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In this issue:
Displaced workers

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MONTHLY LABOR REVIEW

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Henry Lowenstern, Editor-in-Chief
Robert W. Fisher, Executive Editor

Labor Month In Review

Seventy-fifth Anniversary Year of the Department of Labor

PROCLAMATION. To mark the 75th anniversary next year of the establishment of the U.S. Department of Labor, President Ronald Reagan, on April 23, issued a proclamation calling upon the people of the United States to observe the anniversary with "appropriate programs, ceremonies, and activities" in 1988. Following is the proclamation:

March 4, 1988, will be the seventy-fifth anniversary of President William Howard Taft's signing into law an act establishing the United States Department of Labor. In celebrating this milestone, we honor both the mandate of this ninth Executive department and the men and women who have made that mandate a reality through the years.

Recognition of the need for a Department of Labor began in the late 19th and early 20th centuries. Labor organizations such as the Knights of Labor and the American Federation of Labor (AFL) urged the creation of a Federal department to deal with matters affecting working people. A Bureau of Labor was established in the Department of the Interior in 1884. This Bureau was made an independent, but not Executive-rank, Department of Labor in 1888. When the Department of Commerce and Labor was created in 1903, the Department of Labor returned to bureau status within it. The famed labor leader Samuel Gompers and others then campaigned for a Cabinet-level Department of Labor.

That campaign bore fruit with President Taft's bill-signing in 1913. The mandate of the Department of Labor was "to foster, promote, and develop the welfare of the wage earners of the United States, to improve their working conditions and to advance their opportunities for profitable employment." That immense task has inspired the Department ever since.

The Department has fulfilled its duties during war and peace, during depression and prosperity. Through the years, the Department of Labor has improved the lives of working people and benefited all Americans through its contributions to the success of our economy.

Among other tasks, the Department helps workers find and train for jobs; monitors changes in employment, prices, and other economic measures; oversees the broad range of working conditions and safeguards working people's rights; assures and strengthens collective bargaining; and ensures freedom from discrimination. Seeking to help business and industry achieve economic growth and stability, the Department also promotes cooperative relationships between labor and management and encourages collaborative efforts with trade unions and employer organizations.

The Department has played a significant international role as well, cultivating understanding among labor organizations throughout the world and fostering free unions and efficient governmental labor institutions in other nations.

NOW, THEREFORE, I, RONALD REAGAN, President of the United States of America, do hereby proclaim the year 1988 as United States Department of Labor Seventy-fifth Anniversary Year. I call upon the people of the United States to observe this Anniversary Year with appropriate programs, ceremonies, and activities. In order to enhance participation in this important observance, I call upon the Secretary of Labor to establish an Honorary Committee for the Department of Labor Seventy-fifth Anniversary Year, and to invite all living former Secretaries of Labor and the Presidents of the AFL-CIO and the Chamber of Commerce to act as Co-Chairs of the Committee. I also call upon the Secretary to invite other distinguished persons to serve as Committee members, including representatives of the Congress, labor, management, and academia.

IN WITNESS WHEREOF, I have hereunto set my hand this twenty-third day of April, in the year of our Lord nineteen hundred and eighty-seven, and of the Independence of the United States of America the two hundred and eleventh.

Ronald Reagan

The pulse of economic change: displaced workers of 1981–85

Of the 5.1 million workers who had lost jobs at which they had worked at least 3 years, about two-thirds were reemployed as of January 1986

FRANCIS W. HORVATH

One of the harsh realities of economic change is the closing of plants or the severe cutbacks in their operations. The mass layoffs create instant pockets of unemployment, often made up of people with years of dedicated service and acquired skills and no place to apply them. The ability of these workers to readjust after plant closings or large cutbacks has been a subject of considerable interest to policymakers, labor leaders, and economic analysts.

In January 1986, the Employment and Training Administration sponsored a special supplement to the Current Population Survey designed to answer some of the questions about "displaced workers." The survey was almost identical to a study conducted in January 1984, which permitted additional insight into the problem.[1] The principal findings of the survey include:

- A total of 10.8 million workers 20 years of age and over lost jobs because of plant closings or employment cutbacks over the January 1981–January 1986 period. Those who had been at their jobs at least 3 years numbered about 5.1 million. This estimate was very similar to that obtained in the 1984 survey, which had covered the 1979–83 period.
- While both surveys yielded about the same number of displaced workers with at least 3 years of tenure on the lost jobs, the reemployed proportion was much higher in 1986 than in 1984–67, compared with 60 percent.
- Close to 18 percent of those displaced were unemployed when surveyed in January 1986. This was an improvement over 1984, when 26 percent of those displaced were looking for work.
- The number of labor force exits among displaced workers was very close to the 14-percent level observed in 1984. More than 1 of every 3 older workers (over 55 years of age) left the labor force after losing their jobs.
- Of the 3.4 million workers who found work following the displacement, 2.7 million were working at full-time wage and salary jobs. More than half of those reemployed earned as much or more in their new jobs as in their lost jobs.
- About 2 of 3 displaced workers were men.
- The geographic distribution of displaced workers was again heavily concentrated in the East North Central States. More than 1.1 million workers there had lost jobs since 1981.
- Following displacement, reemployment was more difficult for black and Hispanic workers. The percentage of those who were reemployed as of January 1986 was about 10 percentage points lower than the comparable level for whites.

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Measurement of displacement

Interest in the issue of displaced workers increased in the early 1980's, as two back-to-back recessions led to the elimination of many jobs.[2] Indications that the cutbacks in many industries might be permanent rather than cyclical spurred an effort to better identify those workers who had lost their jobs. The terms "displaced" or "dislocated" were used to describe workers who had put in years of service and acquired very specific skills, only to find that those skills were no longer in demand.

As noted above, only a small proportion of the displaced were unemployed when surveyed. In fact, many may have

found another job rather quickly, although it may not have been at a pay and skill level comparable to the one from which they had been displaced. A frequently mentioned example of a displaced worker is the steel or automobile worker, who had been employed at a relatively high paying production job and who, upon losing that job, finds little prospect of replacing the earnings to which he—and his family—had become accustomed.

Some displaced workers might give up looking for work altogether, believing that there are no suitable jobs available. Unplanned early retirements often seem to be the only choice for many of the older displaced workers.

Altogether, a total of 10.8 million workers 20 years of age and over answered that they had lost a job between January 1981 and January 1986 because of plant closings, employers going out of business, or layoffs from which they had not been recalled. However, a large proportion of these workers had been at their jobs for only a short period before they were dismissed. For example, about 4 million—or 37 percent—had been at their jobs a year or less.

In order to focus on those displaced workers who had spent a substantial amount of time with their employer, while presumably acquiring a substantial amount of job-specific skills, the statistical universe used in this study was limited to those individuals with 3 years or more of tenure on the jobs they lost, some 5.1 million.

Demographic characteristics

About two-thirds of the 5.1 million displaced workers were men, and most were in the prime working ages, 25 to 54. (See table 1.) These men were not only the largest group of displaced workers, they also had the highest level of reemployment; over three-fourths of them were reemployed in January 1986.

Blacks accounted for 11 percent of all displaced workers, and there were nearly as many black women as there were men. Also, the level of reemployment was just under 58 percent for both black men and women.

Following displacement, women were much more likely to leave the labor force than men. Almost 1 in 4 white women and 1 in 5 black women who had been displaced were outside the labor force in January 1986. The proportion of labor force leavers was nearly 1 of 3 for Hispanic women.

Black and Hispanic displaced workers were more likely to be unemployed in January 1986 than whites. About 36 percent of black men and 28 percent of Hispanic men who had been displaced were unemployed compared with 17 percent of white men.

Industry and occupation. As was found in the 1984 survey, about one-half of the displaced workers in January 1986 had lost jobs in manufacturing. The industries in which much of the displacement had taken place included nonelectrical machinery, electrical machinery, and primary metals. (See table 2.)

By January 1986, the rate of reemployment among manufacturing workers had improved considerably relative to 1984. About 2 of 3 workers displaced from manufacturing had found new jobs as of January 1986, a rate of reemployment quite similar to that for workers who had lost jobs in other industries. In the 1984 survey, the reemployment rate for manufacturing workers was much lower—59 percent.

The services industry accounted for about 10 percent of the displaced workers. This proportion was relatively small considering that these workers accounted for over 30 percent of all employed workers. Also, more than 2 of 3 service workers who had been displaced were able to find new jobs as of January 1986.

The largest number of displaced workers—some 1.9 mil-

Table 1. Employment status of displaced workers by age, sex, race, and Hispanic origin, January 1986
[In percent]

Characteristic	Number (thousands)[1]	Total	Employed	Unemployed	Not in the labor force
Total					
Total, 20 years and over	5,130	100.0	66.9	17.8	15.3
20 to 24 years	222	100.0	69.1	23.2	7.7
25 to 54 years	3,950	100.0	72.5	18.1	9.4
55 to 64 years	789	100.0	47.4	17.6	35.0
65 years and over	169	100.0	23.4	4.3	72.4
Men					
Total, 20 years and over	3,321	100.0	70.9	18.6	10.5
20 to 24 years	146	100.0	74.1	20.4	5.5
25 to 54 years	2,605	100.0	76.1	19.6	4.4
55 to 64 years	482	100.0	50.2	15.3	34.5
65 years and over	87	100.0	24.5	6.2	69.3
Women					
Total, 20 years and over	1,810	100.0	59.6	16.2	24.1
20 to 24 years	76	100.0	59.6	28.7	11.8
25 to 54 years	1,345	100.0	65.7	15.2	19.0
55 to 64 years	307	100.0	43.1	21.2	35.8
65 years and over	82	100.0	22.2	2.2	75.6
White					
Total, 20 years and over	4,452	100.0	68.2	16.2	15.6
Men	2,936	100.0	72.4	16.8	10.8
Women	1,516	100.0	59.9	15.2	24.9
Black					
Total, 20 years and over	581	100.0	57.7	29.2	13.1
Men	312	100.0	57.6	36.0	6.3
Women	268	100.0	57.7	21.3	21.0
Hispanic origin					
Total, 20 years and over	311	100.0	56.6	27.2	16.1
Men	208	100.0	63.7	27.9	8.4
Women	103	100.0	42.3	25.9	31.8

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

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

Table 2. Employment status of displaced workers by industry and class of worker of lost job, January 1986
[In percent]

Industry and class of worker	Number (thousands)[1]	Total	Employed	Unemployed	Not in the labor force
Total, 20 years and over[2]	5,130	100.0	66.9	17.8	15.3
Nonagricultural private wage and salary workers	4,772	100.0	67.2	17.6	15.2
Mining	175	100.0	67.4	17.4	15.2
Construction	316	100.0	74.8	16.6	8.6
Manufacturing	2,550	100.0	65.9	18.2	15.9
Durable goods	1,691	100.0	66.7	18.9	14.4
Lumber and wood products	104	100.0	67.0	23.2	9.8
Furniture and fixtures	63	100.0	(3)	(3)	(3)
Stone, clay, and glass products	87	100.0	64.7	17.3	17.9
Primary metal industries	235	100.0	62.0	15.0	23.0
Fabricated metal products	187	100.0	64.1	24.8	11.0
Machinery, except electrical	361	100.0	71.9	18.6	9.5
Electrical machinery	255	100.0	54.9	23.2	21.9
Transportation equipment	260	100.0	74.3	16.7	8.9
Automobiles	148	100.0	70.2	21.1	8.7
Other transportation equipment	112	100.0	79.8	11.0	9.2
Professional and photographic equipment	73	100.0	(3)	(3)	(3)
Other durable goods industries	66	100.0	(3)	(3)	(3)
Nondurable goods	859	100.0	64.3	16.8	18.9
Food and kindred products	178	100.0	57.1	19.5	23.4
Textile mill products	123	100.0	71.2	9.9	19.0
Apparel and other finished textile products	171	100.0	51.9	18.0	30.1
Paper and allied products	39	100.0	(3)	(3)	(3)
Printing and publishing	94	100.0	69.8	14.8	15.4
Chemical and allied products	98	100.0	75.2	11.9	12.8
Rubber and miscellaneous plastics products	67	100.0	(3)	(3)	(3)
Other nondurable goods industries	88	100.0	62.8	25.9	11.3
Transportation and public utilities	386	100.0	66.9	20.0	13.1
Transportation	303	100.0	66.1	20.6	13.3
Communication and other public utilities	83	100.0	69.9	17.7	12.4
Wholesale and retail trade	689	100.0	66.3	12.4	21.3
Wholesale trade	294	100.0	74.4	12.5	13.1
Retail trade	395	100.0	60.3	12.4	27.4
Finance, insurance, and real estate	107	100.0	73.5	12.5	14.0
Services	540	100.0	68.4	21.4	10.2
Professional services	198	100.0	66.8	19.1	14.1
Other service industries	342	100.0	69.3	22.8	8.0
Agricultural wage and salary workers	141	100.0	66.0	20.9	13.1
Government workers	172	100.0	63.0	18.9	18.0
Self-employed and unpaid family workers	33	100.0	(3)	(3)	(3)

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Total includes a small number who did not report industry or class of worker.

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

lion—were formerly employed as operators, fabricators, and laborers, occupations which are quite prevalent in the manufacturing industries. They represented nearly 2 out of 5 displaced workers in January 1986. (See table 3.)

The higher the workers' skills, the more likely they were to have found other jobs. For example, among persons who had lost managerial and professional specialty jobs, almost 3 of 4 were reemployed in January 1986. On the other hand, fewer than 2 of 3 of the displaced operators, fabricators, and laborers had been able to find new jobs. The highest proportions of displaced workers who were still unemployed were those who had lost their jobs in the transportation and material moving occupations, as well as in the service occupations.

Regional distribution. As in January 1984, the largest concentration of displaced workers in the 1986 survey was found in the East North Central area—1.1 million. This area comprises the heavily industrialized States of Illinois, Indiana, Michigan, Ohio and Wisconsin. Close to half of the job losses in this area had occurred in the durable goods manufacturing industry. (See table 4.)

But some improvement was found even in the East North Central area. About 65 percent of the area's displaced workers were employed in January 1986, compared with only about half in January 1984. However, among those still unemployed, almost one-third had been without work for 6 months or more.

Reemployment was much higher for displaced workers on the Atlantic and Pacific coasts. In New England, for example, about 75 percent of those identified as displaced workers had found new jobs. On the Pacific coast, about 70 percent of those who had been displaced were again employed in January 1986, and among those who were still looking for work, 42 percent had been unemployed for less than 5 weeks.

Tenure on jobs lost. In order to identify workers who had formed a long term relationship with their employers, only those who had worked for 3 years more on the jobs lost were included in the detailed analysis of the data from 1984 and 1986. While persons with shorter job durations may also face hardships following plant closings, their skills are unlikely to be tied to an employer or industry.

The tenure of displaced workers on the jobs lost tends to be higher than the tenure of the overall work force. Obviously, the restriction to 3 years or more of tenure imparts an upward bias that the general tenure level does not have. In addition, in declining industries, workers with the least tenure are likely to be released first. Should the plant

Table 3. Employment status of displaced workers by occupation of lost job, January 1986
[In percent]

Occupation	Number (thousands)[1]	Total	Employed	Unemployed	Not in the labor force
Total, 20 years and over[2]	5,130	100.0	66.9	17.8	15.3
Managerial and professional specialty	782	100.0	74.1	14.1	11.7
Executive, administrative, and managerial	487	100.0	72.0	16.9	11.1
Professional specialty	295	100.0	77.7	9.4	12.8
Technical, sales, and administrative support	1,125	100.0	68.0	12.8	19.2
Technicians and related support	174	100.0	76.5	11.7	11.8
Sales occupations	447	100.0	65.1	11.9	23.0
Administrative support, including clerical	504	100.0	67.6	13.9	18.5
Service occupations	254	100.0	53.5	22.6	23.9
Protective service	32	100.0	(3)	(3)	(3)
Service, except private household and protective	222	100.0	52.6	24.1	23.2
Precision production, craft, and repair	1,018	100.0	68.5	18.2	13.3
Mechanics and repairers	268	100.0	73.7	18.5	7.9
Construction trades	255	100.0	69.2	22.4	8.4
Other precision production, craft, and repair	495	100.0	65.4	15.9	18.8
Operators, fabricators, and laborers	1,870	100.0	64.0	21.4	14.6
Machine operators, assemblers, and inspectors	1,197	100.0	64.1	19.7	16.3
Transportation and material moving occupations	328	100.0	62.6	25.7	11.7
Handlers, equipment cleaners, helpers, and laborers	345	100.0	65.1	23.4	11.4
Construction laborers	51	100.0	(3)	(3)	(3)
Other handlers, equipment cleaners, helpers, and laborers	293	100.0	64.6	23.0	12.4
Farming, forestry, and fishing	80	100.0	72.1	19.1	8.9

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Total includes a small number who did not report occupation.

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

Table 4. Employment status and area of residence in January 1986 of displaced workers by selected characteristics
[Numbers in thousands]

Characteristic	Total[1]	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Workers who lost jobs										
Total	5,130	226	733	1,149	384	744	397	610	240	648
Men	3,321	129	453	774	253	464	235	401	169	443
Women	1,810	97	280	375	131	280	162	209	71	205
Reason for job loss										
Plant or company closed down or moved	2,809	143	427	580	206	444	223	311	123	351
Slack work	1,603	48	221	402	122	197	132	210	76	194
Position or shift abolished	719	35	84	166	55	103	42	89	41	103
Industry of lost job										
Construction	359	8	27	84	25	61	34	43	25	53
Manufacturing	2,592	141	428	646	179	364	197	281	66	289
Durable goods	1,707	82	272	498	120	177	101	185	41	232
Nondurable goods	885	59	157	148	59	187	96	96	25	57
Transportation and public utilities	417	19	62	83	29	55	51	51	20	46
Wholesale and retail trade	706	22	73	164	69	96	49	80	39	114
Finance and service industries	680	34	103	119	48	102	35	81	51	107
Public administration	55	2	10	12	8	3	3	3	7	8
Other industries[2]	319	1	29	41	25	62	27	71	32	31
Employment status in January 1986										
Employed	3,432	168	442	749	263	535	248	403	174	450
Unemployed	912	22	162	233	62	104	84	103	34	108
Percent less than 5 weeks	26.4	(3)	25.6	24.9	(3)	27.1	25.4	18.3	(3)	42.1
Percent 27 weeks or more	23.6	(3)	25.8	31.0	(3)	23.2	24.2	16.4	(3)	17.9
Not in the labor force	786	35	129	167	59	105	65	103	32	90

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

[2] Includes a small number who did not report industry.

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

NOTE: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont compose the New England Division; New Jersey, New York, and Pennsylvania compose the Middle Atlantic Division; Illinois, Indiana, Michigan, Ohio, and Wisconsin compose the East North Central Division; Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota compose the West North Central Division; Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia compose the South Atlantic Division; Alabama, Kentucky, Mississippi, and Tennessee compose the East South Central Division; Arkansas, Louisiana, Oklahoma, and Texas compose the West South Central Division; Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming compose the Mountain Division; Alaska, California, Hawaii, Oregon, and Washington compose the Pacific Division.

Table 5. Displaced workers by age, sex, race, Hispanic origin, and tenure when job ended
[In percent]

Characteristic	Number (thousands)[1]	Total	3 to 4 years	5 to 9 years	10 to 14 years	15 to 19 years	20 years or more	Median years on lost job
Total								
Total, 20 years and over	5,130	100.0	32.8	34.2	15.7	7.8	9.5	6.6
25 years and over	4,908	100.0	31.0	34.5	16.4	8.2	9.9	6.9
25 to 54 years	3,950	100.0	35.0	37.2	16.1	7.0	4.7	6.2
55 to 64 years	789	100.0	14.6	22.6	17.9	12.8	32.0	12.9
65 years and over	169	100.0	15.0	25.6	15.6	13.6	30.2	12.8
Men								
Total, 20 years and over	3,321	100.0	31.2	33.6	15.5	8.9	10.9	6.9
25 years and over	3,175	100.0	29.4	33.7	16.2	9.3	11.4	7.3
25 to 54 years	2,605	100.0	32.7	36.6	16.8	8.6	5.4	6.6
55 to 64 years	482	100.0	14.9	18.9	14.6	12.8	38.8	15.4
65 years and over	87	100.0	12.9	30.4	9.8	10.8	36.2	13.2
Women								
Total, 20 years and over	1,810	100.0	35.7	35.4	15.9	6.0	7.0	6.0
25 years and over	1,733	100.0	34.0	35.8	16.6	6.2	7.4	6.2
25 to 54 years	1,345	100.0	39.5	38.4	14.8	4.1	3.2	5.7
55 to 64 years	307	100.0	14.2	28.4	23.2	12.9	21.2	10.7
65 years and over	82	100.0	17.3	20.5	21.7	16.6	23.9	12.7
White								
Total, 20 years and over	4,452	100.0	32.6	33.6	15.6	8.1	10.1	6.7
Men	2,936	100.0	31.0	32.9	15.7	9.2	11.1	7.0
Women	1,516	100.0	35.5	34.9	15.5	6.0	8.1	6.0
Black								
Total, 20 years and over	581	100.0	35.1	36.8	16.0	6.2	5.9	6.2
Men	312	100.0	31.9	38.4	13.5	6.7	9.5	6.6
Women	268	100.0	38.7	34.9	18.9	5.7	1.7	5.7
Hispanic origin								
Total, 20 years and over	311	100.0	33.6	42.3	12.9	6.3	4.9	6.4
Men	208	100.0	27.7	43.9	14.5	8.3	5.6	7.3
Women	103	100.0	45.5	39.1	9.7	2.3	3.5	5.3

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

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

ultimately close its doors, those with longer tenure are likely to be still on the job when the decision to shut down is made.

The 5.1 million displaced workers can be divided into three roughly equivalent groups on the basis of their job tenure. About one-third had been on their jobs for 3 to 4 years, one-third for 5 to 9 years, and the remaining third for 10 years or more. Median tenure on the lost jobs was 6.6 years. (See table 5.)

The proportion of older workers displaced from jobs of long tenure was noticeably higher in 1986 than in 1984. In the 1986 survey, it was found that nearly two-fifths of the displaced men age 55 and over had lost jobs which they had held for 20 years or more.

Before, during, and after displacements

Notification of dismissal. An important issue in debates surrounding plant closing legislation has been the question of advance notification of workers about to be laid off. It is argued that advance notification allows the workers a better chance of finding new jobs by possibly beginning their job search efforts while still employed. On the other hand, advance notice is viewed unfavorably by some employers, who fear the anger of disgruntled employees and the possible reduction in productivity.[3]

In both the 1984 and 1986 surveys, a question was asked regarding whether the displaced worker had received an advance notice, or had left the business because he or she expected to be released.[4] About 45 percent of the displaced workers in the 1986 survey said they had not received notification prior to displacement. (See table 6.) Among those affected by plant closings or moves, about 40 percent neither were notified in advance nor had anticipated the closing.

Among the workers who had received an advance notice or had expected an impending closing, the proportion that was reemployed by January 1986 was greater than it was among those without warning of a layoff, but by a small margin—69 versus 64 percent. Among those who had been laid off because of plant closings, the difference in the reemployment rates between those with and without prenotification was even smaller.

Reasons for dismissals. More than half of the 5.1 million displaced workers reported that they had lost their jobs be-

cause of plant closings or moves. (See table 7.) About one-third offered "slack work" as the reason for their dismissals. The remaining persons reported that they had been working on jobs or shifts which were abolished.

The reasons offered for the dismissals were closely related to age, with older workers more likely to be affected by plant closings. For example, about two-thirds of the workers age 55 and over were dismissed because of plant closings, while only about half of those age 25 to 34 were released for this reason. It is likely that seniority would offer older workers some protection against dismissal during periods of "slack work," whereas they would have no protection if the plant closed down.

Weeks without work. Displaced workers were asked to estimate the number of weeks they were without work following job loss. The median period for the entire 5.1 million was about 18 weeks. It should be noted that, for many persons, this included periods spent outside the labor force. For example, displaced workers who were not in the labor force in January 1986 reported the longest spells without work, typically stretching over a year in length. (See table 8.) For these persons, the time spent "out of work" cannot be equated with unemployment, the latter condition implying jobseeking.

Displaced workers who were employed in January 1986 reported a much shorter period without work, the median being 13 weeks. About 1 of every 3 reemployed displaced workers had spent less than 5 weeks without work.

When surveyed, unemployed displaced workers had been jobless for a median duration of 21 weeks. This group and displaced older persons were more likely to report longer periods without work than were younger persons.

The measurement of "weeks without work" presents a difficult challenge. For example, for the reemployed the reporting may relate to a period in the distant past, the length of which is only vaguely remembered. For the unemployed, the spell of joblessness may still be in progress and could possibly last much longer than reported in the survey. And, as already noted, for persons outside the labor force, the "weeks without work" could relate to periods which, although long, might have included few, if any, attempts to find another job.

Receipt of unemployment insurance. For many displaced workers, loss of income was cushioned by their receipt of

Table 6. Displaced workers by age, whether they received advanced notice or expected layoff, selected reason for job loss, and employment status in January 1986

[Percent distribution]

Characteristic	Total who lost jobs					Plant or company closed down or moved				
		Employment status, January 1986					Employment status, January 1986			
	Total (thousands)[1]	Total	Employed	Unemployed	Not in the labor force	Total (thousands)[1]	Total	Employed	Unemployed	Not in the labor force
Total, 20 years and over										
Total	5,130	100.0	66.9	17.8	15.3	2,809	100.0	68.7	15.2	16.2
Received advanced notice or expected layoff	2,812	100.0	69.0	16.3	14.7	1,664	100.0	69.8	14.7	15.4
Left before job ended	387	100.0	73.9	7.5	18.6	240	100.0	70.8	10.8	17.9
Did not leave before job ended	2,415	100.0	68.1	17.7	14.1	1,421	100.0	69.7	15.3	15.0
Did not receive advance notice or expect layoff	2,318	100.0	64.4	19.5	16.0	1,145	100.0	66.9	15.9	17.2
20 to 34 years										
Total	1,864	100.0	75.1	16.3	8.6	947	100.0	79.6	13.5	7.0
Received advanced notice or expected layoff	1,080	100.0	76.9	15.5	7.6	598	100.0	80.3	13.7	6.0
Left before job ended	132	100.0	84.1	9.1	6.8	92	100.0	84.8	10.9	5.4
Did not leave before job ended	948	100.0	75.8	16.5	7.7	506	100.0	79.4	14.2	6.1
Did not receive advance notice or expect layoff	784	100.0	72.4	17.5	9.9	349	100.0	78.5	13.2	8.6
35 to 54 years										
Total	2,309	100.0	70.2	20.0	9.8	1,240	100.0	72.2	17.7	10.1
Received advanced notice or expected layoff	1,235	100.0	72.9	17.3	9.7	708	100.0	74.7	15.1	10.2
Left before job ended	179	100.0	83.2	7.8	8.9	105	100.0	75.2	12.4	12.4
Did not leave before job ended	1,046	100.0	71.0	18.9	9.9	602	100.0	74.4	15.8	9.8
Did not receive advance notice or expect layoff	1,074	100.0	67.0	23.1	10.0	532	100.0	68.8	21.2	10.0
55 years and over										
Total	958	100.0	43.2	15.2	41.5	621	100.0	44.9	12.6	42.5
Received advanced notice or expected layoff	497	100.0	41.9	15.7	42.5	357	100.0	42.9	15.4	41.7
Left before job ended	76	100.0	32.9	5.3	61.8	43	100.0	(2)	(2)	(2)
Did not leave before job ended	421	100.0	43.5	17.6	39.0	314	100.0	44.6	16.2	39.5
Did not receive advance notice or expect layoff	460	100.0	44.6	14.8	40.7	264	100.0	47.7	8.7	43.6

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

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

unemployment insurance benefits. About 3.4 million workers reported receiving unemployment benefits after they had lost their jobs.

One reason why some displaced workers do not collect unemployment insurance benefits is that some of them are able to find new jobs quickly or even immediately after their job loss. Almost 1 in 3 who were employed in January 1986 reported that they had been without work less than 5 weeks.

Moving to another area. Few displaced workers moved to other areas following the loss of their jobs. (See table 9.) For the 14 percent who moved, the reemployment rate was significantly higher than for those who did not move—82 versus 64 percent.

There was a pronounced difference in the relocation activity of men and women. The proportion of displaced men who had moved was almost twice as high as that of women.

Older displaced workers were least likely to pull up stakes after losing their jobs. Of those age 55 and over, only about 5 percent had moved to another city or county. Among displaced women, only about 3 percent of those age 55 and over had moved subsequent to the job loss.

Loss of health insurance. The loss of group health insurance which usually accompanies a job loss can deal a financial blow to workers.[5] Of the displaced workers surveyed in January 1986, almost 80 percent had been included in a group health insurance plan on their lost jobs. (See table 10.) For these workers, recovery of coverage was closely related to employment status: those who found new jobs were usually covered by some form of insurance, either through their new jobs or through the plans of other family members. Only about 1 in 5 of the reemployed workers were not covered in their new jobs. However, displaced workers who were unemployed in January 1986 had a much higher exposure to health cost risk; almost 60 percent of those who had been covered on the lost job no longer had any coverage when surveyed.

Job spirals or new careers?

About 3.4 million of the 5.1 million displaced workers were reemployed in January 1986. Almost all of these, about 3.2 million workers, had been working at full-time wage and salary jobs when they were dismissed. Of these, 10 percent were holding part-time jobs when surveyed. An additional 8 percent were involved full time in their own businesses as self-employed or unpaid family workers.

Thus, the vast majority of those working in January 1986 had returned to full-time wage and salary employment. For about 2.4 million of these workers, earnings information was obtained for both the old and the new jobs, making it possible to compare nominal earnings. Overall, about 56 percent were making as much or more than before displacement. More than half of that proportion were earning 20 percent or more above pay in their previous job. (See table 11.)

Table 7. Displaced workers by age, sex, race, Hispanic origin, and reason for job loss, January 1986
[Numbers in thousands]

Age and sex	Total[1]	Plant or company closed down or moved	Slack work	Position or shift abolished
Total				
Total, 20 years and over	5,130	2,809	1,603	719
20 to 24 years	222	126	68	28
25 to 54 years	3,950	2,062	1,338	551
25 to 34 years	1,641	821	608	212
35 to 44 years	1,326	670	460	197
45 to 54 years	983	571	270	142
55 to 59 years	467	299	101	67
60 to 64 years	322	214	61	47
65 years and over	169	108	36	25
Men				
Total, 20 years and over	3,321	1,783	1,145	393
20 to 24 years	146	85	47	14
25 to 54 years	2,605	1,337	968	301
25 to 34 years	1,091	539	451	101
35 to 44 years	899	439	338	122
45 to 54 years	616	360	179	77
55 to 59 years	286	186	68	32
60 to 64 years	196	125	41	29
65 years and over	87	50	21	16
Women				
Total, 20 years and over	1,810	1,026	458	326
20 to 24 years	76	41	21	15
25 to 54 years	1,345	724	370	250
25 to 34 years	551	283	157	111
35 to 44 years	427	231	121	75
45 to 54 years	367	211	92	64
55 to 59 years	180	113	32	35
60 to 64 years	126	89	20	18
65 years and over	82	59	14	9

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Occupational displacement. A major concern regarding displaced workers is that they will be unable to use the hard-earned skills they had acquired in the jobs they lost. Besides earnings comparisons, another way to examine the changes forced upon displaced workers is to examine their occupational mobility.

The major occupational groupings and the percent of workers within each group who were able to find new jobs in the same broad occupational classification are shown in table 12. Of the displaced workers who were reemployed in January 1986, 45 percent were working in the same general occupation they had left.

For most of the occupational groups shown, the proportion returning to jobs in the same broad occupation they had left ranged between 30 and 60 percent. The lowest rates of occupational stability across the old and new jobs were found in the occupations of technicians and related support, and handlers, equipment cleaners, helpers, and laborers. Some of these workers may have found better jobs than the ones they had lost. Professional specialty and precision production, craft, and repair occupations had the highest levels of reemployment within the same broad occupation.

Table 8. Displaced workers[1] by weeks without work, age, and employment status, January 1986
[Numbers in thousands]

Age and employment status, January 1986	Weeks without work					
	Less than 5 weeks	5 to 14 weeks	15 to 26 weeks	27 to 52 weeks	More than 52 weeks	Median weeks without work
Total:						
Age 20 and over	1,371	883	791	893	979	18.3
25 to 54 years	1,089	734	634	674	664	16.5
25 to 34 years	464	333	277	260	238	13.4
35 to 44 years	352	233	200	270	213	17.4
45 to 54 years	273	167	157	144	212	20.1
55 years and over	211	101	109	183	308	32.8
Employed:						
Age 20 and over	1,103	628	533	605	424	12.5
25 to 54 years	932	526	446	495	347	12.4
25 to 34 years	406	254	195	200	140	12.2
35 to 44 years	302	174	142	205	114	14.1
45 to 54 years	224	98	110	89	93	12.5
55 years and over	113	65	57	91	74	20.7
Unemployed:						
Age 20 and over	157	191	194	151	187	20.5
25 to 54 years	122	167	155	114	137	19.9
25 to 34 years	39	62	68	34	37	17.0
35 to 44 years	42	49	46	56	52	24.1
45 to 54 years	40	55	41	24	48	16.9
55 years and over	26	16	25	26	45	30.2
Not in the labor force:						
Age 20 and over	111	64	64	137	368	53.8
25 to 54 years	36	41	33	65	180	54.3
25 to 34 years	19	17	14	26	61	52.6
35 to 44 years	8	10	11	9	47	61.7
45 to 54 years	8	15	7	30	71	67.7
55 years and over	71	20	28	67	189	54.8

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Table 9. Displaced workers[1] by whether they moved to a different city or county to find or take another job, age, sex, and current employment status
[In thousands]

Age and sex	Nonmovers				Movers			
	Total	Employment status, January 1986			Total	Employment status, January 1986		
		Employed	Unemployed	Not in the labor force		Employed	Unemployed	Not in the labor force
Total								
Total, 20 years and over	4,395	2,831	832	733	713	582	81	51
25 to 54 years	3,318	2,340	644	333	618	510	70	37
25 to 34 years	1,330	983	221	126	302	253	31	18
35 to 44 years	1,139	826	227	86	183	154	23	7
45 to 54 years	343	531	196	121	133	104	16	13
55 years and over	902	376	141	385	51	34	5	12
Men								
Total, 20 years and over	2,758	1,884	553	321	548	455	66	28
25 to 54 years	2,119	1,571	450	98	478	403	59	16
25 to 34 years	855	664	165	26	229	198	25	6
35 to 44 years	755	571	155	29	144	122	19	4
45 to 54 years	510	335	131	44	104	83	16	6
55 years and over	525	236	74	215	41	24	5	12
Women								
Total, 20 years and over	1,637	946	279	411	165	127	15	24
25 to 54 years	1,198	770	194	234	140	107	11	21
25 to 34 years	476	318	57	100	72	55	7	11
35 to 44 years	385	255	73	57	39	32	4	3
45 to 54 years	338	197	65	77	28	21	–	7
55 years and over	377	140	67	170	10	10	–	–

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Table 10. Displaced workers by health insurance coverage, employment status, and selected characteristics, January 1986

[Numbers in thousands]

Characteristic	Total[1]	Covered by group health insurance on lost job			Not covered on lost job
		Total	Not covered under any plan in January 1986		
			Number	Percent	
Total					
Total, 20 years and over	5,130	3,977	1,274	32.0	1,082
Employed	3,432	2,722	610	22.4	661
Unemployed	912	678	398	58.7	220
Not in the labor force	786	577	265	45.9	201
Men					
Total, 20 years and over	3,321	2,711	809	29.8	562
Employed	2,353	1,937	390	20.1	382
Unemployed	619	479	288	60.1	129
Not in the labor force	349	295	130	44.1	51
Women					
Total, 20 years and over	1,810	1,266	465	36.7	520
Employed	1,079	784	220	28.1	279
Unemployed	294	199	110	55.3	90
Not in the labor force	437	282	135	47.9	150
White					
Total, 20 years and over	4,452	3,478	1,036	29.8	916
Men	2,936	2,427	681	28.1	472
Women	1,516	1,051	356	33.9	445
Black					
Total, 20 years and over	581	437	217	49.7	134
Men	312	236	116	49.2	69
Women	268	200	101	50.5	65
Hispanic origin					
Total, 20 years and over	311	214	94	43.9	84
Men	208	149	60	40.3	49
Women	103	65	34	52.3	36

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

Table 11. Displaced workers who lost full-time wage and salary jobs and were reemployed in January 1986, by industry of lost job and characteristics of new job

[In thousands]

Industry of lost job	Total reemployed, January 1986	Part-time job	Full-time wage and salary job					Self employment or other full-time job
			Total[1]	Earnings relative to those of lost job				
				20 percent or more below	Below, but within 20 percent	Equal or above, but within 20 percent	20 percent or more above	
Total who lost full-time wage and salary jobs[2]	3,236	333	2,655	730	342	651	712	248
Construction	250	15	198	53	24	51	63	37
Manufacturing	1,657	162	1,410	432	186	333	356	85
Durable goods	1,105	106	931	300	102	216	243	68
Primary metal industries	146	13	122	54	10	24	20	11
Steel[3]	118	13	97	51	8	14	16	7
Other primary metals	28	–	24	4	2	10	4	3
Fabricated metal products	116	16	85	29	8	16	21	15
Machinery, except electrical	258	18	232	76	33	58	53	8
Electrical machinery	136	11	119	46	16	21	31	6
Transportation equipment	190	19	165	38	7	53	54	6
Automobiles	102	12	87	11	–	30	38	3
Other transportation equipment	88	6	78	27	7	24	15	3
Nondurable goods	552	56	478	131	84	117	113	17
Transportation and public utilities	257	15	217	68	28	59	37	25
Wholesale and retail trade	415	43	331	62	40	78	116	40
Finance and service industries	426	68	309	59	41	87	100	49
Public administration	34	3	28	4	4	7	9	3
Other industries[4]	197	28	162	53	19	35	30	7

[1] Data refer to persons with tenure of 3 years or more who lost or left a full-time wage and salary job between January 1981 and January 1986 because of plant closings or moves, slack work, or their positions or shifts were abolished.

[2] Includes 220 persons who did not report earnings on lost job.

[3] Includes blast furnaces, steelworks, rolling and finishing mills, and iron and steel furnaces.

[4] Includes a small number who did not report industry.

Table 12. Displaced workers by selected occupations and percent reemployed in the same occupations or in service occupations, January 1986
[Numbers in thousands]

Occupation	Total[1]	Total reemployed	Percent in same occupation	Percent in service occupations
Executive, administrative, and managerial	487	351	43.0	0.2
Professional specialty	295	229	59.8	5.2
Technicians and related support	174	133	30.1	6.7
Sales occupations	447	291	45.3	6.2
Administrative support, including clerical	504	341	44.9	7.6
Service occupations	254	136	52.2	52.2
Precision production, craft, and repair	1,018	697	55.7	7.3
Machine operators, assemblers, and inspectors	1,870	767	36.6	18.4
Transportation and material moving occupations	1,197	205	45.9	11.2
Handlers, equipment cleaners, helpers, and laborers	328	225	26.7	10.7
Farming, forestry, and fishing	80	58	(2)	(2)

[1] Data refer to persons with tenure of 3 years or more who lost or left a job between January 1981 and January 1986 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.
[2] Data not shown where base is less than 75,000.

It is interesting to compare the shift into service occupations found among reemployed displaced workers. Machine operators, assemblers, and inspectors, who accounted for almost one-fourth of all displaced workers, were more likely than most other workers to move into service jobs. Still, only about 18 percent of the displaced operators, assemblers, and inspectors were working in service-related occupations.

Number of jobs held since displacement. Another indicator of the stability or suitability of the new jobs is the frequency with which displaced workers change them. Numerous short-term stretches of employment or quits could indicate the difficulty of finding acceptable work. A question was added to the 1986 survey regarding the number of jobs held since displacement. About one-third of those unemployed in January and just over one-fourth of those outside the labor force had held a job at some time following their displacement. As shown in the following tabulation, nearly two-thirds of those who were employed when surveyed were working on their first and only job held since the original job loss. The remainder had, of course, held more than one job since displacement.

	Total	*Two jobs or more*	*One job*	*No jobs*
Total	100.0	29.0	48.5	22.5
Employed	100.0	36.7	63.3	—
Unemployed	100.0	16.5	18.6	64.8
Not in the labor force	100.0	10.2	18.3	71.5

Summary

The 1986 survey of displaced workers presents a more positive picture of post-displacement success than the one conducted in 1984, reflecting the effect of continued employment growth in the economy. While the overall level of displacement was little changed, the number of displaced workers who were reemployed at the time of the survey was 7 percentage points higher. The regional distribution, while still not evenly balanced across the country, improved slightly, in that the rate of reemployment in areas which had been hardest hit was now closer to the national average.

However persistent unemployment has remained among some groups. Levels of reemployment among older workers were still relatively low. Reemployment rates of women lagged behind those of men by about 10 percentage points. □

———*FOOTNOTES*———

[1] For a more detailed discussion of the findings from the first survey of displaced workers, see Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3–16; Richard Devens, "Displaced workers: one year later," *Monthly Labor Review*, July 1986, pp. 40–43; and U.S. Congress, Office of Technology Assessment, *Technology and Structural Unemployment: Reemploying Displaced Adults*, OTA-ITE-250 (Washington, Government Printing Office, February 1986).

[2] The level of concern about displaced worker issues can be seen in Kevin Hollenbeck, Frank Pratzner, and Howard Rosen, eds., *Displaced Workers: Implications for Educational and Training Institutions* (Columbus, Ohio State University, 1984); and U.S. Congress, Congressional Budget Office, *Dislocated Workers: Issues and Federal Options* (Washington, Government Printing Office, July 1982).

[3] Additional information on advance notification is available from the Permanent Mass Layoffs and Plant Closings program. See the accompanying article by Sharon P. Brown.

[4] "Advance notice" was defined as 30 days, but the definition did not appear in the specific wording of the question asked the respondent.

[5] For another look at the loss of health benefits for displaced workers, see Michael Podgursky and Paul Swaim, "Job displacement and health insurance loss," *Monthly Labor Review*, April 1987, pp. 30–33.

How often do workers receive advance notice of layoffs?

About 2 of 3 layoffs occurred in the surveyed States without workers receiving advance general notice; in slightly more than half of the layoffs, specific notice of more than 1 day was provided to employees, usually averaging 18 days of notice

SHARON P. BROWN

Advance notice to workers about to be laid off is of increasing interest to policymakers and others looking for ways to avoid or reduce the period of dislocation between jobs. A number of States have passed laws requiring or offering incentives for providing advance notice. In September 1986, the Bureau of Labor Statistics surveyed establishments in seven States which participated in the Bureau's mass layoff reporting system.[1]

The reporting system covers layoff events of 30 days or more in which at least 50 initial claims for unemployment compensation were filed in a 3-week period by separated workers against their former employer. This system, which will soon be nationwide, provides detailed information on plants and workers affected by closings and layoffs. Establishments reporting layoffs in the last half of 1985 in Alabama, Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin were recontacted by employment security agency staff in each of these States and asked to provide additional information on activities leading to the layoff. A total of 248 establishments responded to the survey, accounting for 271 layoffs and the separation of 67,800 workers, 49,327 of whom filed claims for unemployment compensation. While the survey findings are not representative of the Nation as a whole (because State selection was not based on socioeconomic or demographic factors, or statistical techniques), the study does present information on worker dislocation.

Survey results. About 2 of 3 layoffs occurred in the surveyed States without workers receiving advance general notice. (See table 1.) Advance general notice was defined as the notification of individual workers that a layoff was expected to occur, without specifying the exact date of termination. When advance general notice was provided, workers were usually given an average of 46 days of notice.

In slightly more than half of the layoffs, establishments provided specific notice of more than 1 day to employees, usually averaging 18 days of notice. Specific notice was defined as the notification of individual employees that they will be laid off on a specific date. If general notice was provided, it was always in advance of the specific notice.

Industry. Among the surveyed firms in the seven States, the incidence of advance general notice was much higher in manufacturing than nonmanufacturing industries (43 percent of layoffs versus 19 percent). (See table 1.) However, the average days of notice in manufacturing establishments was somewhat less than for nonmanufacturing industries—45 days compared to 54. Specific notice of more than 1 day was provided in 57 percent of reported manufacturing layoffs and 40 percent of nonmanufacturing layoffs. Average days of specific notice of more than 1 day were the same for each, 18 days.

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Within manufacturing, nondurable goods industries reported a higher incidence of general and specific notice to employees than durable goods firms. Durable goods firms that gave notice provided a much longer period of notice—54 versus 25 days. The greater length of general notice in the nonmanufacturing sector was affected by the responses of wholesale and retail trade establishments, which experience normal seasonal layoffs of more than 30 days' duration.

Union status. The probability of providing both advance general and specific notice was about equal among unionized and nonunionized establishments in the six States reporting information on union status. (See table 2.) (Establishments in Alabama were not asked the question on union status.) However, when giving notice, unionized firms gave a longer period of advance general notice than in nonunion situations—an average of 51 versus 42 days. In contrast, nonunionized employers averaged 24 days of specific notice of more than 1 day—almost twice that of union situations, which averaged 13 days.

The provision of longer advance general notice to unionized workers and longer specific notice to nonunion workers within an industry group was especially evident in the durable goods industries. When notice was given, an average of 63 days of general notice was provided by unionized durable goods firms, versus 53 days in nonunionized situations, while 26 days of specific notice were provided to nonunionized workers compared to 14 days for unionized workers. Unionized establishments accounted for about half of all respondents to this question.

Corporate status. When the establishment was part of a larger corporate entity, there was a higher probability that advance general notice would be provided, although the length of notice was not significantly different from firms without the corporate association. (See table 3.) General notice was provided in 43 percent of layoffs reported by establishments which were part of a larger organization, with an average of 47 days of notice given. Among establishments not associated with a larger corporate entity, general notice was provided in one-quarter of the reported layoffs, with 45 days of notice given.

Establishments which were part of a larger corporate entity also had a higher likelihood of providing specific notice of more than 1 day—58 versus 44 percent—with the length of notice almost double—21 days compared to 12 days.

Notice to others. In addition to employee notification, 85 establishments provided advance general and specific notice to State and local government officials, union officials, the news media, and community groups. (See table 4.) More than 3 of 4 of these establishments provided advance general notice to State or local government officials averaging 22 days. Union officials received advance general notice from 42 establishments, with 38 days of notice provided. Members of the press and other news media received general notice averaging 44 days from 27 firms.

Twenty-eight firms providing specific notice of more than 1 day to employees also informed State or local government officials of the layoff—an average of 18 days of notice was provided. Twenty-six firms provided such information to union officials, although the average notice was only 9 days.

Reemployment services. About one-third of the establishments provided some type of reemployment services to employees. (See table 5.) Nineteen set up formal labor-management committees, while 58 provided outplacement services within the company's structure. Among establishments with formal labor-management committees, the most frequent services provided were an examination of the characteristics and skills of the workers as part of developing reemployment strategies, arrangements for prelayoff regis-

Table 1. Mass layoff events by selected industries and type and length of separation notice, July–December 1985

Industry	Number of establishments	Total[1]	With advance general notice		With specific notice of more than 1 day		No notice given
			Number	Average days of notice[2]	Number	Average days of notice[2]	
Total, all industries	248	271	97	46	142	18	129
Agriculture	8	8	–	–	3	40	5
Nonagriculture	240	263	97	46	139	18	94
Manufacturing	181	200	85	45	114	18	86
Durable goods	126	143	59	54	76	19	67
Nondurable goods	55	57	26	25	38	15	19
Nonmanufacturing	59	63	12	54	25	18	38
Wholesale and retail trade	8	8	3	84	3	18	5
Services	12	13	3	23	6	19	7
Other nonmanufacturing	39	42	6	54	16	18	26

[1] Data on layoffs were reported by employers in Alabama, Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin. Data for Wisconsin are for October–December 1985.

[2] Average days of notice are calculated based on those events in which notice was provided.

Table 2. Mass layoff events by selected industries, union status of employees, and type and length of separation notice, July–December 1985

Industry and union status of employees	Number of establishments	Total[1]	With advance general notice		With specific notice of more than 1 day		No notice given
			Number	Average days of notice[2]	Number	Average days of notice[2]	
Total, all industries	196	217	82	46	112	18	105
Union[3]	96	106	40	51	56	13	50
Nonunion	100	111	42	42	56	24	55
Agriculture	8	8	–	–	(3)	40	5
Union[3]	–	–	–	–	–	–	–
Nonunion	8	8	–	–	(3)	40	5
Nonagriculture	188	209	82	46	109	18	100
Union[3]	96	106	40	51	56	13	50
Nonunion	92	103	42	43	53	23	50
Manufacturing	139	157	72	46	91	17	66
Union[3]	73	82	36	50	49	13	33
Nonunion	66	75	36	43	42	22	33
Durable goods	99	115	50	57	65	19	50
Union[3]	52	60	23	63	36	14	24
Nonunion	47	55	27	53	29	26	26
Nondurable goods	40	42	22	21	26	12	16
Union[3]	21	22	13	27	13	11	9
Nonunion	19	20	9	13	13	12	7
Nonmanufacturing	49	52	10	50	18	21	34
Union[3]	23	24	4	59	7	10	17
Nonunion	26	28	6	43	11	27	17

[1] Data on union status of employers involved in layoffs were reported by employers in Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin. Data for Wisconsin are for October–December 1985. In Alabama, employers were not asked the union status question.

[2] Average days of notice are calculated based on those events in which notice was provided.

[3] Data refer to members of a labor union or an employee association similar to a union, or workers whose jobs are covered by a union or an employee contract.

NOTE: Dash represents zero or rounds to zero.

Table 3. Mass layoff events by selected industries, corporate status of reporting establishments, and type and length of separation notice, July–December 1985

Industry and corporate status of establishment	Number of establishments	Total[1]	With advance general notice		With specific notice of more than 1 day		No notice given
			Number	Average days of notice[2]	Number	Average days of notice[2]	
Total, all industries	248	271	97	46	142	18	129
Part of larger corporate entity	149	165	71	47	95	21	70
Not part of larger corporate entity	99	106	26	45	47	12	59
Agriculture	8	8	–	–	(3)	40	5
Part of larger corporate entity	3	3	–	–	(3)	(3)	(3)
Not part of larger corporate entity	5	5	–	–	(3)	(3)	(3)
Nonagriculture	240	263	97	46	139	18	124
Part of larger corporate entity	146	162	71	47	93	21	69
Not part of larger corporate entity	94	101	26	45	46	12	55
Manufacturing	181	200	85	46	114	18	86
Part of larger corporate entity	118	132	61	48	78	21	54
Not part of larger corporate entity	63	68	24	39	36	11	32
Durable goods	126	143	59	54	76	19	67
Part of larger corporate entity	86	99	44	56	55	22	44
Not part of larger corporate entity	40	44	15	50	21	10	23
Nondurable goods	55	57	26	25	38	15	19
Part of larger corporate entity	32	33	17	27	23	17	10
Not part of larger corporate entity	23	24	9	20	15	13	9
Nonmanufacturing	59	63	12	54	25	18	38
Part of larger corporate entity	28	30	10	41	15	22	15
Not part of larger corporate entity	31	33	2	16	10	12	23

[1] Data on layoffs were reported by employers in Alabama, Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin. Data for Wisconsin are for October–December 1985.

[2] Average days of notice are calculated based on those events in which notice was provided.

[3] Data do not meet BLS or State agency disclosure standards.

NOTE: Dash represents zero or rounds to zero.

tration by the State employment service, and preparation for training in job search skills.

Among establishments providing out-placement services, the most frequently cited service was canvassing other employers for job openings, followed by employee skill surveys and prelayoff employment service registration.

Comparison with other findings

In addition to the Bureau's study, the General Accounting Office (GAO) has released results from a nationwide survey of layoffs, including information on advance general and specific notice.[2] Before examining the BLS and GAO findings, one should consider the differences in the surveys and approaches.

BLS examined layoffs of 50 workers or more, while GAO surveyed layoffs of 100 or more. The BLS survey was limited to all such layoffs in seven States, while GAO's results were from a random sample of establishments throughout the United States. In the BLS study, a layoff event was identified if at least 50 claims for unemployment insurance were filed in a 3-week period. In the GAO study, there was no constraint on the timing or size of each week's layoffs, but rather on the total number of laid off workers. With regard to timing, BLS surveyed layoffs that occurred between August and December 1985, while GAO studied layoffs which occurred in 1983 and 1984. In the BLS study, firms were contacted no more than 1 year after the layoff, while GAO's information was obtained 1 to 3 years after the event.

In addition to the differences in the establishments surveyed and the methods used, perhaps the most important distinction was the definition of notice used in each study. In the BLS study, a *general notice* "informs individual employees that they will be laid off," while in the GAO study, it was defined as "an event in which groups of workers are notified that some or all of the workers may be laid off." *Specific notice,* in the BLS study, "informs individual employees that they will be laid off on a specific date." In the GAO study, it was described as "an event in which individual employees are notified that on a specific date they will no longer be employed at the establishment." The BLS definition of advance general notice was much more restrictive than the GAO's insofar as it required that individual employees be informed of an impending layoff. The definitions used for specific notice in both studies were comparable.

Table 4. Establishments providing layoff notification to organizations, by type and length of separation notice, July–December 1985

Organization	Advance general notice		Advance specific notice of more than 1 day	
	Number of establishments	Average days of notice[1]	Number of establishments	Average days of notice[1]
Total, all establishments[2]	85	–	85	–
Unions	42	38	26	9
State and local government officials	65	22	28	18
Press and other news media	27	44	8	34
Community groups	12	50	4	5

[1] Average days of notice are calculated based on those events in which notice was provided.

[2] Data on layoffs were reported by employers in Alabama, Arizona, Massachusetts, Texas, Washington, and Wisconsin. Data for Wisconsin are for October–December 1985.

Table 5. Mass layoff events by type of reemployment services provided by reporting establishments and selected industries, July–December 1985

Type of reemployment services	Number of establishments	Industry				
		Nonagriculture	Manufacturing			Nonmanufacturing
			Total	Durable goods	Nondurable goods	
Total, all industries[1]	248	240	181	126	55	59
With labor-management committees	19	19	15	12	3	4
Surveying skills of employees	17	17	14	11	3	3
Arranging for employment service registration	15	15	13	10	3	2
Arranging for training in job search skills	14	14	13	10	3	1
Canvassing other employers for job openings	10	10	8	5	3	2
Inviting other firms to conduct interviews	7	7	6	4	2	1
Providing other services	3	3	2	2	–	1
With outplacement services	58	58	46	36	10	12
Surveying skills of employees	28	28	23	21	2	5
Arranging for employment service registration	27	27	23	17	6	4
Arranging for training in job search skills	22	–	22	20	2	–
Canvassing other employers for job openings	30	30	26	20	6	4
Inviting other firms to conduct interviews	9	9	8	6	2	1
Providing other services	14	14	10	7	3	4

[1] Data on layoffs were reported by employers in Alabama, Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin. Data for Wisconsin are for October–December 1985.

NOTE: Dash represents zero or rounds to zero.

The Bureau's study dealt with establishments employing 50 workers or more. The survey was limited to seven States and covered layoffs which occurred in late 1985, lasting at least 30 days.

The GAO study covered a nationwide random sample of larger firms—those employing 100 workers or more—having layoffs in 1983 and 1984.

Considering the results from the two surveys, the GAO study estimated that 76 percent of the surveyed establishments provided advance general notice. (See table 6.) In the BLS study, only 36 percent of layoffs occurred with advance general notice given to employees. The difference in the extent of advance general notice provided in each survey stems from the definition used.

In terms of specific notice, the GAO study found that 34 percent of establishments provided no specific notice to employees, while the BLS study found this to occur in only 5 percent of layoffs. However, in the BLS survey, establishments responded that, in 115 layoffs, 1 day or less of specific notice to employees was given. Often, hours of

notice were reported, with the notation made that this was in accordance with union agreements. Treating the "1 day or less of notice" as no notice increases the proportion of layoffs without specific notice provided to 48 percent. Regardless of the treatment of "1 day or less," both studies found that specific notice was provided in the majority of situations and that such specific notice was typically short—2 weeks or less.

