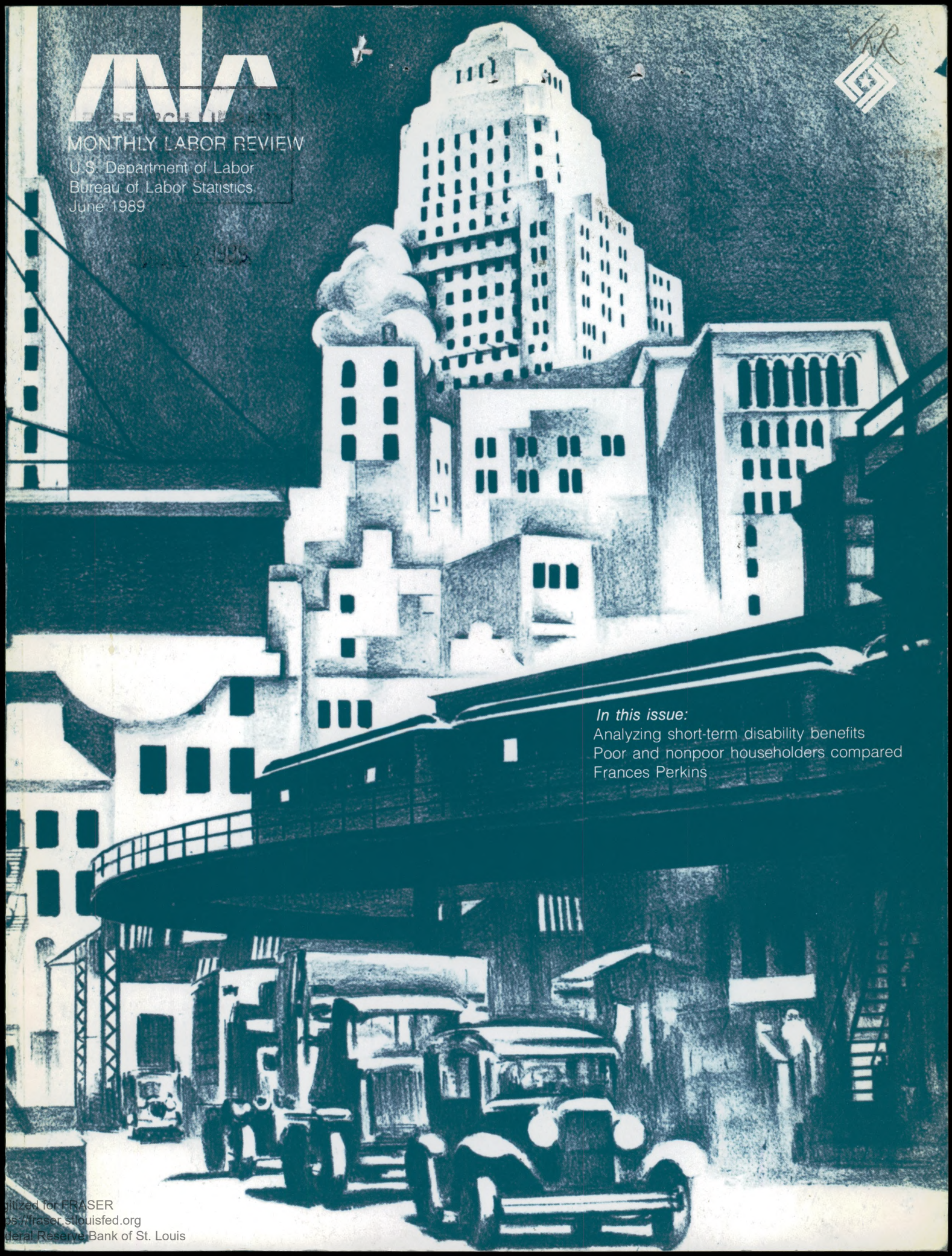

MONTHLY LABOR REVIEW

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Bureau of Labor Statistics
June 1989

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Frances Perkins

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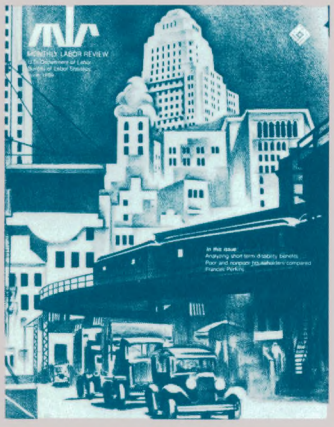

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Henry Lowenstern, Editor-in-Chief
Robert W. Fisher, Executive Editor

Labor Month In Review

THE NEED FOR TRAINING. Most American workers are not getting the training they need to keep their companies competitive, according to a new report by the American Society for Training and Development.

Called *The Learning Enterprise,* the report was prepared by the Society's Anthony P. Carnevale and Leila J. Gainer, on a grant from the U.S. Department of Labor's Employment Training Administration.

The report declares that job training is critically important both for individual opportunity and business competitiveness, but that there is not enough of it and it is unevenly distributed among the population, focusing mostly on white-collar and technical elites.

Among the report's recommendations is that, in the near term, companies should increase their commitment of formal training from $30 billion, which represents 1-1/2 percent of payroll and reaches 10 percent of the Nation's employees, to $44 billion, representing 2 percent of payroll and covering 15 percent of employees. For the long term, the report recommends a commitment of $88 billion, representing 4 percent of payroll and serving 30 percent of all employees.

Outdated curricula. *The Learning Enterprise* looks at the role of elementary and secondary schools, vocational institutions, and other learning systems in preparing workers for jobs, and at the kind of training that is provided on the job in various occupational categories.

According to the report, throughout most of this century, the United States had an oversupply of workers and a shortage of jobs. However, as the century draws to a close, the situation is reversing. By the year 2000, say the authors, "there are likely to be too few well educated and well-trained workers to satisfy the Nation's economic needs."

In this kind of an environment, human skills are replacing natural and machine resources as the basic building blocks of production and service delivery, the authors say. "The acquired skills and abilities of the population have become the pivotal resource."

The authors contend that high school students in the general and vocational education tracks are not well served either in school or on the job, even though they represent 61 percent of the high school population. This group, they say, appears to be receiving "a poor basic skills education and outdated occupational preparation that ultimately limits their opportunities and effectiveness in the workplace . . . (they) require new curricula that integrate the basics with job-related learning." According to the report, the employee training system mirrors the education system, providing more training and development opportunities to those with more education, and fewer opportunities to the less educated.

Skills and opportunities. The report has this to say on skills and individual opportunities:

Skills leverage an individual's earnings. On average, learning in school and on the job account for about half of the differences in what people earn in the United States. Career and locational choices, chance, and opportunity account for the other half. Each individual may trade earning power for a preferred location, occupation, or employer. But individuals with poor skills do not have much to bargain with; they are condemned to low earnings and limited choices.

Most studies show that, among Americans, about 10 percent of the differences in earnings over a lifetime can be attributed to preemployment learning in school. But this small figure masks wide variations in the importance of education in determining earning potential. For instance, education is more important in determining earnings of employees in high-tech industries than in other industries. In high-tech industries, earnings of a high school graduate are twice those of a dropout; earnings of someone with a post-graduate education are 30 percent higher than earnings of a college graduate. Ostensibly, education is a particularly good investment in these industries because it prepares employees for the highly skilled jobs these industries generate, and because it produces adaptable employees who can cope with rapid technical change.

Education also improves earnings because it leverages learning on the job. Skills learned in school and skills learned on the job are complementary. For instance, compared with persons who have only a high school diploma, those with 2 years of formal education beyond high school have a 20-percent greater probability of getting training on the job. College graduates have a 50-percent greater probability of getting training on the job than high school graduates. And in most American industries, workers with education beyond 4 years of college have a 30-percent greater probability of getting training on the job than college graduates.

Although educational attainment certainly influences earnings, learning on the job has the most powerful and substantial effect on earnings. Training in the workplace has effects on productivity and earnings beyond the current job. Most people, after all, use what they learn on their current jobs to get new and better jobs. Workplace training also seems to have a more durable influence on earnings than education and training from other sources. The positive effect of workplace learning on wages lasts 13 years, compared with 8 years in the case of learning in schools.

Learning in school and learning on the job are by far the most important factors accounting for American economic growth and productivity in this century and will determine the Nation's economic prospects in the next.

Single copies of the 54-page illustrated report are available from the American Society for Training and Development, 1360 Duke Street, Alexandria, VA 22313, telephone (703) 683-8100. □

Analyzing short-term disability benefits

For the first time, BLS has combined data on sick leave and sickness and accident insurance; results show that short-term disability benefits vary by length of service and between the private and public sectors

JAMES N. HOUFF AND WILLIAM J. WIATROWSKI

Since 1979, the Bureau of Labor Statistics Employee Benefits Survey (EBS) has reported on the availability of benefit plans that replace earnings lost during periods of short-term disability. Through 1986, this annual survey was conducted on full-time workers in medium and large private-sector firms whose minimum employment ranged from 50 to 250, depending on industry. Industries covered included manufacturing; mining; construction; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services.[1] In 1987 the survey was conducted in State and local governments,[2] and in 1988 it returned to the private-sector arena, for which survey findings are currently being tabulated. Regardless of year, the reports show that nearly all full-time employees of the sources surveyed have short-term protection, through either paid sick leave, paid sickness and accident insurance, or a combination of both. (See table 1.)[3]

All these EBS reports focused separately on the terms of sick leave and of sickness and accident insurance plans. This article, the first to look at combined benefits from the two sources, presents new measures of the number of days of paid time off available to employees for short-term disabilities.[4] By displaying the combined benefits of employees under more than one short-term disability plan, the new tabulations add to the existing data on individual sick leave and sickness and accident insurance plans. Beginning with the publication of the 1988 survey findings, the new measures will be regular features of EBS reports.

In the 1986 EBS, private-sector employees with 10 years of service had available an average of 127 days of short-term disability benefits. Since many of these days, particularly those from sickness and accident insurance plans, were paid at less than the regular rate of pay, the average number of full-pay equivalent days available was 76. The comparable averages for State and local government employees in 1987 were 47 days available and 28 full-pay equivalent days.

Short-term disability benefits

Of the two forms of short-term disability benefits, sick leave is often considered a continuation of salary and thus is most frequently found among salaried workers. As a result,

James N. Houff and William J. Wiatrowski are labor economists in the Division of Occupational Pay and Employee Benefit Levels, Bureau of Labor Statistics.

it covers the large majority of public-sector workers, as well as white-collar workers in the private sector.[5] Sickness and accident insurance plans are more common among blue-collar workers in the private sector, who are often paid an hourly wage rather than a salary.

Sick leave provides income replacement through operating funds of the establishment. The employee's full salary is generally replaced for a specified number of workdays lost, such number often increasing with length of service. Additional days off at less than full salary may also be available. (In 1986, 2 percent of the private-sector workers covered by sick leave plans had only partial-pay benefits available.)

Sick leave plans typically specify a number of paid days off. (A few plans grant leave "as needed.") When such days are specified, they can be on either an annual or per-disability basis. Annual plans (for example, 12 days per year) may allow employees to cash in unused benefits or carry them forward to future years. Per-disability plans (for example, 60 days per illness) renew the entire benefit duration for successive disabilities, eliminating the need to carry days forward. As shown in table 2, annual plans are far more common than per-disability plans, particularly in the public sector. In both plans, benefits are seldom subject to a waiting period.

Table 1. Percent of full-time employees in short-term disability benefit plans by type of plan, medium and large private firms, 1986, and State and local governments, 1987

Type of disability coverage	All employees	Professional and administrative employees	Technical and clerical employees	Production employees
Medium and large firms, 1986				
All employees	100	100	100	100
With short-term disability benefits	94	97	98	91
Sickness and accident insurance only	24	4	5	46
Paid sick leave only	46	69	63	23
Sickness and accident insurance and paid sick leave	25	24	30	22
Without short-term disability benefits	6	3	2	9
		Police and firefighters	**Teachers**	**All other employees**
State and local governments, 1987				
All employees	100	100	100	100
With short-term disability benefits	97	98	96	98
Sickness and accident insurance only	1	1	1	1
Paid sick leave only	83	84	91	79
Sickness and accident insurance and paid sick leave	14	13	5	18
Without short-term disability benefits	3	2	4	2

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 2. Percent of full-time employees in paid sick leave plans by type of plan, medium and large private firms, 1986, and State and local governments, 1987

Type of sick leave coverage	All employees	Professional and administrative employees	Technical and clerical employees	Production employees
Medium and large firms, 1986				
All employees	100	100	100	100
With paid sick leave	70	93	93	45
Annual sick leave only	51	59	68	37
Per-disability sick leave only	14	23	16	7
Both annual and per-disability sick leave	3	4	6	1
Other basis[2]	3	7	3	1
Without paid sick leave	30	7	7	55
		Police and firefighters	**Teachers**	**All other employees**
State and local governments, 1987				
All employees	100	100	100	100
With paid sick leave	97	97	95	97
Annual sick leave only	95	88	94	96
Per-disability sick leave only	(1)	(1)	(1)	(1)
Both annual and per-disability sick leave	(1)	(1)	(1)	(1)
Other basis[2]	1	8	(1)	(1)
Without paid sick leave	3	3	5	3

[1] Less than 0.5 percent.

[2] Sick leave provided "as needed," or switches from annual to per-disability sick leave after a stated period of service.

NOTE: Because of rounding, sums of individual items may not equal totals.

By contrast with sick leave, sickness and accident insurance plans provide less than full pay—either a dollar amount or a percent of wages—for a stated period, often 6 months. Moreover, benefits generally do not begin until after a waiting period, such as 1 week, is completed, thereby reserving payments for disabilities of longer duration. Typically, benefits do not vary with length of service.

Although most employees have only one source of short-term disability benefits, 25 percent of the full-time employees in medium and large private-sector firms and 14 percent in State and local governments could receive both sick leave and sickness and accident insurance. In these instances, benefits are coordinated by either starting insurance payments after sick leave pay ends or reducing sick leave pay by the amount of the insurance benefit.

Table 3. Average number of days and percent of pay covered under formal short-term disability plans for full-time participants, medium and large private firms, 1986, and State and local governments, 1987[1]

Length of service	Medium and large private firms, 1986											
	All participants			Professional and administrative participants			Technical and clerical participants			Production participants		
	Days available	Full-pay equivalent days	Replacement ratio[2]	Days available	Full-pay equivalent days	Replacement ratio[2]	Days available	Full-pay equivalent days	Replacement ratio[2]	Days available	Full-pay equivalent days	Replacement ratio[2]
At 1 year	110	58	53	104	70	67	94	56	60	122	53	43
At 5 years	120	70	58	117	85	73	108	72	67	128	59	46
At 10 years	127	76	60	126	96	76	117	82	70	132	62	47
At 20 years	133	85	64	132	104	79	124	93	75	139	69	50
At 30 years	134	87	65	133	108	81	125	96	77	140	70	50
	State and local governments, 1987											
	All participants			Teachers			Police and firefighters			All other participants		
At 1 year	38	24	63	24	19	79	40	28	70	44	25	57
At 5 years	46	28	61	25	19	76	46	31	67	54	31	57
At 10 years	47	28	60	26	20	77	47	32	68	55	31	56
At 20 years	47	29	62	26	20	77	48	32	67	56	32	57
At 30 years	48	29	60	26	20	77	49	33	67	57	32	56

[1] Coverage includes annual and per-disability sick leave, sickness and accident insurance, and any combinations available. Averages are for the first illness of the year, with no benefits carried over from prior years. Benefits may or may not require a waiting period, either initially, or between various payments. Full-pay equivalent days take into account days available at full and partial pay. (For example, an employee receiving 30 days at full pay and 60 days at half pay would have 60 full-pay equivalent days ($30 \times 1.00 + 60 \times .50$).)

[2] Represents the percent of full pay replaced during the available short-term disability days. An employee with 110 days available and 60 full-pay equivalent days has a replacement ratio of 55 percent.

NOTE: Averages exclude workers covered by plans that do not specify the maximum number of days available, and workers not covered by short-term disability benefit plans.

The new data

The new data show that large numbers of short-term disability days are available to employees as a result of sickness and accident insurance and per-disability sick leave plans. In addition, because of sick leave provisions, the duration of short-term disability benefits varies markedly with length of service (table 3). In 1986, medium and large private-sector firms made available to full-time employees an average of 110 paid days off at 1 year of service, and 134 days off at 30 years. Private-sector averages also varied by occupational group, ranging, for example, from 117 days for technical and clerical workers with 10 years of service to 132 days for production workers with the same number of years of service.

Tables 4 and 5 show the wide variations in benefits provided by individual employer plans. For example, in the private sector in 1986, the number of days available commonly ranged from under 10 to more than 240 at each length-of-service period examined.

Short-term disability payments, particularly from sickness and accident insurance, may be less than the regular rate of pay. To account for this, table 3 shows the number of full-pay equivalent days available. For example, for an employee who is allowed to receive benefits for 130 workdays at 50 percent of pay, the tabulation would show 130 days available, but only 65 full-pay equivalent days available (50 percent of 130 days).

Table 3 also shows the replacement ratio, that is, the percent of an employee's regular pay that is received during available short-term disability days. Replacement ratios are computed by dividing the number of full-pay equivalent days by the number of days available. For example, for an employee who has 100 days available, but only 70 full-pay equivalent days, the replacement ratio is 70 percent.

Table 3 shows that at 10 years of service, private-sector workers have an average of 127 days of short-term disability leave available. But because many of these would be paid at partial pay, workers would be provided the equivalent of 76 days at full pay. Thus, if an employee who received average benefits were out of work for the entire 127-day period, 60 percent (76 divided by 127) of lost pay would be replaced. The flow of income, however, would not necessarily be constant over the disability period. If the initial days away from work were covered by paid sick leave (at full pay), and the remainder by sickness and accident insurance (at partial pay), the initial replacement rate would be higher than that subsequently received.

In this regard, full-pay equivalent days are highest in relation to total days available in occupational groups that receive predominantly sick leave benefits, such as private-sector professional and administrative workers. The ratio of full-pay equivalent days to all available days in 1986 was 79 percent for professional and administrative workers at 20

years of service, higher than for any other group shown in table 3 with comparable seniority. At the other extreme, the replacement rate was 50 percent for production workers, who rely more heavily on benefits from sickness and accident insurance.

Comparison of the data in table 3 for the private and public sectors yields two significant findings: private-sector workers have greater numbers of paid benefit days than do their public-sector counterparts, and their full-pay equivalent benefits vary more than those of public-sector employees by length of service.[6] These findings reflect both the availability and characteristics of benefit plans in the two sectors. First, private-sector workers are more likely to receive combined sick leave and sickness and accident insurance benefits, whereas government employees predominantly receive just annual sick leave benefits, commonly 12 or 13 days per year with no variation by years of service. Second, annual sick leave plans in the private sector provide greater benefits than do those in government, and the benefits often increase with employee service. In the private sector, average annual sick leave benefits in 1986 ranged from 15 days at 1 year of service to over 40 days at 25 years of service. Per-disability plans, while less common, were even more generous and also increased benefits with length of service. Under these plans, benefits averaged 52 days at 1 year, and 137 days at 25 years, of service.

The greater number of days in private-sector plans is counterbalanced by the more common provision in government plans for carrying over unused sick leave to future years. More than 9 out of 10 public-sector workers in short-term disability plans may carry forward unused sick leave benefits, while this feature is available to fewer than one out

Table 4. Percent of full-time participants in formal short-term disability benefit plans, by days of coverage,[1] medium and large private firms, 1986

Length of service and days of coverage	All participants		Professional and administrative participants		Technical and clerical participants		Production participants	
	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days
Total	100	100	100	100	100	100	100	100
At 1 year:								
Under 10	12	15	13	13	14	15	10	15
10 and under 30	15	24	19	24	23	30	7	21
30 and under 60	4	20	6	12	6	17	2	27
60 and under 90	10	19	6	19	7	16	15	20
90 and under 120	2	8	3	11	2	7	3	6
120 and under 150	41	10	38	14	36	11	46	8
150 and under 180	1	2	3	3	1	2	(2)	2
180 and under 210	2	1	3	1	2	(2)	2	(2)
210 and under 240	(2)	1	(2)	2	(2)	1	—	(2)
240 and under 270	11	(2)	7	(2)	8	(2)	16	(2)
270 and over	1	(2)	2	(2)	1	(2)	1	—
At 5 years:								
Under 10	9	12	10	10	9	10	8	13
10 and under 30	10	18	13	16	17	20	5	18
30 and under 60	4	22	5	13	5	20	2	28
60 and under 90	12	19	8	18	11	17	15	20
90 and under 120	4	12	5	16	5	14	4	8
120 and under 150	42	9	40	15	37	9	46	6
150 and under 180	2	5	4	5	3	6	(2)	5
180 and under 210	2	1	4	3	2	1	2	1
210 and under 240	(2)	1	1	2	(2)	2	(2)	(2)
240 and under 270	12	(2)	8	1	9	1	16	(2)
270 and over	2	(2)	2	1	2	(2)	1	(2)
At 10 years:[3]								
Under 10	9	11	10	10	9	10	8	13
10 and under 30	10	17	12	15	16	19	5	17
30 and under 60	3	20	4	11	3	16	2	28
60 and under 90	11	16	8	14	10	15	14	19
90 and under 120	5	13	5	15	6	16	4	10
120 and under 150	42	11	38	18	37	11	47	6
150 and under 180	1	7	2	8	1	8	(2)	5
180 and under 210	3	2	4	4	3	2	3	1
210 and under 240	1	2	1	3	1	2	(2)	1
240 and under 270	14	1	12	2	12	2	17	(2)
270 and over	2	(2)	3	1	2	1	1	(2)

[1] Coverage includes annual and per-disability sick leave, sickness and accident insurance, and any combinations available. Data are for the first illness of the year, with no benefits carried over from prior years. Benefits may or may not require a waiting period, either initially, or between various payments. Full-pay equivalent days are weighted averages of days available at full and partial pay.

[2] Less than 0.5 percent.

[3] Provisions were virtually the same after longer years of service.

NOTE: Tabulations exclude workers covered by plans that do not specify the maximum number of days available, and also workers not receiving benefits. Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

Table 5. Percent of full-time participants in formal short-term disability benefit plans, by days of coverage,[1] State and local governments, 1987

Length of service and days of coverage	All participants		Teachers		Police and firefighters		All other participants	
	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days	Days available	Full-pay equivalent days
Total	100	100	100	100	100	100	100	100
At 1 year:								
Under 10	5	5	6	6	3	3	5	5
10 and under 20	75	75	83	83	70	73	72	72
20 and under 30	3	3	3	2	8	7	3	3
30 and under 60	1	6	(2)	3	2	5	1	7
60 and under 90	1	6	1	3	(2)	5	1	8
90 and under 120	2	2	2	1	1	1	2	2
120 and under 150	11	1	4	(2)	13	4	14	1
150 and over	3	1	1	1	3	2	3	1
At 5 years:								
Under 10	4	4	6	6	2	2	4	4
10 and under 20	75	76	83	84	69	71	72	73
20 and under 30	2	2	1	1	7	7	2	2
30 and under 60	1	7	1	3	3	7	1	8
60 and under 90	2	6	1	3	1	4	2	7
90 and under 120	2	2	2	1	1	1	2	2
120 and under 150	10	1	5	(2)	12	4	12	2
150 and over	4	2	1	1	4	3	5	3
At 10 years:[3]								
Under 10	4	4	6	6	2	2	4	4
10 and under 20	73	74	83	83	67	69	70	70
20 and under 30	3	4	2	1	9	9	3	4
30 and under 60	1	6	(2)	3	2	6	1	7
60 and under 90	1	6	1	3	1	6	1	8
90 and under 120	3	2	2	1	2	1	3	2
120 and under 150	10	2	4	(2)	12	4	12	2
150 and over	4	2	2	1	4	3	5	3

[1] Coverage includes annual and per-disability sick leave, sickness and accident insurance, and any combinations available. Data are for the first illness of the year, with no benefits carried over from prior years. Benefits may or may not require a waiting period, either initially, or between various payments. Full-pay equivalent days are weighted averages of days available at full and partial pay.

[2] Less than 0.5 percent.

[3] Provisions were virtually the same after longer years of service.

NOTE: Tabulations exclude workers covered by plans that do not specify the maximum number of days available, and also workers not receiving benefits. Because of rounding, sums of individual items may not equal totals.

Table 6. Percent of short-term disability by source of payment and length of service, medium and large firms, 1986

Percent of days available	Length of service				
	At 1 year	At 5 years	At 10 years	At 20 years	At 30 years
All participants:					
Total days available	100	100	100	100	100
From sick leave only	34	38	41	42	42
From sickness and accident insurance	66	60	57	56	56
Combination[1]	1	1	2	2	2
Professional and administrative participants:					
Total days available	100	100	100	100	100
From sick leave only	59	64	67	68	68
From sickness and accident insurance	39	33	29	28	28
Combination[1]	2	3	4	4	4
Technical and clerical participants:					
Total days available	100	100	100	100	100
From sick leave only	49	55	58	59	60
From sickness and accident insurance	50	42	38	37	37
Combination[1]	2	3	3	4	4
Production participants:					
Total days available	100	100	100	100	100
From sick leave only	14	16	18	18	18
From sickness and accident insurance	86	84	82	82	81
Combination[1]	(2)	(2)	(2)	(2)	(2)

[1] Short-term disability benefit payments are provided from both sick leave and sickness and accident insurance plans for these days.

[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

Table 7. Percent of short-term disability days available by source of payment and length of service, State and local governments, 1987

Percent of days available	Length of service				
	At 1 year	At 5 years	At 10 years	At 20 years	At 30 years
All participants:					
Total days available	100	100	100	100	100
From sick leave only	37	34	35	36	37
From sickness and accident insurance	62	65	64	63	63
Combination[1]	1	1	1	1	1
Teachers:					
Total days available	100	100	100	100	100
From sick leave only	60	61	62	62	62
From sickness and accident insurance	40	39	38	38	38
Combination[1]	(2)	(2)	(2)	(2)	(2)
Police and firefighters:					
Total days available	100	100	100	100	100
From sick leave only	47	43	44	46	47
From sickness and accident insurance	53	56	55	54	53
Combination[1]	(2)	(2)	(2)	(2)	(2)
All other participants:					
Total days available	100	100	100	100	100
From sick leave only	31	29	29	30	31
From sickness and accident insurance	68	71	70	69	68
Combination[1]	1	1	1	1	1

[1] Short-term disability benefit payments are provided from both sick leave and sickness and accident insurance plans for these days.

[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals.

of four private-sector plan participants. The effect of carryover provisions could not be factored into the data of tables 3–5, but their greater presence in government plans must be considered when making comparisons between the two sectors.

Relative importance of components

The duration of short-term disability benefits available to employees at specific service intervals is composed of sick leave days, sickness and accident insurance days, and combined benefit days. (Combined benefit days are those days on which both sick leave and sickness and accident insurance benefits are received.) Tables 6 and 7 show the relative importance of these three components.

In the private sector, sick leave benefits make up about a half to two-thirds of the total days available for white-collar workers, depending upon length of service, but less than a fifth of the blue-collar total. This difference reflects the greater availability of sickness and accident insurance plans for blue-collar workers. As table 6 shows, in all three occupational groups, the importance of sick leave rises with seniority.

By contrast with the data for the private sector, public-sector figures are affected more by the large difference in the length of sick leave and that of sickness and accident insurance benefits than by variations in their incidence. Even though sickness and accident insurance plans are less common in the public sector, their large numbers of days available compared with relatively small numbers of sick leave days influence the distribution of days. Thus, sickness and accident insurance days make up nearly two-thirds of the total days available for all workers and predominate in all occupations except teaching (table 7). In both the private and public sectors, combined days, available to only a small percentage of workers, were a minor component of total days available. □

FOOTNOTES

[1] The most recent of these reports is *Employee Benefits in Medium and Large Firms, 1986*, Bulletin 2281, Bureau of Labor Statistics, 1987.

[2] Data are in *Employee Benefits in State and Local Governments, 1987*, Bulletin 2309, Bureau of Labor Statistics, 1988.

[3] For additional information on short-term disability benefits, see William J. Wiatrowski, "Employee income protection against short-term disabilities," *Monthly Labor Review*, February 1985, pp. 32–38.

[4] Income replacement for employees disabled for longer periods—generally in excess of 6 months or 1 year—is often available through employer-sponsored long-term disability insurance or disability provisions of defined benefit pension plans. See Diane Hill, "Employer-sponsored long-term disability insurance," *Monthly Labor Review*, July 1987, pp. 16–22, and Donald Bell and William Wiatrowski, "Disability benefits for employees in private pension plans," *Monthly Labor Review*, August 1982, pp. 36–40.

[5] Data are reported for full-time employees and for three broad occupational groupings constituting this total. In the survey of medium and large private firms, employees are classified as professional and administrative, technical and clerical, or production. (The first two groups are considered white-collar, the last blue-collar, employees.) State and local government workers are classified as teachers, police and firefighters, and all other employees (those not falling into the first two groups).

[6] A detailed comparison of benefits offered to private- and public-sector employees is available in a series of articles published in the December 1988 *Monthly Labor Review*. See William J. Wiatrowski, "Comparing employee benefits in the public and private sectors," pp. 3–8; Allan P. Blostin, Thomas P. Burke, and Lora M. Lovejoy, "Disability and insruance plans in the public and private sectors," pp. 9–17; and Lora Mills Lovejoy, "The comparative value of pensions in the public and private sectors," pp. 18–26.

APPENDIX: Counting disability days

The tabulations of total short-term disability benefits in this article include formal plans for paid time off through sick leave at full and partial pay, and sickness and accident insurance. Plans providing unlimited sick leave benefits and those providing benefits at the discretion of a supervisor were excluded because it was not possible to assign a specific duration to their benefits.

The tabulations presented project the benefits available to employees for their first disability of the year. Thus, the full sick leave benefit is assumed available. For plans that renew the entire benefit for successive disabilities (per-disability sick leave and sickness and accident insurance plans), the tabulations reflect the length of paid time off for a single spell of disability. For annual sick leave plans, the counts reflect the number of days available in a year and assume that no sick leave days were carried forward from prior years.

The tabulations take account of benefit coordination, in which employees are covered by both annual and per-disability sick leave plans or sick leave and sickness and accident insurance. For example, an employee may have available 30 days of annual sick leave and 130 days of sickness and accident insurance beginning after a 1-week waiting period. The total number of days available to the employee would then depend on how the benefits were coordinated. If the insurance plan begins benefits after 1 week away from work, regardless of the existence of sick leave, but sick leave is reduced by the amount of the in-

surance payments, the employee's maximum credit would be 135 days of short-term disability benefits. Conversely, if the insurance benefits begin at the end of the waiting period or the exhaustion of sick leave, whichever is later, the employee would be credited with 160 days.

It should be noted that waiting periods under sickness and accident insurance plans may be shortened, or eliminated entirely, for employees who have been in an accident or whose disability requires hospitalization. Waiting periods reflected in the tabulations are those for illnesses not requiring hospitalization.

The measures of full-pay equivalent days reported takes into account days available at full and partial pay. For instance, an employee with 30 sick leave days at full pay and 60 sick leave days at half pay is shown as having 90 days available, but only 60 full-pay equivalent days (30 *X* 1.00 + 60 *X* .50). For sickness and accident insurance plans that expressed benefits as a dollar amount per week, such as $200 per week, full-pay equivalent days were based on assumed earnings. For 1986, annual earnings of $23,192 were used; for 1987, $26,988. These figures are derived from BLS average earnings and employment cost index data.

Work sharing

The current advocacy of shorter hours and work sharing implies a large-scale response to the social and economic problems of mass unemployment. It therefore has to be distinguished from an old-established approach to work sharing: a temporary arrangement among workers at a firm or establishment in response to a downturn in business. In such cases, to avoid layoffs, all workers accept a reduced workweek at reduced pay: short-time working. This approach has been encouraged in some countries in recent times by the provision of state subsidies for short-time working to bring wages closer to their normal level. In all such cases, however, the arrangement is limited to a short period, and is to be replaced by normal working at normal wages once the business setback has been overcome, or by a reduction of the work force and resumption of normal hours if the business problem proves to be protracted.

—MICHAEL WHITE
Working Hours: Assessing the Potential for Reduction (Washington, International Labour Office, 1987), p. 27.

International comparisons of hourly compensation costs

In 1988, U.S. hourly compensation costs increased by 3.3 percent; after exchange rate adjustments, compensation costs in 22 foreign countries rose faster than those in the United States

PATRICIA CAPDEVIELLE

In 1988, hourly compensation costs for manufacturing production workers in Canada rose to 98 percent of average U.S. costs and in Japan the level rose to 95 percent of U.S. costs. (See table 1 and chart 1.) The trade-weighted average cost level for 15 European countries rose to 105 percent of the U.S. level and the average cost level in the Asian newly industrializing economies of Hong Kong, Korea, Singapore, and Taiwan rose to 19 percent of U.S. costs. For all 22 foreign countries for which 1988 data are available, the trade-weighted average compensation cost level rose from 80 percent of the U.S. cost level in 1987 to 87 percent in 1988. Canada and Japan accounted for two-thirds of this relative increase.

Compensation cost levels in 1988 were higher than 1987 relative costs for all 22 foreign countries or areas. For Japan, Korea, Taiwan, and Hong Kong, they were also new long-term highs relative to the U.S. cost level. France, Germany, Italy, Switzerland, and five other European countries also exceeded their previous peaks versus U.S. cost levels. However, Canada, Australia, Belgium, Denmark, the Netherlands, Portugal, and Sweden were still below earlier peaks recorded between 1975 and 1980, and Singapore was below its 1984 peak.

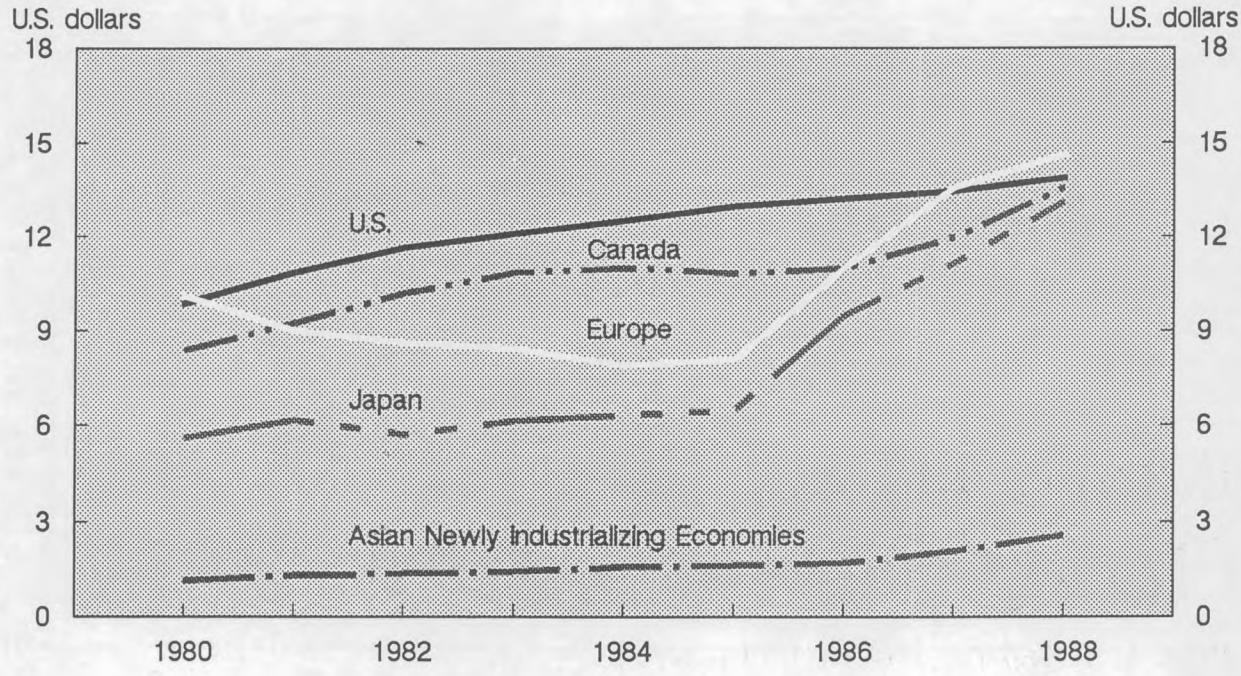
The 1988 average compensation costs for the European countries were up significantly from their 1985 low, but just 2 percentage points above their previous 1980 peak, relative to U.S. cost levels. For all 22 foreign countries, however, the 1988 average cost level was 14 percentage points above the 1980 peak, reflecting the much higher 1988 relative cost levels for Canada and Japan.

