
Netherlands	31.7	59.5	77.4	89.5	92.8	96.9	100.1	100.6	98.2	104.2	107.8	110.6	116.1	118.8
Norway	56.5	89.1	103.6	110.7	105.3	101.3	100.2	98.3	102.7	106.7	109.0	110.1	113.3	116.4
Sweden	46.5	81.7	91.8	107.7	110.2	111.6	110.6	103.6	101.3	115.7	130.1	132.9	140.3	146.4
United Kingdom	67.8	90.4	87.2	94.5	101.5	105.5	105.4	100.1	101.5	106.2	107.8	108.3	109.3	109.7
Total hours														
United States	92.1	104.4	107.5	103.8	106.6	107.1	104.8	100.4	101.4	103.6	104.0	103.7	105.5	105.6
Canada	84.1	102.1	113.5	113.0	120.0	119.9	111.9	103.8	102.6	106.6	109.1	112.0	115.4	119.0
Japan	76.3	102.3	93.8	96.6	99.8	100.8	100.9	102.0	95.6	93.7	92.0	92.2	91.5	86.2
Belgium	170.7	174.7	119.7	100.0	101.5	102.3	104.3	101.5	94.7	93.6	92.0	90.8	89.5	91.3
Denmark	136.5	129.0	101.1	109.6	107.2	104.7	103.7	102.1	94.8	–	–	–	–	–
France	142.1	148.7	133.1	106.6	105.5	105.8	105.9	103.0	95.1	92.4	91.6	91.0	89.5	89.9
Germany	142.3	136.3	110.5	99.9	99.3	99.3	100.1	100.9	91.3	86.7	84.3	80.4	78.6	79.3
Italy	109.0	121.2	122.4	103.6	108.9	109.7	107.7	104.2	93.6	96.7	98.0	96.7	97.4	99.0
Netherlands	164.7	156.4	111.9	97.6	98.9	99.7	101.6	101.0	96.4	91.3	90.0	88.9	88.8	89.5
Norway	154.0	154.3	135.0	118.6	114.3	107.1	103.7	100.8	102.1	105.2	106.9	107.9	111.1	111.9
Sweden	168.3	154.7	124.0	119.5	121.4	119.0	116.4	109.0	94.9	99.6	106.3	106.0	105.0	107.3
United Kingdom	217.4	202.1	155.3	118.9	123.2	122.3	119.2	108.5	97.5	99.4	103.0	104.8	105.4	104.7
Compensation per hour														
United States	14.9	23.8	55.8	80.9	84.2	86.9	91.0	95.8	102.9	105.8	108.3	110.7	115.1	120.0
Canada	10.4	17.8	47.7	75.3	77.8	82.5	89.5	94.7	99.6	100.4	103.6	102.8	106.7	110.8
Japan	4.3	16.5	58.6	77.9	79.2	84.2	90.7	95.9	104.6	106.7	109.5	110.9	114.1	115.0
Belgium	5.4	13.7	52.5	79.7	81.1	85.9	90.1	97.3	104.8	106.1	109.2	112.0	115.1	115.9
Denmark	4.6	13.3	49.6	80.1	82.9	87.7	92.7	95.9	104.6	–	–	–	–	–
France	4.3	10.3	40.8	78.6	81.6	86.0	90.6	96.2	102.8	105.0	107.7	109.4	112.4	114.0
Germany	8.1	20.7	53.6	76.0	79.1	83.2	89.4	95.1	105.9	111.7	117.7	123.7	126.6	127.6
Italy	1.6	4.7	28.2	66.7	69.3	75.9	84.4	96.3	107.5	107.8	112.8	120.9	125.9	124.8
Netherlands	6.4	20.2	64.4	87.8	87.7	88.5	90.8	95.2	103.7	108.2	110.6	113.9	117.5	117.8
Norway	4.7	11.8	39.0	78.5	83.3	87.2	92.3	97.5	101.5	104.4	109.2	113.6	119.1	126.4
Sweden	4.1	10.8	37.4	67.3	71.7	79.4	87.6	95.4	98.0	101.1	106.2	113.4	118.3	121.5
United Kingdom	3.1	6.3	33.2	64.8	67.7	72.9	80.9	90.5	104.3	106.5	107.4	108.2	112.8	119.2
Unit labor costs: National currency basis														