Future data and analysis

The establishments surveyed regarding advance notice to workers were identified through the Bureau's Permanent Mass Layoff and Plant Closing program. This is a Federal-State cooperative endeavor which uses a standardized, automated approach to identifying, describing, and tracking the effect of major job cutbacks, using data from each State's Unemployment Insurance (UI) data base. Establishments which have at least 50 initial claims filed against them during a 3-week period are targeted for contact by the State agency to determine whether these separations are permanent or temporary, the total number of persons separated, as well as the reasons for these separations. Establishments are identified by industry and location and detailed socioeconomic characteristics of UI claimants, such as age, race, sex, ethnic group, and place of residence are noted. The Permanent Mass Layoff and Plant Closing program yields information on an individual's entire spell of insured unemployment, to the point where his or her regular UI benefits are exhausted.

Currently, 47 States and the District of Columbia are participating in the program. Data on establishments and workers involved in permanent mass layoffs and plant closings will be released in the first annual report to Congress this summer. The report will be limited to those States for which 1986 data are available. The 1987 report is scheduled for publication in the spring of 1988 and will contain data for virtually every State. □

Table 6. Percent distribution of advance notice provided[1] in layoffs by length of layoff

Length of notice	General notice		Specific notice	
	BLS	GAO	BLS	GAO
Total	100	100	100	100
No notice	64	24	5	31
1 to 14 days	16	25	78	34
15 to 30 days	6	17	9	15
31 to 90 days	10	17	8	15
91 days and over	4	17	(2)	5

[1] In the BLS study, information on advance notice relates to layoff events. Multiple unrelated layoffs in a single establishment are treated as separate events. In the GAO study, information on advance notice relates to establishments.

[2] Less than 0.5 percent.

FOOTNOTES

[1] The survey was undertaken at the request of Secretary of Labor William E. Brock's Task Force on Economic Adjustment and Worker Dislocation, and conducted by the State employment security agency staff in Alabama, Arizona, Arkansas, Massachusetts, Texas, Washington, and Wisconsin, in cooperation with the Bureau of Labor Statistics.

[2] See "GAO's Preliminary Analysis of U.S. Business Closures and Permanent Layoffs During 1983 and 1984, Apr. 30, 1986" (U.S. General Accounting Office). Also see, *Plant Closings: Information on Advance Notice and Assistance to Dislocated Workers* (U.S. General Accounting Office, Apr. 17, 1987), GAO–HRD 87-86BR.

Britain's redundancy payments for displaced workers

The Redundancy Payments Act of 1965 established the idea that an employee has property rights to his or her job based on years of company service and instituted an entitlement program for displaced workers sponsored by firms and the government

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In 1965, British policymakers created the Redundancy Payments Act, calling for advance notification of workers who are to be laid off (made "redundant") and mandating lump-sum payments to those affected. In the years that followed, revisions strengthened requirements for joint labor-management planning to avoid redundancies, but the basic structure of redundancy payments remained unchanged. The Act was an effort to spur industrial modernization, but with recent high levels of unemployment, it has taken on a welfare role, providing payments to displaced workers who may face prolonged periods of unemployment. Great Britain has attempted to mitigate the effects of economic displacement by mandating private-sector payments with partial government reimbursement of the costs. The primary and secondary impacts of the Act provide a useful backdrop for the current discussion of policies to deal with displaced workers in the United States.

The legislation: context and content

The Redundancy Payments Act of 1965 was a response by the British government to basic concerns about the flexibility of the nation's industrial base and, to some extent, its ability to modernize in the face of a traditional union emphasis on job security. Unemployment was low at the time and the primary concern was shifting to newer modes of production and expanding Britain's economic base to compete in future markets. Policymakers in the Labour government, which had a Parliamentary majority at the time, sought ways:

> ". . .to make it easier for workers to change their jobs in accordance with the needs of technological progress. . .to push forward the modernisation of British industry as fast as possible, and to enlist the cooperation of workers as well as management in the process. . ."[1]

The Act established the idea that an employee gains the equivalent of *property rights* to his or her job by virtue of years of service with the company. Those rights include the privileges and security associated with seniority, as well as rights to the job itself. In his introduction of the bill for its critical second reading in Parliament, the Minister for Labour equated the rights of an employee to a job with those of an owner:

> ". . .if a man is deprived of those rights by economic circumstances outside his control, he ought to be compensated. Industry has long recognized the justice of this for higher management and I believe the House would agree that it is high time to extend it to all workers."[2]

What emerged from Parliament was an Act which provided for advanced notification of impending cutbacks and lump-sum payments to workers who were made "redundant."[3] Advance notification of redundancies had been introduced by the previous Conservative government, and there was legislative precedent for mandating payments to redundant workers.[4]

Prior to the Act, severance payments were not widespread. One estimate suggests that fewer than 1 in 6 workers had any form of redundancy or severance pay, and most of those workers were in public-sector employment.[5] A survey in the late 1950's of "best practices," representing perhaps 10 percent of all companies, suggested that the most gener-

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ous of those companies offered no more than 12 weeks' pay for their long-term workers.[6] In one work force reduction 10 years before the passage of the Act, a large automaker dismissed 4,900 workers with only 2 days' notice and no compensation. Subsequent negotiations eventually resulted in 1 week's pay for those with 3 to 10 years of service and 2 weeks' pay for those with more.[7]

The appropriateness of a lump-sum payment rather than increased income maintenance payments was one subject of legislative debate. The authors of the Act held that a lump-sum payment was the appropriate response to a loss of property. It was argued that the redundant worker experiences a loss even if there is no period of unemployment. A one-time payment also had the advantage of avoiding disincentives for reemployment which might result from higher unemployment benefits. The single payment would "never have the effect of giving the prudent worker a financial incentive to spin out a spell of unemployment."[8]

The amount of the lump-sum payment was expressed in terms of a number of weeks of pay for years of service at different ages. Years worked when the worker was 18 to 21 result in a half week's pay per year. Each year worked when age 22 to 40 yields 1 weeks' pay. The worker is credited with $1\frac{1}{2}$ weeks' pay for each year worked from age 41 to the normal retirement age.[9] A worker has to have at least 2 years of service beyond the age of 18 to be eligible for the statutory payment. A maximum of 20 years of work are counted and a maximum wage was fixed at £40 per week in 1965. This was increased over the years to £155 in 1986.[10] (At the time of this writing, the exchange rate suggested that 1 British pound was equal to approximately $1.50.)

The schedule links payment levels to age, based on the assumption that older workers have more to lose in the event of displacement. This introduction of age into the formula was a departure from the approach of private-sector plans, and it created incentives for older workers to volunteer for redundancy.

The Act also established a Redundancy Fund, financed by a surcharge on the National Insurance tax. The fund had two purposes: first, it made the payments to "redundant employees whose employers were unable to fulfill that obligation";[11] and second, the fund also reimbursed employers for about 60 percent of the costs of redundancy payments.

The reimbursements were intended to spread the costs across businesses rather than have them fall only "on those firms and industries which are least able to bear it."[12] Recently, the percentage of costs reimbursed by the Redundancy Fund was decreased and was phased out entirely in the fall of 1986 for establishments with 11 employees or more.

The reimbursement structure initially reduced the costs for companies experiencing redundancies, undercutting some political opposition. This reimbursement structure also had additional political benefits. The governmental share of redundancy expenses was decreased over the years by lowering the proportion of employer expenses reimbursed. In this way, public costs were decreased without reducing the benefit levels to individuals. While this latter feature may not have been intended, the history of decreased reimbursement suggests that it had that effect.

Table 1. Redundancies and unemployment in Great Britain, 1977–85

[In thousands]

Item	1977	1978	1979	1980	1981	1982	1983	1984	1985
Advance notifications	607	548	574	1,547	1,058	770	551	405	423
Confirmed redundancies	158	173	187	494	532	400	327	245	235
Redundancy payments	267	255	255	491	810	635	608	425	391
Confirmed redundancies[1] (percent)	7.2	7.8	8.3	22.1	25.1	19.1	15.9	11.8	11.3
Redundancy payments[1] (percent)	12.2	11.5	11.3	22.2	38.2	30.2	29.7	20.5	18.8
Total number of unemployed[2]	1,345	1,321	1,234	1,591	2,422	2,806	2,988	3,034	3,149
Percent	5.7	5.6	5.2	6.7	10.2	11.9	12.7	12.9	13.3

[1] Rate per thousand employees.

[2] From April 1983, the unemployment data reflect the effects of the Budget provisions for some men aged 40 and over who no longer had to sign on at an unemployment benefit office. Unemployment rates are based on registered unemployed as a percent of the wage and salary labor force (excludes the self-employed and the Armed Forces).

SOURCE: "Recent Trends in Redundancies," *Employment Gazette*, December 1986, tables 1 and 2, redundancy payments rate calculated from tables. Unemployment data from table 2.2 in *Employment Gazette*, July 1981 and July 1986.

The incidence of redundancies

There is no central reporting of the total number of redundancies. The existence of the redundancy payments, however, provides some useful indicators of the extent of redundancies in Great Britain.

Three types of data arise from the operation of the Redundancy Payments Act: advance notifications, confirmed redundancies, and redundancy payments.[13] While none of these provides a direct estimate of the number of workers who are actually made redundant, each contributes to our understanding the incidence of redundancies.[14] Table 1 provides statistics on these three indicators.

Employers are required to give 30 days' advance notification to the Department of Employment before a redundancy involving 10 employees or more is to occur. (Ninety days is required when the redundancies are to involve more than 100 employees.) Statistics on *advance notifications* underrepresent the number of redundancies because they exclude actions affecting only a few people. They also may overrepresent the eventual redundancies because subsequent adjustments often negate or reduce the eventual need for the redundancies.

Confirmed redundancies are based on Department of Employment followup of the advance notifications. They also exlude establishments of fewer than 10 employees, but are more stable over time than the advance notifications. This stability makes confirmed redundancies a useful indicator of the incidence of redundancies over time.

Data on the number of *redundancy payments* provide the

third source for estimating the extent of redundancies. While these data include the smallest establishments, they do not include redundant employees with fewer than 2 years of service or those who have reached retirement age.

Although the number of redundancies is not directly measured, we can use redundancy payments to make an estimate. A study of British employment flow found that almost 40 percent of those who became unemployed said that they left their last job because of redundancy, but only 42.5 percent of that group said that they had received or expected to receive a redundancy payment.[15] Another British study of companies applying to the Redundancy Fund for reimbursement found a higher ratio of those receiving payments to those not receiving payments, but the authors suggest that their sample overrepresents that ratio and a one-to-one relationship between eligibles and ineligibles is a more accurate assumption.[16] Using this relationship, we can estimate the number of redundancies by doubling the number of payments.

In chart 1, this estimate is graphed over time, indicating a peaking in 1981 at about 1.6 million redundancies. Overall unemployment, included in table 1, is also displayed in chart 1. Although the relationship is not necessarily direct, we would expect increased redundancies to eventuate in higher unemployment. The data provide some support for this, with the sharp rise in the number of redundancies followed by an increase in unemployment in subsequent years.

The bulk of redundancies have occurred in manufacturing. Table 2 shows the rates of redundancy in manufacturing compared with those in the service sector from 1977 to 1985. Both rates show the same general trend over time in chart 1, but it is clear that layoffs in manufacturing dominate the picture. In addition, the ratio of manufacturing redundancies to service sector redundancies increases with rises in the overall numbers, indicating manufacturing's disproportionate share of the sharp increase in redundancies in the early 1980's. It should be noted, however, that systematic differences in the size of the establishments by industry may limit the usefulness of industry comparisons of confirmed redundancies. Redundancies in the service sector may be underrepresented because of the greater prevalence of small establishments than in manufacturing.

Redundancies in Britain and the U.S.

Although the British data are not strictly comparable with recent data on displaced workers in the United States, the incidence of redundancies can be compared.

Most redundant British workers who do not receive payments are ineligible because they have been employed for fewer than 2 years or, less often, they have reached retirement age (60 for women and 65 for men). Data from the United States suggest that from 1979 to 1983, approximately 11.5 million workers lost their jobs because of

Chart 1. Payments, redundancies, and unemployment in Great Britian, 1977–85

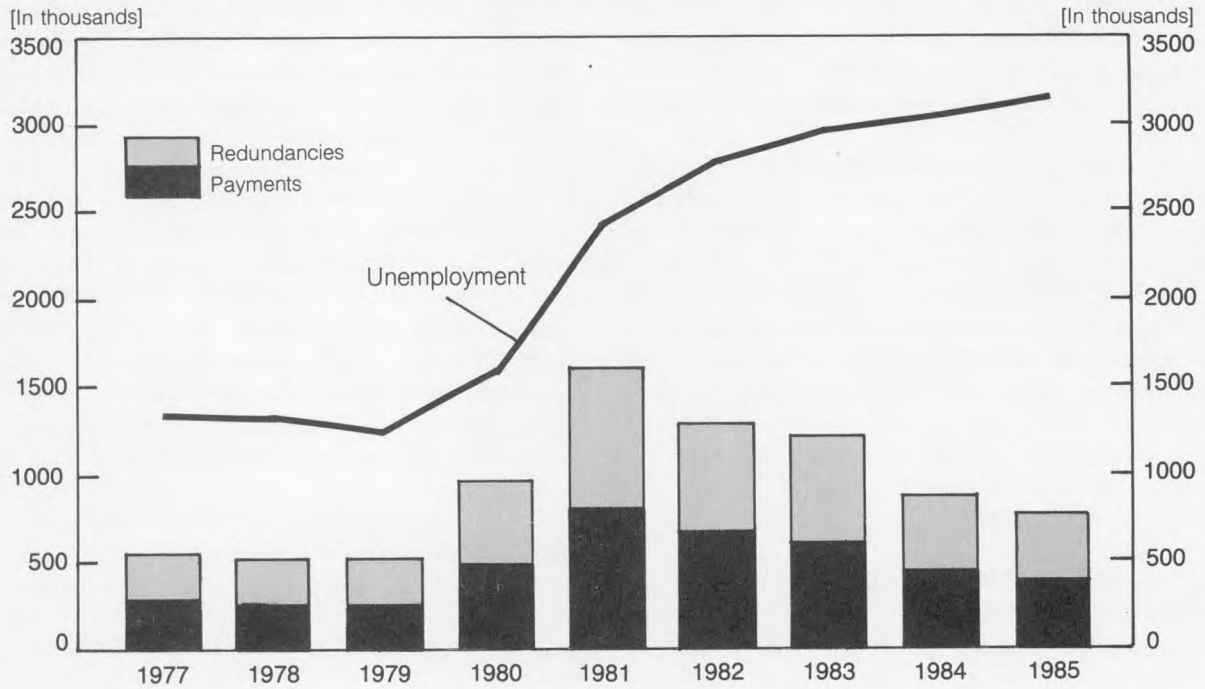

Table 2. Confirmed redundancies in the manufacturing and service sectors, 1977–85

Year	Rate per 1,000 employees		Ratio of manufacturing to service
	Manufacturing[1]	Service	
1977	13.8	2.1	6.6
1978	16.7	2.2	7.6
1979	19.9	1.9	10.5
1980	59.6	3.9	15.3
1981	65.9	5.9	11.2
1982	48.7	5.8	8.4
1983	40.2	5.0	8.0
1984	28.4	4.2	6.8
1985	25.3	3.6	7.0

[1] Excluding construction, energy, and water supply.

SOURCE: "Recent Trends in Redundancies," *Employment Gazette*, December 1986, table 2.

closings or job cuts; 6.9 million (60 percent) had 2 years or more on that job.[17] Displaced workers with 3 years or more on the job were analyzed in the U.S. data. Extrapolating from these data, however, we can estimate how many workers with 2 years or more who were below the British retirement age were displaced in each of the years from 1979 through 1983.[18] These data and the comparable British data, based on redundancy payments, are displayed in table 3.

In both countries, the rates of displacement increased sharply in the early 1980's. The British rates are considerably higher than those in the United States, particularly in 1981, when the British redundancies peaked. For the period covered, however, the British rates display some downward movement, while the U.S. rates continue upward.

Three payment levels

Statistics are available for the payments which are required by statute, but larger corporations typically provide payments which increase the total amount which a redundant worker receives. Payments can be roughly divided into three levels: (1) statutory payments; (2) "extra payments," which are corporate plans which add to those statutory minimums; and (3) "super payments," which are larger payments arising in nationalized industries, particularly those associated with the European Coal and Steel Community.

It is estimated that somewhat more than one-half of those who are receiving redundancy payments have no corporate supplement.[19] The average statutory payment in the 12-month period ending in March 1986 was £1,758.[20]

Most larger companies provide extra payments to supplement their statutory obligation. The amount of the payments varies with the wage level, seniority, and age of the work force affected, and this is usually not made public by companies. It is estimated that the extra payments tend to result in two to three times the level of payments mandated by law.[21]

The calculation of extra payments range from ignoring the limits used for statutory payments (for example, maximum wage level counted or number of years of service credited) to the addition of a fixed amount to supplements based on combinations of age and length of service. The actual structure of the extra payment programs can have a pronounced effect on the distribution of payments across age groups. Two programs in the auto industry offer an example.[22] Company A provides 18 weeks' pay in addition to the statutory payment. Company B uses a formula which reflects the statutory approach of giving more weight to years of service by older workers. For a worker made redundant at age 38 after 20 years of service, Companies A and B provide a total of 36 and 35 weeks' pay, respectively. For a worker who is displaced at age 58 after 30 years of service, Company A provides 46.5 weeks' pay while the payment from Company B would be for 68 weeks.

The impact of the two different approaches in this example varies with the age structure of the work force. For younger workers (and those with shorter tenure with the company) the plan in Company A is more generous (and more costly for the company). If, however, the work force is older, the extra payments in Company B are much more attractive. In a cutback, rather than a total closing of a facility, these higher payments for older workers, often combined with relaxed pension eligibility, create strong incentives for older workers to volunteer for redundancy. This has tended to reverse the traditional LIFO (last in, first out) order of redundancies as older workers with greater seniority volunteer for redundancy.

As noted, "super payments" are found in nationalized industries, particularly those tied to the European Coal and Steel Community. These payments tend to be well above the levels of other corporate payment plans. In addition, salary continuance plans can provide up to 2 years' continuing salary (or salary supplements if the worker is reemployed at a lower paying job). In a 1980 personnel reduction in a Welsh steel company, for example, it was reported that male workers 55 and older received an average payment of £10,000; the lowest 20 percent received less than £5,000; and the highest 20 percent received more than £15,000.[23] In addition, those workers received income supplements up to 90 percent of their former wage for the 2 years following their job loss. During this period, £18,000 was the maximum redundancy payment which a British steelworker could receive.[24]

These redundancy payment levels reflect the effect of standards established by the European Coal and Steel Community and, to some extent, funds from the Community. As part of attempts to nationalize coal and steel production in Europe, Community funds have been used to ease the costs involved in closing less productive facilities. The contributions have been applied to early retirement packages, training, and redeployment as well as to redundancy pay. In 1979, it was reported that the coal industry received £4.67 million (an average of £1,240 per redundant worker). In the steel industry, £1.5 million was provided, £600 per worker.[25]

Other nationalized industries which do not receive outside

support often have relatively large redundancy payments, but these public sector payments tend to be within the range of the most generous private sector plans. For example, the average payment for workers who were made redundant by British Shipbuilders in 1983 was about £7,500.[26]

Comparing two systems

The British layoff situation differs from that of the United States. Britain's redundancy rates have been two to three times greater than those in the United States. In addition, unemployment is more prevalent and regional unemployment is particularly severe. This is compounded by two factors which limit geographic labor mobility: the relative absence of a private sector rental market and very large differentials in housing costs among regions. On the other hand, differences in the social insurance systems result in less dependence upon the workplace for health insurance, eliminating one of the critical problems which displaced workers face in the United States.[27]

Another significant difference between the two countries is the Federal structure in the United States, which places individual States in competition for attracting business. Although some States and even cities have enacted plant-closing legislation, concern about discouraging business investment with possible increased regulation and costs has limited State-by-State initiatives.[28]

Given these differences, the Redundancy Payments Act provides one model for an interplay between the private policies of corporations and policies in the public sector. Addressing social welfare needs through corporate policy has been more characteristic of the United States than Britain.[29] The Act officially recognized an employee's "rights" to a job and quantified those rights in terms of weeks of pay for years of service. It established a universal entitlement program administered by corporations but with the economic burden initially alleviated by partial reimbursement from a fund established with a surcharge to the existing social insurance tax.

Payments and personnel decisions

Early critics of the Act feared that the costs would discourage employers from imposing necessary redundancies. But, in practice, it appears that the payments have *facilitated* dismissals.[30] The Act created an orderly process so that a manager could reduce a work force "with an easier conscience and reduced costs and arguments."[31]

The statutory program not only created a universal payment which was considerably beyond the general standards of the time, but it also appears to have stimulated the growth of private-sector schemes which built upon this base. Extra payments, a rarity before 1965, are now a normal part of the redundancy plans of medium-sized and larger firms.[32]

The Redundancy Payments Act has also had secondary effects on work force reductions. First, it changed the *role of unions*. Prior to the Act, unions typically resisted the imposition of redundancies. With the growth of redundancy payments, however, many workers have found the payment attractive enough to justify volunteering for redundancy. There has often been little rank-and-file support for opposing redundancies. The union role has shifted from fighting redundancies to bargaining for larger payments.

Second, the Act changed the age profile of those affected by redundancies. Seniority traditionally dominated the order of redundancy selection. Age-based redundancy payments, combined with an increase in the use of liberalized pension eligibility, changed this by bolstering incentives for the older worker to volunteer for redundancy. This is especially true when the lump-sum payment represents more money than the worker has ever amassed at any one time.

In the years since the passage of the Redundancy Payments Act, there has been increased targeting of redundancies to older workers. Prior to the Act, only 19 percent of employers in a national survey indicated that age was a criterion in selection for redundancy. After the Act, that percentage doubled. By 1974, a study by the British Institute of Management concluded that age was "the most important single mechanism for redundancy selection."[33]

In addition to creating incentives for older workers to elect voluntary redundancy, there also appears to be informal, social pressure on older workers to "make way" for the young.[34] Nevertheless, for the older worker who is still 10 or 15 years from retirement age, volunteering may mean extended unemployment with little chance of finding other work.

Statutory redundancy payments arose as an attempt to encourage labor mobility. They were a *consolation prize* designed to reduce employee resistance to industrial innovations. In a growing economy with low levels of unemployment, the payments were appropriate for such a role. As unemployment increased, however, redundant workers found that the loss of a job was not followed by reemployment and payments were quickly exhausted. With 13-

Table 3. Comparison of rates of displacement (redundancy) for workers with 2 years or more of service, Great Britain and the United States, 1979–83

[Numbers in thousands]

Year	Great Britain		United States[1]	
	Number	Rate per 1,000 employees	Number	Rate per 1,000 employees
1979	255	11.3	686	6.9
1980	491	22.2	895	9.0
1981	810	38.2	1,290	12.8
1982	635	30.2	1,721	17.3
1983	608	29.7	1,789	17.7

[1] Includes only those workers with at least 2 years of service and below retirement age for British workers (60 for women; 65 for men).

SOURCE: Data for Great Britain from "Recent Trends in Redundancies," *Employment Gazette*, May 1985, table 1, with rates calculated from data in tables 1 and 2. Data for the United States based on the author's analysis of U.S. Department of Labor special household survey of displaced workers, extrapolating those with at least 2 years of service who are below the British retirement age. For a description of the data, see Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well did they fare?" *Monthly Labor Review*, June 1985, pp. 3–16.

percent unemployment and some regional rates at triple that level, the statutory redundancy payment provides little economic security.

Redundancy payments were created as *labor policy*. But as long-term unemployment has become more common among the workers affected, they have become more closely associated with *welfare policy*. They have become, in effect, an element of the British income maintenance structure. This is not a role for which they were created and the statutory redundancy payments do little to address the economic needs of those facing long-term unemployment. □

—— *FOOTNOTES* ——

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[1] House of Commons, *Parliamentary Debates (Hansard)*, Apr. 26, 1965, fifth series, volume 711, column 33. The *Hansard* is the official record of proceedings in Parliament, recording debates and the text of Parliamentary actions. The Redundancy Payments Act was later incorporated into the Employment Protection (Consolidation) Act.

[2] *Hansard*, Apr. 26, 1965, column 35.

[3] The use of "redundancy pay" rather than "severance pay" was based on what the lawmakers felt was its greater precision. Before the passage of the Act, "redundancy" was not such a common term.

[4] For example, the Cotton Industry Act of 1959 made government support of industries contingent upon compensating employees for their loss of employment. See Santosh Mukherjee, *Through No Fault of Their Own* (London, Macdonald, 1973), p. 43.

[5] S.R. Parker and others, *Effects of the Redundancy Payments Act* (London, Her Majesty's Stationary Office, 1971), p. 4.

[6] Mukherjee, *Through No Fault of Their Own*, p. 53.

[7] Hilda Kahn, *Repercussions of Redundancy* (London, Allen and Unwin, 1964), pp. 21–24.

[8] *Hansard*, Apr. 16, 1965, column 37.

[9] The Act does not require payments to workers who have reached retirement age, 65 for men and 60 for women, irrespective of whether they had planned to continue working beyond that age. This differential treatment of men and women has not yet been tested in court, although there have been successful challenges in the European court to the policy of different mandatory retirement ages based on sex.

[10] In 1985, average weekly earnings were £164 for full-time working men and £101 for full-time working women. See *Employment Gazette*, July 1986, table 5.6, p. S50.

[11] "Employment Topics—Redundancy Fund," *Employment Gazette*, July 1986, p. 284.

[12] *Hansard*, Apr. 26, 1965, columns 42–43.

[13] Consistent statistics on redundancies have only been available since 1977. See discussion in "Statistics of Redundancies and Recent Trends," *Employment Gazette*, June 1983, p. 245.

[14] For a discussion of these data, see "Recent Trends in Redundancies," *Employment Gazette*, May 1985, pp. 202–06.

[15] W.W. Daniel, *The Unemployed Flow: Stage 1 Interim Report* (London, Policy Studies Institute, May 1981), tables III–2 and III–11.

[16] Alan Anderson, "Redundancy Provisions," *Employment Gazette*, August 1981, footnote 3, p. 352. The major trade union federation reached a similar conclusion. See "Statutory Redundancy Payments: Discussion Document," Trades Union Congress, Circular No. 151, 1982–83 (London, Feb. 3, 1983), p. 4.

[17] Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3–16.

[18] This is based on the author's analysis of data provided by the Bureau of Labor Statistics in microcomputer format.

[19] John Bowers, David Deaton, and Jeremy Turk, *Labour Hoarding in British Industry* (Oxford, Blackwell, 1982), p. 37. This finding is based on a survey of limited size and may overrepresent larger concerns and, consequently, the proportion of companies with extra payments.

[20] "Employment Topics—Redundancy Fund," *Employment Gazette*, July 1986, p. 284.

[21] "Redundancy Terms," Income Data Services, Inc. (London 1980), p. 4. This estimate is supported by the findings of the Institute of Manpower Studies survey which reports extra payments averaging 150 percent of the statutory level. See Anderson, "Redundancy Provisions," p. 351.

[22] The information about the two programs is based on the author's interviews with the respective personnel directors in the companies.

[23] Bill Bytheway, "Induced Voluntary Early Retirement: A Research Report," *Institute of Health Care Studies* (Swansea, Wales, University College of Swansea, January 1985), pp. 7–9.

[24] *British Business*, Apr. 3, 1981, p. 654.

[25] "Coal and Steel Workers Get European Aid," *Employment Gazette*, February 1979, p. 190.

[26] *British Business*, Feb. 10, 1984, p. 244.

[27] Flaim and Sehgal, "Displaced Workers, 1979–83," pp. 7–8.

[28] For an example of one State program, see Nancy R. Forbre, Julia L. Leighton, and Melissa R. Roderick, "Plant Closings and their Regulation in Maine, 1971–1982," *Industrial and Labor Relations Review*, Jan. 2, 1984, pp. 185–96.

[29] For a discussion of this, see Lawrence S. Root, "Employee Benefits and Social Welfare: Complement and Conflict," *Annals*, 479, May 1985, pp. 101–18; and Lawrence Root, *Fringe Benefits: Social Insurance in the Steel Industry* (Beverly Hills, CA, Sage, 1982).

[30] Paul Lewis, *Twenty Years of Statutory Redundancy Payments in Great Britain* (Leeds, England, The Universities of Leeds and Nottingham, 1985), p. 38.

[31] Parker and others, *Effects*, p. 29. The authors found that 46 percent of employers and 79 percent of union leaders felt that the Act had decreased worker resistance to redundancies (p. 147). Anderson, "Redundancy Provisions," p. 353, found a more neutral response.

[32] It is estimated that 54 percent of U.S. employers of more than 100 employees who have recently had layoffs provided some severance pay. See *Dislocated Workers: Extent of Business Closures, Layoffs, and the Public and Private Response* (General Accounting Office, July 1986), GAO/HRD-86-1116BR, p. 18.

[33] J. Jolly, S. Creigh, and A. Mingay, "Age as a Factor in Employment," Research Paper No. 11 (London, Department of Employment), p. 97. See also W.W. Daniel and Elizabeth Stilgoe, *Where Are They Now? A Follow-Up Study of the Unemployed* (London, Political and Economic Planning, 1977), p. 89.

[34] Bill Bytheway, "Making Way: The Disengagement of Older Workers," paper presented to the Annual Conference, British Society of Gerontology, University of Keele, Sept. 27–28, 1985. This informal pressure on older workers to step aside has also been observed in the operation of retirement systems. For example, see Bernard Casey, "Recent Trends in Retirement Policy," in Pauline K. Robinson, Judy Livingstone, and James E. Birren, *Aging and Technological Advances* (London, Plenum, 1984), pp. 125–37.

The minimum wage: its relation to incomes and poverty

In March 1985, one in five hourly wage workers paid at or below the Federal minimum wage of $3.35 per hour lived in households with incomes below U.S. poverty levels

RALPH E. SMITH AND BRUCE VAVRICHEK

Federal minimum wage legislation provides a floor on the hourly wage rate that employers are allowed to pay most workers. First enacted as part of the Fair Labor Standards Act of 1938, this statute now requires a wage of at least $3.35 per hour for the almost 90 percent of nonsupervisory civilian workers to whom the act applies. Although the minimum wage has been increased numerous times since it was established, it has remained unchanged since January 1981. Because prices and wages have risen since that time, the real value of the minimum wage has fallen.

In recent years, several proposals have been made to change the minimum wage, including increasing it for all workers, reducing it for younger workers just getting started in the labor market, and eliminating it. These alternatives are based on differing views about the effects of the minimum wage at its current level. Some people believe it is too low to provide low-wage workers with an adequate standard of living, while others maintain that the present minimum limits employment opportunities—especially for young workers—by artificially raising wage costs to employers.[1]

One issue relevant to debates on the minimum wage is the relation between that wage and poverty. Proponents of increasing the minimum wage argue that it should be at least high enough to provide above-poverty earnings to workers with families to support. This article investigates empirical evidence about the relationship among low wage rates, income levels, and the incidence of poverty using data from the March 1985 Current Population Survey (CPS). Unlike wage surveys based on payroll and other business records of employers, this household survey also provides information on the demographic and social characteristics of the workers, as well as their income and poverty status in the preceding calendar year.[2]

Background of the minimum wage

Historically, changes in the minimum wage provisions of the Fair Labor Standards Act have consisted primarily of increases in the wage rate and expansions in coverage.[3] The minimum wage, which was originally set at $0.25 per hour in 1938, reached $1 per hour in 1956, $2 per hour in 1974, and the current level of $3.35 in 1981. (See table 1.) Coverage originally was limited to workers directly engaged in interstate commerce, or in the production of goods for interstate commerce, but has been expanded considerably. In 1985, about 73 million nonsupervisory workers—or almost 90 percent of that work force—were subject to the minimum wage. Major groups currently not subject to the minimum wage include executive, administrative, and professional personnel; employees in some small firms; and, of course, the self-employed.

The remainder of this section analyzes the history and current status of the minimum wage by considering its relation to average prices and wages in the economy, and to Federal poverty thresholds.

Prices, wages, and the minimum wage. One perspective on the size of the minimum wage today can be obtained by

Ralph E. Smith and Bruce Vavrichek are economists at the U.S. Congressional Budget Office. Roald Euller provided valuable technical assistance.

Table 1. Minimum wage rates under the Fair Labor Standards Act of 1938, 1938–85

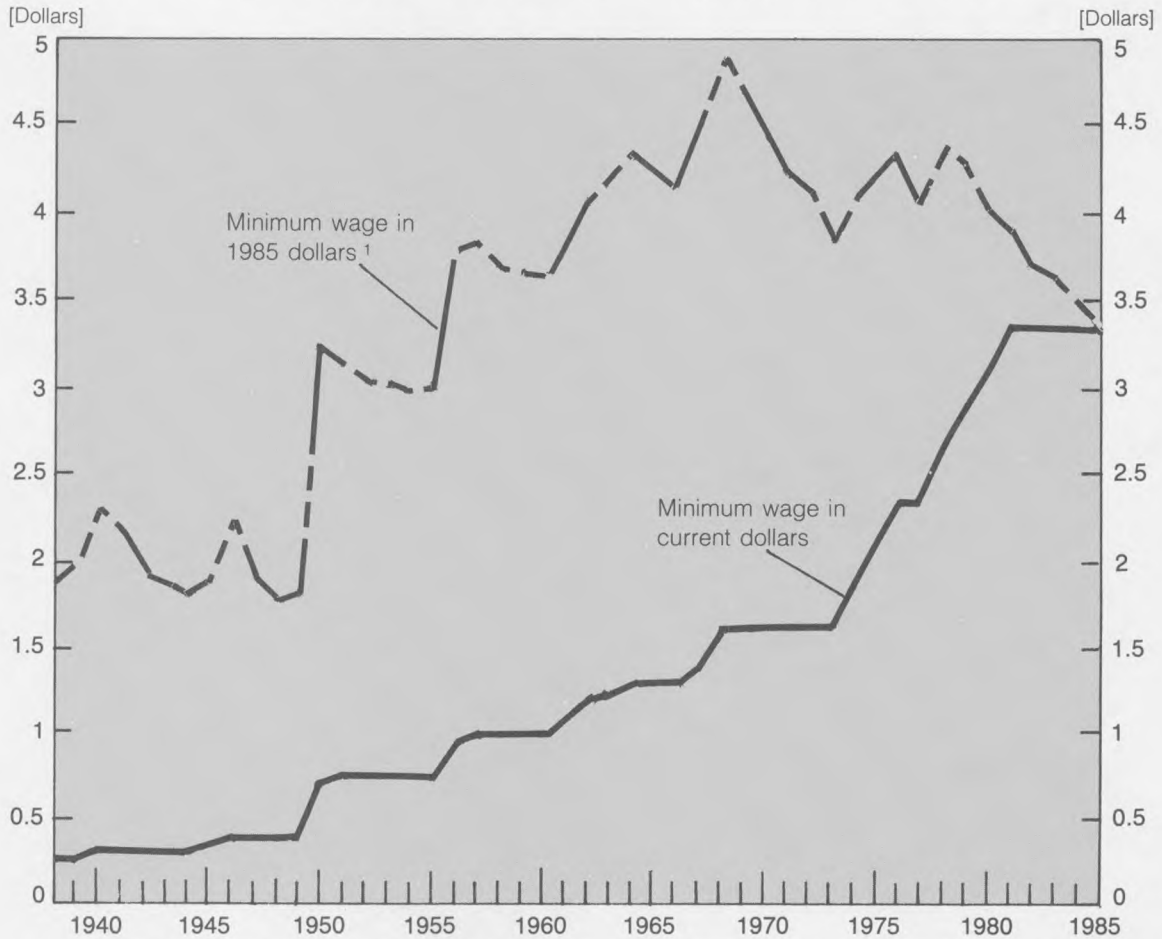
Effective date	Minimum wage	Effective date	Minimum wage
October 24, 1938	$0.25	February 1, 1968	$1.60
October 24, 1939	0.30	May 1, 1974	2.00
October 24, 1945	0.40	January 1, 1975	2.10
January 25, 1950	0.75	January 1, 1976	2.30
March 1, 1956	1.00	January 1, 1978	2.65
September 3, 1961	1.15	January 1, 1979	2.90
September 3, 1963	1.25	January 1, 1980	3.10
February 1, 1967	1.40	January 1, 1981	3.35

SOURCE Social Security Administration, *Social Security Bulletin, Annual Statistical Supplement, 1984–85*, p. 68.

analyzing the real purchasing power of the wage over time, and by examining its relation to average wages.

The purchasing power of the minimum wage—that is, its value after taking account of inflation, here measured with the Consumer Price Index—has fluctuated considerably over time, but today is less than at any time since the mid-1950's. In 1985 dollars, the minimum wage was worth just under $2 per hour when the legislation was enacted in 1938. (See chart 1.) By 1968, the real value of the wage had reached a high of nearly $5 per hour, but by 1985, it had declined to $3.35. In the 5-year period between January 1981—when the minimum wage was set at $3.35—January

Chart 1. Minimum wage rate in current and constant (1985) dollars, 1938–85



[1] The minimum wage in constant 1985 dollars is equal to that wage divided by the Consumer Price Index (CPI), where the CPI is adjusted to equal 1.00 in 1985. CPI data for 1938–77 are for urban wage earners and clerical workers; beginning in 1978, CPI data are for all urban consumers.

NOTE: In years when the minimum wage changed, the wage in this chart represents the weighted average of the old and new rates.

SOURCES: Authors' calculations based on the data from Social Security Administration, *Social Security Bulletin, Annual Statistical Supplement 1984–85,* p. 68; Council of Economic Advisers, *Economic Report of the President,* February 1986, p. 315; and Department of Commerce, Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970,* Part 1, p. 210.

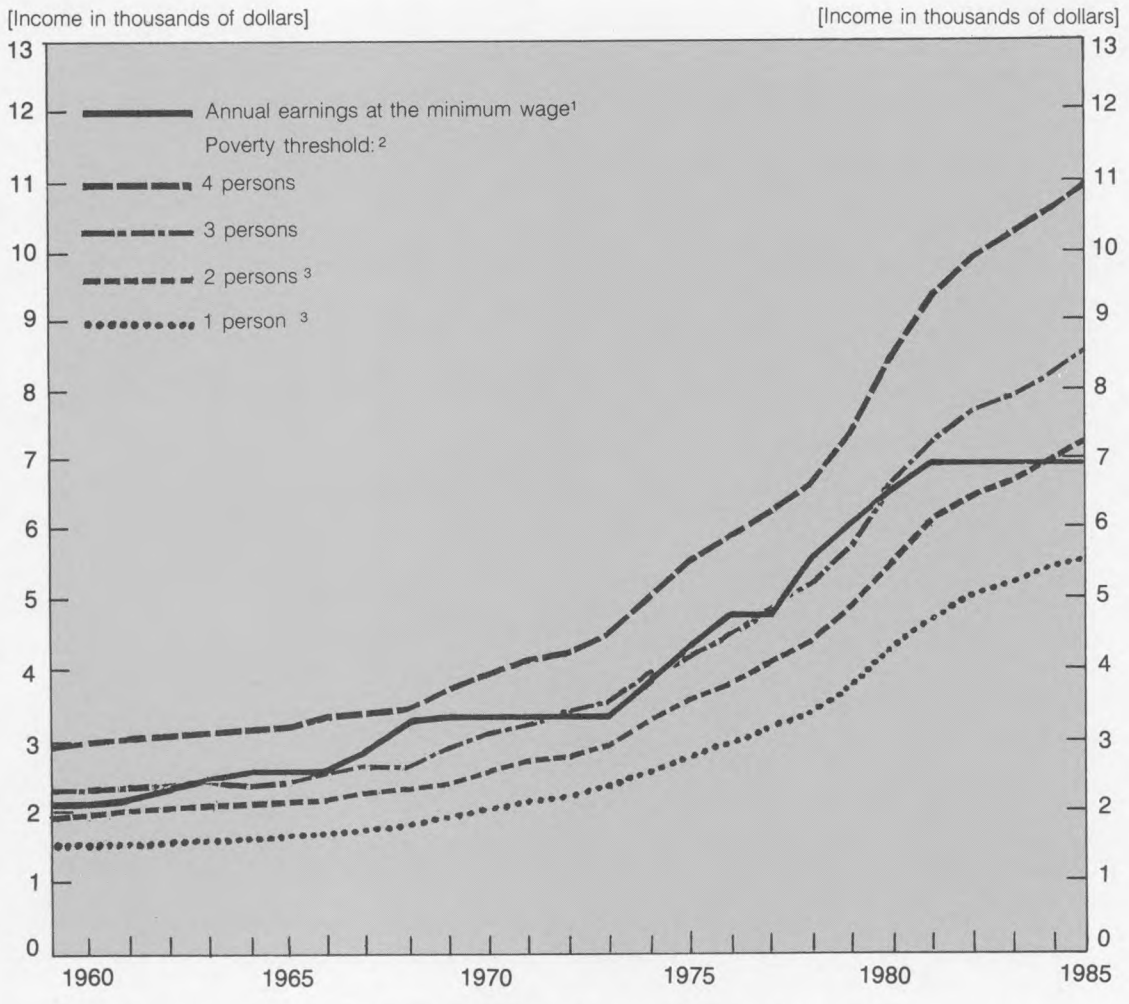
1986, average prices increased by about 26 percent. To have the same purchasing power it had had at the start of 1981, the minimum wage would have had to have been about $4.22 per hour in January 1986.

In recent years, the minimum wage also has fallen as a share of average wages. After hovering around 50 percent of average hourly earnings in private nonagricultural industries during the 1950's and 1960's, the minimum averaged just over 45 percent in the 1970's. By 1985, it had declined to about 39 percent of average wages. Comparisons with the broad private nonfarm series are less useful in the early years, however, when minimum wage coverage was considerably more limited.

Relationship to poverty thresholds. Another perspective on the minimum wage comes from comparing the earnings of a minimum wage worker with the Federal poverty thresholds published by the Bureau of the Census. The thresholds—first estimated in the early 1960's, and updated annually to account for inflation—reflect the consumption requirements of families based on their size and composition. In 1985, poverty thresholds ranged from $5,160 for a single elderly person to an average of $22,010 for families with nine or more members.[4]

During most of the 1960's and 1970's, a person working full time, year round at the minimum wage would have received an income roughly equal to the poverty threshold

Chart 2. Poverty thresholds of income and annual earnings at the minimum wage, 1959–85



[1] Annual earnings are for a worker employed 40 hours per week for 52 weeks per year.

[2] For families of two or more persons, reported poverty thresholds are actually weighted averages of different thresholds for families of the same size but with different numbers of children.

[3] One-and-two-person poverty thresholds used here are those for the nonelderly.

SOURCES: Authors' calculations based on data from Social Security Administration, *Social Security Bulletin, Annual Statistical Supplement, 1984–85*, pp. 68, 70; and Department of Commerce, Bureau of the Census, unpublished data.

for a three-person family, as shown in chart 2. Full-time, year-round earnings at the minimum wage have declined relative to poverty thresholds since then, however, because these thresholds are adjusted to account for changes in prices, while the minimum wage has not increased since 1981.

A person working 40 hours per week for 52 weeks at the minimum wage would have earned about $7,000 in 1985. This income level was well above the poverty threshold for individuals living alone and about equal to the thresholds for two-person families, but was well below the thresholds for families of three or more people.

The minimum wage and family incomes

In March 1985, more than 5 million workers were paid at or below the Federal minimum wage.[5] Data from the March 1985 CPS were used to examine the total incomes of these workers, and particularly the extent to which they were poor—that is, living in families with total cash incomes below Federal poverty thresholds. This relationship between a worker's wage rate and his or her poverty status depends on a number of factors, including the number of hours worked per year, the amount of other income received by the worker and other family members, and the applicable poverty threshold for the worker's family.

This analysis is complicated by several limitations of the data on wage rates and incomes. The most important constraint is that the information on poverty pertain to 1984, while data on wage rates relate to March 1985. The CPS does not provide sufficient information about the total number of hours worked by employed people in 1984 to yield good estimates of their hourly wage rates during that year. Only in the case of workers who were employed full time, year round is it possible to estimate hourly wage rates; even then, the estimate is imprecise because the exact number of hours worked each week is not known. Because of these limitations, the relation between hourly wages and poverty can only be approximated, either by linking March 1985 wage rates with 1984 poverty status, or by relating an estimate of the worker's hourly wage rate in 1984 to his or her poverty status in that year. For the following analysis, each of these methods was applied.

An additional limitation of the analysis is that, in any month, only one-quarter of the respondents in the full CPS sample are asked the questions about their hourly earnings. Thus, the sampling errors associated with population estimates derived from the responses in a single month are larger than those that would result from asking the entire CPS sample the same questions.[6] To test the robustness of our findings, we repeated the entire analysis of the linkage between the March wage rates and annual poverty status, using the March 1984 CPS responses. The results, available from the authors on request, confirmed the relationships reported below, albeit with differences in the specific estimates.

Table 2. Workers paid hourly rates, by 1984 family income, and by March 1985 hourly earnings

Family income in 1984	Total	March 1985 wage rate			
		Below $3.35	$3.35	$3.36-$4.35	Over $4.35
	Number of workers (in thousands)				
Total	52,110	1,510	3,690	9,610	37,300
Below poverty	3,890	310	680	1,340	1,560
100–149 percent of poverty line	4,250	210	430	1,130	2,490
150 percent or more of poverty line	43,970	990	2,580	7,150	33,250
	Percent distribution within 1985 wage group				
Total	100.0	100.0	100.0	100.0	100.0
Below poverty line	7.5	20.8	18.5	13.9	4.2
100–149 percent of poverty line	8.2	13.7	11.6	11.7	6.7
150 percent or more of poverty line	84.4	65.6	69.8	74.4	89.2
	Percent distribution within 1984 income group				
Total	100.0	2.9	7.1	18.4	71.6
Below poverty line	100.0	8.1	17.6	34.3	40.0
100–149 percent of poverty line	100.0	4.9	10.1	26.5	58.6
150 percent or more of poverty line	100.0	2.3	5.9	16.3	75.6

NOTE: Due to rounding, sums of percentage distributions may not equal 100.

SOURCE: Authors' tabulations of data from the March 1985 Current Population Survey.

Minimum wage workers and poverty. As shown in table 2, 10 percent of all workers who were paid by the hour in March 1985 reported being paid at or below the minimum wage.[7] Roughly 7 percent (about 3.7 million workers) reported being paid exactly $3.35 per hour, and 3 percent (about 1.5 million) reported earning less than that amount.

Most of the workers paid at or below the minimum wage had not been poor in the previous year. Among those paid exactly $3.35 in March 1985, 18.5 percent (680,000) were in families whose incomes in 1984 were below the relevant poverty thresholds; 11.6 percent had incomes between 100 percent and 150 percent of the poverty line; and the remaining 69.8 percent had incomes well above the poverty line. The distribution of income was similar among workers paid below the minimum wage.

Even so, the likelihood of being poor was higher for workers with low wage rates. Among the 5.2 million workers who reported being paid at or below the minimum wage in March 1985, about 1 million (19.2 percent) were in families that would have been classified as poor in 1984. Among the 9.6 million workers paid between $3.36 and $4.35 an hour, 1.3 million (13.9 percent) would have been so classified. The 1984 poverty rate among the 37.3 million higher-paid workers was lower yet (4.2 percent).

Examination of some of the characteristics of workers paid at or below the minimum wage—henceforth termed "minimum wage workers"—and the activities of their families in March 1985 suggests several reasons why being a minimum wage worker and being poor are not synonymous. About 70 percent (3.6 million) of the 5.2 million minimum wage workers were in families in which at least

Table 3. Selected characteristics of poor and nonpoor workers paid hourly rates, March 1985

Characteristics	Number of workers paid hourly rates (in thousands)					Poverty rate (in percent)[1]		
	Total	Paid at or below $3.35		Paid over $3.35		Total	Paid at or below $3.35	Paid over $3.35
		Poor	Total	Poor	Total			
	00,000	0,000	0,000	0,000	00,000	00.0	00.0	00.0
Total	52,110	1,000	5,200	2,890	46,910	7.5	19.2	6.2
Age and sex:								
Teenagers	4,970	210	1,670	310	3,300	10.4	12.5	9.3
Adult men	24,080	300	1,340	1,260	22,740	6.5	22.0	5.5
Adult women	23,060	490	2,190	1,320	20,860	7.9	22.5	6.3
Employment status:[2]								
Full-time	37,420	360	1,610	1,920	35,810	6.1	22.4	5.4
Part-time	14,610	630	3,590	940	11,020	10.8	17.7	8.6
Other workers in family:								
None	18,350	700	1,590	2,040	16,760	14.9	44.3	12.2
One or more	33,760	300	3,620	850	30,140	3.4	8.2	2.8

[1] Percentages are calculated based on estimates prior to rounding.

[2] Information about the number of hours worked in March 1985 was not provided for about 70,000 workers.

SOURCE: Authors' tabulations of data from the March 1985 Current Population Survey.

Table 4. Work experience, presence of other workers in family, and poverty thresholds of poor and nonpoor workers paid hourly rates, March 1985

Characteristics	Number of workers paid hourly rates (in thousands)					Poverty rate (in percent)[1]		
	Total	Paid at or below $3.35		Paid over $3.35		Total	Paid at or below $3.35	Paid over $3.35
		Poor	Total	Poor	Total			
Total	52,110	1,000	5,200	2,890	46,910	7.5	19.2	6.2
Work experience in 1984:								
Full-time, year-round	28,760	120	940	740	27,830	3.0	12.7	2.7
Part-time, year-round	5,310	150	800	260	4,510	7.7	18.6	5.7
Full-time, part-year	9,300	250	930	970	8,360	13.2	27.1	11.6
Part-time, part-year	7,220	320	1,990	670	5,230	13.8	16.3	12.8
No employment	1,510	150	540	250	970	26.7	28.2	25.9
No other workers in family in 1984	16,190	710	1,600	2,000	14,590	16.8	44.5	13.7
Poverty threshold $10,500 or more	2,720	200	330	650	2,400	31.3	61.7	27.2
Other workers in family in 1984	35,910	280	3,600	890	32,310	3.3	7.9	2.7
Poverty threshold $10,500 or more	18,180	150	2,120	650	16,060	4.4	7.0	4.1

[1] Percentages are calculated based on estimates prior to rounding.

SOURCE: Authors' tabulations of data from the March 1985 Current Population Survey.

Table 5. Selected characteristics of poor and nonpoor persons who worked full time, year round, 1984

Characteristics	Number of year round paid employees who worked on full-time schedules (in thousands)[1]					Poverty rate (in percent)[2]		
	Total	Paid less than $7,000		Paid at least $7,000		Total	Paid less than $7,000	Paid at least $7,000
		Poor	Total	Poor	Total			
Total	59,620	550	2,240	510	57,380	1.8	24.3	0.9
No other workers in family:								
Total	20,680	400	820	350	19,860	3.6	48.7	1.8
Poverty threshold less than $7,000	13,700	230	570	0	13,140	1.7	39.7	0.0
Poverty threshold $7,000–$8,499	3,520	90	140	70	3,380	4.4	63.8	2.0
Poverty threshold $10,500 or more[3]	3,460	90	110	280	3,350	10.5	75.4	8.3
Other workers in family:								
Total	38,940	150	1,420	160	37,510	0.8	10.3	0.4
Poverty threshold less than $7,000	10,650	30	360	0	10,290	0.3	7.9	0.0
Poverty threshold $7,000–$8,499	10,690	30	350	10	10,340	0.3	8.0	0.1
Poverty threshold $10,500 or more[3]	17,590	90	710	150	16,880	1.4	12.7	0.9

[1] Workers recorded as having been employed for pay (other than self-employed) at least 50 weeks in 1984, with not more than five of these weeks on a part-time schedule.

[2] Percentages are calculated based on estimates prior to rounding.

[3] There were no poverty thresholds between $8,500 and $10,500. The average poverty threshold for a four-person family in 1984 was $10,609.

SOURCE: Authors' tabulations of data from the March 1985 Current Population Survey.

one other member held a job in the survey reference month. (See table 3.) Even though 70 percent of the minimum wage employees worked only part time in March, most minimum wage earners lived in families in which there were other workers. Teenagers held almost one-third of all jobs paying at or below the minimum wage in March 1985.

Minimum wage workers in general were employed fewer hours and more intermittently than were other workers, but were just as likely to be in families in which other members worked during the year. (See table 4.) Looking at the 1984 employment experience of workers making the minimum wage or less in March 1985, only 18 percent (940,000) reported having worked full time, year round, compared with 59 percent of the workers with wage rates above the minimum. Likewise, more than 10 percent of the minimum wage workers in March 1985 had not worked for pay in 1984, compared with only 2 percent of the other hourly workers.

Among the 1 million minimum wage workers who were poor by 1984 standards, only 12 percent had worked full time, year round in that year; 73 percent had worked part time or part year or both; and the remaining 15 percent did not report any paid employment. Thus, even though the poverty rate among year-round, full-time workers employed at or below the minimum wage was almost 13 percent, there were only 120,000 poor workers in this situation.

The likelihood of a minimum wage worker being poor in 1984 also was closely linked to the employment status of other family members. As shown in table 4, minimum wage workers who were the only jobholders in their families had a poverty rate of 44.5 percent, compared with 7.9 percent for those with other employed family members. This comparison was more dramatic for those in families of four or more people (who had poverty thresholds of $10,500 or more)—61.7 percent versus 7.0 percent.

Low annual earnings and poverty. Examination of the poverty status of full-time workers with low annual earnings provides further information about the relationship between low wages and poverty, and confirms the critical roles of family size and the presence of other workers in the family in determining whether a low-wage earner will be poor. For this part of the analysis, persons who reported being employed full time, year round in 1984 were counted as low-wage workers if they earned less than $7,000. This amount would correspond to the earnings of someone who worked all year, 40 hours each week, and was paid the minimum wage.

The Bureau of the Census reported that in 1984 there were 70.4 million people who worked at least 50 weeks primarily on full-time schedules (that is, 35 hour or more per week). Nearly 2.1 million of these workers were poor.[8] Detailed examination of the data revealed, however, that 8 million of these people, including more than 800,000 poor workers, reported that their primary activity was self-employment, or that they had worked without pay. The incomes of these workers would not be directly affected by a change in the minimum wage. Another 2.8 million full-time employees, including almost 200,000 of the poor workers, worked on part-time schedules during at least 6 weeks of the year.[9]

Among the remaining 59.6 million workers who reported that they had worked primarily for others in 1984 and that they had worked year round and mostly full time, 1.1 million had total family incomes below the poverty line. (See table 5.) This number is much smaller than the 2.1 million poor workers cited above, and indicates a poverty rate of 1.8 percent among these full-time, year-round workers.

Half of the year-round, full-time workers who were poor (550,000) reported earning less than $7,000 in 1984. These workers were probably earning average hourly wages of no more than the minimum wage rate.[10] Their poverty rate was 24.3 percent, compared with 0.9 percent for workers with higher earnings.

The likelihood of being poor also depended heavily on the number of other members of the worker's family who were employed and on the level of the family's poverty threshold. For example, among the 820,000 low-wage workers who had no other earners in their families, almost half were poor, whereas only one-tenth of their counterparts who were in families with other workers were poor. In each group, the poverty rate was highest among workers in families with poverty thresholds of at least $10,500. Among the higher-paid workers, too, the greatest incidence of poverty was among those in families with these poverty thresholds. □

——*FOOTNOTES*——

[1] Raising the cost to employers of low-wage workers can reduce the number of those workers hired and the number of hours they are employed. For example, studies reviewed by staff of the Minimum Wage Study Commission typically estimated that a 10-percent increase in the minimum wage would result in a reduction in teenage employement of between 1 percent and 3 percent. Raising the minimum wage was estimated to have a smaller effect on adult employment, although this effect is even less certain. See *Report of the Minimum Wage Study Commission*, vol. 1 (Washington, May 1981), ch. 2; and Charles Brown, Curtis Gilroy, and Andrew Kohen, "The Effect of the Minimum Wage on Employment and Unemployment," *Journal of Economic Literature*, June 1982, pp. 487–528.