Compensation costs include pay for time worked, other direct pay, employer expenditures for legally required insurance programs and contractual and private benefit plans, and for some countries, other labor taxes. Social insurance cost increases contributed modestly to the 1988 compensation cost increases for the United States, Canada, Singapore, and several European countries. For Finland and the Netherlands, reductions in annual hours worked in the form of additional paid holidays contributed 1 percent to their 1988 cost increases.

In the United States, hourly compensation costs increased 3.3 percent from 1987 to 1988. Only Belgium, the Netherlands, and Switzerland showed compensation increases

Patricia Capdevielle is an economist in the Division of Foreign Labor Statistics, Office of Productivity and Technology, Bureau of Labor Statistics.

Chart 1. Hourly compensation costs for production workers in manufacturing, 1980-88



more moderate than in the United States. After adjustment for exchange rates, compensation costs in all of the foreign countries rose at a higher rate than those in the United States. The average compensation cost increase in all 22 foreign countries was about 6.5 percent in national currency terms and 15 percent in U.S. dollars. The average change in national currency was larger than for 1987, but the change in U.S. dollars was smaller.

Recent exchange rates. As of January 1989, the value of the Canadian dollar was 3 percent higher than its 1988 average, the Japanese yen and the British pound were unchanged from 1988 average values, while most other European currency values were 4 to 6 percent lower. Among other Pacific rim countries or areas, the relative value of the Australian dollar was 11 percent higher; the Korean won, 7 percent higher; the Taiwan and Singapore dollars, 3 and 4 percent higher, respectively; and the Hong Kong dollar, unchanged. Assuming their underlying compensation trends continue, these changes should put Canada's hourly compensation cost level about on par with the United States, bring costs for Australia to more than 85 percent of the U.S. level, and raise costs further for Korea, Taiwan, and Singapore. The lower European exchange rates should reduce most European cost levels, unless their underlying hourly compensation changes are significantly greater than those in the United States.

Trade-weighted measures and trade weights. The measures of hourly compensation costs were developed in order to provide a basis for assessing international differences in employer labor costs. The measures are often used in analyses of changes in the relative competitive position of the United States and other countries in the international trade of manufactures. Hourly labor costs are an important element in determining the underlying price competitiveness of manufactured products.

The series provide comparative compensation costs on a country-by-country basis, however, while the countries covered differ greatly in their relative importance to U.S. trade in manufactured goods. For example, Canada and Japan each accounted for 20 percent of total U.S. imports and exports of manufactured goods in 1986; Mexico, Korea, Taiwan, and the four large European countries each accounted for 3 to 7 percent; while some other countries covered accounted for .5 percent or less. Therefore, the Bureau has computed trade-weighted measures that take account of these differences. Measures are computed for all foreign countries and for selected country groups, such as Europe and the Asian newly industrializing economies.

The trade weights used are the sum of 1986 U.S. imports of manufactured products for consumption (customs value) and U.S. domestic exports of manufactured products (f.a.s. value), both adjusted to eliminate the U.S. value content of

Table 1. Indexes of hourly compensation costs for production workers in manufacturing and trade share, 30 countries or areas, selected years

[United States = 100]

Country or area	Trade share[1]	1980	1985	1986	1987	1989
United States	—	100	100	100	100	100
Canada	19.9	85	83	83	89	98
Brazil	1.7	14	9	12	11	—
Mexico	3.1	30	16	11	12	—
Australia	1.4	86	63	64	69	79
Hong Kong	2.3	15	14	14	16	17
Israel	.8	39	31	39	47	—
Japan	20.4	57	50	72	83	95
Korea	3.5	10	10	11	13	18
New Zealand	.3	54	34	40	51	—
Singapore	1.5	15	19	17	17	19
Sri Lanka	.1	2	2	2	2	—
Taiwan	4.8	10	11	13	16	19
Austria	.3	87	56	78	97	100
Belgium	1.7	133	69	93	112	113
Denmark	.4	111	63	84	108	114
Finland	.2	84	62	81	100	111
France	3.1	91	58	78	92	93
Germany	6.8	125	74	101	125	130
Greece	.1	38	28	31	34	—
Ireland	.5	60	45	59	68	71
Italy	2.9	81	56	75	90	93
Luxembourg	—	122	59	80	—	—
Netherlands	2.0	123	69	96	116	117
Norway	.3	119	82	103	129	140
Portugal	.2	21	12	16	19	20
Spain	.9	61	37	49	58	63
Sweden	1.2	127	75	94	112	121
Switzerland	1.4	113	75	104	127	129
United Kingdom	4.4	76	48	57	67	76
22 foreign countries[2]	80.0	73	57	69	80	87
OECD[3]	67.9	83	65	79	91	99
Europe[4]	26.2	103	63	83	101	105
Asian newly industrializing economies[5]	12.1	12	13	13	15	19

[1] Share of U.S. trade in manufactured goods in 1986.

[2] The 22 countries for which 1988 data are available.

[3] Canada, Australia, Japan, and the 15 European countries for which 1988 data are available.

[4] The 15 European countries for which 1988 data are available.

[5] Hong Kong, Korea, Singapore, and Taiwan.

NOTE: Dash indicates data not available.

U.S. imports under items 806.30 and 807.00 of the U.S. Tariff Schedules. Table 1 shows the share of U.S. adjusted trade in manufactured goods for each country or area and selected country groups. All 30 countries or areas included in the table accounted for 88.3 percent of U.S. manufactured goods trade in 1986. China and Venezuela are the only countries not covered that account for as much as 1 percent of such trade. The trade-weighted measures featured in this article and shown in the table and chart relate to the 22 foreign countries or areas for which 1988 data are available; their total share of U.S. trade in manufactured goods was 80 percent in 1986.

International Comparisons of Hourly Compensation Costs for Production Workers in Manufacturing, 1975–1987, Report 754 (August 1988); and for 1988, Report 766 (March 1989), are available from the Bureau of Labor Statistics, Washington, DC 20212. The reports present comparative levels and trends in compensation costs in 30 countries or areas. These comparative measures have been developed to provide a basis for assessing international differences in employer labor costs. Definitions, methods, and data limitations are summarized in the reports. □

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.

Poverty in the 1980's: are the poor getting poorer?

Based on several different measures, poor persons were no closer to their respective poverty thresholds in 1986 than at the beginning of the decade

MARK S. LITTMAN

Many recent discussions of socioeconomic change have focused on whether or not America's middle class is disappearing. By implication, these discussions raise questions about the level of deprivation of the poor as well. For example, Robert Greenstein, director of the Center on Budget and Policy Priorities, testified before a Senate committee that "The average poor family now falls further below the poverty line than at anytime since 1963, with the exception of the recession and high unemployment years of 1982 and 1983. . . .the 'poorest of the poor' category. . .reached its highest level in more than a decade."[1] And in a similar vein, Tom Wicker, in a recent article citing figures by the sponsors of Justice for All Day, wrote, "As always the poor are getting poorer. Adjusted for inflation the amount by which the incomes of the poor fell below the poverty line rose to $49.2 billion in 1986, from $39.5 billion in 1980."[2]

This article addresses the issue of whether or not it is demonstrable that the poor are worse off now, in the aggregate, than they were at the beginning of the 1980's (and, where possible, since 1959). Money income is the only measure used, although the effects of various noncash benefits are discussed. Several indicators of relative well-being, based on the Federal Government's official definition of poverty, are defined, and the data are official poverty figures derived from the Current Population Survey and published by the Census Bureau in its *Current Population Reports*.[3] The Government's definition of poverty consists of a set of money income thresholds that vary by family size and number of children and are adjusted annually for inflation by multiplying by the change in the Consumer Price Index. In 1986, the average poverty threshold for a four-person family was $11,200, but thresholds ranged from about $5,600 for a person living alone to $22,500 for a family of nine or more.[4]

Aggregate income deficit

The aggregate income deficit is the amount of money needed to raise the money incomes of all poor families and unrelated persons[5] just above the poverty level applicable to their family size in any given year. In other words, it is the aggregate difference between the income received by poor

Mark S. Littman is a sociologist in the Poverty and Wealth Statistics Branch, U.S. Bureau of the Census. The views expressed in this article are those of the author and do not necessarily reflect the views of the Census Bureau.

families and unrelated persons and their particular poverty thresholds. Since this deficit is based on income in a particular year, it needs to be put into constant dollars for interyear comparisons. Table 1 shows the combined aggregate income deficit for all poor families and unrelated persons, in current dollars as well as constant 1986 dollars. In constant dollars, the aggregate income deficit in 1986 was $49.2 billion, an amount higher than in any year but two: the $51 billion deficit in 1983, the most recent peak of the poverty population in size and rate, and the $51.4 billion deficit in 1959, the first year for which poverty statistics were published using the official definition.

The aggregate income deficit is not without shortcomings. For one, its size is obviously influenced by the size of the aggregate population living in poverty, making it difficult to judge whether or not the poor, on average, need a greater or lesser amount of cash income each year to reach their poverty threshold. Also, it is influenced by demographic shifts within the population living in poverty which affect which thresholds are applied. Finally, it is impossible to compare the relative deprivation of different segments of the poverty population using the aggregate income deficit.

Average income deficit

The average (mean) income deficit overcomes some of these deficiencies in the aggregate deficit regarding interyear comparisons. The income deficit is the amount of money separating the income of a given family or unrelated person from the appropriate poverty threshold. In 1986, the average income deficit for families was $4,394, a figure that has remained statistically unchanged since 1982 (in 1986 dollars), but has increased since the mid- to late 1970's. (See table 2.) In 1959, the average deficit for families was about the same ($4,435), but it decreased to $3,837 by 1969 and then varied little from that amount during the 1970's.

Table 1. Combined aggregate income deficit, in current and constant 1986 dollars, families and unrelated persons, 1959–86

Year	Aggregate income deficit, current dollars (thousands)	Aggregate income deficit, 1986 dollars (thousands)
1959	$13,667,904	$51,418,654
1965	11,607,850	40,337,278
1969	10,120,077	31,728,079
1970	11,447,204	32,326,904
1971	12,033,576	32,574,890
1972	12,031,807	31,535,366
1973	11,979,272	29,552,864
1974	14,250,925	31,679,806
1975	16,085,838	32,766,852
1976	16,730,456	32,222,858
1977	17,758,655	32,125,406
1978	19,513,880	32,802,832
1979	22,741,320	34,362,134
1980	29,715,299	39,551,062
1981	37,014,391	44,639,355
1982	42,912,506	48,748,606
1983	45,965,844	51,026,683
1984	46,339,390	48,934,395
1985	47,811,780	48,720,203
1986	49,211,130	49,211,130

Table 2. Mean income deficit, in constant 1986 dollars, for all poor families and unrelated persons, 1959–86

Year	Mean deficit, poor families	Deficit per family member, all families	Mean deficit, unrelated persons
1959	$4,435	$1,068	$2,945
1965	4,204	996	2,502
1969	3,837	978	2,324
1970	4,007	1,019	2,276
1971	3,914	1,018	2,292
1972	3,934	1,019	2,369
1973	3,890	1,026	2,304
1974	4,101	1,078	2,225
1975	3,966	1,038	2,191
1976	3,836	1,038	2,216
1977	3,938	1,072	2,149
1978	3,983	1,102	2,165
1979	4,081	1,119	2,259
1980	4,136	1,138	2,221
1981	4,234	1,167	2,408
1982	4,425	1,215	2,400
1983	4,426	1,216	2,457
1984	4,389	1,220	2,401
1985	4,359	1,235	2,408
1986	4,394	1,260	2,492

Like the aggregate income deficit, the average income deficit for families has its own shortcomings, chief among them being that it masks changes in family size over time and varying mixes of family type. As an extreme example, if the average family size was two persons in one year and five persons in another, the potential deficit for the former is restricted to a poverty threshold that is only about half that of the latter.

Since the percentage of families headed by a woman has increased over time among the poor (as well as in the total population), and since average family size has varied by sex of the householder, average deficit figures are presented separately by sex in tables 3 and 4.[6] In 1986, 51 percent of poor families were maintained by women with no husband present, a proportion that has not changed much in the 1980's, but is more than double the 1959 figure of 23 percent. By contrast, only 12 percent of nonpoor families were headed by women in 1986, although even this figure is up from 7 percent in 1959. In any case, the shift to a majority of female heads of poor households is not the explanation for increases in the average income deficit of these households during the 1980's, since both male- (either with or without spouse present) and female-headed families have experienced such increases (although proportionally larger increases have occurred for female-headed families). Also, the proportion of female-headed families among all poor families leveled off in the early 1980's and was actually slightly lower in 1985 (48 percent) than in 1978 (50 percent).

The trends in average income deficit for families are similar by sex of householder. (See chart 1.) Both male- and female-headed poor families saw relatively large decreases in the average deficit during the 1960's, but the average deficit for poor households headed by a woman began the decade $1,000 higher than the deficit for poor families maintained by a man ($5,200 versus $4,200 in 1959) and

remained higher through the 1970's and 1980's, despite the fact that average family size is smaller for poor families headed by a woman (3.31 for poor female-headed families in 1986, 3.76 for other family types). During the 1970's the deficit for poor families headed by a woman varied between $4,530 (in 1970) and $3,908 (in 1976), ending the decade at $4,296 in 1979. Since 1982, the deficit for these families has not changed significantly, averaging $4,688 in 1986. Nonetheless, it was still $400 higher than at the beginning of the decade.

For poor families with a male householder (again, with or without a spouse), the income deficit varied between $3,625 in 1971 and $3,959 in 1974, ending the decade at $3,880. The deficit then climbed to $4,254 in 1982, before leveling off at around $4,100 in 1985 and 1986.

The mean income deficit for poor unrelated persons decreased from $2,945 in 1959 to $2,324 in 1969, stabilized during the 1970's (reaching a low of $2,149 in 1977), but increased during the 1980's, averaging about $2,400 through 1986. (See table 2.) In 1986, the average deficit for unrelated persons was $2,492, about 44 percent short of the average poverty threshold for such a person. It is important to note that the apparent increase in the homeless is probably not a factor in this increase in deficit for unrelated persons during the 1980's. The homeless are in large measure excluded from the Current Population Survey, the source of the Government's official statistics on poverty, because the CPS is primarily a household survey, and although some components of the shelter population are included in it, homeless persons not living in shelters would be excluded from these numbers.

The average deficit for poor male unrelated persons has been almost as high throughout the 1980's as in 1959 and was $2,887 in 1986. The deficit for poor male unrelated persons has been higher than that for poor female unrelated persons since the mid-1960's. The average deficit for poor female unrelated persons has been high in the 1980's relative to the latter half of the 1970's, averaging $2,260 in 1986, but this was still considerably below the 1959 level of $2,968.

Table 3. Mean income deficit, in constant 1986 dollars, for poor families with a female householder and no spouse present and for female unrelated persons, 1959–86

Year	Mean deficit, poor families with female householder and no spouse present	Deficit per family member, families with female householder and no spouse present	Mean deficit, female unrelated persons
1959	$5,214	$1,425	$2,968
1965	4,782	1,217	2,474
1969	4,406	1,137	2,246
1970	4,530	1,149	2,152
1971	4,356	1,172	2,136
1972	4,236	1,127	2,249
1973	4,157	1,115	2,188
1974	4,270	1,172	2,016
1975	4,180	1,149	2,041
1976	3,908	1,100	2,084
1977	4,050	1,149	1,916
1978	4,174	1,195	1,975
1979	4,296	1,210	2,043
1980	4,280	1,256	1,982
1981	4,455	1,311	2,190
1982	4,630	1,359	2,187
1983	4,700	1,391	2,243
1984	4,591	1,379	2,173
1985	4,616	1,400	2,161
1986	4,688	1,439	2,260

Table 4. Mean income deficit, in constant 1986 dollars, for poor families with a male householder and for male unrelated persons, 1959–86

Year	Poor families with male householder[1]	Deficit per family member, all families with male householder	Mean deficit, male unrelated persons
1959	$4,202	$977	$2,897
1965	3,972	915	2,582
1969	3,511	888	2,521
1970	3,697	940	2,590
1971	3,625	920	2,656
1972	3,711	944	2,671
1973	3,668	955	2,551
1974	3,959	1,003	2,643
1975	3,791	959	2,497
1976	3,771	984	2,485
1977	3,830	1,004	2,596
1978	3,791	1,017	2,540
1979	3,880	1,040	2,668
1980	4,005	1,041	2,688
1981	4,034	1,052	2,823
1982	4,254	1,109	2,774
1983	4,188	1,083	2,802
1984	4,192	1,087	2,757
1985	4,108	1,093	2,828
1986	4,064	1,085	2,887

[1] Includes all married-couple families and families with a male householder and no spouse present.

Deficit per family member

The deficit per family member controls for changes in family size over time, as well as differences in family size among different types of family. The overall deficit per family member, in constant 1986 dollars, has remained at a higher level in the 1980's than during any prior decade and shows no evidence of decreasing, having reached $1,260 in 1986. (See table 2.) The overall deficit per family member varied only slightly (between $1,102 and $1,018) during the 1970's and was $1,068 in 1959. The increase in the 1980's appears to be chiefly the result of an increase in the deficit per family member for persons in female-headed families;[7] the figure for other types of families has remained fairly constant. (See tables 3 and 4.) The deficit per family member increased from $1,210 in 1979 to $1,439 in 1986 for families headed by a female, while the comparable figure for married-couple families or families with a male as head with no spouse present varied only between $1,040 and $1,109 during the 1980's. While not increasing, the latter deficit has shown no sign of lessening in this decade.

Persons below half their poverty threshold

Since about 1970, some fractions and increments of the amount officially stated as the poverty threshold have been published by the Census Bureau. One such increment, between 100 and 125 percent of the poverty threshold, has

come to define the "near poor," although neither the Census Bureau nor the Government as a whole has officially adopted such a definition. Another such fraction which has gained recent popularity is the proportion of the poor below 50 percent of their respective poverty threshold,[8] the source of which is perhaps a proposal by Victor Fuchs[9] in the mid-1960's that any income below one-half the U.S. median family income be considered poverty. This particular fraction has been published by the Census Bureau since 1975. (See table 5.) It has the advantage that the poverty level of poor persons can be characterized, rather than families and unrelated persons separately. In 1975, the percentage of poor persons whose income was less than half their poverty threshold was 30 percent. This figure increased to about 33 percent of the poor in 1979 and reached 39 percent in 1986. By contrast, from 1975 to 1978, the fraction below 50 percent of the poverty threshold varied between 28 percent and 32 percent.

The proportions of both male- and female-headed families with income of less than half the poverty threshold increased since 1975, the former from 25 percent to 30 percent, and the latter from 35 percent to 48 percent. Most of this increase for male-headed families occurred prior to 1979, while for female-headed families, most of the increase has occurred in the 1980's.

Noncash benefits as a complicating factor

It would be plausible that the apparent growth (or stability in the case of male-headed families) in the average income deficit of poor families and unrelated persons in the 1980's could be explained away by growth in the receipt of noncash benefits if, on average, poor households were receiving more noncash benefits per household during that decade.[10] But in fact, growth in noncash benefits does not explain much of the increase in the income deficit: although noncash benefits have increased in the aggregate from $96.6 billion to $135.7 billion between 1979 and 1986 (in 1986 dollars), the average market value of noncash benefits for poor families was actually less in 1986 than in 1979 in real terms. (See table 6.) The average market value of noncash benefits received by poor families decreased from $4,221 in 1979 to $3,662 in 1981, before recovering to $4,088 in 1986. Although the comparable figure for unrelated persons increased from $2,661 in 1979 to $3,334 in 1986, the increase was entirely in medical benefits (see table 7), since the average market value, in real terms, of the food benefits and housing benefits of these individuals decreased or remained unchanged between 1979 and 1986.[11] Moreover, medical benefits increased from 79 percent of all noncash benefits in 1979 to 85 percent in 1986, and there is considerable controversy anyway over whether medical benefits should be included in evaluating poverty, since their inclusion overestimates the resources available for regular daily consumption if one defines poverty as "a shortage of disposable, fungible resources (measured as a money flow) that prevents

Table 5. Number and percent of poor persons below a specified fraction of poverty level, 1975–86
[Number in thousands]

Year	Below 50 percent		Between 50 and 74 percent		Between 75 and 99 percent		Total poor	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1975	7,733	29.9	7,595	29.4	10,550	40.8	25,877	100.0
1976	7,016	28.1	7,760	31.1	10,200	40.1	24,975	100.0
1977	7,474	30.2	7,420	30.0	9,826	39.7	24,720	100.0
1978	7,708	31.5	7,200	29.4	9,588	39.1	24,497	100.0
1979	8,340	32.9	7,534	29.7	9,471	37.4	25,345	100.0
1980	9,804	33.5	8,935	30.5	10,533	36.0	29,272	100.0
1981	11,189	35.2	9,436	29.7	11,197	35.2	31,822	100.0
1982	12,806	37.2	10,430	30.3	11,162	32.4	34,398	100.0
1983	13,583	38.5	10,027	28.4	11,656	33.1	35,266	100.0
1984	12,770	37.9	9,803	29.1	11,127	33.0	33,700	100.0
1985	12,380	37.4	9,843	29.8	10,841	32.8	33,064	100.0
1986	12,677	39.2	9,030	27.9	10,663	32.9	32,370	100.0

NOTE: Both numbers and percentages for a given level do not always sum to 100, because of rounding.

Table 6. Average market value of noncash benefits received by poor families and unrelated persons who received benefits, 1979–86

Year	Current dollars		Constant 1986 dollars	
	Poor families	Poor unrelated persons	Poor families	Poor unrelated persons
1979	$2,794	$1,761	$4,221	$2,661
1980	2,977	2,109	3,962	2,807
1981	3,037	2,329	3,662	2,809
1982	3,330	2,626	3,783	2,983
1983	3,503	2,749	3,857	3,027
1984	3,637	3,064	3,839	3,236
1985	3,941	3,293	4,017	3,356
1986	4,088	3,334	4,088	3,334

SOURCE: U.S. Bureau of the Census, Technical Papers 51, 52, 55, and 56, *Estimates of Poverty Including the Value of Noncash Benefits*, and unpublished data for 1986 from U.S. Bureau of the Census.

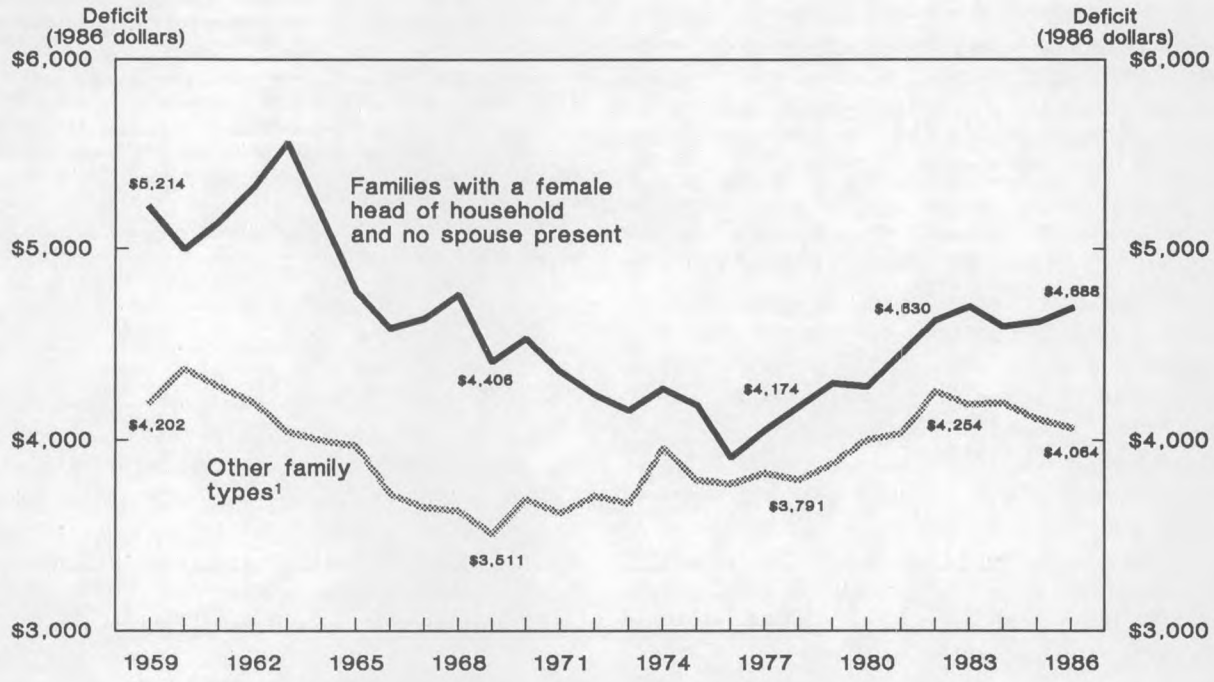
Table 7. Average market value of noncash benefits by type of benefit received by poor families and unrelated persons who received benefits, 1979–86

Year	Current dollars			Constant 1986 dollars[1]		
	Food	Housing	Medical	Food	Housing	Medical
Families:						
1979	$1,108	$1,878	$2,251	$1,674	$2,837	$3,400
1980	1,182	1,802	2,469	1,573	2,398	3,285
1981	1,184	1,765	2,565	1,427	2,128	3,092
1982	1,299	1,757	2,847	1,476	1,996	3,234
1983	1,358	1,774	3,014	1,494	1,952	3,317
1984	1,387	1,726	3,037	1,464	1,822	3,206
1985	1,435	1,790	3,334	1,463	1,824	3,398
1986	1,479	1,777	3,463	1,479	1,777	3,463
Unrelated persons:						
1979	340	1,207	1,630	514	1,823	2,462
1980	376	1,361	1,941	500	1,811	2,582
1981	392	1,452	2,193	473	1,751	2,644
1982	437	1,491	2,539	496	1,694	2,884
1983	401	1,528	2,698	441	1,682	2,969
1984	457	1,653	2,911	482	1,745	3,073
1985	452	1,600	3,141	461	1,631	3,201
1986	485	1,567	3,218	485	1,567	3,218

[1] Using the CPI for all items combined.

SOURCE: U.S. Bureau of the Census, Technical Papers 51 through 56, *Estimates of Poverty Including the Value of Noncash Benefits*.

Chart 1. Average income deficit for poor families by sex of householder, 1959–86



[1] The "other family types" category consists of all poor married-couple families and families with a male householder and no spouse present.

regular and continuous access to the minimal necessities of everyday life for all members of an economic household."[12]

Thus, while the growth of noncash benefits was a factor in keeping down the growth in the average deficit of poor persons in the 1960's and 1970's, it is not a factor that can be used to explain away the growth in the deficit of poor persons in the 1980's.

Conclusion

Regardless of the income measure used, it would appear that the poor are no better off in the 1980's than they were in the 1960's and 1970's. The average deficit per family member, the average deficit per family, and the percent of the poor below 50 percent of their poverty threshold have all remained at about the same level or even increased during the 1980's. While the lot of the poor, in the aggregate, was certainly bettered during the late 1960's and 1970's by the growth of noncash assistance, the average market value of noncash benefits received has generally decreased during the 1980's. Although improving economic conditions have reduced the number of poor in the last few years, those that fell below the poverty level in any given year in the 1980's have, on average, not come any closer to their poverty threshold. □

——FOOTNOTES——

[1] Robert Greenstein, testimony before the Senate Committee on Labor and Human Resources, Oct. 7, 1987, pp. 2–3.

[2] Tom Wicker, "Always with Us: The Plight of America's Poor Worsens," *The New York Times*, Nov. 19, 1987, p. A31.

[3] The latest such report is "Poverty in the United States: 1986," in *Current Population Reports*, Series P–60, No. 160.

[4] These data are not longitudinal and thus do not illustrate the relative well-being of the same persons over time. Rather, they indicate the mix of persons classified as poor in March of each year. Many of these individuals are poor for only a year or two, and few are poor for a decade or more. For a discussion of the dynamics of poverty, see Greg Duncan, *Years of Poverty, Years of Plenty* (Ann Arbor, University of Michigan Press, 1984).

[5] An unrelated person is defined as a person who is living alone or only with nonrelatives. The term is synonymous with "unrelated individual" as used in Census Bureau publications.

[6] Several technical changes in the Government's official definition of poverty, including the elimination of separate poverty thresholds for families headed by women, were made in 1981 as a result of recommendations of a Federal Interagency Committee. (See "Characteristics of the Population below the Poverty Level: 1981," *Current Population Reports*, Series P–60, No. 138, pp. 2–3.) All data shown for male householder families are for all married couples plus male householder families in which no spouse was present. In the Census Bureau's Current Population Survey, between 5 and 10 percent of householders in poor married-couple families are women. Prior to 1979, the husband was always designated the head of

the family in married-couple families.

[7] The deficit per family member has been higher for families with a woman head of household throughout the period 1959–86.

[8] See annual press releases of the Center on Budget and Policy Priorities and the Children's Defense Fund.

[9] Mentioned in Herman P. Miller, *Rich Man, Poor Man* (New York, Thomas Crowell, 1971), pp. 120–21.

[10] Alternative procedures for valuing noncash benefits received by the low-income population, which are not taken into account in the Government's official poverty statistics, have been published for 1979 through 1986 by the Census Bureau in Technical Papers 50 through 57. Such benefits include food stamps, free and reduced-price school lunches, public or subsidized housing, Medicaid, and Medicare. It should be noted that (1) regardless of income level, the Census Bureau's concept of income generally includes money income only and does not include the value of employer-provided benefits such as health and life insurance, the use of company cars, stock options, and so forth, received by families with income above the poverty level; (2) about 40 percent of poor households reported receiving neither cash nor noncash benefits throughout the 1980's; and (3) the number of poor persons was 24 percent greater in 1986 than in 1979, accounting for some of the increase in the aggregate noncash benefits during the 1980's.

[11] For families, food and housing benefits decreased between 1979 and 1986, and medical benefits were about the same in 1986 as in 1979. If, instead of the CPI for all items combined, the separate indexes for medical and housing benefits were utilized, the declines in real terms in these items would have been greater. See *Economic Report of the President*, February 1988, Table B–58, p. 313.

[12] Harold W. Watts, "Have Our Measures of Poverty Become Poorer?" *Focus*, Summer 1986, p. 21.

Is the 40-hour week immutable?

Most workers—women as well as men—have a strong work commitment, typically asserting that they would continue to work even if it were financially unnecessary to do so. But this psychological commitment to work is not always reflected in the work histories of women, who move in and out of the labor force and between full-time and part-time jobs as a consequence of their changing family responsibilities. Permitting workers to tailor their working hours to their family circumstances would both reinforce their work commitment and contribute to the development of a more productive and satisfied labor force.

Much of the stress experienced by parents—mothers and fathers—is a consequence of the existing structure of work. But the 5-day, 40-hour workweek need not be considered immutable. Indeed, this "normal" work schedule is itself a fairly recent phenomenon, dating back only to the 1930's. Employment policies offering greater flexibility in working hours through both temporary leaves and a reduction in work hours could substantially alleviate the conflicts and strains working parents now face.

—PHYLLIS MOEN
"New Patterns of Work," *Work & Family: A Changing Dynamic* (Washington, The Bureau of National Affairs, Inc., 1986), p. 219.

Multifactor productivity advances in the tires and inner tubes industry

Upswings in both output per employee hour and multifactor productivity were aided by the rapid diffusion of radial tire-related technology and computer-assisted innovation in the manufacturing process

DIANE LITZ AND LINDA MOORE

Many factors influence movements in labor productivity, such as technological change, changes in the skills and efforts of the work force, economies of scale, and the amount of capital input per worker and intermediate purchases input per worker. For many years, the Bureau of Labor Statistics has published a labor productivity measure for the tires and inner tubes industry as measured by output per employee hour. This article presents a supplementary productivity measure for the tires and inner tubes industry—multifactor productivity—in which output is related to the combined inputs of labor, capital, and intermediate purchases. Multifactor productivity differs from the traditional measure in that it accounts for the influences of capital and intermediate purchases in the input measure and therefore does not reflect the impact of these influences in the productivity residual.

Output per employee hour in the tires and inner tubes industry experienced substantial growth during the 1958–86 period, averaging 3.2 percent per year, as output increased 2.4 percent, while hours dropped 0.8 percent per year. For the manufacturing sector as a whole, the average rate of increase in output per employee hour was 2.5 percent.

Output per employee hour can be described as the sum of the effects of changes in capital and intermediate purchases inputs relative to labor and changes in multifactor productivity. (See table 1.) The influence of capital on output per employee hour will be referred to as the "capital effect" and is measured as the change in the capital-labor ratio multiplied by the share of capital income in total output. Similarly, the influence of intermediate purchases on output per employee hour will be referred to as the "intermediate purchases effect" and is measured as the change in the intermediate purchases-labor ratio multiplied by the share of intermediate purchases in total output. Multifactor productivity growth accounted for 1.7 percentage points of the 3.2-percent gain in output per employee hour, while the intermediate purchases effect accounted for 1.1 percentage points and the capital effect for 0.4 percentage point over the 1958–86 period. The 1.7 percentage points growth in multifactor productivity (or output per unit of combined inputs) reflected a 2.4-percent growth in output, while combined inputs increased at an average rate of 0.7 percent.

Output per employee hour for this industry did not experience the post-1973 slowdown that was present for the manufacturing sector as a whole. Output per employee hour, which increased at a rapid 3.9-percent rate in the 1958–73 period, accelerated slightly to a 4.3-percent growth rate between 1973 and 1986. This acceleration in output per employee hour was accompanied by a dramatic falloff in the growth rate of output. Output, which had experienced a rapid 5.7-percent growth rate in the 1958–73 period, declined at a rate of 0.9 percent in the latter period. Hours, which rose slightly in the first period

Diane Litz is an economist in the Office of Productivity and Technology, Bureau of Labor Statistics. Linda Moore is an economist formerly with that office.

at a rate of 1.7 percent, fell dramatically in the second period, declining at an average annual rate of 5.0 percent.