United States	–	–	77.6	85.7	85.9	89.5	93.1	97.5	100.8	97.7	94.3	94.3	94.3	94.5
Canada	25.5	30.0	63.3	82.5	85.5	89.2	93.9	99.6	97.2	94.5	95.2	95.8	96.2	99.2
Japan	30.9	43.3	91.7	96.0	93.4	94.0	95.0	96.5	104.1	104.9	100.1	95.8	95.0	95.4
Belgium	30.1	41.7	80.3	89.7	88.1	88.7	93.0	98.1	102.3	97.9	96.4	97.6	94.6	94.7
Denmark	15.4	25.2	55.0	88.4	88.2	88.1	93.6	96.3	100.1	93.0	93.4	92.3	95.3	94.9
France	19.5	24.0	61.2	96.2	93.4	93.6	96.8	99.3	102.2	96.8	94.0	95.1	91.1	89.4
Germany	27.8	39.8	69.4	86.3	86.5	87.9	90.3	93.3	105.3	103.6	105.9	107.5	103.9	100.4
Italy	8.0	12.7	44.0	78.3	79.9	84.9	91.3	98.4	104.4	102.1	103.2	109.6	111.1	109.8
Netherlands	33.2	53.0	93.1	95.8	93.5	91.1	92.1	95.6	101.8	94.8	92.3	91.5	89.9	88.7
Norway	12.9	20.4	50.8	84.1	90.4	92.2	95.6	100.0	100.9	102.9	107.1	111.4	116.9	121.4
Sweden	14.9	20.5	50.6	74.7	79.0	84.7	92.3	100.4	91.8	87.0	86.8	90.4	88.5	89.0
United Kingdom	10.5	14.1	59.1	81.5	82.2	84.6	91.6	98.1	100.2	99.7	102.5	104.7	108.7	113.8
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	94.3	94.3	94.3	94.5
Canada	31.9	34.7	65.4	75.2	83.9	91.0	97.2	105.0	91.1	83.6	83.8	84.9	83.9	80.8
Japan	10.9	15.3	51.3	84.2	92.4	86.3	83.1	90.9	118.8	130.1	135.1	111.7	99.5	92.3
Belgium	19.4	27.0	88.3	77.2	77.0	72.3	89.5	92.3	95.1	94.2	105.2	101.4	84.9	83.8
Denmark	13.5	20.3	58.9	77.9	79.0	72.6	91.3	90.8	93.2	88.3	100.7	96.1	87.0	85.5
France	21.1	23.0	76.7	84.7	82.9	77.7	94.1	93.1	95.5	92.4	99.8	98.4	82.6	80.2
Germany	10.4	17.1	59.6	74.9	76.9	73.0	87.3	87.8	99.4	99.8	115.5	111.6	93.5	89.1
Italy	16.0	24.9	63.3	74.4	75.6	76.2	93.8	97.6	81.8	78.1	78.0	87.5	80.3	77.9
Netherlands	15.5	25.8	82.4	83.1	83.1	75.5	88.9	89.8	96.3	91.6	101.2	95.4	81.0	78.6
Norway	11.3	17.8	63.9	77.5	86.1	82.9	95.0	95.7	88.3	90.7	105.0	107.1	102.5	99.9
Sweden	16.8	23.0	69.6	68.5	75.0	76.4	90.8	96.6	68.6	65.7	70.8	78.5	67.5	65.2
United Kingdom	15.6	19.2	77.8	75.7	82.9	78.5	92.5	98.2	85.2	86.4	91.6	92.5	100.8	106.8

– 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]											
	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]
PRIVATE SECTOR[5]												
Total cases	7.9	8.3	8.6	8.6	8.8	8.4	8.9	8.5	8.4	8.1	7.4	7.1
Lost workday cases	3.6	3.8	4.0	4.0	4.1	3.9	3.9	3.8	3.8	3.6	3.4	3.3
Lost workdays	65.8	69.9	76.1	78.7	84.0	86.5	93.8	–	–	–	–	–
Agriculture, forestry, and fishing[5]												
Total cases	11.2	11.2	10.9	10.9	11.6	10.8	11.6	11.2	10.0	9.7	8.7	8.4
Lost workday cases	5.6	5.7	5.6	5.7	5.9	5.4	5.4	5.0	4.7	4.3	3.9	4.1
Lost workdays	93.6	94.1	101.8	100.9	112.2	108.3	126.9	–	–	–	–	–