[2] For more information, see Earl F. Mellor and Steven E. Haugen, "Hourly paid workers: who they are and what they earn," *Monthly Labor Review*, February 1986, pp. 20–26. Responses to the questions about hourly wages, combined with the regular information collected monthly about members of households in the CPS sample, provide the basis for tabulations published by the Bureau of Labor Statistics on hourly wage rates of wage and salary workers by selected characteristics. The hourly wage rates reported do not include tips, premium pay for overtime, bonuses, or commissions.

[3] Coverage is important, not only because of the minimum wage provisions, but because of the overtime provisions that often accompany them.

Under typical overtime provisions, employers are required to pay workers at least one and one-half times the regular wage rate for work in excess of 40 hours in a workweek. (This requirement applies not only to low-wage workers, but to all workers subject to the provisions of the act.)

[4] In 1985, the poverty threshold for a single nonelderly person was $5,590. For a two-person family, the threshold was $7,230 if the householder was age 15 to 64, and $6,510 if the householder was age 65 or older. The thresholds for three- and four-person families were $8,570 and $10,990, respectively, regardless of the age of the householder.

[5] Workers could legally be paid less than $3.35 per hour if they were not subject to the minimum wage or if they were subject to a special lower rate. Workers also might inaccurately report their wage rates.

[6] One way of reducing this source of sampling error would be to use annual averages of the responses—as was done in the analysis by Mellor and Haugen cited above (footnote 2). The standard errors for the monthly estimates are about 3.5 times the size of the standard errors for the corresponding annual estimates. This was not feasible for the current study, however, because it was necessary to match the hourly earnings responses to the income questions that are asked only in March.

[7] Data on hourly wage rates are available only for the 52.1 million workers paid on an hourly basis. In March 1985, a total of 105.8 million people were employed, including 96.2 million wage and salary workers.

[8] *Current Population Reports, Consumer Income Series*, P-60, no. 149 (Bureau of the Census, August 1985), p. 27.

[9] About 700,000 poor employees who worked primarily full time, year round worked part time for between 6 and 10 weeks, and 120,000 worked part time for at least 11 weeks in 1984. For those who worked less than a full year on a full-time basis, it is difficult to distinguish between low annual earnings associated with low hourly wage rates and those associated with low total hours. Therefore, these workers were excluded from the analysis.

[10] To be included in this group, persons must have reported working at least 50 weeks, including no more than 5 weeks on part-time schedules. Most of them (84 percent) reported that they did not work any weeks on a part-time schedule. Those who worked all 52 weeks for 40 hours per week at the minimum wage would have earned $6,968.

The difference between the previous estimate of 120,000 poor among full-time, year-round workers who reported hourly wage rates of no more than $3.35 and these numbers could result from errors in responses, changes in wage rates, or low earnings among workers who were not paid on an hourly basis.

A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, U.S. Department of Labor, Washington, DC 20212.

The mining machinery industry: labor productivity trends, 1972–84

The average annual rate of productivity growth in this industry was substantially below that for all manufacturing; the industry has felt the effects of falling coal prices and fuel shortages over the past 10 to 15 years

BARBARA A. O'NEIL

Productivity, as measured by output per employee hour, in the mining machinery industry declined at an average annual rate of 1.2 percent from 1972 to 1984.[1] (See table 1.) This trend was substantially below the rate for the manufacturing sector, which grew at a rate of 2.0 percent during this period. Since 1972, the mining machinery industry has introduced new technology and work methods. However, major shifts in demand for coal have created wide variability in capacity utilization rates. Periods of both strained and excess supplies of coal have resulted in low productivity in mining machinery.

The decline in productivity was accompanied by a drop in output of 3.3 percent and a decline in employee hours of 2.2 percent. Although the productivity trend was negative, there was significant year-to-year variation. Many of the annual movements were associated with changes in output. In 5 of the 6 years that output advanced, there were increases in productivity. Similarly, productivity declined in 4 of the 6 years that output fell.

From 1972 to 1974, productivity in the mining machinery industry advanced nearly 12 percent, as output surged 35 percent. Over the following 2 years, productivity declined by 9 percent as employment in the industry increased substantially. From 1972 to 1976, employee hours increased more than 50 percent.

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The industry's output rose in the early 1970's in response to increased energy-related demand for coal. From 1971 to 1975, coal production increased more than 17 percent. Purchases of mining equipment grew significantly during this period, leading to high levels of capacity utilization. However, by 1975, these rapid increases in demand also dampened productivity advances as mining companies became overbooked and capacity became strained.[2]

During the 1977–82 period, productivity fell at an average annual rate of 0.9 percent; both output and employee hours dropped. The industry was particularly hard hit by the economic downturn which occurred during this period.

The 1981–82 recession brought a substantial decline in the demand for many metals and minerals during 1982. The low level of construction activity and the decline in production of durable goods—such as automobiles, construction machinery, and electrical appliances—significantly reduced the demand for steel, copper, aluminum, and other metals. As many U.S. mines curtailed or halted production, the year was marked, in particular, by a slowdown in the demand for mineral processing equipment such as flotation machines and crushers. Although there was expanding coal production in 1982 which served to offset some of the decline in the demand for equipment used in other types of mines, it was not enough to prevent a severe drop in output and a decline in employee hours. This resulted in a sharp decline in productivity.

The recovery during the 1983–84 period was strong

Table 1. Productivity and related indexes for mining machinery, 1972–84
[1977=100]

Year	Output per employee hour			Output	Employee hours		
	All employees	Production workers	Nonproduction workers		All employees	Production workers	Nonproduction workers
1972	103.3	100.9	108.1	69.6	67.4	69.0	64.4
1973	108.7	104.5	117.8	78.7	72.4	75.3	66.8
1974	115.2	108.3	131.7	93.8	81.4	86.6	71.2
1975	111.5	104.8	127.4	105.6	94.7	100.8	82.9
1976	95.1	90.3	105.9	98.7	103.8	109.3	93.2
1977	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1978	93.9	96.0	90.0	90.9	96.8	94.7	101.0
1979	95.6	97.7	91.7	90.3	94.5	92.4	98.5
1980	98.6	102.8	91.5	92.4	93.7	89.9	101.0
1981	97.8	102.5	89.7	87.5	89.5	85.4	97.6
1982	91.0	104.4	73.1	68.1	74.8	65.2	93.2
1983	96.1	115.7	72.5	49.5	51.5	42.8	68.3
1984	98.9	110.7	81.9	51.9	52.5	46.9	63.4
	Average annual rates of change (percent)						
1972–84	−1.2	0.6	−4.2	−3.3	−2.2	−3.9	1.0
1979–84	0.1	2.9	−4.1	−13.0	−13.1	−15.5	−9.3

enough to turn around the productivity decline, leading to a rise of 4.3 percent. Although output continued to drop in 1983, an even steeper drop in employee hours resulted in a productivity gain of nearly 6 percent. In 1984, both output and employee hours reversed their long-term rates of decline. Productivity advanced 2.9 percent as output rose 4.8 percent and employee hours increased 1.9 percent. Growth of U.S. and foreign coal mine production in 1984 was a major stimulant for sales of mining machinery, particularly continuous miners, shuttle cars, roof bolters, and longwall mining systems. Increased use of coal in electric power generation, which now accounts for 50 percent of all fuel used, has helped the demand for mining equipment.[3]

Employment and plant size

Over the 1972–84 period, employment in the mining machinery industry decreased more than 20 percent, falling at an average annual rate of 1.8 percent. For the first 4 years of the period, employment increased steadily, rising from 21,300 employees in 1972 and peaking at 31,900 in 1976. The 1976–84 period evidenced employment declines in each year to 1983, with the number of employees dropping to 16,900 and remaining unchanged in 1984.

According to the Census of Manufactures, there were 240 establishments in the mining machinery industry in 1972, and 369 establishments in 1982, an increase of 54 percent (or 129 establishments). The average number of employees per establishment decreased from 89 in 1972 to 66 in 1982, a decline of 26 percent. Production workers accounted for 67 percent of employment in 1972 and 58 percent in 1982.

Employment of nonproduction workers remained unchanged between 1972 and 1984, even as their share of the total industry work force rose. In the earlier 1972–80 period, employment of nonproduction workers increased from 7,000 to slightly more than 11,000—an average annual increase of 6.8 percent. However, since 1980, the total number of nonproduction workers has declined to its 1972 level. Higher relative growth rates among nonproduction workers reflect industry needs for computer-related technical support personnel, as well as the increased emphasis on research and development activities. Further escalation of nonproduction worker employment is anticipated, particularly in the categories of computerized production, planning, technical help, and scheduling.

The establishments which produce mining machinery vary in size but, generally, are rather small and are geographically concentrated in Pennsylvania, Ohio, West Virgina, and Virginia. No one manufacturer makes a complete line of products. Because the availability of parts and service is an important selling factor, most major manufacturers have sales and service offices in all major mining areas. In 1982, more than 52 percent of the 369 establishments in the industry employed fewer than 20 persons and accounted for only 5 percent of industry value of shipments. In contrast, larger establishments with more than 100 employees accounted for 15 percent of all establishments and 74 percent of sales. Since 1972, there has been a slight increase in the percentage of establishments with fewer than 20 persons. However, the percentage of industry value of shipments attributed to these smaller establishments remains unchanged from 1972, at 5 percent.

Earnings. Average hourly earnings in the mining machinery industry have remained higher than those in all manufacturing. In 1972, average hourly earnings in the industry were $4.22, compared with $3.82 for all manufacturing. In the 1972–77 period, the industry's average hourly earnings rose about 52 percent to $6.42, and by 1984, had risen to $11.32—an increase of 76 percent from 1977.[4] This is significantly higher than the average for all manufacturing, which was up to $5.68 in 1977 and $9.19 in 1984.

Mining equipment

The term "mining machinery" refers to a line of equipment which is specially designed for the underground mining of ores and coal. The major types of extraction equipment are percussion-type rock drills, rock drilling bits, rotary face drills, augers, blast hole drills, continuous miners, roof bolting machines, cutting machines, longwall mining machinery, and supports. Haulage of the mined ore to processors is in shuttle cars, loader hauler-dumper vehicles, mine cars or belt conveyors. Depending on conditions and applications, mining machinery uses electric, diesel, or battery power. In addition, hydraulic fluid power is replacing compressed air power in some machinery to reduce noise and improve efficiency.[5]

Coal and ore extraction methods—continuous mining, conventional mining, and longwall mining—use different types of equipment to do the actual mining. The choice of the system used depends on the geology of the seam and the amount of initial capital the mine operator wishes to invest.

The continuous miner is of major importance in underground coal mining. In one operation, the continuous miner cuts or rips the coal from the working face and loads it into shuttle cars or onto a conveyor haulage system. From its inception, the continuous miner processed much greater amounts of coal than the machinery it superseded.[6] It eliminates the need for coal cutters, face drills, blasting equipment, loaders, and the mining crews needed to operate these machines. Throughout the world, the room and pillar method of coal mining is widely accepted; and the American-made continuous miner remains very popular.[7] Among the labor-saving machines being introduced is a new generation continuous miner which can be set to mine coal in an automated mode, and has the ability to simultaneously mine coal and bolt the roof.

In conventional mining, coal is blasted rather than cut from the working face, utilizing mechanical extraction procedures such as undercutting the face, drilling holes for explosives, and loading the coal into shuttle cars with gathering arm-type loading machines.[8] Once America's primary coal mining method, conventional miners cut less than 25 percent of the coal mined underground today. Small mining companies are the primary users of conventional mining equipment, which is easier to repair and has less downtime than continuous miners. Only one company in the United States offers a full line of conventional equipment.[9]

Longwall mining machines are increasingly being used in U.S. underground coal mines. Unlike a continuous miner, which has a cutting width of about 10 feet, the longwall machine is guided across a seam several hundred feet wide. As it mines across the face, the coal drops onto a face conveyor at the base of the longwall system. The mine roof above the machine is temporarily supported by hydraulically-operated self-advancing roof supports. As the longwall cutter advances, the mine roof is allowed to cave in behind the machine while, at each end of the face, haulage and air passageways are maintained.[10] Considered to be more efficient than the room and pillar system, the longwall system increases mine safety by eliminating the need for explosives. It also requires a much higher initial investment, however; a complete longwall system often costs about $5 million.[11] Longwall systems, more commonly used in Europe, are said to be best for large, relatively level seams. Although longwall mining systems were almost nonexistent in the United States prior to 1965, they now produce about 10 percent of all domestic coal mined underground.[12]

Extraction, haulage, and roof support systems are unit operations common to both coal and hardrock mines. However, underground hardrock mining systems and equipment are quite different from those used in coal mines. Underground hardrock mines use a wide variety of equipment types—the most common of which include jumbo-mounted percussion drills and handheld rock drills. The self-propelled jumbo vehicle supports one to three hydraulically powered booms which position the drill against the rock face. Rapidly oscillating pistons, driven by pneumatic or hydraulic power, generate a series of impulsive blows, causing a stress wave to move through the drill bit into the rock, which shatters under the tungsten carbide cutting edges of the bit. Handheld hardrock drills are used especially in tight quarters where jumbo-mounted drills cannot fit. Handheld drills are smaller and less powerful than the jumbos, but the operating principles are the same. Metallurgical improvements in the 20th century have permitted the development of high-strength rock drill components that impart tremendous amounts of energy to the rock face.[13]

Other important products of the mining machinery industry include beneficiation (ore-processing) and mineral pulverizing equipment. These products are used to transform the mineral ore into a usable product by separating out the mined minerals and metals, and include crushers, rod and ball mills, classifiers, screens, feeders, grinding mills, flotation devices, centrifuges, and dryers. Preparation plants contain equipment that performs one of three primary functions: crushing (size reduction), screening (size separation), and dewatering. Additionally, many plants contain equipment that separates valuable constituents (coal or ores) from waste material through differences in their densities, physical properties, chemical properties, or magnetic properties or through a combination of these.

Mine transport equipment includes hoists, mine cars, belt conveyors, and locomotives that haul the coal and ores out of the mines. When electrical power was introduced into the mines, personnel haulage vehicles were developed. Typical of these is the rail-mounted "mantrip" or "portal bus" that carries workers from the mine portal to the face areas.[14]

Capital expenditures

Reduced levels of capital expenditures have accompanied the productivity decline in the mining machinery industry. Measured in constant dollars, capital expenditures fell 8 percent from $13.4 million in 1972 to $12.3 million in

1984. The real annual rate of growth in new capital expenditures per employee averaged about 1 percent, a rate comparable to that of all manufacturing industries. However, in 1984, the level of capital expenditures per employee in the mining machinery industry was less than one-half of the level for all manufacturing industries. In 1982, the latest year for which data are available, the industry allocated 73 percent of capital expenditures to the purchase of new machinery and equipment and used the remainder for new structures and plant additions.

Mining machinery is generally sold to mine operators. Occasionally, machinery may also be sold to equipment leasing companies which, in turn, lease them to operators who are too small to purchase the equipment themselves. Because mining requires major capital investment, and because of rising costs of new machinery (a continuous miner costs from about $510,000 to $525,000; a loader costs about $300,000; and a face drill costs between $45,000 and $60,000),[15] mines often rely on service centers to extend the life of their machines as an alternative to purchasing new equipment. Consequently, the demand for repair and replacement parts has become a major market for the U.S. mining industry.[16] Parts and attachments for mining machinery and equipment accounted for 42 percent of the industry value of shipments in 1972 and 45 percent of the industry value of shipments in 1982.

Manufacturers of new equipment, as well as independent repair firms, are expanding their rebuilding facilities in major mining areas, and service centers have become major outlets for repair and replacement parts. Sales of new mining machines often depend on convenient accessibility to the manufacturer's parts centers and on prompt repair service provided by the manufacturer.

Advances in technology

The mining machinery industry has introduced some new techniques and work methods which have not yet been reflected in overall productivity improvements. New technological developments in the industry have been generated by research efforts conducted by the mining industry, equipment manufacturers, the academic world, and government agencies. These efforts continue to improve mining equipment. Current research in the production of mining machinery is aimed at increasing equipment flexibility, with safety continuing to receive substantial emphasis. For instance, longwall mining machines are operated with hydraulic roof supports to protect both miners and equipment from roof falls. These efforts to improve mining equipment have been successful but have resulted in higher costs and may have retarded productivity growth.

The gradual advent of numerical control in the mid-1960's has been an offsetting factor to the general decline in industry productivity. Manufacture of the large, complicated units which comprise an important segment of the industry involves the assembly of parts—many of them machined by numerical control. Numerical control involves the use of a tape-fed controlling mechanism to operate the machine tools used in the manufacturing process. A major advantage of numerically controlled manufacturing procedures is that idle time in the factory is markedly reduced. Numerical control results in more accurate work, better repeatability of operations, higher speed, and a reduction in tool setup time. Numerical control also makes possible a substantial reduction in labor requirements and more effective machine utilization.

Although not widely diffused in the industry, some plants have introduced into their operations computer assisted design (CAD) and computer assisted manufacturing (CAM) systems. The CAD/CAM systems have been termed a "marrying of engineering and manufacturing." They are particularly well-suited to improving efficiency in the mining machinery industry where there are frequent demands for equipment design modifications.

In addition, some manufacturers of mining equipment are phasing out the traditional "functional grouping" of machine tools used in the production process. Direct-labor employees will be relocated to "work cells"—work stations at which are grouped the various machine tools to be used in all stages of production. This contrasts with the more conventional functional grouping where tools are grouped according to their specialized use, with the part being transferred from one work area to another. Use of the work cell concept over the functional grouping method results in both reduced handling and improved workflow of finished products. Employees, who are highly specialized and have, in the past, operated one machine tool, will now have their skills upgraded to run several pieces and will, in effect, be responsible for all phases of production from beginning to end. Introduced in the mid-1970's, the work cell concept has been well received in this industry where its use has accelerated in the past 2 years.

This rethinking of work assignments and restructuring of the workplace has improved product quality and reduced in-process inspection and setup time. It has been instrumental in achieving control over inventories of parts and materials. Manufacturers are undergoing a whole new change of focus in their material movement operations, hoping to enhance output and productivity. Under traditional methods, the amount of time spent actually working on an individual part was only 5 percent. During the remaining time, the part was held for further processing or was transported from one work area to another.[17]

Outlook

Despite the use of some advanced technology in the workplace, the mining machinery industry has still suffered numerous declines in productivity since the mid-1970's. Output declines since 1977, brought about by reduced demand for equipment, have overshadowed any improved production methods used by equipment manufacturers. A highly

competitive business and dependent almost exclusively on the coal industry as its main customer, the mining machinery industry has felt not only the effects of falling coal prices, but also the repercussion of fuel shortages and various energy crises over the past 10 to 15 years. Currently, the coal mining industry is faced with excess capacity which has resulted in reduced demand for coal mining machinery.[18] The general decline over the years of U.S. mining has resulted in mining companies purchasing repair and replacement parts, opting to retrofit and rebuild existing machinery rather than purchase new equipment.

Computer-integrated manufacturing that allows a central computer to operate shop-floor machines is only now being introduced in some of the factories that produce mining machinery. In 1985, a large plant was planning to use a direct numerical control host computer, complemented by the use of computer numerical controls (CNC). Work cells and various machine tools in the plant are outfitted with CNC's featuring microprocessor controls. An example of CNC use is the machining center with maneuverable turrets on which are mounted a number of cutting tools. This one computer-directed machine, manned by one person, is capable of performing many different cutting operations on a workpiece, eliminating the need to transfer the piece to numerous individually manned cutting machines. One such machining center can replace multiple conventional machines and their operators without loss of output. It also assures better quality control, needs less floor space and handling equipment, and requires lower in-process inventory. Because the CNC has its own control and its own computer, it can correct onsite production problems quickly, thus reducing the amount of "downtime" formerly experienced in the manufacturing process.

Future improvements in industry productivity will, in large part, depend on increases in demand for the industry's output, the ability to introduce the aforementioned technological advances, and wider diffusion of CAD/CAM systems. In addition, mining machinery companies hope to increase demand for equipment used in the construction of tunnels for underground subway systems and public utilities. Introduction of diesel equipment should also aid productivity growth. Because diesels require fewer parts, the manufacture of such equipment would result in lower unit labor requirements. Also in the future, more attention will be focused on ocean mining. Specialized mining equipment is now being developed to recover metal and mineral nodules from the ocean floor. However, it appears that, in the foreseeable future, nodule mining would most likely not be economical, and will not take place without significant financial incentives.[19] □

——— *FOOTNOTES* ———

[1] Average annual rates of change are based on the linear least squares trend of the logarithms of the index numbers. The mining machinery and equipment industry is designated industry 3532 in the *Standard Industrial Classification Manual, 1972 Edition*, issued by the Office of Management and Budget. The industry comprises establishments primarily engaged in the manufacture of heavy machinery and equipment used by the mining industries, such as coal breakers, mine cars, mineral cleaning machinery, concentration machinery, core drills, coal cutters, portable rock drills, and rock crushing machinery. The mining machinery industry excludes establishments primarily engaged in the manufacture of well drilling machinery and of coal and ore conveyors, which are classified in industries 3533 and 3535.

[2] Industry spokesperson during 1985 tour of manufacturing facilities.

[3] *U.S. Industrial Outlook* (U.S. Department of Commerce, 1985), pp. 23–3—23–6.

[4] Industry earnings figures are based on employee hour data from the Bureau of Labor Statistics.

[5] *U.S. Industrial Outlook* (U.S. Department of Commerce, 1980), pp. 213–15.

[6] Stanley Suboleski, "Boost Your Productivity by Adding Continuous Miners," *Coal Age*, March 1975, p. 78.

[7] *American Mining Congress Journal*, Mar. 27, 1985, pp. 12–14.

[8] Bureau of Mines Information Circular 9004 (U.S. Department of the Interior, 1985), pp. 9–10.

[9] David Brezovec, "Conventional Output Falls in U.S.," *Coal Age*, May 1982, p. 82.

[10] *U.S. Industrial Outlook* (U.S. Department of Commerce, 1980), pp. 213–15.

[11] *U.S. Industrial Outlook* (U.S. Department of Commerce, 1982), pp. 199–201.

[12] Bureau of Mines Information Circular 9004, p. 10.

[13] *Ibid.*, p. 13.

[14] *Ibid.*, p. 11.

[15] David Brezovec, "Conventional Output Falls in U.S.," *Coal Age*, May 1982, p. 86.

[16] *U.S. Industrial Outlook* (U.S. Department of Commerce, 1982), pp. 199–201.

[17] Industry spokesperson during 1985 tour of manufacturing facilities.

[18] Industry spokesperson.

[19] *Equipment Management*, April 1984, p. 65. See also Bureau of Mines Information Circular 9015 (U.S. Department of the Interior, 1985), pp. 1–15.

APPENDIX: Measurement techniques and limitations

Indexes of output per employee hour measure changes in the relation between the output of an industry and employee hours expended on that output. An index of output per employee hour is derived by dividing an index of output by an index of industry employee hours.

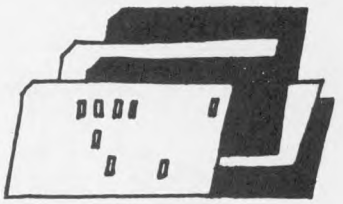
The preferred output index of manufacturing industries would be obtained from data on quantities of the various goods produced by the industry, each weighted (multiplied) by the employee hours required to produce one unit of each good in some specified base period. Thus, those goods which require more labor time to produce are given more importance in the index.

In the absence of adequate physical quantity data, the output index for this industry was constructed by a deflated value technique. The value of shipments of the various product classes was adjusted for price changes by appropriate Producer Price Indexes and Industry Sector Price Indexes to derive real output measures. These, in turn, were combined with employee hour weights to derive the overall output measure. The result is a final output index that is conceptually close to the preferred output measure.

Employment and employee hour indexes were derived from data published by the Bureau of the Census. Employees and employee hours are each considered homogeneous and additive, and thus do not reflect changes in the qualitative aspects of labor, such as skill and experience.

The indexes of output per employee hour do not measure any specific contributions, such as that of labor or capital. Rather, they reflect the joint effect of factors such as changes in technology, capital investment, capacity utilization, plant design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

Research Summaries



Decline in youth population does not lead to lower jobless rates

THOMAS NARDONE

During the first half of the 1980's, the size of the youth population has declined considerably. In combination with the expected employment growth in industries that rely on young workers, the decline in the number of such workers was expected to improve their employment prospects. However, a review of the youth labor market trends during the first 7 years of the population contraction presents a different picture.

As persons born during the "baby bust" period, which started in the mid-1960's, entered the 16- to 24-year-old age group, the civilian noninstitutional youth population dropped 8.0 percent from a level of 37.0 million in 1979 to 34.1 million in 1986; the extent of this decrease differed between various age groups. (See chart 1.) While this decline was taking place, two recessions caused sharp increases in unemployment for all age groups in the labor market, including the shrinking pool of young workers. Although the economic recovery that began in late 1982 improved the employment situation for all groups, the unemployment rates for youths, like those of their adult counterparts, were higher in 1986 than in 1979.

Overview

Most 16- to 24-year-olds are in the midst of a major transition from a school-centered to a work-centered life. This transition has a direct impact on their participation and success in the job market, as shown in the following tabulation of data for October 1986:[1]

	16 and 17 years	*18 and 19 years*	*20 to 24 years*
Percent enrolled in school	92.3	54.6	23.6
Participation rate	44.5	65.2	78.9
Employment-population ratio	35.5	54.1	70.5
Unemployment rate	20.2	17.0	10.7

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The youngest members of this age group, persons 16 and 17 years old, have limited ability to participate in the labor force because most of these teens are still in school. Their lack of work experience and training limits their appeal to many employers. Many of these young teens are supported by their families, and their employment is mainly a source of spending money or savings for further education or puchases of "big-ticket" items. As a result, many of these younger persons work intermittently.

School attendance and lack of work experience also restrict the labor force activity of 18- and 19-year-olds and young adults (persons 20 to 24 years old), but to a lesser extent. Many 18- to 24-year-olds are out of school, and they typically have some work experience and training; these factors make it easier for these persons to find jobs. Older out-of-school youths, however, bring higher expectations and needs to the labor market. Many of these workers must try for the first time to support themselves and, in many cases, new families. Within 4 years of completing high school, for example, about a quarter of the 1980 high school class had been married.[2] Thus, in line with increased participation in the job market, the type of employment sought by young people also changes significantly as they move through their teens and into their early twenties.

Sixteen- and 17-year-olds are most likely to hold or seek part-time jobs, while most 18- and 19-year-olds and 20- to 24-year-olds are in the full-time labor force. Teenagers also tend to be confined to unskilled and lower skilled jobs, with about half of employed teens working in service and operator, fabricator, or laborer occupations in 1986. Young adults, by comparison, are much more likely to work in managerial, professional, and precision production, craft, and repair jobs. This movement from less skilled to more skilled occupations and the increased value of youths to employers as young people gain job experience typically lead to rising earnings. In 1986, average weekly earnings for men age 16 to 19 years were $185 while men age 20 to 24 years earned $264; average weekly earnings for women age 16 to 19 years were $169 while women age 20 to 24 years earned $231.

One widely reported result of the declining youth population has been recruiting difficulties in some retail trade and services industries.[3] The rapid job growth in industries such as eating and drinking places, combined with the declining number of young people available to fill the job openings,

Chart 1. Growth of the youth civilian noninstitutional population, 1962–86

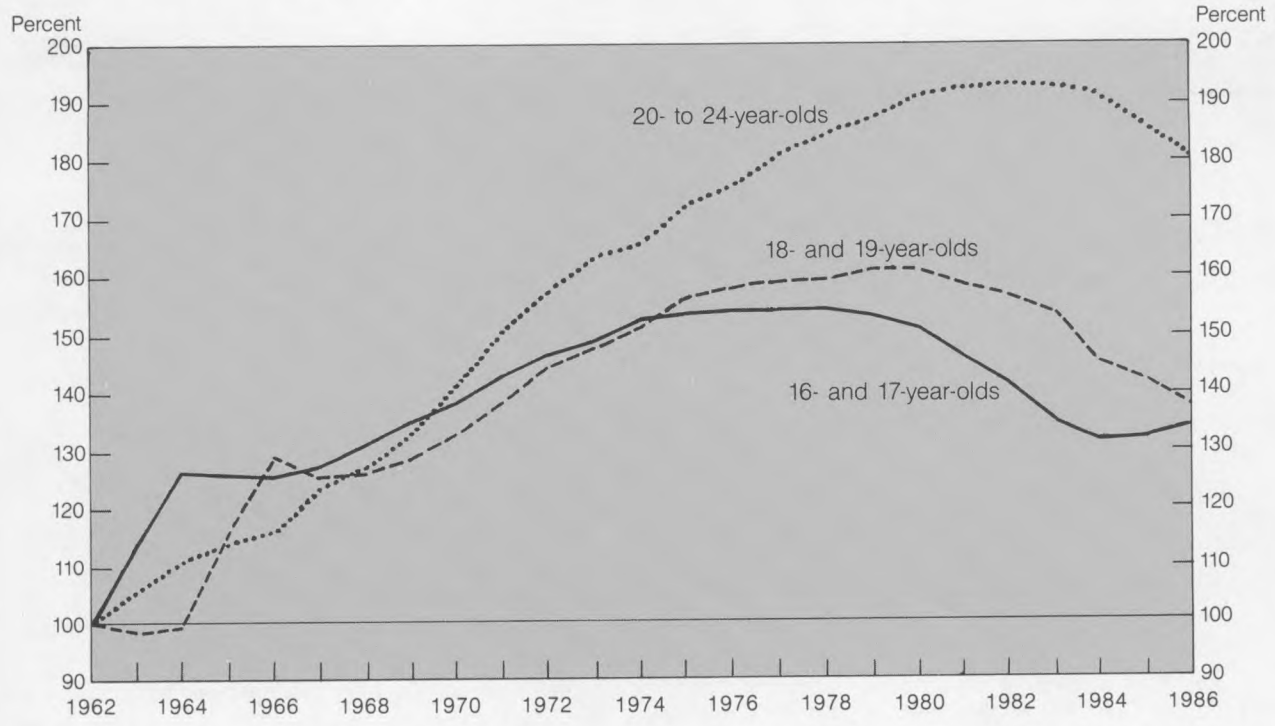
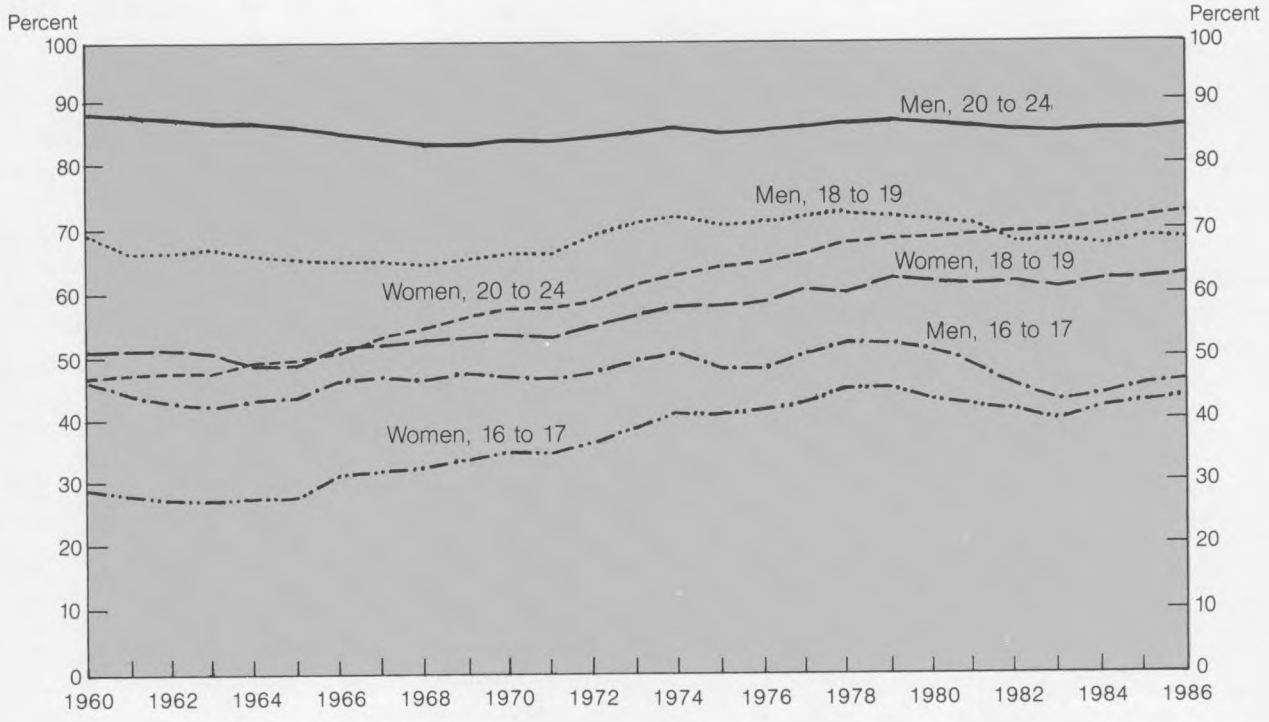


Chart 2. Labor force participation rates by age and sex, 1960–86



has caused labor shortages in some areas of the country. The numerous low-wage, low-skill jobs available in these industries are usually thought of as ideal jobs for many young people, particularly those who desire flexible work schedules and have other sources of support. Despite reported shortages of young workers, however, most measures show that a slack labor market continues to exist for young people in the mid-1980's. Some possible reasons for this problem are examined below.

Slack labor market

Back-to-back economic downturns and a subsequent recovery largely determined events in the labor market during the 1979–86 period. Between 1979 and 1982, unemployment rates for all persons, including youths, rose sharply as a result of the two recessions. Although jobless rates for youths as well as other workers fell somewhat during the subsequent economic recovery, rates for most youth age groups were still higher in 1986 than in 1979. (See table 1.) Thus, jobless rates for youths continued to remain higher despite 4 years of recovery and a substantially smaller number of teenagers and young adults competing in the labor market. The following tabulation illustrates the change in unemployment rates and the decline in population between 1979 and 1986 for persons 16 to 24 years old:

Age	*Percentage-point change in unemployment rates*	*Percent decline in population*
16 and 17 years	+2.1	−12.0
18 and 19 years	+2.3	−14.0
20 to 24 years	+1.6	−3.9

The failure of youth unemployment rates to return to 1979 levels would have been more easily understood if there had been an increase in youth labor force participation (that is, if the decreased competition due to the smaller number of youths had drawn *proportionately* more youths into the job market in the 1979–86 period). However, youth labor force participation declined. A brief look at the long-term trend in youth participation places current developments in a better perspective.

During the 1960's and 1970's, the rising youth population was accompanied by sharp increases in the labor force participation of teenage men and both teenage and young adult women. The already high participation of young adult men was relatively stable. (See chart 2.) Rising youth participation contributed significantly to the near doubling of the youth labor force between 1964 and 1979.[4]

Beginning in 1980, however, there was a sharp dip in the long-run trend of rising youth participation, precipitated by the two recessions that occurred in the early 1980's.[5] During the 1979–83 period, the participation rates of teenagers of both sexes and young adult men fell, while the rate for young adult women remained little changed. The percentage-point changes in labor force participation rates (1979–83) for men and women age 16 to 24 years were:

Age	*Men*	*Women*
16 and 17 years	−8.4	−5.7
18 and 19 years	−3.3	−2.0
20 to 24 years	−1.6	0.9

During the subsequent years of economic recovery, the participation rates for young men and women in all youth age groups did rise somewhat, but the increase has not been what might be expected from a strong youth labor market. The participation rates for teenage men, for example, have failed to rise to their prerecession levels. (See chart 2.)

As shown in table 1, a similar pattern can be seen in the employment-population ratios for youths. The ratios for both younger and older groups declined from 1979 to 1982. With the onset of the economic recovery, the ratios of each group rose; however, they still remained below the prerecession levels among men and teenage women.

Also, some evidence suggests that in the mid-1980's, more young people experienced trouble obtaining full-time employment. The proportion of employed young persons who work part time for economic reasons has increased. The following tabulation shows, for selected years, the percentages of employed men and women, 16 to 24 years old, working part time involuntarily:

Age	*1979*	*1982*	*1986*
Men:			
16 and 17 years	8.4	11.6	9.2
18 and 19 years	7.4	14.7	12.8
20 to 24 years	4.4	8.6	7.2
Women:			
16 and 17 years	7.4	10.6	8.6
18 and 19 years	9.3	16.3	14.1
20 to 24 years	5.8	9.1	8.4

For those young people who were not in school, and who therefore were more likely to seek full-time employment, there were across-the-board decreases between October 1979 and October 1986 in the proportion of youths working full time. The percentages of employed men and women, 16 to 24 years old, working full time and not enrolled in school are shown in the following tabulation:

Age	*1979*	*1986*
Men:		
16 and 17 years	73.9	59.0
18 and 19 years	85.7	77.3
20 and 21 years	92.2	86.9
22 to 24 years	93.7	89.6
Women:		
16 and 17 years	56.6	45.6
18 and 19 years	76.2	62.0
20 and 21 years	82.5	80.1
22 to 24 years	85.3	82.2

Relatively high unemployment rates, low participation and employment ratios, and the increase in involuntary part-time work suggest a slackness in the youth labor market and raise the question: How can the labor market data be recon-

Table 1. Civilian unemployment rates and employment-population ratios for persons 16 to 24 years old by age and sex, annual averages, 1979–86

Age and sex	1979	1980	1981	1982	1983	1984	1985	1986
	Unemployment rates							
Total, 16 to 24 years	11.8	13.9	14.9	17.8	17.2	13.9	13.6	13.3
16 to 19 years	16.1	17.8	19.6	23.2	22.4	18.9	18.6	18.3
16 and 17 years	18.1	20.0	21.4	24.9	24.5	21.2	21.0	20.2
18 and 19 years	14.7	16.2	18.4	22.1	21.1	17.4	17.0	17.0
20 to 24 years	9.1	11.5	12.3	14.9	14.5	11.5	11.1	10.7
Men, 16 to 24 years	11.4	14.6	15.7	19.1	18.4	14.4	14.1	13.7
16 to 19 years	15.9	18.3	20.1	24.4	23.3	19.6	19.5	19.0
16 and 17 years	17.9	20.4	22.0	26.4	25.2	21.9	21.9	20.8
18 and 19 years	14.3	16.7	18.8	23.1	22.2	18.3	17.9	17.7
20 to 24 years	8.7	12.5	13.2	16.4	15.9	11.9	11.4	11.0
Women, 16 to 24 years	12.2	13.0	14.0	16.2	15.8	13.3	13.0	12.8
16 to 19 years	16.4	17.2	19.0	21.9	21.3	18.0	17.6	17.6
16 and 17 years	18.3	19.6	20.7	23.2	23.7	20.4	20.0	19.6
18 and 19 years	15.0	15.6	17.9	21.0	19.9	16.6	16.0	16.3
20 to 24 years	9.6	10.4	11.2	13.2	12.9	10.9	10.7	10.3
	Employment-population ratios (in percent)							
Total, 16 to 24 years	60.6	58.6	57.6	55.3	55.6	58.3	59.0	59.5
16 to 19 years	48.5	46.6	44.6	41.5	41.5	43.7	44.4	44.6
16 and 17 years	39.8	37.5	35.5	32.5	31.4	33.4	34.5	35.5
18 and 19 years	57.4	55.7	53.5	50.2	51.0	53.6	54.2	54.1
20 to 24 years	70.4	68.3	67.8	65.7	66.0	68.7	69.6	70.5
Men, 16 to 24 years	66.5	63.5	62.2	58.7	59.2	62.3	62.7	63.0
16 to 19 years	51.7	49.5	47.1	42.9	43.1	45.0	45.7	45.7
16 and 17 years	42.3	39.8	37.3	33.4	32.3	34.0	35.2	35.9
18 and 19 years	61.6	59.4	57.2	52.2	53.4	55.7	56.6	56.2
20 to 24 years	78.9	75.1	74.2	71.0	71.3	74.9	75.3	76.3
Women, 16 to 24 years	54.8	53.9	53.3	52.0	52.2	54.4	55.4	56.0
16 to 19 years	45.3	43.8	42.0	40.2	40.0	42.5	42.9	43.6
16 and 17 years	37.2	35.1	33.7	31.5	30.5	32.8	33.7	35.1
18 and 19 years	53.3	52.2	50.0	48.3	48.6	51.5	51.9	52.2
20 to 24 years	62.4	61.8	61.8	60.6	60.9	62.7	64.1	64.9

ciled with the expectation of improvement in the youth employment situation and with the recent reports of shortages of young workers in some retail trade and services jobs. In part, the answer lies in the underlying causes of the youth employment problems.

Worker competition

To a great extent, the employment difficulties experienced by youths arise from factors that are inherent to the group. As mentioned earlier, the youngest members of the labor force naturally have little or no job experience or specialized training. They also are less settled and dependent upon their own earnings than older workers and are therefore more likely to leave jobs. For minority youths, who have faced particularly bad employment prospects for a long time, these disadvantages can be compounded by other factors, such as low levels of educational preparation, poor job search skills, reduced job opportunities in the inner cities, and discrimination.

For the above reasons, young workers are especially susceptible to competition from other groups in the work force and experience their best employment prospects during periods of high aggregate demand. During such periods, the most preferred workers are in short supply, and employers turn to less desirable, younger workers. Conversely, as the supply of available adult workers increases during downturns, opportunities for youths decline.[6] The effect of the "baby bust" on job market competition among young people during the first half of the 1980's may have been offset by the large number of people born during the last few years of the "baby boom," who were not yet settled in jobs.[7] In fact, the number of 20- to 24-year-olds did not drop appreciably until the mid-1980's.

In some retail trade and services industries, young people are not the "employees of last resort"; the demand for young workers in these industries is great. However, for some youths, particularly those who are not in school and are seeking full-time, higher paying jobs, part-time jobs in retail trade and services may not be acceptable. These young people may prefer to invest their time in more training or job search than in part-time work. Thus, shortages of young workers could occur in such industries even as young people experience difficulty finding full-time employment in other sectors of the economy.

Sluggish manufacturing

The continuing difficulties in the industrial sector also may have hurt the employment prospects for young workers, despite their population decline. Prior to the recessions of the early 1980's, the manufacturing sector was a major employer of youths, especially out-of-school young men. However, between 1979 and 1986, manufacturing employ-

ment declined significantly, dampening the employment opportunities available to young people. The percentage of out-of-school young men working full time in manufacturing fell sharply between October 1979 and October 1986, as shown in the following tabulation:

Age	*1979*	*1986*
16 and 17 years	15.1	6.7
18 and 19 years	27.0	13.6
20 and 21 years	29.7	22.2
22 to 24 years	28.0	20.6

The disadvantages of young workers, such as lack of experience and training, would have been especially pronounced in manufacturing, where the lack of employment growth created a substantial pool of available older workers. And, the slow growth in manufacturing employment would have affected young men more than women, because young men made up about two-thirds of the youth work force in manufacturing. This could explain in part why young men were worse off in 1986 relative to their 1979 employment status than were young women.

THE FIRST HALF of the 1980's was the beginning of a period of declining youth population, a development that will continue into the mid-1990's. Although this decline was expected to lead to a better employment situation for youths, no clear improvements are evident. While further decreases in the youth population may yet lead to improvements, the experience of the first half of the decade indicates that youth employment problems are not easily overcome.

———*FOOTNOTES*———

[1] The data used in the analysis for the most part are annual averages derived from the Current Population Survey (CPS), which is a monthly sample survey of 59,500 households nationwide and the principal source of information on U.S. labor force and employment trends. The CPS is conducted by the Census Bureau for the Bureau of Labor Statistics. Labor force data by school enrollment are from the October supplement to the CPS, which has provided such information since 1959. Monthly estimates of the school enrollment status of youths have been available starting with the data for January 1985. See Anne McDougall Young, "New monthly data series on school age youth," *Monthly Labor Review,* July 1985, pp. 49–50. These data were not used due to the limited historical series.

[2] *Four Years After High School: A Capsule Description of 1980 Seniors,* CS 86–210 (U.S. Department of Education, Center for Statistics, Office of Educational Research and Improvement, August 1986), p. 9.

[3] Martha Brannigan, "A Shortage of Youths Brings Wide Changes to the Labor Market," *The Wall Street Journal,* Sept. 2, 1986, pp. 1 and 21; Dirk Johnson, "Labor Scarcity Is Forcing Up Low Level Pay," *The New York Times,* Mar. 17, 1986, pp. B1-2; and Caroline E. Mayer, "Low Level Jobs Remain Unfilled," *The Washington Post,* Nov. 25, 1985, Washington Business pp. 1 and 126–27.

[4] If the participation rate of persons 16 to 24 years old had not changed over the period, the increase in the youth labor force would have been only about 50 percent.

[5] For a discussion of the relation between youth labor force participation and the business cycle, see Kim B. Clark and Lawrence H. Summers, "Demographic Differences in Cyclical Employment Variation," *The Journal of Human Resources,* Winter 1981, pp. 61–77.

[6] Arvil V. Adams, Garth L. Mangum, and Stephen F. Seninger, *The Lingering Crisis of Youth Unemployment* (Kalamazoo, MI, W.E. Upjohn Institute for Employment Research, June 1978), p. 5.

[7] David E. Bloom and Richard B. Freeman, "The 'Youth Problem' Age or Generational Crowding?" Working Paper Series No. 1829 (Cambridge, MA, National Bureau of Economic Research, Inc., February 1986); Norman Bowers, "Young and marginal: an overview of youth employment," *Monthly Labor Review,* October 1979, pp. 4–16; and Albert Rees, "An Essay on Youth Joblessness," *Journal of Economic Literature,* June 1986, pp. 613–28.

Weekly earnings in 1986: a look at more than 200 occupations

EARL F. MELLOR

The Bureau of Labor Statistics has updated its series on the weekly earnings of wage and salary workers who usually work full time. This summary presents 1986 usual weekly earnings in 230 occupations and, for many occupations, the female-to-male earnings ratio. It is the only source from which such detailed data are available on an annual basis.

Median earnings vary greatly among occupations. For example, workers in three of the engineering specialties had median weekly earnings of $700 or more in 1986—about twice the overall median of $358. This was also the case for such workers as economists, lawyers, and airplane pilots and navigators. By comparison, private household workers and those employed in "food counter, fountain, and related occupations" had median earnings below $160 a week. These data are shown in table 1, which provides information on wage and salary workers (excluding the incorporated self-employed) who usually work 35 or more hours per week.

Within occupations, there is likely to be a wide range of earnings because each occupation encompasses diverse jobs with differences in educational requirements, skill levels, market demand, and other variables. Also, workers in each specialty may have different duties, responsibilities, workweeks, and job tenure. For example, included under physicians are nearly 100 specific titles, ranging from interns to neurosurgeons.

As was the case in previous years, the 1986 data are limited to occupations in which there are at least 50,000 full-time wage and salary workers. There are not enough observations to compute reliable medians for those occupations with fewer than 50,000 workers. Even for the median earnings shown in table 1, caution must be used in interpreting small differences between groups, particularly when the number of workers in a job category is also relatively small.[1]

Information on weekly earnings of wage and salary workers has been collected since 1967 through the Current Population Survey (CPS). Prior to 1979, these earnings data were

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Table 1. Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1986 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings		
Total	78,727	$358	46,233	$419	32,494	$290	69.2	41.3
Managerial and professional specialty occupations	20,095	505	11,333	608	8,762	414	68.1	43.6
Executive, administrative, and managerial occupations	9,777	511	5,980	620	3,797	395	63.7	38.8
Administrators and officials, public administration	434	513	259	617	176	414	67.1	40.6
Financial managers	396	584	245	703	150	458	65.1	37.9
Personnel and labor relations managers	109	621	57	759	52	474	62.5	47.7
Purchasing managers	101	633	67	741	33	(1)	(1)	32.7
Managers, marketing, advertising, and public relations	421	680	320	751	101	470	62.6	24.0
Administrators, education and related fields	440	610	255	691	185	495	71.6	42.0
Managers, medicine and health	113	503	45	(1)	67	463	(1)	59.3
Managers, properties and real estate	233	375	109	407	124	343	84.3	53.2
Management-related occupations	3,004	474	1,592	565	1,412	390	69.0	47.0
Accountants and auditors	1,083	478	589	554	493	398	71.8	45.5
Underwriters, and other financial officers	600	500	321	617	279	394	63.9	46.5
Management analysts	102	567	63	673	40	(1)	(1)	39.2
Personnel, training, and labor relations specialists	327	485	148	606	179	411	67.8	54.7
Buyers, wholesale and retail trade, except farm products	177	397	79	501	98	314	62.7	55.4
Inspectors and compliance officers, except construction	181	485	146	508	36	(1)	(1)	19.9
Professional specialty occupations	10,317	500	5,353	599	4,965	428	71.5	48.1
Engineers, architects, and surveyors	1,751	676	1,636	685	115	551	80.4	6.6
Architects	87	577	77	592	10	(1)	(1)	11.5
Engineers	1,644	682	1,540	691	104	580	83.9	6.3
Aerospace engineers	95	708	91	722	4	(1)	(1)	4.2
Chemical engineers	55	721	49	(1)	6	(1)	(1)	10.9
Civil engineers	209	618	202	620	7	(1)	(1)	3.3
Electrical and electronic engineers	511	704	471	715	40	(1)	(1)	7.8
Industrial engineers	191	628	173	647	19	(1)	(1)	9.9
Mechanical engineers	283	687	272	695	11	(1)	(1)	3.9
Mathematical and computer scientists	588	628	375	696	213	521	74.9	36.2
Computer systems analysts and scientists	337	631	219	687	118	537	78.2	35.0
Operations and systems researchers and analysts	203	617	127	695	77	511	73.5	37.9
Natural scientists	339	570	265	603	74	471	78.1	21.8
Chemists, except biochemists	116	601	92	624	24	(1)	(1)	20.7
Biological and life scientists	59	503	37	(1)	22	(1)	(1)	37.3
Health diagnosing occupations	254	653	188	722	66	499	69.1	26.0
Physicians	219	653	160	728	59	505	69.4	26.9
Health assessment and treating occupations	1,464	456	243	497	1,220	449	90.3	83.3
Registered nurses	1,068	460	84	490	984	458	93.5	92.1
Pharmacists	109	607	71	613	38	(1)	(1)	34.9
Dietitians	53	336	3	(1)	50	342	(1)	94.3
Therapists	195	404	58	415	136	400	96.4	69.7
Inhalation therapists	64	386	28	(1)	36	(1)	(1)	56.3
Teachers, college and university	443	600	322	656	122	479	73.0	27.5
Teachers, except college and university	2,884	437	836	501	2,048	411	82.0	71.0
Teachers, prekindergarten and kindergarten	240	274	4	(1)	236	279	(1)	98.3
Teachers, elementary school	1,173	422	172	490	1,001	415	84.7	85.3
Teachers, secondary school	1,076	481	518	508	558	443	87.2	51.9
Teachers, special education	198	424	29	(1)	169	417	(1)	85.4
Counselors, educational and vocational	146	494	72	535	74	471	88.0	50.7
Librarians, archivists, and curators	150	425	27	(1)	123	410	(1)	82.0
Librarians	139	423	21	(1)	118	408	(1)	84.9
Social scientists and urban planners	229	569	131	683	98	470	68.8	42.8
Economists	96	704	59	794	37	(1)	(1)	38.5
Psychologists	100	491	51	581	49	(1)	(1)	49.0
Social, recreation, and religious workers	750	389	413	420	337	350	83.3	44.9
Social workers	423	399	163	451	260	369	81.8	61.5
Recreation workers	60	232	23	(1)	37	(1)	(1)	61.7
Clergy	226	396	210	400	16	(1)	(1)	7.1
Lawyers and judges	342	767	256	812	85	609	75.0	24.9
Lawyers	314	767	234	806	79	624	77.4	25.2
Writers, artists, entertainers, and athletes	979	455	589	504	390	374	74.2	39.8
Designers	292	490	182	574	110	350	61.0	37.7
Actors and directors	55	423	32	(1)	23	(1)	(1)	41.8
Painters, sculptors, craft artists, and artist printmakers	86	385	49	(1)	36	(1)	(1)	41.9
Photographers	59	392	42	(1)	17	(1)	(1)	28.8
Editors and reporters	199	425	107	480	92	373	77.7	46.2
Public relations specialists	130	518	67	698	63	440	63.0	48.5
Technical, sales, and administrative support occupations	24,060	320	8,977	437	15,083	282	64.5	62.7
Technicians and related support occupations	2,821	416	1,597	490	1,224	343	70.0	43.4
Health technologists and technicians	852	328	167	405	685	317	78.3	80.4
Clinical laboratory technologists and technicians	239	388	68	436	170	371	85.1	71.1
Radiologic technicians	94	383	32	(1)	62	367	(1)	66.0
Licensed practical nurses	281	300	9	(1)	272	299	(1)	96.8

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1986 annual averages

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings		
Engineering and related technologists and technicians	843	$447	699	$471	144	$356	75.6	17.1
Electrical and electronic technicians	303	477	265	493	38	(1)	(1)	12.5
Drafting occupations	248	412	198	431	50	351	81.4	20.2
Surveying and mapping technicians	74	381	67	375	6	(1)	(1)	8.1
Science technicians	178	423	133	479	45	(1)	(1)	25.3
Chemical technicians	72	459	57	486	16	(1)	(1)	22.2
Technicians, except health, engineering, and science	949	499	598	548	351	424	77.4	37.0
Airplane pilots and navigators	54	754	53	760	1	(1)	(1)	1.9
Computer programmers	503	519	332	559	172	477	85.3	34.2
Legal assistants	145	372	34	(1)	111	361	(1)	76.6
Sales occupations	7,395	351	4,373	447	3,021	239	53.5	40.9
Supervisors	2,103	392	1,436	460	667	282	61.3	31.7
Sales representatives, finance and business services	1,388	453	789	519	599	360	69.4	43.2
Insurance sales	358	418	225	500	133	352	70.4	37.2
Real estate sales	326	457	145	518	181	389	75.1	55.5
Securities and financial services sales	215	608	164	740	52	423	57.2	24.2
Advertising and related sales	107	454	52	502	54	373	74.3	50.5
Sales occupations, other business services	382	397	203	487	178	315	64.7	46.6
Sales representatives, commodities, except retail, including sales engineers	1,226	492	1,017	508	209	382	75.2	17.0
Salesworkers, retail and personal services	2,660	215	1,122	301	1,538	183	60.8	57.8
Salesworkers, motor vehicles and boats	237	424	220	439	17	(1)	(1)	7.2
Salesworkers, apparel	166	192	40	(1)	126	174	(1)	75.9
Salesworkers, furniture and home furnishings	112	302	65	318	47	(1)	(1)	42.0
Salesworkers, radio, television, hi-fi, and appliances	107	304	84	313	24	(1)	(1)	22.4
Salesworkers, hardware and building supplies	135	267	105	292	30	(1)	(1)	22.2
Salesworkers, parts	155	274	140	286	14	(1)	(1)	9.0
Sales counter clerks	76	193	22	(1)	54	170	(1)	71.1
Cashiers	957	181	197	209	760	174	83.3	79.4
Street and door-to-door salesworkers	72	343	32	(1)	40	(1)	(1)	55.6
Administrative support occupations, including clerical	13,844	300	3,006	403	10,838	284	70.5	78.3
Supervisors, administrative support	709	424	296	521	413	385	73.9	58.3
Supervisors, general office	416	404	139	515	278	373	72.4	66.8
Supervisors, financial records processing	91	472	24	(1)	67	413	(1)	73.6
Supervisors, distribution, scheduling, and adjusting clerks	153	447	105	471	48	(1)	(1)	31.4
Computer equipment operators	722	318	236	396	486	296	74.7	67.3
Computer operators	716	318	234	396	482	296	74.7	67.3
Secretaries, stenographers, and typists	3,893	287	65	322	3,828	286	88.8	98.3
Secretaries	3,210	288	34	(1)	3,176	287	(1)	98.9
Typists	651	276	28	(1)	623	276	(1)	95.7
Information clerks	856	255	91	347	766	250	72.0	89.5
Interviewers	123	274	16	(1)	107	266	(1)	87.0
Hotel clerks	60	214	18	(1)	42	(1)	(1)	70.0
Transportation ticket and reservation agents	99	420	29	(1)	70	366	(1)	70.7
Receptionists	459	242	9	(1)	450	242	(1)	98.0
Records processing occupations, except financial	611	288	118	342	492	279	81.6	80.5
Order clerks	174	366	51	404	123	348	86.1	70.7
Personnel clerks, except payroll and timekeeping	53	317	5	(1)	48	(1)	(1)	90.6
Library clerks	54	248	8	(1)	46	(1)	(1)	85.2
File clerks	211	239	32	(1)	179	237	(1)	84.8
Records clerks	101	303	21	(1)	80	292	(1)	79.2
Financial records processing occupations	1,706	290	169	366	1,536	286	78.1	90.0
Bookkeepers, accounting and auditing clerks	1,319	287	127	343	1,193	283	82.5	90.4
Payroll and timekeeping clerks	149	316	14	(1)	135	313	(1)	90.6
Billing clerks	135	294	14	(1)	121	286	(1)	89.6
Cost and rate clerks	71	291	13	(1)	58	276	(1)	81.7
Duplicating, mail, and other office machine operators	60	266	28	(1)	33	(1)	(1)	55.0
Communications equipment operators	191	307	28	(1)	163	296	(1)	85.3
Telephone operators	181	315	25	(1)	157	304	(1)	86.7
Mail and message distributing occupations	754	445	520	465	234	405	87.1	31.0
Postal clerks, except mail carriers	274	479	164	484	110	467	96.5	40.1
Mail carriers, postal service	280	477	229	482	51	429	89.0	18.2
Mail clerks, except postal service	119	268	62	291	58	247	84.9	48.7
Messengers	81	271	65	279	16	(1)	(1)	19.8
Material recording, scheduling, and distributing clerks	1,455	322	908	359	547	285	79.4	37.6
Dispatchers	166	347	82	402	84	307	76.4	50.6
Production coordinators	178	458	100	506	78	346	68.4	43.8
Traffic, shipping, and receiving clerks	421	297	312	317	108	243	76.7	25.7
Stock and inventory clerks	479	315	299	347	180	285	82.1	37.6
Weighers, measurers, and checkers	65	279	39	(1)	26	(1)	(1)	40.0
Expediters	91	318	37	(1)	54	283	(1)	59.3
Adjusters and investigators	743	321	203	460	540	299	65.0	72.7
Insurance adjusters, examiners, and investigators	238	356	75	487	163	308	63.2	68.5
Investigators and adjusters, except insurance	334	323	89	465	244	301	64.7	73.1
Eligibility clerks, social welfare	64	300	7	(1)	58	291	(1)	90.6
Bill and account collectors	107	284	32	(1)	75	281	(1)	70.1