Multifactor productivity accelerated more than labor productivity, from a 1.1-percent growth rate in the 1958–73 period to 3.6 percent in 1973–86. (See table 2.) The slight acceleration in output per employee hour occurred in spite of slowdowns in the growth rates of the capital effect and the intermediate purchases effect, because of this relatively rapid increase in multifactor productivity. The capital effect slowed from an average growth rate of 0.6 percent during 1958–73 to 0.1 percent in the following period. The growth rate of the intermediate purchases effect fell faster, averaging 2.1 percent in the 1958–73 period and 0.6 percent in the following years. (See chart 1.) Upswings in both output per employee hour and multifactor productivity were aided by the rapid diffusion of radial tire-related technology and computer-assisted innovations in the manufacturing process.

The capital effect (the weighted change in the capital-labor ratio) reflects the differential movements in its components. The slowdown in the capital effect can be decomposed into changes in capital services, labor, and the capital share weight. Capital services plunged from a 6.1-percent average annual gain in the first period to a 3.7-percent decline in the latter period. (See table 3.) The falloff in labor hours was less sharp—from a growth rate of 1.7 percent in the first period to a decline of 5.0 percent per year in the second period. The greater falloff in the growth rate of capital relative to that of labor resulted in a slowdown in the growth of the capital-labor ratio. The average annual growth rate in the capital-labor ratio fell from 4.4 percent during 1958–73 to 1.3 percent during 1973–86. Weighted with capital's share in the value of total output of 16 percent, this drop translated into a slowdown of 0.5 percent in the capital effect, from 0.6 to 0.1 percent.

Table 1. Average annual growth rates in output per employee hour, multifactor productivity, and related measures, tires and inner tubes industry, 1958–86

Measure	1958–86	1958–73	1973–86	Acceleration (+) or slowdown (–)
Output per employee hour[1]	3.2	3.9	4.3	+0.4
Multifactor productivity	1.7	1.1	3.6	+2.5
Capital effect[2]	.4	.6	.1	–.5
Intermediate purchases effect[3]	1.1	2.1	.6	–1.5

[1]Output per employee hour equals multifactor productivity plus the capital effect plus the intermediate purchases effect.

[2]The capital effect is the change in the capital-labor ratio multiplied by the share of capital income in total output.

[3]The intermediate purchases effect is the change in the intermediate purchases-labor ratio multiplied by the share of intermediate purchases income in total output.

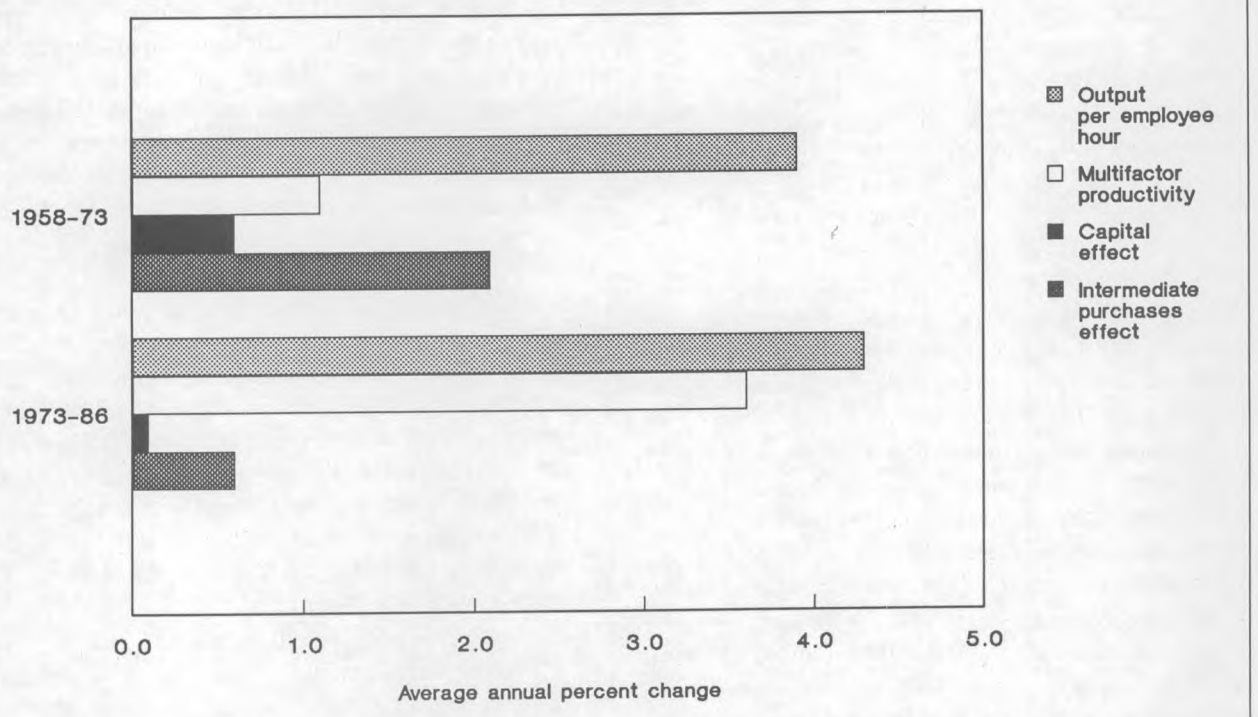
The intermediate purchases effect (the weighted change in the intermediate purchases-labor ratio) can be decomposed in a similar fashion, although its value share is much larger than that of capital, averaging 59 percent for the period. Intermediate purchases increased 5.2 percent annually during 1958–73, but declined 4.0 percent per year in the later period. Consequently, the growth in the intermediate purchases-labor ratio slowed from a 3.4 percent annual rate in the first period to 1.1 percent in the 1973–86 period. This falloff, weighted by the value share of intermediate purchases, resulted in a 1.5-percent slowdown in the intermediate purchases effect from 2.1 percent annually in the first period to 0.6 percent in the latter period.

Output

The output of this industry comprises tires, which accounted for 92 percent of the value of shipments in 1982; inner tubes, which accounted for 2 percent; and tread rubber, which accounted for 6 percent of the value of shipments. In the same year, passenger car tires accounted for 79 percent of all tires; truck and bus tires, for 15 percent; and aircraft, industrial, and bicycle tires constituted the remaining 6 percent. As mentioned earlier, output grew at the relatively high average annual rate of 5.7 percent in the period 1958–73, then fell off precipitously in the following period, declining at a rate of 0.9 percent. (See table 4.) Even during the high output growth period of 1958–73, the rate of increase slowed. During 1958–66, the average annual rate of growth was 6.6 percent, while in the 1966–73 period, it was 5.1 percent. In the post-1973 period, double-digit declines in 1974–75 (–13.5 percent) and 1979–80 (–21.9 percent) occurred mainly as a reaction to two major recessions. The recessions affected both the original and replacement tire markets. The original tire market was depressed due to declining auto sales, while the replacement market was affected by concurrent soaring gasoline prices which resulted in fewer miles driven. The average number of miles driven per car peaked at 11,500 in 1972. It again reached that number in 1978 before the energy crisis pushed average miles down to 11,000 in 1979 and down even further to 10,600 in 1980.[1]

Fluctuations in output are greatly influenced by changes in the passenger car replacement tire market, as passenger car tires account for about three-fourths of all tires[2] and replacement tires account for 73 percent of all passenger car tires sold.[3] One key factor for the declining output in the replacement tire market since the early 1970's is the greater longevity of car tires brought about by the introduction of radials. In the past two decades, this has been responsible for the doubling of tire service life.[4] Additionally, studies have shown that although front tires are wearing faster than rear tires on the growing share of front-wheel drive cars, the average mileage on all four

Chart 1. Output per employee hour in the tires and inner tubes industry accelerated slightly after 1973, despite falloffs in capital and intermediate purchases relative to labor, as multifactor productivity surged



tires is one-fourth to one-third greater than the average mileage obtained from four tires on a comparable rear-wheel drive car.[5] Also, as noted, relatively high gasoline prices negatively affect miles driven and, thus, have a negative impact on the replacement tire market. As mentioned before, average driver miles per year peaked in 1972, reaching 11,500, decreased during the two energy crises, but is once again rising.[6]

The decrease in domestic car production over the period studied has severely affected the original tire market. Auto production declined 18 percent between 1973 and 1974 and fell 19 percent between 1974 and 1975. Although production rebounded in the 1976–78 period, output fell 26 percent in the 1979–80 period and production levels have remained below 1979 levels through 1986.[7] Domestic tiremakers face not only contraction in the domestic tire market, but also a growing import share. Tires from France, Japan, South Korea, and other nations accounted for 23.7 percent of the U.S. replacement tire market in 1987, compared with 10.8 percent in 1980.

Capital

Capital input is the flow of services derived from the equipment needed in the production of tires and tubes, structures (mostly buildings which house the production process), finished goods, work-in-process, and materials and supplies inventories that are kept on hand in the firm, and the land on which plants are located. For the 1958–86 period, capital input in the tire industry rose an average 2.1 percent per year. From 1958 to 1973, capital input increased at a rapid rate of 6.1 percent per year, exceeding the average annual increase in output of 5.7 percent. During the post-1973 period, however, capital input fell by 3.7 percent per year, considerably more than the output decline for that period (–0.9 percent).

Capital input rose steadily beginning in 1958 and at a faster rate than output, reaching its peak in 1975—approximately 150 percent above the earlier year. Many new plants which were built in the late 1960's and early 1970's were designed specifically for radial tire production. Approximately nine new plants began operation in the 1968–75 period.[8] Also, some plants were being converted from bias-belted to radial tires, requiring additional equipment and workers. The extra equipment reduces the number of work stations a given plant can hold. Thus, a plant that has been converted to radials produces fewer tires for any given investment.[9]

From 1976 to 1986, capital input decreased in every year, except for a slight gain in 1985, so that its level in that year was approximately the same as in 1967, about 35

Table 2. Multifactor and related productivity indexes in the tires and inner tubes industry, 1958–86
[1977 = 100]

Year	Multifactor productivity	Output per employee hour	Output per unit of capital	Output per unit of intermediate purchases
1958	73.9	52.7	87.7	80.5
1959	79.7	58.2	103.5	84.2
1960	80.2	59.7	95.5	85.9
1961	81.1	61.7	87.5	88.2
1962	84.9	67.9	95.5	89.6
1963	87.7	72.9	97.1	91.6
1964	92.8	79.4	104.2	95.6
1965	92.1	80.9	103.5	93.9
1966	90.8	82.4	104.4	90.9
1967	86.3	82.2	90.8	86.6
1968	91.0	87.8	100.9	89.7
1969	87.4	85.1	91.6	87.0
1970	86.4	87.2	80.4	87.6
1971	91.7	93.5	87.9	91.6
1972	93.5	97.1	94.0	91.2
1973	92.7	94.3	90.4	92.2
1974	90.8	92.2	86.8	91.0
1975	87.3	90.8	73.0	89.9
1976	90.9	99.4	77.4	91.3
1977	100.0	100.0	100.0	100.0
1978	103.6	108.1	99.5	102.7
1979	105.5	107.6	99.2	106.1
1980	103.4	102.2	80.5	110.0
1981	112.1	118.1	91.3	114.8
1982	118.9	128.8	93.0	121.9
1983	126.9	136.6	107.2	126.6
1984	132.6	147.7	128.2	124.2
1985	130.9	147.3	120.5	124.0
1986	134.5	151.2	116.5	130.2
	Average annual rates of change (percent)			
1958–86	1.7	3.2	0.4	1.4
1958–73	1.1	3.9	−0.4	0.5
1973–86	3.6	4.3	3.0	3.2

percent below its peak. The decline of capital input after 1975 occurred because the conversion of tire plants from bias to radial production was completed. By 1976, conversion to radial capacity had reached its final stages for most producers, so that capacity was ample and there was less need for purchases of new processing equipment.

Movements in the stocks of the various types of capital input—equipment, structures, inventories, and land—were not always the same. For the earlier period, in which capital input grew by a significant 6.1-percent average annual rate, the growth rate for equipment was 6.7 percent, and for structures, 7.1 percent. Land input also grew faster than capital input—at a 7.1-percent average annual rate. However, inventories grew at a slower 4.8 percent rate.

During the later period, 1973–86, when capital input fell by 3.7 percent per year, equipment steadily declined by an average annual rate of 5.0 percent. Inventories also dropped off significantly after 1975, resulting in an average annual decrease of 6.8 percent during the 1973–86 period. However, increases in the stocks of structures continued between 1973 and 1980 before finally declining after 1980. Land requirements increased an average 0.9 percent in the post-1973 period, and, as in the case of structures, continued to rise during 1973–81, and then fell off in later years.

Inventories of finished goods and raw materials were built up in the mid-1970's in anticipation of strikes by members of the United Rubber Workers union. The manufacturers were able to stockpile up to 90 days of inventory. However, in the late seventies and early eighties, inventories fell much faster than output. The drop in inventories in the late 1970's can be attributed to the decrease in the demand for tires.

Labor

Employee hours declined at an average annual rate of 0.8 percent over the 1958–86 period. Between 1958 and 1973, when output grew at a rapid rate of 5.7 percent, employee hours increased at a rate of 1.7 percent. However, while output decreased at a rate of 0.9 percent in the 1973–1986 period, employee hours declined 5.0 percent per year. Trends in employment were similar to those in total employee hours, as average weekly hours, although fluctuating somewhat from year to year, showed no long-term growth or decline.

In 1982, establishments in the tire industry averaged 429 employees, compared with 727 employees in 1958. This decrease resulted from reductions in labor requirements, and occurred despite increases in the number of tires produced per establishment. The average number of employees per plant has been much greater in the tire industry than in total manufacturing. The average for all manufacturing industries increased from 53 employees per plant in 1958 to a high of 62 in 1967, but has decreased since then to its 1958 level. The average for the entire industry (Standard Industrial Classification 3011) is lowered by the inclusion of smaller plants producing products other than tires. Plants with 500 or more employees, which would include virtually all tire plants, employed an average of 1,471 workers in 1982. Eighty percent of total employment in 1982 for the tires and inner tubes industry was in establishments with 1,000 employees or more.

Many changes that have directly affected employment have taken place in the latter period. In 1974, employment peaked at 117,300. This occurred concurrently with rising demand and the retooling of plants for the production of radial tires. In the interval 1974–76, employment declined steeply. Factors responsible for this decline were decreased auto sales and, thus, reductions in original tire sales; a decline in miles driven attributable to the energy crunch; and low replacement tire sales as the popularity of radials increased. In addition, a lengthy United Rubber Workers strike in 1976, from mid-April to the end of August, kept average employment levels low in that year.

In 1977, employment rebounded after the strike, spurred by a strong output gain, only to decrease steadily thereafter until 1984. This decline was chiefly as a result of 24 plant closings since 1978; only five plants began operations during this period. The closed plants were mainly bias and bias-belted tire operations that were made obsolete by the conversion to radial tires. Also slowing tire demand in the early 1980's were the continued popularity of the longer-lived radial and increased penetration of foreign sales into the domestic market.

Intermediate purchases

Intermediate purchases grew at a 1.0-percent average annual rate for the period 1958–86. This figure reflects a fairly rapid growth rate of 5.2 percent in the earlier period 1958–73, while intermediate purchases declined by 4.0 percent per year in the latter period—a falloff of 9.2 percent. Intermediate purchases productivity accelerated from one period to the other—rising from a 0.5-percent annual average rate of growth in the 1958–73 period to a 3.2-percent rate for the second period. Intermediate purchases fell off more sharply than output between the two intervals, partly attributable to technological changes aimed at reducing materials wastage and to the production of smaller diameter tires for smaller cars.

Intermediate purchases are composed of materials, fuels, electricity, and purchased services. Of these components, materials is by far the largest, constituting 84 percent of intermediate purchases on average. In 1982, the latest year for which detailed data are available, styrene-butadiene (SBR, a synthetic rubber) made up 29 percent of total materials consumed in census-specified items. Tire cord (nylon and polyester) constituted 24 percent; carbon black, 19 percent; natural rubber, 18 percent; and rubber processing chemicals, 11 percent.

Since 1958, synthetic rubber has become an increasing percentage of total rubber consumed by the tires and inner tubes industry, in spite of the fact that radials contain twice the amount of natural rubber as bias tires. While natural rubber steadily decreased from 23 percent of total census-specified items in 1958 to 12 percent in 1982 (the latest available year), synthetic rubber decreased only slightly from 32 percent in 1958 to 31 percent in 1982. However, as the conversion to radials continues, it is expected that consumption of natural rubber for tires will increase. Counter to this trend are the projected increase in the popularity of retreading, the downsizing of tires, and the increased use of polyisoprene. In many tire applications, synthetic polyisoprene may be substituted for natural rubber. This elastomer has the advantage of uniformity, automated processing, and production near the consuming industry. Partly because of the inroads of synthetic polymers into natural rubber demand, synthetic polymers will continue to be the major elastomer used in passenger tire production. In 1984, world consumption of polyisoprene was 20 percent of natural rubber. Currently, radial passenger tires contain about 30 percent synthetic rubber, while the percentage for natural rubber is slightly less.[10]

Table 3. Average annual rates of growth in output per employee hour and related measures in the tires and inner tubes industry, 1958–86

Measure	1958–73	1973–86	Acceleration (+) or slowdown (–)
Output per employee hour	3.9	4.3	+0.4
Employee hours	1.7	–5.0	–6.7
Capital	6.1	–3.7	–9.8
Capital per employee hour	4.4	1.3	–3.1
Capital effect[1]	.6	.1	–.5
Intermediate purchases	5.2	–4.0	–9.2
Intermediate purchases per employee hour	3.4	1.1	–2.3
Intermediate purchases effect[2]	2.1	.6	–1.5

[1]Capital per employee hour multiplied by the share of capital income in total output.

[2]Intermediate purchases per employee hour multiplied by the share of intermediate purchases income in total output.

Except for natural rubber, the raw materials mentioned earlier are largely composed of petroleum derivatives. As such, they are subject to price fluctuations in response to oil price changes. The average annual increase of 10 percent in the price of materials for the years 1973–82 is chiefly attributable to the rapid increase in the cost of petroleum derivative materials. This rapid increase was attributable to the tremendous oil price hikes of 1973–75 and 1980–82. Fueling this 10-percent average price rise were four double-digit rises. These price pressures from the oil sector were the main cause of jumps of 22 percent between 1973 and 1974 and 17 percent from 1979–80 in the overall price of tire materials. The average annual rate of growth for the 1958–72 period had been –0.2 percent.

Technological innovations have been introduced during the 1973–86 period to avoid materials wastage. In the calendering process, the reduction of waste is critical because fabric is relatively expensive and scrap produced is impossible to rework. The industrywide adaptation of computer monitoring of the calendering step assures uniformity of calendered fabric, reduces scrap, and prevents excessively thick sections of calendered stock. Computer monitoring in the tire curing process also minimizes waste. Because unsatisfactory conditions are immediately detected by the computer, at most only one round of tires can be improperly cured.

Another explanation of the slow growth in intermediate purchases relative to output growth that has been offered is that, during the 1973–86 period, lighter and more sophisticated tire construction, attributable to the downsizing of the American automobile, predominated. In terms of rubber consumption, 30 percent less rubber is used in tires which average 13 inches versus the previous 14- to 15-inch standard and are 10 to 15 pounds lighter

Table 4. Output and input indexes in the tires and inner tubes industry, 1958–86
[1977 = 100]

Year	Output	Combined inputs	Employee hours	Capital	Intermediate purchases
1958	39.9	54.0	75.7	45.5	49.6
1959	47.5	59.6	81.6	45.9	56.4
1960	47.1	58.7	79.0	49.3	54.8
1961	45.7	56.4	74.1	52.2	51.8
1962	52.1	61.4	76.7	54.5	58.1
1963	54.2	61.7	74.3	55.8	59.1
1964	61.0	65.8	76.9	58.6	63.8
1965	64.6	70.1	79.9	62.4	68.8
1966	69.2	76.2	84.0	66.3	76.2
1967	64.3	74.5	78.2	70.8	74.3
1968	78.1	85.9	88.9	77.4	87.1
1969	79.9	91.5	94.0	87.2	91.9
1970	75.7	87.6	86.9	94.2	86.5
1971	84.9	92.6	90.8	96.6	92.8
1972	92.8	99.2	95.6	98.7	101.8
1973	93.6	100.9	99.2	103.5	101.4
1974	94.8	104.4	102.8	109.2	104.1
1975	82.0	93.9	90.2	112.2	91.2
1976	81.4	89.6	81.9	105.2	89.1
1977	100.0	100.0	100.0	100.0	100.0
1978	97.2	93.8	89.8	97.6	94.6
1979	94.1	89.2	87.4	94.9	88.7
1980	73.5	71.1	71.9	91.3	66.9
1981	79.0	70.5	66.9	86.5	68.9
1982	75.0	63.0	58.2	80.6	61.5
1983	79.8	62.9	58.4	74.4	63.0
1984	91.3	68.9	61.9	71.2	73.6
1985	86.8	66.3	58.9	72.0	70.0
1986	83.6	62.2	55.3	71.7	64.2
	Average annual rates of change (percent)				
1958–86	2.4	0.7	−0.8	2.1	1.0
1958–73	5.7	4.5	1.7	6.1	5.2
1973–86	−0.9	−4.3	−5.0	−3.7	−4.0

than the former 30-pound average. One industry official cites a 50-percent decline in total North American styrene-butadiene rubber consumption since 1979.[11]

Technological change

In the period studied, many innovations were introduced to achieve the current state-of-the-art in tire production. In the 1950's, tubeless tires were introduced along with the first successful commercial preparation of synthetic rubber. The 1960's saw the advent of the first commercial use of polyester tire cord; but the most critical development was the first commercial production in the United States of the radial tire in 1965. The introduction of radials prompted significant changes to many steps in the production process. In the two decades that followed, computer technology was applied to almost every aspect of production.[12]

The introduction of the radial has helped induce the closing of old and inefficient plants embedded with technology designed for bias and bias-belted tires. Radial technology required equipment and process changes that older plants could not accommodate; therefore, new plants incorporating the new technology had to be built and the old plants shut down. Twenty-seven tire plants have been shut down since 1975. However, 26 new tire plants have been built since 1960, 15 of them since 1969. The new plants have increasingly included automated equipment and more efficient material handling machinery. Plants were also built in decentralized areas where the cost of shipping raw materials was less, and land was less expensive. All of these changes have added up to decreased costs of production, as compared with the older tire plants.[13]

With automation and the complications of radial tire production, plant designs have been improved to allow for a continuous flow of materials from the beginning of the manufacturing process to the end. Computer monitors are now being used to schedule the wide variety of styles and sizes to ensure that all capital equipment is being fully utilized. Each stage of the tire building process—raw materials handling, mixing, calendering, extrusion, tire-building, curing—has been made more efficient by the use of innovations. Increasingly, raw materials are received in bulk load quantities and stored in bulk storage bins rather than in bags or drums. Automated systems that weigh and feed materials directly into mixers reduce the number of workers needed to handle raw materials and reduce error in the measurement of different materials used in production of the various types of tires.[14]

Mixing is one of the most capital-intensive procedures of the production process. In the 1960's, the newly developed high powered motors of the Banbury mixer allowed mixing times to be reduced by 90 percent and high-speed mixes to be completed in 2 minutes.[15] Consequently, an extruder was developed to handle this higher rate of output. Uncured treads and sidewalls are processed in extruders in what has become a very capital-intensive operation. Previously, tire strips had to be cut by hand in predetermined lengths to wrap exactly around the "green" carcass. If the strip was not exact, a non-uniform tire resulted. However, a process has been developed called "orbitread," which enables the winding of the tread strip onto the "green" tire. The benefits of such a process include: requirement of a much smaller extruder (therefore, less initial capital investment), elimination of tread splices, better adhesion through application of hot treads to the "green" tire, and improved uniformity.[16]

Calendering, the process in which the tire fabric is impregnated with the extruded rubber stock, is also capital intensive. Normally, a calender's maximum size is so large that it can never be fully utilized. The most important innovation in this process was the adaptation of computer controls, as early as 1974, which ensure uniformity, reduce scrap, and prevent excessively thick stock. Waste is critical as the fabric is expensive and the scrap cannot be reworked. This factor becomes increasingly important with increases in the price of raw materials. Both the elimination of waste and the increase in line speed

reduce operating costs and increase production. Previously, a calender operator cut and measured the stock sheet manually and the calender was adjusted by trial and error.[17] Fabric preparation for the calendering process, especially for steel belting, has required newly designed or modified equipment in order to account for differences in roll widths, weights, take away equipment, and cutting.

Tire building is the most labor-intensive step in the production process. Attempts to automate this process have been made in order to decrease labor costs and increase tire uniformity. The conventional method of building bias-belted tires is to manually apply the tire components onto a rotating drum. Automation is hampered by the large variety of tire styles and types. Radial tires further complicate automation by requiring two separate building stages and the need to shape the tire while building.[18]

Automation in the final production step, tire curing, has decreased production time. Early in the 1960's, tires were moved by conveyors to the tire presses. The tire curing press was totally automated except for an operator inserting the "green" tire into the press and then transferring the cured tire to the finishing area. Typically, 17 workers were needed to complete this process, but by the mid-1960's, only two were needed.[19] At one of the major tire companies, a computer monitoring system has been installed which performs 22 checks to detect any deviations from established standards. Curing, temperature range, and process time are optimized in this way.[20] Another important objective of the computerized tire-curing process is to eliminate waste by reducing the number of defective tires.[21] Segmented molds were needed for radial tires in the curing process and added to the cost of investment, but were not a difficulty in conversion.[22] Previously, one-half of the mold was closed upon the other, forcing the tread design onto the uncured tire. Segmented molds (of six to eight parts) prevent distortion of the uncured tire as the mold is closed upon it; they also prevent the damage to the cured tire that occurs when the relatively inflexible radial is taken out of a regular mold.[23]

Tire finishing, warehousing, and shipping have also been made less labor intensive through automated tire-movers and inspection stations. By the early 1980's, even tire design had been transformed by the adoption of computer-assisted drafting, which reduces repetitive handwork. It has been estimated that it takes 2.5 days to design a tire mold for a new tire style, whereas before it took 21 days. Once the design is drafted, 12 to 15 different tire molds can easily be produced by using a computer.[24]

Summary

Output per employee hour in the tires and inner tubes industry grew at an average annual rate of 3.2 percent over the 1958–86 period. Multifactor productivity growth accounted for 1.7 percentage points of this gain, while the intermediate purchases effect accounted for 1.1 percentage points, and the capital effect, 0.4 percentage point. The growth of multifactor productivity was substantially higher in the post-1973 period, accounting for 3.6 percentage points of the 4.3-percent average annual growth rate in output per employee hour for the same period.

The growth of output per employee hour did not slow down after 1973 as it did in many industries and was well above the manufacturing average of both the pre- and post-1973 periods. While output itself grew at a rapid 5.7-percent rate in the first period, its growth rate dropped dramatically in the latter period. This decrease in production reflects the greater longevity of radial tires, decreases in domestic car production, and increasing penetration of foreign firms into the U.S. replacement tire market.

The production of radial tires has introduced many changes to the production process. Automation and computer technology have also been applied to many stages of production, decreasing costs and increasing productivity. □

———*FOOTNOTES*———

[1] Newslog, "Study Predicts Tire Needs Will Drop," *Elastomerics,* August 1982, p. 36.

[2] Data are for 1984 and are from the Rubber Manufacturers Association.

[3] "Tire Imports Pressure U.S. Makers," *The Washington Post,* Mar. 1, 1987, Sec. H, p. 1. Data are for 1984.

[4] J. S. Dick, "How Technological Innovations Have Affected the Tire Industry's Structure: Part VI," *Elastomerics,* February 1981, pp. 42–47.

[5] "Study Predicts Tire Needs Will Drop," *Elastomerics,* August 1982, p. 36.

[6] *Ibid.*

[7] *Ward's Automotive Yearbook* (Detroit, Ward's Communications, Inc., various years).

[8] J. S. Dick, "How Technological Innovations Have Affected the Tire Industry's Structure: Part II," *Elastomerics,* October 1980, p. 36.

[9] D. H. Blank, "Tire Industry Study" (International Trade Administration, U.S. Department of Commerce, March 1979), pp. 17–18.

[10] Frank W. Stuchal, "Tire Material Trends into the Nineties," *Elastomerics,* January 1984, p. 15.

[11] "Rubber Firms Seek Efficiency," *Chemical Marketing Reporter,* Aug. 25, 1986, p. 3.

[12] For further examination of the changes in technology of the tires and inner tubes industry, see "Tires and Inner Tubes," *Technology and Its Impact on Labor in Four Industries,* BLS Bulletin 2242 (Bureau of Labor Statistics, 1986).

[13] J. S. Dick, "Technological Innovations: Part II," *Elastomerics,* October 1980, pp. 36–41.

[14] J. S. Dick, "Technological Innovations: Part IV," *Elastomerics,* December 1980, pp. 47–52.

[15] *Ibid.*

[16] *Ibid.*

[17] Paul L. Spivy, "Computerized Calendering Improves Quality and Increases Productivity," *Rubber World,* December 1978, pp. 44–45.

[18] J. S. Dick, "Technological Innovations: Part IV," *Elastomerics,* December 1980, p. 49.

[19] *Ibid.*

[20] "Firestone to Install Computerized Monitors," *Elastomerics,* November 1980, p. 60.

[21] David Smith, "Computerized Control of Tire Curing Presses," *Rubber Age,* July 1976, pp. 31–34.

[22] D. H. Blank, "Tire Industry Study," p. 17.

[23] John Graham, "Radial Tire Equipment," *Rubber Age,* September 1974, p. 38.

[24] "Computerized-Controlled Drafting Equipment Eases Mold Design Processing," *Elastomerics,* November 1980, p. 51.

APPENDIX: Multifactor productivity measurement

Methodology and data definitions

The following is a brief summary of the methods and data underlying the multifactor productivity measure for the tires and inner tubes industry. A technical note, describing the procedures and data in more detail, is available from the Office of Productivity and Technology, Bureau of Labor Statistics, Washington, DC 20212.

Output. The output measure for the tires and inner tubes industry is based on the weighted change in quantity of production of various types of tires and inner tubes as reported by the Rubber Manufacturers Association. This measure is, in turn, benchmarked to indexes of constant dollar production calculated from detailed quantity and value data published in the *Census of Manufacturers* for 1958, 1963, 1967, 1972, 1977, and 1982.

For multifactor measures of individual industries, output is defined as total production, rather than the alternative of value added. For a value-added measure, intermediate inputs are subtracted from total production. Consequently, an important difference between the industry level measures and the multifactor productivity indexes that BLS publishes for aggregate sectors of the economy is that the major sector measures are constructed within a value-added framework. For the major sectors of the economy, intermediate transactions tend to cancel out. Intermediate inputs are much more important in production at the industry level.

Further, output in these measures is defined as total production which "leaves" an industry in a given year in the form of shipments plus net changes in inventories of finished goods and work in process. Shipments to other establishments within the same industry are excluded, when data permit, because they represent double counting which distorts the productivity measures.

Labor. Employee hour indexes, which represent the labor input, measure the aggregate number of employee hours. These hours are the sum of production worker hours from *Censuses* and *Annual Surveys of Manufactures* and nonproduction worker hours derived by multiplying the number of nonproduction workers from Census by an estimate of nonproduction worker average annual hours. The labor input data are the same as those used in the published BLS output per employee hour series.

Capital. A broad definition of capital input, including aequipment, structures, land, and inventories, is used to measure the flow of services derived from the stock of physical assets. Financial assets are not included.

For productivity measurement, the appropriate concept of capital is "productive" capital stock, which represents the stock used to produce the capital services employed in current production. To measure the productive stock, it is necessary to take into account the loss of efficiency of each type of asset as it ages. That is, assets of different vintages have to be aggregated. For the measures in this article, a concave form of the age/efficiency pattern (slower declining efficiency during earlier years) is chosen.

In combining the various types of capital stock, the weights applied are implicit rental prices of each type of asset. They reflect the implicit rate of return to capital, the rate of depreciation, capital gains, and taxes. (For an extensive discussion of capital measurement, see *Trends in Multifactor Productivity, 1948–81,* Bulletin 2178 (Bureau of Labor Statistics, 1983).)

Intermediate purchases. Intermediate purchases primarily include materials, fuels, electricity, and purchased business services. Materials measured in real terms refer to items consumed or put into production during the year. Freight charges and other direct charges incurred by the establishment in acquiring these materials are also included. The data from which the intermediate inputs are derived include all purchased materials and fuels regardless of whether they were purchased by the individual establishment from other companies, transferred to it from other establishments of the same company, or withdrawn from inventory during the year. An estimate of intra-industry transactions is removed from materials and fuels.

Annual estimates of the cost of services purchased from other business firms are also required for multifactor productivity measurement in a total output framework. Some examples of services are legal services, communications services and repair of machinery. An estimate of the constant dollar cost of these services is included in the intermediate purchases input.

Capital, labor, and intermediate purchases income shares. Weights are needed to combine the indexes of the major inputs into a combined input measure. The weights for this industry are derived in two steps. First, an estimate of income in current dollars for each input is derived. Second, the income of an input is divided by the total income of all inputs.

Conceptual framework

The multifactor productivity measure presented here is computed by dividing an index of output by an index of combined inputs of capital, labor, and intermediate purchases. The framework for measurement is a production function describing the relation of output and inputs and an index formula that is consistent with this production function.

The general form of the production function underlying the multifactor productivity measures is postulated as:

$$(1) \qquad Q(t) = Q\Big(K(t), L(t), M(t), t\Big),$$

where $Q(t)$ is total output, $K(t)$ is input of capital services, $L(t)$ is input of labor services, $M(t)$ is input of intermediate purchases, and t is time.

Differentiating equation *(1)* with respect to time, and with some algebraic manipulations, the sources-of-growth equation is:

$$(2) \qquad \frac{\dot{Q}}{Q} = A + w_k \frac{\dot{K}}{K} + w_l \frac{\dot{L}}{L} + w_m \frac{\dot{M}}{M} ,$$

where A is the rate of change of multifactor productivity, w_k is output elasticity (percentage change in output due to a 1-percent change in input) with respect to the capital input, w_l is output elasticity with respect to the labor input, and w_m is output elasticity with respect to the intermediate purchases input (the dot over a variable indicates the derivative of the variable with respect to time).

Equation *(2)* shows the rate of change of output as the sum of the rate of change of multifactor productivity and a weighted average of rates of change of capital, labor, and intermediate purchases inputs. Now, if competitive input markets are assumed, then each input is paid the value of its marginal product. The output elasticities in equation *(2)* can then be replaced by factor income shares:

$$w_k = \frac{P_k K}{P_q Q}, \quad w_l = \frac{P_l L}{P_q Q}, \quad \text{and } w_m = \frac{P_m M}{P_q Q} ,$$

where P_q is the price of output, and P_k, P_l, and P_m are the prices paid for the capital, labor, and intermediate purchases inputs, respectively. Furthermore, if constant returns to scale are assumed, then $w_k + w_l + w_m = 1$.