Mining												
Total cases	7.4	8.5	8.8	8.5	8.3	7.4	7.3	6.8	6.3	6.2	5.4	5.9
Lost workday cases	4.1	4.9	5.1	4.8	5.0	4.5	4.1	3.9	3.9	3.9	3.2	3.7
Lost workdays	125.9	144.0	152.1	137.2	119.5	129.6	204.7	–	–	–	–	–
Construction												
Total cases	15.2	14.7	14.6	14.3	14.2	13.0	13.1	12.2	11.8	10.6	9.9	9.5
Lost workday cases	6.9	6.8	6.8	6.8	6.7	6.1	5.8	5.5	5.5	4.9	4.5	4.4
Lost workdays	134.5	135.8	142.2	143.3	147.9	148.1	161.9	–	–	–	–	–
General building contractors:												
Total cases	14.9	14.2	14.0	13.9	13.4	12.0	12.2	11.5	10.9	9.8	9.0	8.5
Lost workday cases	6.6	6.5	6.4	6.5	6.4	5.5	5.4	5.1	5.1	4.4	4.0	3.7
Lost workdays	122.7	134.0	132.2	137.3	137.6	132.0	142.7	–	–	–	–	–
Heavy construction, except building:												
Total cases	14.7	14.5	15.1	13.8	13.8	12.8	12.1	11.1	10.2	9.9	9.0	8.7
Lost workday cases	6.3	6.4	7.0	6.5	6.3	6.0	5.4	5.1	5.0	4.8	4.3	4.3
Lost workdays	132.9	139.1	162.3	147.1	144.6	160.1	165.8	–	–	–	–	–
Special trades contractors:												
Total cases	15.6	15.0	14.7	14.6	14.7	13.5	13.8	12.8	12.5	11.1	10.4	10.0
Lost workday cases	7.2	7.1	7.0	6.9	6.9	6.3	6.1	5.8	5.8	5.0	4.8	4.7
Lost workdays	140.4	135.7	141.1	144.9	153.1	151.3	168.3	–	–	–	–	–
Manufacturing												
Total cases	10.6	11.9	13.1	13.1	13.2	12.7	12.5	12.1	12.2	11.6	10.6	10.3
Lost workday cases	4.7	5.3	5.7	5.8	5.8	5.6	5.4	5.3	5.5	5.3	4.9	4.8
Lost workdays	85.2	95.5	107.4	113.0	120.7	121.5	124.6	–	–	–	–	–
Durable goods:												
Total cases	11.0	12.5	14.2	14.1	14.2	13.6	13.4	13.1	13.5	12.8	11.6	11.3
Lost workday cases	4.8	5.4	5.9	6.0	6.0	5.7	5.5	5.4	5.7	5.6	5.1	5.1
Lost workdays	87.1	96.8	111.1	116.5	123.3	122.9	126.7	–	–	–	–	–
Lumber and wood products:												
Total cases	18.9	18.9	19.5	18.4	18.1	16.8	16.3	15.9	15.7	14.9	14.2	13.5
Lost workday cases	9.7	9.6	10.0	9.4	8.8	8.3	7.6	7.6	7.7	7.0	6.8	6.5
Lost workdays	177.2	176.5	189.1	177.5	172.5	172.0	165.8	–	–	–	–	–
Furniture and fixtures:												
Total cases	15.2	15.4	16.6	16.1	16.9	15.9	14.8	14.6	15.0	13.9	12.2	12.0
Lost workday cases	6.3	6.7	7.3	7.2	7.8	7.2	6.6	6.5	7.0	6.4	5.4	5.8
Lost workdays	103.0	103.6	115.7	–	–	–	128.4	–	–	–	–	–
Stone, clay, and glass products:												
Total cases	13.6	14.9	16.0	15.5	15.4	14.8	13.6	13.8	13.2	12.3	12.4	11.8
Lost workday cases	6.5	7.1	7.5	7.4	7.3	6.8	6.1	6.3	6.5	5.7	6.0	5.7
Lost workdays	126.0	135.8	141.0	149.8	160.5	156.0	152.2	–	–	–	–	–
Primary metal industries:												
Total cases	13.6	17.0	19.4	18.7	19.0	17.7	17.5	17.0	16.8	16.5	15.0	15.0