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1986 annual averages

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings		
Miscellaneous administrative support occupations	2,144	$272	345	$375	1,800	$262	69.9	84.0
General office clerks	548	283	123	373	425	267	71.6	77.6
Bank tellers	363	231	34	(1)	329	228	(1)	90.6
Data-entry keyers	290	277	21	(1)	269	273	(1)	92.8
Statistical clerks	88	343	19	(1)	69	327	(1)	78.4
Teachers aides	180	198	9	(1)	171	197	(1)	95.0
Service occupations	8,061	223	3,987	284	4,074	191	67.3	50.5
Private household occupations	334	121	14	(1)	320	119	(1)	95.8
Child care workers, private household	148	91	2	(1)	146	90	(1)	98.6
Private household cleaners and servants	157	147	9	(1)	149	146	(1)	94.9
Protective service occupations	1,589	392	1,433	402	156	292	72.6	9.8
Supervisors, protective service occupations	165	516	158	528	8	(1)	(1)	4.8
Supervisors, police and detectives	89	558	83	575	5	(1)	(1)	5.6
Firefighting and fire prevention occupations	222	455	217	461	4	(1)	(1)	1.8
Firefighting occupations	209	464	205	469	4	(1)	(1)	1.9
Police and detectives	648	431	579	443	69	350	79.0	10.6
Police and detectives, public service	392	478	367	481	24	(1)	(1)	6.1
Sheriffs, bailiffs, and other law enforcement officers	80	401	71	410	10	(1)	(1)	12.5
Correctional institution officers	176	362	142	370	34	(1)	(1)	19.3
Guards	554	266	479	272	75	231	84.9	13.5
Guards and police, except public services	516	272	456	275	59	254	92.4	11.4
Service occupations, except protective and household	6,138	209	2,540	239	3,598	195	81.6	58.6
Food preparation and service occupations	2,288	186	973	205	1,315	173	84.4	57.5
Supervisors, food preparation and service	177	238	68	294	109	212	72.1	61.6
Bartenders	184	214	100	245	84	184	75.1	45.7
Waiters and waitresses	576	172	103	209	472	168	80.4	81.9
Cooks, except short order	817	196	447	212	370	174	82.1	45.3
Food counter, fountain and related occupations	78	152	16	(1)	62	149	(1)	79.5
Kitchen workers, food preparation	64	166	15	(1)	49	(1)	(1)	76.6
Waiters'/waitresses' assistants	95	164	65	162	29	(1)	(1)	30.5
Health service occupations	1,277	216	145	252	1,132	213	84.5	88.6
Dental assistants	112	243	0	(1)	112	243	(1)	100.0
Health aides, except nursing	254	242	43	(1)	212	241	(1)	83.5
Nursing aides, orderlies, and attendants	910	206	102	253	808	202	79.8	88.8
Cleaning and building service occupations, except household	1,883	238	1,236	266	647	197	74.1	34.4
Supervisors, cleaning and building service workers	130	313	89	348	42	(1)	(1)	32.3
Maids and housemen	363	189	71	229	292	178	77.7	80.4
Janitors and cleaners	1,338	247	1,029	261	309	207	79.3	23.1
Personal service occupations	691	212	187	255	504	203	79.6	72.9
Hairdressers and cosmetologists	274	208	40	(1)	234	205	(1)	85.4
Attendants, amusement and recreation facilities	63	234	36	(1)	27	(1)	(1)	42.9
Child care workers, except private household	143	182	11	(1)	132	177	(1)	92.3
Precision production, craft, and repair occupations	10,851	408	9,973	418	878	277	66.3	8.1
Mechanics and repairers	3,723	414	3,588	413	136	431	104.4	3.7
Supervisors, mechanics and repairers	219	524	199	523	20	(1)	(1)	9.1
Mechanics and repairers, except supervisors	3,504	408	3,388	408	116	420	102.9	3.3
Vehicle and mobile equipment mechanics and repairers	1,444	375	1,426	375	19	(1)	(1)	1.3
Automobile mechanics	658	324	647	326	10	(1)	(1)	1.5
Bus, truck, and stationary engine mechanics	310	402	307	402	3	(1)	(1)	1.0
Aircraft engine mechanics	96	505	94	508	3	(1)	(1)	3.1
Small engine repairers	52	301	52	301	0	(1)	(1)	.0
Automobile body and related repairers	130	354	129	355	0	(1)	(1)	.0
Heavy equipment mechanics	157	438	156	437	1	(1)	(1)	.6
Industrial machinery repairers	515	415	502	417	13	(1)	(1)	2.5
Electrical and electronic equipment repairers	642	511	584	514	58	486	94.6	9.0
Electronic repairers, communications and industrial euqipment	131	450	121	447	9	(1)	(1)	6.9
Data processing equipment repairers	127	514	115	531	11	(1)	(1)	8.7
Telephone line installers and repairers	64	549	60	547	4	(1)	(1)	6.3
Telephone installers and repairers	220	568	191	571	29	(1)	(1)	13.2
Heating, air conditioning, and refrigeration mechanics	214	390	213	389	1	(1)	(1)	.5
Miscellaneous mechanics and repairers	655	403	631	404	23	(1)	(1)	3.5
Office machine repairers	54	376	54	376	0	(1)	(1)	.0
Millwrights	93	501	91	501	2	(1)	(1)	2.2
Construction trades	3,469	401	3,413	401	56	333	83.0	1.6
Supervisors, construction occupations	420	500	413	500	6	(1)	(1)	1.4
Construction trades, except supervisors	3,049	389	2,999	389	50	315	81.0	1.6
Brickmasons and stonemasons	114	412	113	411	0	(1)	(1)	.0
Carpet installers	53	331	52	328	0	(1)	(1)	.0
Carpenters	855	348	846	349	9	(1)	(1)	1.1
Drywall installers	101	374	99	375	2	(1)	(1)	2.0
Electricians	562	473	551	475	12	(1)	(1)	2.1
Electrical power installers and repairers	106	514	104	515	2	(1)	(1)	1.9
Painters, construction and maintenance	267	299	257	301	10	(1)	(1)	3.7

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1986 annual averages

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings		
Plumbers, pipefitters, steamfitters, and apprentices	376	$470	374	$470	2	(1)	(1)	.5
Concrete and terrazzo finishers	68	343	67	341	1	(1)	(1)	1.5
Insulation workers	53	369	52	363	1	(1)	(1)	1.9
Roofers	120	303	118	303	2	(1)	(1)	1.7
Structural metalworkers	65	467	65	467	0	(1)	(1)	.0
Extractive occupations	155	520	152	517	2	(1)	(1)	1.3
Precision production occupations	3,504	403	2,821	445	684	$258	58.0	19.5
Supervisors, production occupations	1,308	474	1,127	495	181	297	60.0	13.8
Precision metalworking occupations	862	432	814	441	48	(1)	(1)	5.6
Tool and die makers	151	506	149	508	2	(1)	(1)	1.3
Machinists	468	419	450	422	18	(1)	(1)	3.8
Sheet metal workers	128	408	120	410	8	(1)	(1)	6.3
Precision woodworking occupations	67	285	55	299	11	(1)	(1)	16.4
Precision textile, apparel, and furnishings machine workers	134	242	73	268	61	211	78.7	45.5
Precision workers, assorted materials	471	284	194	329	277	259	78.7	58.8
Electrical and electronic equipment assemblers	311	271	98	305	213	255	83.6	68.5
Precision food production occupations	336	293	254	327	82	208	63.6	24.4
Butchers and meatcutters	241	299	192	338	49	(1)	(1)	20.3
Bakers	69	292	51	316	18	(1)	(1)	26.1
Precision inspectors, testers, and related workers	104	463	86	481	18	(1)	(1)	17.3
Inspectors, testers, and graders	99	468	82	483	17	(1)	(1)	17.2
Plant and system operators	223	493	218	493	5	(1)	(1)	2.2
Stationary engineers	103	493	102	493	1	(1)	(1)	1.0
Operators, fabricators, and laborers	14,342	301	10,784	332	3,558	225	67.8	24.8
Machine operators, assemblers, and inspectors	7,254	293	4,401	354	2,853	223	63.0	39.3
Machine operators and tenders, except precision	4,815	278	2,873	341	1,942	211	61.9	40.3
Metalworking and plastic working machine operators	476	361	392	379	84	271	71.5	17.6
Lathe and turning machine operators	61	383	57	388	4	(1)	(1)	6.6
Punching and stamping press machine operators	140	327	95	352	45	(1)	(1)	32.1
Grinding, abrading, buffing, and polishing machine operators	142	366	124	376	18	(1)	(1)	12.7
Metal and plastic processing machine operators	167	324	126	365	40	(1)	(1)	24.0
Molding and casting machine operators	99	305	67	354	32	(1)	(1)	32.3
Woodworking machine operators	137	258	114	263	22	(1)	(1)	16.1
Sawing machine operators	90	260	77	264	12	(1)	(1)	13.3
Printing machine operators	404	354	303	394	101	282	71.6	25.0
Printing machine operators	274	366	240	381	34	(1)	(1)	12.4
Typesetters and compositors	57	323	17	(1)	40	(1)	(1)	70.2
Textile, apparel, and furnishings machine operators	1,155	195	225	247	930	186	75.3	80.5
Winding and twisting machine operators	82	237	19	(1)	64	220	(1)	78.0
Textile sewing machine operators	676	179	69	205	607	177	86.3	89.8
Pressing machine operators	108	199	33	(1)	75	182	(1)	69.4
Laundering and dry cleaning machine operators	137	194	43	(1)	94	175	(1)	68.6
Machine operators, assorted materials	2,450	305	1,696	343	754	239	69.7	30.8
Packaging and filling machine operators	367	253	141	324	227	230	71.0	61.9
Mixing and blending machine operators	87	342	81	345	6	(1)	(1)	6.9
Separating, filtering, and clarifying machine operators	61	431	53	446	8	(1)	(1)	13.1
Painting and paint spraying machine operators	174	310	141	328	33	(1)	(1)	19.0
Furnace, kiln, and oven operators, except food	109	421	106	425	4	(1)	(1)	3.7
Crushing and grinding machine operators	54	243	42	(1)	12	(1)	(1)	22.2
Slicing and cutting machine operators	216	270	165	288	51	209	72.6	23.6
Photographic process machine operators	60	253	28	(1)	32	(1)	(1)	53.3
Fabricators, assemblers, and hand working occupations	1,659	319	1,131	365	527	251	68.8	31.8
Welders and cutters	534	376	499	382	34	(1)	(1)	6.4
Assemblers	1,001	299	567	350	434	254	72.6	43.4
Production inspectors, testers, samplers, and weighers	780	323	396	421	384	260	61.8	49.2
Production inspectors, checkers, and examiners	653	334	321	438	332	266	60.7	50.8
Production testers	51	420	39	(1)	12	(1)	(1)	23.5
Graders and sorters, except agricultural	70	230	33	(1)	37	(1)	(1)	52.9
Transportation and material moving occupations	3,684	366	3,494	372	190	287	77.2	5.2
Motor vehicle operators	2,577	346	2,426	353	151	275	77.9	5.9
Supervisors, motor vehicle operators	57	462	47	(1)	10	(1)	(1)	17.5
Truckdrivers, heavy	1,539	371	1,516	371	23	(1)	(1)	1.5
Truckdrivers, light	459	281	432	287	27	(1)	(1)	5.9
Drivers-salesworkers	188	395	179	400	9	(1)	(1)	4.8
Bus drivers	201	327	129	389	71	285	73.3	35.3
Taxicab drivers and chauffeurs	107	272	97	274	10	(1)	(1)	9.3
Transportation occupations, except motor vehicles	185	580	181	583	4	(1)	(1)	2.2
Rail transportation occupations	133	589	130	593	3	(1)	(1)	2.3
Locomotive operating occupations	57	625	57	630	1	(1)	(1)	1.8
Water transportation occupations	51	547	51	545	1	(1)	(1)	2.0
Material moving equipment operators	922	375	887	377	36	(1)	(1)	3.9
Operating engineers	155	410	154	410	1	(1)	(1)	.6
Crane and tower operators	85	459	84	458	1	(1)	(1)	1.2
Excavating and loading machine operators	81	368	80	366	1	(1)	(1)	1.2

See footnotes at end of table.

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1986 annual averages

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings	Number of workers	Median weekly earnings		
Grader, dozer, and scraper operators	90	$351	87	$345	3	(1)	(1)	3.3
Industrial truck and tractor equipment operators	381	325	361	327	20	(1)	(1)	5.2
Handlers, equipment cleaners, helpers, and laborers	3,404	263	2,890	271	515	$226	83.4	15.1
Helpers, construction and extractive occupations	161	240	158	237	4	(1)	(1)	2.5
Helpers, construction trades	143	236	139	233	4	(1)	(1)	2.8
Construction laborers	642	287	624	288	18	(1)	(1)	2.8
Production helpers	59	271	44	(1)	15	(1)	(1)	25.4
Freight, stock, and material handlers	1,020	263	870	272	150	221	81.3	14.7
Garbage collectors	51	286	50	285	1	(1)	(1)	2.0
Stock handlers and baggers	363	214	288	218	75	199	91.3	20.7
Machine feeders and offbearers	86	266	57	282	30	(1)	(1)	34.9
Garage and service station related occupations	185	200	178	202	7	(1)	(1)	3.8
Vehicle washers and equipment cleaners	139	215	116	214	24	(1)	(1)	17.3
Hand packers and packagers	238	233	90	257	149	222	86.4	62.6
Laborers, except construction	921	283	772	291	149	232	79.7	16.2
Farming, forestry, and fishing occupations	1,318	217	1,178	220	140	187	85.0	10.6
Farm operators and managers	67	321	59	325	9	(1)	(1)	13.4
Farm managers	60	329	54	333	7	(1)	(1)	11.7
Other agricultural and related occupations	1,162	211	1,034	215	128	184	85.6	11.0
Farm occupations, except managerial	620	195	552	199	69	167	83.9	11.1
Farm workers	575	192	519	195	57	165	84.6	9.9
Related agricultural occupations	542	235	482	242	59	205	84.7	10.9
Supervisors, related agricultural occupations	94	345	87	360	7	(1)	(1)	7.4
Groundskeepers and gardeners, except farm	396	222	379	223	17	(1)	(1)	4.3
Forestry and logging occupations	65	286	62	290	3	(1)	(1)	4.6

[1] Data not shown where base is less than 50,000.

collected annually, in May. In 1979, collection was expanded considerably, with the data being gathered monthly from one-fourth of the CPS sample. BLS publishes summary results quarterly and disseminates more detailed information based on annual averages after the end of the year.[2]

Earnings data for detailed occupations were first published for 1981, but unpublished numbers are available back to 1979.[3] However, the 1986 data are fully comparable only to those published for 1985 and to unpublished data for 1983 and 1984. They are not strictly comparable to prior years' data for two reasons. First, in 1983, the classification system developed for the 1980 Census of Population was introduced to the CPS. It is markedly different from the previous system.[4] Second, in 1985, a change in the procedure for computing medians was introduced to reduce both a systematic upward bias in the estimates and the sometimes erratic movements of the medians over time. Both are the result of a tendency of respondents to report rounded numbers.[5] The data for 1983 and 1984 have been revised using the new procedure and are available from BLS. Because the change in the occupational classification system precludes comparability with pre-1983 data, medians were not revised for the 1979–82 period.

The Bureau of the Census classifies occupations at three levels of detail. The least detailed level consists of only the major occupational groups, for example, the professional specialty occupations. An intermediate level of detail of the professional specialty occupations has such groups as engineers and natural scientists; the most detailed includes such specific job titles as physicians, economists, and chemical engineers. □

[1] For information or the merits and limitations of the data, see *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey,* Bulletin 2113 (Bureau of Labor Statistics, 1982). For information on other data series on earnings from the Current Population Survey and other BLS surveys, see *BLS Measures of Compensation,* Bulletin 2239 (Bureau of Labor Statistics, 1986).

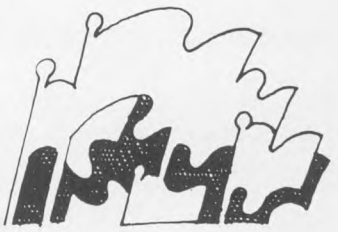
[2] The Current Population Survey is a monthly nationwide sample survey of about 60,000 households conducted for the Bureau of Labor Statistics by the Bureau of the Census. For information on the survey, particularly with regard to earnings data, see Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey,* and Earl F. Mellor, "Earnings Statistics from the Current Population Survey," *BLS Measures of Compensation.*

[3] Data for 1981 appear in "1981 Weekly Earnings of Men and Women Compared in 100 Occupations," *U.S. Department of Labor News Release* 82–86, Mar. 7, 1982; and in Nancy F. Rytina, "Earnings of men and women: a look at specific occupations," *Monthly Labor Review,* April 1982, pp. 25–31. For 1982, 1983, and 1985 data, see the following *Monthly Labor Review* articles or research summaries by Earl F. Mellor: "Investigating the differences in weekly earnings of women and men," June 1984, pp. 17–28; "Weekly earnings in 1983: a look at more than 200 occupations," January 1985, pp. 54–59; and "Weekly earnings in 1985: a look at more than 200 occupations," September 1986, pp. 28–32. Revised data for 1983 and 1984 are available from the Bureau of Labor Statistics.

[4] The system evolved form the Standard Occupational Classification System (SOC) which was adopted in 1977 and revised in 1980. See *Standard Occupational Classification Manual* (U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, 1980). The relationship between the 1980 census system and the SOC is shown in *Census of Population: 1980, Classified Index of Industries and Occupations,* Report PHC80-R4, final ed. (Bureau of the Census, 1983). For more information on differences between the 1970- and 1980-based census classification systems, see Gloria Peterson Green and others, "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings,* February 1983, pp. 7–15.

[5] For information on the effects that differences in the grouping of the data have on medians, see Sandra A. West, "Standard Measures of Central Tendency for Censored Earnings Data from the Current Population Survey," a BLS statistical note, available from the Office of Research and Evaluation, Bureau of Labor Statistics.

Foreign Labor Developments



Japanese unemployment: BLS updates its analysis

CONSTANCE SORRENTINO

In a 1984 article in the *Review,* we presented an analysis of Japan's labor force data and concluded that the official Japanese unemployment rates are only slightly understated in relation to U.S. concepts.[1] The data analyzed in the article were from the "Special Survey of the Labour Force Survey" (referred to as the special survey hereafter), conducted in Japan in March 1977 through 1980.

This report updates the article by analyzing data from the 1984 through 1986 special surveys which were conducted in February. Unlike the March surveys, the February surveys indicate that official Japanese unemployment rates are slightly overstated relative to U.S. concepts. In any event, the February results confirm the broad conclusion drawn from the earlier study: Japanese unemployment rates are virtually unchanged when U.S. concepts are applied.

Our article noted that it was difficult to draw firm conclusions from the March data because March is a very unusual month for the Japanese labor market. It is both the end of the fiscal year, when Japanese firms traditionally take on new workers to start April 1, and the end of the school year, when new graduates enter the labor market. Although February is also a month of higher than average unemployment for Japan, there is less seasonality associated with this month than with March, and the February results for 1984–86 provide new information about what may be expected in a more typical month.

The original BLS article was partially a response to a 1983 *Review* article by Koji Taira which also analyzed the March 1977–80 surveys.[2] In contrast to the BLS view of these surveys, Taira concluded that the Japanese jobless rate would be "nearly double the official unemployment rate" if U.S. concepts were used. Although both BLS and Taira found it necessary to make several adjustments to Japanese unemployment to bring it more in accord with U.S. concepts, BLS, by contrast, found Japanese unemployment to be only slightly understated.

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A 1984 article by Sadonari Nagayama, former director of the Japanese Statistics Bureau, also reached conclusions different from Taira's.[3] Nagayama argued that Taira's adjustments were too large, particularly the adjustment in which he classifies as unemployed more than 500,000 students who graduated in March and would start work in April. Information from the February 1984–86 surveys throws further light on this issue.

The special surveys of February 1984–86 were not available to Taira or BLS when the earlier articles were written. After reviewing the surveys, BLS believes they support the contention that the Japanese unemployment rate is only slightly changed when U.S. concepts are applied. This report presents an analysis of the February surveys, including a breakdown of the results by sex. In addition, unemployment rates using an expanded concept of unemployment are calculated and compared.

Japan's special survey

To supplement its monthly labor force survey, the Japanese Statistics Bureau conducts special surveys once or twice each year to investigate, in more detail, the labor force status of the population and provide data needed for making employment policies. The themes of the special surveys change according to the social and economic circumstances and data needs at the time of each survey.

The underlying purpose of the special surveys from 1977 through 1980 was to investigate, in detail, the rise in the unemployment rate which began after the first "oil crisis." Later surveys had other emphases. For example, the March 1981 survey highlighted the situation of part-time workers and the 1983 survey presented a current labor force status versus usual status comparison. The differing underlying themes necessarily influenced the whole structure of the survey questionnaires. Modifications in questions and wording were made, not without a sacrifice to the continuity of the time series. As a result, the special surveys of 1977–80 were useful in quantifying the differences between Japanese and U.S. unemployment concepts, while the 1981–83 surveys were unsuitable for that purpose.

The 1984–86 special surveys returned to a questionnaire format similar to that used in the 1977–80 surveys, again producing the kind of data needed for adjustment to U.S. concepts. Moreover, the 1984–86 surveys were taken in

February instead of March, thus eliminating at least some of the seasonality associated with the end of the fiscal and school years.

Adjustment to U.S. concepts

Several adjustments are made to the special survey data to bring them closer to U.S. concepts. Some persons counted as unemployed in the surveys should be excluded from the labor force, and some reported as not in the labor force should be included among the unemployed. The magnitude of each of the adjustments is significant, but, on balance, they tend to cancel each other out, leaving the Japanese unemployment rate virtually unchanged. Table 1 shows the 1984–86 adjustments for February along with the March 1980 figures, generally in the same format as table 4 in the 1984 article.

Unemployment. Most of the adjustments relate to the unemployed. The Japanese surveys report as unemployed a number of persons who did not actively seek work during the past month. The reasons for this relate to the wording of the survey questions (this is explained in our March 1984 article). "Inactive jobseekers" are subtracted from the reported unemployed for comparability with U.S. concepts. They amounted to 20 to 25 percent of the reported unemployed in the February surveys, compared with over 40 percent in the March surveys.

Table 1. Adjustment of Japanese unemployment and labor force data to approximate U.S. concepts, March 1980 and February 1984–86

[Numbers in thousands]

Category	March 1980	February 1984	February 1985	February 1986
Reported unemployed	1,240	1,710	1,640	1,640
Less inactive jobseekers	540	430	370	360
Plus jobseekers not in labor force who intended to start work immediately	430	130	130	120
Less those not available due to housework or school	80	10	10	10
Plus persons waiting to begin a new job within 1 month	740	1,340	1,130	1,300
Less students awaiting jobs after graduation[1]	550	1,170	960	1,100
Adjusted unemployed	1,240	1,570	1,560	1,590
Reported labor force	55,370	57,240	57,990	58,400
Less family workers working less than 15 hours	570	560	520	500
Less inactive jobseekers	540	430	370	360
Plus unemployed classified "not in labor force"[2]	540	290	290	310
Adjusted labor force	54,800	56,540	57,390	57,850
Unemployment rates:				
Reported	2.2	3.0	2.8	2.8
Adjusted to U.S. concepts	2.3	2.8	2.7	2.7

[1] In March 1980, these students had already graduated by the time of the survey. In the February surveys, they were still in school.

[2] Net sum of jobseekers not in labor force and persons waiting to begin a new job (less students).

SOURCE: Management and Coordination Agency, Japanese Statistics Bureau, *Report on the Special Survey of the Labour Force Survey*, March 1980, February 1984–86.

However, there are two groups of persons reported as not in the labor force who, upon further questioning, reveal that they should be counted as unemployed under U.S. concepts. Both groups are classified as not in the labor force in the Japanese survey because they initially respond that their status is housewife, student, or retired, rather than jobseeker. One group, responding to more probing questions later in the survey, stated that they had sought work in the past month and could have started work immediately if a job had been found. These persons amounted to 7 percent of adjusted unemployment in the February surveys and about 30 percent in the March surveys.

The other group from outside the labor force comprises persons who were waiting to begin a new job within 1 month and available for work. In March 1980, the following data were reported in the survey results:

	Workers (thousands)
Total waiting to begin a new job	860
Within 1 month	740
After graduation in March	550
Other	190
After 1 month	120

Taira's adjustment on this point was to add 740,000 persons—that is, all persons waiting to begin a new job within 1 month—to the Japanese unemployed. In contrast, the BLS adjustment added only the 190,000 persons who were not students to the unemployed figure, excluding those who were waiting to start jobs after graduation in March. BLS omitted school graduates rather than including them in the upward adjustment to the unemployed for three reasons: (1) although most had already attended graduation ceremonies, it was questionable whether they were available for work prior to April 1; (2) they would not be included in the count in any month but March; and (3) there is hardly any chance that the jobs they were waiting to start would disappear (the surveys were taken during the last week of March and new jobs traditionally begin the first week of April).

The availability of the graduates was open to question because graduation ceremonies usually take place in early March. The students were not asked whether they wanted to begin work sooner than April 1, but this was a possibility. However, we maintain that the compelling reason to exclude them is to put the March surveys on a more typical basis.

Taira's method has the effect of using the March surveys as representative of the Japanese labor market over the course of the year. He compares the March results for Japan with annual average data for the United States and other countries.

When we turn to an analysis of the February surveys, the situation becomes clearer. There is no longer any valid argument to include the students waiting to begin new jobs in the Japanese unemployed count. Because these surveys are taken in February, students are still in school and, there-

fore, not available to take up their new jobs until after graduation in March. U.S. concepts require that persons waiting to begin new jobs within 30 days must be available to start work during the survey's reference week in order to be classified as unemployed. We suggest that none of the Japanese students should be included in the unemployed in February even under Taira's conceptual framework.

The following results were reported in the February 1984–86 surveys:

	1984	*1985*	*1986*
	(thousands)		
Total waiting to begin a new job	1,640	1,460	1,640
Within 1 month	1,340	1,130	1,300
After graduation in March	1,170	960	1,100
Other	170	170	200
After 1 month	310	340	330

The 170,000 to 200,000 persons who were not students waiting to begin a new job within 1 month are added to the Japanese unemployed for comparability with U.S. concepts. This adjustment accounted for 10 to 12 percent of the adjusted unemployed. The BLS adjustment to the March surveys on this point represented 15 to 20 percent of the adjusted unemployed.

Japanese unemployment was higher in 1984–86 than in the 1977–80 period. Nevertheless, all of the adjustments to unemployment were smaller in the February surveys than they were in the March 1977–80 surveys. There were fewer inactive job seekers to subtract and fewer unemployed from outside the labor force to add. These results are a reflection of the higher seasonality of March compared with February. Moreover, there are a greater number of inactive jobseekers to subtract in the February surveys than there are jobseekers not in the labor force to add. This is the reverse of the situation in March 1977–80 when jobseekers outside the labor force surpassed (1977–79) or balanced (1980) inactive jobseekers.

The earlier BLS study presented the adjustments based on the March surveys as "upper limits" because of the high seasonality of the March period. The February surveys support this view.

Labor force. The adjustments to the labor force for comparability with U.S. concepts are relatively small. Japan includes and the United States excludes unpaid family workers who worked less than 15 hours in the survey week. As indicated earlier, a number of unemployed persons officially classified as not in the labor force should be added to the Japanese labor force for comparability with U.S. concepts. However, some of the officially unemployed should be subtracted—the "inactive jobseekers." On balance, these adjustments reduce the reported labor force by 1 percent in both the February and the March surveys. (See table 1.)

Table 2. Adjustment of Japanese unemployment and labor force data to approximate U.S. concepts, by sex, February 1985

[Numbers in thousands]

Category	Men	Women
Reported unemployed	1,010	630
Less inactive jobseekers	250	120
Plus jobseekers not in labor force who intended to start work immediately	20	100
Less those not available due to housework or school	–	10
Plus persons waiting to begin new job within 1 month	590	540
Less students awaiting jobs after graduation	520	440
Adjusted unemployed	850	700
Reported labor force	35,320	22,670
Less family workers working less than 15 hours	40	480
Less inactive jobseekers	250	120
Plus unemployed classified "not in labor force"[1]	90	190
Adjusted labor force	35,120	22,260
Unemployment rates:		
Reported	2.9	2.8
Adjusted to U.S. concepts	2.4	3.1

[1] Net sum of jobseekers not in labor force and persons waiting to begin a new job (less students).

SOURCE: Management and Coordination Agency, Japanese Statistics Bureau, *Report on the Special Survey of the Labour Force Survey*, February 1985.

The outcome. Whereas the March 1980 and earlier surveys indicated that the reported Japanese unemployment rates needed to be increased slightly to be in accord with U.S. concepts, the later surveys of February 1984–86 indicate that the Japanese rates should be decreased slightly. The reported rate of 3 percent in February 1984 is reduced to 2.8 percent after adjustment; the data for 1985 and 1986 are reduced from 2.8 to 2.7 percent. (See table 1.)

Comparisons by sex

Although the overall Japanese unemployment rate is changed only slightly when the special survey data are adjusted to BLS concepts, there is a more noticeable difference in the adjusted rates for men and women. The conventional Japanese data by sex show virtually no difference between the unemployment rates for men and women. However, according to the BLS adjustments, there is a significant differential between the male and female rates which may have converged somewhat between the two periods under consideration. For instance, in March 1977–80, the female rates were about double the male rates, but in February 1984–86, the rates for women are about one-third higher than the rates for men. This convergence may be real, but it may also be attributed to higher sex differentials in March than in February. Without February and March data for the same years, it is impossible to tell. The following tabulation shows unemployment rates for men and women from the March and February surveys (based on civilian labor force):

Period	*As published*		*Approximating U.S. concepts*	
	Men	*Women*	*Men*	*Women*
March 1977	2.4	2.3	2.0	4.3
March 1978	2.7	2.4	2.2	4.3
March 1979	2.5	2.4	1.9	4.1
March 1980	2.2	2.3	1.7	3.3
February 1984	3.0	3.0	2.5	3.3
February 1985	2.9	2.8	2.4	3.1
February 1986	2.8	2.8	2.4	3.3

Thus, after adjustment, the Japanese situation appears more like Western countries where women usually have higher unemployment rates than men.

The reason for the wide male-female differential for Japan after the adjustments are made is that women account for the great majority of jobseekers classified as not in the labor force, while men account for most of the reported unemployed who did not actively seek work in the month of the survey. (See table 2.)

An expanded unemployment concept

Japan's unemployment rates, both on their official basis and adjusted to U.S. concepts, are well below U.S. rates. Annual U.S. jobless rates of 7.5 percent in 1984, 7.2 percent in 1985, and 7.0 percent in 1986 contrast with adjusted Japanese rates of 2.7–2.8 percent in February. These February rates for Japan were probably slightly higher than the annual averages because published February rates were 0.2 percentage points above the annual average. Other Western nations (Canada, France, the Netherlands, the United Kingdom) had rates in the 10- to 14-percent range during this period.[4] Is the efficiency of the Japanese labor market really 2 to 5 times better than that of the Western nations? A strict comparison of unemployment rates would arrive at that misleading conclusion. However, a substantial part of Japan's

Table 3. Expanded unemployment measures for the United States and Japan, 1980, 1984–86
[Numbers in thousands]

Category	United States				Japan			
	1980	1984	1985	1986	March 1980	February 1984	February 1985	February 1986
Unemployed								
Total, U.S. standard definition	7,637	8,538	8,312	8,237	1,240	1,570	1,560	1,590
Full-time jobseekers	6,269	7,057	6,793	6,708	[1]740	[1]1,170	[1]1,130	[1]1,180
Part-time jobseekers	1,369	1,481	1,519	1,529	[1]500	[1]400	[1]430	[1]410
Half	685	741	760	765	250	200	220	210
Part-time for economic reasons	4,321	5,744	5,590	5,588	1,920	2,070	2,120	2,350
Reduced hours	4,321	5,744	5,590	5,588	[2]1,790	[2]1,900	[2]1,960	[2]2,060
Half	2,161	2,872	2,795	2,794	900	950	980	1,030
Zero hours	(3)	(3)	(3)	(3)	[4]130	[4]170	[4]160	290
U-6 numerator[5]	9,115	10,669	10,348	10,267	2,020	2,490	2,490	2,710
Plus discouraged workers	994	1,283	1,204	1,121	—	—	—	—
Japan: Discouraged workers I[6]	—	—	—	—	1,620	1,830	2,240	2,340
Discouraged workers II[7]	—	—	—	—	2,620	3,250	4,020	4,190
U-7 numerator	10,109	11,952	11,552	11,388	—	—	—	—
Japan: I	—	—	—	—	3,640	4,320	4,730	5,050
Japan: II	—	—	—	—	4,640	5,740	6,510	6,900
Civilian labor force:								
Total, U.S. standard definition	106,940	113,544	115,461	117,834	54,560	56,300	57,150	57,620
Full-time labor force	91,296	97,632	99,178	101,085	46,740	49,770	50,210	51,030
Part-time labor force	15,644	15,912	16,283	16,750	7,820	6,530	6,940	6,590
Half	7,822	7,956	8,142	8,375	3,910	3,270	3,470	3,300
U-6 denominator[8]	99,118	105,588	107,319	109,459	50,650	53,040	53,680	54,320
U-7 denominator[9]	100,112	106,871	108,523	110,580	—	—	—	—
Japan: I	—	—	—	—	52,270	54,870	55,920	56,660
Japan: II	—	—	—	—	53,270	56,290	57,700	58,510
Unemployment rates (percent):								
U-5: U.S. standard definition (civilian basis)	7.1	7.5	7.2	7.0	2.3	2.8	2.7	2.8
U-6: Total full-time jobseekers plus 1/2 part-time jobseekers plus 1/2 total on part-time for economic reasons[10] as a percent of the civilian labor force less 1/2 of the part-time labor force	9.2	10.1	9.6	9.4	4.0	4.7	4.6	5.0
U-7: U-6 plus discouraged workers in numerator and denominator	10.1	11.2	10.6	10.3	[11]7.0–8.7	[11]7.9–10.2	[11]8.5–11.3	[11]8.9–11.8

[1] Breakdown into full-time and part-time jobseekers partially estimated.

[2] Includes reported number of persons usually working part time who want more work plus reported number of persons on reduced (but not zero) hours due to slack work or other business reasons.

[3] Included in U.S. standard definition.

[4] Not reported—. estimated as 10 percent of reported unemployment based upon March 1979 proportion.

[5] All full-time jobseekers plus one-half part-time jobseekers plus one-half on reduced hours for economic reasons plus all on zero hours for economic reasons.

[6] For Japan, all persons not in the labor force who reported that they desired a job but were not seeking work because there was no prospect of finding it excluded the following two groups: (1) those who had sought earlier in the month and were immediately available (reclassified by BLS as unemployed under U.S. concepts); and (2) persons who respond "no, or undecided" as to whether they could take up a job now. Discouraged Workers-I comes as close as possible to U.S. concepts.

[7] For Japan, this group may include some persons who would not be classified as discouraged under U.S. concepts. It includes the persons in Discouraged Workers-I plus: (1) persons who respond "no, or undecided" as to whether they could take up a job now; and (2) persons reported as unemployed in the Japanese survey, but who were not seeking work in the past month (reclassified by BLS as not in the labor force under U.S. concepts).

[8] Civilian labor force less one-half the part-time labor force.

[9] U-6 denominator plus discouraged workers.

[10] Japanese workers on "zero hours" are given full weight.

[11] Range reflects two different groups of discouraged workers (I and II).

labor underutilization falls into the realm of underemployment (workers on reduced hours) and discouragement, or labor force withdrawal. These forms of labor slack do not show up in the conventional unemployment rate.

The March 1984 article provided comparisons based upon expanded concepts of unemployment which exist in the United States within the unemployment measures designated as U-1 to U-7.[5] These monthly measures include the official unemployment rate U-5. While U-1 to U-4 represent narrower measures of unemployment, U-6 and U-7 represent expanded concepts. Persons on part-time schedules for economic reasons are incorporated in U-6, and U-7 brings in discouraged workers, that is, persons who want a job but are not looking for work because they believe their search would be fruitless.

Table 3 updates the expanded concepts comparisons to 1984–86, and revises the U-7 calculation for 1980. Data from the February special surveys for Japan are compared with annual average data for the United States. The Japanese figures should be considered as only approximate indicators of U-6 and U-7.[6]

Since publication of the 1984 article, BLS has reassessed the Japanese data on discouraged workers and has concluded that they should more properly be expressed as a range. The Japanese survey questioning procedure differs substantially from the U.S. procedure, and it is difficult to make an exact fit to the U.S. concept. Discouraged workers are, by nature, a subjective phenomenon, and precise measurement in any country is an elusive proposition. An appendix to this article provides further information on the discouraged worker comparison between the United States and Japan.

In Table 3, the lower rate of the U-7 range includes persons who seem to fall strictly within the U.S. concept of discouraged workers; the upper rate of the range includes some who may not be counted under the U.S. definition, but they would fall under a broader concept of labor underutilization.

Comparisons of the U-6 and U-7 rates in relation to the conventionally defined rate (U-5) show that the Japanese "expanded" rates are increased to a greater degree than the U.S. U-6 and U-7 rates. In other words, there is a convergence in the "unemployment rates" for the two countries when the definition is broadened. The convergence was somewhat greater in 1984–86 than in 1980.

Under the conventional definition of unemployment (U-5), table 3 shows that the U.S. rate is 2.5 to 2.7 times the Japanese rate in 1984–86. Expanding the concept to include persons working part time for economic reasons (U-6), the U.S. rate is about twice the Japanese rate. When defining unemployment even more broadly to encompass discouraged workers (U-7), we find that the U.S. rate falls to only 1.2 to 1.4 times the Japanese rate at the low end of the U-7 range. At the higher end, the rates converge even more, to the point that the Japanese rate surpasses the U.S. rate in 1985 and 1986. But it should be emphasized that the upper Japanese U-7 includes some persons who might not be classified as discouraged under U.S. definitions.

Expanding the unemployment concept to include other elements of labor slack—economic part time and discouraged workers—draws the Japanese rate closer to U.S. levels. Explanations for any remaining differential lie in such factors as the composition of the labor force, levels of frictional unemployment, and economic growth rates. □

——FOOTNOTES——

[1] Constance Sorrentino, "Japan's low unemployment: an-indepth analysis," *Monthly Labor Review,* March 1984, pp. 18–27.

[2] Koji Taira, "Japan's low unemployment: economic miracle or statistical artifact?" *Monthly Labor Review,* July 1983, pp. 3–10.

[3] The Nagayama article was originally published in Japanese in *Nihon Rodo Kyokai Zasshi,* March 1984. An English translation of the article appears in "Are Japan's Unemployment Statistics Too Low?" *Economic Eye* (Economic Affairs, Keizai Koho Center), June 1984, pp. 14–18. Copies are available from BLS upon request.

[4] For international unemployment rates approximating U.S. concepts, see tables 45 and 46 in the "Current Labor Statistics" section of the *Monthly Labor Review.*

[5] The U-1 to U-7 framework was introduced in Julius Shiskin, "Employment and unemployment; the doughnut or the hole?" *Monthly Labor Review,* February 1976, pp. 3–10.

[6] See Sorrentino, p. 26, for further discussion of measurement problems and estimating methods.

APPENDIX: A note on discouraged workers

Discouraged workers, as defined in the United States, are persons outside the labor force who want a job but are not seeking it because they believe their search would be futile. Measuring the number of such workers is a difficult task because it involves the measurement of subjective phenomena, specifically, one's desire for work and one's perceptions of his or her chances of finding a job. These are essentially "states of mind" rather than criteria which can be objectively determined.

Japan has no concept of discouraged workers, either in its regular monthly survey or in the special surveys. However, the special surveys make the construction of a discouraged worker measure possible by providing detailed questions concerning job desires and prospects of persons outside the labor force.

Measurement problems are compounded when one attempts to make international comparisons of discouraged workers, particularly between the United States and Japan.

This note presents a summary description of some of the issues involved. A more detailed analysis is available upon request to the Bureau of Labor Statistics.

Comparison of methods

The U.S. and Japanese methods of questioning persons outside the labor force about their desire for work are different in several respects. The following points should be noted:

Method of enumeration. In the U.S. Current Population Survey (CPS), respondents are asked a series of questions by an enumerator. No "prompting" is allowed for the questions leading to classification as discouraged workers. Respondents are simply asked their reason(s) for not looking for work, and the enumerator records all reasons. In the Japanese survey, respondents fill out the questionnaires themselves. Thus, the respondent sees all the possible reasons for not looking for work, and he or she checks off the *main* reason. This is a form of "prompting" which could elicit results different from the U.S. procedure.

Wording of questions. The wording of the questions in the U.S. and Japanese surveys are different. In the CPS, two questions determine whether persons are classified as discouraged workers. The first U.S. question, put to all persons not in the labor force, is: "Does . . . want a regular job now, either full time or part time?" "Now" is defined as *this week,* and enumerators are instructed to emphasize "now" to stress the time period involved. Those answering "yes," or "maybe, it depends," are then asked the reasons they are not looking for work.

In Japan, three questions are asked. The first question put to persons not in the labor force is: "Did you wish to do any work for pay or profit?" The word "now" used in the first U.S. question is not conveyed in the Japanese question, but a subsequent question asks "If you find a job now, can you take it up?" In a strict sense, it would seem that only those answering with the response "Yes, immediately" should be potentially counted as discouraged workers under the U.S. concept. However, there are factors which argue for a more liberal approach which would also include "Yes, but later" responses: (1) the often tentative—"maybe, it depends" response to the first U.S. question and (2) the fact that a direct question is not asked in the U.S. survey as to whether a person can, in fact, take up a job now. The "no, or undecided" group of responses to the second Japanese question should probably be excluded from an estimate of discouraged workers comparable with U.S. procedures because of the emphasis on wanting a job "now" in the CPS procedure. However, a case can be made for including at least some on the grounds that "undecided" corresponds to "maybe" as an affirmative response to the first U.S. question. A third question in the Japanese survey asks why persons who want a job are not looking for work.

Reasons for discouragement. There are two issues involved here. First, the Japanese method allows only one response to the question on reason for not seeking, while multiple responses are encouraged in the CPS, with the final classification determined by a hierarchy of responses in which nondiscouragement outranks discouragement. In other words, a person responding in the CPS that he or she "believes no work is available" but also that he or she "can't arrange child care" is classified under the latter response, and, therefore, is not counted as discouraged. In Japan, the determination of the final classification is left up to the respondent because he or she is instructed to check off the "main reason."

A second issue is to decide which reasons for not looking for work in Japan correspond with discouragement in the United States. In the CPS, persons classified according to the five following reasons for not seeking work are considered to be discouraged workers: (1) Believes no work available in line of work or area; (2) Couldn't find any work; (3) Lacks necessary schooling, training, skills, experience; (4) Employer thinks he or she is too old or too young; and (5) Other personal handicap. In Japan, the category "No prospect of finding a job" corresponds closely to the five reasons allowed under the U.S. concept.

Inactive jobseekers. In adjusting the special survey unemployment data to U.S. concepts, one of the adjustments made was to subtract those persons who did not actively seek work in the past month. Because the Japanese initially classify them as unemployed, they are not asked the later questions on reasons for not seeking work. The "inactive jobseekers" are certainly a part of a concept of labor slack or labor underutilization, but they are not necessarily discouraged workers. They were treated as such in the comparison for 1980 shown in the March 1984 article, but here we have decided to treat them in a broader U-7 definition as an upper limit because we cannot definitely say that they all are discouraged.

Calculation of Japanese discouraged workers

Because of the many differences noted above, it was decided to express the number of discouraged workers in Japan as a range rather than as a precise level comparable with U.S. concepts. Table A-1 shows the composition of each grouping of discouraged workers.

Discouraged workers I seems to fall strictly within U.S. concepts. These are all the Japanese who reported, "No prospect of finding a job" less (1) those who sought work in the past month and were immediately available (reclassified by BLS as unemployed under U.S. concepts), and (2) those who responded "No, or undecided" as to whether they could take up a job now (eliminated because of the CPS emphasis on wanting a job "now").

Discouraged workers II is a broader grouping which may include some persons who would not be classified as discouraged under U.S. concepts. It comprises the persons in

Table A-1. Japan: Calculation of discouraged workers, March 1984 and February 1984–86
[In thousands]

Category	March 1980	February 1984	February 1985	February 1986
Persons reporting no prospect of finding a job	2,350	2,880	3,740	3,920
Less those who sought work in the past month and were immediately available	270	60	90	90
Less those who respond "No, or undecided" as to whether they could take up a job now	460	990	1,410	1,490
Equals: Discouraged workers I	1,620	1,830	2,240	2,340
Plus those who respond "No, or undecided" as to whether they could take up a job now	460	990	1,410	1,490
Plus persons reported as unemployed but not seeking in past month	540	430	370	360
Equals: Discouraged workers II	2,620	3,250	4,020	4,190

SOURCE: Management and Coordination Agency, Japanese Statistics Bureau, *Report on the Special Survey of the Labour Force Survey*, March 1980, February 1984–86.

discouraged workers I plus: (1) those who responded "No, or undecided" as to whether they could take up a job now (because the CPS allows "maybe" as an answer to the question about wanting a job "now"); and (2) the "inactive jobseekers," those persons reported as unemployed in the Japanese survey, but who were not seeking work in the past month.

For further information on problems of measuring labor force discouragement, see Paul Flaim, "Discouraged workers and changes in unemployment," *Monthly Labor Review,* March 1973, pp. 8–16; and "Discouraged workers: how strong are their links to the job market?" *Monthly Labor Review,* August 1984, pp. 8–11.

OECD meeting calls for job growth, flexibility, and readjustment

MELVIN BRODSKY

In their first meeting since 1982, labor ministers of the Organization for Economic Cooperation and Development (OECD)[1] met in Paris to discuss job creation in a changing economy. The specific issues addressed were new sources of job growth; labor market flexibility; and education, training, and adjustment. The ministers met in November 1986 and some ministers plan to resume the dialogue in Washington in September 1987. Other topics will include demographic trends in the work force and small business development.

During the November meeting, the ministers recognized that no grand strategy for solving employment problems in the 24 OECD countries was possible. However, they agreed on some fundamental approaches to address the common problems of unemployed youth and dislocated workers (particularly older workers) and the need to promote education and training policies to help ensure a competent and adaptable work force.

The labor ministers face different employment problems. While Secretary of Labor William E. Brock noted specific U.S. problems related to youth unemployment, minority unemployment, and older dislocated workers, many of the European ministers reflected on Europe's lack of job creation. Over the decade from 1973, the gross national product in Europe grew almost as much as the gross national product in the United States—18 percent compared with 22 percent. Yet, the U.S. economy created 16 million net new jobs and Europe did not create any.[2] Long-term unemployment is another problem more characteristic of European labor markets, although the number of long-term unemployed has increased in the United States since the 1970's. For example, in 1985, those persons who were unemployed for more than a year accounted for 45.3 percent of total unemployment in Europe[3] but only for 9.5 percent in the United States.[4]

Job growth

Regarding new sources of job growth, many of the ministers favored market-oriented strategies instead of renewing calls for increased government intervention. The ministers emphasized reforming the tax system to encourage risk-taking among entrepreneurs; removing administrative disincentives to self-employment; providing training and advisory services for new businesses; providing access to credit and capital markets to new businesses; and encouraging local communities to become more involved in job creation activities. (Labor Secretary Brock noted that in the United States more than half of the net new jobs created were in companies less than 4 years old.) Also, the ministers identified the introduction of new technologies as another potential basis for employment growth. The ministers adopted a Declaration on the Social Aspects of Technological Change, which stressed the importance of cooperation among government, labor, and the business community in the process of technological change. Because of the ministers' interest in this area, they asked the OECD Secretary-General Jean Claude Paye to establish a group of experts to examine the implications of new technologies both for employment and for society.

All of the ministers agreed that economic growth was a prerequisite for higher rates of job creation and that wage moderation, investment in capital stock, flexible labor and capital markets, and free international trade were important contributors to such growth.

Melvin Brodsky is an economist in the Office of International Organizations, Bureau of International Labor Affairs, and serves as the Department's OECD coordinator.

Flexibility

The ministers recommended supporting more flexible patterns of working time to facilitate efficiency and to assist the increasing number of women with family and career responsibilities; strengthening basic education and education and training programs for young people and adults; overcoming functional illiteracy; and modifying social security, pension, and housing policies to facilitate mobility between regions and enterprises.

Readjustment

In the area of education and training, ministers noted that educational and training institutions needed to adapt curricula to changing labor market requirements and stressed the importance of increased employer investment in training activities. Secretary Brock emphasized the importance of high-quality basic education to the future employability of young people. Furthermore, the ministers stressed helping young people adapt to changing labor market requirements and helping dislocated workers find employment.

The ministers also called for the development of unemployment compensation policies and other labor market programs to help workers find jobs. They agreed that while income maintenance programs were necessary, other measures such as job search, counseling, training, and relocation assistance were also needed. The ministers noted that levels of unemployment compensation, trainee wages, and minimum wages should be set to encourage entry or reentry into training or employment.

Finally, the ministers held a brief discussion on trade and dislocated workers. The ministers supported international cooperation to phase out protectionist measures and to develop adjustment programs for workers in economic sectors that have to adapt to freer international trade. Secretary Brock proposed a minimum tariff under the General Agreements on Trade and Tariffs to finance adjustment programs for workers adversely affected by international trade.

In conclusion, the ministers agreed that each country's employment policy should be guided by the objectives of increased, faster job growth; more flexibility; and stronger efforts to readjust the labor force to changing economic conditions. In addition, the ministers recognized that these objectives could not be reached without cooperation among government, industry, labor, different countries, and other interested groups. □

———*FOOTNOTES*———

[1] The members of the OECD are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Greece, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

[2] *The OECD Employment Outlook* (OECD, September 1986), pp. 7–8.

[3] *Ibid.*, p. 33.

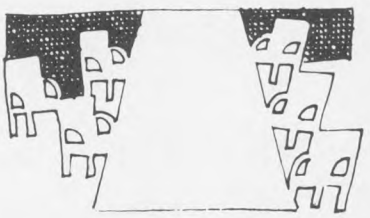
[4] *Ibid.*, p. 141.

Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in July is based on information collected by the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification.

Industry or activity	Employer and location	Labor organization[1]	Number of workers
Private			
Construction	Associated General Contractors and two others (Boston, MA)	Carpenters	5,000
	Associated General Contractors (Saginaw, MI)	Carpenters	1,300
	Associated General Contractors and one other (Boston, MA)	Bricklayers	1,000
	Association of Mechanical Contractors (Atlanta, GA)	Plumbers	1,200
	Nassau and Suffolk Contractors Association (New York)	Laborers	2,000
	Sheet Metal and Air Conditioning Contractors National Association, New York City Chapter (New York)	Sheet Metal Workers	2,000
	Southern Illinois Builders Association (Granite City, IL)	Carpenters	1,550
	Southern Illinois Contractors Association (Illinois)	Laborers	4,000
	Southern Illinois Contractors Association (Illinois)	Operating Engineers	2,700
Food products	Amalgamated Sugar Co. (Interstate)	Grain Millers	2,000
	American Crystal Sugar Co. (Interstate)	Grain Millers	2,300
	Bay Area Soft Drink Bottlers Association (California)	Teamsters (Ind.)	1,250
	Joseph E. Seagram & Sons, Inc. (Interstate)	Distillery Workers	1,400
Paper	Bowater Southern Paper Co. (Tennessee)	Paperworkers; Electrical Workers (IBEW)	1,150
Fabricated metal products	Century Brass Products, Inc. (Waterbury, CT)	Auto Workers	1,300
Electrical products	Allen-Bradley Co. (Milwaukee, WI)	Electrical Workers (UE-Ind.)	3,000
Transportation equipment	General Dynamics, Convair Division (Interstate)	Machinists	4,400
	A. O. Smith Corp. (Milwaukee, WI)	Smith Steel Workers	4,000
	Solar Turbines, Inc. (San Diego, CA)	Machinists	1,300
Trucking	United Parcel Service Inc. (Interstate)	Teamsters (Ind.)	71,000
Water transportation	Pacific Maritime Association (Interstate)	Longshoremen and Warehousemen	9,750
Air transportation	The Flying Tiger Line (Interstate)	Machinists	1,200
Communication	General Telephone Co. of Ohio (Ohio)	Communications Workers	2,250
Utilities	New York State Electric and Gas Corp. (New York)	Electrical Workers (IBEW)	2,900
Retail trade	Bradlees Department Stores (Washington, DC)	Food and Commercial Workers	2,000
	Portland Food Employers (Portland, OR)	Food and Commercial Workers	4,000
	Foodtown, Pathmark and others, mid Atlantic (Interstate)	Food and Commercial Workers	6,000
Public			
General government	California: Monterey County general unit	Monterey County Employees' Association (Ind.)	1,600
Education	Florida: Alachua County Board of Education, instructional employees	Teachers	1,400
	Iowa: Des Moines professional school employees	Education Association (Ind.)	2,000
	Kansas: Wichita teachers	Education Association (Ind.)	2,950
	Michigan: Lansing School District Board of Education, professionals	Education Association (Ind.)	1,500
	Montana: Billings Board of Education, teachers	Education Association (Ind.)	1,750
	Utah: Davis County Board of Education, noninstructional employees	Utah School Employees Association	1,700
	Washington: Edmonds teachers	Education Association (Ind.)	1,000

[1] Affiliated with AFL–CIO except where noted as independent (Ind.).



Developments in Industrial Relations

Pay discrimination against women settled

The City of San Francisco and the Service Employees and other unions negotiated a comparable worth agreement providing for pay raises of 4.5 percent on July 1, 1987, and 5 percent on July 1, 1988. In general, the comparable worth concept holds that pay for jobs held predominantly by women and minorities should be equal to jobs predominantly held by men if the levels of skill, education, and responsibility are comparable.