Equation *(2)* can be rewritten as:

$$(3) \qquad A = \frac{\dot{Q}}{Q} - w_k \frac{\dot{K}}{K} - w_l \frac{\dot{L}}{L} - w_m \frac{\dot{M}}{M}$$

In this expression, the growth of multifactor productivity can be seen as a measure of economic progress: it measures the increase in output over and above the gain due to increases in inputs.

Equation *(2)* can also be transformed into the contribution equation which allows for an analysis of the change in output per employee hour. First, subtract $\dot{L}/L$ from both sides of equation *(2)*. Because the weights sum to unity, apply the term $(w_k + w_l + w_m)$ to the $\dot{L}/L$ term inserted on the right-hand side. Next, gather terms with the same weight and derive the following equation:

$$(4) \qquad \frac{\dot{Q}}{Q} - \frac{\dot{L}}{L} = w_k\left(\frac{\dot{K}}{K} - \frac{\dot{L}}{L}\right) + w_m\left(\frac{\dot{M}}{M} - \frac{\dot{L}}{L}\right) + A$$

The left side of equation *(4)* is the growth rate of output per employee hour. The terms in parentheses on the right side are, in order, the rates of change in the capital–labor ratio and the intermediate purchases–labor ratio. Thus, the rate of growth in output per employee hour can be decomposed into the weighted sum of changes in these ratios plus the change in multifactor productivity.

Equations *(2)*, *(3)*, and *(4)* are Divisia indexes which require continuous data for computation. The BLS multifactor indexes are actually constructed according to a Tornquist formula which represents a discrete approximation to the Divisia index. The rate of change in output or an input is calculated as the difference from one period to the next in the natural logarithms of the variables. For example, $\dot{Q}/Q$ is calculated as $ln\ Q(t) - ln\ Q(t-1)$. Indexes are then constructed from the antilogarithms of this differential. The weights w_k, w_l, and w_m are calculated as the arithmetic averages of the respective shares in time periods t and $t-1$.

Labor Hall of Fame

Frances Perkins and the flowering of economic and social policies

Only through the free and open discussion of differing points of view could the truth emerge and human needs and problems be solved; Frances Perkins always employed those ideals in conducting the public's business for the public's benefit

GORDON BERG

In late February 1933, Frances Perkins received a call to visit President-elect Franklin Delano Roosevelt at his home in New York City. She anticipated that he would invite her to become Secretary of Labor. Before she accepted, she had to know if he would support her ideas. Those ideas have changed and improved the quality of life of all Americans.

Before Frances Perkins would accept the Cabinet appointment, she told President-elect Franklin Delano Roosevelt, "I don't want to say yes to you unless you know what I'd like to do and are willing to have me go ahead and try."[1]

She then read Roosevelt her list. It contained much of what would become the New Deal's most important social welfare and labor legislation: direct Federal aid to the States for unemployment relief, public works projects, maximum hours of work, minimum wages, child labor laws, unemployment insurance, social security, and a revitalized public employment service. "Are you sure you want these things done?" she asked. "Because you don't want me for Secretary of Labor if you don't."

Roosevelt never hesitated. He was convinced that Perkins was the most qualified person for the job. "Yes," he said. "I'll back you." With that, Perkins accepted the post and served as Secretary of Labor during the 12 years of the Roosevelt Administration, 1933–45. She was the first woman to serve as a Cabinet member, and her tenure was longer than any Secretary of Labor.

Who was this woman in whom Roosevelt had such confidence? How did she become an expert in the field of labor affairs? To answer these questions brings into focus the life of one of America's most remarkable women. It is a dedicated life filled with hard work and perseverance.

Striving for social change

Perkins' social and moral attitudes developed during the early decades of the 20th century, a time when women were increasingly active in the era's many important social crusades. She met and worked with many of the leaders of these movements, and by combining the lessons she learned from them with her own unique talents and strengths, she was able to choose her life's work and make a success of it.

Born in Boston on April 10, 1880, Perkins had roots dating back to the Massachusetts Bay Colony of the mid-17th century. After a rather strict upbringing, she entered Mount Holyoke College in the fall of 1898. Although she

Gordon Berg is a supervisory public information specialist in the Bureau of Labor-Management Relations and Cooperative Programs, U.S. Department of Labor. This article is drawn from an essay published in 1980 to mark the dedication of the Frances Perkins Building in Washington, DC. A booklet of this and other biographies of Labor Hall of Fame honorees is scheduled for publication later this year by Friends of the Department of Labor, which sponsors the Labor Hall of Fame.

New Labor Hall of Fame

This is one of several articles, commissioned by Friends of the Department of Labor, about members of the Labor Hall of Fame, which honors posthumously Americans who have contributed most to enhance the quality of life of American workers. The Labor Hall of Fame is an activity of Friends of the Department of Labor, an independent membership organization established in 1987 "to support the traditional programs and goals of the U.S. Department of Labor, and to generally support the cause of improved labor-management relations."

The first four persons elected to the Labor Hall of Fame, were:

Samuel Gompers (1850–1924), the first president of the American Federation of Labor.

John R. Commons (1862–1945), a pioneer in making the field of labor economics a respectable area of study.

Cyrus S. Ching (1876–1967), the first director of the Federal Mediation and Conciliation Service.

Frances Perkins (1880–1965), Secretary of Labor during the economic recovery period of the Depression, who helped establish numerous landmark social programs, including the Social Security Act.

Elected to the Labor Hall of Fame on April 12 were:

John L. Lewis (1880–1969), propagator of unionism in industry and longtime president of the United Mine Workers.

A. Philip Randolph (1889–1979), founder of the Brotherhood of Sleeping Car Porters and respected civil rights leader.

George Meany (1894–1980), founding president of the AFL–CIO.

James P. Mitchell (1900-1964), popular Secretary of Labor from 1953 to 1961, and a proponent of progressive management in industry and Government.

A panel composed of national leaders from unions, industry, academia, and government, and chaired by Monsignor George Higgins, makes the selection to the Labor Hall of Fame. Former Secretary of Labor W. J. Usery, Jr., chairs Friends of the Department of Labor. The Hall of Fame is housed in the north lobby of the Frances Perkins Building, 200 Constitution Avenue, N.W., Washington, DC 20210. Friends of the Department of Labor invites Hall of Fame nominations. They may be submitted to Friends of the Department of Labor, Box 2258, Washington, DC 20013.

liked the sciences, a course in American colonial history with Professor Annah May Soule proved far more important in her later life.

Students were required to visit a factory and survey its working conditions. For Perkins, going through several textile and papermill plants was her first glimpse of the modern industrial process. The things she saw, the conditions under which the workers labored, made her aware of their needs. The social education of Frances Perkins had begun.

Following her graduation in 1903, Perkins did volunteer work among the factory girls of Worcester, MA. In 1904, she took a teaching job at Ferry Hall, a girls' prep school in Lake Forest, IL. While there, she met Dr. Graham Taylor, head of Chicago Commons, one of the city's famous settlement houses. From him, Perkins learned the social meaning of trade unionism and also met other social reform leaders, including Jane Addams, Ellen Gates Starr, and Grace Abbott. By 1907, Perkins had worked at the Commons, lived at Hull House, and was firmly committed to social work.

For the next 25 years, Perkins' career, first as a social worker and later as a civil servant, was at the center of social reform activities. As the only paid staff member of the Philadelphia Research and Protective Association, Perkins surveyed the city's roominghouses, improved methods of investigation and counseling, and pressured city authorities to enact stricter lodginghouse licensing. She studied economics and sociology at the Wharton School of Finance and Commerce and accepted a fellowship at the New York School of Philanthropy.

After Perkins arrived in New York City, her hectic pace intensified. She studied for a master's degree at Columbia University and surveyed the Hell's Kitchen section of the West Side for Pauline Goldmark, head of the School of Philanthropy. During one of her surveys, she visited Timothy J. McManus, a State senator and the notorious Tammany Hall boss of Hell's Kitchen. Perkins needed his help for a slum family she had visited. McManus was moved by her arguments. Perkins received the help she needed and learned a valuable political lesson—machine politics could be helpful in enacting social welfare legislation. It was a lesson the pragmatic young social worker would soon put to use.

In 1910, Perkins became general secretary of the National Consumers' League in New York City. Organized by Lillian Wald of the Henry Street Settlement House, the league spread information about harmful industrial conditions and lobbied for protective legislation. Its national director, Florence Kelley, helped Perkins become a recognized expert on industrial conditions by assigning her to make extensive surveys of unsanitary cellar bakeries, unsafe laundries, and

overcrowded textile sweatshops. She taught Perkins to look behind the immediate conditions and search for the real causes of safety and health problems in industry. These surveys gave Perkins the statistics she needed to back up her moral conviction regarding the need for protective social and labor legislation.

On March 25, 1911, Perkins witnessed the tragic holocaust of the Triangle Shirtwaist Co.[2] In less than an hour, 146 people—most of them young girls—had died. Perkins saw them leap from the eighth floor of the Asch Building because the doors were locked. She saw their charred remains lining the sidewalk and vowed that this horror would not be allowed to happen again.

The tragedy of the Triangle fire spurred the city's social reform agencies into action. They formed a Committee on Safety, and Perkins served as executive secretary from 1912 to 1917.

Perkins had met Al Smith, assemblyman from New York City, in early 1911. He taught Perkins the realities of practical politics, and she educated him on the need for reform. They joined forces, and their long and fruitful relationship helped change the course of American social history.

Health and safety legislation

The New York State Factory Commission, created by the New York State legislature in response to the Triangle fire, reviewed the entire scope of job safety and health conditions in New York. Between 1911 and 1915, the commission rewrote the New York industrial code and the legislature enacted 36 new laws protecting workers on the job, limiting the hours of women and children, and compensating victims for on-the-job injuries.

Perkins testified several times while serving as an investigator on the staff of the commission's director of investigation from 1912 to 1913. But she did much more than document dangerous working conditions: she insisted that the commissioners experience them. Perkins arranged for them to see children shelling peas in a cannery at 4 a.m. At dawn, they stood at the gate of a ropeworks as women filed out after working most of the night. Perkins and the legislators went into the workers' homes, where they heard, as she had so often heard, of the hardships workers faced on the job. Those experiences helped motivate the lawmakers to push for strong protective legislation. For Perkins, safe working conditions and reasonable hours of labor were basic human rights which society should guarantee through practical, morally sound legislation.

On September 26, 1913, Perkins married Paul C. Wilson, an economist and assistant secretary to John Purroy Mitchell, New York City's reform mayor. The marriage was the source of both great happiness and great heartbreak for Perkins.

The couple agreed she would retain her maiden name for professional purposes. Perkins feared she might lose some of the stature she had gained if she changed it. In December 1916, a daughter, Susanna, was born. Both Perkins and Wilson continued their active careers.

But in 1918, Wilson showed the first symptoms of an illness which lasted until his death in 1952. Through the long years of his confinement, Perkins worked diligently to meet both her family and her professional obligations. Always a very private person, she sought to protect her husband and daughter from the press and public. In this, she was largely successful and continued to carry on her active public service career.

After Al Smith became governor of the State of New York in 1919, he appointed Perkins to the State Industrial Commission, despite strong opposition from manufacturers' associations. When Smith was again elected governor in 1922 after 2 years out of office, he reappointed Perkins to her old post. She was also an active member of the Industrial Board of the State Labor Department. By 1926, when Smith appointed her chairman of the Industrial Board, she had become a recognized expert in labor law. Judge Benjamin Cardozo, who sat on a court upholding many of her decisions, said that she had made new laws with some of her rulings. Years later, Supreme Court Justice Cardozo would hold Roosevelt's old Dutch bible and administer the oath of office to Frances Perkins as Secretary of Labor.

Smith ran for the Presidency in 1928 and lost. Roosevelt was narrowly elected Governor of New York. Although Roosevelt did not retain many of Smith's assistants, he appointed Perkins Industrial Commissioner of New York. She was the first woman to hold such a position in the United States. During the next 15 years, their partnership altered the basic fabric of American life.

The New Deal

This, then, was the woman President Roosevelt entrusted with the awesome responsibility of helping to restore public confidence and to put people back to work. Much had to be done and done quickly. The first 100 days of the Roosevelt Administration are legendary. Before adjourning on June 15, 1933, Congress had enacted 15 major laws. Perkins was at the center of this feverish activity.

Among the programs enacted during Perkins' first year in office were: the Federal Emergency Relief Administration, which spent millions of dollars on food, shelter, and other human needs; the Civilian Conservation Corps, which paid young men, ages 18 to 25, $30 a month to work in flood-control programs, reforestation, soil conservation, and highway construction; the Civil Works Administration, which created 4 million temporary jobs; the National Recovery Administration, which regulated minimum wages, maximum hours, and child labor; and the Public Works Administration, which undertook large-scale construction of schools, hospitals, and river-control projects.

Although Perkins was deeply involved in creating and implementing the Administration's massive relief and employment programs, she simultaneously worked

to reorganize the Department of Labor to make it a more effective and efficient Government agency. She improved conditions in the Bureau of Immigration and increased the responsibilities of the Bureau of Labor Statistics.

The Social Security Act of 1935 was probably the most enduring contribution Perkins made as a Government official. As a member of the Committee on Economic Security, she worked tirelessly to create a practical Social Security program which the Congress would pass. She made hundreds of speeches supporting Social Security. Its enactment, on August 14, 1935, helped change the economic and social structure of American life. Her belief that working people had a right to benefits during unemployment and in their old age was made the law of the land by this act. Her leadership, and the dedicated work of many others, helped remove the threat of starvation, eviction, and destitution from the doorstep of every worker's home.

Federal labor policies

If Social Security was Frances Perkins' pride, the Fair Labor Standards Act must have been her joy. She had long advocated minimum wage and maximum hour legislation. The collapse of labor standards during the Depression made some type of government action imperative. Many among Roosevelt's advisers were uncertain of the constitutionality of Federal labor standards legislation. To lay the groundwork for Federal standards she believed inevitable, Perkins instructed the Labor Department to work with State governments to create a body of consistent laws and standards. She set up a Division of Labor Standards and was the first Labor Secretary to show real interest and concern for State labor agencies. She made an effort to attend meetings with State representatives and considered those sessions very useful in developing workers' compensation and safety and health standards.

During his 1936 campaign for reelection, Roosevelt promised to support a Federal labor standards bill. The measure passed the Senate but died in the House Rules Committee. Perkins and Roosevelt would not let it rest. Compromises were made and pressure was applied. The Fair Labor Standards Act finally became law on June 25, 1938.

The last of the New Deal's major social measures, this act was also one of its most far reaching. It covered 12 million workers and immediately raised the pay of 300,000 people and shortened hours for a million more. Most workers involved in interstate commerce or producing goods for interstate commerce were covered by the law. Child labor, a major concern of Perkins since her days as a social worker, was prohibited in many industries.

Perkins' greatest trial during her term of office came not from management or labor, but from Congress. The attack was not on her ability, but on her integrity. The issue centered on Harry Bridges, an Australian and leader of a long and bitter longshoremen's strike on the west coast in 1934. The Labor Department and the Federal Bureau of Investigation, investigating allegations of Communist influence in the strike, could find no evidence to justify deporting Bridges as an undesirable alien. But a vicious whispering campaign, aimed at forcing Bridges out of the country and Perkins out of office, began in mid-1938.

A special House Committee on Un-American Activities held hearings, and its chairman, Martin Dies, publicly called for Perkins' resignation. Hate mail poured into the Labor Department. The ordeal lasted more than 6 months. Through it all, Perkins continued to meet every engagement, fulfilled her duties as Secretary, and stood firm in her decision not to order Bridges deported. In the end, the House Judiciary Committee confirmed Perkins' opinion by reporting that sufficient evidence had not been presented to warrant Bridges' deportation. The official proceedings were closed, but the ugly scars remained.

Social legislation of the 1930's forever changed the position of the American worker. While the Federal Government was instrumental in creating these laws and indispensable for putting them into operation, Perkins often advocated more involvement for the individual States. She believed that programs such as unemployment insurance should be administered by a Federal-State system. At the National Conference for Labor Legislation in February 1934, she said: "The fundamental power to make regulations with regard to welfare . . . lies with the sovereign States."[3] While many New Dealers have been seen as "big Government" people, Perkins rarely favored the Federal Government dictating or making policy for the States. The closer the decisionmaking process was to the people, the better Perkins liked it.

The outbreak of World War II dramatically shifted much government attention from domestic to foreign and military affairs. But Perkins still fought some important, although less historic, battles on the homefront. She counseled Roosevelt against FBI Director J. Edgar Hoover's plan to fingerprint and keep a dossier on every citizen. The idea went against her firm belief that privacy was the basis of individual liberty. The internment of more than 100,000 Japanese–Americans—two-thirds of them U.S. citizens—horrified her. Even at the height of the war, Perkins opposed extraordinary measures for total national mobilization. She believed that the social regimentation which might result was a step toward treating people like cattle. Her trust in the innate intelligence of the people to make sound decisions and to act on them never wavered.

During her years in office, Perkins' steadfast commitment to principles of law and morality won her many admirers from all walks of life. In her work, however, her loyalties were few and well defined. In a letter to Justice Felix Frankfurter, written just after her resignation as Secretary of Labor, she said: "I came to work for God, F.D.R., and the millions of forgotten plain, common working men."[4] Friend or foe, powerful or powerless, they were all treated squarely and honestly by Frances Perkins.

When Roosevelt died in April 1945, Perkins submitted her resignation as Secretary of Labor. She was 65, but had no intention of otherwise retiring. In October, President Harry S Truman sent her as a Government representative to the International Labour Organization meeting in Paris. Perkins certainly deserved to go, because it was she who originally urged Roosevelt in 1934 to submit legislation—which was accepted by Congress—authorizing the President to apply for membership to the ILO.

On September 26, 1946, Truman appointed Perkins to the Civil Service Commission. During her 7 years as a commissioner, the principle guiding all her work was that the Commission "is concerned only with the question as to whether the applicant is a suitable person for the post for which he applies."[5] She opposed any questions on applications which pried into a person's private life. She believed that the right to privacy was a basic human right, the basis of liberty in a democratic society.

Frances Perkins ended her government career in 1952. She still had no thought of retirement, however. For 2 years, she lectured and held seminars at the University of Illinois. In the spring of 1955, she returned to New York City, where she began her illustrious career.

In May 1955, Perkins delivered a lecture at Cornell University. A few months later, she was asked to join the faculty of the university's prestigious School of Industrial and Labor Relations. In the spring of 1960, she was invited to become a member of the scholarly Telluride Association at Cornell. As in the past, Perkins was the first woman ever to live at Telluride House. Telluride and her work at Cornell made her last years happy and personally fulfilling. She died on May 14, 1965. □

———*FOOTNOTES*———

[1] George Martin, *Madame Secretary: Frances Perkins* (Boston, Houghton Mifflin Co., 1976), p. 240.

[2] Martin, *Madame Secretary*, p. 84.

[3] *Ibid.*, p. 421.

[4] *Ibid.*, p. 375.

[5] *Ibid.*, p. 477. (From a decision by Perkins in a U.S. Civil Service Commission case.)

A similar labor policy framework

The 1930's and 1940's were decades in which trade unions and collective bargaining grew rapidly throughout North America. Labor legislation, and in particular the Wagner Act that had been passed in the United States in 1935 and inspired the model of that name, provided the impetus. It became United States labor policy for the first time to encourage unions and collective bargaining. A policy similar to the one embodied in the Wagner Act was adopted in Canada in the mid-1940's under pressure from the growing labor movement and the Cooperative Commonwealth Federation, a social democratic party formed in the 1930's. Although employers in both countries at first opposed the expansion of unionism, the combined leverage of militant unions, determined governments and public opinion sympathetic to unions and collective bargaining apparently convinced them of the need to reach an accommodation with organized labor. . . .

—ROY J. ADAMS
"North American Industrial Relations:
Divergent Trends in Canada and the United States,"
International Labour Review,
Vol. 128, No. 1, 1989, pp. 47–48.

Research Summaries

Wages and benefits in pulp, paper, and paperboard mills

According to a survey conducted by the Bureau of Labor Statistics, straight-time earnings of production and related workers in pulp, paper, and paperboard mills averaged $12.92 an hour in September 1987.[1] This was one of the highest averages among manufacturing industries included in the Bureau's industry wage survey program.[2] Pay levels, however, varied by type of establishment, averaging $14.38 in pulp mills, $13.30 in paperboard mills, and $12.72 in paper mills.

Contributing to these wage levels were such factors as the concentration of highly skilled workers from the machine rooms and maintenance departments, where occupational earnings frequently topped $13 an hour, and the prevalence of labor-management agreements, which covered more than nine-tenths of the industries' production workers. The United Paperworkers International Union (AFL–CIO) was the predominant union, except in the Pacific States, where most workers were covered by agreements with the independent Association of Western Pulp and Paper Workers.

Average hourly pay in pulp, paper, and paperboard mills in September 1987 was 26 percent higher than the $10.22 reported by a similar survey conducted in July 1982.[3] This increase, averaging 4.6 percent annually,[4] compares with a 25-percent rise (4.3 percent a year) in wages and salaries for all nondurable goods manufacturing industries between June 1982 and September 1987, according to the Bureau's Employment Cost Index.

In contrast to rising wages, production worker employment in the three industries fell by 7 percent (1.4 percent annually) between the two surveys, from 150,200 workers in July 1982 to 139,777 in September 1987.

Among six regions for which data could be presented, average hourly earnings ranged from $14.49 in the Pacific States to $11.12 in the Middle Atlantic region. In the Southeast region, where three-tenths of the production workers were employed, hourly earnings averaged $13.52.

Nearly three-fifths of the production workers covered by the survey were in nonmetropolitan areas, where occupational pay averages were generally higher than in metropolitan areas.[5] Regionally, the proportion of workers in nonmetropolitan areas ranged from seven-tenths in New England to three-tenths in the Middle Atlantic region.

Fifty-two occupations, accounting for almost one-half of the production work force, were selected to represent the wage structure and manufacturing activities in the three industries. General maintenance mechanics, who perform the work of two or more maintenance trades rather than specializing in one trade or one type of maintenance work, constituted the largest and highest paid occupation studied separately; the 9,555 workers in the job averaged $16.50 an hour. Other skilled maintenance occupations, including electricians, machinists, millwrights, and pipefitters, had pay averages of at least $14.73 an hour. At the other end of the wage distribution were the 1,166 janitors, who averaged $10.38 an hour. In the machine room, where paper is manufactured, average hourly earnings ranged from $15.29 for paper-machine tenders to $11.97 for fifth hands, who assist in removing finished paper rolls from paper machines. (See table 1.)

Two jobs—guards and truckdrivers—were surveyed for the first time by BLS in pulp, paper, and paperboard mills. Their average hourly earnings were $11.22 and $11.40, respectively.

In September 1987, nine-tenths of the production workers were paid time rates, under formal plans providing single rates for specific job categories. Many mills had several job categories, each with its own pay scale, falling within one BLS occupational definition. Some of the pay determinants were the type of pulpmaking process, grade of paper or paperboard manufactured, and size of machine used to make paper and paperboard. For example, hourly earnings in the pulpmaking department usually were higher for workers using the sulphate process rather than the sulphite process, pay generally averaged 25 to 50 percent higher for workers producing newsprint and groundwood paper than for those producing boxboard, and pay levels were progressively higher as the width of the papermaking machinery used increased from 100 inches or less to 301 inches or more.[6]

Seven-tenths of the production workers were assigned to rotating shifts. Employees alternated between day, evening, and night shifts, typically changing shifts every 7 days.

Table 1. Number of production workers and average hourly earnings[1] in pulp, paper, and paperboard mills, by selected characteristics, United States and selected regions,[2] September 1987

Characteristic	United States[3]		New England		Middle Atlantic		Southeast		Southwest		Great Lakes		Pacific	
	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings	Number of workers	Average hourly earnings
All production workers[4]	139,777	$12.92	20,145	$11.42	12,236	$11.12	41,508	$13.52	12,286	$14.13	32,321	$12.30	16,112	$14.49
Type of mill:[5]														
Pulp mills	5,283	14.38	—	—	—	—	3,967	14.53	—	—	—	—	1,316	13.90
Paper mills	99,912	12.72	18,969	11.52	11,075	11.30	21,192	13.49	5,587	13.88	28,674	12.41	10,753	14.41
Paperboard mills	34,582	13.30	1,176	9.79	1,161	9.40	16,349	13.31	6,699	14.34	3,647	11.42	4,043	14.89
Type of community:														
Metropolitan areas[6]	57,546	12.41	5,614	10.83	8,743	11.21	12,529	13.17	4,302	13.40	17,208	11.90	8,058	14.07
Nonmetropolitan areas	82,231	13.28	14,531	11.65	3,493	10.90	28,979	13.67	7,984	14.52	15,113	12.76	8,054	14.90
Size of mill:														
100–249 workers	11,906	10.57	3,957	9.48	1,461	9.20	880	9.16	521	11.86	3,556	11.20	1,259	14.43
250–999 workers	68,168	13.09	7,873	11.36	7,878	11.50	18,650	13.73	7,084	14.17	12,696	12.05	10,182	14.29
1,000 workers or more	59,703	13.21	8,315	12.40	—	—	21,978	13.51	4,681	14.32	16,069	12.75	4,671	14.93
PULP														
Woodyard and wood preparation:														
Crane operators	879	14.48	33	12.94	51	11.81	502	15.14	117	14.78	107	12.78	40	14.50
Barkers, drum	241	12.33	41	11.30	14	10.98	98	12.75	37	12.65	25	12.02	14	13.12
Pulpmaking:														
Cooks, batch digester	433	15.67	11	13.02	14	11.40	196	15.83	56	17.06	59	14.26	69	16.59
Cooks, continuous digester	370	15.50	32	13.11	34	12.72	87	16.57	57	17.69	52	34.48	80	16.19
Screen tenders	312	13.48	41	12.26	22	10.79	102	14.50	20	13.66	48	12.74	59	14.41
Bleach-plant operators	517	15.01	42	12.15	38	11.64	177	16.05	52	16.62	90	13.13	73	16.25
Pulp testers	832	12.13	103	11.46	47	10.87	358	12.21	62	12.12	165	12.07	60	13.44
Recovery, caustic, and acidmaking:														
Recovery operators (sulphate)	415	16.13	28	14.27	14	11.76	190	16.61	62	16.62	37	13.83	48	16.34
Caustic operators (causticisers) (sulphate)	305	14.52	26	11.96	—	—	148	14.72	65	15.16	10	13.30	36	14.80
PAPER AND PAPERBOARD														
Stock preparation:														
Head stock preparers, group I	846	13.93	70	13.40	91	11.07	200	14.98	69	13.41	301	12.97	95	17.60
Head stock preparers, gorup II	820	13.10	261	11.42	154	11.48	132	14.44	52	19.68	148	12.81	48	16.55
Machine room:														
Paper-machine tenders	3,371	15.29	704	13.04	409	12.56	589	17.57	264	17.45	913	14.26	412	18.96
Backtenders	3,364	14.09	722	11.86	409	11.90	598	16.05	272	16.42	879	13.22	400	17.25
Third hands	3,169	13.05	626	11.28	392	11.16	576	14.69	274	14.65	849	12.24	368	15.90
Fourth hands	2,840	12.38	418	11.48	331	10.75	567	13.22	276	13.61	847	11.76	325	14.17
Fifth hands	2,221	11.97	285	11.55	191	10.86	581	11.93	246	12.53	557	11.37	285	13.42
Finishing, roll:														
Rewinder operators	2,024	12.20	466	11.39	238	10.32	124	13.31	63	12.56	909	12.72	160	12.55
Rewinder helpers	1,272	11.22	334	10.59	97	10.30	64	11.98	38	11.16	643	11.44	56	12.44
Laboratory:														
Paper testers	1,856	12.20	325	11.04	232	11.04	351	12.80	235	13.16	443	11.79	173	13.86
MISCELLANEOUS[7]														
Guards	421	11.22	135	10.72	27	10.38	115	12.01	—	—	85	11.54	—	—
Janitors, porters, and cleaners	1,166	10.38	212	9.61	185	9.68	268	10.43	40	8.79	348	11.16	80	11.23
Maintenance electricians	3,603	15.55	529	14.10	242	12.35	923	16.05	469	17.56	726	14.18	571	17.24
Maintenance machinists	1,192	14.73	215	13.72	119	13.18	331	15.51	31	16.28	350	14.07	127	16.86
Maintenance mechanics, general	9,555	16.50	933	12.89	569	13.36	4,264	17.07	1,880	17.98	584	13.43	646	18.13
Maintenance pipefitters	2,641	15.19	338	13.97	199	12.02	744	15.99	120	16.44	722	14.22	464	17.05
Millwrights, pulp and paper	4,392	15.07	665	14.21	340	12.12	1,028	15.79	198	16.32	1,203	13.83	837	17.18
Oilers	1,366	13.23	139	11.96	127	11.32	411	13.81	76	14.23	354	12.13	191	15.15
Power-truck operators	5,180	11.75	559	10.54	564	10.20	1,176	11.84	416	12.00	1,452	11.61	766	13.48
Truckdrivers	532	11.40	73	10.51	92	10.63	131	11.52	49	11.02	131	11.78	34	13.64

[1] Excludes premium pay for overtime and for work on weekends, holidays, and late shifts.

[2] The regions used in this study include *New England*—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Middle Atlantic*—New Jersey, New York, and Pennsylvania; *Southeast*—Alabama, Florida, Georgia, Mississippi, North Carolina, South Carolina, Tennessee, and Virginia; *Southwest*—Arkansas, Louisiana, Oklahoma, and Texas; *Great Lakes*—Indiana, Illinois, Michigan, Minnesota, Ohio, and Wisconsin; and *Pacific*—California, Nevada, Oregon, and Washington.

[3] Includes data for regions in addition to those shown separately.

[4] Includes data for approximately 12,000 workers in converted paper products departments of paper and paperboard mills.

[5] Data for pulp mills are limited to workers in separate pulpmaking establishments; data for paper and paperboard mills include workers in pulpmaking departments of these mills.

[6] Metropolitan Statistical Areas, as defined by the U.S. Office of Management and Budget through October 1984.

[7] Includes workers in converted paper products departments of paper and paperboard mills.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria.

While assigned to evening and night shifts, workers almost always received cents-per-hour differentials over fixed day-shift rates, most commonly between 10 and 20 cents on evening shifts and between 20 and 40 cents on night shifts.

Work schedules of 40 hours per week were predominant in the industries, covering almost half of the production workers. Workweeks of 42 hours covered two-fifths, and 48-hour workweeks one-tenth, of the workers. Workweeks longer than 42 hours were most common in the Middle Atlantic region, where two-fifths of the workers were in mills scheduling 48-hour workweeks.

Virtually all of the mills provided paid holidays to their production workers. Over three-fourths of the workers received between 11 and 13 paid holidays. The most liberal holiday provisions were reported in the Pacific region, where three-fourths of the workers received 14 or 15 days.

All production workers covered by the survey were in mills that provided paid vacations. Typically, provisions were 1 week after 1 year of service, 2 weeks after 3 years, 3 weeks after 8 years, 4 weeks after 15 years, 5 weeks after 20 years, and 6 weeks or more after 25 years.

Virtually all production workers were in establishments providing life, hospitalization, surgical, basic, and major medical insurance and retirement pension plans. In addition, over nine-tenths of the workers were offered sickness and accident insurance, four-fifths were offered dental insurance, and about one-fourth were offered vision care. Most of the life insurance and pension plans were financed entirely by the employer. Health maintenance organization (HMO) membership was available to about three-tenths of the workers nationwide.

The use of temporary help and the contracting out of various services also were studied during the current survey. Slightly more than one-third of the production workers were in mills regularly using temporary help services in lieu of new hires. The number of production workers in mills contracting out various services to outside firms varied by the type of service contracted out. Trucking was, by far, the activity most commonly contracted out: mills employing slightly more than seven-tenths of the production workers used contract truckers. More than half of the production workers were in mills that contracted out machine maintenance, while more than two-fifths each were in mills that used janitorial and engineering/drafting services.

A comprehensive bulletin, *Industry Wage Survey: Pulp, Paper, and Paperboard Mills, September 1987,* Bulletin 2324, may be purchased from the Bureau of Labor Statistics, Publications Sales Center, P.O. Box 2145, Chicago, IL 60690, or the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. The bulletin provides additional information on occupational pay and employee benefits. □

FOOTNOTES

[1] Earnings data exclude premium pay for overtime and for work on weekends, holidays, and late shifts. Cost-of-living pay increases (but not bonuses) were included as part of the workers' pay. Excluded were performance bonuses and lump-sum payments of the type negotiated in the auto and aerospace industries, as well as profit-sharing payments, attendance bonuses, Christmas or yearend bonuses, and other nonproduction bonuses.

The Bureau's survey included establishments employing 100 workers or more and primarily engaged in manufacturing (1) pulp from wood or other materials such as rags, linters, wastepaper, or straw; (2) paper (except building paper) from woodpulp and other fibers; and (3) paperboard, including paperboard coated on the paperboard machine, from woodpulp and other fibers. Logging camps operated by pulp mills and not separately reported were also included. Excluded were paper mills that primarily manufacture building paper, which is used as an interlining in construction.

[2] Of 20 manufacturing industries studied regularly, including durable goods industries, paper and allied products ranked sixth in September 1987, according to data from the Bureau's monthly employment and earnings series. Other industries in the program with higher average hourly earnings were petroleum and coal products, tobacco manufactures, transportation equipment, chemicals and allied products, and primary metals.

[3] For an account of the earlier survey, see *Industry Wage Survey: Pulp, Paper, and Paperboard Mills, July 1982*, BLS Bulletin 2180 (1983). The 1982 average is not strictly comparable with the 1987 level, because the latter includes earnings from converted paper products departments of paper and paperboard mills. After adjusting for this difference, the earnings increase over the 5 years was 28 percent.

[4] Or 4.8 percent by the adjustment in the previous footnote.

[5] Metropolitan Statistical Areas, as defined by the U.S. Office of Management and Budget through October 1984.

[6] For purposes of the study, machine widths were grouped into five categories: 100 inches or less; 101 inches–150 inches; 151 inches–200 inches; 201 inches–300 inches; and 301 inches or more.

Foreign Labor Developments

Adjusted Japanese unemployment rate remains below 3 percent in 1987–88

CONSTANCE SORRENTINO

In addition to regular monthly labor force surveys, Japan conducts a special labor force survey each year to investigate, in more detail, the labor force status of the population. These special surveys allow for a more complete analysis of Japanese unemployment under U.S. concepts. Such analyses were presented in 1984 and 1987 articles in the *Review*, and this report updates the results to include data from the February 1987 and 1988 special surveys.[1]

Although the Bureau of Labor Statistics does not use the special survey results to adjust the overall Japanese unemployment rate to U.S. concepts, the Bureau continues to follow the surveys to better understand the results of the regular monthly surveys. The 1987 and 1988 special surveys continue to support the Bureau's contention that the Japanese unemployment rate is only slightly changed when U.S. concepts are applied. In addition, the BLS uses the special surveys for two other purposes: they allow calculation of (1) adjusted unemployment rates by sex; and (2) expanded unemployment measures which go beyond the conventional unemployment rate to cover persons involuntarily working part time and discouraged workers.