Lost workday cases	6.1	7.4	8.2	8.1	8.1	7.4	7.1	7.3	7.2	7.2	6.8	7.2
Lost workdays	125.5	145.8	161.3	168.3	180.2	169.1	175.5	–	–	–	–	–
Fabricated metal products:												
Total cases	16.0	17.0	18.8	18.5	18.7	17.4	16.8	16.2	16.4	15.8	14.4	14.2
Lost workday cases	6.8	7.2	8.0	7.9	7.9	7.1	6.6	6.7	6.7	6.9	6.2	6.4
Lost workdays	115.5	121.9	138.8	147.6	155.7	146.6	144.0	–	–	–	–	–
Industrial machinery and equipment:												
Total cases	10.7	11.3	12.1	12.1	12.0	11.2	11.1	11.1	11.6	11.2	9.9	10.0
Lost workday cases	4.2	4.4	4.7	4.8	4.7	4.4	4.2	4.2	4.4	4.4	4.0	4.1
Lost workdays	72.0	72.7	82.8	86.8	88.9	86.6	87.7	–	–	–	–	–
Electronic and other electrical equipment:												
Total cases	6.4	7.2	8.0	9.1	9.1	8.6	8.4	8.3	8.3	7.6	6.8	6.6
Lost workday cases	2.7	3.1	3.3	3.9	3.8	3.7	3.6	3.5	3.6	3.3	3.1	3.1
Lost workdays	49.8	55.9	64.6	77.5	79.4	83.0	81.2	–	–	–	–	–
Transportation equipment:												
Total cases	9.6	13.5	17.7	17.7	17.8	18.3	18.7	18.5	19.6	18.6	16.3	15.4
Lost workday cases	4.1	5.7	6.6	6.8	6.9	7.0	7.1	7.1	7.8	7.9	7.0	6.6
Lost workdays	79.1	105.7	134.2	138.6	153.7	166.1	186.6	–	–	–	–	–
Instruments and related products:												
Total cases	5.3	5.8	6.1	5.6	5.9	6.0	5.9	5.6	5.9	5.3	5.1	4.8
Lost workday cases	2.3	2.4	2.6	2.5	2.7	2.7	2.7	2.5	2.7	2.4	2.3	2.3
Lost workdays	42.2	43.9	51.5	55.4	57.8	64.4	65.3	–	–	–	–	–
Miscellaneous manufacturing industries:												
Total cases	10.2	10.7	11.3	11.1	11.3	11.3	10.7	10.0	9.9	9.1	9.5	8.9
Lost workday cases	4.3	4.6	5.1	5.1	5.1	5.1	5.0	4.6	4.5	4.3	4.4	4.2
Lost workdays	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]											
	1986	1987	1988	1989[1]	1990	1991	1992	1993[4]	1994[4]	1995[4]	1996[4]	1997[4]
Nondurable goods:												
Total cases	10.0	11.1	11.4	11.6	11.7	11.5	11.3	10.7	10.5	9.9	9.2	8.8
Lost workday cases	4.6	5.1	5.4	5.5	5.6	5.5	5.3	5.0	5.1	4.9	4.6	4.4
Lost workdays	82.3	93.5	101.7	107.8	116.9	119.7	121.8	–	–	–	–	–
Food and kindred products:												
Total cases	16.5	17.7	18.5	18.5	20.0	19.5	18.8	17.6	17.1	16.3	15.0	14.5
Lost workday cases	8.0	8.6	9.2	9.3	9.9	9.9	9.5	8.9	9.2	8.7	8.0	8.0
Lost workdays	137.8	153.7	169.7	174.7	202.6	207.2	211.9	–	–	–	–	–
Tobacco products:												
Total cases	6.7	8.6	9.3	8.7	7.7	6.4	6.0	5.8	5.3	5.6	6.7	5.9
Lost workday cases	2.5	2.5	2.9	3.4	3.2	2.8	2.4	2.3	2.4	2.6	2.8	2.7
Lost workdays	45.6	46.4	53.0	64.2	62.3	52.0	42.9	–	–	–	–	–
Textile mill products:												
Total cases	7.8	9.0	9.6	10.3	9.6	10.1	9.9	9.7	8.7	8.2	7.8	6.7
Lost workday cases	3.1	3.6	4.0	4.2	4.0	4.4	4.2	4.1	4.0	4.1	3.6	3.1