Paul M. Varacalli, president of the Service Employees Council in the area, called the agreement "a very good first step." Mayor Diane Feinstein had vetoed past agreements during 5 years of controversy over the issue, saying they were too costly. She described the new agreement as "a long-sought pay equity program for public employees in San Francisco."

The settlement came shortly after the city's civil service commission conducted a comparable worth survey, following citizens' approval that such surveys be conducted annually. The first survey, which was based on pay comparisons among jobs in the city government and with jobs in other jurisdictions that had negotiated or put into effect pay equity plans, showed that some San Francisco jobs traditionally held by women and minorities paid as much as 50 percent less than comparable city jobs held mostly by men.

The pay adjustments applied to about 12,000 people in job classifications "disproportionately occupied" (70 percent or more) by women or minorities and paying less than $45,000 a year; 11,000 employees were not eligible for the adjustments.

At $35.4 million, the accord was the second most expensive of its type, exceeded only by the 1985 settlement between the State of Washington and the State, County and Municipal Employees which is expected to cost $482 million through June 1992. San Francisco voters had reserved $30 million for comparable worth adjustments in 1985.

At the Tennessee Valley Authority (TVA), 5,000 employees share a $5 million payment settling a lawsuit against the utility. The workers' union, the Service Employees, initiated the action after TVA, in 1981, began basing pay rates for clerical workers on surveys of wages paid to clerical employees throughout the seven State region served by TVA, instead of following its past practice of surveying the pay of employees of corporations in urban areas. The change resulted in a wage freeze for the TVA employees, most of whom are women.

The union contended that the change in survey coverage was illegal and that TVA had continued to use urban surveys in setting engineers' pay, resulting in continuing pay increases for employees in the largely male-dominated occupation.

The settlement of the dispute came after the U.S. District Court for Eastern Tennessee ruled in the union's favor. The settlement also re-established a provision for binding arbitration of pay disputes that also had been dropped in 1981.

Elsewhere, Sumitomo Corp. of America agreed to pay a total of $2.6 million to 1,200 current and former female employees, ending a 10-year-old pay discrimination suit. In addition, 240 of the employees who are still employed by the firm will receive 16.5-percent pay increases. In the settlement, Sumitomo, the U.S. branch of a Japanese trading company, denied any unlawful discrimination.

Kaiser Foundation in California settles

Lump-sum payments and adoption of a new wage-setting mechanism were features of a 3-year contract between Kaiser Foundation hospitals and Service Employees Local 399 in the Los Angeles-Orange County area of California. The lump-sum payments apply to employees at the top of the wage rate range for their job, or to about 63 percent of the 10,000 employees, according to a union official. Full-time employees receive a $600 payment in the first contract year, $700 in the second year, and $800 in the third year. Part-time employees receive $300, $360, and $400 payments in the respective years. Kaiser had originally sought a two-tier pay system.

Although the wage rate structure was frozen, employees below the top rate for their job will continue to receive 4- to 9-percent periodic progression increases until they attain the top rate. According to the union, the average hourly pay rate for the unit was $10.62 at the time of settlement.

Under the new wage-setting mechanism, top rates for the various pay grades will be 3 percent above the maximum

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

rates of a group of 12 hospitals in Southern California. This was not expected to result in a significant number of wage changes for Kaiser employees because their top rates were already about 25 percent above those at the other hospitals.

In another contract change, progression to top pay rates was lengthened by adding new starting rates 10 to 13 percent below the existing starting rates.

In a settlement for 1,400 clerical workers in Northern California, Kaiser and the Office and Professional Employees agreed on lump-sum payments and provisions to protect employees' jobs if operations are moved or automated. For full-time employees, the lump-sum payments are $1,000 on May 1, 1987, and $850 a year later, followed by a 3-percent pay increase in March 1989. Casual and part-time employees will receive smaller lump-sum payments but the same wage increase.

The new job protection provisions give employees the right to follow their jobs if work is transferred to another location and assure that the contract terms will continue to cover them, even if the move is to a location where the Office and Professional Employees Union does not now have jurisdiction.

If jobs are eliminated because of automation, 5-year employees will be given 3 months' notice and those with fewer than 5 years' service will be given 2 to 4 weeks' notice. Kaiser will be required to try to find jobs for displaced 5-year employees, and to provide a 60-day trial period and training. Kaiser will not be obligated to offer jobs to terminated employees with fewer than 5 years' service, but is expected to make an effort to do so, according to the union. If new jobs are not available, all terminated employees will be eligible for 2 to 30 days' severance pay.

Other terms included tighter controls on subcontracting of work, including use of binding arbitration to settle disputes over the need for subcontracting particular jobs, and a new provision limiting post-retirement health benefits to retirees who had at least 15 years' service. Previously, all retirees were eligible.

Steelworkers get quarterly lump sums

In a departure from the cuts in wages and benefits that occurred at most other steel producers in the 1986–87 round of settlements, Allegheny Ludlum Steel Corp. and the Steelworkers agreed on a wage freeze, moderated by quarterly lump-sum payments. During the first year, each payment will be calculated at 55 cents for each hour worked during the preceding 3 months; in the second year, the calculation rate will be 70 cents; and in the final year, 90 cents. The 3,200 workers also received a $200 immediate payment. A committee was established to study replacing the lump-sum payment system with profit sharing in the next contract.

Other provisions included suspension of the automatic cost-of-living pay adjustment formula, a reduction in the number of job classifications, tighter restrictions on contracting out work, new successorship language to protect employees if operations are sold, and an expedited grievance procedure.

The accord covers operations in Pennsylvania, Connecticut, and Indiana.

Zenith agrees to return 200 jobs from Mexico

A planned transfer of 600 jobs from Springfield, MO, to Mexico was averted when members of Local 1453 of the International Brotherhood of Electrical Workers and Zenith Electronics Corp. agreed to a 5-year contract which included an immediate 8.1-percent pay cut. Wages will be increased 3 percent in 1990, 4.3 percent in 1991, and 1.3 percent in January 1992. Prior to the new agreement, which superseded the balance of a contract scheduled to expire in March 1988, hourly pay ranged from $7.20 to $10.94.

In conjunction with the settlement, Zenith also agreed to return 200 color television jobs from Mexico and to apply the pay cut to its nonunion employees. Local 1453 represents 1,600 employees at the plant.

Health-Tex closes plants in Maine

In a settlement with the Amalgamated Clothing and Textile Workers, Health-Tex Corp. agreed to $660,000 in severance pay and $340,000 in vacation pay for 1,000 employees who lost their jobs when the company closed its plants in Portland, Gardner, and Brunswick, Maine. The company, the Nation's largest manufacturer of children's clothing, said it closed the plants because they were smaller and less efficient than its 11 other plants, most of which are located in the South and in Puerto Rico. The decision came after the union, which represents employees at 10 of the plants, proposed shifting work to the Maine plants to avoid the closings.

Vacation pay was distributed immediately to employees, but severance pay will be paid to the union in three installments, the last in November 1987. In the meantime, the union borrowed money from its Amalgamated Bank in New York City to finance immediate distribution of severance pay to the terminated employees.

The settlement also obligates Health-Tex to $1 million in severance pay if Maine's plant closing law is upheld in a case now before the Supreme Court that was initiated by a Maine poultry processor. Under the Maine law, terminated employees with at least 3 years of service are entitled to 1 week of severance pay for each year of service. The law applies to union-represented employees whose labor contract does not contain severance pay provisions and to nonunion employees.

Meanwhile, the State was proceeding with a lawsuit in which it was seeking payments to employees and civil penalties from Health-Tex for allegedly failing to comply with the plant closing law's requirement that employers give 60 days' notice of shutdowns to employees, affected municipalities, and the State.

Strike ends at canning and frozen food company

An 18-month strike against the Watsonville, CA, Canning and Frozen Food Co. ended when new owners—who renamed the operation Norcal Frozen Foods, Inc.—negotiated a 3-year contract with the Teamsters union. The settlement fulfilled the new owners' vow to settle quickly with the union following the purchase from the Wells Fargo Bank, which had foreclosed on the debt-stricken property. The settlement also came shortly after the Teamsters' national leaders cut off $55 a week strike benefits to the strikers. Reportedly, the union had paid out about $5 million.

The strike began in September 1985, when Watsonville Canning imposed a $1.91 cut in the $6.66 an hour base pay and a cut in benefits that had been part of a final offer that was rejected by the union. The company contended the cut was needed to help counter increasing competition from lower cost packers in Mexico and Guatemala and from the expanding canning and frozen foods industry in Texas.

The new 3-year contract provided for base pay of $5.85 an hour, which the union said was equal to the rate it recently negotiated with other local food processors. The accord also established an incentive pay plan that could raise pay to $6.61 and permits reopening of negotiations on economic terms in February of 1988 and 1989.

Supreme Court upholds workplace searches

The Supreme Court held that public employers may search their employees' offices without a warrant if they have "reasonable suspicion" of work-related wrongdoing. The decision fell between the positions of the Reagan Administration, which had argued that public employees do not have a right to privacy at work, and the American Civil Liberties Union and government employee unions, which had joined the plaintiff in arguing that a warrant and probable cause should be required for a search.

Justice O'Connor, writing for herself, Chief Justice Rehnquist, and Justices White and Powell, said, "In the case of searches conducted by a public employer, we must balance the invasion of the employees' rights against the government's need for supervision, control, and the efficient operation of the workplace." Justice Scalia concurred in the judgment, but did not join in the opinion, which he contended was "so devoid of content that it produces rather than eliminates uncertainty in this field."

Justice Blackmun, joined in dissent by Justices Brennan, Marshall, and Stevens, said that the new standard "makes reasonable almost any workplace search by an employer."

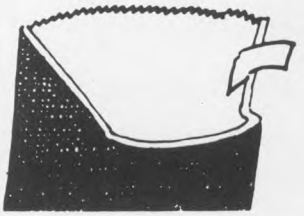
Despite these divergent opinions, the Justices unanimously held that employees have a "reasonable expectation of privacy" in their offices, particularly regarding personal effects in their briefcases or purses.

The case, *O'Connor v. Ortega*, arose in 1981, when Magno Ortega, a physician employed by California's Napa State Hospital, filed a lawsuit against the institution, claiming that officials illegally searched his office during an investigation of alleged sexual harassment by Ortega. A Federal district court dismissed the suit, but the appeals court ruled in favor of Ortega, leading to the appeal to the Supreme Court and its decision to remand the case to lower courts for further review.

Disability, retirement suits subject to ERISA

In two cases involving labor and management, the Supreme Court ruled that law suits over retirement and disability benefits must be tried under the Federal Employee Retirement Income Security Act of 1974 (ERISA), rather than under State laws. One of the unanimous decisions involved Everate W. Dedeaux, of Gulfport, MS, who was injured on the job and later sued his employer's insurance company when it terminated his disability payments. A related case in Michigan involved Arthur Taylor, who sued General Motors Corp. and Metropolitan Life Insurance Co. after Metropolitan terminated his benefits based on medical findings that his back and neck injuries from an automobile accident were not permanent. Both suits were filed in State courts.

Writing for the Court, Justice O'Connor said, "The policy choices reflected in the inclusion of certain remedies and the exclusion of others under the Federal scheme would be completely undermined if ERISA-plan participants and beneficiaries were free to obtain remedies under State law that the Congress rejected in ERISA." □



Book Reviews

Problems, prospects, and choices

Up from the Ashes: The Rise of the Steel Minimill in the United States. By Donald F. Barnett and Robert W. Crandall. Washington, The Brookings Institution, 1986. 135 pp.

The padlocked steel plant, the cold blast furnace, and the laid-off steelworker flipping hamburgers are popular images of industrial decay. Donald F. Barnett and Robert W. Crandall insist that the reader consider that even in this most symbolic of declining industries there are growing firms, the "minimills." In those firms, they find a competitiveness that belies the notion that the United States is losing its edge and deindustrializing.

The minimills are a subsector of the steel industry with several characteristics that distinguish them from "integrated" Big Steel. The most obvious of these is size. According to Barnett and Crandall, about two-thirds of total minimill capacity is in plants of under 600,000 tons capacity. Compare that to a recent estimate that the minimum efficient scale of a new integrated steel facility is 6 million tons. Other distinguishing factors pointed to by the authors as typical of minimills include the scrap-fed electric furnace production process, a product range rather limited in scope and quality, superior productivity, lower wages, and narrower market specialization.

Of course, the factors that the authors think truly differentiate the distinct steel subindustries are their current and prospective viability. On one hand, they see an integrated sector unlikely to ". . .break out of their mold as large-scale, fully integrated producers. . . saddled with plants employing older technology, built under assumptions about prices and demand growth that have proved incorrect." On the other hand, they see a vibrant minimill industry marked by increasing investment, new technology, international competitiveness, productivity gains, and an increasingly sophisticated product mix.

There are two issues that are disturbing in this analysis. First, the characterization of the integrated steel industry is an example of the currently popular *you*-have-lost-America's-competitiveness style of criticism. Such harping, quite understandably, raises the defensive hackles of those who stand personally accused of creating a situation in which ". . .few U.S. integrated plants can be said to be of 'world class',. . .integrated firms were very slow to recognize that circumstances were changing after the world steel shortage of 1973–74," and ". . .the union may have been playing an end game, extracting as much of the quasi-rents as possible from the industry." Heaping the blame on the policies of those who are now quite clearly the victims of the restructuring of the steel industry seems counterproductive. As members of a preeminent policy research institution, Barnett and Crandall may have fallen into the trap of assuming that policy, private or public, is what makes the world go around. It seems more likely that changes in objective circumstances are most responsible for the restructuring of the U.S. steel industry, with policy, private and public, playing basically reactive and peripheral roles.

Another troubling issue is the recurring theme that "the minimill sector has the potential to continue growing for the rest of this century. . ." if one assumes that costs of production continue to fall and demand for steel remains at least steady. There are problems with both assumptions. On the matter of production cost, consider that in Appendix C, Barnett and Crandall model the scrap market without a variable that represents the proportion of steel production accounted for by electric furnaces, despite the fact that their own Appendix B shows clearly that a rising market share for electric furnaces implies both lower supply and higher demand for scrap. It would be interesting to assess the level of minimill output at which the price of scrap would become a significant restraint on expansion.

The supposition that steel demand will not fall is also suspect. Barnett and Crandall suggest, for example, that the minimills are poised to expand into the production of certain sheet metal products. Is this a wise course at a time when new polyarylate resins are bringing thermoplastic car bodies closer to reality? The chemical industry may be doing more to change the business environment of the American steel industry than all the steel plants in Japan, and expanding in the face of such forces may leave the minimills in a position to be judged as harshly as the integrated companies have been.

——Richard M. Devens, Jr.
Division of Labor Force Statistics
Bureau of Labor Statistics

Publications received

Agriculture and natural resources

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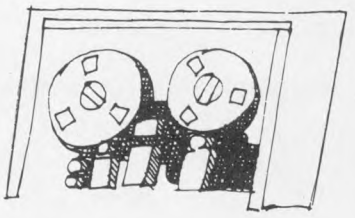

Contents—Continued

Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Productivity and costs: Nonfarm business and manufacturing	June 2	1st quarter	.....	.....	August 31	2nd quarter	2; 42–44
Nonfinancial corporations	.....	.....	.....	.....	August 3	2nd quarter	2; 42–44
Employment situation	June 5	May	July 2	June	August 7	July	1; 4–21
Producer Price Index	June 12	May	July 10	June	August 14	July	2; 33–35
Consumer Price Index	June 23	May	July 22	June	August 21	July	2; 30–32
Real earnings	June 23	May	July 22	June	August 21	July	14–17
Major collective bargaining settlements	.....	.....	July 28	1st 6 months	.....	.....	3; 25–28
Employment Cost Index	.....	.....	July 28	2nd quarter	.....	.....	1–3; 22–24
U.S. Import and Export Price Indexes	.....	.....	July 30	2nd quarter	.....	.....	36–41

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, collective bargaining settlements, 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 1–3, 4–10, 13, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are 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, February 1980). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4–10 were revised in the February 1987 issue of the *Review*, to reflect experience through 1986.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *Review* using the X–11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from 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 Hourly Earnings Index in table 17—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 1967 = 100, the hourly rate expressed in 1967 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. 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

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 may also reflect other adjustments.
n.e.c. = not elsewhere classified.
n.e.s. = not elsewhere specified.

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 nonagricultural 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; and the 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. For detailed descriptions of each data series, see *BLS Handbook of Methods,* Volumes I and II, Bulletins 2134–1 and 2134–2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics,* Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics,* Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT DATA
(Tables 1; 4–21)

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 59,500 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 civilians 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. Members of the Armed Forces stationed in the United States are also included in the employed total. 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 or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job market factors, and those who are voluntarily idle. The **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, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the 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 preceding years. These adjustments affect the comparability of historical data. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 4–10 are seasonally adjusted, based on the seasonal experience through December 1986.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

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.

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 more than 250,000 establishments representing all industries except agriculture. 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 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 all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 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 nonagricutural 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). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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 gross average weekly hours which were in excess of regular hours and for which overtime premiums were paid.

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. 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. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1986 data, published in the July 1986 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 forward are subject to revision in future benchmarks.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 16 in the *Review*). When all returns have been received, the estimates are revised and published as final in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second-quarter data are published as preliminary in August and September and as final in October.

Additional sources of information

Detailed data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

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.

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and 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 and the Public Works and Economic Development Act. 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 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 4.

COMPENSATION AND WAGE DATA

(Tables 1–3; 22–29)

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. The index is not seasonally adjusted.

Statistical series on total compensation costs and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both 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 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 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 indexes for civilian, private, and 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 compensation, 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 data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the *civilian* nonfarm economy (excluding Federal employees). Historical indexes (June 1981=100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 11, and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

Collective bargaining settlements data provide statistical measures of negotiated adjustments (increases, decreases, and freezes) in compensation (wage and benefit costs) and wages alone, quarterly for private industry and semiannually for State and local government. Compensation measures cover all collective bargaining situations involving 5,000 workers or more and wage measures cover all situations involving 1,000 workers or more. These data, covering private nonagricultural industries and State and local governments, are calculated using information obtained from bargaining agreements on file with the Bureau, parties to the agreements, and secondary sources, such as newspaper accounts. The data are not seasonally adjusted.

Settlement data are measured in terms of future specified adjustments: those that will occur within 12 months after contract ratification—first-year—and all adjustments that will occur over the life of the contract expressed as an average annual rate. Adjustments are worker weighted. Both first-year and over-the-life measures exclude wage changes that may occur under cost-of-living clauses that are triggered by future movements in the Consumer Price Index.

Effective wage adjustments measure all adjustments occurring in the reference period, regardless of the settlement date. Included are changes from settlements reached during the period, changes deferred from contracts negotiated in earlier periods, and changes under cost-of-living adjustment clauses. Each wage change is worker weighted. The changes are prorated over all workers under agreements during the reference period yielding the average adjustment.

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

Compensation changes are calculated by placing a value on the benefit portion of the settlements at the time they are reached. The cost estimates are based on the assumption that conditions existing at the time of settlement (for example, methods of financing pensions or composition of labor force) will remain constant. The data, therefore, are measures of negotiated changes and not of total changes in employer cost.

Contract duration runs from the effective date of the agreement to the expiration date or first wage reopening date, if applicable. Average annual percent changes over the contract term take account of the compounding of successive changes.

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 10. Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semi-

annually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS monthly periodical, *Current Wage Developments*.

Work stoppages

Description of the series

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

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

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers 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.

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

Other BLS data on pay and benefits, not included in the Current Labor Statistics section of the *Monthly Labor Review*, appear in and consist of the following:

Industry Wage Surveys provide data for specific occupations selected to represent an industry's wage structure and the types of activities performed by its workers. The Bureau collects information on weekly work schedules, shift operations and pay differentials, paid holiday and vacation practices, and information on incidence of health, insurance, and retirement plans. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Monthly Labor Review*.

Area Wage Surveys annually provide data for selected office, clerical, professional, technical, maintenance, toolroom, powerplant, material movement, and custodial occupations common to a wide variety of industries in the areas (labor markets) surveyed. Reports are issued throughout the year as the surveys are completed. Summaries of the data and special analyses also appear in the *Review*.

The National Survey of Professional, Administrative, Technical, and Clerical Pay provides detailed information annually on salary levels and distributions for the types of jobs mentioned in the survey's title in private employment. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry, they are designed to match specific pay grades of Federal white-collar employees under the General Schedule pay system. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry. (See Federal Pay Comparability Act of 1970, 5 U.S.C. 5305.) Data are published in a BLS news release issued in the summer and in a bulletin each fall; summaries and analytical articles also appear in the *Review*.

Employee Benefits Survey provides nationwide information on the incidence and characteristics of employee benefit plans in medium and large establishments in the United States, excluding Alaska and Hawaii. Data are published in an annual BLS news release and bulletin, as well as in special articles appearing in the *Review*.

PRICE DATA
(Tables 2; 30–41)

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 (1967 = 100, unless otherwise noted).

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 1982–84 buying habits of about 80 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 21,000 retail establishments and 60,000 housing units in 91 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 27 major urban centers are presented in table 31. 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 measured 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 homeownership so that the index would reflect only the cost of shelter services provided by owner-occupied homes. An updated CPI-U and CPI-W were introduced with release of the January 1987 data.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134–2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9–14. An overview of the recently introduced revised CPI, reflecting 1982–84 expenditure patterns, is contained in *The Consumer Price Index: 1987 Revision*, Report 736 (Bureau of Labor Statistics, 1987).

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes 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.

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 1976, 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 1972. 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.

Notes on the data

Beginning with the January 1986 issue, the *Review* is no longer presenting tables of Producer Price Indexes for commodity groupings, special composite groups, or SIC industries. However, these data will continue to be presented in the Bureau's monthly publication *Producer Price Indexes*.

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 7.

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International Price Indexes

Description of the series

The BLS **International Price Program** produces 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. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

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 quarterly 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 2 weeks of the third month of each calendar quarter—March, June, September, and December. 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 by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

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 weight category and are then aggregated to the SITC 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 1980.

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 quarterly 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 basis 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. (cost, 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.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 8.

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

PRODUCTIVITY DATA
(Tables 2; 42–47)

U. S. productivity and related data

Description of the series

The productivity measures relate real physical output to real input. As such, they encompass a family of measures which include single factor input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). 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 value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. Changes in this measure reflect changes in a number of factors which affect the production process such as changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. Changes in the output per hour measures reflect the impact of these factors as well as the substitution of capital for labor.

Compensation per hour is the wages and salaries of employees plus employers' contributions for social insurance and private benefit plans, and the wages, salaries, and supplementary payments for the self-employed (except for nonfinancial corporations in which there are no self-employed)—the sum divided by hours paid for. **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 and the value of inventory adjustments per unit of output.

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

Capital services is 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.

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

Notes on the data

Output measures for the business sector and the nonfarm businesss sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services 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; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

INTERNATIONAL COMPARISONS (Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and six 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 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 over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, the United Kingdom; 16 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, the United Kingdom; and 14 and over in Italy. 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 job 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 are, therefore, subject to revision whenever data from more current labor force surveys become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and unpublished Supplements to Appendix B available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 47 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

Output is constant value output (value added), generally taken from the national accounts of each country. While the national accounting methods for measuring real output differ considerably among the 12 countries, the use of different procedures does not, in itself, connote lack of comparability—rather, it reflects differences among countries in the availability and reliability of underlying data series.

Hours refer to all employed persons including the self-employed in the United States and Canada; to all wage and salary employees in the other countries. The U.S. hours measure is hours paid; the hours measures for the other countries are hours worked.

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

For most of the countries, the measures refer to total manufacturing as defined by the International Standard Industrial Classification. However, the measures for France (beginning 1959), Italy (beginning 1970), and the United Kingdom (beginning 1971), refer to manufacturing and mining less energy-related products and the figures for the Netherlands exclude petroleum refining from 1969 to 1976. For all countries, manufacturing includes the activities of government enterprises.

The figures for one or more recent years are generally based on current indicators of manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For additional information, see the *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 16 and periodic *Monthly Labor Review* articles. Historical data are provided in the Bureau's *Handbook of Labor Statistics*, Bulletin 2217, 1985. The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article (generally in December).

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture, forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

Because the survey is a Federal–State cooperative program and the data must meet the needs of participating State agencies, an independent sample is selected for each State. The sample is selected to represent all private industries in the States and territories. The sample size for the survey is dependent upon (1) the characteristics for which estimates are needed; (2) the industries for which estimates are desired; (3) the characteristics of the population being sampled; (4) the target reliability of the estimates; and (5) the survey design employed.

While there are many characteristics upon which the sample design could be based, the total recorded case incidence rate is used because it is one of the most important characteristics and the least variable; therefore, it requires the smallest sample size.

The survey is based on stratified random sampling with a Neyman allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which 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, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

Occupational illness is an abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental 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 cases are cases which involve days away from work, or days of restricted work activity, or both.

Lost workday cases involving restricted work activity are those cases which result in restricted work activity only.

Lost workdays away from work are the number of workdays (consecutive or not) on which the employee would have worked but could not because of occupational injury or illness.

Lost workdays—restricted work activity are the number of workdays (consecutive or not) on which, because of injury or illness: (1) the employee was assigned to another job on a temporary basis; or (2) the employee worked at a permanent job less than full time; or (3) the employee worked at a permanently assigned job but could not perform all duties normally connected with it.

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 even though able to work.

Incidence rates represent the number of injuries and/or illnesses or lost workdays per 100 full-time workers.

Notes on the data

Estimates are made for industries and employment-size classes and for severity classification: fatalities, lost workday cases, and nonfatal cases without lost workdays. Lost workday cases are separated into those where the employee would have worked but could not and those in which work activity was restricted. Estimates of the number of cases and the number of days lost are made for both categories.

Most of the estimates are in the form of incidence rates, defined as the number of injuries and illnesses, or lost workdays, per 100 full-time employees. For this purpose, 200,000 employee hours represent 100 employee years (2,000 hours per employee). Only a few of the available measures are included in the *Handbook of Labor Statistics*. Full detail is presented in the annual bulletin, *Occupational Injuries and Illnesses in the United States, by Industry*.

Comparable data for individual States are available from the BLS Office of Occupational Safety and Health Statistics.

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the States and territories; these data are not compiled nationally.

Additional sources of information

The Supplementary Data System provides detailed information describing various factors associated with work-related injuries and illnesses. These data are obtained from information reported by *employers* to State workers' compensation agencies. The Work Injury Report program examines selected types of accidents through an employee survey which focuses on the circumstances surrounding the injury. These data are not included in the *Handbook of Labor Statistics* but are available from the BLS Office of Occupational Safety and Health Statistics.

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2134–1 (Bureau of Labor Statistics, 1982), chapter 17; *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1985	1986	1985			1986				1987
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey)[1]										
Labor force participation rate	64.8	65.3	64.7	64.7	64.9	65.1	65.2	65.3	65.4	65.5
Employment-population ratio	60.1	60.7	60.0	60.1	60.3	60.5	60.6	60.8	60.9	61.1
Unemployment rate	7.2	7.0	7.2	7.2	7.1	7.1	7.1	6.9	6.9	6.7
Men	7.0	6.9	7.0	7.0	6.9	6.9	7.0	6.9	6.9	6.7
16 to 24 years	14.1	13.7	14.0	14.0	14.2	13.5	14.2	13.7	13.4	13.4
25 years and over	5.3	5.4	5.3	5.3	5.2	5.3	5.3	5.4	5.4	5.2
Women	7.4	7.1	7.5	7.4	7.3	7.3	7.2	6.9	6.8	6.6
16 to 24 years	13.0	12.8	12.9	12.9	13.1	13.1	13.1	12.6	12.5	12.6
25 years and over	5.9	5.5	6.0	5.9	5.6	5.7	5.7	5.4	5.3	5.1
Unemployment rate, 15 weeks and over	2.0	1.9	2.0	2.0	1.9	1.9	1.9	1.9	1.8	1.8
Employment, nonagricultural (payroll data), in thousands:[1]										
Total	97,614	100,167	97,295	97,897	98,668	99,403	99,848	100,316	101,072	101,830
Private sector	81,199	83,432	80,958	81,414	82,069	82,731	83,144	83,650	84,176	84,903
Goods-producing	24,930	24,938	24,947	24,866	24,937	25,028	24,952	24,872	24,892	25,017
Manufacturing	19,314	19,186	19,323	19,241	19,261	19,284	19,194	19,116	19,153	19,196
Service-producing	72,684	75,229	72,347	73,031	73,731	74,375	74,896	75,444	76,180	76,813
Average hours:										
Private sector	34.9	34.8	34.9	34.9	34.9	34.9	34.8	34.7	34.7	34.9
Manufacturing	40.5	40.7	40.4	40.6	40.8	40.7	40.7	40.7	40.8	41.1
Overtime	3.3	3.4	3.2	3.3	3.5	3.4	3.4	3.5	3.5	3.6
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	4.3	3.6	.7	1.6	.6	1.1	.7	1.1	.6	.9
Private industry workers	3.9	3.2	.8	1.3	.6	1.1	.8	.7	.6	1.0
Goods-producing[2]	3.4	3.1	.7	.6	.6	1.1	.9	.6	.5	.5
Service-producing[2]	4.4	3.2	1.0	1.8	.5	1.1	.6	.8	.6	1.3
State and local government workers	5.7	5.2	.2	3.4	.7	1.0	.6	2.8	.8	.8
Workers by bargaining status (private industry):										
Union	2.6	2.1	.6	.8	.5	1.0	.2	.5	.3	.5
Nonunion	4.6	3.6	1.0	1.4	.6	1.2	.9	.8	.7	1.1

[1] Quarterly data seasonally adjusted.

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

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

Selected measures	1985	1986	1985			1986				1987
			II	III	IV	I	II	III	IV	I
Compensation data [1], [2]										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	4.3	3.6	0.7	1.6	0.6	1.1	0.7	1.1	0.6	0.9
Private nonfarm	3.9	3.2	.8	1.3	.6	1.1	.8	.7	.6	1.0
Employment Cost Index--wages and salaries										
Civilian nonfarm	4.4	3.5	.9	1.7	.6	1.0	.8	1.1	.6	1.0
Private nonfarm	4.1	3.1	1.1	1.3	.6	1.0	.9	.7	.5	1.0
Price data[1]										
Consumer Price Index (All urban consumers): All items	3.8	1.1	1.0	.7	.9	–.4	.6	.7	.3	1.4
Producer Price Index:										
Finished goods	1.8	–2.3	.7	–1.4	2.5	–3.1	.5	–.7	1.1	.7
Finished consumer goods	1.5	–3.6	.7	–1.4	2.5	–4.1	.4	–.7	.8	.8
Capital equipment	2.7	2.1	.4	–1.4	2.5	.2	.6	–.7	2.0	.1
Intermediate materials, supplies, components	–.3	–4.4	.2	–.5	.4	–2.9	–.9	–.2	–.4	1.4
Crude materials	–5.6	–9.0	–2.1	–4.5	4.3	–7.6	–1.5	–.5	.6	3.9
Productivity data[3]										
Output per hour of all persons:										
Business sector	1.0	.7	2.7	3.4	–3.2	3.3	.5	–.4	–2.0	1.8
Nonfarm business sector	.5	.7	1.8	2.2	–3.5	4.3	.5	–.3	–1.5	1.7
Nonfinancial corporations [4]	1.2	.1	2.2	4.9	–2.8	–.5	–.3	.2	1.4	0

[1] Annual changes are December-to-December change. 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 ended--					
	1985	1986				1987	1985	1986				1987
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	3.8	2.5	2.8	2.9	2.0	0.4	4.4	3.9	3.4	3.0	2.6	2.0
All employees, nonfarm business sector	3.7	3.1	2.3	2.3	2.7	.1	3.9	3.6	3.1	2.8	2.6	1.8
Employment Cost Index--compensation:												
Civilian nonfarm [2]	.6	1.1	.7	1.1	.6	.9	4.3	4.1	4.0	3.6	3.6	3.4
Private nonfarm	.6	1.1	.8	.7	.6	1.0	3.9	3.8	3.8	3.2	3.2	3.1
Union	.5	1.0	.2	.5	.3	.5	2.6	2.9	2.5	2.3	2.1	1.6
Nonunion	.6	1.2	.9	.8	.7	1.1	4.6	4.2	4.2	3.5	3.6	3.6
State and local governments	.7	1.0	.6	2.8	.8	.8	5.7	5.5	5.8	5.2	5.2	5.0
Employment Cost Index--wages and salaries:												
Civilian nonfarm[2]	.6	1.0	.8	1.1	.6	1.0	4.4	4.2	4.1	3.5	3.5	3.5
Private nonfarm	.6	1.0	.9	.7	.5	1.0	4.1	3.9	3.7	3.1	3.1	3.2
Union	.5	.7	.4	.6	.2	.4	3.1	3.2	2.5	2.3	2.0	1.7
Nonunion	.6	1.1	.9	.7	.7	1.2	4.6	4.3	4.1	3.4	3.5	3.5
State and local governments	.8	1.0	.4	3.2	.7	.8	5.6	5.5	5.7	5.4	5.4	5.2
Total effective wage adjustments[3]	.5	.6	.7	.5	.5	.4	3.3	3.1	2.9	2.3	2.3	2.0
From current settlements	.1	(4)	.2	.1	.2	(4)	.7	.6	.5	.5	.5	.4
From prior settlements	.2	.4	.6	.5	.2	.3	1.8	1.7	1.8	1.6	1.7	1.5
From cost-of-living provision	.1	.2	(4)	(4)	.1	.1	.7	.8	.7	.2	.2	.1
Negotiated wage adjustments from settlements:[3]												
First-year adjustments	2.1	.8	1.3	.8	2.0	.9	2.3	2.0	1.6	1.2	1.2	1.2
Annual rate over life of contract	1.9	1.5	2.0	1.5	2.1	1.7	2.7	2.5	2.2	1.7	1.8	1.8
Negotiated wage and benefit adjustments from settlements:[5]												
First-year adjustment	2.0	.6	.7	.7	2.7	1.7	2.6	2.3	1.4	.9	1.1	1.2
Annual rate over life of contract	1.4	1.2	1.6	1.2	2.4	2.4	2.7	2.5	2.0	1.4	1.6	1.7

[1] Seasonally adjusted.

[2] Excludes Federal and household workers.

[3] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.

[4] Data round to zero.

[5] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

4. Employment status of the total population, by sex, monthly data seasonally adjusted

(Numbers in thousands)

Employment status	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Noninstitutional population [1, 2]	179,912	182,293	181,843	181,998	182,183	182,354	182,525	182,713	182,935	183,114	183,297	183,575	183,738	183,915	184,079
Labor force [2]	117,167	119,540	118,987	119,274	119,685	119,789	119,821	119,988	120,163	120,426	120,336	120,782	121,089	120,958	121,070
Participation rate [3]	65.1	65.6	65.4	65.5	65.7	65.7	65.6	65.7	65.7	65.8	65.7	65.8	65.9	65.8	65.8
Total employed [2]	108,856	111,303	110,664	110,852	111,293	111,559	111,764	111,703	111,941	112,183	112,387	112,759	113,122	113,104	113,570
Employment-population ratio [4]	60.5	61.1	60.9	60.9	61.1	61.2	61.2	61.1	61.2	61.3	61.3	61.4	61.6	61.5	61.7
Resident Armed Forces [1]	1,706	1,706	1,695	1,687	1,680	1,672	1,697	1,716	1,749	1,751	1,750	1,748	1,740	1,736	1,735
Civilian employed	107,150	109,597	108,969	109,165	109,613	109,887	110,067	109,987	110,192	110,432	110,637	111,011	111,382	111,368	111,835
Agriculture	3,179	3,163	3,199	3,151	3,164	3,124	3,057	3,142	3,162	3,215	3,161	3,145	3,236	3,284	3,290
Nonagricultural industries	103,971	106,434	105,770	106,014	106,449	106,763	107,010	106,845	107,030	107,217	107,476	107,866	108,146	108,084	108,545
Unemployed	8,312	8,237	8,323	8,422	8,392	8,230	8,057	8,285	8,222	8,243	7,949	8,023	7,967	7,854	7,500
Unemployment rate [5]	7.1	6.9	7.0	7.1	7.0	6.9	6.7	6.9	6.8	6.8	6.6	6.6	6.6	6.5	6.2
Not in labor force	62,744	62,752	62,856	62,724	62,498	62,565	62,704	62,725	62,772	62,688	62,961	62,793	62,649	62,957	63,009
Men, 16 years and over															
Noninstitutional population [1, 2]	86,025	87,349	87,120	87,195	87,288	87,373	87,460	87,556	87,682	87,773	87,868	88,020	88,099	88,186	88,271
Labor force [2]	65,967	66,973	66,770	66,854	66,937	66,968	66,911	67,128	67,130	67,407	67,425	67,672	67,764	67,644	67,603
Participation rate [3]	76.7	76.7	76.6	76.7	76.7	76.6	76.5	76.7	76.6	76.8	76.7	76.9	76.9	76.7	76.6
Total employed [2]	61,447	62,443	62,253	62,201	62,318	62,402	62,483	62,528	62,565	62,833	62,986	63,187	63,335	63,282	63,417
Employment-population ratio [4]	71.4	71.5	71.5	71.3	71.4	71.4	71.4	71.4	71.4	71.6	71.7	71.8	71.9	71.8	71.8
Resident Armed Forces [1]	1,556	1,551	1,541	1,533	1,525	1,518	1,541	1,560	1,590	1,592	1,593	1,591	1,584	1,575	1,575
Civilian employed	59,891	60,892	60,712	60,668	60,793	60,884	60,942	60,968	60,975	61,241	61,393	61,596	61,751	61,707	61,842
Unemployed	4,521	4,530	4,517	4,653	4,619	4,566	4,428	4,600	4,565	4,574	4,439	4,484	4,429	4,362	4,186
Unemployment rate [5]	6.9	6.8	6.8	7.0	6.9	6.8	6.6	6.9	6.8	6.8	6.6	6.6	6.5	6.4	6.2
Women, 16 years and over															
Noninstitutional population [1, 2]	93,886	94,944	94,723	94,803	94,895	94,981	95,065	95,156	95,253	95,341	95,429	95,556	95,639	95,729	95,808
Labor force [2]	51,200	52,568	52,217	52,420	52,748	52,821	52,910	52,860	53,033	53,019	52,911	53,110	53,325	53,314	53,467
Participation rate [3]	54.5	55.4	55.1	55.3	55.6	55.6	55.7	55.6	55.7	55.6	55.4	55.6	55.8	55.7	55.8
Total employed [2]	47,409	48,861	48,411	48,651	48,975	49,157	49,281	49,175	49,376	49,350	49,401	49,572	49,787	49,822	50,153
Employment-population ratio [4]	50.5	51.5	51.1	51.3	51.6	51.8	51.8	51.7	51.8	51.8	51.8	51.9	52.1	52.0	52.3
Resident Armed Forces [1]	150	155	154	154	155	154	156	156	159	159	157	157	156	161	160
Civilian employed	47,259	48,706	48,257	48,497	48,820	49,003	49,125	49,019	49,217	49,191	49,244	49,415	49,631	49,661	49,993
Unemployed	3,791	3,707	3,806	3,769	3,773	3,664	3,629	3,685	3,657	3,669	3,510	3,538	3,538	3,492	3,314
Unemployment rate [5]	7.4	7.1	7.3	7.2	7.2	6.9	6.9	7.0	6.9	6.9	6.6	6.7	6.6	6.6	6.2

[1] The population and Armed Forces figures are not adjusted for seasonal variation.
[2] Includes members of the Armed Forces stationed in the United States.
[3] Labor force as a percent of the noninstitutional population.
[4] Total employed as a percent of the noninstitutional population.
[5] Unemployment as a percent of the labor force (including the resident Armed Forces).

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

(Numbers in thousands)

Employment status	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Civilian noninstitutional population[1]	178,206	180,587	180,148	180,311	180,503	180,682	180,828	180,997	181,186	181,363	181,547	181,827	181,998	182,179	182,344
Civilian labor force	115,461	117,834	117,292	117,587	118,005	118,117	118,124	118,272	118,414	118,675	118,586	119,034	119,349	119,222	119,335
Participation rate	64.8	65.3	65.1	65.2	65.4	65.4	65.3	65.3	65.4	65.4	65.3	65.5	65.6	65.4	65.4
Employed	107,150	109,597	108,969	109,165	109,613	109,887	110,067	109,987	110,192	110,432	110,637	111,011	111,382	111,368	111,835
Employment-population ratio[2]	60.1	60.7	60.5	60.5	60.7	60.8	60.9	60.8	60.8	60.9	60.9	61.1	61.2	61.1	61.3
Unemployed	8,312	8,237	8,323	8,422	8,392	8,230	8,057	8,285	8,222	8,243	7,949	8,023	7,967	7,854	7,500
Unemployment rate	7.2	7.0	7.1	7.2	7.1	7.0	6.8	7.0	6.9	6.9	6.7	6.7	6.7	6.6	6.3
Not in labor force	62,744	62,752	62,856	62,724	62,498	62,565	62,704	62,725	62,772	62,688	62,961	62,793	62,649	62,957	63,009
Men, 20 years and over															
Civilian noninstitutional population[1]	77,195	78,523	78,309	78,387	78,484	78,586	78,634	78,722	78,802	78,874	78,973	79,132	79,216	79,303	79,387
Civilian labor force	60,277	61,320	61,080	61,158	61,330	61,355	61,219	61,412	61,409	61,703	61,826	61,948	61,973	61,983	61,976
Participation rate	78.1	78.1	78.0	78.0	78.1	78.1	77.9	78.0	77.9	78.2	78.3	78.3	78.2	78.2	78.1
Employed	56,562	57,569	57,392	57,338	57,522	57,544	57,585	57,607	57,595	57,883	58,101	58,227	58,325	58,410	58,567
Employment-population ratio[2]	73.3	73.3	73.3	73.1	73.3	73.2	73.2	73.2	73.1	73.4	73.6	73.6	73.6	73.7	73.8
Agriculture	2,278	2,292	2,319	2,279	2,309	2,275	2,185	2,286	2,297	2,303	2,289	2,254	2,300	2,411	2,411
Nonagricultural industries	54,284	55,277	55,073	55,059	55,213	55,269	55,400	55,321	55,298	55,580	55,812	55,974	56,024	55,999	56,155
Unemployed	3,715	3,751	3,688	3,820	3,808	3,811	3,634	3,805	3,814	3,820	3,725	3,720	3,648	3,573	3,409
Unemployment rate	6.2	6.1	6.0	6.2	6.2	6.2	5.9	6.2	6.2	6.2	6.0	6.0	5.9	5.8	5.5
Women, 20 years ond over															
Civilian noninstitutional population[1]	86,506	87,567	87,355	87,444	87,547	87,629	87,689	87,779	87,856	87,933	88,016	88,150	88,237	88,321	88,395
Civilian labor force	47,283	48,589	48,181	48,433	48,739	48,879	48,950	48,920	49,014	49,043	48,923	49,161	49,348	49,355	49,466
Participation rate	54.7	55.5	55.2	55.4	55.7	55.8	55.8	55.7	55.8	55.8	55.6	55.8	55.9	55.9	56.0
Employed	44,154	45,556	45,094	45,335	45,657	45,869	45,956	45,905	46,020	46,067	46,058	46,261	46,475	46,498	46,751
Employment-population ratio[2]	51.0	52.0	51.6	51.8	52.2	52.3	52.4	52.3	52.4	52.4	52.3	52.5	52.7	52.6	52.9
Agriculture	596	614	585	604	583	607	622	614	612	675	621	628	641	589	587
Nonagricultural industries	43,558	44,943	44,509	44,731	45,074	45,262	45,334	45,291	45,408	45,392	45,437	45,633	45,835	45,909	46,164
Unemployed	3,129	3,032	3,087	3,098	3,082	3,010	2,994	3,015	2,994	2,976	2,865	2,900	2,873	2,857	2,715
Unemployment rate	6.6	6.2	6.4	6.4	6.3	6.2	6.1	6.2	6.1	6.1	5.9	5.9	5.8	5.8	5.5
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,506	14,496	14,484	14,480	14,472	14,467	14,505	14,496	14,527	14,557	14,558	14,545	14,546	14,555	14,562
Civilian labor force	7,901	7,926	8,031	7,996	7,936	7,883	7,955	7,940	7,991	7,929	7,837	7,926	8,028	7,884	7,894
Participation rate	54.5	54.7	55.4	55.2	54.8	54.5	54.8	54.8	55.0	54.5	53.8	54.5	55.2	54.2	54.2
Employed	6,434	6,472	6,483	6,492	6,434	6,474	6,526	6,475	6,577	6,482	6,478	6,524	6,582	6,460	6,518
Employment-population ratio[2]	44.4	44.6	44.8	44.8	44.5	44.8	45.0	44.7	45.3	44.5	44.5	44.9	45.2	44.4	44.8
Agriculture	305	258	295	268	272	242	250	242	253	237	251	264	295	284	292
Nonagricultural industries	6,129	6,215	6,188	6,224	6,162	6,232	6,276	6,233	6,324	6,245	6,227	6,260	6,287	6,176	6,226
Unemployed	1,468	1,454	1,548	1,504	1,502	1,409	1,429	1,465	1,414	1,447	1,359	1,402	1,446	1,424	1,376
Unemployment rate	18.6	18.3	19.3	18.8	18.9	17.9	18.0	18.5	17.7	18.2	17.3	17.7	18.0	18.1	17.4
White															
Civilian noninstitutional population[1]	153,679	155,432	155,122	155,236	155,376	155,502	155,604	155,723	155,856	155,979	156,111	156,313	156,431	156,561	156,676
Civilian labor force	99,926	101,801	101,237	101,531	101,946	102,015	102,122	102,158	102,297	102,455	102,503	102,746	102,893	102,797	102,894
Participation rate	65.0	65.5	65.3	65.4	65.6	65.6	65.6	65.6	65.6	65.7	65.7	65.7	65.8	65.7	65.7
Employed	93,736	95,660	95,095	95,283	95,720	95,861	96,177	96,000	96,147	96,281	96,533	96,717	96,995	96,998	97,340
Employment-population ratio[2]	61.0	61.5	61.3	61.4	61.6	61.6	61.8	61.6	61.7	61.7	61.8	61.9	62.0	62.0	62.1
Unemployed	6,191	6,140	6,142	6,248	6,226	6,154	5,945	6,158	6,150	6,174	5,970	6,029	5,898	5,799	5,554
Unemployment rate	6.2	6.0	6.1	6.2	6.1	6.0	5.8	6.0	6.0	6.0	5.8	5.9	5.7	5.6	5.4
Black															
Civilian noninstitutional population[1]	19,664	19,989	19,916	19,943	19,974	20,002	20,028	20,056	20,089	20,120	20,152	20,187	20,218	20,249	20,279
Civilian labor force	12,364	12,654	12,687	12,721	12,712	12,611	12,553	12,652	12,720	12,719	12,707	12,831	12,957	12,844	12,743
Participation rate	62.9	63.3	63.7	63.8	63.6	63.0	62.7	63.1	63.3	63.2	63.1	63.6	64.1	63.4	62.8
Employed	10,501	10,814	10,809	10,839	10,818	10,822	10,716	10,799	10,895	10,910	10,968	10,997	11,101	11,053	11,090
Employment-population ratio[2]	53.4	54.1	54.3	54.3	54.2	54.1	53.5	53.8	54.2	54.2	54.4	54.5	54.9	54.6	54.7
Unemployed	1,864	1,840	1,878	1,882	1,894	1,789	1,837	1,853	1,825	1,809	1,739	1,833	1,855	1,791	1,653
Unemployment rate	15.1	14.5	14.8	14.8	14.9	14.2	14.6	14.6	14.3	14.2	13.7	14.3	14.3	13.9	13.0

See footnotes at end of table.

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

(Numbers in thousands)

Employment status	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic origin															
Civilian noninstitutional population[1]	11,915	12,344	12,255	12,290	12,326	12,362	12,397	12,432	12,469	12,505	12,540	12,653	12,692	12,732	12,770
Civilian labor force	7,698	8,076	7,969	8,006	8,085	8,121	8,130	8,179	8,200	8,226	8,320	8,431	8,457	8,392	8,484
Participation rate	64.6	65.4	65.0	65.1	65.6	65.7	65.6	65.8	65.8	65.8	66.3	66.6	66.6	65.9	66.4
Employed	6,888	7,219	7,129	7,136	7,224	7,269	7,248	7,286	7,345	7,437	7,446	7,538	7,644	7,639	7,701
Employment-population ratio[2]	57.8	58.5	58.2	58.1	58.6	58.8	58.5	58.6	58.9	59.5	59.4	59.6	60.2	60.0	60.3
Unemployed	811	857	840	870	861	852	882	893	855	789	874	893	813	753	783
Unemployment rate	10.5	10.6	10.5	10.9	10.6	10.5	10.8	10.9	10.4	9.6	10.5	10.6	9.6	9.0	9.2

[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.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Civilian employed, 16 years and over	107,150	109,597	108,969	109,165	109,613	109,887	110,067	109,987	110,192	110,432	110,637	111,011	111,382	111,368	111,835
Men	59,891	60,892	60,712	60,668	60,793	60,884	60,942	60,968	60,975	61,241	61,393	61,596	61,751	61,707	61,842
Women	47,259	48,706	48,257	48,497	48,820	49,003	49,125	49,019	49,217	49,191	49,244	49,415	49,631	49,661	49,993
Married men, spouse present	39,248	39,658	39,504	39,582	39,613	39,634	39,735	39,691	39,780	39,952	40,093	40,102	39,913	40,100	39,967
Married women, spouse present	26,336	27,144	26,889	27,016	27,354	27,474	27,388	27,249	27,323	27,333	27,400	27,525	27,817	27,965	28,213
Women who maintain families	5,597	5,837	5,799	5,734	5,719	5,812	5,832	5,926	6,016	6,041	6,005	5,985	5,906	5,933	5,972
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,535	1,547	1,539	1,489	1,508	1,504	1,509	1,521	1,562	1,582	1,621	1,650	1,647	1,739	1,589
Self-employed workers	1,458	1,447	1,467	1,472	1,492	1,434	1,387	1,460	1,451	1,425	1,400	1,370	1,454	1,418	1,505
Unpaid family workers	185	169	173	177	163	171	174	159	164	198	152	136	126	150	175
Nonagricultural industries:															
Wage and salary workers	95,871	98,299	97,858	98,047	98,314	98,312	98,586	98,692	98,846	98,869	99,164	99,550	99,748	99,834	100,112
Government	16,031	16,342	16,231	16,333	16,377	16,582	16,446	16,333	16,264	16,457	16,443	16,412	16,532	16,568	16,484
Private industries	79,841	81,957	81,627	81,714	81,937	81,730	82,140	82,359	82,582	82,412	82,721	83,138	83,216	83,265	83,628
Private households	1,249	1,235	1,309	1,261	1,267	1,241	1,247	1,229	1,216	1,183	1,189	1,269	1,204	1,227	1,266
Other	78,592	80,722	80,318	80,453	80,670	80,489	80,893	81,130	81,366	81,229	81,532	81,869	82,012	82,038	82,362
Self-employed workers	7,811	7,881	7,634	7,793	7,832	8,019	7,956	7,939	7,993	8,179	8,056	8,192	8,187	8,050	8,117
Unpaid family workers	289	255	251	235	236	258	271	275	265	252	239	246	255	273	268
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,590	5,588	5,853	5,825	5,538	5,442	5,471	5,544	5,740	5,563	5,596	5,505	5,780	5,456	5,391
Slack work	2,430	2,456	2,534	2,605	2,437	2,473	2,417	2,472	2,481	2,510	2,444	2,473	2,535	2,440	2,322
Could only find part-time work	2,819	2,800	2,922	2,843	2,813	2,661	2,741	2,772	2,826	2,714	2,867	2,695	2,828	2,698	2,746
Voluntary part time	13,489	13,935	13,900	13,853	14,142	13,967	13,981	13,922	14,178	14,021	13,877	14,170	14,061	14,167	13,862
Nonagricultural industries:															
Part time for economic reasons	5,334	5,345	5,567	5,569	5,322	5,222	5,269	5,303	5,450	5,319	5,342	5,201	5,459	5,164	5,110
Slack work	2,273	2,305	2,382	2,485	2,307	2,317	2,283	2,314	2,314	2,366	2,286	2,281	2,340	2,218	2,137
Could only find part-time work	2,730	2,719	2,806	2,749	2,727	2,609	2,678	2,710	2,739	2,626	2,765	2,599	2,742	2,595	2,662
Voluntary part time	13,038	13,502	13,528	13,412	13,613	13,578	13,606	13,520	13,736	13,567	13,455	13,750	13,597	13,682	13,399

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

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, all civilian workers	7.2	7.0	7.1	7.2	7.1	7.0	6.8	7.0	6.9	6.9	6.7	6.7	6.7	6.6	6.3
Both sexes, 16 to 19 years	18.6	18.3	19.3	18.8	18.9	17.9	18.0	18.5	17.7	18.2	17.3	17.7	18.0	18.1	17.4
Men, 20 years and over	6.2	6.1	6.0	6.2	6.2	6.2	5.9	6.2	6.2	6.2	6.0	6.0	5.9	5.8	5.5
Women, 20 years and over	6.6	6.2	6.4	6.4	6.3	6.2	6.1	6.2	6.1	6.1	5.9	5.9	5.8	5.8	5.5
White, total	6.2	6.0	6.1	6.2	6.1	6.0	5.8	6.0	6.0	6.0	5.8	5.9	5.7	5.6	5.4
Both sexes, 16 to 19 years	15.7	15.6	16.3	15.9	15.9	15.2	15.4	15.9	15.4	16.0	15.1	15.0	15.2	15.5	14.9
Men, 16 to 19 years	16.5	16.3	17.1	17.0	17.1	15.6	16.6	16.6	15.7	16.3	15.5	16.1	16.0	17.1	16.7
Women, 16 to 19 years	14.8	14.9	15.4	14.7	14.6	14.7	14.2	15.1	15.2	15.7	14.6	13.8	14.3	13.9	13.1
Men, 20 years and over	5.4	5.3	5.2	5.4	5.4	5.4	5.1	5.4	5.4	5.4	5.3	5.3	5.2	5.1	4.8
Women, 20 years and over	5.7	5.4	5.5	5.5	5.4	5.3	5.2	5.3	5.2	5.2	5.0	5.1	4.9	4.8	4.6
Black, total	15.1	14.5	14.8	14.8	14.9	14.2	14.6	14.6	14.3	14.2	13.7	14.3	14.3	13.9	13.0
Both sexes, 16 to 19 years	40.2	39.3	41.9	40.5	39.5	38.0	40.3	38.4	35.8	36.0	36.5	39.5	38.9	37.6	38.0
Men, 16 to 19 years	41.0	39.3	41.2	40.5	39.7	40.5	38.8	38.6	37.8	35.0	36.1	36.5	38.3	36.5	39.3
Women, 16 to 19 years	39.2	39.2	42.7	40.5	39.4	35.0	41.9	38.3	33.8	37.0	36.9	43.2	39.5	38.8	36.5
Men, 20 years and over	13.2	12.9	12.8	12.9	13.3	12.9	13.2	13.4	13.1	12.9	11.8	12.2	12.0	11.5	10.9
Women, 20 years and over	13.1	12.4	12.5	12.7	12.7	12.1	12.5	12.4	12.4	12.5	12.3	12.8	12.9	13.0	11.5
Hispanic origin, total	10.5	10.6	10.5	10.9	10.6	10.5	10.8	10.9	10.4	9.6	10.5	10.6	9.6	9.0	9.2
Married men, spouse present	4.3	4.4	4.2	4.4	4.5	4.4	4.2	4.3	4.6	4.5	4.3	4.2	4.2	4.1	4.1
Married women, spouse present	5.6	5.2	5.3	5.3	5.2	5.2	5.1	5.1	5.0	5.0	4.8	4.8	4.8	4.5	4.4
Women who maintain families	10.4	9.8	9.5	10.1	10.0	9.5	10.1	9.8	8.9	9.7	9.8	9.8	9.5	9.7	9.3
Full-time workers	6.8	6.6	6.7	6.9	6.7	6.6	6.4	6.6	6.6	6.6	6.3	6.4	6.3	6.2	5.9
Part-time workers	9.3	9.1	9.4	9.1	9.1	9.2	9.3	9.3	9.2	9.1	8.8	9.0	8.7	9.2	8.6
Unemployed 15 weeks and over	2.0	1.9	1.8	1.9	1.9	1.9	1.9	2.0	1.8	1.9	1.8	1.8	1.8	1.7	1.7
Labor force time lost[1]	8.1	7.9	8.1	8.2	8.1	7.8	7.7	7.9	7.8	7.7	7.6	7.6	7.6	7.4	7.3
INDUSTRY															
Nonagricultural private wage and salary workers	7.2	7.0	7.1	7.2	7.1	7.1	6.9	7.0	7.0	7.0	6.8	6.7	6.6	6.5	6.2
Mining	9.5	13.5	12.4	13.6	17.3	16.6	16.6	13.9	14.5	14.5	14.1	14.0	12.4	9.3	11.1
Construction	13.1	13.1	12.3	13.0	12.4	13.0	12.4	12.9	13.8	15.1	13.7	12.2	11.6	12.5	11.9
Manufacturing	7.7	7.1	6.9	7.4	7.2	6.9	6.9	7.0	7.3	7.1	6.9	6.8	6.8	6.9	6.2
Durable goods	7.6	6.9	6.9	7.3	7.0	6.7	6.8	6.5	7.2	6.6	6.4	6.8	6.8	6.7	6.2
Nondurable goods	7.8	7.4	6.9	7.5	7.5	7.2	6.9	7.7	7.3	7.9	7.7	6.8	6.9	7.3	6.2
Transportation and public utilities	5.1	5.1	5.5	5.3	5.4	5.5	4.8	4.7	5.2	4.4	4.6	4.8	4.0	4.6	4.8
Wholesale and retail trade	7.6	7.6	7.9	7.9	7.7	7.8	7.5	7.6	7.4	7.2	7.2	7.5	7.2	7.3	7.0
Finance and service industries	5.6	5.5	5.8	5.5	5.5	5.7	5.6	5.6	5.4	5.4	5.1	5.2	5.4	4.9	4.7
Government workers	3.9	3.6	3.6	3.6	3.6	3.3	3.3	3.5	3.7	3.6	3.3	3.6	3.7	3.4	3.6
Agricultural wage and salary workers	13.2	12.5	13.4	15.3	13.2	11.4	13.3	12.9	11.9	10.1	11.5	11.6	11.2	10.7	9.0

[1] Aggregate hours lost by the unemployed and persons on part time for economic reasons as a percent of potentially available labor force hours.