Adjustment to U.S. concepts

Several adjustments are made to the special surveys to bring them closer to U.S. concepts. After adjustment, some persons counted as unemployed in the surveys are excluded from the labor force, and some reported as not in the labor force are 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. The adjustments are discussed in detail in the previous studies. Table 1, using the same format as the earlier analyses, shows the adjustments for February 1984 through February 1988.

In both 1987 and 1988, the adjustments to U.S. concepts result in a slightly lower unemployment rate than figures based on Japanese definitions. This was the same direction indicated by analyses of previous surveys for February. However, special surveys conducted in March 1977–80 led to a slight upward adjustment. As discussed in the previous articles, March is a highly unusual month for the Japanese labor market because it is the end of the Japanese fiscal year, when firms traditionally take on new workers, and also the end of the school year, when new graduates enter the labor market. Although February is also a month of higher than average unemployment, there is somewhat less seasonality associated with this month than with March.

The BLS comparative unemployment rates program regularly compiles unemployment rates adjusted to U.S. concepts for certain foreign countries. (See tables 45 and 46 in the "Current Labor Statistics" section of the *Review*.) For Japan, BLS does not attempt to make annual or quarterly adjustments based on the February and March special survey data. Instead, BLS accepts the published Japanese

Table 1. Adjustment of Japanese unemployment and labor force data to approximate U.S. concepts, February 1984–88

[Numbers in thousands]

Cateogry	1984	1985	1986	1987	1988
Reported unemployed	1,710	1,640	1,640	1,860	1,730
Less inactive jobseekers	430	370	360	480	460
Plus jobseekers not in labor force who intended to start work immediately	130	130	120	120	140
Less those not available due to housework or school	10	10	10	10	10
Plus persons waiting to begin a new job within 1 month	1,340	1,130	1,300	1,380	1,380
Less students awaiting jobs after graduation	1,170	960	1,100	1,160	1,160
Adjusted unemployed	1,570	1,560	1,590	1,710	1,620
Reported labor force	57,240	57,990	58,400	58,770	59,640
Less family workers working less than 15 hours	560	520	500	550	570
Less inactive jobseekers	430	370	360	480	460
Plus unemployed classified "not in labor force"[1]	290	290	310	330	350
Adjusted labor force	56,540	57,390	57,850	58,070	58,960
Unemployment rates:					
Reported	3.0	2.8	2.8	3.2	2.9
Adjusted to U.S. concepts	2.8	2.7	2.7	2.9	2.7

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

NOTE: Data are on a total labor force basis.

SOURCE: Management and Coordination Agency, Japanese Statistics Bureau, Report on the Special Survey of the Labour Force Survey, February 1984–88.

Constance Sorrentino is an economist in the Division of Foreign Labor Statistics, Bureau of Labor Statistics.

unemployment figures as closely comparable with U.S. concepts and makes some minor adjustments to the labor force figures. BLS adjusts the Japanese labor force figures to exclude unpaid family workers working less than 15 hours. For civilian unemployment rates, the National Defense Force is also excluded. These small adjustments to the denominator of the unemployment rate usually make no difference; on occasion they raise the annual average rate by 0.1 percentage point. (See table 2.)

Comparisons by sex

Although the overall Japanese unemployment rate is changed only slightly when the special survey data are adjusted to U.S. concepts, there is a more significant difference in the adjusted rates for men and women. The official Japanese data show virtually no difference in unemployment rates for men and women. However, according to the BLS adjustments, women have higher unemployment rates than men. (See table 3.)

Reasons for the wider male-female differential after adjustment are evident from the table. Women account for most of the unemployed originally classified as not in the labor force, while men account for most of the unemployed who did not actively seek work in the month of the survey.

An expanded unemployment concept

Japan's unemployment rates, both on the official basis and adjusted to U.S. concepts, are well below U.S. rates. Annual civilian U.S. jobless rates of 6.2 percent in 1987 and 5.5 percent in 1988 contrast with adjusted civilian Japanese rates of 3.0 percent and 2.8 percent in February of those years. Other Western nations (Canada, France, Italy, United Kingdom) had rates in the 8- to 11-percent range during the same years. (See the aforementioned tables 45 and 46 in "Current Labor Statistics.") Is the comparative efficiency of the Japanese labor market really 2 or 3 times greater than that of most Western nations? A strict comparison of unemployment rates would arrive at that misleading conclusion. However, a substantial part of Japan's labor underutilization falls in 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, but they are part of the Bureau's U–1 to U–7 framework of alternative unemployment rates.[2]

Table 2. Japanese unemployment rates as published and adjusted to U.S. concepts, annual averages, 1984–1988

[In percent]

Year	As published[1]	Adjusted to U.S. concepts	
		Total labor force basis	Civilian labor force basis
1984	2.7	2.7	2.8
1985	2.6	2.6	2.6
1986	2.8	2.8	2.8
1987	2.8	2.9	2.9
1988	2.5	2.5	2.5

[1] Total labor force basis (includes National Defense Force).

Table 3. Adjustment of Japanese unemployment and labor force data to approximate U.S. concepts, for men and women, February 1987 and 1988

[Numbers in thousands]

Category	February 1987		February 1988	
	Men	Women	Men	Women
Reported unemployed	1,110	750	1,060	670
Less inactive jobseekers	330	150	310	160
Plus jobseekers not in labor force who intended to start work immediately	20	100	40	100
Less those not available due to housework or school	10	10	10	0
Plus persons waiting to begin new job within 1 month	680	700	650	720
Less students awaiting jobs after graduation	600	560	550	600
Adjusted unemployed	870	830	880	730
Reported labor force	35,700	23,070	36,110	23,530
Less family workers working less than 15 hours	50	500	50	530
Less inactive jobseekers	330	150	310	160
Plus unemployed classified "not in labor force"[1]	90	230	130	220
Adjusted labor force	35,410	22,650	35,880	23,060
Unemployment rates:				
Reported	3.1	3.3	2.9	2.8
Adjusted to U.S. concepts	2.5	3.7	2.5	3.2

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

NOTE: Data are on a total labor force basis. Sums of the statistics for men and women may not exactly coincide with the totals on table 1 due to rounding.

SOURCE: Management and Coordination Agency, Japanese Statistics Bureau, Report on the Special Survey of the Labour Force Survey, February 1987 and February 1988.

Updating previous analyses, table 4 shows expanded unemployment measures which bring into consideration employed persons on part time for economic reasons (U–6) and discouraged workers (U–7). It was not possible to measure discouraged workers in Japan in exactly the same way as they are measured in the United States. Therefore, table 4 shows U–7 for Japan as a range rather than a precise rate. The lower rate of the 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 might not be counted under the U.S. definition, but they would fall under a broader concept of labor underutilization. (See the appendix to the 1987 article for further discussion.)

Comparisons of the U–6 and U–7 rates in relation to the conventionally defined rate (U–5) show that the Japanese rates are increased to a greater degree than the U.S. conventional rates. In other words, there is a convergence in the "unemployment rates" for the two countries when the definition is broadened. In addition, the gap between each of the three rates for the United States and Japan has narrowed between 1984 and 1988, as overall labor market conditions improved in the United States, but not in Japan. The following tabulation, based on table 4, shows the ratio of the U.S. unemployment rate to the Japanese rate:

Rate	*1984*	*1985*	*1986*	*1987*	*1988*
U–5	2.7	2.7	2.5	2.1	2.0
U–6	2.1	2.0	1.9	1.7	1.7
U–7	1.1–1.4	.9–1.2	.9–1.2	.8–1.0	.8–1.0

Table 4. Expanded unemployment measures for the United States and Japan, 1984–88

[Numbers in thousands]

Category	United States					Japan				
	1984	1985	1986	1987	1988	Feb. 1984	Feb. 1985	Feb. 1986	Feb. 1987	Feb. 1988
Unemployed:										
Total, U.S. standard definition	8,538	8,312	8,237	7,425	6,701	1,570	1,560	1,590	1,710	1,620
Full-time jobseekers	7,057	6,793	6,708	5,979	5,357	[1]1,170	[1]1,130	[1]1,180	[1]1,250	[1]1,140
Part-time jobseekers	1,481	1,519	1,529	1,446	1,343	[1]400	[1]430	[1]410	[1]460	[1]480
Half	741	760	765	723	672	200	220	210	230	240
Part-time for economic reasons	5,744	5,590	5,588	5,401	5,206	2,180	2,240	2,350	2,330	2,050
Reduced hours	5,744	5,590	5,588	5,401	5,206	[2]1,900	[2]1,960	[2]2,060	[2]2,080	[2]1,870
Half	2,872	2,795	2,794	2,701	2,603	950	980	1,030	1,040	940
Zero hours	(3)	(3)	(3)	(3)	(3)	[4]280	[4]280	290	250	180
U–6 numerator[5]	10,669	10,348	10,267	9,403	8,632	2,600	2,610	2,710	2,770	2,500
Plus discouraged workers	1,283	1,204	1,121	1,026	954	—	—	—	—	—
Japan: Discouraged workers I[6]	—	—	—	—	—	1,830	2,240	2,340	2,410	2,260
Discouraged workers II[7]	—	—	—	—	—	3,250	4,020	4,190	4,380	4,090
U–7 numerator	11,952	11,552	11,388	10,429	9,586	—	—	—	—	—
Japan: I	—	—	—	—	—	4,430	4,850	5,050	5,180	4,760
Japan: II	—	—	—	—	—	5,850	6,630	6,900	7,150	6,590
Civilian labor force:										
Total, U.S. standard definition	113,544	115,461	117,834	119,865	121,669	56,300	57,150	57,620	57,830	58,720
Full-time labor force	97,632	99,178	101,085	102,631	104,017	49,880	50,330	51,030	51,030	51,200
Part-time labor force	15,912	16,283	16,750	17,234	17,651	6,420	6,820	6,590	6,800	7,520
Half	7,956	8,142	8,375	8,617	8,826	3,210	3,410	3,300	3,400	3,760
U–6 denominator[8]	105,588	107,319	109,459	111,248	112,843	53,090	53,740	54,320	54,430	54,960
U–7 denominator[9]	106,871	108,523	110,580	112,274	113,797	—	—	—	—	—
Japan: I	—	—	—	—	—	54,920	55,980	56,660	56,840	57,220
Japan: II	—	—	—	—	—	56,340	57,760	58,510	58,810	59,050
Unemployment rates (percent):										
U–5: U.S. standard definition (civilian basis)	7.5	7.2	7.0	6.2	5.5	2.8	2.7	2.8	3.0	2.8
U–6: Total full-time jobseekers plus one-half part-time jobseekers plus one-half total on part-time for economic reasons[10] as a percent of the civilian labor force less one-half of the part-time labor force	10.1	9.6	9.4	8.5	7.6	4.9	4.9	5.0	5.1	4.5
U–7: U–6 plus discouraged workers in numerator and denominator	11.2	10.6	10.3	9.3	8.4	[11]8.1–10.4	[11]8.7–11.5	[11]8.9–11.8	[11]9.1–12.2	[11]8.3–11.2

[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 18 percent of adjusted unemployed based upon February 1986 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, excluding the following two groups: (1) those who had sought work 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).

NOTE: Data are on a civilian labor force basis.

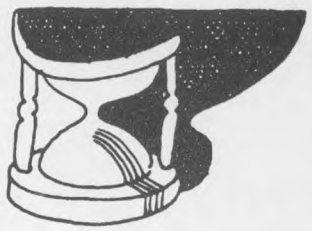
Under the conventional definition of unemployment (U–5), the tabulation shows that the U.S. rate was 2.5 to 2.7 times the Japanese rate during 1984–86, but the differential narrowed to about 2 during 1987–88. Similarly, the differential between the expanded rates (U–6 and U–7) also narrowed, both down and across the tabulation. When the unemployment definition includes persons working part time for economic reasons (U–6), the U.S. rate declined from about twice the Japanese rate during 1984–86 to 1.7 times during 1987–88. An even broader definition of unemployment which encompasses discouraged workers (U–7) illustrates that the U.S. and Japanese rates converged to approximately the same level. At the high end of the Japanese U–7 range, the Japanese rate has surpassed the U.S. rate since 1985. However, it should be emphasized that the upper Japanese U–7 rate includes some persons who might not be classified as discouraged workers under U.S. definitions.

Expanding the unemployment concept to include other elements of labor slack 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] In the *Monthly Labor Review*, see Constance Sorrentino, "Japan's low unemployment: an in-depth analysis," March 1984, pp. 18–27; and "Japanese unemployment: BLS updates its analysis," June 1987, pp. 47–53.

[2] 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. For an international comparison based on the U–1 to U–7 framework, see Constance Sorrentino, "The Uses of the European Community Labor Force Survey for International Unemployment Comparisons," paper prepared for the Statistical Office of the European Communities, October 1987. Copies are available upon request to the author at the Bureau of Labor Statistics.



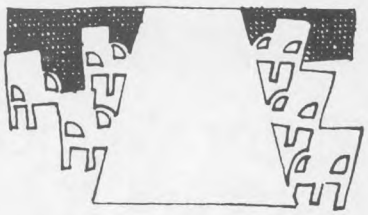
Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in July is based on information collected by the Bureau's Office of Compensation and Working Conditions. 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			
Mining	Anthracite Coal Operators Association (Eastern Pennsylvania)	United Mine Workers	1,000
Construction	Associated General Contractors of Saginaw Valley (Michigan)	Carpenters	1,550
	Missouri River Basin Agreement (Interstate)	Boilermakers	2,200
	Building Trades Employees Association and Mason Contractors (Boston, MA)	Bricklayers	3,000
	Association of Mechanical Contractors (Atlanta, GA)	Plumbers	1,200
		Iron Workers	1,700
	Combined Industry Construction Committee (St. Louis, MO)		
	Floor Covering Association and independent companies (Los Angeles, CA)	Painters	1,000
	Northern California Drywall Contractors (Northern California)	Painters	1,200
	Mechanical Contractors Association (Utah)	Plumbers	1,500
Food products	Meat Trade Institute (New York and New Jersey)	Food and Commercial Workers	1,600
Paper	Container Corp. of America (Interstate)	Paperworkers	1,250
	Scott Paper Co., Southern Division (Mobile, AL)	Paperworkers	2,400
	James River Corp. (Michigan)	Paperworkers	1,700
Steel	Armco, Inc. (Ashland, KY)	Steelworkers	2,600
	Armco, Inc. (Kansas City, MO)	Steelworkers	1,500
	Northwestern Steel and Wire Co. (Sterling, IL)	Steelworkers	2,400
Fabricated metal products	FMC Corp., Northern Ordance Division (Fridley, MN)	Auto Workers	1,400
Machinery	Briggs and Stratton Corp. (Milwaukee, WI)	Allied Industrial Workers	9,000
	Sealed Power Corp. (Muskegon, MI)	Auto Workers	1,000
	Tecumseh Products Co., Lauson Engine Division (New Holstein, WI)	Machinists	1,500
Shipbuilding	Todd Shipyards Corp. (San Pedro, CA)	Marine and Shipbuilding	1,700
Retail trade	Montgomery Ward and Co. (Interstate)	Teamsters	3,000
	Big Star Markets (South Atlantic States)	Food and Commercial Workers	2,000
	Fred Meyer, Inc. (Portland, OR)	Food and Commercial Workers	1,700
Public			
Education	Illinois: Cook County Community College, faculty	National Education Association	1,000
	Florida: Pasco County, teachers	American Federation of Teachers	1,950
	Lee County, teachers	National Education Association	1,250
	Lee County, noninstructional employees	National Education Association	1,000
	Washington: Edmonds, teachers	National Education Association	1,000

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

Developments In Industrial Relations



Difficulties continue at Eastern

Eastern Air Lines, long beset by financial difficulties and an acrimonious relationship with its unions, experienced heightened problems that threatened its existence as an operating entity. On March 4, 8,500 members of the Machinists union walked out after rejecting company demands for wage cuts and changes in work rules that had been the focus of 17 months of negotiations. Eastern's plan to maintain a substantial part of its flight schedule was dashed when only a small number of the 3,500 cockpit crew members, represented by the Air Line Pilots, crossed Machinists' picket lines. Similar support for the stoppage came from 6,000 flight attendants, represented by Transport Workers. The abbreviated flight schedule and the resulting increase in corporate financial losses led to the layoff of 10,000 nonunion employees, leaving only about 1,500 workers on the job.

A few days after the walkout began, Eastern filed for protection from creditors under Chapter 11 of the Federal Bankruptcy Code. Despite Eastern's initial assurances that it would continue operating, groups of investors, some joined by the unions, began making purchase offers, particularly after entrepreneur Donald Trump indicated he might terminate a commitment he made in 1987 to purchase Eastern's shuttle operations. The strike had lowered the value of the shuttle operations from $365 million to less than $250 million.

This latest controversy at Eastern began in 1986, when members of the Air Line Pilots and Transport Workers agreed to wage cuts of more than 20 percent. Since then, Eastern has been pressing the Machinists to accept comparable contract changes. Eastern's last proposal to the Machinists before the work stoppage began was for lowering hourly wage rates to $16 (from $18.83) for mechanics and to $11.54 (from $15.60) for ramp service employees, and for cost-reducing changes in work rules.

Program opens jobs to longshore workers

The International Longshoremen's Association (ILA) and major freight handling firms on the Atlantic and Gulf coasts have adopted a program intended to open jobs to longshore workers who had been laid off because of the Federal Maritime Administration's invalidation of the industry's container rule. (See *Monthly Labor Review,* April 1989, pp. 42–43.) The rule had reserved to ILA members the right to pack and unpack containerized cargo within 50 miles of a port where the union holds bargaining rights. The legal challenge was initiated by some shippers who contended that it hurt their ability to compete with shippers using lower cost labor.

The new program is financed by a 30-cent-a-ton levy on container cargo moving through ports on the coasts. The $5 million expected to be accumulated by the September 30, 1989, termination date of the plan (and the current overall labor agreement between the ILA and the industry) will be used to pay part of the wages of unemployed workers who find stevedoring jobs.

Television, radio performers settle

Negotiators for the NBC, CBS, and ABC television and radio networks and the American Federation of Television and Radio Artists settled for 70,000 performers, of whom about 4,000 are employed at any given time. The 3-year settlement actually comprises 37 separate contracts for the various types of employees, but there were some uniform terms:

- 3-percent increases in minimum pay rates for those with speaking parts, effective in November of 1989 and 1990;
- 2-percent increases in each contract year in minimum pay rates for those on news programs;
- an increase in the number of performers and news personnel entitled to residual payments for repeat broadcasts of programs in which they appear;
- a new provision preserving jobs for camera operators by permitting news reporters to refuse to operate cameras;
- an increase in management's financing of pension and health and welfare benefits to 10.5 percent of employee earnings, from 9.5 percent; and
- increases in premium pay for hours worked in excess of the 6-hour normal limit on the 2 consecutive days per week designated as "rest days" for performers in serials and soap operas.

Retail trade settlements

More than 13,000 employees of retail food store chains in Minneapolis and St. Paul, MN, were covered by similar 3-year contracts negotiated by the United Food and Com-

"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.

mercial Workers. Terms for the 3,600 employees in St. Paul included a 40-cent-an-hour immediate wage increase for full-time top-rated grocery clerks and meatcutters, followed by 35-cent increases in the second and third years. The previous hourly wage rates were $13.58 for grocery clerks and $14.69 for meatcutters. For part-time employees (less than 40 hours a week), the starting rate was increased by 6 percent in the first contract year, to $4.75 an hour; the top rate was increased by 3 percent (to $9.66) immediately, followed by additional 3-percent increases in the second and third years.

The St. Paul accord also provided for increases in employer financing of the health insurance plan, but benefits are now subject to reduction if they cannot be maintained with the increased financing. The financing increases are $26 a month for full-time employees and $13 for part-timers, effective immediately, and, if needed, $13 a month for all employees in both the second and third years. Previously, the employer obligation for full-time employees was $195 a month for clerks, $205 for meatcutters, and $40 for part-time workers.

Also, in the retail food store industry, Safeway Stores Inc. in Richmond, VA, and Food and Commercial Workers Local 400 negotiated a 3-year contract for 1,500 workers at 20 stores. The contract superseded the existing 3-year contract which was scheduled to expire in June 1990. Safeway officials explained that they wanted to settle early "to reaffirm to these employees our commitment to staying in the area and being a viable, growing market force."

The new contract, which runs to March 1992, provides for total wage increases of $1 to $2.75 an hour, in contrast to the 1987 accord, which cut the pay rates of top-rated employees by as much as $2.71 an hour. The pay cut and the closing of 40 stores in Richmond and nearby areas—and the closing of numerous stores elsewhere in the Nation—resulted from a restructuring following the 1986 leveraged buyout of the company.

Over the term of the 1989 accord, increases in top rates of progression schedules total $2 for full-time clerks, bringing their wage rate to $10 an hour; $1.75 for part-time clerks (to $8.75), $2.75 for meatcutters (to $12.25), and $1 for assistant managers (to $12.90). Other employees will receive increases under the progression schedules, which were extended to 18 months, from 12 months, from the date of hiring to attainment of top rate.

The settlement also restored two annual paid personal days off that had been eliminated in 1987.

Compensation improved for catalog sales workers

In Chicago, 3,100 catalog sales employees were covered by a 3-year settlement between Spiegel Inc. and Teamsters Local 743. Pay, which averaged $8.60 an hour, was increased by 50 cents effective March 1, 1989, followed by increases of 40 cents in March 1990 and 50 cents in March 1991. About 1,300 of the employees will also receive one-time inequity adjustments ranging from 15 to 25 cents an hour.

Benefit changes included a $1 increase in the $10 a month pension for each year of credited service; a $5,000 increase in the $10,000 employer-financed life insurance for employees, along with the addition of $1,500 of optional coverage for the employee's spouse, costing the employee $1 a month; various improvements in health insurance, including coverage under "well baby" provisions, extended care, convalescent care, and provision of social workers; and a new dental plan financed by monthly contributions of $4 by the company, $3.95 by single employees, and $17.75 by employees with dependents.

Boeing to 'borrow' production workers

In the aircraft industry, Boeing Co. announced it would borrow up to 670 production workers from Lockheed Corp. to aid in reducing a large backlog of orders for its 747–400 commercial jumbo jetliners. This move also aided Lockheed by providing work for employees of its Marietta, GA, plant, which is nearing completion of a contract to produce a C–5B transport aircraft for the Air Force. The plant has 10,000 employees, compared with 20,000 at the end of 1987.

The president of Machinists Local 709 at Marietta called the 6-month transfer of employees to Boeing's Everett, WA, plant a "blessing, because our main goal is to keep people working." Although Boeing's workers also are represented by the Machinists, the transferred workers will be covered by Local 709 contract terms. The local president said the employees will receive a wage increase for being on "field duty" and that Boeing will aid them in finding housing.

The so-called industry assistance agreement also led some observers to speculate that Boeing and Lockheed might later agree to shift some Boeing work to the Marietta plant.

Paper workers accept previously rejected terms

In Camden, AR, members of three local unions of the United Paperworkers and one local of the International Brotherhood of Electrical Workers approved a 5-year contract with International Paper Co. The contract provided for 2-percent pay raises in February of 1989 and 1990 for most employees (lump-sum and/or wage increases for some employees), $750 or $1,000 lump-sum payments in February 1991 for all employees, and 2-percent wage increases in February 1992 and 1993 for all employees.

Other terms included reductions in Sunday premium pay, greater company flexibility in assigning work, and adoption of a 401(k) savings plan.

Union officials said they were not satisfied with the terms but, according to one official, accepted them because "that was all there was for us." The terms were essentially the same as those in an offer International Paper made in February 1988, when the prior agreement expired. Since then, the employees have worked under contract extensions.

Meanwhile, the United Paperworkers union was continuing a corporate campaign to pressure International Paper to end its drive to cut labor costs at various plants by such measures as reducing Sunday premium pay and broadening job assignments. The campaign began during bitter work stoppages at several plants; the stoppages ended in 1988 when the workers voted to return to work, but the campaign continued. (See *Monthly Labor Review*, November 1988, pp. 47–48.) Recently, a union ally, the Laborers, withdrew $200 million from a bank subsidiary of PNC Financial Corp. because an International Paper executive was a member of the bank's board of directors.

Also in the papermaking industry, Westvaco Corp. and United Paperworkers locals in Luke, NC, and Covington, VA, agreed to extend their existing contract for 3 years, to December 1, 1992.

Contract terms included a $300 bonus for immediate ratification; 2.5-percent wage increases in December of 1989, 1990, and 1991; $1 increases in the monthly pension rate for each year of service, effective in April of 1990 and 1991; and a $1,000 increase in life insurance and a $5 increase in weekly sickness and accident benefits in each of the 3 years of the extended contract.

New York independent drug stores settle

In the New York City area, the Empire State Pharmaceutical Society, comprised of 320 independent drug stores, settled with Local 1199, Drug, Hospital and Health Care Employees, a unit of the Retail, Wholesale and Department Store Union. The 3-year agreement, which was reportedly similar to the union's December 1988 settlement with several major drug store chains, included an 8-percent salary increase retroactive to the October 8, 1988, termination date of the prior agreement, and 7-percent increases in October of 1989 and 1990. After the initial increase, minimum weekly salaries were $700 for pharmacists and $190 for cashiers, clerks, and stockworkers.

The contract, covering 2,500 employees, also provided for increasing the stores' payment to the benefit fund to an amount equal to 11.8 percent of payroll, from 11.4 percent; shifting 1.3 percentage points of the stores' financing of pensions to the benefit fund; establishing a drug and alcohol testing policy; and establishing a provision that employees hired after April 7, 1990, must join the union and employers are required to withhold union dues from the pay of these employees if they sign check-off forms.

Nurses in New York negotiate salary increase

Some specialized nurses with 20 years' service will be paid more than $66,000 a year under a 3-year contract between The Presbyterian Hospital in New York City and the New York State Nurses Association. The new maximum, effective in the final contract year, results from a revamping of the salary progression schedule. For general duty nurses, the new 20-year maximum rates are $44,000 retroactive to December 1988, rising to $50,500 in December 1989 and to $52,200 in December 1990. On the same dates, minimum salary rates move to $31,500, $34,000, and $35,700. Previously, the minimum was $29,000 and the maximum was $32,600 after 10 years of service.

A spokesperson for the Nurses Association said the new salary rates are the highest in the area, but comparable rates are expected to be attained in negotiations underway with other hospitals.

The Presbyterian agreement also increased the hourly rate for per diem nurses to $28, from $21.88, in three steps over the contract term, and increased the shift differential to $4,500 immediately, from $3,200, subject to further increases in the second and third years to match the highest differential then prevailing at any of three competing hospitals.

The settlement covers 1,500 nurses.

Initial contract for Swift textile workers

In Erwin, NC, 1,050 employees of Swift Textiles, Inc.'s denim manufacturing plant were covered by a settlement that provided for an immediate 4-percent pay increase. The 3-year agreement negotiated by the Amalgamated Clothing and Textile Workers also provided for possible reopening of bargaining when nonunion textile manufacturers give wage or benefit improvements to employees.

The agreement was the first between Swift and the union, which represented the employees under the former owner, Burlington Industries Inc. Burlington sold the plant to Swift's parent, Dominion Textile Ltd. of Canada in November 1987.

Moderate terms allow plant to modernize

The H.J. Heinz Co.'s Heinz U.S.A. Division announced a $90 million modernization of operations in Pittsburgh, PA, after members of United Food and Commercial Workers Local 325 approved a "moderate" 5-year contract. The 1,000 food preparation employees had been informed that the conversion was vital to revive the factory and avert a steady decline in production and jobs. Despite the settlement, the bargainers still expected about 250 jobs to be lost during the modernization.

Teachers' contracts

About 1,400 public school teachers in Chattanooga, TN, received an immediate salary increase averaging 9 percent under a new 2-year contract. The increase brought annual salary rates to $19,000 for starting teachers, $30,766 for teachers with a master's degree and 16 years of experience, and a maximum of $32,882 for those with a doctorate and 16 years of experience. At the start of the 1989–90 school year, the respective salaries are expected to be $19,500,

$32,036, and $34,239, depending on the amount of financial assistance from the State.

The teachers are represented by an affiliate of the National Education Association.

In Illinois, 1,150 teachers and training specialists will receive a 6.5-percent annual salary increases under a 4-year contract negotiated by Cook County Community College District 508 and an affiliate of the American Federation of Teachers. A new faculty evaluation system calls for one-fourth of the teachers to be rated each year by a committee composed of two administrators and two faculty members. The committee will follow a 12-step assessment procedure including self review, peer review, student evaluation, and administrative review. If necessary, the committee will aid teachers in improving their skills.

Supreme Court drug test rulings

Drug testing, which is becoming an increasingly divisive issue in collective bargaining and legislative halls, drew two opinions from the Supreme Court that validated such efforts, in limited circumstances.

In *Skinner v. Railway Labor Executives Association,* the Court held that railroad operating crews can be tested for drug use after being involved in accidents. Writing for the seven-member majority, Justice Anthony Kennedy said the provisions of the Fourth Amendment to the Constitution prohibiting searches without probable cause did not apply in this case because of "special needs" in the safe transport of the public resulting from the fact that railroad employees "can cause great human loss before any sign of impairment becomes noticeable to supervisors or others."

In dissent, Justice Thurgood Marshall, joined by Justice William J. Brennan, Jr., conceded that eradication of illegal drug use was a proper national objective, but concluded that testing of railroad workers without any evidence of wrongdoing allows "basic constitutional rights to fall prey to momentary emergencies."

In the other case, *National Treasury Employees Union v. Van Raab,* Justice Kennedy, writing for the five-member majority, held that the U.S. Customs Service's Drug Enforcement Administration had the right to routinely test employees involved in interdicting illegal drugs and employees who carry firearms. Justice Kennedy said that testing of these employees is necessary to assure that they have the "unimpeachable integrity and judgment" required to counter illegal drug traffic, which is "one of the greatest problems affecting the health and welfare of our population." The Court did not extend the ruling to messengers and baggage clerks because of uncertainty over whether individual employees would gain access to restricted information.

Justice Antonin Scalia led the dissent, explaining that he joined the majority in the railroad case because of the compelling need to protect railroad passengers, but could not favor the decision in the Customs Service case because only 5 of 3,600 employees tested had positive results, leading to the conclusion that there was "no real evidence of a problem that will be solved by urine testing."

U.S. Attorney General Richard Thornburgh described the two decisions as victories in the war on drugs, saying that the Administration would tailor drug-testing plans being established in Federal agencies to conform with the ruling. Federal employee unions, which have filed legal challenges to a number of the testing programs, contended that the Court's rulings had limited application and, pending further decisions, would not apply to "general" employees.

Bank to distribute back pay to bias victims

The Harris Bank of Chicago will distribute $14 million in back pay to some of its employees to settle charges of race and sex discrimination filed by the Federal Government. The payment is the largest of its kind in U.S. history.

The case began in 1973 when employees complained to the Department of Labor that Harris Bank discriminated against women and minorities in its pay, promotion, job placement, and training policies. The Department filed charges under Executive Order 11246, which imposes equal employment opportunity rules on employers of 50 workers or more who have Federal contracts totaling $50,000 in a year. Among other findings, the Department's action was based on the fact that Harris offered clerical jobs to some women with college degrees, while offering higher paid jobs and training to white male college graduates.

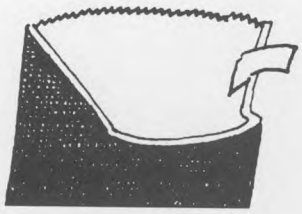
In 1981, an administrative law judge found Harris guilty of discrimination and ordered back pay. Harris appealed the ruling but, in 1986, another administrative law judge also ruled against the bank.

A Department of Labor official called the settlement "a major civil rights victory for the Federal Government" because it "provides an excellent precedent for future government action under the Executive Order." Observers maintain employees are better able to complete actions under the Executive Order than under the Civil Rights Act of 1964 because the Executive Order, unlike the Civil Rights Act, calls for legal costs to be borne by the government.

Harris Bank denied that it practiced discrimination, saying that it settled "to put the matter behind us."

The selection of employees and ex-employees who will receive payments, the size of payments, and the distribution of the money will be handled by the Department of Labor. The Department will also monitor Harris' commitment to establish training programs for women and minorities and to affirmative action. □

Book Reviews



Balancing work and family responsibilities

What's Happening to the American Family? Tensions, Hopes, Realities. Rev. ed. By Sar A. Levitan, Richard S. Belous, and Frank Gallo. Baltimore, The Johns Hopkins University Press, 1988. 228 pp.

Save the American family! This, or something like it, has become a theme of the 1980's. We read about high divorce rates, teenage pregnancy, single-parent families, latchkey children, and so forth. All of these, and more, we are told, mean the family as we know it is in trouble. But, few of these Cassandras take the time to explain what they mean by the "family." Thus, it becomes difficult to formulate any rational opinions regarding the causes and possible cures for the problems.

What's Happening to the American Family takes a close look at the institution of the family. The authors find that the family is not the mother, father, and two children household of popular myth, but an incredibly diverse social organism. For example, fewer than 5 percent of American families are so-called traditional families with a working father, stay-at-home mother, and two children; families maintained by women make up about 16 percent of all families; more than a fifth of all children live with just one parent; 65 percent of all mothers are in the labor force; and 60 percent of all children have a working mother. It is true that the majority of families still conform to the general notion of a social unit consisting of two adults of the opposite sex living together with their blood or adoptive relatives. But a significant and growing minority of families no longer contain two adults who are parents; the population is aging and many families no longer contain children while many young families are delaying having children. Moreover, the labor force and household roles of all family members in today's two-parent families tend to differ profoundly from the norm of just 30 years ago.

The authors use quantitative data to present a coherent picture of today's families and the trends that underlie some of the changes in family life that are troublesome to many people. For instance, they note that, while men and women are delaying marriage today (as compared with the 1950's and 1960's), most will marry. Of course, divorce rates are very high by historical standards, yet, as the authors note, family breakup is not the relatively new phenomenon that this might imply; death was the leading cause of family disruption before the enormous strides in health care during the 20th century. However, high rates of divorce and out-of-wedlock births mean that increasing numbers of children are living in single-parent families (a situation that usually means economic hardship), and that increasing numbers are living in married-couple households where one adult is not the natural parent. Of course, the authors also discuss what many perceive as the two most important social trends of the 20th century—the rapid increase in labor force participation among married women and the increase in the number of households maintained by women.

Do the authors conclude from these trends that the family is indeed in trouble? No—but neither do they give it a clean bill of health. Traditionally, the family's role has been one of support for its members. However, the authors find that the alterations in family structure, combined with the sweeping social and economic changes that followed World War II, have not strengthened the family in its supportive role. For example, in terms of cash income, single-parent families are generally less well-off than two-parent families. Also, the high mobility associated with modern life has weakened family and community ties, leaving individuals more exposed to economic and other misfortunes. Thus, in some ways, the supportive role of families may have deteriorated.

The authors also analyze government programs designed to help families. They do this with the same skill and clarity they use to analyze family structure, pointing out that a great many programs have an effect on families whether intended or not. Perhaps the most important point they make regarding family policy is: ". . . government interventions fail to pay adequate heed to changing family structures and attitudes about the diverse roles of families in modern society. The basic assumptions concerning the typical American family that prevailed during the 1930's, when some of the major current programs were initiated, no longer fit American family life." In other words, policies and programs whose underlying assumptions about families are based on outdated perceptions of reality will not help today's families cope with the problems they face. Indeed, such ill-founded policies may be harmful.