Lost workdays	59.3	65.9	78.8	81.4	85.1	88.3	87.1	–	–	–	–	–
Apparel and other textile products:												
Total cases	6.7	7.4	8.1	8.6	8.8	9.2	9.5	9.0	8.9	8.2	7.4	7.0
Lost workday cases	2.7	3.1	3.5	3.8	3.9	4.2	4.0	3.8	3.9	3.6	3.3	3.1
Lost workdays	49.4	59.5	68.2	80.5	92.1	99.9	104.6	–	–	–	–	–
Paper and allied products:												
Total cases	10.5	12.8	13.1	12.7	12.1	11.2	11.0	9.9	9.6	8.5	7.9	7.3
Lost workday cases	4.7	5.8	5.9	5.8	5.5	5.0	5.0	4.6	4.5	4.2	3.8	3.7
Lost workdays	99.5	122.3	124.3	132.9	124.8	122.7	125.9	–	–	–	–	–
Printing and publishing:												
Total cases	6.5	6.7	6.6	6.9	6.9	6.7	7.3	6.9	6.7	6.4	6.0	5.7
Lost workday cases	2.9	3.1	3.2	3.3	3.3	3.2	3.2	3.1	3.0	3.0	2.8	2.7
Lost workdays	50.8	55.1	59.8	63.8	69.8	74.5	74.8	–	–	–	–	–
Chemicals and allied products:												
Total cases	6.3	7.0	7.0	7.0	6.5	6.4	6.0	5.9	5.7	5.5	4.8	4.8
Lost workday cases	2.7	3.1	3.3	3.2	3.1	3.1	2.8	2.7	2.8	2.7	2.4	2.3
Lost workdays	49.4	58.8	59.0	63.4	61.6	62.4	64.2	–	–	–	–	–
Petroleum and coal products:												
Total cases	7.1	7.3	7.0	6.6	6.6	6.2	5.9	5.2	4.7	4.8	4.6	4.3
Lost workday cases	3.2	3.1	3.2	3.3	3.1	2.9	2.8	2.5	2.3	2.4	2.5	2.2
Lost workdays	67.5	65.9	68.4	68.1	77.3	68.2	71.2	–	–	–	–	–
Rubber and miscellaneous plastics products:												
Total cases	14.0	15.9	16.3	16.2	16.2	15.1	14.5	13.9	14.0	12.9	12.3	11.9
Lost workday cases	6.6	7.6	8.1	8.0	7.8	7.2	6.8	6.5	6.7	6.5	6.3	5.8
Lost workdays	118.2	130.8	142.9	147.2	151.3	150.9	153.3	–	–	–	–	–
Leather and leather products:												
Total cases	10.5	12.4	11.4	13.6	12.1	12.5	12.1	12.1	12.0	11.4	10.7	10.6
Lost workday cases	4.8	5.8	5.6	6.5	5.9	5.9	5.4	5.5	5.3	4.8	4.5	4.3
Lost workdays	83.4	114.5	128.2	130.4	152.3	140.8	128.5	–	–	–	–	–
Transportation and public utilities												
Total cases	8.2	8.4	8.9	9.2	9.6	9.3	9.1	9.5	9.3	9.1	8.7	8.2
Lost workday cases	4.8	4.9	5.1	5.3	5.5	5.4	5.1	5.4	5.5	5.2	5.1	4.8
Lost workdays	102.1	108.1	118.6	121.5	134.1	140.0	144.0	–	–	–	–	–
Wholesale and retail trade												
Total cases	7.7	7.7	7.8	8.0	7.9	7.6	8.4	8.1	7.9	7.5	6.8	6.7
Lost workday cases	3.3	3.4	3.5	3.6	3.5	3.4	3.5	3.4	3.4	3.2	2.9	3.0
Lost workdays	54.0	56.1	60.9	63.5	65.6	72.0	80.1	–	–	–	–	–
Wholesale trade:												
Total cases	7.2	7.4	7.6	7.7	7.4	7.2	7.6	7.8	7.7	7.5	6.6	6.5
Lost workday cases	3.6	3.7	3.8	4.0	3.7	3.7	3.6	3.7	3.8	3.6	3.4	3.2
Lost workdays	62.5	64.0	69.2	71.9	71.5	79.2	82.4	–	–	–	–	–
Retail trade:												
Total cases	7.8	7.8	7.9	8.1	8.1	7.7	8.7	8.2	7.9	7.5	6.9	6.8