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

(Civilian workers)

Sex and age	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	7.2	7.0	7.1	7.2	7.1	7.0	6.8	7.0	6.9	6.9	6.7	6.7	6.7	6.6	6.3
16 to 24 years	13.6	13.3	13.7	13.8	13.5	13.2	12.9	13.6	13.0	12.9	12.9	13.1	13.1	12.9	12.6
16 to 19 years	18.6	18.3	19.3	18.8	18.9	17.9	18.0	18.5	17.7	18.2	17.3	17.7	18.0	18.1	17.4
16 to 17 years	21.0	20.2	20.8	20.8	20.7	19.8	19.8	20.0	19.3	20.6	18.8	20.1	20.3	20.0	19.2
18 to 19 years	17.0	17.0	18.4	17.4	17.5	16.2	16.8	17.2	16.5	16.7	16.3	16.2	16.6	16.5	16.3
20 to 24 years	11.1	10.7	10.8	11.2	10.7	10.8	10.3	11.1	10.5	10.2	10.7	10.7	10.5	10.2	10.1
25 years and over	5.6	5.4	5.4	5.5	5.5	5.4	5.4	5.4	5.5	5.5	5.2	5.2	5.1	5.1	4.8
25 to 54 years	5.8	5.7	5.7	5.9	5.9	5.7	5.7	5.6	5.7	5.8	5.5	5.6	5.5	5.4	5.0
55 years and over	4.1	3.9	3.9	3.7	3.8	3.8	3.7	4.0	4.1	3.8	3.5	3.2	3.0	3.4	3.4
Men, 16 years and over	7.0	6.9	6.9	7.1	7.1	7.0	6.8	7.0	7.0	6.9	6.7	6.8	6.7	6.6	6.3
16 to 24 years	14.1	13.7	14.2	14.5	13.9	13.6	13.3	14.3	13.2	13.4	13.4	13.4	13.6	13.2	13.2
16 to 19 years	19.5	19.0	20.0	20.0	19.9	18.4	19.1	19.1	18.2	18.3	17.8	18.5	18.6	19.3	19.2
16 to 17 years	21.9	20.8	21.1	21.3	20.0	20.3	20.9	21.0	19.8	21.3	19.1	21.4	21.2	20.2	21.5
18 to 19 years	17.9	17.7	19.2	19.1	19.4	16.7	18.0	17.5	17.0	16.2	17.0	16.9	17.0	18.6	17.5
20 to 24 years	11.4	11.0	11.3	11.7	10.9	11.1	10.3	11.9	10.7	10.9	11.3	10.7	11.1	10.1	10.1
25 years and over	5.3	5.4	5.2	5.4	5.4	5.4	5.3	5.4	5.5	5.5	5.2	5.4	5.1	5.1	4.8
25 to 54 years	5.6	5.6	5.5	5.7	5.7	5.7	5.6	5.5	5.7	5.7	5.5	5.7	5.4	5.4	5.0
55 years and over	4.1	4.1	4.0	3.9	4.1	4.0	4.1	4.2	4.4	4.1	4.0	3.5	3.3	3.6	3.7
Women, 16 years and over	7.4	7.1	7.3	7.2	7.2	7.0	6.9	7.0	6.9	6.9	6.7	6.7	6.7	6.6	6.2
16 to 24 years	13.0	12.8	13.1	13.1	13.0	12.7	12.4	12.8	12.7	12.4	12.4	12.7	12.4	12.5	12.0
16 to 19 years	17.6	17.6	18.5	17.5	17.9	17.3	16.7	17.7	17.2	18.2	16.8	16.8	17.4	16.7	15.6
16 to 17 years	20.0	19.6	20.4	20.3	21.4	19.2	18.7	18.8	18.6	19.8	18.4	18.7	19.2	19.7	16.7
18 to 19 years	16.0	16.3	17.6	15.5	15.6	15.6	15.4	16.9	16.0	17.2	15.7	15.3	16.1	14.2	15.1
20 to 24 years	10.7	10.3	10.2	10.8	10.4	10.4	10.2	10.2	10.3	9.4	10.0	10.6	9.8	10.3	10.1
25 years and over	5.9	5.5	5.7	5.6	5.6	5.4	5.4	5.5	5.4	5.5	5.2	5.1	5.1	5.0	4.7
25 to 54 years	6.2	5.9	6.0	6.0	6.0	5.8	5.8	5.8	5.7	5.8	5.5	5.5	5.6	5.4	5.0
55 years and over	4.1	3.6	3.8	3.5	3.3	3.6	3.3	3.6	3.6	3.4	2.9	2.7	2.6	3.2	3.0

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

(Numbers in thousands)

Reason for unemployment	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers	4,139	4,033	4,035	4,214	4,272	4,063	3,824	4,044	3,984	3,947	3,890	3,971	3,839	3,822	3,732
On layoff	1,157	1,090	1,057	1,118	1,074	1,078	1,017	1,029	1,072	1,073	1,078	1,118	998	1,011	958
Other job losers	2,982	2,943	2,978	3,096	3,198	2,985	2,807	3,015	2,912	2,874	2,812	2,854	2,842	2,811	2,774
Job leavers	877	1,015	1,071	979	1,009	1,025	990	1,041	1,027	1,056	1,036	891	1,046	1,000	923
Reentrants	2,256	2,160	2,188	2,200	2,107	2,205	2,199	2,145	2,190	2,119	2,019	2,054	2,042	2,111	1,940
New entrants	1,039	1,029	1,048	1,046	1,050	989	1,014	1,038	972	1,076	1,015	1,084	1,040	956	911
PERCENT OF UNEMPLOYED															
Job losers	49.8	48.9	48.4	49.9	50.6	49.1	47.6	48.9	48.7	48.1	48.9	49.6	48.2	48.4	49.7
On layoff	13.9	13.2	12.7	13.2	12.7	13.0	12.7	12.4	13.1	13.1	13.5	14.0	12.5	12.8	12.8
Other job losers	35.9	35.7	35.7	36.7	37.9	36.0	35.0	36.5	35.6	35.1	35.3	35.7	35.7	35.6	37.0
Job leavers	10.6	12.3	12.8	11.6	12.0	12.4	12.3	12.6	12.6	12.9	13.0	11.1	13.1	12.7	12.3
Reentrants	27.1	26.2	26.2	26.1	25.0	26.6	27.4	25.9	26.8	25.8	25.4	25.7	25.6	26.8	25.8
New entrants	12.5	12.5	12.6	12.4	12.4	11.9	12.6	12.6	11.9	13.1	12.8	13.6	13.1	12.1	12.1
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.6	3.4	3.4	3.6	3.6	3.4	3.2	3.4	3.4	3.3	3.3	3.3	3.2	3.2	3.1
Job leavers	.8	.9	.9	.8	.9	.9	.8	.9	.9	.9	.9	.7	.9	.8	.8
Reentrants	2.0	1.8	1.9	1.9	1.8	1.9	1.9	1.8	1.8	1.8	1.7	1.7	1.7	1.8	1.6
New entrants	.9	.9	.9	.9	.9	.8	.9	.9	.8	.9	.9	.9	.9	.8	.8

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	3,498	3,448	3,565	3,610	3,415	3,399	3,436	3,415	3,418	3,382	3,355	3,416	3,361	3,383	3,143
5 to 14 weeks	2,509	2,557	2,650	2,671	2,650	2,521	2,407	2,524	2,563	2,613	2,389	2,530	2,477	2,447	2,232
15 weeks and over	2,305	2,232	2,130	2,232	2,299	2,250	2,272	2,373	2,168	2,217	2,171	2,200	2,131	2,050	2,075
15 to 26 weeks	1,025	1,045	982	1,065	1,038	1,058	1,068	1,110	950	1,045	1,023	1,022	1,008	945	1,025
27 weeks and over	1,280	1,187	1,148	1,167	1,261	1,192	1,204	1,263	1,218	1,172	1,148	1,178	1,123	1,105	1,049
Mean duration in weeks	15.6	15.0	14.7	14.8	15.2	15.1	15.6	15.5	15.2	14.8	15.0	15.0	14.6	14.9	14.9
Median duration in weeks	6.8	6.9	6.6	6.8	7.2	7.1	7.1	7.1	7.0	7.0	7.1	7.0	6.6	6.6	7.0

11. Unemployment rates of civilian workers by State, data not seasonally adjusted

State	Mar. 1986	Mar. 1987	State	Mar. 1986	Mar. 1987
Alabama	10.4	9.8	Montana	9.8	8.8
Alaska	12.2	12.1	Nebraska	6.1	5.7
Arizona	6.7	7.4	Nevada	6.7	6.3
Arkansas	9.2	9.1	New Hampshire	3.4	2.6
California	7.1	6.3	New Jersey	4.9	4.3
Colorado	7.6	9.8	New Mexico	9.4	9.2
Connecticut	4.3	3.8	New York	7.3	5.3
Delaware	5.2	3.2	North Carolina	5.7	4.9
District of Columbia	8.0	7.5	North Dakota	8.1	6.0
Florida	5.8	5.4	Ohio	7.9	7.9
Georgia	6.0	5.8	Oklahoma	8.0	8.5
Hawaii	5.1	3.9	Oregon	9.8	6.9
Idaho	9.8	10.3	Pennsylvania	7.9	6.2
Illinois	9.1	8.1	Rhode Island	4.8	4.3
Indiana	7.7	6.9	South Carolina	6.5	6.4
Iowa	8.8	5.7	South Dakota	5.6	4.5
Kansas	6.0	5.4	Tennessee	8.6	7.6
Kentucky	10.4	11.0	Texas	8.4	8.2
Louisiana	12.2	13.5	Utah	6.3	7.3
Maine	6.2	5.5	Vermont	5.9	4.7
Maryland	5.0	5.0	Virginia	5.4	5.2
Massachusetts	4.3	4.5	Washington	8.9	9.3
Michigan	9.6	8.4	West Virginia	13.5	11.4
Minnesota	6.9	6.1	Wisconsin	8.6	7.5
Mississippi	11.5	11.1	Wyoming	9.6	10.6
Missouri	6.7	6.3			

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

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	Mar. 1986	Feb. 1987	Mar. 1987[p]	State	Mar. 1986	Feb. 1987	Mar. 1987[p]
Alabama	1,447.9	1,465.4	1,466.7	Nebraska	644.7	649.3	652.7
Alaska	215.7	206.0	206.5	Nevada	456.1	478.3	484.7
Arizona	1,333.1	1,374.7	1,377.6	New Hampshire	474.4	492.1	493.6
Arkansas	804.8	817.7	823.9	New Jersey	3,416.6	3,472.5	3,506.7
California	11,131.9	11,417.5	11,498.6	New Mexico	523.3	527.3	531.2
Colorado	1,409.6	1,394.5	1,399.0	New York	7,789.1	7,907.5	7,963.7
Connecticut	1,571.5	1,613.6	1,626.4	North Carolina	2,700.8	2,764.1	2,787.2
Delaware	292.0	305.3	308.6	North Dakota	244.0	243.8	244.5
District of Columbia	631.4	641.0	644.8	Ohio	4,374.5	4,467.2	4,492.9
Florida	4,584.3	4,758.5	4,800.2	Oklahoma	1,144.7	1,121.7	1,124.6
Georgia	2,624.2	2,723.4	2,734.5	Oregon	1,033.3	1,060.0	1,067.4
Hawaii	436.4	447.0	450.6	Pennsylvania	4,709.0	4,758.1	4,805.6
Idaho	327.7	331.2	333.5	Rhode Island	432.5	437.6	441.1
Illinois	4,714.5	4,777.3	4,794.3	South Carolina	1,322.8	1,353.2	1,365.8
Indiana	2,178.0	2,241.6	2,260.5	South Dakota	245.0	246.4	249.3
Iowa	1,057.2	1,086.0	1,090.2	Tennessee	1,894.7	1,965.2	1,979.2
Kansas	975.9	979.0	988.6	Texas	6,660.2	6,476.1	6,475.5
Kentucky	1,251.9	1,277.9	1,284.9	Utah	629.6	632.1	636.3
Louisiana	1,547.3	1,485.5	1,485.2	Vermont	229.4	240.5	240.5
Maine	456.0	476.3	477.4	Virginia	2,494.0	2,568.0	2,591.5
Maryland	1,905.8	1,948.7	1,970.7	Washington	1,736.7	1,770.9	1,789.8
Massachusetts	2,936.8	2,986.1	3,010.9	West Virginia	585.9	584.9	590.5
Michigan	3,591.9	3,640.0	3,642.2	Wisconsin	1,968.4	1,999.5	2,006.9
Minnesota	1,841.8	1,880.6	1,889.8	Wyoming	197.0	185.3	185.2
Mississippi	845.7	849.3	855.0	Puerto Rico	706.1	723.2	726.3
Missouri	2,102.2	2,108.8	2,126.2	Virgin Islands	37.6	38.4	–
Montana	270.3	270.2	272.2				

– Data not available.
[p] = preliminary

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

13. Employment of workers on nonagricultural payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
TOTAL	97,614	100,167	99,783	99,918	99,843	100,105	100,283	100,560	100,826	101,068	101,322	101,626	101,854	102,009	102,325
PRIVATE SECTOR	81,199	83,432	83,072	83,198	83,161	83,508	83,655	83,786	83,956	84,178	84,394	84,708	84,948	85,054	85,311
GOODS-PRODUCING	24,930	24,938	25,038	24,965	24,854	24,869	24,888	24,858	24,865	24,891	24,920	25,008	25,038	25,004	25,046
Mining	930	792	821	790	772	768	753	743	746	742	738	731	733	735	740
Oil and gas extraction	585	464	488	461	446	442	431	422	423	420	414	412	415	418	424
Construction	4,687	4,960	4,972	4,974	4,947	4,980	5,012	5,010	5,001	4,993	4,996	5,109	5,094	5,059	5,082
General building contractors	1,251	1,307	1,315	1,314	1,299	1,299	1,306	1,301	1,302	1,307	1,298	1,333	1,321	1,307	1,289
Manufacturing	19,314	19,186	19,245	19,201	19,135	19,121	19,123	19,105	19,118	19,156	19,186	19,168	19,211	19,210	19,224
Production workers	13,130	13,023	13,060	13,025	12,979	12,961	12,971	12,960	12,974	13,020	13,053	13,031	13,070	13,076	13,093
Durable goods	11,516	11,345	11,415	11,378	11,307	11,294	11,302	11,271	11,266	11,282	11,289	11,265	11,300	11,293	11,293
Production workers	7,660	7,495	7,547	7,519	7,462	7,441	7,458	7,438	7,435	7,452	7,466	7,440	7,477	7,476	7,482
Lumber and wood products	700	727	719	719	721	724	729	734	737	743	749	754	756	755	758
Furniture and fixtures	493	497	494	496	496	498	499	500	500	500	500	503	503	505	507
Stone, clay, and glass products	591	595	600	599	597	593	592	594	590	591	594	595	598	595	597
Primary metal industries	813	768	785	780	761	758	751	749	749	751	752	741	751	758	759
Blast furnaces and basic steel products	305	283	291	288	286	285	272	270	272	271	270	264	272	279	280
Fabricated metal products	1,468	1,439	1,451	1,447	1,440	1,428	1,429	1,433	1,429	1,427	1,431	1,430	1,429	1,429	1,432
Machinery, except electrical	2,182	2,082	2,111	2,100	2,089	2,079	2,072	2,044	2,039	2,036	2,030	2,029	2,043	2,043	2,048
Electrical and electronic equipment	2,207	2,169	2,177	2,175	2,143	2,169	2,168	2,162	2,167	2,166	2,164	2,156	2,153	2,141	2,144
Transportation equipment	1,971	1,984	1,986	1,972	1,974	1,969	1,985	1,979	1,979	1,993	1,990	1,979	1,990	1,986	1,971
Motor vehicles and equipment	876	843	854	839	839	824	839	834	824	837	832	826	838	830	817
Instruments and related products	723	717	723	721	717	713	713	713	713	710	709	709	707	708	707
Miscellaneous manufacturing industries	369	367	369	369	369	363	364	363	363	365	370	369	370	373	370
Nondurable goods	7,798	7,841	7,830	7,823	7,828	7,827	7,821	7,834	7,852	7,874	7,897	7,903	7,911	7,917	7,931
Production workers	5,470	5,528	5,513	5,506	5,517	5,520	5,513	5,522	5,539	5,568	5,587	5,591	5,593	5,600	5,611
Food and kindred products	1,608	1,641	1,633	1,640	1,648	1,645	1,642	1,644	1,644	1,654	1,657	1,654	1,658	1,663	1,665
Tobacco manufactures	65	61	63	62	62	62	59	60	59	61	60	59	60	60	59
Textile mill products	704	709	703	705	707	710	711	709	711	717	719	722	726	728	726
Apparel and other textile products	1,125	1,115	1,119	1,113	1,106	1,108	1,108	1,110	1,113	1,112	1,124	1,123	1,115	1,113	1,117
Paper and allied products	683	690	689	689	690	687	685	691	694	694	697	694	695	695	696
Printing and publishing	1,435	1,479	1,472	1,474	1,477	1,483	1,481	1,485	1,491	1,493	1,493	1,500	1,505	1,506	1,514
Chemicals and allied products	1,046	1,027	1,028	1,024	1,026	1,025	1,026	1,025	1,023	1,023	1,020	1,021	1,020	1,019	1,019
Petroleum and coal products	178	164	166	166	164	163	163	162	161	160	159	159	159	158	158
Rubber and misc. plastics products	790	801	800	796	797	792	794	797	805	809	815	819	820	822	824
Leather and leather products	166	155	157	154	151	152	152	151	151	151	153	152	153	153	153
SERVICE-PRODUCING	72,684	75,229	74,745	74,953	74,989	75,236	75,395	75,702	75,961	76,177	76,402	76,618	76,816	77,005	77,279
Transportation and public utilities	5,242	5,286	5,266	5,265	5,167	5,288	5,255	5,316	5,316	5,351	5,359	5,382	5,394	5,412	5,415
Transportation	3,006	3,068	3,040	3,037	3,035	3,057	3,063	3,088	3,094	3,117	3,125	3,140	3,150	3,164	3,169
Communication and public utilities	2,236	2,218	2,226	2,228	2,132	2,231	2,192	2,228	2,222	2,234	2,234	2,242	2,244	2,248	2,246
Wholesale trade	5,740	5,853	5,864	5,872	5,829	5,849	5,863	5,859	5,864	5,859	5,859	5,864	5,877	5,877	5,882
Durable goods	3,409	3,482	3,485	3,488	3,454	3,483	3,485	3,485	3,489	3,489	3,491	3,495	3,499	3,500	3,499
Nondurable goods	2,331	2,371	2,379	2,384	2,375	2,366	2,378	2,374	2,375	2,370	2,368	2,369	2,378	2,377	2,383
Retail trade	17,360	17,978	17,851	17,911	17,944	17,992	18,030	18,065	18,143	18,197	18,206	18,289	18,368	18,402	18,469
General merchandise stores	2,320	2,350	2,342	2,344	2,350	2,354	2,359	2,362	2,379	2,367	2,341	2,333	2,354	2,359	2,362
Food stores	2,779	2,932	2,910	2,917	2,932	2,938	2,951	2,952	2,963	2,968	2,979	2,990	3,005	3,006	3,025
Automotive dealers and service stations	1,892	1,954	1,940	1,944	1,945	1,950	1,962	1,970	1,973	1,977	1,984	1,988	1,992	1,989	1,988
Eating and drinking places	5,715	5,921	5,859	5,889	5,918	5,931	5,923	5,948	5,982	6,006	6,035	6,080	6,104	6,113	6,123
Finance, insurance, and real estate	5,953	6,305	6,228	6,261	6,295	6,334	6,364	6,388	6,409	6,429	6,472	6,495	6,519	6,544	6,581
Finance	2,979	3,159	3,120	3,137	3,159	3,176	3,192	3,202	3,212	3,220	3,236	3,239	3,249	3,264	3,286
Insurance	1,830	1,934	1,910	1,918	1,927	1,945	1,952	1,962	1,971	1,979	1,990	2,002	2,007	2,016	2,024
Real estate	1,144	1,211	1,198	1,206	1,209	1,213	1,220	1,224	1,226	1,230	1,246	1,254	1,263	1,264	1,271
Services	21,974	23,072	22,825	22,924	23,072	23,176	23,255	23,300	23,359	23,451	23,578	23,670	23,752	23,815	23,918
Business services	4,452	4,809	4,750	4,755	4,792	4,835	4,848	4,883	4,908	4,926	4,966	4,990	5,038	5,054	5,074
Health services	6,310	6,586	6,511	6,543	6,571	6,601	6,634	6,649	6,677	6,695	6,726	6,757	6,788	6,807	6,834
Government	16,415	16,735	16,711	16,720	16,682	16,597	16,628	16,774	16,870	16,890	16,928	16,918	16,906	16,955	17,014
Federal	2,875	2,899	2,914	2,899	2,875	2,866	2,875	2,901	2,896	2,899	2,907	2,914	2,917	2,931	2,937
State	3,848	3,937	3,938	3,936	3,927	3,921	3,919	3,932	3,959	3,965	3,983	3,983	3,980	3,984	4,003
Local	9,692	9,899	9,859	9,885	9,880	9,810	9,834	9,941	10,015	10,026	10,038	10,021	10,009	10,040	10,074

[p] = preliminary

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

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

Industry	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR	34.9	34.8	34.8	34.8	34.7	34.7	34.8	34.7	34.7	34.8	34.6	34.8	35.0	34.8	34.7
CONSTRUCTION	37.7	37.5	–	–	–	–	–	–	–	–	–	–	–	–	–
MANUFACTURING	40.5	40.7	40.7	40.7	40.6	40.6	40.8	40.8	40.7	40.8	40.8	41.0	41.3	41.0	40.5
Overtime hours	3.3	3.4	3.4	3.4	3.3	3.4	3.5	3.5	3.5	3.5	3.5	3.6	3.6	3.7	3.4
Durable goods	41.2	41.3	41.3	41.2	41.2	41.1	41.4	41.4	41.3	41.4	41.3	41.6	41.9	41.6	41.2
Overtime hours	3.5	3.5	3.6	3.4	3.5	3.5	3.5	3.6	3.6	3.6	3.6	3.7	3.7	3.8	3.6
Lumber and wood products	39.9	40.3	40.3	40.3	39.9	40.1	40.2	40.1	40.3	40.7	40.4	40.7	41.2	40.9	40.7
Furniture and fixtures	39.4	39.6	39.1	39.4	39.4	39.4	39.9	40.0	39.8	39.6	39.6	40.2	40.1	40.0	39.2
Stone, clay, and glass products	41.9	42.3	42.4	42.3	42.2	42.2	42.5	42.5	42.3	41.9	42.1	42.9	43.2	42.7	42.1
Primary metal industries	41.5	41.9	41.3	41.7	41.6	41.3	41.9	42.0	42.3	42.4	42.5	42.7	42.7	42.7	42.2
Blast furnaces and basic steel products	41.1	41.6	40.5	41.5	41.1	41.2	41.5	41.6	42.3	42.5	42.7	42.8	42.2	42.3	41.9
Fabricated metal products	41.3	41.3	41.2	41.1	41.1	41.1	41.2	41.5	41.2	41.4	41.1	41.5	41.8	41.4	40.9
Machinery except electrical	41.5	41.6	41.8	41.8	41.7	41.4	41.7	41.7	41.6	41.7	41.5	42.0	42.2	42.0	41.9
Electrical and electronic equipment	40.6	41.0	41.1	41.0	41.0	41.1	41.2	41.2	40.9	41.0	41.0	41.0	41.3	40.9	40.6
Transportation equipment	42.6	42.4	42.1	41.9	42.2	42.1	42.6	42.6	42.1	42.3	42.1	42.3	42.7	42.6	41.9
Motor vehicles and equipment	43.5	42.7	41.9	41.8	42.4	42.4	42.8	42.7	42.1	42.6	42.6	43.2	43.5	43.2	42.2
Instruments and related products	41.0	41.1	41.3	40.9	41.0	40.8	41.0	40.7	41.1	41.2	41.3	41.2	41.5	41.3	40.8
Miscellaneous manufacturing	39.4	39.6	–	–	–	–	–	–	–	–	–	–	–	–	–
Nondurable goods	39.6	39.9	39.9	39.9	39.8	39.8	40.0	39.9	39.9	40.1	40.1	40.1	40.4	40.2	39.7
Overtime hours	3.1	3.3	3.3	3.4	3.2	3.4	3.4	3.3	3.4	3.5	3.5	3.5	3.5	3.5	3.3
Food and kindred products	40.0	40.0	40.2	40.2	40.0	40.0	40.3	39.7	39.8	40.0	39.8	40.0	40.2	40.0	39.9
Tobacco manufactures	37.2	37.6	–	–	–	–	–	–	–	–	–	–	–	–	–
Textile mill products	39.7	41.2	41.3	41.1	40.8	40.9	41.4	41.6	41.5	41.5	41.9	41.7	42.3	42.2	41.5
Apparel and other textile products	36.4	36.7	36.9	36.5	36.5	36.6	36.5	36.7	36.7	36.9	37.0	36.9	37.7	37.1	36.2
Paper and allied products	43.1	43.3	43.0	43.2	43.1	43.2	43.5	43.0	43.0	43.2	43.4	43.6	43.6	43.1	42.5
Printing and publishing	37.8	38.0	38.0	38.0	37.8	37.9	38.0	38.0	38.0	38.1	38.1	38.0	38.2	37.9	37.9
Chemicals and allied products	41.9	42.0	41.9	42.0	41.9	41.9	42.1	42.0	42.2	42.5	42.2	42.3	42.2	42.1	42.3
Petroleum and coal products	43.0	43.7	43.6	43.4	44.0	43.5	44.3	43.4	43.7	43.8	43.6	45.0	44.4	44.4	44.0
Leather and leather products	37.2	36.9	–	–	–	–	–	–	–	–	–	–	–	–	–
TRANSPORTATION AND PUBLIC UTILITIES	39.5	39.2	39.2	39.2	39.1	39.2	39.1	38.9	39.1	39.3	39.0	39.1	39.4	39.3	39.0
WHOLESALE TRADE	38.4	38.4	38.5	38.4	38.3	38.3	38.4	38.2	38.4	38.3	38.2	38.3	38.5	38.3	38.3
RETAIL TRADE	29.4	29.2	29.2	29.2	29.1	29.2	29.2	29.2	29.1	29.3	28.9	29.0	29.5	29.3	29.5
SERVICES	32.5	32.5	32.5	32.5	32.4	32.4	32.4	32.3	32.4	32.5	32.4	32.4	32.5	32.4	32.3

– Data not available.
[p] = preliminary

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

15. Average hourly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR	$8.57	$8.75	$8.72	$8.72	$8.71	$8.69	$8.70	$8.81	$8.81	$8.85	$8.83	$8.88	$8.89	$8.89	$8.89
Seasonally adjusted	–	–	8.72	8.73	8.74	8.73	8.77	8.76	8.80	8.84	8.82	8.84	8.86	8.90	8.88
MINING	11.98	12.45	12.43	12.44	12.50	12.46	12.51	12.52	12.51	12.57	12.60	12.67	12.60	12.56	12.43
CONSTRUCTION	12.31	12.42	12.29	12.33	12.31	12.31	12.39	12.54	12.62	12.59	12.70	12.53	12.46	12.55	12.54
MANUFACTURING	9.53	9.73	9.70	9.71	9.70	9.74	9.68	9.73	9.72	9.77	9.84	9.83	9.83	9.84	9.87
Durable goods	10.10	10.29	10.28	10.28	10.26	10.27	10.22	10.30	10.28	10.33	10.40	10.38	10.39	10.38	10.39
Lumber and wood products	8.22	8.37	8.32	8.37	8.43	8.36	8.40	8.42	8.37	8.39	8.36	8.29	8.33	8.30	8.36
Furniture and fixtures	7.17	7.44	7.36	7.39	7.46	7.44	7.46	7.52	7.50	7.52	7.60	7.57	7.55	7.55	7.55
Stone, clay, and glass products	9.84	10.05	10.00	10.04	10.04	10.06	10.07	10.11	10.10	10.13	10.17	10.18	10.15	10.14	10.26
Primary metal industries	11.68	11.93	12.00	12.02	11.94	12.06	11.85	11.92	11.84	11.87	11.91	11.86	11.88	11.93	12.11
Blast furnaces and basic steel products	13.34	13.82	13.82	13.86	13.88	14.08	13.83	13.93	13.78	13.78	13.83	13.67	13.71	13.78	14.10
Fabricated metal products	9.70	9.87	9.84	9.85	9.88	9.84	9.82	9.87	9.86	9.93	10.00	9.98	9.98	9.97	9.96
Machinery, except electrical	10.29	10.56	10.55	10.55	10.55	10.57	10.57	10.58	10.56	10.59	10.65	10.61	10.65	10.68	10.65
Electrical and electronic equipment	9.47	9.67	9.62	9.64	9.61	9.68	9.67	9.73	9.72	9.75	9.85	9.86	9.86	9.85	9.87
Transportation equipment	12.72	12.86	12.83	12.79	12.78	12.78	12.75	12.87	12.87	12.92	13.00	12.98	12.94	12.91	12.86
Motor vehicles and equipment	13.42	13.52	13.54	13.47	13.41	13.40	13.36	13.50	13.49	13.52	13.63	13.67	13.59	13.58	13.50
Instruments and related products	9.16	9.46	9.41	9.40	9.41	9.47	9.45	9.51	9.54	9.61	9.62	9.62	9.65	9.61	9.58
Miscellaneous manufacturing	7.30	7.56	7.50	7.54	7.54	7.59	7.52	7.59	7.60	7.65	7.71	7.70	7.68	7.66	7.67
Nondurable goods	8.71	8.93	8.88	8.90	8.91	8.99	8.93	8.96	8.95	9.00	9.06	9.06	9.06	9.08	9.14
Food and kindred products	8.57	8.74	8.75	8.78	8.74	8.75	8.65	8.65	8.68	8.79	8.88	8.89	8.91	8.94	8.98
Tobacco manufactures	11.94	12.77	12.84	13.38	13.68	13.48	13.44	12.21	12.10	12.62	12.86	12.89	13.38	13.76	14.12
Textile mill products	6.71	6.95	6.87	6.88	6.87	6.90	6.99	7.05	7.04	7.07	7.13	7.13	7.13	7.14	7.18
Apparel and other textile products	5.73	5.81	5.81	5.78	5.79	5.76	5.79	5.87	5.82	5.83	5.86	5.89	5.88	5.90	5.92
Paper and allied products	10.82	11.14	11.05	11.12	11.15	11.31	11.17	11.20	11.20	11.17	11.24	11.17	11.18	11.18	11.30
Printing and publishing	9.71	9.97	9.87	9.91	9.88	9.96	10.00	10.10	10.08	10.11	10.14	10.14	10.16	10.17	10.18
Chemicals and allied products	11.56	11.97	11.82	11.89	11.94	12.04	11.99	12.03	12.08	12.15	12.20	12.17	12.20	12.23	12.32
Petroleum and coal products	14.06	14.19	14.16	14.02	14.14	14.16	14.07	14.20	14.18	14.26	14.36	14.40	14.35	14.38	14.33
Rubber and miscellaneous plastics products	8.54	8.76	8.68	8.75	8.75	8.82	8.81	8.76	8.76	8.81	8.86	8.87	8.82	8.83	8.81
Leather and leather products	5.82	5.90	5.89	5.88	5.88	5.89	5.90	5.93	5.92	5.98	5.98	6.03	5.99	6.04	6.15
TRANSPORTATION AND PUBLIC UTILITIES	11.40	11.63	11.55	11.54	11.57	11.61	11.61	11.70	11.68	11.75	11.71	11.73	11.77	11.75	11.79
WHOLESALE TRADE	9.16	9.35	9.29	9.29	9.32	9.30	9.32	9.37	9.35	9.46	9.47	9.49	9.55	9.53	9.55
RETAIL TRADE	5.94	6.02	6.01	6.00	5.99	5.97	5.97	6.05	6.04	6.07	6.05	6.07	6.06	6.06	6.06
FINANCE, INSURANCE, AND REAL ESTATE	7.94	8.34	8.29	8.31	8.37	8.30	8.33	8.37	8.38	8.54	8.46	8.58	8.71	8.69	8.63
SERVICES	7.89	8.16	8.12	8.10	8.10	8.04	8.05	8.19	8.22	8.31	8.31	8.36	8.41	8.40	8.38

– Data not available.
[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 nonagricultural payrolls by industry

Industry	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.p	Apr.p
PRIVATE SECTOR															
Current dollars	$299.09	$304.50	$301.71	$302.58	$303.98	$304.15	$305.37	$306.59	$305.71	$307.10	$308.17	$305.47	$307.59	$307.59	$306.71
Seasonally adjusted	–	–	303.46	303.80	303.28	302.93	305.20	303.97	305.36	307.63	305.17	307.63	310.10	309.72	308.14
Constant (1977) dollars	170.42	170.88	170.94	170.85	170.78	170.97	171.36	171.28	170.69	171.28	171.78	169.14	169.66	168.91	–
MINING	519.93	526.64	522.06	519.99	525.00	518.34	529.17	529.60	527.92	522.91	536.76	542.28	534.24	528.78	519.57
CONSTRUCTION	464.09	465.75	462.10	467.31	465.32	471.47	475.78	482.79	479.56	459.54	468.63	467.37	459.77	470.63	470.25
MANUFACTURING															
Current dollars	385.97	396.01	392.85	394.23	395.76	391.55	393.98	398.93	396.58	400.57	409.34	401.06	401.06	402.46	398.75
Constant (1977) dollars	219.93	222.23	222.58	222.60	222.34	220.10	221.09	222.87	221.43	223.41	228.17	222.07	221.21	221.01	–
Durable goods	416.12	424.98	423.54	423.54	424.76	417.99	420.04	428.48	424.56	429.73	438.88	430.77	431.19	431.81	427.03
Lumber and wood products	327.98	337.31	334.46	338.99	342.26	334.40	341.04	342.69	338.99	338.12	338.58	331.60	337.37	337.81	339.42
Furniture and fixtures	282.50	294.62	286.30	288.21	294.67	287.93	298.40	303.81	303.00	300.80	310.84	299.77	296.72	300.49	294.45
Stone, clay, and glass products	412.30	425.12	425.00	428.71	429.71	427.55	432.00	435.74	431.27	424.45	427.14	424.51	425.29	428.92	432.97
Primary metal industries	484.72	499.87	499.20	501.23	499.09	495.67	491.78	501.83	496.10	503.29	512.13	505.24	507.28	510.60	514.68
Blast furnaces and basic steel products	548.27	574.91	569.38	576.58	577.41	582.91	569.80	579.49	571.87	580.14	590.54	578.24	579.93	584.27	602.07
Fabricated metal products	400.61	407.63	403.44	404.84	408.04	398.52	402.62	410.59	407.22	412.10	421.00	413.17	412.17	412.76	405.37
Machinery, except electrical	427.04	439.30	437.83	437.83	439.94	431.26	436.54	441.19	438.24	443.72	454.76	445.62	448.37	450.70	443.04
Electrical and electronic equipment	384.48	396.47	392.50	393.31	394.01	391.07	395.50	401.85	397.55	403.65	414.69	405.25	403.27	403.85	397.76
Transportation equipment	541.87	545.26	542.71	537.18	540.59	530.37	531.68	544.40	540.54	549.10	564.20	551.65	548.66	551.26	541.41
Motor vehicles and equipment	583.77	577.30	574.10	567.09	572.61	560.12	555.78	573.75	567.93	575.95	599.72	590.54	584.37	588.01	576.45
Instruments and related products	375.56	388.81	385.81	382.58	385.81	382.59	384.62	388.96	390.19	398.82	406.93	396.34	398.55	397.85	387.99
Miscellaneous manufacturing	287.62	299.38	297.75	297.08	298.58	294.49	294.78	300.56	302.48	307.53	310.71	304.15	301.82	301.04	297.60
Nondurable goods	344.92	356.31	351.65	354.22	355.51	356.00	358.09	360.19	358.00	362.70	368.74	362.40	361.49	363.20	360.12
Food and kindred products	342.80	349.60	346.50	352.08	350.47	350.00	352.06	349.46	347.20	353.36	358.75	353.82	351.05	353.13	352.91
Tobacco manufactures	444.17	480.15	469.94	504.43	523.94	483.93	486.53	470.09	473.11	484.61	484.82	482.09	488.37	528.38	518.20
Textile mill products	266.39	286.34	278.92	282.08	283.04	278.07	290.78	295.40	293.57	296.23	302.31	296.61	298.03	300.59	292.94
Apparel and other textile products	208.57	213.23	211.48	210.97	213.65	209.09	211.91	215.43	214.76	216.88	219.16	216.75	218.74	218.89	211.34
Paper and allied products	466.34	482.36	474.05	479.27	480.57	486.33	483.66	484.96	482.72	484.78	496.81	485.90	481.86	479.62	479.12
Printing and publishing	367.04	378.86	374.07	374.60	370.50	374.50	381.00	386.83	384.05	388.22	393.43	382.28	384.05	386.46	384.80
Chemicals and allied products	484.36	502.74	495.26	499.38	502.67	502.07	501.18	505.26	506.15	517.59	520.94	514.79	513.62	516.11	521.14
Petroleum and coal products	604.58	620.10	615.96	605.66	622.16	618.79	623.30	626.22	621.08	626.01	627.53	643.68	628.53	637.03	629.09
Rubber and miscellaneous plastics products	350.99	361.79	356.75	360.50	361.38	357.21	362.97	364.42	362.66	367.38	374.78	368.99	366.03	367.33	359.45
Leather and leather products	216.50	217.71	213.81	215.80	221.68	217.93	216.53	218.22	217.86	222.46	227.84	224.92	222.83	226.50	223.25
TRANSPORTATION AND PUBLIC UTILITIES	450.30	455.90	450.45	450.06	455.86	457.43	457.43	457.47	456.69	461.78	459.03	453.95	460.21	459.43	457.45
WHOLESALE TRADE	351.74	359.04	355.81	356.74	358.82	358.05	358.82	358.87	359.04	363.26	363.65	361.57	363.86	363.09	363.86
RETAIL TRADE	174.64	175.78	173.69	174.60	176.71	178.50	178.50	176.66	175.16	176.64	178.48	172.39	174.53	175.13	176.95
FINANCE, INSURANCE, AND REAL ESTATE	289.02	304.41	301.76	301.65	306.34	302.95	304.88	304.67	306.71	313.42	309.64	313.17	317.92	316.32	314.13
SERVICES	256.43	265.20	263.09	262.44	264.06	263.71	264.04	264.54	266.33	269.24	269.24	269.19	271.64	271.32	269.84

– Data not available.
p = preliminary

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

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	Apr. 1986	Feb. 1987	Mar. 1987p	Apr. 1987p	Apr. 1986	Dec. 1986	Jan. 1987	Feb. 1987	Mar. 1987p	Apr. 1987p
PRIVATE SECTOR (in current dollars)	168.4	171.8	171.8	172.2	168.4	170.6	170.7	171.4	171.8	172.2
Mining[1]	181.2	181.4	181.3	180.9	–	–	–	–	–	–
Construction	149.9	151.1	152.3	152.7	150.6	153.9	151.7	151.1	153.2	153.5
Manufacturing	172.2	174.1	174.1	175.2	172.0	173.5	173.4	173.9	173.9	175.0
Transportation and public utilities	169.0	173.0	172.7	173.3	169.3	171.2	171.5	172.3	172.9	173.6
Wholesale trade[1]	171.3	175.9	175.6	176.1	–	–	–	–	–	–
Retail trade	157.8	159.0	159.1	159.5	157.3	159.3	158.4	158.5	158.8	159.0
Finance, insurance, and real estate[1]	178.9	187.5	186.9	185.6	–	–	–	–	–	–
Services	173.1	179.1	179.0	178.8	173.1	175.8	176.9	178.4	179.0	178.8
PRIVATE SECTOR (in constant dollars)	95.4	94.8	94.3	–	95.3	95.0	94.4	94.4	94.2	–

[1] This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.
– Data not available.

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

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span:												
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	59.7	53.5	45.1	54.1	49.2	46.2	54.6	54.3	54.9	55.1	62.7	62.4
1987	51.6	60.8	52.2	59.2	–	–	–	–	–	–	–	–
Over 3-month span:												
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	49.7	48.4	44.9	47.3	54.1	54.9	62.4	65.1	63.0
1987	60.5	56.8	60.8	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.6	45.9	45.9	48.6	49.7	55.4	61.1	60.5	61.1	61.1
1987	64.9	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1985	46.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	48.9	48.6
1986	50.3	51.1	52.2	52.4	52.7	54.6	53.5	54.3	57.3	57.0	–	–
1987	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. 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.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1978	1979	1980	1981	1982	1983	1984	1985	1986
Noninstitutional population	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912	182,293
Labor force:									
Total (number)	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167	119,540
Percent of population	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1	65.6
Employed:									
Total (number)	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856	111,303
Percent of population	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5	61.1
Resident Armed Forces	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706	1,706
Civilian									
Total	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597
Agriculture	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179	3,163
Nonagricultural industries	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971	106,434
Unemployed:									
Total (number)	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237
Percent of labor force	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1	6.9
Not in labor force (number)	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744	62,752

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1978	1979	1980	1981	1982	1983	1984	1985	1986
Total employment	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614	100,167
Private sector	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199	83,432
Goods-producing	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930	24,938
Mining	851	958	1,027	1,139	1,128	952	966	930	792
Construction	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687	4,960
Manufacturing	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314	19,186
Service-producing	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684	75,229
Transportation and public utilities	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242	5,286
Wholesale trade	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740	5,853
Retail trade	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360	17,978
Finance, insurance, and real estate	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953	6,305
Services	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974	23,072
Government	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415	16,735
Federal	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875	2,899
State	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848	3,937
Local	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692	9,899

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

21. Annual data: Average hours and earnings of production or nonsupervisory workers on nonagricultural payrolls, by industry

Industry	1978	1979	1980	1981	1982	1983	1984	1985	1986
Private sector									
Average weekly hours	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9	34.8
Average hourly earnings (in dollars)	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57	8.75
Average weekly earnings (in dollars)	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09	304.50
Mining									
Average weekly hours	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4	42.3
Average hourly earnings (in dollars)	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98	12.45
Average weekly earnings (in dollars)	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93	526.64
Construction									
Average weekly hours	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7	37.5
Average hourly earnings (in dollars)	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31	12.42
Average weekly earnings (in dollars)	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09	465.75
Manufacturing									
Average weekly hours	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5	40.7
Average hourly earnings (in dollars)	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53	9.73
Average weekly earnings (in dollars)	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97	396.01
Transportation and public utilities									
Average weekly hours	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5	39.2
Average hourly earnings (in dollars)	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40	11.63
Average weekly earnings (in dollars)	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30	455.90
Wholesale trade									
Average weekly hours	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4	38.4
Average hourly earnings (in dollars)	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16	9.35
Average weekly earnings (in dollars)	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74	359.04
Retail trade									
Average weekly hours	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4	29.2
Average hourly earnings (in dollars)	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94	6.02
Average weekly earnings (in dollars)	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64	175.78
Finance, insurance, and real estate									
Average weekly hours	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4	36.5
Average hourly earnings (in dollars)	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94	8.34
Average weekly earnings (in dollars)	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02	304.41
Services									
Average weekly hours	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5	32.5
Average hourly earnings (in dollars)	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89	8.16
Average weekly earnings (in dollars)	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43	265.20

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

(June 1981=100)

Series	1985				1986				1987	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1987	
Civilian workers [2]	125.5	126.4	128.4	129.2	130.6	131.5	133.0	133.8	135.0	0.9	3.4
Workers, by occupational group:											
White-collar workers	127.3	128.3	130.7	131.6	133.1	134.2	136.0	136.9	138.5	1.2	4.1
Blue-collar workers	122.2	123.1	124.4	124.9	126.2	126.8	127.8	128.4	129.1	.5	2.3
Service occupations	127.8	128.0	130.9	131.8	133.1	133.7	135.4	136.6	138.0	1.0	3.7
Workers, by industry division:											
Goods-producing	123.2	123.9	124.9	125.5	126.9	128.1	128.8	129.5	130.2	.5	2.6
Manufacturing	123.9	124.6	125.5	126.0	127.7	128.7	129.3	130.1	130.7	.5	2.3
Service-producing	126.9	127.9	130.7	131.5	132.9	133.7	135.6	136.5	138.1	1.2	3.9
Services	131.9	132.6	136.4	137.1	138.8	139.4	142.4	143.6	145.2	1.1	4.6
Health services	–	–	–	–	–	–	–	–	–	1.2	4.7
Hospitals	–	–	–	–	–	–	–	–	–	1.0	–
Public administration [3]	130.1	130.3	134.2	134.8	136.8	138.0	140.6	141.6	144.1	1.8	5.3
Nonmanufacturing	126.2	127.2	129.7	130.6	131.9	132.8	134.6	135.4	136.9	1.1	3.8
Private industry workers	124.2	125.2	126.8	127.5	128.9	129.9	130.8	131.6	132.9	1.0	3.1
Workers, by occupational group:											
White-collar workers	125.8	127.1	128.8	129.8	131.3	132.5	133.5	134.3	136.1	1.3	3.7
Professional specialty and technical occupations	–	–	–	–	–	–	–	–	–	1.2	3.7
Executive, administrative, and managerial occupations	–	–	–	–	–	–	–	–	–	1.8	4.3
Sales occupations	–	–	–	–	–	–	–	–	–	1.1	2.8
Administrative support occupations, including clerical	–	–	–	–	–	–	–	–	–	1.1	3.4
Blue-collar workers	121.9	122.8	124.0	124.4	125.7	126.3	127.2	127.8	128.4	.5	2.1
Precision production, craft, and repair occupation	–	–	–	–	–	–	–	–	–	.5	2.1
Machine operators, assemblers, and inspectors	–	–	–	–	–	–	–	–	–	.5	2.2
Transportation and material moving occupations	–	–	–	–	–	–	–	–	–	.5	2.6
Handlers, equipment cleaners, helpers, and laborers	–	–	–	–	–	–	–	–	–	.3	1.8
Service occupations	126.3	126.5	128.8	129.5	130.9	131.1	132.3	133.5	134.7	.9	2.9
Workers, by industry division:											
Goods-producing	123.0	123.8	124.6	125.3	126.7	127.8	128.6	129.2	129.9	.5	2.5
Construction	–	–	–	–	–	–	–	–	–	.9	3.4
Manufacturing	123.9	124.6	125.5	126.0	127.7	128.7	129.3	130.1	130.7	.5	2.3
Durables	–	–	–	–	–	–	–	–	–	.3	1.9
Nondurables	–	–	–	–	–	–	–	–	–	.8	3.4
Service-producing	125.2	126.4	128.7	129.4	130.8	131.6	132.7	133.5	135.3	1.3	3.4
Transportation and public utilities	–	–	–	–	–	–	–	–	–	.9	1.9
Transportation	–	–	–	–	–	–	–	–	–	1.0	1.2
Public utilities	–	–	–	–	–	–	–	–	–	.9	2.6
Wholesale and retail trade	–	–	–	–	–	–	–	–	–	.8	2.8
Wholesale trade	–	–	–	–	–	–	–	–	–	1.2	3.9
Retail trade	–	–	–	–	–	–	–	–	–	.6	2.3
Finance, insurance, and real estate	–	–	–	–	–	–	–	–	–	2.6	4.9
Service	–	–	–	–	–	–	–	–	–	1.5	4.3
Health services	–	–	–	–	–	–	–	–	–	1.3	4.9
Hospitals	–	–	–	–	–	–	–	–	–	1.1	–
Nonmanufacturing	124.4	125.6	127.6	128.4	129.7	130.6	131.7	132.4	134.1	1.3	3.4
State and local government workers	131.7	132.0	136.5	137.5	138.9	139.7	143.6	144.7	145.9	.8	5.0
Workers, by occupational group:											
White-collar workers	132.5	132.9	137.6	138.6	140.0	140.5	145.0	146.0	147.2	.8	5.1
Blue-collar workers	128.1	128.5	131.9	132.7	134.7	136.3	138.5	139.5	140.8	.9	4.5
Workers, by industry division:											
Services	132.8	133.2	137.9	139.1	140.4	140.8	145.5	146.6	147.3	.5	4.9
Hospitals and other services [4]	131.1	131.5	134.1	135.2	136.8	137.9	139.4	141.1	142.5	1.0	4.2
Health services	–	–	–	–	–	–	–	–	–	.8	4.1
Schools	133.4	133.7	139.1	140.3	141.5	141.7	147.6	148.4	148.9	.3	5.2
Elementary and secondary	134.4	134.6	140.9	142.0	143.0	143.2	149.4	150.3	150.5	.1	5.2
Public administration [3]	130.1	130.3	134.2	134.8	136.8	138.0	140.6	141.6	144.1	1.8	5.3

[1] Cost (cents per hour worked) measured in the Employment Cost Index consists of wages, salaries, and employer cost of employee benefits.

[2] Consist of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.

[3] Consist of legislative, judicial, administrative, and regulatory activities.

[4] Includes, for example, library, social, and health services.

– Data not available.

23. Employment Cost Index, wages and salaries, by occupation and industry group

(June 1981 = 100)

Series	1985				1986				1987	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1987	
Civilian workers [1]	123.1	124.2	126.3	127.0	128.3	129.3	130.7	131.5	132.8	1.0	3.5
Workers, by occupational group:											
White-collar workers	125.2	126.4	128.8	129.8	131.2	132.4	134.1	135.0	136.6	1.2	4.1
Blue-collar workers	119.3	120.5	122.0	122.3	123.4	124.1	125.0	125.6	126.2	.5	2.3
Service occupations	124.8	125.3	128.0	128.6	129.8	130.0	131.7	132.8	134.2	1.1	3.4
Workers, by industry division											
Goods-producing	120.3	121.5	122.5	123.1	124.4	125.6	126.3	127.0	127.8	.6	2.7
Manufacturing	121.0	122.3	123.2	123.8	125.3	126.5	127.2	127.9	128.7	.6	2.7
Service-producing	124.7	125.8	128.6	129.4	130.7	131.5	133.4	134.2	135.8	1.2	3.9
Services	129.7	130.5	134.2	134.8	136.4	137.0	139.9	141.1	142.7	1.1	4.6
Health services	–	–	–	–	–	–	–	–	–	1.3	5.0
Hospitals	–	–	–	–	–	–	–	–	–	1.2	–
Public administration [2]	127.0	127.2	131.4	132.0	133.8	134.6	137.5	138.1	140.5	1.7	5.0
Nonmanufacturing	123.9	125.0	127.6	128.4	129.6	130.4	132.2	133.0	134.5	1.1	3.8
Private industry workers	122.0	123.3	124.9	125.6	126.8	127.9	128.8	129.5	130.8	1.0	3.2
Workers, by occupational group:											
White-collar workers	124.0	125.5	127.3	128.3	129.6	131.1	132.0	132.7	134.6	1.4	3.9
Professional specialty and technical occupations	127.7	128.7	131.2	131.5	132.7	134.0	135.4	136.4	138.4	1.5	4.3
Executive, administrative, and managerial occupations	123.8	126.5	127.7	128.4	130.5	132.1	132.4	133.5	135.6	1.6	3.9
Sales occupations	116.3	117.4	119.3	122.5	122.4	124.3	125.2	124.9	126.7	1.4	3.5
Administrative support occupations, including clerical	124.7	125.6	127.1	127.9	129.6	130.8	131.7	132.7	134.3	1.2	3.6
Blue-collar workers	119.1	120.3	121.7	122.0	123.1	123.7	124.5	125.1	125.6	.4	2.0
Precision production, craft, and repair occupations	120.8	122.0	123.7	123.8	125.3	125.7	126.7	127.4	127.9	.4	2.1
Machine operators, assemblers, and inspectors	118.9	120.1	121.1	121.6	122.6	123.6	124.1	124.9	125.5	.5	2.4
Transportation and material moving occupations	114.5	115.7	117.7	117.8	118.0	118.9	119.8	120.1	120.5	.3	2.1
Handlers, equipment cleaners, helpers, and laborers	116.7	118.5	118.6	119.8	120.0	120.3	120.9	121.4	121.9	.4	1.6
Service occupations	123.8	124.4	126.3	126.6	128.0	128.0	128.9	130.1	131.4	1.0	2.7
Workers, by industry division:											
Goods-producing	120.2	121.4	122.3	122.9	124.2	125.4	126.1	126.8	127.5	.6	2.7
Construction	115.5	116.6	117.3	117.9	118.3	119.8	120.5	120.8	121.7	.7	2.9
Manufacturing	121.0	122.3	123.2	123.8	125.3	126.5	127.2	127.9	128.7	.6	2.7
Durables	120.6	122.0	122.7	123.4	124.8	125.8	126.4	127.2	127.7	.4	2.3
Nondurables	121.6	122.6	124.0	124.6	126.1	127.9	128.5	129.3	130.5	.9	3.5
Service-producing	123.4	124.8	127.0	127.8	129.0	129.9	130.9	131.6	133.4	1.4	3.4
Transportation and public utilities	121.7	122.8	124.8	125.2	126.3	126.6	127.3	127.5	128.1	.5	1.4
Transportation	–	–	–	–	–	–	–	–	–	.3	.4
Public utilities	–	–	–	–	–	–	–	–	–	.7	2.7
Wholesale and retail trade	118.8	121.1	122.7	123.7	124.5	125.8	126.5	126.9	127.9	.8	2.7
Wholesale trade	123.7	126.8	127.7	128.3	129.7	131.2	131.8	133.1	134.8	1.3	3.9
Retail trade	116.9	118.9	120.8	121.9	122.5	123.7	124.4	124.5	125.2	.6	2.2
Finance, insurance, and real estate	122.0	121.7	124.1	126.5	126.6	128.0	129.0	130.0	133.5	2.7	5.5
Services	129.9	131.0	133.9	134.1	136.2	136.9	138.2	139.5	141.8	1.6	4.1
Health services	–	–	–	–	–	–	–	–	–	1.4	5.2
Hospitals	–	–	–	–	–	–	–	–	–	1.3	–
Nonmanufacturing	122.6	123.9	125.9	126.6	127.7	128.7	129.7	130.4	131.9	1.2	3.3
State and local government workers	128.4	128.7	133.2	134.2	135.5	136.0	140.4	141.4	142.5	.8	5.2
Workers, by occupational group											
White-collar workers	129.3	129.6	134.3	135.3	136.6	137.0	141.8	142.8	143.9	.8	5.3
Blue-collar workers	124.2	124.5	127.9	128.4	130.4	131.9	134.5	135.1	136.3	.9	4.5
Workers, by industry division											
Services	129.4	129.7	134.5	135.6	136.8	137.1	142.1	143.3	143.9	.4	5.2
Hospitals and other services [3]	127.7	128.0	130.2	130.9	132.4	133.3	135.8	137.3	138.6	.9	4.7
Health services	–	–	–	–	–	–	–	–	–	.7	4.1
Schools	129.9	130.2	135.8	137.0	138.0	138.2	144.1	145.1	145.5	.3	5.4
Elementary and secondary	130.8	131.1	137.5	138.5	139.4	139.4	145.7	146.4	146.5	.1	5.1
Public administration [2]	127.0	127.2	131.4	132.0	133.8	134.6	137.5	138.1	140.5	1.7	5.0

[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] Includes, for example, library, social and health services.