—HOWARD V. HAYGHE
Division of Labor Force Statistics
Bureau of Labor Statistics

The plight of European unions

Trade Unions Today and Tomorrow: Vol. 1, Trade Unions in a Changing Europe; Vol. 2, Trade Unions in a Changing Workplace. Edited by Georges Spyropoulos. Maastricht, The Netherlands, Presses Interuniversitaires Européennes, 1988.

Unions under stress—if not in crisis—is the theme which unifies this collection of papers. The setting is Western Europe in the 1980's. Because Western European labor movements have long stood for "the ideal-type," their unsettled state may be ushering in a new era in industrial relations, just as the 1980's represented a new order for American unions for largely the same root causes.

This work consists of approximately 30 research papers, essays, commentaries, and polemics. The authors are trade union professionals and officials and university scholars representing every region of Western Europe. The editor is a former official of the International Labour Organization. All perceive the union as indispensable in a democratic industrial society. The predicament of trade unionism and the labor movement is seen in some measure as a result of their own inadequacies, but in larger measure through overarching economic forces beyond their control.

The papers were originally presented at a conference sponsored by the European Center for Work and Society in Maastricht, The Netherlands in 1985. The center merits commendation for bringing together these papers in an attractive English-language edition. The interlocutor, so to speak, is Georges Spyropoulos, whose commentaries throughout the two volumes do much to impart coherence and structure to an otherwise heterogenous collection.

The sources of the crisis are internationalization of markets, technological restructuring, demographic changes in the labor market, the erosion of the welfare state, and the rise of conservative governments to power, ending the long postwar hegemony of social democracy. All of these elements have fused to produce unprecedentedly high levels of unemployment alien to the longstanding reign of full employment as the centerpiece of postwar European economic policy. Unemployment has necessarily led to a weakening of union power in collective and political bargaining. In the large, this is the American story as well except that the American union-free experience is not replicated in Western Europe with the possible exception of the United Kingdom.

A book review can only hint at the diversities reflected in the papers. "Country profiles" of Denmark and The Netherlands note the breach and possible breakdown in the historic social contract relationships. Paradoxically, union influence in France has deteriorated with the Left's access to political power. Neither Spanish nor Greek unions have been able to shake off the lethargy acquired in Fascist and quasi-Fascist times.

A comparison between the coal strikes of 1974 and 1984–85 dramatizes how far the fortunes of British unionism have fallen and reflects the disarray of the larger labor movement. Another set of cases on multinational bargaining demonstrates the gap between the rhetoric of international class solidarity and the reality of national union power and national interest.

"New Managerial Strategies and the Trade Union Response" is the most interesting section. Drawn from British experience, the parallel to the "union-free" strategy in the United States is the strongest in Western Europe. The mortal challenge to British unionism has come, however, from the Thatcher government, not primarily from British employers, who may very well believe that the government has gone too far.

In ways atypical of British industrial relations, American and Japanese firms in Britain have sought to "marginalize external union influence or attempt to forestall union organization altogether" (Vol. II, p. 65). Nor has unionism fared much better in the institutionalized modes of participation as evident in the French "direct expression" groups and in a series of British cases. Flexibility in the labor market, according to a French scholar, is the "boss' weapon in a class war" to dismantle union power and revive "management and executive power" (Vol. II, p. 145).

The strong forte of the various papers is that they confront the sources of union vulnerability squarely: rhetoric and ideology out of touch with reality, union structures and resources unequal to the demands of the new industrial relations, and union militancy unrelated to the availability of union resources.

The mainline unions of Western Europe need have no qualms about taking stock of their shortcomings. In a sense, they are victims of their own successes in contributing to a reconstructed Europe which now rivals the United States in most of the success indicators, except unemployment.

In general, most of the papers and commentaries reflect favorably on the capacity of trade union scholars and practitioners and their associates to make responsible assessments of where they are at this critical juncture of events, even if it hurts.

—JACK BARBASH
Professor of economics and industrial relations (Emeritus), University of Wisconsin, Madison, and visiting professor, University of California, Davis

Publications received

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U.S. Department of Labor, *Directory of Labor Offices in State and Federal Government.* By Sandra W. Hamlett. Washington, U.S. Department of Labor, Employment Standards Administration, Office of State Liaison and Legislative Analysis, Division of State Employment Programs, 1988, 127 pp.

(Bulletin 177, revised; ESA 1437.) Free copies are available upon request as long as supplies last.

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Donn, Clifford B., "Concession Bargaining in the Ocean-Going Maritime Industry," *Industrial and Labor Relations Review*, January 1989, pp. 189–200.

Ehrenberg, Ronald G. and George H. Jakubson, *Advance Notice Provisions in Plant Closing Legislation*. Kalamazoo, MI, W. E. Upjohn Institute for Employment Research, 1988, 101 pp. $9.95, paper.

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Vogel, David, *Fluctuating Fortunes: The Political Power of Business in America*. New York, Basic Books, Inc., 1989, 352 pp. $20.95.

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Labor force

Hochner, Arthur and others, *Job-Saving Strategies: Worker Buyouts and QWL*. Kalamazoo, MI, W. E. Upjohn Institute for Employment Research, 1989, 345 pp. $22.95, cloth; $15.95, paper.

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Parasuraman, Saroj and others, "Work and Family Variables as Mediators of the Relationship Between Wives' Employment and Husbands' Well-Being," *Academy of Management Journal*, March 1989, pp. 185–201.

Peterson, Richard R., *Women, Work, and Divorce*. Albany, NY, State University of New York Press, 1989, 179 pp., bibliography. $39.50, cloth; $12.95, paper.

Management and organization theory

Bittel, Lester R., *The McGraw-Hill 36-Hour Management Course*. New York, McGraw-Hill Publishing Co., 1989, 333 pp. $34.95, cloth; $19.95, paper.

Folger, Robert and Mary A. Konovsky, "Effects of Procedural and Distributive Justice on Reactions to Pay Raise Decisions," *Academy of Management Journal*, March 1989, pp. 115–30.

Hannaway, Jane, *Managers Managing: The Workings of an Administrative System*. New York, Oxford University Press, 1989, 171 pp., bibliography. $19.95.

Muson, Howard, "The Nonprofits' Prophet: An Across the Board Interview with Peter F. Drucker," *Across the Board*, March 1989, beginning on p. 24.

Roomkin, Myron J., *Managers as Employees: An International Comparison of the Changing Character of Managerial Employment*. New York, Oxford University Press, 1989, 288 pp. $29.95.

Shapero, Albert, *Managing Professional People: Understanding Creative Performance*. New York, The Free Press, A Division of Macmillan, Inc., 1989, 252 pp., bibliography. $12.95, paper.

Productivity and technological change

Miller, Steven M., *Impacts of Industrial Robotics: Potential Effects on Labor and Costs within the Metalworking Industries*. Madison, WI, The University of Wisconsin Press, 1989, 255 pp., bibliography. $45, cloth; $19.95, paper.

Current Labor Statistics

Productivity data

International comparisons

Injury and illness data

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:							
Nonfinancial corporations	.....	.....	June 1	1st quarter	.....	.....	2; 42–44
Nonfarm business and manufacturing	May 3	1st quarter	.....	.....	.....	.....	2; 42–44
Employment situation	May 5	April	June 2	May	July 7	June	1; 4–21
Producer Price Index	May 12	April	June 9	May	July 14	June	2; 33–35
Consumer Price Index	May 18	April	June 16	May	July 19	June	2; 30–32
Real earnings	May 18	April	June 16	May	July 19	June	14–17
Major collective bargaining settlements	.....	.....	.....	.....	July 25	2nd quarter	3; 25–28
Employment Cost Index	.....	.....	.....	.....	July 25	2nd quarter	1–3; 22–24
U.S. Import and Export Price Indexes	.....	.....	.....	.....	July 27	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, 15, 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 1989 issue of the *Review* to reflect experience through 1988.

Annual revisions of the seasonally adjusted payroll data shown in tables 13 and 17 were made in the July 1988 *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 "real" earnings shown in table 15—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 1977 = 100, the hourly rate expressed in 1977 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1977" 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 data books—*Revised Seasonally Adjusted Labor Force Statistics*, Bulletin 2306, and *Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2307. 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 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 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,* Bulletin 2285 (Bureau of Labor Statistics, 1988), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Users may also wish to consult *Major Programs, Bureau of Labor Statistics,* Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT AND UNEMPLOYMENT 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 55,800 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 employment 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 1988.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988). Historical unadjusted data from 1948 to 1987 are available in *Labor Force Statistics Derived from the Current Population Survey,* Bulletin 2307 (Bureau of Labor Statistics, 1988). Historical seasonally adjusted data appear in *Labor Force Statistics Derived from the Current Population Survey: A Databook,* Vol. II, Bulletin 2096 (Bureau of Labor Statistics, 1982), and *Revised Seasonally Adjusted Labor Force Statistics, 1978–87,* Bulletin 2306 (Bureau of Labor Statistics, 1988).

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 300,000 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 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 nonagricultural payrolls.

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

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

The Diffusion Index represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. The March 1989 *Review* introduced an expanded index on private nonagricultural employment based on 349 industries, and a new manufacturing index based on 143 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

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 1988 data, published in the July 1988 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 1986; seasonally adjusted data have been revised back to January 1983. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1988). Unadjusted data from April 1987 forward, and seasonally adjusted data from January 1984 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 18 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 national 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 2285 (Bureau of Labor Statistics, 1988).

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 2285 (Bureau of Labor Statistics, 1988).

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

The Employment Cost Index probability sample consists of about 3,400 private nonfarm establishments providing about 18,000 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 civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in 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 for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) of the quarterly rates of change are presented in the March issue of the BLS periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988), 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 of the contract effective date—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 straight-time hourly wage rate plus shift premium 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 of 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

Comparisons of major collective bargaining settlements for State and local government with those for private industry should note differences in occupational mix, bargaining practices, and settlement characteristics. Professional and white-collar employees, for example, make up a much larger proportion of the workers covered by government than by private industry settlements. Lump-sum payments and cost-of-living adjustments (COLA) clauses, on the other hand, are rare in government but common in private industry settlements. Also, State and local government bargaining frequently excludes items such as pension benefits and holidays, that are prescribed by law, while these items are typical bargaining issues in private industry.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988). Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semiannually (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 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 and historical data appear in the BLS periodical, *Current Wage Developments*. Historical data appear in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

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 (1982 = 100 for many Producer Price Indexes or 1982–84 = 100 for many Consumer Price Indexes, 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,* Bulletin 2285 (Bureau of Labor Statistics, 1988). 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,* July 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 by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,100 commodities and about 75,000 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 1987, 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 1982. 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 2285 (Bureau of Labor Statistics, 1988).

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 1985 = 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 1985.

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. For a given product, only one price basis series is used in the construction of an index.

Beginning in 1988, the Bureau has also been publishing a series of indexes which represent the price of U.S. exports and imports in foreign currency terms.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988).

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). For further information on the foreign currency indexes, see "BLS publishes average exchange rate and foreign currency price indexes," *Monthly Labor Review*, December 1987, pp. 47–49.

PRODUCTIVITY DATA
(Tables 2; 42–44)

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 productivity measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of combined labor and capital inputs). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

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

Definitions

Output per hour of all persons (labor productivity) is the 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 output per unit of combined labor and capital inputs. 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 Consumer Price Index for All Urban Consumers.

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

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

Hours of all persons are the total hours 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

Constant-dollar output for the **business sector** is equal to constant-dollar gross national product but excludes the rental value of owner-occupied dwellings, the rest-of-world sector, the output of nonprofit institutions, the output of paid employees of private households, general government, and the statistical discrepancy. Output of the **nonfarm business sector** is equal to business sector output less farming. 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 measures of manufacturing 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 2285 (Bureau of Labor Statistics, 1988). Historical data for selected industries are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

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 several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on EMPLOYMENT AND UNEMPLOYMENT DATA: Household Survey Data.

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, the United Kingdom; 15 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.

There are breaks in the date series for Germany (1983), Italy (1986), the Netherlands (1983), and Sweden (1987). For both Germany and the Netherlands, the breaks reflect the replacement of labor force survey results tabulated by the national statistical offices with those tabulated by the European Community Statistical Office (EUROSTAT). The Dutch figures for 1983 onward also reflect the replacement of man-year employment data with data from the Dutch Survey of Employed Persons. The impact of the changes was to lower the adjusted unemployment rate by 0.3 percentage point for Germany and by about 2 percentage points for the Netherlands.

For Italy, the break in series reflects more accurate enumeration of time of last job search. This resulted in a significant increase in the number of people reported as seeking work in the last 30 days. The impact was to increase the Italian unemployment rates approximating U.S. concepts by about 1 percentage point.

Sweden introduced a new questionnaire. Questions regarding current availability were added and the period of active workseeking was reduced from 60 days to 4 weeks. These changes result in lowering Sweden's unemployment rate by 0.5 percent point.

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*. The latest article appears in the April 1988 *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 2285 (Bureau of Labor Statistics, 1988), and periodic *Monthly Labor Review* articles. Historical data are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The statistics are issued twice per year—in a news release (generally in May) and in a *Monthly Labor Review* article.

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 Safety, Health, and Working Conditions.

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 Safety, Health, and Working Conditions.

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 2285 (Bureau of Labor Statistics, 1988); *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	1987	1988	1987			1988				1989
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey):[1]										
Labor force participation rate	65.6	65.9	65.6	65.6	65.7	65.8	65.8	65.9	66.1	66.4
Employment-population ratio	61.5	62.3	61.5	61.7	61.9	62.1	62.2	62.3	62.5	62.9
Unemployment rate	6.2	5.5	6.3	6.0	5.9	5.7	5.5	5.5	5.3	5.2
Men	6.2	5.5	6.4	6.0	5.8	5.6	5.4	5.4	5.4	5.2
16 to 24 years	12.6	11.4	13.1	12.2	11.9	11.8	11.2	11.4	11.3	11.2
25 years and over	4.8	4.2	4.9	4.6	4.4	4.3	4.2	4.1	4.1	4.0
Women	6.2	5.6	6.2	6.0	6.0	5.8	5.6	5.6	5.3	5.2
16 to 24 years	11.7	10.6	11.7	11.4	11.2	11.0	10.7	10.5	10.3	10.2
25 years and over	4.8	4.3	4.7	4.7	4.6	4.5	4.3	4.4	4.2	4.0
Unemployment rate, 15 weeks and over	1.7	1.3	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
Employment, nonagricultural (payroll data), in thousands:[1]										
Total	102,310	106,039	101,841	102,669	103,683	104,670	105,609	106,478	107,344	108,306
Private sector	85,295	88,653	84,869	85,643	86,518	87,406	88,263	89,063	89,812	90,710
Goods-producing	24,784	25,565	24,644	24,847	25,116	25,260	25,498	25,648	25,827	26,015
Manufacturing	19,065	19,539	18,965	19,112	19,290	19,388	19,498	19,567	19,701	19,787
Service-producing	77,525	80,475	77,196	77,782	78,567	79,410	80,111	80,830	81,517	82,291
Average hours:										
Private sector	34.8	34.8	34.7	34.7	34.8	34.7	34.8	34.7	34.8	34.7
Manufacturing	41.0	41.1	40.9	40.9	41.1	41.0	41.1	41.1	41.1	41.1
Overtime	3.7	3.9	3.7	3.8	3.9	3.8	3.9	3.9	3.9	3.9
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	3.6	5.0	.7	1.2	.8	1.4	1.1	1.3	1.0	1.2
Private industry workers	3.3	4.9	.7	1.0	.7	1.5	1.2	1.0	1.0	1.3
Goods-producing[2]	3.1	4.4	.7	.8	1.0	1.8	1.1	.6	.8	1.0
Service-producing[2]	3.7	5.1	.7	1.0	.5	1.3	1.4	1.2	1.2	1.5
State and local government workers	4.4	5.6	.3	2.3	.9	1.3	.3	2.7	1.1	1.2
Workers by bargaining status (private industry):										
Union	2.8	3.9	.5	.6	1.1	1.6	1.0	.7	.5	.8
Nonunion	3.6	5.1	.7	1.1	.6	1.5	1.3	1.1	1.2	1.5

[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	1987	1988	1987			1988				1989
			II	III	IV	I	II	III	IV	I
Compensation data [1, 2]										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	3.6	5.0	0.7	1.2	0.8	1.4	1.1	1.3	1.0	1.2
Private nonfarm	3.3	4.9	.7	1.0	.7	1.5	1.2	1.0	1.0	1.3
Employment Cost Index--wages and salaries										
Civilian nonfarm	3.5	4.3	.5	1.3	.7	1.0	.9	1.3	1.0	1.1
Private nonfarm	3.3	4.1	.7	1.0	.6	1.0	1.1	1.0	1.0	1.1
Price data [1]										
Consumer Price Index (All urban consumers): All items	4.4	4.4	1.2	1.3	.3	1.0	1.3	1.5	.6	1.5
Producer Price Index:										
Finished goods	2.2	4.0	1.2	.2	.1	.5	1.3	.8	1.3	2.0
Finished consumer goods	2.6	4.0	1.6	.3	-.2	.4	1.4	1.0	1.1	2.3
Capital equipment	1.3	3.6	.3	-.2	1.1	.7	.6	.4	1.8	.9
Intermediate materials, supplies, components	5.4	5.6	1.9	1.2	.9	1.1	2.6	1.2	.6	2.0
Crude materials	8.9	3.1	5.3	.6	-1.4	-.3	4.0	-1.2	.6	6.0
Productivity data [3]										
Output per hour of all persons:										
Business sector	.8	1.1	2.7	3.9	.6	3.5	-3.4	1.7	-1.0	3.5
Nonfarm business sector	.8	1.5	3.2	3.7	.9	3.4	-2.4	2.0	1.0	.5
Nonfinancial corporations [4]	1.5	1.3	3.1	4.7	-.1	4.3	-1.6	-.8	.2	-

[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.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended--					
	1987	1988				1989	1987	1988				1989
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	6.2	3.7	4.8	6.2	4.3	5.7	4.2	4.5	4.8	5.2	4.7	5.2
All persons, nonfarm business sector	6.4	3.5	4.2	5.7	5.2	5.7	4.1	4.4	4.6	5.0	4.7	5.2
Employment Cost Index--compensation:												
Civilian nonfarm [2]	.8	1.4	1.1	1.3	1.0	1.2	3.6	4.1	4.6	4.7	5.0	4.8
Private nonfarm	.7	1.5	1.2	1.0	1.0	1.3	3.3	3.9	4.5	4.5	4.9	4.6
Union	1.1	1.6	1.0	.7	.5	.8	2.8	3.9	4.3	4.5	3.9	3.0
Nonunion	.6	1.5	1.3	1.1	1.2	1.5	3.6	4.0	4.5	4.5	5.1	5.1
State and local governments	.9	1.3	.3	2.7	1.1	1.2	4.4	4.9	5.0	5.4	5.6	5.5
Employment Cost Index--wages and salaries:												
Civilian nonfarm[2]	.7	1.0	.9	1.3	1.0	1.1	3.5	3.5	3.9	3.9	4.3	4.4
Private nonfarm	.6	1.0	1.1	1.0	1.0	1.1	3.3	3.3	3.7	3.7	4.1	4.2
Union	1.1	.4	.8	.7	.4	.7	2.6	2.6	2.9	2.9	2.2	2.5
Nonunion	.5	1.0	1.2	1.0	1.1	1.3	3.6	3.5	4.0	3.9	4.5	4.8
State and local governments	.9	.9	.3	2.6	1.0	.8	4.2	4.4	4.4	4.7	4.8	4.8
Total effective wage adjustments[3]	.8	.4	.9	.8	.5	.5	3.1	3.2	3.0	2.9	2.6	2.7
From current settlements	.3	.1	.3	.2	.1	.1	.7	.8	1.0	1.0	.7	.7
From prior settlements	.3	.3	.5	.4	.2	.3	1.8	1.8	1.6	1.4	1.3	1.3
From cost-of-living provision	.2	.1	.1	.2	.2	.1	.5	.5	.5	.5	.6	.6
Negotiated wage adjustments from settlements:[3]												
First-year adjustments	2.4	2.1	2.6	2.7	2.6	3.2	2.2	2.4	2.4	2.5	2.5	2.7
Annual rate over life of contract	1.8	2.3	2.2	2.8	2.2	3.1	2.1	2.2	2.0	2.2	2.4	2.5
Negotiated wage and benefit adjustments from settlements:[4]												
First-year adjustment	3.4	1.8	3.1	3.4	3.5	3.3	3.0	3.1	3.0	3.1	3.1	3.3
Annual rate over life of contract	2.4	1.8	2.4	3.2	2.1	3.5	2.6	2.5	2.3	2.5	2.5	2.6

[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] 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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Noninstitutional population [1, 2]	184,490	186,322	185,964	186,088	186,247	186,402	186,522	186,666	186,801	186,949	187,098	187,340	187,461	187,581	187,708
Labor force [2]	121,602	123,378	123,060	122,917	123,209	123,331	123,692	123,688	123,778	124,215	124,259	125,124	124,865	124,948	125,343
Participation rate [3]	65.9	66.2	66.2	66.1	66.2	66.2	66.3	66.3	66.3	66.4	66.4	66.8	66.6	66.6	66.8
Total employed [2]	114,177	116,677	116,392	116,117	116,686	116,707	116,895	117,074	117,260	117,652	117,705	118,407	118,537	118,820	118,797
Employment-population ratio [4]	61.9	62.6	62.6	62.4	62.7	62.6	62.7	62.7	62.8	62.9	62.9	63.2	63.2	63.3	63.3
Resident Armed Forces [1]	1,737	1,709	1,732	1,714	1,685	1,673	1,692	1,704	1,687	1,705	1,696	1,696	1,684	1,684	1,684
Civilian employed	112,440	114,968	114,660	114,403	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113
Agriculture	3,208	3,169	3,187	3,110	3,121	3,060	3,142	3,176	3,238	3,238	3,193	3,300	3,223	3,206	3,104
Nonagricultural industries	109,232	111,800	111,473	111,293	111,880	111,974	112,061	112,194	112,335	112,709	112,816	113,411	113,630	113,930	114,009
Unemployed	7,425	6,701	6,668	6,800	6,523	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546
Unemployment rate [5]	6.1	5.4	5.4	5.5	5.3	5.4	5.5	5.3	5.3	5.3	5.3	5.4	5.1	4.9	5.2
Not in labor force	62,888	62,944	62,904	63,171	63,038	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365
Men, 16 years and over															
Noninstitutional population [1, 2]	88,476	89,404	89,225	89,287	89,367	89,445	89,504	89,577	89,637	89,716	89,792	89,914	89,973	90,032	90,094
Labor force [2]	67,784	68,474	68,462	68,409	68,436	68,461	68,685	68,604	68,569	68,686	68,638	69,032	69,113	69,190	69,360
Participation rate [3]	76.6	76.6	76.7	76.6	76.6	76.5	76.7	76.6	76.5	76.6	76.4	76.8	76.8	76.9	77.0
Total employed [2]	63,684	64,820	64,866	64,672	64,894	64,941	64,931	65,015	64,976	65,074	65,055	65,322	65,572	65,920	65,767
Employment-population ratio [4]	72.0	72.5	72.7	72.4	72.6	72.6	72.5	72.6	72.5	72.5	72.5	72.6	72.9	73.2	73.0
Resident Armed Forces [1]	1,577	1,547	1,569	1,553	1,523	1,512	1,529	1,540	1,526	1,542	1,534	1,532	1,521	1,521	1,521
Civilian employed	62,107	63,273	63,297	63,119	63,371	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246
Unemployed	4,101	3,655	3,596	3,737	3,542	3,520	3,754	3,589	3,593	3,612	3,583	3,710	3,540	3,270	3,593
Unemployment rate [5]	6.1	5.3	5.3	5.5	5.2	5.1	5.5	5.2	5.2	5.3	5.2	5.4	5.1	4.7	5.2
Women, 16 years and over															
Noninstitutional population [1, 2]	96,013	96,918	96,739	96,801	96,880	96,957	97,018	97,089	97,164	97,234	97,306	97,427	97,488	97,550	97,614
Labor force [2]	53,818	54,904	54,598	54,508	54,773	54,870	55,007	55,084	55,209	55,529	55,621	56,091	55,752	55,758	55,983
Participation rate [3]	56.1	56.6	56.4	56.3	56.5	56.6	56.7	56.7	56.8	57.1	57.2	57.6	57.2	57.2	57.4
Total employed [2]	50,494	51,858	51,526	51,445	51,792	51,766	51,964	52,059	52,284	52,578	52,650	53,085	52,965	52,900	53,029
Employment-population ratio [4]	52.6	53.5	53.3	53.1	53.5	53.4	53.6	53.6	53.8	54.1	54.1	54.5	54.3	54.2	54.3
Resident Armed Forces [1]	160	162	163	161	162	161	163	164	161	163	162	164	163	163	163
Civilian employed	50,334	51,696	51,363	51,284	51,630	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866
Unemployed	3,324	3,046	3,072	3,063	2,981	3,104	3,043	3,025	2,925	2,951	2,971	3,006	2,787	2,858	2,953
Unemployment rate [5]	6.2	5.5	5.6	5.6	5.4	5.7	5.5	5.5	5.3	5.3	5.3	5.4	5.0	5.1	5.3

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Civilian noninstitutional population[1]	182,753	184,613	184,232	184,374	184,562	184,729	184,830	184,962	185,114	185,244	185,402	185,644	185,777	185,897	186,024
Civilian labor force	119,865	121,669	121,328	121,203	121,524	121,658	122,000	121,984	122,091	122,510	122,563	123,428	123,181	123,264	123,659
Participation rate	65.6	65.9	65.9	65.7	65.8	65.9	66.0	66.0	66.0	66.1	66.1	66.5	66.3	66.3	66.5
Employed	112,440	114,968	114,660	114,403	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113
Employment-population ratio[2]	61.5	62.3	62.2	62.0	62.3	62.3	62.3	62.4	62.4	62.6	62.6	62.9	62.9	63.0	63.0
Unemployed	7,425	6,701	6,668	6,800	6,523	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546
Unemployment rate	6.2	5.5	5.5	5.6	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3
Not in labor force	62,888	62,944	62,904	63,171	63,038	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365
Men, 20 years and over															
Civilian noninstitutional population[1]	79,565	80,553	80,326	80,402	80,526	80,608	80,669	80,751	80,851	80,924	81,001	81,162	81,256	81,333	81,413
Civilian labor force	62,095	62,768	62,774	62,721	62,669	62,729	62,916	62,884	62,915	62,995	63,002	63,358	63,490	63,557	63,709
Participation rate	78.0	77.9	78.1	78.0	77.8	77.8	78.0	77.9	77.8	77.8	77.8	78.1	78.1	78.1	78.3
Employed	58,726	59,781	59,833	59,656	59,780	59,897	59,839	59,979	60,004	59,999	60,049	60,420	60,636	60,869	60,757
Employment-population ratio[2]	73.8	74.2	74.5	74.2	74.2	74.3	74.2	74.3	74.2	74.1	74.1	74.4	74.6	74.8	74.6
Agriculture	2,329	2,271	2,259	2,238	2,231	2,252	2,273	2,249	2,315	2,313	2,292	2,277	2,320	2,317	2,252
Nonagricultural industries	56,397	57,510	57,574	57,418	57,549	57,645	57,566	57,730	57,689	57,686	57,757	58,143	58,316	58,552	58,505
Unemployed	3,369	2,987	2,941	3,065	2,889	2,832	3,077	2,905	2,911	2,996	2,953	2,938	2,853	2,688	2,952
Unemployment rate	5.4	4.8	4.7	4.9	4.6	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6
Women, 20 years ond over															
Civilian noninstitutional population[1]	88,583	89,532	89,307	89,382	89,502	89,588	89,670	89,735	89,807	89,887	89,954	90,072	90,153	90,242	90,318
Civilian labor force	49,783	50,870	50,591	50,532	50,690	50,807	50,959	50,991	51,201	51,558	51,587	51,998	51,821	51,851	51,992
Participation rate	56.2	56.8	56.6	56.5	56.6	56.7	56.8	56.8	57.0	57.4	57.3	57.7	57.5	57.5	57.6
Employed	47,074	48,383	48,120	48,040	48,205	48,242	48,492	48,535	48,788	49,113	49,165	49,543	49,514	49,484	49,544
Employment-population ratio[2]	53.1	54.0	53.9	53.7	53.9	53.8	54.1	54.1	54.3	54.6	54.7	55.0	54.9	54.8	54.9
Agriculture	622	625	653	604	626	549	609	638	640	640	646	715	666	664	615
Nonagricultural industries	46,453	47,757	47,467	47,436	47,579	47,693	47,883	47,897	48,148	48,473	48,519	48,827	48,849	48,819	48,929
Unemployed	2,709	2,487	2,471	2,492	2,485	2,565	2,467	2,456	2,413	2,445	2,422	2,455	2,306	2,367	2,448
Unemployment rate	5.4	4.9	4.9	4.9	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,606	14,527	14,598	14,590	14,534	14,533	14,491	14,477	14,456	14,433	14,447	14,410	14,367	14,323	14,293
Civilian labor force	7,988	8,031	7,963	7,950	8,165	8,122	8,125	8,109	7,975	7,957	7,974	8,071	7,871	7,856	7,958
Participation rate	54.7	55.3	54.5	54.5	56.2	55.9	56.1	56.0	55.2	55.1	55.2	56.0	54.8	54.9	55.7
Employed	6,640	6,805	6,707	6,707	7,016	6,895	6,872	6,856	6,781	6,835	6,795	6,748	6,703	6,783	6,812
Employment-population ratio[2]	45.5	46.8	45.9	46.0	48.3	47.4	47.4	47.4	46.9	47.4	47.0	46.8	46.7	47.4	47.7
Agriculture	258	273	275	268	264	259	260	289	283	285	255	307	237	224	237
Nonagricultural industries	6,382	6,532	6,432	6,439	6,752	6,636	6,612	6,567	6,498	6,550	6,540	6,441	6,466	6,559	6,575
Unemployed	1,347	1,226	1,256	1,243	1,149	1,227	1,253	1,253	1,194	1,122	1,179	1,323	1,168	1,073	1,146
Unemployment rate	16.9	15.3	15.8	15.6	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4
White															
Civilian noninstitutional population[1]	156,958	158,194	157,943	158,034	158,166	158,279	158,340	158,422	158,524	158,603	158,705	158,865	158,947	159,020	159,098
Civilian labor force	103,290	104,756	104,517	104,433	104,716	104,651	105,013	105,036	105,051	105,395	105,411	106,106	105,798	105,988	106,312
Participation rate	65.8	66.2	66.2	66.1	66.2	66.1	66.3	66.3	66.3	66.5	66.4	66.8	66.6	66.7	66.8
Employed	97,789	99,812	99,663	99,508	99,902	99,761	99,907	100,058	100,199	100,543	100,567	101,183	101,278	101,554	101,458
Employment-population ratio[2]	62.3	63.1	63.1	63.0	63.2	63.0	63.1	63.2	63.2	63.4	63.4	63.7	63.7	63.9	63.8
Unemployed	5,501	4,944	4,854	4,925	4,814	4,890	5,106	4,978	4,852	4,852	4,844	4,923	4,521	4,434	4,854
Unemployment rate	5.3	4.7	4.6	4.7	4.6	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6
Black															
Civilian noninstitutional population[1]	20,352	20,692	20,622	20,650	20,683	20,715	20,736	20,762	20,786	20,811	20,842	20,877	20,905	20,930	20,956
Civilian labor force	12,993	13,205	13,101	13,102	13,066	13,283	13,236	13,201	13,290	13,330	13,405	13,477	13,476	13,425	13,287
Participation rate	63.8	63.8	63.5	63.4	63.2	64.1	63.8	63.6	63.9	64.1	64.3	64.6	64.5	64.1	63.4
Employed	11,309	11,658	11,534	11,514	11,543	11,761	11,733	11,758	11,807	11,831	11,856	11,860	11,873	11,961	11,846
Employment-population ratio[2]	55.6	56.3	55.9	55.8	55.8	56.8	56.6	56.6	56.8	56.8	56.9	56.8	56.8	57.1	56.5
Unemployed	1,684	1,547	1,567	1,588	1,523	1,522	1,503	1,443	1,483	1,499	1,549	1,617	1,603	1,464	1,442
Unemployment rate	13.0	11.7	12.0	12.1	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8

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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic origin															
Civilian noninstitutional population[1]	12,867	13,325	13,230	13,268	13,306	13,344	13,381	13,419	13,458	13,495	13,533	13,564	13,606	13,649	13,690
Civilian labor force	8,541	8,982	8,823	8,910	9,009	8,997	8,963	9,061	9,075	9,148	9,133	9,205	9,219	9,210	9,262
Participation rate	66.4	67.4	66.7	67.2	67.7	67.4	67.0	67.5	67.4	67.8	67.5	67.9	67.8	67.5	67.7
Employed	7,790	8,250	8,030	8,128	8,222	8,265	8,214	8,378	8,368	8,419	8,441	8,434	8,596	8,607	8,495
Employment-population ratio[2]	60.5	61.9	60.7	61.3	61.8	61.9	61.4	62.4	62.2	62.4	62.4	62.2	63.2	63.1	62.1
Unemployed	751	732	793	782	787	732	749	683	707	729	692	771	624	603	767
Unemployment rate	8.8	8.2	9.0	8.8	8.7	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Civilian employed, 16 years and over	112,440	114,968	114,660	114,403	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113
Men	62,107	63,273	63,297	63,119	63,371	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246
Women	50,334	51,696	51,363	51,284	51,630	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866
Married men, spouse present	40,265	40,472	40,494	40,317	40,493	40,518	40,511	40,513	40,504	40,407	40,483	40,925	40,928	41,083	40,890
Married women, spouse present	28,107	28,756	28,772	28,632	28,678	28,669	28,809	28,836	28,890	28,995	29,053	29,589	29,412	29,569	29,656
Women who maintain families	6,060	6,211	6,091	6,000	6,130	6,170	6,280	6,253	6,344	6,375	6,399	6,416	6,385	6,256	6,243
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,632	1,621	1,632	1,574	1,583	1,572	1,607	1,612	1,661	1,672	1,698	1,684	1,645	1,656	1,554
Self-employed workers	1,423	1,398	1,390	1,365	1,375	1,362	1,411	1,421	1,405	1,450	1,349	1,387	1,419	1,403	1,419
Unpaid family workers	153	150	152	155	161	149	158	137	177	125	149	189	150	138	124
Nonagricultural industries:															
Wage and salary workers	100,771	103,021	102,562	102,145	102,953	103,189	103,207	103,501	103,733	103,770	103,904	104,510	104,797	104,982	104,985
Government	16,800	17,114	17,012	16,946	17,049	17,031	17,111	17,145	17,240	17,387	17,423	17,393	17,311	17,382	17,180
Private industries	83,970	85,907	85,550	85,199	85,904	86,158	86,096	86,356	86,493	86,383	86,481	87,117	87,486	87,600	87,806
Private households	1,208	1,153	1,114	1,152	1,146	1,132	1,128	1,119	1,152	1,209	1,210	1,196	1,135	1,163	1,117
Other	82,762	84,754	84,436	84,047	84,758	85,026	84,968	85,237	85,341	85,174	85,271	85,921	86,350	86,437	86,689
Self-employed workers	8,201	8,519	8,567	8,816	8,536	8,531	8,508	8,570	8,479	8,619	8,602	8,718	8,517	8,645	8,671
Unpaid family workers	260	260	272	301	297	251	241	230	232	300	266	298	285	332	281
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,401	5,206	5,212	4,878	5,302	5,341	5,192	5,097	4,963	5,061	5,321	5,097	4,981	4,968	5,143
Slack work	2,385	2,350	2,264	2,267	2,346	2,471	2,315	2,266	2,220	2,279	2,549	2,302	2,303	2,232	2,373
Could only find part-time work	2,672	2,487	2,519	2,353	2,586	2,538	2,473	2,389	2,399	2,375	2,410	2,352	2,333	2,393	2,425
Voluntary part time	14,395	14,963	14,949	14,813	14,612	15,026	14,999	15,270	15,161	15,446	15,363	15,401	15,126	15,561	15,498
Nonagricultural industries:															
Part time for economic reasons	5,122	4,965	4,953	4,676	5,073	5,102	4,972	4,862	4,727	4,819	5,033	4,837	4,697	4,709	4,930
Slack work	2,201	2,199	2,131	2,136	2,183	2,334	2,171	2,102	2,095	2,116	2,377	2,144	2,105	2,048	2,243
Could only find part-time work	2,587	2,408	2,426	2,276	2,504	2,493	2,408	2,317	2,319	2,288	2,307	2,283	2,272	2,317	2,369
Voluntary part time	13,928	14,509	14,441	14,376	14,180	14,606	14,564	14,819	14,679	14,986	14,928	14,970	14,688	15,127	15,060