Lost workday cases	3.2	3.3	3.4	3.4	3.4	3.3	3.4	3.3	3.3	3.0	2.8	2.9
Lost workdays	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	2.4	2.4	2.9	2.9	2.7	2.6	2.4	2.2
Lost workday cases	.9	.9	.9	.9	1.1	1.1	1.2	1.2	1.1	1.0	.9	0.9
Lost workdays	17.1	14.3	17.2	17.6	27.3	24.1	32.9	–	–	–	–	–
Services												
Total cases	5.3	5.5	5.4	5.5	6.0	6.2	7.1	6.7	6.5	6.4	6.0	5.6
Lost workday cases	2.5	2.7	2.6	2.7	2.8	2.8	3.0	2.8	2.8	2.8	2.6	2.5
Lost workdays	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, 1993–98

Event or exposure[1]	Fatalities			
	1993–97	1997[2]	1998	
	Average	Number	Number	Percent
Total	6,335	6,238	6,026	100
Transportation incidents	2,611	2,605	2,630	44
Highway incident	1,334	1,393	1,431	24
Collision between vehicles, mobile equipment	652	640	701	12
Moving in same direction	109	103	118	2
Moving in opposite directions, oncoming	234	230	271	4
Moving in intersection	132	142	142	2
Vehicle struck stationary object or equipment	249	282	306	5
Noncollision incident	360	387	373	6
Jackknifed or overturned—no collision	267	298	300	5
Nonhighway (farm, industrial premises) incident	388	377	384	6
Overturned	214	216	216	4
Aircraft	315	261	223	4
Worker struck by a vehicle	373	367	413	7
Water vehicle incident	106	109	112	2
Railway	83	93	60	1
Assaults and violent acts	1,241	1,111	960	16
Homicides	995	860	709	12
Shooting	810	708	569	9
Stabbing	75	73	61	1
Other, including bombing	110	79	79	1
Self-inflicted injuries	215	216	223	4
Contact with objects and equipment	1,005	1,035	941	16
Struck by object	573	579	517	9
Struck by falling object	369	384	317	5
Struck by flying object	65	54	58	1
Caught in or compressed by equipment or objects	290	320	266	4
Caught in running equipment or machinery	153	189	129	2
Caught in or crushed in collapsing materials	124	118	140	2
Falls	668	716	702	12
Fall to lower level	591	653	623	10
Fall from ladder	94	116	111	2
Fall from roof	139	154	156	3
Fall from scaffold, staging	83	87	97	2
Fall on same level	52	44	51	1
Exposure to harmful substances or environments	586	554	572	9
Contact with electric current	320	298	334	6
Contact with overhead power lines	128	138	153	3
Contact with temperature extremes	43	40	46	1
Exposure to caustic, noxious, or allergenic substances	120	123	104	2
Inhalation of substances	70	59	48	1
Oxygen deficiency	101	90	87	1
Drowning, submersion	80	72	75	1
Fires and explosions	199	196	205	3
Other events or exposures[3]	26	21	16	-

[1] Based on the 1992 BLS Occupational Injury and Illness Classification Structures.