– Data not available.

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

(June 1981=100)

Series	1985				1986				1987	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1987	
COMPENSATION											
Workers, by bargaining status[1]											
Union	124.8	125.5	126.5	127.1	128.4	128.7	129.4	129.8	130.5	0.5	1.6
Goods-producing	123.6	123.9	124.6	125.2	126.4	126.7	127.3	127.5	128.0	.4	1.3
Service-producing	126.7	128.0	129.5	130.2	131.6	131.9	132.8	133.4	134.4	.7	2.1
Manufacturing	124.2	124.2	125.0	125.5	127.0	126.9	127.5	127.9	128.0	.1	.8
Nonmanufacturing	125.3	126.6	127.8	128.6	129.7	130.4	131.2	131.5	132.6	.8	2.2
Nonunion	123.8	125.0	126.8	127.5	129.0	130.2	131.2	132.1	133.6	1.1	3.6
Goods-producing	122.4	123.5	124.4	125.1	126.7	128.2	129.1	130.0	130.8	.6	3.2
Service-producing	124.7	125.8	128.3	129.0	130.4	131.4	132.5	133.4	135.3	1.4	3.8
Manufacturing	123.6	124.8	125.7	126.3	128.1	129.7	130.4	131.4	132.2	.6	3.2
Nonmanufacturing	123.9	125.1	127.3	128.1	129.5	130.4	131.6	132.5	134.3	1.4	3.7
Workers, by region [1]											
Northeast	125.1	126.4	128.8	129.9	131.6	133.3	134.2	135.2	137.4	1.6	4.4
South	124.2	125.2	126.5	127.2	128.7	129.6	130.7	131.4	132.1	.5	2.6
Midwest (formerly North Central)	122.0	122.7	124.2	124.6	125.9	126.2	127.3	128.1	129.1	.8	2.5
West	126.8	127.9	129.1	129.8	130.8	131.6	132.1	132.8	134.1	1.0	2.5
Workers, by area size [1]											
Metropolitan areas	124.7	125.7	127.3	128.1	129.5	130.5	131.4	132.2	133.5	1.0	3.1
Other areas	121.4	122.5	123.9	123.9	125.5	126.4	127.2	127.9	129.0	.9	2.8
WAGES AND SALARIES											
Workers, by bargaining status [1]											
Union	121.7	123.0	124.1	124.7	125.6	126.1	126.9	127.2	127.7	.4	1.7
Goods-producing	120.0	121.3	122.2	122.7	123.4	124.1	124.5	124.8	125.0	.2	1.3
Service-producing	124.2	125.7	127.1	127.8	129.0	129.3	130.5	130.9	131.7	.6	2.1
Manufacturing	120.4	121.7	122.8	123.3	124.2	124.6	125.0	125.5	125.6	.1	1.1
Nonmanufacturing	122.8	124.1	125.3	125.9	126.9	127.4	128.5	128.7	129.5	.6	2.0
Nonunion	122.1	123.4	125.2	125.9	127.3	128.5	129.4	130.3	131.8	1.2	3.5
Goods-producing	120.2	121.4	122.3	123.0	124.5	126.1	127.0	127.8	128.8	.8	3.5
Service-producing	123.1	124.4	126.9	127.7	128.9	129.9	130.8	131.7	133.6	1.4	3.6
Manufacturing	121.5	122.8	123.7	124.4	126.1	127.7	128.5	129.5	130.6	.8	3.6
Nonmanufacturing	122.3	123.6	125.9	126.6	127.8	128.9	129.8	130.6	132.4	1.4	3.6
Workers, by region [1]											
Northeast	123.0	124.6	126.8	128.1	129.2	131.3	132.3	133.1	135.4	1.7	4.8
South	122.3	123.4	124.8	125.4	126.8	127.8	128.8	129.4	130.1	.5	2.6
Midwest (formerly North Central)	119.6	121.1	122.5	122.9	124.2	124.4	125.3	126.2	127.4	1.0	2.6
West	124.0	125.1	126.6	127.1	128.1	128.9	129.3	130.1	131.2	.8	2.4
Workers, by area size[1]											
Metropolitan areas	122.4	123.8	125.5	126.3	127.4	128.5	129.4	130.2	131.6	1.1	3.3
Other areas	119.6	120.6	121.9	122.0	123.6	124.5	125.0	125.6	126.6	.8	2.4

[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. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1984	1985	1985			1986				1987
			II	III	IV	I	II	III	IV	I[p]
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.5	2.0	2.0	0.6	0.7	0.7	2.7	1.7
Annual rate over life of contract	2.8	2.7	3.4	3.0	1.4	1.2	1.6	1.2	2.4	2.4
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.5	2.0	2.1	.8	1.3	.8	2.0	.9
Annual rate over life of contract	2.4	2.7	2.8	3.1	1.9	1.5	2.0	1.5	2.1	1.7
Effective adjustments:										
Total effective wage adjustment [3]	3.7	3.3	.8	1.2	.5	.6	.7	.5	.5	.4
From settlements reached in period	.8	.7	.2	.2	.1	[4].0	.2	.1	.2	[4].0
Deferred from settlements reached in earlier periods	2.0	1.8	.5	.5	.2	.4	.6	.5	.2	.3
From cost-of-living-adjustments clauses	.9	.7	.1	.4	.1	.2	[4].0	[4].0	.1	.1

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.
[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.
[3] Because of rounding, total may not equal sum of parts.
[4] Between –0.05 and 0.05 percent.
[p] = preliminary.

26. Average specified compensation and wage adjustments, major collective bargaining settlements in private industry situations covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1985			1986				1987
	II	III	IV	I	II	III	IV	I[p]
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	3.4	3.1	2.6	2.3	1.4	0.9	1.1	1.2
Annual rate over life of contract	2.7	2.7	2.7	2.5	2.0	1.4	1.6	1.7
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	2.4	2.4	2.3	2.0	1.6	1.2	1.2	1.2
Contracts with COLA clauses	2.3	1.9	1.6	1.6	1.8	2.2	1.9	1.9
Contracts without COLA clauses	2.4	2.7	2.7	2.2	1.5	.8	.9	.8
Annual rate over life of contract	2.4	2.5	2.7	2.5	2.2	1.7	1.8	1.8
Contracts with COLA clauses	1.5	1.8	2.5	2.5	2.5	2.0	1.7	1.8
Contracts without COLA clauses	2.8	3.0	2.8	2.5	2.1	1.6	1.8	1.8
Manufacturing								
First year of contract	2.0	1.5	.8	.8	.1	–1.0	–1.2	–1.7
Contracts with COLA clauses	1.9	1.5	.8	.8	.7	1.1	1.3	1.2
Contracts without COLA clauses	2.2	1.5	.9	.9	–.4	–2.0	–2.8	–3.6
Annual rate over life of contract	1.5	1.6	1.8	1.8	1.4	.3	.2	–.1
Contracts with COLA clauses	1.0	1.4	2.1	2.1	2.0	1.1	.9	.8
Contracts without COLA clauses	3.0	2.4	1.6	1.5	.9	–.1	–.2	–.6
Nonmanufacturing								
First year of contract	2.7	3.2	3.3	2.8	2.6	2.1	2.0	2.2
Contracts with COLA clauses	4.3	4.0	3.6	3.5	3.4	2.7	2.1	2.2
Contracts without COLA clauses	2.5	3.0	3.3	2.7	2.4	1.9	2.0	2.2
Annual rate over life of contract	2.9	3.3	3.3	3.0	2.8	2.3	2.3	2.4
Contracts with COLA clauses	3.8	3.9	3.6	3.6	3.3	2.5	2.1	2.2
Contracts without COLA clauses	2.8	3.2	3.3	2.8	2.6	2.2	2.4	2.5
Construction								
First year of contract	1.1	1.0	1.5	1.6	2.3	2.3	2.2	2.4
Contracts with COLA clauses	9.2	[1]	[1]	[1]	1.1	1.4	1.4	1.6
Contracts without COLA clauses	1.0	[1]	[1]	[1]	2.4	2.4	2.3	2.4
Annual rate over life of contract	1.7	1.7	2.1	2.2	2.5	2.6	2.5	2.5
Contracts with COLA clauses	4.6	[1]	[1]	[1]	1.2	1.6	1.6	1.4
Contracts without COLA clauses	1.7	[1]	[1]	[1]	2.6	2.6	2.5	2.6

[1] Data do not meet publication standards.
[p] = preliminary.

27. Average effective wage adjustments, private industry collective bargaining situations covering 1,000 workers or more during 4-quarter periods (in percent)

Effective wage adjustment	Average for four quarters ending--						
	1985		1986				1987
	III	IV	I	II	III	IV	I[p]
For all workers:[1]							
Total	3.5	3.3	3.1	2.9	2.3	2.3	2.0
From settlements reached in period	.9	.7	.6	.5	.5	.5	.4
Deferred from settlements reached in earlier period	1.8	1.8	1.7	1.8	1.6	1.7	1.5
From cost-of-living-adjustments clauses	.8	.7	.8	.7	.2	.2	.1
For workers receiving changes:							
Total	4.3	4.1	4.0	3.8	3.1	2.8	2.4
From settlements reached in period	2.8	3.4	2.9	2.5	1.7	1.6	1.2
Deferred from settlements reached in earlier period	3.7	3.7	3.5	3.4	3.8	3.9	3.7
From cost-of-living-adjustments clauses	2.8	2.2	2.5	2.0	1.0	1.0	.6

[1] Because of rounding, total may not equal sum of parts.

[p] = preliminary.

28. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, State and local government collective bargaining situations covering 1,000 workers or more (in percent)

Measure	Annual average		
	1984	1985	1986
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	6.2
Annual rate over life of contract	5.4	5.1	6.0
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	5.7
Annual rate over life of contract	5.1	5.4	5.7
Effective adjustments:			
Total effective wage adjustment [3]	5.0	5.7	5.5
From settlements reached in period	1.9	4.1	2.4
Deferred from settlements reached in earlier periods	3.1	1.6	3.0
From cost-of-living-adjustment clauses	([4])	([4])	([4])

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.

[2] Adjustments are the net result of increases, decreases, and no changes in compensation or wages.

[3] Because of rounding, total may not equal sum of parts.

[4] Less than 0.05 percent.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1986									1987[p]			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Number of stoppages:															
Beginning in period	54	69	4	6	11	13	10	8	5	2	1	2	5	2	1
In effect during period	61	72	8	10	15	22	22	18	18	9	6	7	7	4	3
Workers involved:															
Beginning in period (in thousands)	323.9	533.1	7.2	29.7	198.0	46.7	113.3	39.4	44.3	8.7	3.0	7.3	37.6	10.2	1.2
In effect during period (in thousands)	584.1	899.5	18.3	41.9	206.8	83.1	153.0	87.4	109.9	67.8	49.4	46.9	41.6	14.2	5.4
Days idle:															
Number (in thousands)	7,079.0	11,861.0	287.1	296.9	3,677.0	859.1	1,371.6	1,225.6	1,423.7	940.4	933.2	828.6	194.1	100.4	112.8
Percent of estimated working time[1]	.03	.05	.01	.01	.18	.04	.07	.06	.06	.05	.04	.04	.01	.04	.05

[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' measure of strike idleness," *Monthly Labor Review,* October 1968, pp. 54-56.

[p] = preliminary

30. Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	322.2	328.4	325.3	326.3	327.9	328.0	328.6	330.2	330.5	330.8	331.1	333.1	334.4	335.9	337.7
All items (1957-59=100)	374.7	381.9	378.3	379.5	381.4	381.4	382.1	384.1	384.4	384.7	385.1	387.4	388.9	390.7	392.7
Food and beverages	302.0	311.8	308.5	309.4	309.5	312.2	314.6	315.1	315.6	316.4	317.0	320.5	321.6	321.6	322.5
Food	309.8	319.7	316.1	317.0	317.1	320.1	322.7	323.2	323.7	324.6	325.2	328.9	330.1	330.0	331.0
Food at home	296.8	305.3	301.5	302.1	301.6	305.5	308.9	309.0	309.5	309.9	310.2	315.2	316.6	315.8	316.9
Cereals and bakery products	317.0	325.8	322.5	323.8	326.1	326.3	328.2	328.5	328.4	328.5	329.5	331.5	332.7	333.2	335.6
Meats, poultry, fish, and eggs	263.4	275.1	264.2	263.4	265.1	274.9	283.0	284.7	284.9	286.3	287.3	289.2	286.4	286.5	285.9
Dairy products	258.0	258.4	256.8	257.1	257.2	258.4	258.3	258.5	260.0	261.2	262.2	263.3	264.7	263.7	263.2
Fruits and vegetables	325.7	328.7	329.5	336.5	327.8	330.3	332.1	329.1	328.6	327.8	328.5	344.3	355.2	352.5	360.6
Other foods at home	361.1	373.6	376.1	374.6	374.1	373.7	374.0	373.7	374.4	373.9	372.2	378.7	380.0	378.6	377.6
Sugar and sweets	398.8	411.1	411.4	411.2	411.5	412.4	413.1	413.7	413.4	412.4	411.8	415.8	415.8	417.2	417.4
Fats and oils	294.4	287.8	288.5	287.2	287.0	287.3	287.8	285.6	284.6	285.4	286.0	293.2	290.3	294.6	291.8
Nonalcoholic beverages	451.7	478.2	487.4	481.9	480.0	478.3	476.9	475.7	477.5	476.9	470.2	482.6	481.9	475.4	469.8
Other prepared foods	294.2	301.9	300.2	301.4	301.7	301.8	303.2	303.8	304.7	303.9	305.2	308.4	312.1	311.3	313.2
Food away from home	346.6	360.1	357.0	358.8	360.2	360.8	361.8	363.3	364.0	365.8	367.1	368.6	369.6	370.9	371.5
Alcoholic beverages	229.5	239.7	239.5	239.4	240.1	240.4	240.1	240.4	240.6	240.5	240.8	242.5	243.2	243.6	244.3
Housing	349.9	360.2	358.0	358.5	361.2	361.5	362.4	363.7	363.0	361.7	362.1	363.9	365.1	366.4	367.7
Shelter	382.0	402.9	400.1	400.9	401.6	403.5	405.2	407.6	409.5	410.2	410.4	412.3	414.0	415.9	418.0
Renters' costs (12/82=100)	115.4	121.9	120.9	121.1	121.6	122.5	122.9	123.6	124.0	124.3	124.2	125.3	125.8	126.4	127.1
Rent, residential	264.6	280.0	277.9	278.4	279.4	281.2	281.7	283.2	284.6	285.6	286.0	287.1	288.0	288.3	288.8
Other renters' costs	398.4	416.2	410.8	411.3	415.2	420.1	425.7	429.1	427.3	425.5	418.2	428.3	430.8	438.7	446.1
Homeowners' costs (12/82=100)	113.1	119.4	118.7	118.9	119.0	119.4	119.9	120.7	121.3	121.5	121.6	122.0	122.5	123.0	123.6
Owners' equivalent rent (12/82=100)	113.2	119.4	118.7	118.9	119.0	119.4	119.9	120.7	121.3	121.5	121.6	122.0	122.5	123.0	123.6
Household insurance (12/82=100)	112.4	119.2	118.3	118.8	118.9	119.9	119.9	120.2	120.6	121.1	121.6	121.8	122.0	122.2	122.4
Maintenance and repairs	368.9	373.8	367.6	367.1	366.6	369.2	376.4	376.2	379.0	377.1	380.0	382.1	381.9	383.4	382.4
Maintenance and repair services	421.1	430.9	424.6	425.5	427.4	430.1	434.2	437.0	437.5	433.7	433.1	437.7	436.1	439.4	437.1
Maintenance and repair commodities	269.6	269.7	264.5	262.9	260.7	262.7	271.3	268.7	273.0	272.9	278.3	277.7	278.8	278.5	278.7
Fuel and other utilities	393.6	384.7	381.8	382.5	393.8	389.4	389.5	388.3	379.1	371.1	371.0	373.7	374.8	374.9	374.2
Fuels	488.1	463.1	459.6	460.6	477.0	469.2	469.0	467.2	450.3	437.8	438.1	443.7	445.1	444.6	442.0
Fuel oil, coal, and bottled gas	619.5	501.5	518.3	496.8	486.6	459.4	447.3	453.5	451.9	452.0	460.6	487.9	503.2	500.6	500.5
Gas (piped) and electricity	452.7	446.7	439.2	444.6	466.0	462.3	464.5	461.1	441.4	426.7	425.3	428.8	428.9	428.7	425.9
Other utilities and public services	240.7	253.1	251.3	251.5	255.2	255.6	255.9	255.6	257.1	255.4	254.9	254.9	255.6	256.2	257.0
Household furnishings and operations	247.2	250.4	249.6	249.9	250.2	250.5	250.5	251.5	251.6	251.2	252.4	253.1	253.5	254.3	255.2
Housefurnishings	200.1	201.1	200.4	200.8	200.8	201.2	200.9	202.2	202.2	201.4	202.5	203.0	203.2	203.8	204.7
Housekeeping supplies	313.6	319.5	318.5	318.3	319.6	319.5	319.8	320.1	319.8	320.4	322.9	324.6	325.3	327.7	328.2
Housekeeping services	338.9	346.6	345.4	345.8	346.1	346.6	347.4	347.8	348.5	348.5	349.3	349.8	350.6	351.0	352.2
Apparel and upkeep	206.0	207.8	207.3	206.4	204.5	203.2	207.0	212.1	213.2	213.1	210.9	207.1	208.4	215.2	218.7
Apparel commodities	191.6	192.0	191.7	190.7	188.4	187.0	191.2	196.6	197.6	197.4	194.9	190.9	192.1	199.1	202.6
Men's and boys' apparel	197.9	200.0	199.7	200.2	198.1	195.8	197.8	203.2	204.3	205.3	202.3	199.2	199.9	203.5	205.6
Women's and girls' apparel	169.5	168.0	168.0	164.9	161.3	159.8	167.2	175.7	176.4	175.0	171.7	166.6	167.8	177.0	182.2
Infants' and toddlers' apparel	299.7	312.7	316.6	318.5	319.7	307.5	310.6	309.7	312.0	307.0	312.7	301.8	304.5	319.6	319.1
Footwear	212.1	211.2	211.4	211.5	210.0	209.1	209.6	212.0	215.1	215.1	214.0	209.9	211.0	216.5	219.2
Other apparel commodities	215.5	217.9	215.3	215.4	215.8	218.1	221.6	221.1	219.8	221.1	220.0	223.2	226.0	227.4	227.0
Apparel services	320.9	334.6	332.9	333.6	334.3	334.6	334.7	336.7	338.3	339.0	339.5	342.5	343.2	344.7	344.7
Transportation	319.9	307.5	303.3	305.7	308.6	304.7	301.3	302.2	302.6	304.3	304.8	308.5	310.0	310.6	313.3
Private transportation	314.2	299.5	295.3	297.8	300.8	296.5	292.8	293.7	294.1	295.8	295.9	299.8	301.3	301.9	304.8
New vehicles	214.9	224.1	221.0	222.8	224.0	224.5	224.5	224.2	226.7	230.2	231.7	232.3	229.9	229.2	229.9
New cars	215.2	224.4	221.2	223.0	224.2	224.7	224.7	224.5	227.1	230.7	232.2	233.0	230.2	229.4	230.4
Used cars	379.7	363.2	364.8	363.6	362.5	360.3	358.0	359.5	360.6	361.0	356.6	354.6	356.9	363.0	371.6
Motor fuel	373.8	292.1	279.5	289.3	299.4	280.2	265.9	271.1	263.2	260.9	261.9	275.8	288.1	290.0	297.2
Gasoline	373.3	291.4	278.6	288.7	299.1	279.8	265.3	270.6	262.6	260.2	261.2	275.1	287.5	289.4	296.7
Maintenance and repair	351.4	363.1	360.6	361.3	362.1	363.4	364.3	365.0	365.7	368.4	370.7	371.3	373.0	373.0	376.1
Other private transportation	287.6	303.9	301.6	301.3	303.0	304.5	304.5	302.3	307.6	311.6	312.0	314.9	314.0	314.4	315.1
Other private transportation commodities	202.6	201.6	202.2	202.4	201.5	201.6	201.8	200.3	198.9	200.0	200.4	202.2	201.8	202.3	200.8
Other private transportation services	312.8	333.9	330.9	330.4	332.8	334.6	334.6	332.3	339.3	344.1	344.5	347.7	346.7	347.0	348.6
Public transportation	402.8	426.4	422.2	423.7	425.4	428.0	428.0	428.5	428.7	431.7	437.5	438.9	439.8	441.4	440.8
Medical care	403.1	433.5	428.0	429.7	432.0	434.8	437.5	439.7	442.3	444.6	446.8	449.6	452.4	455.0	457.3
Medical care commodities	256.7	273.6	271.3	272.3	273.3	275.4	276.0	276.7	277.5	278.2	280.8	282.4	283.9	286.3	287.5
Medical care services	435.1	468.6	462.3	464.2	466.8	469.8	473.0	475.7	478.8	481.5	483.4	486.5	489.6	492.1	494.7
Professional services	367.3	390.9	386.9	388.3	390.3	391.7	393.3	396.1	398.0	399.8	401.0	403.7	406.8	409.6	412.5
Hospital and related services	224.0	237.4	234.2	234.4	235.0	237.4	239.5	240.1	242.3	243.8	245.0	246.7	248.1	249.0	250.1
Entertainment	265.0	274.1	272.3	272.9	273.9	274.4	274.7	275.3	276.5	277.4	277.4	278.3	278.7	279.8	281.3
Entertainment commodities	260.6	265.9	264.8	265.3	266.1	265.8	266.1	265.9	266.7	267.6	267.4	268.1	268.1	269.9	270.8
Entertainment services	271.8	286.3	283.5	284.2	285.5	287.0	287.3	289.2	290.8	291.8	292.2	293.3	294.1	294.5	296.6
Other goods and services	326.6	346.4	341.8	342.1	342.6	344.9	346.4	353.3	354.6	354.9	355.2	358.1	359.7	360.3	361.1
Tobacco products	328.5	351.0	346.5	346.5	347.1	354.3	356.2	356.8	357.2	357.3	357.6	364.9	368.3	369.6	370.4
Personal care	281.9	291.3	290.5	290.9	291.0	291.1	292.3	292.0	293.1	293.4	293.6	295.7	296.4	296.4	297.3
Toilet goods and personal care appliances	278.5	287.9	287.7	287.9	287.0	287.1	289.1	288.2	289.9	289.6	289.6	291.3	292.1	292.0	292.9
Personal care services	286.0	295.4	294.1	294.7	295.7	295.8	296.2	296.5	297.1	297.9	298.2	300.8	301.3	301.5	302.3
Personal and educational expenses	397.1	428.8	418.9	419.5	420.4	421.2	422.9	445.2	447.6	448.2	448.8	450.6	452.0	452.8	453.8
School books and supplies	350.8	380.3	374.4	374.5	375.7	375.9	376.9	389.4	392.3	392.5	392.6	400.7	403.4	403.9	404.4
Personal and educational services	407.7	440.1	429.5	430.2	431.0	431.9	433.7	457.8	460.2	460.8	461.6	462.8	464.2	465.0	466.0

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	322.2	328.4	325.3	326.3	327.9	328.0	328.6	330.2	330.5	330.8	331.1	333.1	334.4	335.9	337.7
Commodities	286.7	283.9	281.2	282.1	282.8	281.9	281.9	283.5	283.6	284.0	284.2	286.3	287.7	289.5	291.4
Food and beverages	302.0	311.8	308.5	309.4	309.5	312.2	314.6	315.1	315.6	316.4	317.0	320.5	321.6	321.6	322.5
Commodities less food and beverages	274.6	264.7	262.5	263.4	264.3	261.4	260.1	262.3	262.1	262.4	262.4	263.7	265.2	267.9	270.4
Nondurables less food and beverages	282.1	265.2	262.0	263.3	264.7	259.8	258.1	261.5	260.4	260.0	260.0	261.8	265.4	269.7	273.2
Apparel commodities	191.6	192.0	191.7	190.7	188.4	187.0	191.2	196.6	197.6	197.4	194.9	190.9	192.1	199.1	202.6
Nondurables less food, beverages, and apparel	333.3	307.3	302.6	305.2	308.4	301.7	296.9	299.5	297.2	296.7	298.0	304.8	310.3	311.9	315.0
Durables	270.7	270.2	269.2	269.6	269.9	269.6	269.0	269.3	270.5	271.8	271.7	272.4	271.2	271.7	273.0
Services	381.5	400.5	396.8	397.9	401.0	402.3	403.7	405.5	406.1	406.1	406.6	408.6	409.9	411.2	412.8
Rent of shelter (12/82=100)	113.9	120.2	119.4	119.7	119.9	120.5	120.9	121.7	122.2	122.4	122.5	123.1	123.6	124.1	124.8
Household services less rent of shelter (12/82=100)	111.2	112.8	111.6	112.3	115.2	114.9	115.3	114.9	112.9	111.0	110.8	111.3	111.5	111.5	111.4
Transportation services	337.0	356.3	353.2	353.4	355.3	357.1	357.3	356.2	360.5	364.4	366.2	368.5	368.5	369.0	370.5
Medical care services	435.1	468.6	462.3	464.2	466.8	469.8	473.0	475.7	478.8	481.5	483.4	486.5	489.6	492.1	494.7
Other services	314.1	331.8	327.6	328.2	329.2	330.1	330.8	337.9	339.5	340.3	340.8	342.2	343.1	343.7	345.0
Special indexes:															
All items less food	323.3	328.6	325.7	326.7	328.6	328.0	328.1	330.0	330.2	330.4	330.6	332.2	333.6	335.4	337.3
All items less shelter	303.9	306.7	303.6	304.7	306.5	306.1	306.4	307.9	307.8	308.0	308.3	310.3	311.5	312.9	314.6
All items less homeowners' costs (12/82=100)	109.7	111.2	110.1	110.4	111.1	111.0	111.2	111.7	111.7	111.8	111.9	112.7	113.1	113.6	114.2
All items less medical care	317.7	322.6	319.7	320.6	322.2	322.1	322.6	324.2	324.4	324.5	324.8	326.7	328.0	329.4	331.1
Commodities less food	272.5	263.4	261.2	262.1	263.0	260.2	259.0	261.1	260.9	261.2	261.2	262.5	264.0	266.5	268.9
Nondurables less food	277.2	262.2	259.2	260.5	261.8	257.3	255.6	258.9	257.8	257.4	257.5	259.2	262.6	266.4	269.6
Nondurables less food and apparel	319.2	297.1	292.9	295.2	298.1	292.2	287.9	290.2	288.1	287.7	288.9	294.9	299.6	301.0	303.7
Nondurables	293.2	289.6	286.3	287.4	288.2	287.1	287.4	289.4	289.0	289.2	289.5	292.1	294.6	296.8	299.1
Services less rent of shelter (12/82=100)	113.5	118.7	117.4	117.8	119.2	119.5	119.8	120.2	120.1	120.0	120.2	120.8	121.1	121.3	121.6
Services less medical care	373.3	390.6	387.2	388.3	391.3	392.5	393.6	395.4	395.7	395.4	395.8	397.6	398.8	400.0	401.5
Energy	426.5	370.3	361.8	367.6	380.6	366.5	358.6	360.6	348.6	341.7	342.4	352.2	359.2	360.0	362.4
All items less energy	314.8	327.0	324.4	325.0	325.5	326.9	328.3	330.0	331.4	332.3	332.6	334.0	334.9	336.5	338.2
All items less food and energy	314.4	327.1	324.8	325.3	325.9	326.9	327.9	329.9	331.6	332.5	332.8	333.6	334.5	336.4	338.3
Commodities less food and energy	259.7	263.2	262.1	262.2	262.0	262.0	262.9	264.5	265.5	266.1	265.8	265.5	265.7	268.4	270.3
Energy commodities	409.9	322.4	313.3	319.3	327.1	306.6	292.4	297.7	290.6	288.5	290.5	306.1	319.2	320.9	328.0
Services less energy	375.9	397.1	393.8	394.5	395.9	397.7	399.0	401.4	403.7	405.0	405.7	407.5	408.9	410.4	412.3
Purchasing power of the consumer dollar:															
1967=$1.00	31.0	30.5	30.7	30.6	30.5	30.5	30.4	30.3	30.3	30.2	30.2	30.0	29.9	29.8	29.6
1957-59=$1.00	26.7	26.2	26.4	26.4	26.2	26.2	26.2	26.0	26.0	26.0	26.0	25.8	25.7	25.6	25.5
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	318.5	323.4	320.4	321.4	323.0	322.9	323.4	324.9	325.0	325.4	325.7	327.7	329.0	330.5	332.3
All items (1957-59=100)	370.4	376.1	372.6	373.7	375.6	375.5	376.1	377.8	378.0	378.4	378.8	381.1	382.6	384.4	386.5
Food and beverages	301.8	311.6	308.3	309.0	309.3	312.0	314.5	315.0	315.4	316.2	316.8	320.3	321.3	321.2	322.1
Food	309.3	319.2	315.6	316.4	316.6	319.5	322.3	322.8	323.3	324.2	324.8	328.4	329.5	329.4	330.2
Food at home	295.3	303.7	299.9	300.4	300.0	303.9	307.3	307.5	307.9	308.4	308.7	313.4	314.6	313.8	314.9
Cereals and bakery products	315.4	324.2	320.9	322.1	324.5	324.6	326.7	326.8	326.8	327.0	328.0	330.0	331.2	331.6	334.1
Meats, poultry, fish, and eggs	262.7	274.4	263.5	262.6	264.2	274.0	282.2	284.0	284.4	285.8	286.6	288.5	285.8	285.6	285.2
Dairy products	256.9	257.1	255.5	255.8	255.9	257.0	256.9	257.1	258.6	259.9	260.9	262.0	263.6	262.4	262.0
Fruits and vegetables	320.3	323.8	325.0	331.6	323.5	325.6	327.2	324.2	322.9	322.2	323.4	338.2	348.2	346.0	353.6
Other foods at home	361.5	373.5	376.0	374.3	373.9	373.4	373.9	373.5	374.4	373.9	372.2	378.9	380.0	378.8	377.8
Sugar and sweets	398.3	410.5	410.9	410.6	410.9	411.9	412.6	413.0	412.8	411.9	411.2	414.9	414.8	416.5	416.5
Fats and oils	293.9	287.2	287.8	286.6	286.4	286.6	287.1	285.1	284.1	284.5	285.5	292.6	289.9	293.9	291.3
Nonalcoholic beverages	453.2	478.1	487.0	481.2	479.5	477.6	476.9	475.5	477.7	477.1	470.3	483.7	482.5	476.9	471.3
Other prepared foods	295.7	303.2	301.6	302.7	303.0	303.1	304.5	305.2	305.9	305.3	306.6	309.7	313.3	312.6	314.5
Food away from home	349.7	363.4	360.2	362.0	363.5	364.2	365.2	366.6	367.3	369.2	370.5	372.2	373.2	374.3	374.8
Alcoholic beverages	232.6	242.5	242.3	242.2	242.9	243.4	243.0	243.4	243.5	243.4	243.9	245.4	246.2	246.5	247.2
Housing	343.3	353.2	351.1	351.6	354.3	354.5	355.4	356.6	355.6	354.3	354.8	356.3	357.5	358.8	360.0
Shelter	370.4	390.7	388.1	388.8	389.4	391.5	392.9	395.2	397.1	397.8	398.1	399.6	401.2	403.2	405.1
Renters' costs (12/84=100)	103.6	109.5	108.6	108.8	109.3	110.0	110.3	110.9	111.4	111.7	111.6	112.3	112.7	113.3	113.8
Rent, residential	263.7	279.1	277.0	277.5	278.5	280.3	280.8	282.2	283.6	284.6	285.1	286.1	287.0	287.3	287.8
Other renters' costs	397.9	416.0	411.6	411.3	415.5	420.4	426.1	428.9	426.7	424.8	417.3	424.9	427.6	439.0	448.1
Homeowners' costs (12/84=100)	103.1	108.8	108.1	108.3	108.4	108.8	109.3	110.0	110.5	110.7	110.8	111.1	111.6	112.1	112.7
Owners' equivalent rent (12/84=100)	103.0	108.8	108.1	108.3	108.4	108.8	109.2	110.0	110.5	110.7	110.8	111.1	111.5	112.1	112.7
Household insurance (12/84=100)	103.2	109.4	108.5	109.0	109.1	110.1	110.1	110.4	110.8	111.3	111.7	111.9	112.1	112.4	112.5
Maintenance and repairs	364.1	369.4	364.6	363.8	363.2	366.7	371.5	370.6	373.1	372.4	374.6	377.3	376.9	378.5	378.0
Maintenance and repair services	415.0	425.3	419.2	420.0	422.6	425.2	428.6	430.7	431.1	428.2	428.1	434.5	432.5	436.8	435.7
Maintenance and repair commodities	261.1	262.5	259.4	258.0	255.7	259.0	263.5	261.1	264.3	265.0	268.0	267.6	268.4	267.9	267.9
Fuel and other utilities	394.7	385.4	382.6	383.0	394.9	390.3	390.6	389.1	379.3	371.3	371.1	373.9	374.9	375.1	374.3
Fuels	487.5	462.7	459.1	459.7	477.3	469.1	469.3	467.1	449.2	437.1	437.3	442.7	443.7	443.2	440.7
Fuel oil, coal, and bottled gas	622.0	504.5	521.5	499.9	489.9	462.9	450.7	456.6	454.8	455.0	463.5	489.3	503.9	501.4	501.1
Gas (piped) and electricity	451.6	445.6	438.0	443.0	465.7	461.4	464.1	460.3	439.6	425.3	423.8	427.4	427.3	427.0	424.4
Other utilities and public services	241.6	253.8	252.1	252.2	255.8	256.3	256.6	256.2	257.8	255.8	255.3	255.6	256.5	257.1	257.8
Household furnishings and operations	243.4	246.5	246.0	246.1	246.2	246.5	246.6	247.5	247.5	247.2	248.5	248.9	249.4	250.1	250.8
Housefurnishings	197.6	198.4	198.1	198.4	198.2	198.4	198.3	199.4	199.3	198.5	199.7	200.0	200.2	200.7	201.4
Housekeeping supplies	310.7	317.1	316.3	315.7	316.8	317.1	317.3	317.9	317.8	318.4	320.6	322.0	323.1	325.2	325.7
Housekeeping services	340.2	348.2	347.1	347.4	347.8	348.4	349.1	349.5	350.1	350.1	350.8	351.2	352.0	352.3	353.3
Apparel and upkeep	205.0	206.5	206.1	205.1	203.0	201.8	205.9	211.0	211.9	211.5	209.6	205.8	206.9	213.7	217.4

See footnotes at end of table.

30. Continued— Consumer Price Index for All Urban Consumers: U.S. city average, by expenditure category and commodity or service group; and CPI for Urban Wage Earners and Clerical Workers, all items

(1967=100, unless otherwise indicated)

Series	Annual average		1986									1987			
	1985	1986	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Apparel commodities	191.3	191.5	191.2	190.1	187.7	186.3	190.8	196.2	197.1	196.6	194.5	190.5	191.5	198.3	202.1
Men's and boys' apparel	198.2	199.7	199.3	200.0	198.0	195.4	197.1	202.3	203.6	204.6	202.1	198.6	198.9	201.9	204.3
Women's and girls' apparel	171.3	169.4	169.3	165.9	162.0	160.8	169.3	178.1	178.1	176.2	173.1	168.2	169.2	178.6	184.4
Infants' and toddlers' apparel	311.7	329.4	331.3	334.3	335.6	323.7	328.6	326.2	329.2	323.8	329.3	319.1	322.2	337.3	336.3
Footwear	212.5	211.8	212.1	212.0	210.6	209.6	209.9	212.0	215.3	215.6	214.9	211.1	212.4	217.7	220.0
Other apparel commodities	203.1	206.1	204.1	203.8	204.5	206.5	209.5	209.0	207.9	208.9	207.8	210.1	212.1	214.1	213.9
Apparel services	318.5	332.0	330.2	330.9	331.9	332.2	332.3	334.2	335.6	336.2	336.6	339.7	340.5	341.8	341.6
Transportation	321.6	307.6	303.5	305.9	308.7	304.6	300.9	301.8	302.2	304.0	304.2	308.2	309.9	310.8	313.9
Private transportation	317.4	301.5	297.4	299.9	302.8	298.3	294.4	295.3	295.7	297.5	297.5	301.6	303.4	304.2	307.4
New vehicles	214.2	223.3	220.2	222.0	223.2	223.7	223.6	223.3	225.7	229.4	230.7	231.2	228.9	228.2	229.0
New cars	214.5	223.6	220.4	222.3	223.4	223.9	223.9	223.7	226.3	230.0	231.4	232.0	229.3	228.5	229.5
Used cars	379.7	363.2	364.8	363.6	362.5	360.3	358.0	359.5	360.6	361.0	356.6	354.7	357.0	363.1	371.7
Motor fuel	375.4	293.1	280.1	290.3	300.6	280.9	266.7	271.9	264.0	262.0	263.2	277.7	289.5	291.3	298.7
Gasoline	375.0	292.5	279.1	289.6	300.3	280.5	266.1	271.4	263.4	261.3	262.5	277.1	288.9	290.7	298.3
Maintenance and repair	352.6	364.7	362.2	362.8	363.6	365.0	365.7	366.6	367.2	369.7	372.3	373.4	375.1	374.9	377.9
Other private transportation	287.7	302.2	300.4	299.8	301.2	302.4	302.2	299.7	305.2	309.5	309.9	312.6	311.5	311.7	312.1
Other private transportation commodities	204.7	203.9	204.6	204.9	203.9	203.8	204.0	202.7	201.1	202.3	202.8	204.3	204.0	204.3	202.6
Other private transportation services	312.3	330.9	328.5	327.7	329.6	331.2	330.9	328.1	335.4	340.7	341.0	344.0	342.6	342.9	344.1
Public transportation	391.7	416.3	413.0	413.8	415.1	418.0	418.4	418.8	418.9	421.1	425.8	426.7	427.2	428.7	428.9
Medical care	401.2	431.0	425.7	427.3	429.6	432.4	435.0	437.1	439.7	441.7	443.9	446.7	449.7	452.3	454.9
Medical care commodities	256.3	272.8	270.7	271.7	272.5	274.6	275.2	275.8	276.6	277.0	279.8	281.4	282.9	285.1	286.2
Medical care services	432.7	465.7	459.5	461.3	464.0	466.9	470.1	472.6	475.6	478.2	480.1	483.2	486.5	489.2	492.1
Professional services	367.7	391.4	387.4	388.8	390.8	392.3	394.0	396.6	398.4	400.2	401.5	404.2	407.4	410.2	413.3
Hospital and related services	221.2	234.2	231.0	231.2	232.1	234.2	236.3	236.8	239.1	240.4	241.6	243.2	244.6	245.4	246.5
Entertainment	260.1	268.7	266.9	267.3	268.4	269.0	269.2	270.0	271.1	272.1	272.3	272.9	273.4	274.4	276.0
Entertainment commodities	254.2	259.5	258.4	258.7	259.8	259.6	259.8	259.8	260.6	261.7	261.7	262.2	262.3	263.7	264.7
Entertainment services	271.6	286.0	283.0	283.6	284.8	286.5	286.7	288.9	290.7	291.6	292.0	292.7	293.9	294.2	296.6
Other goods and services	322.7	341.7	337.6	338.0	338.4	341.2	342.6	347.5	348.8	349.2	349.5	352.8	354.6	355.1	356.0
Tobacco products	328.1	350.7	346.0	346.0	346.7	354.0	355.9	356.5	356.8	356.9	357.2	364.7	368.0	369.2	370.0
Personal care	279.6	289.0	288.2	288.6	288.6	288.8	289.9	289.5	290.8	291.2	291.3	293.2	294.1	293.9	294.7
Toilet goods and personal care appliances	279.0	288.6	288.4	288.6	287.6	287.8	289.7	288.7	290.5	290.5	290.3	292.0	293.2	292.7	293.6
Personal care services	280.5	289.8	288.4	289.0	290.0	290.2	290.5	290.8	291.6	292.4	292.7	294.9	295.4	295.5	296.2
Personal and educational expenses	399.3	430.7	421.2	422.0	422.9	423.8	425.1	446.1	448.7	449.4	450.0	452.0	453.7	454.3	455.5
School books and supplies	355.7	384.8	379.1	379.1	380.2	380.5	381.4	393.9	396.7	396.9	397.1	406.5	409.3	409.6	410.1
Personal and educational services	410.1	442.0	431.8	432.8	433.6	434.6	436.0	458.7	461.3	462.1	462.8	464.3	465.9	466.6	467.8
All items	318.5	323.4	320.4	321.4	323.0	322.9	323.4	324.9	325.0	325.4	325.7	327.7	329.0	330.5	332.3
Commodities	286.5	283.1	280.4	281.3	282.0	281.1	281.1	282.6	282.6	283.1	283.3	285.5	287.0	288.6	290.7
Food and beverages	301.8	311.6	308.3	309.0	309.3	312.0	314.5	315.0	315.4	316.2	316.8	320.3	321.3	321.2	322.1
Commodities less food and beverages	274.9	264.2	261.9	262.9	263.8	260.7	259.4	261.5	261.1	261.5	261.5	262.9	264.6	267.2	269.9
Nondurables less food and beverages	283.8	265.6	262.0	263.6	265.2	260.1	258.1	261.5	260.2	259.7	259.9	262.3	266.0	270.0	273.7
Apparel commodities	191.3	191.5	191.2	190.1	187.7	186.3	190.8	196.2	197.1	196.6	194.5	190.5	191.5	198.3	202.1
Nondurables less food, beverages, and apparel	334.2	306.7	301.6	304.5	308.0	301.0	295.9	298.4	296.0	295.6	296.9	304.4	310.2	311.5	315.0
Durables	265.2	264.0	263.3	263.5	263.6	263.2	262.6	263.0	264.0	265.3	265.0	265.4	264.5	265.3	266.8
Services	377.3	395.7	392.2	393.2	396.4	397.7	399.0	400.4	401.0	401.0	401.5	403.3	404.5	405.9	407.3
Rent of shelter (12/84=100)	103.2	109.0	108.3	108.5	108.7	109.2	109.6	110.3	110.8	111.0	111.1	111.5	111.9	112.5	113.0
Household services less rent of shelter (12/84=100)	102.6	103.9	102.7	103.4	106.4	106.0	106.4	106.0	103.8	102.0	101.8	102.3	102.5	102.5	102.4
Transportation services	332.2	350.1	347.5	347.3	348.9	350.6	350.7	349.2	353.8	357.9	359.5	361.7	361.3	361.6	363.2
Medical care services	432.7	465.7	459.5	461.3	464.0	466.9	470.1	472.6	475.6	478.2	480.1	483.2	486.5	489.2	492.1
Other services	310.1	326.9	322.9	323.6	324.6	325.6	326.0	332.2	333.8	334.7	335.1	336.4	337.5	338.0	339.4
Special indexes:															
All items less food	319.4	323.0	320.2	321.2	323.2	322.3	322.2	323.9	324.0	324.2	324.4	326.0	327.4	329.3	331.3
All items less shelter	303.4	305.1	302.1	303.0	304.8	304.3	304.6	305.9	305.7	305.9	306.3	308.4	309.6	311.0	312.8
All items less homeowners' costs (12/84=100)	101.8	102.8	101.8	102.1	102.7	102.6	102.7	103.2	103.2	103.2	103.4	104.0	104.5	104.9	105.5
All items less medical care	314.3	318.0	315.2	316.1	317.7	317.4	317.8	319.3	319.3	319.6	319.8	321.8	323.0	324.5	326.2
Commodities less food	272.8	262.9	260.7	261.6	262.6	259.6	258.3	260.3	260.0	260.3	260.4	261.8	263.5	265.9	268.5
Nondurables less food	279.0	262.7	259.4	260.9	262.4	257.7	255.8	259.1	257.8	257.4	257.6	259.9	263.3	266.9	270.4
Nondurables less food and apparel	320.3	296.9	292.2	294.9	298.0	291.8	287.3	289.6	287.4	287.0	288.2	294.8	299.7	300.9	303.9
Nondurables	293.9	289.8	286.3	287.5	288.4	287.2	287.5	289.5	289.0	289.2	289.6	292.5	294.9	296.9	299.2
Services less rent of shelter (12/84=100)	102.6	107.1	105.9	106.2	107.6	107.8	108.1	108.3	108.2	108.1	108.3	108.8	109.0	109.2	109.5
Services less medical care	369.0	385.9	382.7	383.6	386.8	387.9	389.0	390.3	390.6	390.4	390.7	392.5	393.5	394.7	396.1
Energy	426.3	367.5	358.4	364.6	378.1	363.1	354.8	356.9	344.8	338.5	339.2	349.8	356.9	357.7	360.8
All items less energy	309.9	321.2	318.8	319.2	319.7	321.1	322.4	323.9	325.3	326.3	326.5	327.8	328.7	330.2	331.9
All items less food and energy	308.7	320.3	318.3	318.6	319.1	320.1	321.0	322.7	324.4	325.4	325.6	326.3	327.1	329.0	330.9
Commodities less food and energy	256.8	259.8	258.8	258.8	258.5	258.5	259.3	260.9	261.7	262.4	262.1	261.7	262.0	264.6	266.6
Energy commodities	410.9	322.9	312.9	319.8	328.1	307.2	292.9	298.2	290.9	289.1	291.1	307.2	319.9	321.5	328.9
Services less energy	371.1	391.9	388.8	389.4	390.8	392.6	393.7	395.7	398.2	399.6	400.2	401.9	403.2	404.7	406.5
Purchasing power of the consumer dollar:															
1967=$1.00	31.4	30.9	31.2	31.1	31.0	31.0	30.9	30.8	30.8	30.7	30.7	30.5	30.4	30.3	30.1
1957-59=$1.00	27.0	26.6	26.8	26.8	26.6	26.6	26.6	26.5	26.5	26.4	26.4	26.2	26.1	26.0	25.9

31. Consumer Price Index: U.S. city average and available local area data: all items

(1967=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	Other index base	All Urban Consumers							Urban Wage Earners						
			1986			1987				1986			1987			
			Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average	M	–	325.3	326.3	331.1	333.1	334.4	335.9	337.7	320.4	321.4	325.7	327.7	329.0	330.5	332.3
Region and area size[3]																
Northeast urban	M	12/77	173.7	–	177.2	178.4	179.0	179.9	181.0	171.1	–	174.3	175.5	176.0	177.0	178.2
Size A - More than 1,200,000	M	12/77	171.0	–	174.7	176.1	176.8	177.5	178.8	166.9	–	170.3	171.6	172.3	173.0	174.4
Size B - 500,000 to 1,200,000	M	12/77	174.7	–	178.3	179.3	179.1	180.7	182.3	171.7	–	175.1	176.2	176.2	177.7	179.3
Size C - 50,000 to 500,000	M	12/77	183.0	–	186.3	187.1	187.4	188.8	188.9	187.4	–	190.5	191.4	191.7	193.1	193.1
North Central urban	M	12/77	173.9	–	177.1	178.3	178.5	179.5	180.4	170.0	–	173.0	174.3	174.4	175.3	176.2
Size A - More than 1,200,000	M	12/77	177.8	–	181.0	182.1	182.5	183.2	184.0	172.1	–	175.3	176.3	176.6	177.3	178.3
Size B - 360,000 to 1,200,000	M	12/77	172.1	–	176.1	177.2	177.2	177.8	179.5	167.7	–	171.5	172.7	172.6	173.1	174.6
Size C - 50,000 to 360,000	M	12/77	168.5	–	171.9	173.9	173.6	175.3	176.1	165.1	–	168.4	170.3	169.9	171.5	172.2
Size D - Nonmetropolitan (less than 50,0000	M	12/77	170.0	–	171.6	172.5	172.9	174.0	174.6	171.4	–	172.7	173.7	174.1	175.1	175.7
South urban	M	12/77	175.1	–	177.9	178.7	179.5	180.2	180.9	174.1	–	176.5	177.5	178.3	179.0	179.7
Size A - More than 1,200,000	M	12/77	175.5	–	177.9	178.6	179.4	180.4	181.5	174.9	–	177.0	177.8	178.7	179.6	180.7
Size B - 450,000 to 1,200,000	M	12/77	177.0	–	179.9	180.8	181.7	182.3	183.0	173.2	–	175.6	176.5	177.4	178.1	178.7
Size C - 50,000 to 450,000	M	12/77	173.6	–	176.4	177.5	178.5	178.8	179.2	174.3	–	176.7	177.9	179.0	179.3	179.8
Size D - Nonmetropolitan (less than 50,000)	M	12/77	173.2	–	176.6	177.4	177.3	177.8	178.0	174.0	–	177.0	177.9	177.9	178.4	178.6
West urban	M	12/77	176.8	–	179.6	180.6	182.0	182.7	183.8	174.5	–	177.0	177.9	179.3	180.1	181.1
Size A - More than 1,250,000	M	12/77	179.6	–	182.6	183.6	185.3	186.1	187.2	174.9	–	177.5	178.4	180.2	181.0	182.1
Size B - 330,000 to 1,250,000	M	12/77	176.7	–	178.9	179.9	180.6	181.4	182.7	177.1	–	179.0	180.0	180.8	181.5	182.8
Size C - 50,000 to 330,000	M	12/77	170.5	–	172.9	173.8	174.8	175.2	175.8	168.9	–	171.1	171.9	172.7	173.3	173.8
Size classes:																
A	M	12/77	–	–	100.0	100.6	101.1	101.6	102.2	320.4	321.4	325.7	327.7	329.0	330.5	332.3
B	M	12/77	175.6	–	178.7	179.6	180.1	181.0	182.1	172.7	–	175.5	176.5	177.0	177.8	178.9
C	M	12/77	173.4	–	176.5	177.7	178.2	179.1	179.6	173.4	–	176.2	177.5	178.0	178.9	179.4
D	M	12/77	172.7	–	175.4	176.1	176.4	176.9	177.4	173.6	–	175.9	176.7	177.1	177.6	178.1
Selected local areas																
Chicago, IL-Northwestern IN	M	–	323.7	324.2	331.0	334.3	334.2	335.5	337.1	309.1	324.2	315.8	319.1	319.0	320.1	321.6
Los Angeles-Long Beach, Anaheim, CA	M	–	326.8	329.4	332.9	335.1	338.8	341.4	342.8	320.2	322.7	325.3	327.4	331.2	333.4	334.8
New York, NY-Northeastern NJ	M	–	321.4	320.6	329.1	331.6	333.2	334.7	337.0	313.2	312.3	320.1	322.3	324.0	325.7	328.2
Philadelphia, PA-NJ	M	–	317.8	318.9	325.2	327.7	329.0	329.4	333.8	319.7	320.8	326.6	329.1	329.9	330.4	334.9
San Francisco-Oakland, CA	M	–	339.3	–	343.6	345.8	348.8	349.6	353.0	333.2	–	337.0	339.0	342.2	343.4	346.9
Baltimore, MD	1	–	–	329.1	–	334.1	–	335.9	–	–	326.8	–	331.1	–	333.2	–
Boston, MA	1	–	–	322.6	–	333.2	–	336.8	–	–	319.3	–	330.9	–	334.7	–
Cleveland, OH	1	–	346.9	–	351.8	352.9	–	356.8	–	324.4	–	328.9	330.1	–	333.3	–
Miami, FL	1	11/77	–	173.0	–	177.2	–	178.4	–	–	173.4	–	177.6	–	178.6	–
St. Louis, MO-IL	1	–	–	318.6	–	326.7	–	328.8	–	–	314.2	–	321.9	–	324.3	–
Washington, DC-MD-VA	1	–	–	329.6	–	335.7	–	338.0	–	–	330.2	–	337.7	–	340.1	–
Dallas-Ft. Worth, TX	2	–	341.4	–	342.8	–	347.8	–	351.8	334.1	–	335.0	–	341.1	–	344.4
Detroit, MI	2	–	318.8	321.7	324.7	–	327.6	–	330.5	308.1	311.0	314.0	–	316.5	–	319.9
Houston, TX	2	–	330.0	–	331.0	–	334.9	–	341.1	327.7	–	328.5	–	333.0	–	338.5
Pittsburgh, PA	2	–	328.1	–	333.0	–	335.2	–	338.2	307.8	–	311.8	–	314.2	–	316.6

[1] Area is the Consolidated Metropolitan Statistical Area (CMSA), exclusive of farms and military. Area definitions are those established by the Office of Management and Budget in 1983, except for Boston-Lawrence-Salem, MA-NH Area (excludes Monroe County); and Milwaukee, WI Area (includes only the Milwaukee MSA). Definitions do not include revisions made since 1983.

[2] 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.

[3] Regions are defined as the four Census regions.

– Data not available.

NOTE: Local area CPI indexes are byproducts of the national CPI program. Because each local index is a small subset of the national index, it has a smaller sample size and is, therefore, subject to substantially more sampling and other measurement error than the national index. As a result, local area indexes show greater volatility than the national index, although their long-term trends are quite similar. Therefore, the Bureau of Labor Statistics strongly urges users to consider adopting the national average CPI for use in escalator clauses.