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, all civilian workers	6.2	5.5	5.5	5.6	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3
Both sexes, 16 to 19 years	16.9	15.3	15.8	15.6	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4
Men, 20 years and over	5.4	4.8	4.7	4.9	4.6	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6
Women, 20 years and over	5.4	4.9	4.9	4.9	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7
White, total	5.3	4.7	4.6	4.7	4.6	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6
Both sexes, 16 to 19 years	14.4	13.1	13.9	13.2	12.3	12.9	13.7	13.4	12.9	11.9	12.6	14.1	12.1	11.3	12.3
Men, 16 to 19 years	15.5	13.9	14.4	14.0	13.2	14.3	13.9	14.5	14.4	12.6	13.4	16.4	14.0	12.3	13.1
Women, 16 to 19 years	13.4	12.3	13.3	12.3	11.4	11.4	13.5	12.3	11.3	11.3	11.8	11.7	10.2	10.2	11.5
Men, 20 years and over	4.8	4.1	4.0	4.2	4.0	3.9	4.3	4.1	4.1	4.2	4.1	4.0	3.8	3.6	4.0
Women, 20 years and over	4.6	4.1	4.0	4.1	4.1	4.3	4.1	4.1	4.0	4.0	3.9	3.9	3.6	3.8	4.1
Black, total	13.0	11.7	12.0	12.1	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8
Both sexes, 16 to 19 years	34.7	32.4	30.8	33.9	30.6	31.7	32.1	31.9	30.9	31.1	29.6	34.5	32.4	31.6	30.8
Men, 16 to 19 years	34.4	32.7	27.9	33.2	31.5	31.2	32.1	31.9	32.8	32.1	29.8	36.7	33.1	28.6	35.5
Women, 16 to 19 years	34.9	32.0	33.9	34.8	29.6	32.4	32.0	31.9	28.6	29.9	29.3	32.0	31.6	34.8	26.2
Men, 20 years and over	11.1	10.1	10.4	10.4	9.9	9.6	9.7	9.1	9.6	9.8	10.0	10.4	10.5	9.8	10.0
Women, 20 years and over	11.6	10.4	10.9	10.6	10.6	10.3	10.0	9.7	9.8	9.8	10.5	10.4	10.3	9.1	8.8
Hispanic origin, total	8.8	8.2	9.0	8.8	8.7	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3
Married men, spouse present	3.9	3.3	3.1	3.3	3.2	3.1	3.4	3.1	3.1	3.3	3.1	3.1	3.1	2.9	3.2
Married women, spouse present	4.3	3.9	3.8	3.9	3.9	4.0	4.0	3.8	3.7	3.8	3.7	3.6	3.4	3.5	4.0
Women who maintain families	9.2	8.1	8.5	8.4	7.9	8.5	7.5	8.1	7.9	7.7	8.2	8.0	8.0	7.9	7.6
Full-time workers	5.8	5.2	5.1	5.2	5.0	5.0	5.3	5.1	5.0	5.0	5.1	5.0	4.8	4.8	5.0
Part-time workers	8.4	7.6	7.5	7.7	7.7	8.0	7.4	7.4	7.4	7.1	7.0	7.9	7.3	6.2	7.2
Unemployed 15 weeks and over	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.2
Labor force time lost[1]	7.1	6.3	6.2	6.4	6.3	6.4	6.4	6.3	6.1	6.2	6.3	6.2	5.9	5.8	6.0
INDUSTRY															
Nonagricultural private wage and salary workers	6.2	5.5	5.4	5.6	5.4	5.4	5.6	5.4	5.4	5.5	5.4	5.6	5.1	5.0	5.4
Mining	10.0	7.9	8.1	9.4	6.8	5.4	7.0	8.6	8.8	8.9	7.7	6.1	8.0	7.0	5.6
Construction	11.6	10.6	10.6	10.5	10.3	10.4	10.7	9.6	10.0	10.6	10.4	10.4	10.0	9.4	9.7
Manufacturing	6.0	5.3	5.3	5.3	4.9	5.2	5.5	5.4	5.3	5.1	5.2	5.3	4.9	4.8	4.9
Durable goods	5.8	5.0	4.8	4.9	4.5	4.9	5.0	5.2	5.0	4.9	5.0	5.0	4.4	4.7	4.7
Nondurable goods	6.3	5.7	5.9	5.9	5.5	5.6	6.3	5.8	5.7	5.3	5.5	5.7	5.5	4.9	5.2
Transportation and public utilities	4.5	3.9	3.8	4.2	4.1	3.6	3.8	3.8	3.5	4.0	3.8	3.8	3.9	3.9	4.0
Wholesale and retail trade	6.9	6.2	5.9	6.3	6.0	6.2	6.4	6.2	6.0	6.2	6.3	6.3	5.6	5.6	5.9
Finance and service industries	4.9	4.5	4.3	4.6	4.6	4.5	4.4	4.4	4.5	4.6	4.1	4.7	4.3	4.1	4.8
Government workers	3.5	2.8	3.0	2.9	2.9	3.0	2.9	2.7	2.6	2.5	2.7	2.7	2.7	2.6	2.7
Agricultural wage and salary workers	10.5	10.6	11.0	12.4	10.0	11.0	11.0	10.8	10.2	9.3	8.8	9.5	8.9	8.9	10.5

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	6.2	5.5	5.5	5.6	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3
16 to 24 years	12.2	11.0	11.2	11.2	10.5	10.9	11.0	10.9	10.9	10.6	10.9	11.9	10.5	9.8	10.5
16 to 19 years	16.9	15.3	15.8	15.6	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4
16 to 17 years	19.1	17.4	17.7	16.7	15.9	17.5	18.5	19.6	17.2	15.8	16.6	18.3	18.2	15.3	14.9
18 to 19 years	15.2	13.8	14.1	14.8	13.3	13.1	13.7	12.8	13.3	12.9	13.3	15.4	12.7	12.5	13.8
20 to 24 years	9.7	8.7	8.7	8.8	8.5	8.5	8.4	8.4	8.6	8.7	8.7	9.3	8.1	7.7	8.4
25 years and over	4.8	4.3	4.2	4.3	4.2	4.2	4.4	4.2	4.1	4.2	4.1	4.1	4.0	3.9	4.1
25 to 54 years	5.0	4.5	4.4	4.5	4.4	4.4	4.5	4.4	4.3	4.4	4.3	4.2	4.2	4.1	4.4
55 years and over	3.3	3.1	3.0	3.3	3.0	3.1	3.2	2.9	2.8	2.8	3.0	3.1	3.1	2.6	2.9
Men, 16 years and over	6.2	5.5	5.4	5.6	5.3	5.3	5.6	5.4	5.4	5.4	5.3	5.5	5.2	4.8	5.3
16 to 24 years	12.6	11.4	11.2	11.5	11.0	11.3	11.4	11.3	11.8	10.9	11.1	12.8	11.1	9.7	10.7
16 to 19 years	17.8	16.0	15.9	16.3	15.4	16.3	16.0	16.4	16.5	14.8	15.4	18.6	16.7	14.2	15.5
16 to 17 years	20.2	18.2	17.6	17.4	17.5	18.1	17.7	20.8	18.5	17.3	17.3	20.6	19.6	15.8	17.0
18 to 19 years	16.0	14.6	14.7	15.3	14.3	14.4	14.5	13.5	15.0	13.0	13.5	17.9	15.1	13.2	14.6
20 to 24 years	9.9	8.9	8.7	8.9	8.5	8.5	8.9	8.5	9.2	8.8	8.7	9.6	8.1	7.2	8.0
25 years and over	4.8	4.2	4.1	4.3	4.1	4.0	4.4	4.1	4.0	4.2	4.1	4.0	4.0	3.8	4.2
25 to 54 years	5.0	4.4	4.3	4.4	4.2	4.2	4.5	4.3	4.2	4.4	4.3	4.2	4.1	4.0	4.4
55 years and over	3.5	3.3	3.2	3.5	3.2	3.2	3.4	2.9	3.0	3.2	3.3	3.0	3.4	2.8	3.2
Women, 16 years and over	6.2	5.6	5.6	5.6	5.5	5.7	5.5	5.5	5.3	5.3	5.4	5.4	5.0	5.1	5.3
16 to 24 years	11.7	10.6	11.1	10.9	10.0	10.5	10.4	10.5	9.9	10.3	10.7	10.9	9.7	10.0	10.4
16 to 19 years	15.9	14.4	15.6	15.0	12.6	13.8	14.8	14.5	13.3	13.3	14.2	14.0	12.8	13.1	13.2
16 to 17 years	18.0	16.6	17.7	16.0	14.1	16.8	19.2	18.2	15.8	14.1	15.8	15.9	16.8	14.8	12.7
18 to 19 years	14.3	12.9	13.5	14.2	12.1	11.6	12.8	12.0	11.6	12.8	13.1	12.7	10.0	11.7	12.8
20 to 24 years	9.4	8.5	8.6	8.6	8.6	8.6	8.0	8.2	7.9	8.6	8.7	9.1	8.0	8.3	8.9
25 years and over	4.8	4.3	4.3	4.4	4.3	4.4	4.3	4.3	4.2	4.2	4.1	4.1	3.9	4.0	4.1
25 to 54 years	5.1	4.6	4.6	4.6	4.6	4.7	4.6	4.5	4.5	4.4	4.4	4.3	4.2	4.3	4.4
55 years and over	3.0	2.8	2.8	3.1	2.8	2.9	2.8	2.9	2.4	2.4	2.6	3.1	2.5	2.3	2.6

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

(Numbers in thousands)

Reason for unemployment	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers	3,566	3,092	2,968	3,201	3,070	3,085	3,112	3,079	2,951	3,031	3,066	3,121	2,876	2,831	2,984
On layoff	943	851	844	806	861	853	880	833	844	814	819	827	774	808	847
Other job losers	2,623	2,241	2,124	2,395	2,209	2,232	2,232	2,246	2,107	2,217	2,247	2,294	2,102	2,023	2,137
Job leavers	965	983	985	942	953	923	986	985	984	963	998	985	985	885	978
Reentrants	1,974	1,809	1,804	1,804	1,747	1,883	1,843	1,767	1,747	1,766	1,725	1,835	1,740	1,730	1,894
New entrants	920	816	886	811	800	799	800	761	747	799	799	780	765	713	671
PERCENT OF UNEMPLOYED															
Job losers	48.0	46.1	44.7	47.4	46.7	46.1	46.2	46.7	45.9	46.2	46.5	46.4	45.2	46.0	45.7
On layoff	12.7	12.7	12.7	11.9	13.1	12.8	13.1	12.6	13.1	12.4	12.4	12.3	12.2	13.1	13.0
Other job losers	35.3	33.4	32.0	35.4	33.6	33.4	33.1	34.1	32.8	33.8	34.1	34.1	33.0	32.8	32.7
Job leavers	13.0	14.7	14.8	13.9	14.5	13.8	14.6	14.9	15.3	14.7	15.1	14.7	15.5	14.4	15.0
Reentrants	26.6	27.0	27.2	26.7	26.6	28.1	27.3	26.8	27.2	26.9	26.2	27.3	27.3	28.1	29.0
New entrants	12.4	12.2	13.3	12.0	12.2	11.9	11.9	11.5	11.6	12.2	12.1	11.6	12.0	11.6	10.3
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.0	2.5	2.4	2.6	2.5	2.5	2.6	2.5	2.4	2.5	2.5	2.5	2.3	2.3	2.4
Job leavers	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.7	.8
Reentrants	1.6	1.5	1.5	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.5
New entrants	.8	.7	.7	.7	.7	.7	.7	.6	.6	.7	.7	.6	.6	.6	.5

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	3,246	3,084	3,093	3,072	3,093	2,985	3,158	3,116	3,059	3,117	3,029	3,181	3,247	3,055	3,090
5 to 14 weeks	2,196	2,007	1,969	2,068	1,910	2,041	1,956	1,896	1,835	1,935	2,039	2,081	1,865	1,821	2,034
15 weeks and over	1,983	1,610	1,582	1,614	1,543	1,619	1,636	1,568	1,554	1,502	1,495	1,512	1,304	1,310	1,426
15 to 26 weeks	943	801	756	789	749	826	831	775	788	787	758	757	665	648	689
27 weeks and over	1,040	809	826	825	794	793	805	793	766	715	737	755	639	663	737
Mean duration in weeks	14.5	13.5	13.5	13.8	13.2	13.5	13.5	13.5	13.4	12.6	12.8	12.7	12.1	12.4	12.7
Median duration in weeks	6.5	5.9	5.8	5.9	5.9	6.2	5.9	5.7	5.7	5.6	5.8	5.7	5.3	5.4	5.4

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

State	Mar. 1988	Mar. 1989	State	Mar. 1988	Mar. 1989
Alabama	6.8	7.3	Montana	8.3	7.7
Alaska	11.1	9.5	Nebraska	4.1	3.5
Arizona	5.8	5.8	Nevada	6.4	5.7
Arkansas	8.6	7.5	New Hampshire	2.6	2.7
California	5.3	4.7	New Jersey	4.4	3.4
Colorado	7.4	7.3	New Mexico	8.5	7.7
Connecticut	2.9	3.0	New York	4.3	4.6
Delaware	3.9	3.7	North Carolina	4.0	3.2
District of Columbia	5.2	5.7	North Dakota	5.6	5.2
Florida	4.7	4.7	Ohio	7.9	5.7
Georgia	5.8	5.3	Oklahoma	7.0	6.5
Hawaii	3.0	3.4	Oregon	6.6	6.2
Idaho	7.9	6.5	Pennsylvania	5.6	4.2
Illinois	7.8	6.2	Rhode Island	3.7	4.3
Indiana	7.0	5.1	South Carolina	4.6	4.4
Iowa	5.5	4.5	South Dakota	4.1	4.2
Kansas	4.8	4.5	Tennessee	5.7	6.0
Kentucky	9.3	7.9	Texas	8.3	6.3
Louisiana	11.6	9.6	Utah	5.9	5.5
Maine	4.7	4.2	Vermont	3.4	3.8
Maryland	4.5	4.0	Virginia	3.8	4.1
Massachusetts	3.6	4.1	Washington	6.9	6.3
Michigan	8.6	7.1	West Virginia	10.7	8.1
Minnesota	4.5	4.5	Wisconsin	5.5	5.2
Mississippi	7.6	8.5	Wyoming	7.4	7.1
Missouri	5.9	5.9			

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. 1988	Feb. 1989	Mar. 1989[p]	State	Mar. 1988	Feb. 1989	Mar. 1989[p]
Alabama	1,536.8	1,556.0	1,558.5	Nebraska	677.7	697.0	702.8
Alaska	202.3	203.6	206.9	Nevada	520.3	552.4	558.0
Arizona	1,422.5	1,429.7	1,437.7	New Hampshire	516.0	526.5	527.1
Arkansas	851.4	866.0	875.2				
California	11,940.2	12,246.5	12,320.0	New Jersey	3,594.8	3,610.9	3,635.9
				New Mexico	534.9	543.8	547.0
Colorado	1,420.9	1,427.2	1,435.7	New York	8,102.4	8,134.7	8,193.1
Connecticut	1,661.2	1,670.7	1,684.3	North Carolina	2,942.3	2,995.3	2,999.6
Delaware	324.6	334.4	336.3	North Dakota	250.4	253.2	254.8
District of Columbia	666.2	675.4	680.8				
Florida	5,065.4	5,254.8	5,279.7	Ohio	4,586.2	4,671.4	4,705.1
				Oklahoma	1,125.4	1,131.0	1,137.5
Georgia	2,843.8	2,929.9	2,927.8	Oregon	1,123.6	1,158.4	1,170.5
Hawaii	473.8	488.0	490.8	Pennsylvania	4,964.7	5,016.3	5,044.3
Idaho	335.7	346.3	348.6	Rhode Island	450.1	449.8	453.9
Illinois	5,022.0	5,085.8	5,108.4				
Indiana	2,343.1	2,406.9	2,421.2	South Carolina	1,426.1	1,469.1	1,482.8
				South Dakota	257.8	259.0	260.3
Iowa	1,129.0	1,165.5	1,173.8	Tennessee	2,053.6	2,052.2	2,064.6
Kansas	1,023.9	1,036.8	1,046.2	Texas	6,599.1	6,704.8	6,732.7
Kentucky	1,351.7	1,372.3	1,379.0	Utah	646.4	665.4	671.5
Louisiana	1,496.7	1,501.0	1,510.0				
Maine	503.2	515.7	515.7	Vermont	250.9	261.2	259.9
				Virginia	2,725.2	2,817.1	2,842.1
Maryland	2,063.4	2,086.0	2,094.1	Washington	1,886.5	1,960.8	1,981.6
Massachusetts	3,086.5	3,102.7	3,118.6	West Virginia	596.9	600.7	607.6
Michigan	3,737.4	3,809.8	3,815.9	Wisconsin	2,099.5	2,150.4	2,156.6
Minnesota	1,971.0	2,018.6	2,030.3				
Mississippi	881.9	899.5	906.4	Wyoming	177.9	176.2	178.7
Missouri	2,213.6	2,225.4	2,243.9	Puerto Rico	803.1	820.1	819.6
Montana	273.0	273.0	275.9	Virgin Islands	41.9	41.5	42.0

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
TOTAL	102,310	106,039	105,281	105,489	106,057	106,271	106,425	106,737	106,973	107,419	107,641	108,065	108,341	108,512	108,629
PRIVATE SECTOR	85,295	88,653	87,973	88,139	88,678	88,941	89,066	89,205	89,481	89,855	90,100	90,506	90,725	90,898	91,029
GOODS-PRODUCING	24,784	25,565	25,435	25,466	25,592	25,663	25,639	25,648	25,743	25,849	25,889	26,048	26,011	25,986	25,991
Mining	721	733	737	739	740	740	739	734	729	722	719	718	716	720	728
Oil and gas extraction	405	417	421	425	425	424	423	419	413	406	402	400	401	406	410
Construction	4,998	5,293	5,238	5,237	5,308	5,330	5,340	5,365	5,366	5,413	5,430	5,537	5,514	5,479	5,485
General building contractors	1,326	1,396	1,400	1,394	1,412	1,400	1,401	1,404	1,393	1,406	1,414	1,444	1,437	1,414	1,407
Manufacturing	19,065	19,539	19,460	19,490	19,544	19,593	19,560	19,549	19,648	19,714	19,740	19,793	19,781	19,787	19,778
Production workers	12,995	13,338	13,280	13,302	13,341	13,382	13,352	13,332	13,412	13,465	13,481	13,518	13,510	13,512	13,501
Durable goods	11,218	11,516	11,459	11,477	11,515	11,566	11,547	11,537	11,595	11,637	11,651	11,686	11,667	11,653	11,646
Production workers	7,453	7,677	7,632	7,649	7,676	7,720	7,705	7,689	7,733	7,765	7,776	7,799	7,781	7,766	7,760
Lumber and wood products	740	758	758	757	757	756	753	753	760	767	771	775	769	765	759
Furniture and fixtures	518	538	535	537	537	541	537	538	540	541	540	540	542	544	545
Stone, clay, and glass products	582	587	587	585	587	589	586	585	588	590	592	593	593	591	590
Primary metal industries	749	782	773	776	781	789	785	787	794	796	794	796	794	795	796
Blast furnaces and basic steel products	269	281	281	281	281	282	281	280	282	282	280	281	281	281	281
Fabricated metal products	1,407	1,455	1,444	1,448	1,457	1,464	1,458	1,460	1,469	1,474	1,479	1,487	1,487	1,485	1,482
Machinery, except electrical	2,023	2,138	2,111	2,121	2,134	2,151	2,156	2,159	2,173	2,185	2,190	2,198	2,204	2,204	2,206
Electrical and electronic equipment	2,084	2,120	2,117	2,115	2,120	2,122	2,126	2,124	2,126	2,130	2,123	2,118	2,114	2,109	2,104
Transportation equipment	2,048	2,042	2,045	2,048	2,047	2,052	2,044	2,032	2,045	2,050	2,051	2,066	2,048	2,042	2,046
Motor vehicles and equipment	865	850	848	851	850	857	855	849	859	860	858	872	858	849	852
Instruments and related products	696	713	706	709	713	715	718	716	719	721	726	727	728	731	731
Miscellaneous manufacturing industries	370	383	383	381	382	387	384	383	381	383	385	386	388	387	387
Nondurable goods	7,847	8,023	8,001	8,013	8,029	8,027	8,013	8,012	8,053	8,077	8,089	8,107	8,114	8,134	8,132
Production workers	5,543	5,662	5,648	5,653	5,665	5,662	5,647	5,643	5,679	5,700	5,705	5,719	5,729	5,746	5,741
Food and kindred products	1,624	1,645	1,648	1,643	1,645	1,631	1,630	1,632	1,654	1,661	1,656	1,663	1,660	1,663	1,666
Tobacco manufactures	54	53	54	52	53	52	52	51	52	53	53	52	53	53	51
Textile mill products	725	726	727	728	727	726	719	722	722	723	722	727	726	726	726
Apparel and other textile products	1,100	1,097	1,100	1,100	1,097	1,096	1,089	1,087	1,086	1,093	1,096	1,097	1,103	1,108	1,103
Paper and allied products	679	689	687	689	691	692	691	688	691	691	692	692	691	692	692
Printing and publishing	1,507	1,565	1,554	1,559	1,565	1,567	1,572	1,575	1,581	1,583	1,592	1,598	1,596	1,601	1,603
Chemicals and allied products	1,026	1,063	1,056	1,060	1,065	1,067	1,070	1,069	1,071	1,073	1,076	1,080	1,082	1,083	1,086
Petroleum and coal products	165	167	165	166	167	167	167	168	169	169	168	166	167	167	168
Rubber and misc. plastics products	823	873	864	870	873	882	878	874	882	887	890	887	891	895	893
Leather and leather products	144	146	146	146	146	147	145	146	145	144	144	145	145	146	144
SERVICE-PRODUCING	77,525	80,475	79,846	80,023	80,465	80,608	80,786	81,089	81,230	81,570	81,752	82,017	82,330	82,526	82,638
Transportation and public utilities	5,385	5,584	5,543	5,556	5,582	5,598	5,605	5,618	5,631	5,658	5,670	5,692	5,705	5,701	5,718
Transportation	3,166	3,336	3,298	3,308	3,332	3,345	3,351	3,366	3,380	3,407	3,422	3,441	3,455	3,449	3,463
Communication and public utilities	2,218	2,248	2,245	2,248	2,250	2,253	2,254	2,252	2,251	2,251	2,248	2,251	2,250	2,252	2,255
Wholesale trade	5,872	6,156	6,089	6,115	6,148	6,174	6,192	6,219	6,246	6,275	6,301	6,332	6,361	6,388	6,399
Durable goods	3,449	3,666	3,610	3,635	3,660	3,681	3,696	3,714	3,736	3,758	3,779	3,796	3,817	3,838	3,836
Nondurable goods	2,423	2,490	2,479	2,480	2,488	2,493	2,496	2,505	2,510	2,517	2,522	2,536	2,544	2,550	2,563
Retail trade	18,509	19,206	19,093	19,130	19,205	19,261	19,279	19,291	19,327	19,401	19,429	19,556	19,619	19,689	19,694
General merchandise stores	2,432	2,540	2,546	2,541	2,549	2,545	2,539	2,533	2,520	2,533	2,544	2,563	2,570	2,592	2,599
Food stores	2,957	3,089	3,049	3,053	3,080	3,097	3,106	3,110	3,143	3,157	3,177	3,195	3,202	3,224	3,221
Automotive dealers and service stations	2,004	2,079	2,064	2,070	2,076	2,088	2,095	2,095	2,103	2,106	2,106	2,109	2,115	2,116	2,120
Eating and drinking places	6,127	6,360	6,326	6,336	6,352	6,369	6,377	6,384	6,415	6,440	6,449	6,466	6,493	6,514	6,528
Finance, insurance, and real estate	6,549	6,679	6,650	6,656	6,679	6,684	6,689	6,692	6,708	6,725	6,741	6,733	6,757	6,761	6,755
Finance	3,275	3,305	3,302	3,299	3,304	3,300	3,298	3,300	3,308	3,314	3,325	3,320	3,329	3,331	3,330
Insurance	2,022	2,075	2,065	2,067	2,074	2,077	2,081	2,083	2,089	2,092	2,101	2,096	2,103	2,103	2,103
Real estate	1,252	1,299	1,283	1,290	1,301	1,307	1,310	1,309	1,311	1,319	1,315	1,317	1,325	1,327	1,322
Services	24,196	25,464	25,163	25,216	25,472	25,561	25,662	25,737	25,826	25,947	26,070	26,145	26,272	26,373	26,472
Business services	5,172	5,478	5,420	5,443	5,480	5,500	5,512	5,538	5,553	5,563	5,605	5,583	5,621	5,617	5,630
Health services	6,828	7,228	7,126	7,153	7,203	7,238	7,271	7,323	7,365	7,414	7,466	7,494	7,547	7,596	7,630
Government	17,015	17,387	17,308	17,350	17,379	17,330	17,359	17,532	17,492	17,564	17,541	17,559	17,616	17,614	17,600
Federal	2,943	2,971	2,963	2,957	2,951	2,951	2,956	2,989	2,989	2,989	2,990	2,981	2,987	2,979	2,974
State	3,963	4,051	4,041	4,050	4,049	4,059	4,070	4,086	4,070	4,074	4,071	4,063	4,079	4,084	4,087
Local	10,109	10,365	10,304	10,343	10,379	10,320	10,333	10,457	10,433	10,501	10,480	10,515	10,550	10,551	10,539

[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		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR	34.8	34.8	34.9	34.7	34.7	34.9	34.6	34.7	34.9	34.8	34.7	34.8	34.6	34.6	35.0
MANUFACTURING	41.0	41.1	41.2	41.0	41.1	41.1	41.0	41.2	41.2	41.2	40.8	41.1	41.1	41.0	41.3
Overtime hours	3.7	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	3.9	3.9	4.0
Durable goods	41.5	41.8	42.0	41.8	41.8	41.8	41.6	41.9	41.9	41.9	41.5	41.8	41.7	41.6	42.0
Overtime hours	3.8	4.1	4.2	4.2	4.1	4.0	4.1	4.0	4.2	4.2	4.1	4.1	4.1	4.0	4.1
Lumber and wood products	40.6	40.3	40.6	40.1	40.2	40.5	40.0	39.9	40.7	40.3	40.3	40.3	39.5	40.0	40.3
Furniture and fixtures	40.0	39.4	39.5	39.5	39.4	39.7	39.0	39.6	39.4	39.4	39.2	40.1	39.7	39.9	39.8
Stone, clay, and glass products	42.3	42.3	42.5	42.3	42.4	42.1	42.1	42.3	42.5	42.6	42.4	42.6	42.1	42.3	42.8
Primary metal industries	43.1	43.6	43.5	43.6	43.6	43.4	43.5	44.0	43.8	43.7	43.4	43.6	43.3	43.4	43.4
Blast furnaces and basic steel products	43.4	44.0	43.8	43.9	44.3	44.0	44.0	44.6	44.3	44.0	43.7	44.0	43.7	44.1	44.0
Fabricated metal products	41.5	41.8	42.0	41.9	42.0	41.7	41.8	42.0	41.9	42.2	41.7	41.9	41.8	41.6	41.9
Machinery except electrical	42.2	42.6	42.8	42.6	42.5	43.0	42.4	42.7	42.6	42.5	42.3	42.5	42.5	42.3	42.6
Electrical and electronic equipment	40.9	41.0	41.2	41.0	41.1	41.0	40.8	41.0	41.0	41.0	40.7	40.8	40.9	40.5	41.2
Transportation equipment	42.0	42.7	43.0	43.0	43.0	42.6	42.7	43.3	43.3	43.3	42.4	42.6	43.0	42.9	43.3
Motor vehicles and equipment	42.2	43.5	44.1	44.0	44.2	42.5	43.6	44.5	44.2	44.6	43.0	43.3	43.7	43.5	44.0
Instruments and related products	41.4	41.5	41.8	41.4	41.3	41.8	41.5	41.6	41.9	41.6	41.0	41.6	41.6	40.9	41.4
Miscellaneous manufacturing	39.4	39.2	39.4	39.2	39.3	39.2	39.2	39.2	39.1	39.2	38.9	39.4	39.5	39.3	39.8
Nondurable goods	40.2	40.2	40.3	40.0	40.1	40.2	40.1	40.2	40.2	40.2	39.9	40.1	40.2	40.1	40.3
Overtime hours	3.6	3.7	3.6	3.6	3.6	3.7	3.6	3.7	3.8	3.6	3.6	3.6	3.7	3.8	3.8
Food and kindred products	40.2	40.4	40.1	40.1	40.3	40.5	40.4	40.3	40.6	40.6	40.3	40.1	40.3	40.4	40.5
Textile mill products	41.8	41.1	41.6	40.8	40.7	41.1	41.1	41.1	41.0	41.0	40.5	40.9	40.7	41.2	41.6
Apparel and other textile products	37.0	36.9	37.4	36.8	36.9	36.9	36.8	37.1	36.8	37.0	36.6	37.0	37.1	36.9	37.5
Paper and allied products	43.4	43.2	43.3	43.3	43.2	43.2	43.2	43.3	43.2	43.1	43.1	43.1	43.2	43.3	43.3
Printing and publishing	38.0	38.0	38.2	37.7	38.0	38.0	38.0	38.1	38.0	37.8	37.7	38.0	38.0	37.9	37.9
Chemicals and allied products	42.3	42.3	42.1	42.0	42.4	42.3	42.1	42.1	42.5	42.4	42.3	42.4	42.5	42.3	42.4
Rubber and miscellaneous plastics products	41.6	41.6	42.0	41.7	41.6	41.6	41.5	41.6	41.5	41.7	41.2	41.7	41.7	41.5	41.6
Leather and leather products	38.2	37.5	37.3	37.3	36.9	37.0	37.6	37.5	37.9	37.3	37.7	38.3	38.8	37.9	38.0
TRANSPORTATION AND PUBLIC UTILITIES	39.2	39.3	39.5	39.4	39.3	39.5	39.3	39.4	39.4	39.2	39.4	39.7	39.3	39.5	39.8
WHOLESALE TRADE	37.5	37.4	38.3	38.0	37.9	38.2	37.8	38.1	38.1	38.0	38.0	38.1	38.0	38.0	38.2
RETAIL TRADE	29.2	29.1	29.2	29.0	29.1	29.3	29.0	28.9	29.2	29.0	29.2	29.1	28.9	28.9	29.2
SERVICES	32.5	32.6	32.7	32.5	32.5	32.7	32.4	32.6	32.8	32.6	32.6	32.8	32.5	32.5	32.9

[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, seasonally adjusted

Industry	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR (in current dollars)[1]	$8.98	$9.29	$9.23	$9.27	$9.27	$9.32	$9.32	$9.37	$9.43	$9.42	$9.45	$9.49	$9.50	$9.52	$9.59
Construction	12.69	12.97	12.93	12.91	12.93	13.03	12.99	13.04	13.03	13.01	13.09	13.14	13.18	13.25	13.34
Manufacturing	9.91	10.17	10.11	10.15	10.18	10.17	10.20	10.26	10.28	10.29	10.31	10.32	10.35	10.37	10.39
Excluding overtime	9.48	9.71	9.65	9.69	9.72	9.71	9.74	9.78	9.81	9.83	9.84	9.86	9.88	9.90	9.92
Transportation and public utilities	12.03	12.32	12.29	12.35	12.33	12.37	12.39	12.37	12.43	12.37	12.36	12.46	12.46	12.51	12.59
Wholesale trade	9.59	9.92	9.88	9.88	9.86	9.97	9.93	10.01	10.13	10.04	10.08	10.18	10.15	10.17	10.32
Retail trade	6.11	6.31	6.25	6.28	6.29	6.33	6.32	6.34	6.37	6.42	6.42	6.43	6.43	6.44	6.47
Finance, insurance, and real estate	8.73	9.10	8.99	9.08	9.00	9.10	9.09	9.18	9.36	9.26	9.37	9.41	9.35	9.36	9.50
Services	8.48	8.90	8.81	8.88	8.86	8.92	8.93	8.99	9.06	9.04	9.09	9.14	9.17	9.20	9.29
PRIVATE SECTOR (in constant (1977) dollars)[1]	4.86	4.84	4.85	4.85	4.84	4.84	4.82	4.83	4.84	4.82	4.82	4.81	4.80	4.79	–

[1] Includes mining, not shown separately
– Data not available.
[p] = preliminary