[2] The BLS news release issued August 12, 1998, reported a total of 6,218 fatal work injuries for calendar year 1997. Since then, an additional 20 job-related fatalities were identified, bringing the total job-related fatality count for 1997 to 6,238.

[3] 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. Dash indicates less than 0.5 percent.

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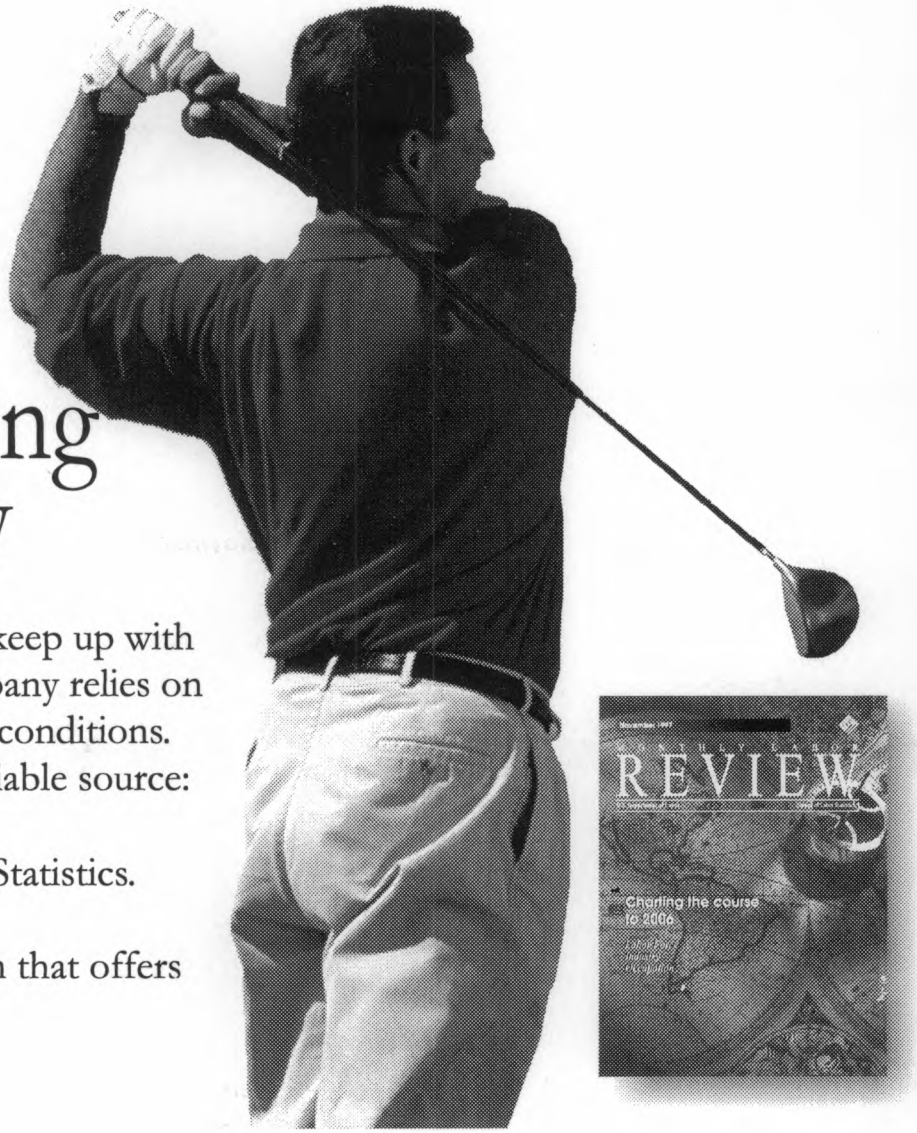

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Productivity and costs	February 8	4th quarter	March 7	4th quarter			2; 39–42
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