32. Annual data: Consumer Price Index all items and major groups

Series	1978	1979	1980	1981	1982	1983	1984	1985	1986
Consumer Price Index for All Urban Consumers:									
All items:									
Index	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2	328.4
Percent change	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6	1.9
Food and beverages:									
Index	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0	311.8
Percent change	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3	3.2
Housing:									
Index	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9	360.2
Percent change	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0	2.9
Apparel and upkeep:									
Index	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0	207.8
Percent change	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9	.9
Transportation:									
Index	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9	307.5
Percent change	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6	-3.9
Medical care:									
Index	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1	433.5
Percent change	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2	7.5
Entertainment:									
Index	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0	274.1
Percent change	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9	3.4
Other goods and services:									
Index	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6	346.4
Percent change	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5	323.4
Percent change	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5	1.5

33. Producer Price Indexes, by stage of processing

(1967=100)

Grouping	Annual average		1986								1987			
	1985	1986	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Finished goods	293.7	289.6	288.9	289.3	287.6	288.1	287.3	290.7	290.7	290.4	291.7	292.3	292.3	295.0
Finished consumer goods	291.8	284.9	284.1	284.5	282.3	283.0	282.5	285.2	285.1	284.8	286.2	287.1	287.2	290.3
Finished consumer foods	271.2	278.0	274.8	275.1	280.4	284.0	282.9	283.6	283.1	282.9	280.0	279.6	280.4	283.3
Finished consumer goods excluding foods	297.3	283.4	284.0	284.4	278.3	277.5	277.4	281.0	281.2	280.8	284.5	286.0	285.7	288.9
Nondurable goods less food	339.3	311.1	313.0	313.5	302.6	301.6	304.5	301.9	302.2	302.1	307.7	311.6	311.7	315.2
Durable goods	241.5	246.9	245.5	245.9	246.2	245.8	241.7	253.5	253.5	252.8	252.9	250.4	249.6	252.1
Capital equipment	300.5	306.5	305.7	306.1	306.4	306.2	303.9	309.9	310.4	310.1	311.2	310.5	310.3	311.7
Intermediate materials, supplies, and components	318.7	307.6	306.7	306.8	304.8	304.5	306.1	304.8	304.8	305.0	307.1	308.9	309.4	310.9
Materials and components for manufacturing	299.5	296.1	295.4	295.1	295.6	296.0	296.2	296.4	296.4	296.4	297.7	298.3	299.4	301.3
Materials for food manufacturing	258.8	250.9	248.7	247.9	251.7	255.5	254.3	253.9	253.2	253.2	251.0	250.6	250.0	255.3
Materials for nondurable manufacturing	285.9	279.2	278.2	277.8	277.7	277.1	277.0	277.5	278.0	278.3	280.9	282.1	283.4	286.3
Materials for durable manufacturing	320.2	313.8	313.2	312.9	313.0	313.6	314.9	315.3	314.9	313.9	316.2	316.5	317.9	320.3
Components for manufacturing	291.5	294.4	294.1	294.1	294.6	294.9	295.0	294.9	294.9	295.2	295.6	296.1	297.1	297.1
Materials and components for construction	315.2	317.5	318.3	317.8	317.9	317.6	317.6	317.3	317.5	316.9	317.2	318.2	319.0	319.3
Processed fuels and lubricants	548.9	430.3	424.2	426.7	401.1	395.0	409.1	394.9	392.8	395.5	408.2	420.2	416.4	420.8
Containers	311.2	315.1	313.6	314.0	314.6	316.2	317.4	318.1	319.0	319.2	321.4	323.3	324.5	325.3
Supplies	284.2	287.3	287.1	287.3	287.2	287.1	288.0	287.5	288.0	288.2	289.0	289.8	290.0	290.7
Crude materials for further processing	306.1	280.0	279.4	276.9	277.7	276.3	275.4	277.2	279.2	277.0	284.0	288.8	287.7	295.5
Foodstuffs and feedstuffs	235.0	230.6	229.9	227.1	234.4	238.1	233.5	235.0	236.8	233.5	227.1	229.2	229.1	239.4
Crude nonfood materials	459.2	386.8	386.9	384.8	370.8	358.3	365.6	367.9	370.3	370.6	392.9	401.7	399.2	405.4
Special groupings														
Finished goods, excluding foods	299.0	291.1	291.2	291.6	287.4	286.8	286.1	290.4	290.7	290.4	293.2	294.0	293.8	296.4
Finished energy goods	720.9	518.5	534.1	536.4	461.6	456.2	471.7	452.1	453.7	454.6	478.4	497.9	493.8	511.5
Finished goods less energy	269.2	275.6	274.0	274.3	276.4	277.2	275.5	280.0	280.0	279.6	279.6	279.0	279.2	281.1
Finished consumer goods less energy	261.3	267.8	266.1	266.3	268.9	270.0	268.5	272.6	272.4	272.0	271.6	271.0	271.5	273.4
Finished goods less food and energy	268.7	274.9	274.0	274.3	275.0	274.8	272.9	278.9	279.1	278.7	279.7	279.0	279.1	280.5
Finished consumer goods less food and energy	252.1	258.4	257.5	257.7	258.7	258.4	256.7	262.6	262.6	262.2	263.2	262.6	262.7	264.1
Consumer nondurable goods less food and energy	246.2	252.9	252.3	252.5	253.9	253.8	254.2	254.8	254.9	254.7	256.2	256.8	257.6	258.2
Intermediate materials less foods and feeds	325.0	313.3	312.4	312.5	310.4	309.9	311.5	310.4	310.3	310.5	312.9	314.8	315.4	316.8
Intermediate foods and feeds	232.8	230.2	229.3	229.0	230.3	232.1	233.2	230.3	231.0	231.5	229.7	229.8	227.9	232.3
Intermediate energy goods	528.3	414.5	409.1	411.1	386.6	380.7	393.8	380.3	378.3	380.7	392.8	404.2	400.6	404.9
Intermediate goods less energy	304.0	303.5	303.0	302.9	303.3	303.5	304.0	303.9	304.1	304.1	305.2	306.0	306.8	308.2
Intermediate materials less foods and energy	305.2	304.4	304.0	303.8	304.1	304.2	304.6	304.8	304.9	304.8	306.2	307.0	308.1	309.3
Crude energy materials	748.1	575.8	570.6	563.9	528.8	520.4	533.9	534.4	537.0	533.2	571.6	586.2	581.2	590.9
Crude materials less energy	233.2	228.9	229.2	227.3	232.8	232.4	229.7	231.6	233.3	231.5	227.9	230.3	230.3	238.4
Crude nonfood materials less energy	249.7	245.6	249.3	250.1	250.0	235.9	239.1	242.3	244.4	247.1	251.0	254.6	254.6	257.6

34. Producer Price indexes, by durability of product

(1967=100)

Grouping	Annual average		1986								1987			
	1985	1986	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total durable goods	297.3	300.0	299.6	299.7	300.0	299.9	298.8	302.2	302.4	302.1	303.0	303.5	303.9	304.3
Total nondurable goods	317.2	298.7	297.9	297.7	294.5	294.2	295.6	294.4	294.8	294.7	298.2	301.0	300.8	304.5
Total manufactures	304.3	297.6	296.7	296.9	295.2	295.5	296.0	297.0	297.1	297.2	299.3	300.7	300.9	302.9
Durable	298.1	300.9	300.4	300.5	300.9	300.8	299.6	303.1	303.3	302.9	303.7	304.1	304.6	305.0
Nondurable	310.5	294.0	292.6	293.0	289.1	289.7	292.1	290.4	290.5	291.0	294.4	296.9	296.8	300.4
Total raw or slightly processed goods	327.9	305.3	306.2	304.2	303.2	300.4	299.0	299.2	300.6	298.6	302.0	305.6	305.2	308.9
Durable	252.2	252.0	252.1	251.2	249.6	252.0	252.8	252.0	254.4	255.4	260.3	264.2	262.2	263.2
Nondurable	332.4	308.3	309.3	307.2	306.2	303.0	301.6	301.8	303.1	300.9	304.1	307.7	307.4	311.4

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

(1967=100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	245.0	272.3	330.0	401.0	482.3	473.9	477.4	484.5	459.2
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

36. U.S. export price indexes by Standard International Trade Classification,

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1984		1985				1986				1987
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83=100)		99.3	98.1	97.5	97.5	96.5	96.7	97.0	96.7	95.1	96.2	97.2
Food (3/83=100)	0	103.5	96.5	95.8	94.0	90.2	93.6	90.5	89.5	77.2	81.2	79.8
Meat (3/83=100)	01	105.6	104.4	103.9	104.7	106.1	112.2	111.5	114.7	122.0	122.6	123.4
Fish (3/83=100)	03	98.0	98.7	101.0	103.6	102.6	101.8	102.2	106.2	111.2	116.9	118.5
Grain and grain preparations (3/80=100)	04	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1	59.0	64.8	62.9
Vegetables and fruit (3/83=100)	05	125.6	114.7	119.5	120.2	126.9	118.9	115.3	125.8	131.4	131.9	130.8
Feedstuffs for animals (3/83=100)	08	83.5	82.4	72.8	68.6	75.7	83.4	88.5	85.5	90.2	87.4	85.7
Misc. food products (3/83=100)	09	109.5	108.4	110.6	109.2	108.1	107.7	106.0	104.7	106.6	108.2	108.6
Beverages and tobacco (6/83=100)	1	102.8	101.3	99.9	100.1	99.7	98.6	95.6	96.5	96.3	101.6	101.7
Beverages (9/83=100)	11	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0	102.2	102.9	104.7
Tobacco and tobacco products (6/83=100)	12	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.9	95.8	101.4	101.4
Crude materials (6/83=100)	2	105.2	101.4	97.5	96.8	93.3	92.5	95.8	95.6	92.3	94.8	97.3
Raw hides and skins (6/80=100)	21	153.7	133.6	121.0	126.2	129.0	139.9	138.9	148.9	138.0	148.3	168.8
Oilseeds and oleaginous fruit (9/77=100)	22	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.8	64.5	62.9	60.4
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	104.1	104.0	106.4	106.3	107.1	106.0	106.0	106.1	105.3	104.4	–
Wood	24	123.8	125.4	128.7	125.7	124.5	128.1	128.7	128.7	129.7	135.5	139.3
Pulp and waste paper (6/83=100)	25	120.8	114.2	100.5	96.1	93.8	92.7	98.8	109.7	119.8	121.2	133.0
Textile fibers	26	109.4	106.7	102.4	105.8	103.6	97.7	101.6	98.6	74.7	92.2	99.7
Crude fertilizers and minerals	27	163.0	163.2	165.6	167.9	169.4	165.5	168.0	166.1	164.3	162.8	155.6
Metalliferous ores and metal scrap	28	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5	84.6	80.7	82.2
Mineral fuels	3	99.7	99.7	100.1	99.2	97.6	96.6	91.9	86.7	85.7	84.7	85.6
Animal and vegetables oils, fats, and waxes	4	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4	76.5	86.8	88.9
Fixed vegetable oils and fats (6/83=100)	42	159.0	156.7	152.9	164.8	128.8	108.7	95.4	95.3	80.8	87.0	89.1
Chemicals (3/83=100)	5	98.3	97.7	97.0	96.8	97.1	96.6	96.5	95.4	93.1	92.2	96.6
Organic chemicals (12/83=100)	51	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3	88.0	89.4	99.5
Fertilizers, manufactured (3/83=100)	56	97.4	94.8	92.5	87.9	89.8	90.0	88.6	84.0	77.4	68.7	75.4
Intermediate manufactured products (9/81=100)	–	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2	102.2	102.7	104.4
Leather and furskins (9/79=100)	6	80.8	79.0	82.5	79.2	75.9	78.5	77.8	82.5	84.2	88.0	96.3
Rubber manufactures	61	148.9	148.5	150.2	149.0	148.3	148.7	151.0	150.0	150.4	151.3	152.1
Paper and paperboard products (6/78=100)	62	160.0	159.5	155.0	151.6	149.6	148.2	152.2	158.7	165.3	167.9	174.4
Iron and steel (3/82=100)	64	96.8	96.5	95.5	95.3	95.9	98.2	98.4	99.4	100.2	100.1	101.5
Nonferrous metals (9/81=100)	–	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1	79.4	78.8	80.3
Metal manufactures, n.e.s. (3/82=100)	–	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5	105.6	105.7	105.7
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	140.1	141.5	142.3	142.9	143.1	143.3	144.0	144.2	144.6	145.5	146.3
Power generating machinery and equipment (12/78=100)	68	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2	169.5	171.4	173.0
Machinery specialized for particular industries (9/78=100)	69	153.7	153.4	155.0	155.7	156.0	156.2	155.5	154.7	155.0	155.7	154.7
Metalworking machinery (6/78=100)	7	151.7	151.9	153.4	155.1	156.3	158.4	159.0	158.9	160.4	161.8	165.0
General industrial machines and parts n.e.s. 9/78=100)	71	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3	154.4	155.3	157.7
Office machines and automatic data processing equipment	72	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2	98.9	98.1	96.0
Telecommunications, sound recording and reproducing equipment	73	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0	137.8	139.7	141.3
Electrical machinery and equipment	74	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.2	114.4	114.9	117.6
Road vehicles and parts (3/80=100)	75	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4	136.5	137.9	138.0
Other transport equipment, excl. military and commercial aviation	76	189.6	191.7	195.5	196.6	199.3	200.7	203.3	206.8	207.4	209.7	211.4
Other manufactured articles	77	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4	104.1	104.3	105.3
Apparel (9/83=100)	78	103.9	103.4	104.7	104.7	105.0	105.3	–	–	–	110.0	–
Professional, scientific, and controlling instruments and apparatus	79	175.8	171.7	175.5	178.3	178.7	178.8	182.1	183.8	183.8	184.8	186.4
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.9	132.7	132.0	133.4
Miscellaneous manufactured articles, n.e.s.	84	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.6	97.6	97.7	98.1
Gold, non-monetary (6/83=100)	971	81.7	79.5	69.1	75.4	77.4	77.5	81.8	82.2	97.5	94.5	98.2

– Data not available.

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

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1985				1986				1987
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/82=100)		93.5	93.0	92.9	94.2	88.5	83.2	83.9	86.0	91.6
Food (9/77=100)	0	98.5	96.8	94.9	102.8	113.4	104.7	109.1	105.3	100.2
Meat	01	130.4	118.2	120.6	131.2	122.7	118.5	126.9	134.4	132.1
Dairy products and eggs (6/81=100)	02	98.3	97.9	99.1	100.5	106.7	107.1	109.4	111.5	116.8
Fish	03	132.9	129.4	129.7	132.7	139.3	144.8	149.6	157.1	161.6
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	131.8	132.3	136.3	141.9	146.9	149.2	154.0	155.3	161.0
Fruits and vegetables	05	127.1	129.4	120.2	131.3	119.4	119.4	127.1	125.5	120.5
Sugar, sugar preparations, and honey (3/82=100)	06	118.4	122.6	123.1	111.9	124.6	121.6	123.9	124.3	126.0
Coffee, tea, cocoa	07	57.0	56.0	54.4	64.6	85.9	69.2	71.8	61.0	50.9
Beverages and tobacco	1	156.2	157.1	158.0	162.1	163.2	165.5	165.8	168.0	170.8
Beverages	11	154.2	154.3	156.0	159.1	161.8	163.9	165.5	168.2	171.5
Crude materials	2	94.0	93.6	91.5	91.2	94.2	95.3	98.1	98.5	103.2
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	77.6	76.4	68.9	73.2	78.8	75.5	76.9	78.5	79.1
Wood (9/81=100)	24	100.7	106.9	101.6	99.4	104.3	106.3	109.4	107.2	115.0
Pulp and waste paper (12/81=100)	25	84.0	80.4	76.8	75.8	74.9	79.9	86.0	92.8	100.5
Crude fertilizers and crude minerals (12/83=100)	27	100.3	101.7	102.7	102.1	101.5	100.0	100.4	100.2	99.5
Metalliferous ores and metal scrap (3/84=100)	28	90.4	87.6	89.5	90.1	94.5	95.6	98.2	95.4	98.0
Crude vegetable and animal materials, n.e.s.	29	104.3	104.9	102.5	102.5	103.6	104.4	104.8	104.7	113.4
Fuels and related products (6/82=100)	3	82.9	80.9	79.8	79.1	55.3	37.5	33.6	38.4	49.7
Petroleum and petroleum products (6/82=100)	33	83.8	81.6	80.3	80.1	54.7	36.1	32.1	37.9	49.9
Fats and oils (9/83=100)	4	89.9	76.7	57.6	50.6	41.4	39.3	35.5	51.6	50.8
Vegetable oils (9/83=100)	42	89.5	75.9	56.2	48.9	39.3	37.4	33.5	50.0	49.2
Chemicals (9/82=100)	5	95.7	94.9	94.5	94.2	94.6	93.3	93.4	93.2	95.9
Medicinal and pharmaceutical products (3/84=100)	54	91.6	95.1	95.3	96.7	102.9	104.9	110.0	110.1	116.2
Manufactured fertilizers (3/84=100)	56	94.2	82.0	80.8	78.5	79.2	79.7	77.4	79.7	81.8
Chemical materials and products, n.e.s. (9/84=100)	59	96.1	95.6	96.9	97.8	99.9	100.3	101.0	102.8	104.3
Intermediate manufactured products (12/77=100)	6	133.1	132.4	133.6	133.4	134.0	135.6	138.8	139.4	142.2
Leather and furskins	61	135.3	133.3	137.0	141.3	141.6	143.0	147.4	143.3	149.5
Rubber manufactures, n.e.s.	62	139.5	138.6	137.3	138.1	136.5	137.7	138.1	138.1	140.8
Cork and wood manufactures	63	121.3	121.2	123.4	124.0	130.8	134.3	137.4	142.7	146.1
Paper and paperboard products	64	157.6	157.2	157.8	156.5	157.1	157.1	157.5	164.8	165.2
Textiles	65	130.4	127.5	126.5	128.1	131.2	132.9	135.1	135.3	138.8
Nonmetallic mineral manufactures, n.e.s.	66	154.2	151.7	157.6	162.2	164.2	169.6	178.2	180.2	183.1
Iron and steel (9/78=100)	67	121.0	120.1	119.1	118.3	117.3	118.1	119.0	118.5	122.3
Nonferrous metals (12/81=100)	68	81.9	82.3	83.7	80.4	79.4	78.9	83.5	81.6	82.4
Metal manufactures, n.e.s.	69	117.4	117.8	119.5	121.6	124.4	127.8	129.1	129.1	133.4
Machinery and transport equipment (6/81=100)	7	101.6	102.6	103.5	107.2	111.5	115.3	118.1	120.2	124.0
Machinery specialized for particular industries (9/78=100)	72	96.2	97.0	101.4	104.9	112.1	115.4	120.1	121.0	128.0
Metalworking machinery (3/80=100)	73	86.3	90.5	94.2	98.1	105.0	107.7	110.7	115.7	122.4
General industrial machinery and parts, n.e.s. (6/81=100)	74	89.2	91.1	94.3	98.0	103.8	109.0	112.8	113.9	120.8
Office machines and automatic data processing equipment (3/80=100)	75	89.6	89.4	90.3	93.7	96.9	101.3	102.5	102.4	103.5
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	90.0	88.8	88.3	88.6	89.4	91.6	93.7	93.9	94.6
Electrical machinery and equipment (12/81=100)	77	82.1	83.9	81.4	83.1	84.5	87.5	89.5	91.7	93.6
Road vehicles and parts (6/81=100)	78	111.5	112.1	112.7	117.8	123.4	127.1	129.8	133.2	137.0
Misc. manufactured articles (3/80=100)	8	97.0	98.0	99.6	100.8	103.3	104.8	109.5	109.6	114.3
Plumbing, heating, and lighting fixtures (6/80=100)	81	113.9	114.1	117.8	115.0	120.1	123.5	125.5	125.5	125.5
Furniture and parts (6/80=100)	82	137.4	136.7	142.1	142.7	147.0	142.2	145.8	146.9	148.9
Clothing (9/77=100)	84	136.7	133.9	134.5	134.5	133.4	135.3	137.8	139.1	145.5
Footwear	85	137.4	136.7	142.1	142.7	147.0	142.2	145.8	146.9	148.9
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	89.2	92.3	98.8	102.4	106.4	112.5	118.3	118.0	125.6
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	88.9	89.5	91.1	94.5	99.3	103.2	106.9	107.6	111.8
Misc. manufactured articles, n.e.s. (6/82=100)	89	91.2	95.2	96.4	97.9	102.1	103.4	112.3	111.0	116.9
Gold, non-monetary (6/82=100)	971	90.1	98.3	101.1	101.0	106.7	107.3	126.9	123.3	128.0

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

(September 1983 = 100 unless otherwise indicated)

Category	Percentage of 1980 trade value	1985				1986				1987
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	16.294	81.5	80.9	76.2	77.5	75.5	74.7	66.0	68.4	67.1
Raw materials	30.696	97.6	97.2	96.5	95.9	96.0	94.9	93.3	94.8	98.2
Raw materials, nondurable	21.327	99.6	99.5	98.7	97.9	97.5	96.1	93.7	95.4	99.5
Raw materials, durable	9.368	92.6	91.6	91.1	91.0	92.5	91.9	92.5	93.2	95.1
Capital goods (12/82=100)	30.186	106.2	106.6	106.6	106.6	107.4	107.5	107.7	108.3	109.0
Automotive vehicles, parts and engines (12/82=100)	7.483	106.7	108.0	108.1	109.2	109.5	110.4	110.8	111.8	111.9
Consumer goods	7.467	100.9	101.1	101.9	101.4	103.7	104.5	104.5	105.7	106.9
Durables	3.965	99.1	99.2	100.4	99.5	101.8	101.8	102.1	102.7	103.9
Nondurables	3.501	102.7	103.0	103.3	103.3	105.5	107.2	106.9	108.5	109.8

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

(December 1982=100)

Category	Percentage of 1980 trade value	1985				1986				1987
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	7.477	102.1	100.4	99.0	106.0	115.8	108.2	112.3	109.2	104.7
Petroleum and petroleum products, excl. natural gas	31.108	84.4	82.1	80.9	80.5	55.4	36.8	32.6	38.3	50.5
Raw materials, excluding petroleum	19.205	96.3	95.8	95.4	93.9	94.5	94.0	95.3	94.9	96.9
Raw materials, nondurable	9.391	95.0	93.9	93.5	91.8	91.1	89.7	89.5	89.7	91.8
Raw materials, durable	9.814	97.7	97.8	97.4	96.2	98.1	98.7	101.4	100.3	102.3
Capital goods	13.164	94.8	96.3	97.6	100.0	102.8	106.7	109.4	110.7	115.4
Automotive vehicles, parts and engines	11.750	105.4	105.9	106.4	111.4	115.6	119.0	121.0	123.9	126.2
Consumer goods	14.250	99.5	99.4	101.0	102.4	104.5	106.5	110.1	110.6	114.3
Durable	5.507	97.0	97.0	98.9	100.7	103.4	106.5	111.2	111.6	114.8
Nondurable	8.743	103.0	102.5	103.9	104.7	106.0	106.6	108.6	109.2	113.7

40. U.S. export price indexes by Standard Industrial Classification [1]

Industry group	1985				1986				1987
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/83=100)	99.5	99.5	96.7	98.1	97.0	95.0	95.2	97.6	99.0
Lumber and wood products, except furniture (6/83=100)	99.9	99.5	98.3	101.2	101.5	101.2	102.1	105.7	109.8
Furniture and fixtures (9/83=100)	105.2	106.5	107.1	108.4	109.2	109.7	110.1	110.4	113.4
Paper and allied products (3/81=100)	97.1	94.7	93.2	92.1	95.7	101.5	106.1	108.7	113.7
Chemicals and allied products (12/84=100)	100.3	99.6	99.7	99.2	98.9	98.3	96.2	95.9	100.3
Petroleum and coal products (12/83=100)	101.3	102.7	102.0	99.1	93.5	83.1	83.1	82.2	83.5
Primary metal products (3/82=100)	87.9	87.5	88.1	87.9	89.8	89.8	90.7	89.9	91.7
Machinery, except electrical (9/78=100)	140.4	140.5	140.6	140.5	140.6	140.3	140.5	140.7	140.9
Electrical machinery (12/80=100)	111.3	112.4	111.9	111.2	112.6	112.3	112.6	113.6	115.7
Transportation equipment (12/78=100)	160.4	161.8	162.6	164.1	165.1	167.1	167.4	169.4	170.0
Scientific instruments; optical goods; clocks (6/77=100)	154.9	156.6	156.2	156.7	159.7	161.2	161.5	162.3	163.3

[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

Industry group	1985				1986				1987
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77=100)	118.8	115.0	114.2	115.1	117.7	115.6	118.0	122.4	122.7
Textile mill products (9/82=100)	102.8	101.0	100.4	101.8	104.7	106.4	107.1	108.0	111.7
Apparel and related products (6/77=100)	135.6	133.0	133.9	134.4	133.4	135.1	137.8	139.3	145.9
Lumber and wood products, except furniture (6/77=100)	116.3	120.6	117.5	115.8	122.1	124.8	127.9	127.9	135.0
Furniture and fixtures (6/80=100)	93.9	96.1	97.7	98.2	101.2	103.5	105.4	105.6	109.7
Paper and allied products (6/77=100)	141.5	139.8	138.7	137.4	137.6	139.4	142.2	150.3	154.0
Chemicals and allied products (9/82=100)	95.3	93.9	93.3	95.8	98.6	102.1	103.8	102.4	104.7
Rubber and miscellaneous plastic products (12/80=100)	96.9	96.7	96.6	97.5	100.9	100.6	101.9	102.1	104.4
Leather and leather products	139.1	138.9	142.3	144.0	145.8	144.6	147.7	148.7	151.8
Primary metal products (6/81=100)	84.1	84.1	84.3	82.6	82.0	82.4	84.9	84.0	85.4
Fabricated metal products (12/84=100)	99.0	99.1	101.0	102.6	104.9	108.5	110.3	111.1	115.5
Machinery, except electrical (3/80=100)	91.8	93.4	96.6	100.0	105.5	109.0	112.5	114.2	119.4
Electrical machinery (9/84=100)	95.1	95.8	94.5	95.8	97.0	100.2	102.6	104.0	105.7
Transportation equipment (6/81=100)	113.1	114.2	114.8	119.6	123.9	128.0	130.4	133.2	136.5
Scientific instruments; optical goods; clocks (12/79=100)	90.7	91.7	94.6	98.8	103.9	109.1	113.7	113.7	119.1
Miscellaneous manufactured commodities (9/82=100)	95.1	95.1	96.6	98.7	99.9	101.7	106.9	108.1	110.3

[1] SIC - based classification.

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

(1977=100)

Item	Quarterly Indexes										
	1984		1985				1986				1987
	III	IV	I	II	III	IV	I	II	III	IV	I
Business:											
Output per hour of all persons	105.5	105.5	105.7	106.4	107.3	106.4	107.3	107.4	107.3	106.8	107.2
Compensation per hour	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.4	181.7	182.6	182.8
Real compensation per hour	98.1	98.2	98.4	98.6	99.0	99.0	99.2	100.2	100.4	100.2	99.0
Unit labor costs	160.2	161.7	163.1	164.0	164.4	167.3	167.0	168.0	169.3	171.0	170.4
Unit nonlabor payments	157.0	157.7	158.3	160.0	161.4	159.6	162.2	161.9	163.4	159.7	164.3
Implicit price deflator	159.0	160.3	161.4	162.6	163.4	164.6	165.3	165.8	167.2	167.0	168.2
Nonfarm business:											
Output per hour of all persons	104.4	104.3	104.4	104.9	105.4	104.5	105.6	105.7	105.7	105.3	105.7
Compensation per hour	168.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3	180.4	181.6	181.6
Real compensation per hour	97.9	98.1	98.3	98.3	98.5	98.4	98.8	99.7	99.6	99.6	98.4
Unit labor costs	161.5	163.3	164.8	165.9	166.3	169.3	168.8	169.6	170.7	172.5	171.8
Unit nonlabor payments	157.2	157.9	158.9	160.8	163.0	160.3	163.9	163.7	165.9	162.2	167.2
Implicit price deflator	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.5	169.0	168.9	170.2
Nonfinancial corporations:											
Output per hour of all employees	105.5	105.8	106.0	106.5	107.8	107.0	106.9	106.8	106.9	107.2	107.2
Compensation per hour	166.6	168.3	169.9	171.6	173.1	174.5	175.4	176.1	176.8	177.8	177.6
Real compensation per hour	96.7	96.9	97.0	96.9	97.2	97.0	97.1	97.8	97.7	97.6	96.2
Total unit costs	162.6	163.8	164.9	165.8	165.0	167.2	168.3	168.6	169.8	169.6	169.5
Unit labor costs	157.9	159.1	160.3	161.1	160.5	163.0	164.0	164.8	165.4	165.8	165.6
Unit nonlabor costs	176.4	177.5	178.5	179.8	178.3	179.8	181.1	179.9	182.6	180.9	181.0
Unit profits	130.3	130.5	129.3	130.2	141.7	131.2	131.7	132.3	135.8	136.8	147.8
Unit nonlabor payments	160.3	161.0	161.3	162.5	165.5	162.8	163.8	163.2	166.2	165.5	181.0
Implicit price deflator	158.7	159.8	160.6	161.6	162.2	162.9	164.0	164.3	165.7	165.7	166.9
Manufacturing:											
Output per hour of all persons	117.8	118.2	119.3	121.7	123.0	122.9	123.7	124.7	125.8	125.8	126.2
Compensation per hour	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.4	182.5	183.5	183.0
Real compensation per hour	98.1	98.7	99.2	99.2	100.0	99.7	99.8	100.8	100.8	100.7	99.2
Unit labor costs	143.5	145.1	145.7	144.3	144.8	145.8	145.7	145.5	145.1	145.9	145.0

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

(1977=100)

Item	1960	1970	1973	1975	1977	1979	1980	1981	1982	1983	1984	1985
Private business												
Productivity:												
Output per hour of all persons	67.3	88.4	95.9	95.7	100.0	99.5	99.2	100.6	100.3	103.0	105.4	106.5
Output per unit of capital services	102.4	102.0	105.3	93.8	100.0	99.8	94.2	92.4	86.6	88.3	92.4	91.5
Multifactor productivity	78.2	92.9	99.1	95.0	100.0	99.7	97.4	97.7	95.2	97.6	100.6	101.0
Output	55.3	80.2	93.0	89.3	100.0	107.9	106.6	108.9	105.4	109.9	118.9	122.8
Inputs:												
Hours of all persons	82.2	90.8	96.9	93.2	100.0	108.4	107.5	108.2	105.2	106.7	112.8	115.3
Capital services	54.0	78.7	88.3	95.1	100.0	108.0	113.1	117.8	121.7	124.4	128.7	134.1
Combined units of labor and capital input	70.7	86.3	93.8	93.9	100.0	108.2	109.4	111.5	110.7	112.6	118.1	121.6
Capital per hour of all persons	65.7	86.7	91.1	102.0	100.0	99.7	105.3	108.8	115.7	116.7	114.1	116.3
Private nonfarm business												
Productivity:												
Output per hour of all persons	70.7	89.2	96.4	96.0	100.0	99.2	98.7	99.6	99.1	102.4	104.3	104.8
Output per unit of capital services	103.7	102.8	106.0	93.8	100.0	99.0	93.4	91.1	85.1	87.3	90.9	89.7
Multifactor productivity	80.9	93.7	99.6	95.3	100.0	99.1	96.9	96.7	94.1	97.0	99.6	99.4
Output	54.4	79.9	92.9	88.9	100.0	107.9	106.6	108.4	104.8	110.0	118.9	122.5
Inputs:												
Hours of all persons	77.0	89.6	96.3	92.6	100.0	108.8	108.0	108.8	105.7	107.4	114.0	116.9
Capital services	52.5	77.7	87.6	94.8	100.0	109.0	114.1	119.0	123.2	126.1	130.8	136.6
Combined units of labor and capital input	67.3	85.3	93.3	93.4	100.0	108.9	110.0	112.2	111.4	113.5	119.4	123.3
Capital per hour of all persons	68.2	86.8	91.0	102.3	100.0	100.1	105.6	109.4	116.5	117.4	114.7	116.8
Manufacturing												
Productivity:												
Output per hour of all persons	62.2	80.8	93.4	92.9	100.0	101.4	101.4	103.6	105.9	112.0	116.6	121.7
Output per unit of capital services	102.5	98.6	111.4	90.1	100.0	99.7	91.2	89.2	81.8	86.9	94.4	96.0
Multifactor productivity	71.9	85.2	97.9	92.0	100.0	101.0	98.7	99.8	99.2	105.1	110.7	114.7
Output	52.5	78.6	96.3	84.9	100.0	108.1	103.2	104.8	98.4	104.7	116.0	120.4
Inputs:												
Hours of all persons	84.4	97.3	103.1	91.4	100.0	106.5	101.7	101.1	92.9	93.5	99.5	98.9
Capital services	51.2	79.7	86.4	94.2	100.0	108.4	113.1	117.5	120.3	120.6	122.9	125.4
Combined units of labor and capital inputs	73.0	92.2	98.4	92.2	100.0	107.0	104.5	105.0	99.2	99.7	104.8	105.0
Capital per hour of all persons	60.7	82.0	83.8	103.1	100.0	101.7	111.2	116.2	129.4	129.0	123.6	126.7

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

(1977=100)

Item	1960	1970	1973	1975	1977	1979	1980	1981	1982	1983	1984	1985	1986
Business:													
Output per hour of all persons	67.6	88.4	95.9	95.7	100.0	99.6	99.3	100.7	100.3	103.0	105.3	106.4	107.1
Compensation per hour	33.6	57.8	70.9	85.2	100.0	119.1	131.5	143.7	154.9	161.5	168.1	175.3	180.9
Real compensation per hour	68.9	90.2	96.7	95.9	100.0	99.4	96.7	95.7	97.3	98.2	98.1	98.8	100.0
Unit labor costs	49.7	65.4	73.9	89.0	100.0	119.5	132.5	142.7	154.5	156.8	159.7	164.8	168.8
Unit nonlabor payments	46.4	59.4	72.5	88.2	100.0	112.5	118.7	134.6	136.6	146.3	156.3	159.7	161.8
Implicit price deflator	48.5	63.2	73.4	88.7	100.0	117.0	127.6	139.8	148.1	153.0	158.5	163.0	166.3
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	96.0	100.0	99.3	98.8	99.8	99.2	102.4	104.3	104.8	105.5
Compensation per hour	35.3	58.2	71.2	85.6	100.0	118.9	131.3	143.6	154.8	161.5	167.9	174.6	179.8
Real compensation per hour	72.3	90.8	97.1	96.4	100.0	99.2	96.6	95.7	97.2	98.2	98.0	98.4	99.4
Unit labor costs	49.7	65.2	73.9	89.2	100.0	119.7	132.9	144.0	156.0	157.7	161.0	166.7	170.4
Unit nonlabor payments	46.3	60.0	69.3	86.7	100.0	110.5	118.5	133.5	136.5	148.1	156.1	160.6	163.9
Implicit price deflator	48.5	63.4	72.3	88.3	100.0	116.5	127.8	140.3	149.2	154.3	159.3	164.6	168.1
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	96.7	100.0	99.8	99.1	99.6	100.4	103.5	105.6	106.8	106.9
Compensation per hour	36.9	59.2	71.6	85.9	100.0	118.7	131.1	143.3	154.3	159.9	165.9	172.3	176.5
Real compensation per hour	75.5	92.4	97.6	96.7	100.0	99.1	96.4	95.5	96.9	97.3	96.8	97.0	97.5
Total unit costs	49.4	64.8	72.7	90.3	100.0	118.2	133.4	147.7	159.5	159.5	161.5	165.8	169.1
Unit labor costs	50.2	65.0	73.4	88.8	100.0	119.0	132.3	143.8	153.8	154.5	157.0	161.2	165.0
Unit nonlabor costs	47.0	64.2	70.7	94.9	100.0	115.8	136.7	159.1	176.4	174.3	174.6	179.1	181.2
Unit profits	59.8	52.3	65.6	77.0	100.0	94.5	85.2	98.1	78.5	110.9	133.4	133.1	134.1
Unit nonlabor payments	51.5	60.1	68.9	88.6	100.0	108.4	118.6	137.8	142.1	152.1	160.1	163.0	164.7
Implicit price deflator	50.7	63.3	71.9	88.7	100.0	115.4	127.6	141.7	149.8	153.7	158.1	161.8	164.9
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	92.9	100.0	101.4	101.4	103.6	105.9	112.0	116.6	121.7	125.0
Compensation per hour	36.5	57.4	68.8	85.1	100.0	118.6	132.4	145.2	157.5	162.4	168.2	176.7	181.9
Real compensation per hour	74.8	89.5	93.8	95.9	100.0	99.1	97.4	96.7	98.9	98.8	98.1	99.5	100.5
Unit labor costs	58.7	71.0	73.7	91.7	100.0	117.0	130.6	140.1	148.7	145.0	144.2	145.1	145.5
Unit nonlabor payments	60.0	64.1	70.7	87.5	100.0	98.9	97.8	111.8	114.0	128.5	136.9	134.4	–
Implicit price deflator	59.1	69.0	72.8	90.5	100.0	111.7	121.0	131.8	138.6	140.2	142.1	142.0	–

– Data not available.

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

Country	Annual average		1985		1986				1987
	1985	1986	III	IV	I	II	III	IV	I
Total labor force basis									
United States	7.1	6.9	7.1	7.0	7.0	7.0	6.8	6.8	6.6
Canada	10.4	9.5	10.2	10.1	9.7	9.5	9.6	9.4	9.6
Australia	8.2	8.0	8.1	7.8	7.9	7.7	8.2	8.3	–
Japan	2.6	2.8	2.6	2.9	2.6	2.8	2.9	2.9	–
France	10.2	10.4	10.2	10.2	10.2	10.4	10.5	10.6	11.0
Germany	7.7	7.4	7.7	7.7	7.6	7.5	7.4	7.2	7.3
Italy [1, 2]	5.9	6.1	5.8	6.1	6.0	6.0	5.9	6.5	–
Sweden	2.8	2.6	2.7	2.7	2.7	2.6	2.6	2.6	–
United Kingdom	11.3	11.5	11.3	11.2	11.4	11.6	11.6	11.3	11.0
Civilian labor force basis									
United States	7.2	7.0	7.2	7.1	7.1	7.1	6.9	6.9	6.7
Canada	10.5	9.6	10.2	10.1	9.7	9.6	9.7	9.4	9.6
Australia	8.3	8.1	8.1	7.9	8.0	7.8	8.3	8.4	–
Japan	2.6	2.8	2.7	2.9	2.7	2.8	2.9	2.9	–
France	10.4	10.7	10.5	10.4	10.4	10.6	10.8	10.8	11.2
Germany	7.9	7.6	7.9	7.8	7.8	7.7	7.5	7.4	7.4
Italy[1, 2]	6.0	6.2	6.0	6.2	6.1	6.1	6.0	6.6	–
Sweden	2.8	2.7	2.8	2.7	2.8	2.6	2.6	2.6	–
United Kingdom	11.3	11.5	11.3	11.3	11.5	11.7	11.6	11.3	11.1

[1] Quarterly rates are for the first month of the quarter.

[2] Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would about double the Italian unemployment rate shown.

– 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.

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

(Numbers in thousands)

Employment status and country	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986
Labor force										
United States	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461	117,834
Canada	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639	12,870
Australia	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272	7,562
Japan	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820	59,410
France	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,340	23,540
Germany	25,870	26,000	26,250	26,520	26,650	26,710	26,740	27,890	27,090	27,280
Italy	20,510	20,570	20,850	21,120	21,320	21,410	21,590	21,670	21,800	21,970
Netherlands	4,950	5,010	5,100	5,310	5,520	5,600	5,730	5,720	5,830	–
Sweden	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418	4,437
United Kingdom	26,050	26,260	26,350	26,520	26,590	26,740	26,780	27,120	27,300	27,310
Participation rate[1]										
United States	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8	65.3
Canada	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2	65.7
Australia	62.7	61.9	61.6	62.1	61.9	61.7	61.4	61.5	61.8	63.0
Japan	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3	62.1
France	57.6	57.5	57.5	57.2	57.1	57.1	56.6	56.6	56.4	56.4
Germany	53.4	53.3	53.3	53.2	52.9	52.7	52.5	52.6	53.2	53.5
Italy	48.2	47.8	48.0	48.2	48.3	47.7	47.5	47.3	47.2	47.5
Netherlands	49.0	48.8	49.0	50.2	51.4	51.5	52.1	51.4	52.1	–
Sweden	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.6	67.1	67.3
United Kingdom	62.7	62.8	62.6	62.5	62.2	62.3	62.1	62.4	62.6	62.6
Employed										
United States	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597
Canada	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311	11,634
Australia	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670	6,952
Japan	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260	57,740
France	21,180	21,260	21,300	21,320	21,200	21,230	21,170	20,980	20,900	21,030
Germany	24,970	25,130	25,470	25,750	25,560	25,130	24,750	24,800	24,960	25,210
Italy	19,670	19,720	19,930	20,200	20,280	20,250	20,320	20,390	20,490	20,610
Netherlands	4,700	4,750	4,830	4,980	5,010	4,970	4,900	4,920	5,080	–
Sweden	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293	4,319
United Kingdom	24,400	24,610	24,940	24,670	23,800	23,710	23,600	23,960	24,210	24,160
Employment-population ratio[2]										
United States	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1	60.7
Canada	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4	59.4
Australia	59.2	58.0	57.8	58.3	58.4	57.3	55.3	56.0	56.6	57.9
Japan	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6	60.4
France	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.0	50.5	50.4
Germany	51.6	51.5	51.7	51.7	50.8	49.6	48.6	48.5	49.0	49.4
Italy	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4	44.6
Netherlands	46.5	46.3	46.4	47.0	46.6	45.7	44.6	44.2	45.4	–
Sweden	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.6	65.2	65.5
United Kingdom	58.7	58.8	59.2	58.1	55.7	55.3	54.7	55.2	55.5	55.4
Unemployed										
United States	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237
Canada	849	908	836	865	898	1,314	1,448	1,399	1,328	1,236
Australia	358	405	408	409	394	495	697	642	602	610
Japan	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560	1,670
France	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,440	2,510
Germany	900	870	780	770	1,090	1,580	1,990	2,090	2,130	2,070
Italy	840	850	920	920	1,040	1,160	1,270	1,280	1,310	1,360
Netherlands	250	260	270	330	510	630	830	800	750	–
Sweden	75	94	88	86	108	137	151	136	125	118
United Kingdom	1,660	1,650	1,420	1,850	2,790	3,040	3,180	3,170	3,090	3,150
Unemployment rate										
United States	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2	7.0
Canada	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5	9.6
Australia	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3	8.1
Japan	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6	2.8
France	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4	10.7
Germany	3.5	3.4	3.0	2.9	4.1	5.9	7.4	7.8	7.9	7.6
Italy	4.1	4.1	4.4	4.4	4.9	5.4	5.9	5.9	6.0	6.2
Netherlands	5.1	5.2	5.3	6.2	9.2	11.3	14.5	14.0	12.9	–
Sweden	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8	2.7
United Kingdom	6.4	6.3	5.4	7.0	10.5	11.8	11.9	11.7	11.3	11.5

[1] Labor force as a percent of the civilian working-age population.
[2] Employment as a percent of the civilian working-age population.
– Data not available.

47. Annual indexes of manufacturing productivity and related measures, 12 countries

(1977=100)

Item and country	1960	1970	1973	1974	1975	1976	1978	1979	1980	1981	1982	1983	1984	1985
Output per hour														
United States	62.2	80.8	93.4	90.6	92.9	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6	121.7
Canada	50.3	76.8	91.3	93.4	91.0	96.2	101.4	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	87.7	94.3	108.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	59.9	78.2	82.6	85.9	95.1	106.3	112.3	119.7	128.1	135.7	144.7	149.8	156.7
Denmark	37.2	65.5	83.2	86.0	94.6	98.2	101.5	106.5	112.3	114.2	114.6	117.0	118.2	119.1
France	36.4	69.6	82.2	85.2	88.5	95.0	105.7	110.3	112.0	116.4	123.5	128.8	133.8	138.3
Germany	40.3	71.2	84.0	87.4	90.1	96.5	103.1	108.2	108.6	111.0	112.6	119.1	123.5	130.4
Italy	36.5	72.7	90.9	95.3	91.1	98.9	103.0	110.5	116.9	121.0	123.4	126.6	133.5	137.6
Netherlands	32.4	64.3	81.5	88.1	86.2	95.8	106.4	112.3	113.9	116.9	119.4	127.5	141.2	145.6
Norway	54.6	81.7	94.6	97.7	96.8	99.7	101.8	107.1	106.7	107.0	109.8	116.3	119.3	120.5
Sweden	42.3	80.7	94.8	98.8	100.2	101.7	102.8	110.9	112.7	113.2	116.5	125.5	131.0	134.5
United Kingdom	55.4	79.9	95.7	97.2	*95.3	99.6	101.5	102.6	102.1	107.5	113.2	121.5	126.9	131.3
Output														
United States	52.5	78.6	96.3	91.7	84.9	93.1	106.0	108.1	103.2	104.8	98.4	104.7	116.0	120.4
Canada	41.5	75.1	94.6	98.0	92.3	98.1	104.9	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	86.2	94.8	106.7	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.6	78.0	95.7	99.5	92.0	99.4	101.6	104.4	107.3	106.0	110.5	112.1	114.1	115.1
Denmark	49.2	82.0	95.9	97.4	95.0	99.6	99.7	105.4	110.1	106.6	108.3	111.9	118.4	124.7
France	35.4	73.3	88.6	91.8	90.0	96.1	103.4	106.1	106.6	105.9	106.0	107.4	108.4	108.6
Germany	50.0	86.6	96.1	95.4	91.0	98.0	101.8	106.6	106.6	104.9	102.4	103.6	106.4	111.7
Italy	37.4	78.0	90.5	96.3	86.9	97.9	101.8	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	92.7	99.0	102.8	106.1	106.6	106.7	105.0	107.0	112.9	115.3
Norway	55.1	86.9	99.5	104.0	101.0	101.4	98.2	100.3	98.8	97.7	97.4	96.4	98.8	101.2
Sweden	52.6	92.5	100.3	105.7	106.1	106.1	97.3	103.6	104.0	100.6	100.1	105.2	111.5	113.8
United Kingdom	71.2	95.0	104.8	103.5	96.3	98.2	100.6	100.5	91.7	86.2	86.4	88.9	92.4	95.3
Total hours														
United States	84.4	97.3	103.1	101.2	91.4	95.9	104.4	106.5	101.7	101.1	92.9	93.5	99.5	98.9
Canada	82.6	97.7	103.6	105.0	101.4	102.0	103.4	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	98.2	100.6	98.8	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.1	130.2	122.3	120.4	107.1	104.6	95.5	93.0	89.6	82.8	81.4	77.5	76.2	73.5
Denmark	132.4	125.1	115.2	113.2	100.4	101.4	98.3	99.0	98.1	93.4	94.5	95.7	100.2	104.7
France	97.2	105.3	107.8	107.8	101.7	101.2	97.8	96.2	95.2	91.0	85.8	83.4	81.0	78.6
Germany	123.8	121.7	114.4	109.2	101.0	101.6	98.7	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	95.4	99.0	98.8	98.2	98.7	94.5	90.4	86.2	84.8	83.8
Netherlands	138.4	131.2	117.6	113.5	107.6	103.3	96.6	94.4	93.6	91.2	88.0	83.9	79.9	79.2
Norway	101.0	106.4	105.1	106.5	104.3	101.7	96.5	93.6	92.6	91.3	88.6	82.9	82.8	84.0
Sweden	124.4	114.6	105.7	107.0	105.9	104.3	94.6	93.4	92.3	88.9	85.9	83.9	85.1	84.6
United Kingdom	128.5	118.9	109.5	106.5	101.1	98.6	99.2	98.0	89.9	80.3	76.3	73.2	72.8	72.6
Compensation per hour														
United States	36.5	57.3	68.8	76.2	85.1	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Canada	27.1	46.5	59.2	68.5	78.2	89.9	106.7	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	84.2	90.7	106.6	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	79.0	89.5	107.8	117.5	130.4	144.5	150.7	159.8	173.1	181.4
Denmark	12.6	36.3	56.1	67.9	81.0	90.4	110.2	123.1	135.9	149.6	162.9	174.3	184.0	194.2
France	15.1	36.6	52.3	62.0	76.7	88.9	113.5	129.3	148.2	171.5	202.3	227.0	246.9	261.4
Germany	18.8	48.0	67.5	76.9	84.5	91.3	107.8	116.1	125.6	134.5	141.0	148.4	155.5	164.9
Italy	8.3	26.1	43.7	54.5	70.2	84.2	114.5	134.7	160.2	197.1	237.3	276.4	299.7	330.4
Netherlands	12.5	39.0	60.5	71.9	82.2	91.9	108.4	117.0	123.6	129.1	137.5	144.0	151.0	159.0
Norway	15.8	37.9	54.5	63.6	77.2	88.8	110.0	116.0	128.0	142.8	156.0	173.5	188.3	202.7
Sweden	14.7	38.5	54.2	63.8	77.3	91.5	111.4	120.1	133.6	148.1	158.9	173.3	189.7	208.9
United Kingdom	15.2	31.5	48.3	57.8	77.4	89.4	116.4	138.8	168.6	193.0	212.6	227.9	244.2	262.0
Unit labor costs: National currency basis														
United States	58.7	70.9	73.7	84.1	91.7	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Canada	53.9	60.6	64.8	73.3	86.0	93.5	105.3	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.0	96.2	98.7	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.2	68.4	78.9	91.9	94.2	101.4	104.7	109.0	112.8	111.1	110.5	115.6	115.8
Denmark	33.8	55.4	67.4	79.0	85.6	92.1	108.6	115.7	121.0	131.1	142.2	149.0	155.6	163.1
France	41.6	52.6	63.6	72.8	86.7	93.6	107.4	117.3	132.3	147.4	163.8	176.2	184.5	189.1
Germany	46.6	67.4	80.3	88.0	93.8	94.6	104.5	107.3	115.7	121.2	125.2	124.6	125.9	126.5
Italy	22.8	36.0	48.1	57.2	77.1	85.1	111.2	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	95.4	96.0	101.8	104.1	108.5	110.4	115.2	113.0	106.9	109.2
Norway	29.0	46.4	57.6	65.2	79.7	89.1	108.1	108.2	120.0	133.4	142.1	149.2	157.8	168.3
Sweden	34.8	47.7	57.2	64.6	77.1	90.0	108.4	108.3	118.6	130.9	136.3	138.1	144.8	155.3
United Kingdom	27.4	39.4	50.4	59.5	81.2	89.8	114.7	135.3	165.1	179.6	187.7	187.6	192.4	199.6
Unit labor costs: U.S. dollar basis														
United States	58.7	70.9	73.7	84.1	91.7	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Canada	59.0	61.7	68.8	79.7	89.8	100.7	98.1	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.7	86.9	126.8	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	63.1	72.7	89.7	87.5	115.6	127.9	133.7	109.2	86.9	77.4	71.7	69.9
Denmark	29.5	44.4	67.2	77.9	89.6	91.5	118.4	132.0	129.0	110.3	102.3	97.7	90.2	92.4
France	41.7	46.8	70.4	74.5	99.5	96.3	117.3	135.5	154.1	133.2	122.4	113.7	103.8	103.5
Germany	25.9	42.9	70.4	79.1	88.7	87.3	121.0	135.9	147.9	124.9	119.7	113.3	102.7	99.8
Italy	32.5	50.6	73.1	77.6	104.3	90.5	115.6	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	92.8	89.1	115.7	127.4	134.2	108.9	105.8	97.1	81.8	80.7
Norway	21.7	34.5	53.4	62.8	81.4	86.9	109.7	113.8	129.3	123.6	117.1	108.7	102.9	104.2
Sweden	30.1	41.1	58.7	65.1	83.2	92.3	107.2	112.9	125.3	115.4	96.9	80.4	78.2	80.6
United Kingdom	44.1	54.1	70.8	79.7	103.3	92.8	126.1	164.6	220.1	208.4	188.1	163.0	147.4	148.4

48. Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
PRIVATE SECTOR[3]									
Total cases	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0	7.9
Lost workday cases	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7	3.6
Lost workdays	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4	64.9
Agriculture, forestry, and fishing[3]									
Total cases	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0	11.4
Lost workday cases	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1	5.7
Lost workdays	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7	91.3
Mining									
Total cases	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7	8.4
Lost workday cases	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3	4.8
Lost workdays	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2	145.3
Construction									
Total cases	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5	15.2
Lost workday cases	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9	6.8
Lost workdays	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1	128.9
General building contractors:									
Total cases	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4	15.2
Lost workday cases	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9	6.8
Lost workdays	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3	120.4
Heavy construction contractors:									
Total cases	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9	14.5
Lost workday cases	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4	6.3
Lost workdays	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7	127.3
Special trade contractors:									
Total cases	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8	15.4
Lost workday cases	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1	7.0
Lost workdays	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1	133.3
Manufacturing									
Total cases	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6	10.4
Lost workday cases	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7	4.6
Lost workdays	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9	80.2
Durable goods									
Lumber and wood products:									
Total cases	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6	18.5
Lost workday cases	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9	9.3
Lost workdays	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0	171.4
Furniture and fixtures:									
Total cases	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3	15.0
Lost workday cases	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4	6.3
Lost workdays	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5	100.4
Stone, clay, and glass products:									
Total cases	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6	13.9
Lost workday cases	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6	6.7
Lost workdays	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8	127.8
Primary metal industries:									
Total cases	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3	12.6
Lost workday cases	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1	5.7
Lost workdays	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3	113.8
Fabricated metal products:									
Total cases	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1	16.3
Lost workday cases	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7	6.9
Lost workdays	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9	110.1
Machinery, except electrical:									
Total cases	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7	10.8
Lost workday cases	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1	4.2
Lost workdays	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8	69.3
Electric and electronic equipment:									
Total cases	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8	6.4
Lost workday cases	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8	2.7
Lost workdays	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0	45.7
Transportation equipment:									
Total cases	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3	9.0
Lost workday cases	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2	3.9
Lost workdays	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8	71.6
Instruments and related products:									
Total cases	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4	5.2
Lost workday cases	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2	2.2
Lost workdays	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5	37.9
Miscellaneous manufacturing industries:									
Total cases	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5	9.7
Lost workday cases	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3	4.2
Lost workdays	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2	73.2

See footnotes at end of table.

48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1977	1978	1979	1980	1981	1982	1983	1984	1985
Nondurable goods									
Food and kindred products:									
Total cases	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7	16.7
Lost workday cases	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1	8.1
Lost workdays	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6	138.0
Tobacco manufacturing:									
Total cases	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7	7.3
Lost workday cases	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2	3.0
Lost workdays	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7	51.7
Textile mill products:									
Total cases	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0	7.5
Lost workday cases	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0	3.0
Lost workdays	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0	57.4
Apparel and other textile products:									
Total cases	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7	6.7
Lost workday cases	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5	2.6
Lost workdays	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9	44.1
Paper and allied products:									
Total cases	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4	10.2
Lost workday cases	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7	4.7
Lost workdays	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8	94.6
Printing and publishing:									
Total cases	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5	6.3
Lost workday cases	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9	2.9
Lost workdays	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0	49.2
Chemicals and allied products:									
Total cases	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3	5.1
Lost workday cases	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4	2.3
Lost workdays	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8	38.8
Petroleum and coal products:									
Total cases	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1	5.1
Lost workday cases	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4	2.4
Lost workdays	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5	49.9
Rubber and miscellaneous plastics products:									
Total cases	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6	13.4
Lost workday cases	7.6	8.1	8.2	7.4	7.0	6.0	6.2	6.4	6.3
Lost workdays	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3	107.4
Leather and leather products:									
Total cases	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5	10.3
Lost workday cases	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7	4.6
Lost workdays	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4	88.3
Transportation and public utilities									
Total cases	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8	8.6
Lost workday cases	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2	5.0
Lost workdays	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1	107.1
Wholesale and retail trade									
Total cases	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4	7.4
Lost workday cases	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3	3.2
Lost workdays	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5	50.7
Wholesale trade:									
Total cases	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2	7.2
Lost workday cases	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5	3.5
Lost workdays	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5	59.8
Retail trade:									
Total cases	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5	7.5
Lost workday cases	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2	3.1
Lost workdays	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4	47.0
Finance, insurance, and real estate									
Total cases	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9	2.0
Lost workday cases	.8	.8	.9	.8	.8	.9	.9	.9	.9
Lost workdays	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6	15.4
Services									
Total cases	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2	5.4
Lost workday cases	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5	2.6
Lost workdays	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1	45.4

[1] Total cases include fatalities.

[2] 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 calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[3] Excludes farms with fewer than 11 employees since 1976.

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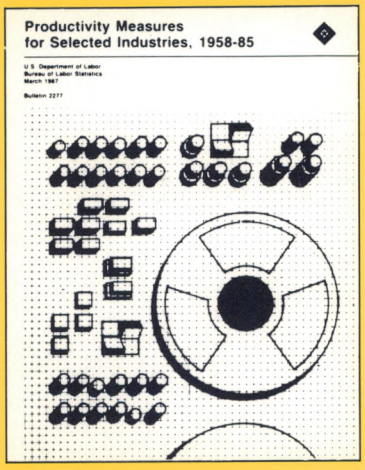

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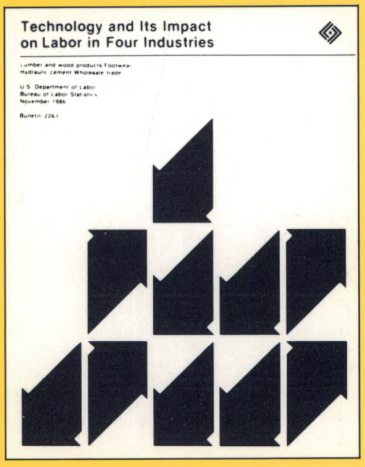

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