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

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

Industry	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR	$8.98	$9.29	$9.23	$9.26	$9.23	$9.25	$9.24	$9.40	$9.45	$9.46	$9.46	$9.54	$9.54	$9.55	$9.60
MINING	12.52	12.69	12.60	12.54	12.55	12.66	12.62	12.75	12.72	12.83	12.97	13.14	13.16	13.09	13.05
CONSTRUCTION	12.69	12.97	12.88	12.87	12.85	12.91	12.95	13.13	13.13	13.04	13.16	13.22	13.17	13.22	13.29
MANUFACTURING	9.91	10.17	10.12	10.14	10.16	10.16	10.12	10.25	10.24	10.30	10.37	10.37	10.37	10.39	10.40
Durable goods	10.43	10.70	10.65	10.67	10.69	10.67	10.64	10.78	10.78	10.85	10.90	10.89	10.90	10.92	10.94
Lumber and wood products	8.40	8.60	8.50	8.54	8.60	8.65	8.58	8.67	8.76	8.68	8.75	8.70	8.68	8.66	8.76
Furniture and fixtures	7.67	7.92	7.81	7.87	7.91	7.97	8.00	8.07	8.04	8.00	8.04	8.08	8.06	8.10	8.09
Stone, clay, and glass products	10.25	10.48	10.41	10.45	10.48	10.54	10.46	10.55	10.58	10.61	10.58	10.60	10.63	10.62	10.72
Primary metal industries	11.94	12.15	12.11	12.13	12.15	12.22	12.11	12.25	12.20	12.23	12.27	12.28	12.28	12.28	12.37
Blast furnaces and basic steel products	13.78	13.98	13.94	13.96	13.96	14.09	13.96	14.08	14.04	14.01	14.07	14.04	14.13	14.14	14.26
Fabricated metal products	10.00	10.24	10.22	10.23	10.26	10.18	10.20	10.32	10.32	10.35	10.43	10.44	10.44	10.45	10.49
Machinery, except electrical	10.70	10.97	10.88	10.90	10.93	10.94	10.93	11.05	11.07	11.17	11.20	11.16	11.19	11.21	11.21
Electrical and electronic equipment	9.88	10.13	10.09	10.12	10.15	10.13	10.15	10.19	10.16	10.24	10.29	10.27	10.25	10.29	10.29
Transportation equipment	12.95	13.36	13.28	13.31	13.35	13.23	13.26	13.49	13.49	13.60	13.65	13.62	13.64	13.69	13.63
Motor vehicles and equipment	13.55	14.07	14.09	14.10	14.16	13.86	13.90	14.17	14.16	14.25	14.31	14.27	14.27	14.34	14.25
Instruments and related products	9.71	9.95	9.89	9.87	9.88	9.93	9.91	9.97	10.05	10.05	10.10	10.09	10.11	10.15	10.23
Miscellaneous manufacturing	7.75	7.98	7.92	7.94	7.93	7.94	7.93	7.99	8.07	8.09	8.17	8.19	8.20	8.19	8.19
Nondurable goods	9.18	9.42	9.37	9.38	9.39	9.45	9.40	9.50	9.48	9.53	9.60	9.61	9.62	9.65	9.64
Food and kindred products	8.94	9.11	9.14	9.15	9.12	9.13	9.04	9.12	9.04	9.16	9.26	9.28	9.27	9.34	9.31
Tobacco manufactures	14.03	14.56	14.98	15.24	15.78	15.66	14.84	13.98	13.92	14.43	14.18	14.28	14.62	15.18	15.56
Textile mill products	7.17	7.37	7.35	7.31	7.33	7.31	7.37	7.43	7.45	7.47	7.52	7.60	7.59	7.59	7.62
Apparel and other textile products	5.93	6.10	6.04	6.05	6.08	6.02	6.07	6.19	6.20	6.23	6.27	6.29	6.29	6.31	6.31
Paper and allied products	11.43	11.64	11.60	11.64	11.65	11.71	11.63	11.70	11.67	11.72	11.79	11.77	11.79	11.82	11.78
Printing and publishing	10.28	10.53	10.40	10.43	10.43	10.49	10.55	10.70	10.68	10.68	10.71	10.73	10.75	10.80	10.76
Chemicals and allied products	12.37	12.67	12.57	12.59	12.60	12.70	12.63	12.76	12.79	12.87	12.91	12.86	12.89	12.92	12.87
Petroleum and coal products	14.59	15.05	15.00	14.93	15.04	14.99	14.91	15.08	15.22	15.25	15.28	15.31	15.52	15.54	15.49
Rubber and miscellaneous plastics products	8.91	9.11	9.04	9.04	9.07	9.11	9.14	9.18	9.20	9.22	9.27	9.28	9.27	9.29	9.32
Leather and leather products	6.08	6.28	6.29	6.27	6.27	6.20	6.23	6.31	6.34	6.42	6.45	6.49	6.51	6.55	6.54
TRANSPORTATION AND PUBLIC UTILITIES	12.03	12.32	12.27	12.28	12.27	12.33	12.35	12.41	12.43	12.46	12.43	12.47	12.51	12.48	12.56
WHOLESALE TRADE	9.59	9.92	9.88	9.87	9.85	9.93	9.88	10.01	10.08	10.05	10.12	10.21	10.21	10.19	10.32
RETAIL TRADE	6.11	6.31	6.26	6.28	6.26	6.28	6.26	6.37	6.38	6.43	6.42	6.47	6.46	6.46	6.48
FINANCE, INSURANCE, AND REAL ESTATE	8.73	9.10	9.03	9.09	8.98	9.03	9.04	9.14	9.29	9.27	9.32	9.46	9.47	9.43	9.55
SERVICES	8.48	8.90	8.82	8.84	8.78	8.79	8.79	8.98	9.07	9.10	9.15	9.24	9.26	9.26	9.30

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

17. Average weekly earnings of production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR															
Current dollars	$312.50	$323.29	$320.28	$320.40	$322.13	$324.68	$323.40	$327.12	$329.81	$328.26	$330.15	$329.13	$327.22	$328.52	$334.08
Seasonally adjusted	–	–	322.13	321.67	321.67	325.27	322.47	325.14	329.11	327.82	327.92	330.25	328.70	329.39	335.65
Constant (1977) dollars	169.28	168.29	168.57	167.92	168.13	168.75	167.30	168.10	168.96	167.99	168.70	167.41	165.76	165.58	–
MINING	530.85	536.79	539.28	529.19	533.38	535.52	530.04	538.05	543.14	537.58	553.82	553.19	548.77	548.47	561.15
CONSTRUCTION	479.68	491.56	488.15	491.63	497.30	497.04	499.87	504.19	512.07	491.61	489.55	481.21	475.44	493.11	501.03
MANUFACTURING															
Current dollars	406.31	417.99	414.92	414.73	418.59	413.51	412.90	423.33	422.91	427.45	431.39	425.17	423.10	424.95	426.40
Constant (1977) dollars	220.10	217.59	218.38	217.36	218.47	214.92	213.61	217.54	216.66	218.76	220.43	216.26	214.34	214.19	–
Durable goods	432.85	447.26	444.11	444.94	448.98	439.60	439.43	452.76	452.76	457.87	462.16	454.11	452.35	455.36	456.20
Lumber and wood products	341.04	346.58	345.10	345.87	351.74	348.60	345.77	348.53	358.28	347.20	353.50	344.52	338.52	344.67	353.03
Furniture and fixtures	306.80	312.05	305.37	307.72	311.65	310.03	314.40	323.61	322.40	318.40	325.62	317.54	315.15	320.76	318.75
Stone, clay, and glass products	433.58	443.30	442.43	447.26	448.54	446.90	444.55	451.54	454.94	451.99	446.48	439.90	436.89	446.04	458.82
Primary metal industries	514.61	529.74	526.79	527.66	530.96	525.46	521.94	539.00	531.92	536.90	541.11	536.64	532.95	534.18	536.86
Blast furnaces and basic steel products	598.05	615.12	613.36	612.84	621.22	619.96	608.66	629.38	616.36	616.44	621.89	617.76	617.48	622.16	630.29
Fabricated metal products	415.00	428.03	426.17	426.59	431.95	417.38	423.30	433.44	433.44	439.88	445.36	437.44	433.26	434.72	436.38
Machinery, except electrical	451.54	467.32	463.49	462.16	465.62	462.76	459.06	471.84	470.48	478.08	486.08	475.42	474.46	476.43	475.30
Electrical and electronic equipment	404.09	415.33	411.67	411.88	417.17	409.25	412.09	417.79	416.56	423.94	430.12	421.07	416.15	416.75	419.83
Transportation equipment	543.90	570.47	569.71	572.33	574.05	551.69	554.27	580.07	581.42	592.96	595.14	584.30	586.52	592.78	588.82
Motor vehicles and equipment	571.81	612.05	621.37	624.63	625.87	576.58	587.97	624.90	623.04	635.55	636.80	623.60	625.03	633.83	627.00
Instruments and related products	401.99	412.93	410.44	406.64	409.03	408.12	408.29	414.75	419.09	422.10	424.20	419.74	419.57	417.17	420.45
Miscellaneous manufacturing	305.35	312.82	309.67	309.66	311.65	305.69	309.27	314.01	319.57	321.17	324.35	321.05	320.62	321.87	323.51
Nondurable goods	369.04	378.68	373.86	374.26	377.48	377.06	377.88	384.75	382.04	385.97	388.80	384.40	382.88	385.04	384.64
Food and kindred products	359.39	368.04	361.03	366.92	367.54	368.85	368.83	373.01	368.83	374.64	378.73	371.20	367.09	372.67	371.47
Tobacco manufactures	547.17	579.49	576.73	601.98	628.04	613.87	595.08	575.98	574.90	581.53	565.78	542.64	552.64	551.03	608.40
Textile mill products	299.71	302.91	301.35	297.52	300.53	295.32	304.38	307.60	306.94	309.26	309.07	309.32	307.40	311.19	312.42
Apparel and other textile products	219.41	225.09	222.27	222.64	226.18	220.33	223.98	229.03	229.40	232.38	232.62	230.84	231.47	232.84	232.84
Paper and allied products	496.06	502.85	498.80	501.68	502.12	502.36	498.93	511.29	505.31	508.65	518.76	508.46	505.79	508.26	506.54
Printing and publishing	390.64	400.14	395.20	391.13	392.17	396.52	403.01	411.95	406.91	406.91	411.26	404.52	405.28	409.32	405.65
Chemicals and allied products	523.25	535.94	529.20	528.78	534.24	533.40	527.93	539.75	541.02	548.26	553.84	545.26	546.54	546.52	545.69
Petroleum and coal products	641.96	668.22	666.00	658.41	678.30	679.05	664.99	674.08	680.33	674.05	676.90	665.99	682.88	668.22	673.82
Rubber and miscellaneous plastics products	370.66	378.98	377.87	376.06	378.22	373.51	377.48	381.89	382.72	386.32	389.34	387.90	384.71	385.54	385.85
Leather and leather products	232.26	235.50	232.73	235.75	237.63	231.26	234.87	236.63	240.29	240.11	247.04	245.97	246.08	244.97	246.56
TRANSPORTATION AND PUBLIC UTILITIES	471.58	484.18	480.98	481.38	484.67	490.73	490.30	490.20	490.99	489.68	490.99	490.07	489.14	490.46	496.12
WHOLESALE TRADE	365.38	377.95	377.42	375.06	375.29	380.32	375.44	381.38	385.06	381.90	386.58	386.96	384.92	385.18	393.19
RETAIL TRADE	178.41	183.62	180.91	181.49	184.04	188.40	186.55	184.73	185.66	185.18	190.03	183.75	182.82	184.11	187.27
FINANCE, INSURANCE, AND REAL ESTATE	316.90	326.69	326.89	325.42	321.48	326.89	322.73	327.21	334.44	330.94	333.66	341.51	339.03	337.59	347.62
SERVICES	275.60	290.14	287.53	286.42	287.11	290.07	288.31	291.85	296.59	295.75	297.38	301.22	300.02	300.02	305.04

– Data not available.
[p] = preliminary

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

18. Diffusion indexes of employment change, seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Private nonagricultural payrolls, 349 industries											
Over 1-month span:												
1987	57.4	58.3	59.9	64.6	61.3	61.6	68.6	60.6	62.3	67.6	63.9	65.0
1988	60.3	64.6	64.0	63.0	58.9	66.6	62.3	56.2	54.0	62.5	68.9	61.7
1989	65.0	57.9	59.0	53.0	–	–	–	–	–	–	–	–
Over 3-month span:												
1987	61.3	62.2	67.3	68.9	69.3	69.8	71.5	72.5	72.1	73.4	74.5	68.2
1988	70.6	68.8	68.3	67.2	69.1	69.8	68.8	61.9	62.6	68.3	71.9	73.4
1989	68.5	67.0	60.2	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1987	69.2	66.3	66.3	70.1	72.5	75.2	76.9	77.4	78.5	74.2	74.4	75.6
1988	72.2	71.5	70.8	74.2	72.2	69.1	68.8	74.5	71.1	72.3	72.5	73.6
1989	72.9	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1987	68.1	70.3	71.1	74.1	76.6	77.2	77.4	77.8	79.1	78.7	77.8	80.5
1988	77.2	78.1	74.2	73.9	75.6	75.6	77.8	76.5	75.2	75.5	–	–
1989	–	–	–	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 143 industries											
Over 1-month span:												
1987	46.8	52.5	53.9	56.4	58.9	55.7	67.7	56.0	64.2	64.2	64.2	61.0
1988	58.2	55.7	55.7	60.6	57.4	61.3	60.3	44.0	46.8	61.7	68.1	57.4
1989	61.0	51.4	53.5	46.8	–	–	–	–	–	–	–	–
Over 3-month span:												
1987	50.7	50.7	58.5	63.8	63.5	68.4	69.5	73.8	70.2	74.1	74.5	67.0
1988	66.0	61.0	62.8	64.5	66.7	68.8	61.3	52.1	53.5	65.6	70.9	69.5
1989	62.1	61.3	51.8	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1987	58.5	57.1	57.1	66.7	69.1	74.5	75.5	76.6	79.4	74.1	72.7	72.3
1988	68.4	67.0	66.0	70.9	66.0	63.8	62.1	68.8	66.0	66.0	67.7	71.6
1989	66.7	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1987	59.6	63.5	64.5	68.8	73.0	73.8	75.2	75.2	75.9	75.9	75.2	79.1
1988	74.1	72.3	68.8	70.6	72.0	70.9	72.3	71.3	69.5	69.5	–	–
1989	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

Employment status	1980	1981	1982	1983	1984	1985	1986	1987	1988
Noninstitutional population	169,349	171,775	173,939	175,891	178,080	179,912	182,293	184,490	186,322
Labor force:									
Total (number)	108,544	110,315	111,872	113,226	115,241	117,167	119,540	121,602	123,378
Percent of population	64.1	64.2	64.3	64.4	64.7	65.1	65.6	65.9	66.2
Employed:									
Total (number)	100,907	102,042	101,194	102,510	106,702	108,856	111,303	114,177	116,677
Percent of population	59.6	59.4	58.2	58.3	59.9	60.5	61.1	61.9	62.6
Resident Armed Forces	1,604	1,645	1,668	1,676	1,697	1,706	1,706	1,737	1,709
Civilian									
Total	99,303	100,397	99,526	100,834	105,005	107,150	109,597	112,440	114,968
Agriculture	3,364	3,368	3,401	3,383	3,321	3,179	3,163	3,208	3,169
Nonagricultural industries	95,938	97,030	96,125	97,450	101,685	103,971	106,434	109,232	111,800
Unemployed:									
Total (number)	7,637	8,273	10,678	10,717	8,539	8,312	8,237	7,425	6,701
Percent of labor force	7.0	7.5	9.5	9.5	7.4	7.1	6.9	6.1	5.4
Not in labor force (number)	60,806	61,460	62,067	62,665	62,839	62,744	62,752	62,888	62,944

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total employment	90,406	91,156	89,566	90,200	94,496	97,519	99,525	102,310	106,039
Private sector	74,166	75,126	73,729	74,330	78,472	81,125	82,832	85,295	88,653
Goods-producing	25,658	25,497	23,813	23,334	24,727	24,859	24,558	24,784	25,565
Mining	1,027	1,139	1,128	952	966	927	777	721	733
Construction	4,346	4,188	3,905	3,948	4,383	4,673	4,816	4,998	5,293
Manufacturing	20,285	20,170	18,781	18,434	19,378	19,260	18,965	19,065	19,539
Service-producing	64,748	65,659	65,753	66,866	69,769	72,660	74,967	77,525	80,475
Transportation and public utilities	5,146	5,165	5,082	4,954	5,159	5,238	5,255	5,385	5,584
Wholesale trade	5,275	5,358	5,278	5,268	5,555	5,717	5,753	5,872	6,156
Retail trade	15,035	15,189	15,179	15,613	16,545	17,356	17,930	18,509	19,206
Finance, insurance, and real estate	5,160	5,298	5,341	5,468	5,689	5,955	6,283	6,549	6,679
Services	17,890	18,619	19,036	19,694	20,797	22,000	23,053	24,196	25,464
Government	16,241	16,031	15,837	15,869	16,024	16,394	16,693	17,015	17,387
Federal	2,866	2,772	2,739	2,774	2,807	2,875	2,899	2,943	2,971
State	3,610	3,640	3,640	3,662	3,734	3,832	3,893	3,963	4,051
Local	9,765	9,619	9,458	9,434	9,482	9,687	9,901	10,109	10,365

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	1980	1981	1982	1983	1984	1985	1986	1987	1988
Private sector									
Average weekly hours	35.3	35.2	34.8	35.0	35.2	34.9	34.8	34.8	34.8
Average hourly earnings (in dollars)	6.66	7.25	7.68	8.02	8.32	8.57	8.76	8.98	9.29
Average weekly earnings (in dollars)	235.10	255.20	267.26	280.70	292.86	299.09	304.85	312.50	323.29
Mining									
Average weekly hours	43.3	43.7	42.7	42.5	43.3	43.4	42.2	42.4	42.3
Average hourly earnings (in dollars)	9.17	10.04	10.77	11.28	11.63	11.98	12.46	12.52	12.69
Average weekly earnings (in dollars)	397.06	438.75	459.88	479.40	503.58	519.93	525.81	530.85	536.79
Construction									
Average weekly hours	37.0	36.9	36.7	37.1	37.8	37.7	37.4	37.8	37.9
Average hourly earnings (in dollars)	9.94	10.82	11.63	11.94	12.13	12.32	12.48	12.69	12.97
Average weekly earnings (in dollars)	367.78	399.26	426.82	442.97	458.51	464.46	466.75	479.68	491.56
Manufacturing									
Average weekly hours	39.7	39.8	38.9	40.1	40.7	40.5	40.7	41.0	41.1
Average hourly earnings (in dollars)	7.27	7.99	8.49	8.83	9.19	9.54	9.73	9.91	10.17
Average weekly earnings (in dollars)	288.62	318.00	330.26	354.08	374.03	386.37	396.01	406.31	417.99
Transportation and public utilities									
Average weekly hours	39.6	39.4	39.0	39.0	39.4	39.5	39.2	39.2	39.3
Average hourly earnings (in dollars)	8.87	9.70	10.32	10.79	11.12	11.40	11.70	12.03	12.32
Average weekly earnings (in dollars)	351.25	382.18	402.48	420.81	438.13	450.30	458.64	471.58	484.18
Wholesale trade									
Average weekly hours	38.5	38.5	38.3	38.5	38.5	38.4	38.3	38.1	38.1
Average hourly earnings (in dollars)	6.96	7.56	8.09	8.55	8.89	9.16	9.35	9.59	9.92
Average weekly earnings (in dollars)	267.96	291.06	309.85	329.18	342.27	351.74	358.11	365.38	377.95
Retail trade									
Average weekly hours	30.2	30.1	29.9	29.8	29.8	29.4	29.2	29.2	29.1
Average hourly earnings (in dollars)	4.88	5.25	5.48	5.74	5.85	5.94	6.03	6.11	6.31
Average weekly earnings (in dollars)	147.38	158.03	163.85	171.05	174.33	174.64	176.08	178.41	183.62
Finance, insurance, and real estate									
Average weekly hours	36.2	36.3	36.2	36.2	36.5	36.4	36.4	36.3	35.9
Average hourly earnings (in dollars)	5.79	6.31	6.78	7.29	7.63	7.94	8.36	8.73	9.10
Average weekly earnings (in dollars)	209.60	229.05	245.44	263.90	278.50	289.02	304.30	316.90	326.69
Services									
Average weekly hours	32.6	32.6	32.6	32.7	32.6	32.5	32.5	32.5	32.6
Average hourly earnings (in dollars)	5.85	6.41	6.92	7.31	7.59	7.90	8.18	8.48	8.90
Average weekly earnings (in dollars)	190.71	208.97	225.59	239.04	247.43	256.75	265.85	275.60	290.14

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

(June 1981=100)

Series	1987				1988				1989	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1989	
Civilian workers [2]	135.0	135.9	137.5	138.6	140.6	142.1	144.0	145.5	147.3	1.2	4.8
Workers, by occupational group:											
White-collar workers	138.5	139.3	141.2	142.2	144.2	145.7	147.9	149.7	151.9	1.5	5.3
Blue-collar workers	129.1	130.1	131.3	132.5	134.7	136.2	137.2	138.2	139.6	1.0	3.6
Service occupations	138.0	138.5	139.9	140.8	142.9	144.3	147.2	148.5	150.0	1.0	5.0
Workers, by industry division:											
Goods-producing	130.2	131.1	132.2	133.5	135.8	137.3	138.2	139.3	140.7	1.0	3.6
Manufacturing	130.7	131.5	132.7	134.1	136.8	138.1	139.0	140.1	141.9	1.3	3.7
Service-producing	138.1	138.9	140.8	141.7	143.6	145.1	147.6	149.2	151.4	1.5	5.4
Services	145.2	145.8	149.2	150.6	152.8	153.8	157.7	159.7	161.8	1.3	5.9
Health services	–	–	–	–	–	–	–	–	–	1.9	6.4
Hospitals	–	–	–	–	–	–	–	–	–	1.9	6.6
Public administration [3]	144.1	144.7	146.4	148.1	150.3	151.2	154.0	154.4	156.7	1.5	4.3
Nonmanufacturing	136.9	137.8	139.6	140.5	142.3	143.9	146.1	147.7	149.7	1.4	5.2
Private industry workers	132.9	133.8	135.1	136.0	138.1	139.8	141.2	142.6	144.4	1.3	4.6
Workers, by occupational group:											
White-collar workers	136.1	137.0	138.5	139.3	141.2	143.0	144.6	146.3	148.6	1.6	5.2
Professional specialty and technical occupations	–	–	–	–	–	–	–	–	–	1.6	5.0
Executive, administrative, and managerial occupations	–	–	–	–	–	–	–	–	–	1.4	4.6
Sales occupations	–	–	–	–	–	–	–	–	–	2.0	7.5
Administrative support occupations, including clerical	–	–	–	–	–	–	–	–	–	1.6	4.7
Blue-collar workers	128.4	129.5	130.6	131.8	134.1	135.6	136.5	137.6	138.9	.9	3.6
Precision production, craft, and repair occupation	–	–	–	–	–	–	–	–	–	.7	3.1
Machine operators, assemblers, and inspectors	–	–	–	–	–	–	–	–	–	1.3	4.4
Transportation and material moving occupations	–	–	–	–	–	–	–	–	–	.8	3.9
Handlers, equipment cleaners, helpers, and laborers	–	–	–	–	–	–	–	–	–	1.1	3.4
Service occupations	134.7	135.2	135.9	136.7	138.6	140.1	142.2	143.9	145.4	1.0	4.9
Workers, by industry division:											
Goods-producing	129.9	130.8	131.9	133.2	135.6	137.1	137.9	139.0	140.4	1.0	3.5
Construction	–	–	–	–	–	–	–	–	–	1.0	4.0
Manufacturing	130.7	131.5	132.7	134.1	136.8	138.1	139.0	140.1	141.9	1.3	3.7
Durables	–	–	–	–	–	–	–	–	–	1.3	3.5
Nondurables	–	–	–	–	–	–	–	–	–	1.3	4.2
Service-producing	135.3	136.3	137.7	138.4	140.2	142.1	143.8	145.5	147.7	1.5	5.3
Transportation and public utilities	–	–	–	–	–	–	–	–	–	1.3	3.0
Transportation	–	–	–	–	–	–	–	–	–	1.5	3.6
Public utilities	–	–	–	–	–	–	–	–	–	1.1	2.5
Wholesale and retail trade	–	–	–	–	–	–	–	–	–	1.3	5.2
Wholesale trade	–	–	–	–	–	–	–	–	–	2.6	6.0
Retail trade	–	–	–	–	–	–	–	–	–	.7	4.9
Finance, insurance, and real estate	–	–	–	–	–	–	–	–	–	2.2	7.5
Service	–	–	–	–	–	–	–	–	–	1.6	5.8
Health services	–	–	–	–	–	–	–	–	–	2.0	6.8
Hospitals	–	–	–	–	–	–	–	–	–	2.3	7.1
Nonmanufacturing	134.1	135.1	136.4	137.1	138.9	140.8	142.4	143.9	145.9	1.4	5.0
State and local government workers	145.9	146.3	149.7	151.1	153.1	153.6	157.8	159.6	161.5	1.2	5.5
Workers, by occupational group:											
White-collar workers	147.2	147.5	151.2	152.7	154.8	155.2	159.6	161.8	163.7	1.2	5.7
Blue-collar workers	140.8	141.3	143.3	144.3	145.9	145.9	148.4	149.1	151.9	1.9	4.1
Workers, by industry division:											
Services	147.3	147.6	151.8	153.1	155.2	155.6	160.5	163.0	164.6	1.0	6.1
Hospitals and other services [4]	142.5	143.3	145.1	146.3	150.3	150.4	153.2	155.2	157.2	1.3	4.6
Health services	–	–	–	–	–	–	–	–	–	1.5	5.1
Schools	148.9	149.1	154.1	155.5	156.8	157.3	163.1	165.7	167.2	.9	6.6
Elementary and secondary	150.5	150.7	156.5	157.8	158.9	159.4	165.4	168.3	169.3	.6	6.5
Public administration [3]	144.1	144.7	146.4	148.1	150.3	151.2	154.0	154.4	156.7	1.5	4.3

[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	1987				1988				1989	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1989	
Civilian workers [1]	132.8	133.5	135.2	136.1	137.4	138.7	140.5	141.9	143.4	1.1	4.4
Workers, by occupational group:											
White-collar workers	136.6	137.3	139.4	140.2	141.5	143.0	145.2	146.8	148.6	1.2	5.0
Blue-collar workers	126.2	127.1	128.3	129.4	130.4	131.6	132.5	133.4	134.6	.9	3.2
Service occupations	134.2	134.7	136.0	136.6	138.0	139.3	141.8	142.9	143.9	.7	4.3
Workers, by industry division											
Goods-producing	127.8	128.5	129.8	131.0	132.2	133.4	134.1	135.1	136.3	.9	3.1
Manufacturing	128.7	129.5	130.8	132.2	133.3	134.4	135.1	136.2	137.4	.9	3.1
Service-producing	135.8	136.5	138.5	139.2	140.5	141.9	144.2	145.8	147.5	1.2	5.0
Services	142.7	143.4	146.8	148.2	149.5	150.4	154.0	155.7	157.4	1.1	5.3
Health services	–	–	–	–	–	–	–	–	–	1.7	6.6
Hospitals	–	–	–	–	–	–	–	–	–	1.7	6.4
Public administration [2]	140.5	141.0	142.6	143.8	145.5	146.4	148.9	149.4	150.9	1.0	3.7
Nonmanufacturing	134.5	135.2	137.1	137.8	139.0	140.5	142.7	144.1	145.8	1.2	4.9
Private industry workers	130.8	131.7	133.0	133.8	135.1	136.6	137.9	139.3	140.8	1.1	4.2
Workers, by occupational group:											
White-collar workers	134.6	135.4	137.0	137.6	139.0	140.8	142.4	144.0	145.9	1.3	5.0
Professional specialty and technical occupations	138.4	139.1	141.2	142.6	144.0	145.8	148.1	148.9	151.0	1.4	4.9
Executive, administrative, and managerial occupations	135.6	136.4	138.6	139.2	139.9	141.3	142.5	144.4	146.2	1.2	4.5
Sales occupations	126.7	127.1	127.0	126.1	127.5	130.8	131.5	134.4	136.7	1.7	7.2
Administrative support occupations, including clerical	134.3	135.5	137.1	138.1	140.2	141.2	143.2	144.1	146.0	1.3	4.1
Blue-collar workers	125.6	126.6	127.7	128.9	129.9	131.1	131.9	132.9	134.0	.8	3.2
Precision production, craft, and repair occupations	127.9	128.8	130.2	131.1	132.1	133.4	134.0	134.9	136.1	.9	3.0
Machine operators, assemblers, and inspectors	125.5	126.7	127.5	129.2	129.9	131.2	131.9	133.3	134.5	.9	3.5
Transportation and material moving occupations	120.5	121.5	122.3	122.9	123.7	125.4	126.7	126.9	127.8	.7	3.3
Handlers, equipment cleaners, helpers, and laborers	121.9	122.6	123.7	125.0	126.7	127.5	128.4	129.3	130.4	.9	2.9
Service occupations	131.4	131.9	132.6	133.2	134.5	135.8	137.6	139.1	140.0	.6	4.1
Workers, by industry division:											
Goods-producing	127.5	128.3	129.6	130.8	132.0	133.2	133.9	134.9	136.1	.9	3.1
Construction	121.7	122.7	123.8	124.7	125.9	127.6	128.6	129.4	130.4	.8	3.6
Manufacturing	128.7	129.5	130.8	132.2	133.3	134.4	135.1	136.2	137.4	.9	3.1
Durables	127.7	128.7	129.7	131.1	132.1	133.1	133.7	134.6	135.9	1.0	2.9
Nondurables	130.5	131.0	132.8	134.1	135.6	136.7	137.6	139.1	140.2	.8	3.4
Service-producing	133.4	134.3	135.7	136.2	137.5	139.3	141.0	142.6	144.5	1.3	5.1
Transportation and public utilities	128.1	129.3	130.0	130.2	131.3	132.5	133.5	133.4	134.6	.9	2.5
Transportation	–	–	–	–	–	–	–	–	–	.8	2.4
Public utilities	–	–	–	–	–	–	–	–	–	.9	2.6
Wholesale and retail trade	127.9	129.9	130.6	130.7	131.9	134.6	136.0	136.9	138.6	1.2	5.1
Wholesale trade	134.8	137.2	137.8	138.5	139.0	141.7	143.2	143.6	147.5	2.7	6.1
Retail trade	125.2	127.1	127.8	127.7	129.2	131.7	133.2	134.3	135.1	.6	4.6
Finance, insurance, and real estate	133.5	131.5	131.8	131.6	132.9	134.9	134.9	139.9	142.7	2.0	7.4
Services	141.8	142.8	145.9	147.1	148.6	149.8	152.9	154.4	156.4	1.3	5.2
Health services	–	–	–	–	–	–	–	–	–	1.8	6.9
Hospitals	–	–	–	–	–	–	–	–	–	2.0	6.9
Nonmanufacturing	131.9	132.8	134.2	134.8	136.0	137.8	139.4	140.8	142.6	1.3	4.9
State and local government workers	142.5	142.8	146.1	147.4	148.7	149.1	153.0	154.5	155.8	.8	4.8
Workers, by occupational group											
White-collar workers	143.9	144.1	147.7	149.3	150.5	150.8	154.9	156.8	158.0	.8	5.0
Blue-collar workers	136.3	136.9	139.0	139.6	141.1	141.1	143.5	144.1	146.1	1.4	3.5
Workers, by industry division											
Services	143.9	144.2	148.2	149.5	150.7	151.1	155.6	157.6	158.6	.6	5.2
Hospitals and other services [3]	138.6	139.4	141.2	142.2	144.5	144.7	147.4	148.7	150.2	1.0	3.9
Health services	–	–	–	–	–.	–	–	–	–	1.3	5.5
Schools	145.5	145.6	150.3	151.8	152.6	153.0	158.0	160.3	161.2	.6	5.6
Elementary and secondary	146.5	146.6	152.0	153.4	154.0	154.3	159.7	162.1	162.8	.4	5.7
Public administration [2]	140.5	141.0	142.6	143.8	145.5	146.4	148.9	149.4	150.9	1.0	3.7

[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	1987				1988				1989	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1989	
COMPENSATION											
Workers, by bargaining status[1]											
Union	130.5	131.2	132.0	133.4	135.6	136.9	137.9	138.6	139.7	0.8	3.0
Goods-producing	128.0	128.7	129.5	131.3	134.1	135.3	136.2	137.2	137.9	.5	2.8
Service-producing	134.4	135.2	135.9	136.7	138.0	139.4	140.5	140.9	142.6	1.2	3.3
Manufacturing	128.0	128.7	129.5	131.5	135.0	136.2	137.0	138.2	139.9	1.2	3.6
Nonmanufacturing	132.6	133.5	134.3	135.1	136.2	137.5	138.6	138.9	139.5	.4	2.4
Nonunion	133.6	134.6	136.1	136.9	138.9	140.7	142.2	143.9	146.0	1.5	5.1
Goods-producing	130.8	131.8	133.1	134.1	136.2	137.8	138.7	139.9	141.6	1.2	4.0
Service-producing	135.3	136.4	137.9	138.6	140.5	142.5	144.4	146.3	148.6	1.6	5.8
Manufacturing	132.2	133.2	134.6	135.6	137.8	139.2	140.1	141.3	143.1	1.3	3.8
Nonmanufacturing	134.3	135.3	136.8	137.5	139.4	141.5	143.2	145.0	147.3	1.6	5.7
Workers, by region [1]											
Northeast	137.4	138.6	140.3	141.9	143.7	145.9	147.8	150.4	153.5	2.1	6.8
South	132.1	133.2	134.2	135.4	137.1	139.3	140.4	141.3	142.7	1.0	4.1
Midwest (formerly North Central)	129.1	130.2	131.2	131.7	134.4	135.5	136.7	138.0	139.3	.9	3.6
West	134.1	134.2	135.8	136.3	138.3	139.5	140.6	141.5	143.2	1.2	3.5
Workers, by area size [1]											
Metropolitan areas	133.5	134.4	135.8	136.7	138.9	140.5	142.0	143.6	145.6	1.4	4.8
Other areas	129.0	130.2	131.3	132.0	133.6	135.5	136.2	136.8	137.5	.5	2.9
WAGES AND SALARIES											
Workers, by bargaining status [1]											
Union	127.7	128.3	129.1	130.5	131.0	132.0	132.9	133.4	134.3	.7	2.5
Goods-producing	125.0	125.8	126.5	128.5	128.7	129.7	130.4	131.2	132.0	.6	2.6
Service-producing	131.7	132.2	132.9	133.6	134.4	135.4	136.7	136.8	137.8	.7	2.5
Manufacturing	125.6	126.2	127.0	129.3	129.6	130.4	131.0	132.1	133.0	.7	2.6
Nonmanufacturing	129.5	130.1	130.8	131.5	132.1	133.3	134.5	134.6	135.4	.6	2.5
Nonunion	131.8	132.8	134.3	135.0	136.4	138.1	139.5	141.1	142.9	1.3	4.8
Goods-producing	128.8	129.6	131.1	132.1	133.6	135.0	135.7	136.8	138.2	1.0	3.4
Service-producing	133.6	134.6	136.2	136.7	138.0	140.0	141.8	143.6	145.6	1.4	5.5
Manufacturing	130.6	131.5	133.0	133.9	135.5	136.7	137.4	138.6	139.9	.9	3.2
Nonmanufacturing	132.4	133.4	134.9	135.4	136.8	138.8	140.4	142.2	144.1	1.3	5.3
Workers, by region [1]											
Northeast	135.4	136.6	138.3	139.7	140.9	142.9	144.6	147.3	150.1	1.9	6.5
South	130.1	131.1	132.1	133.0	134.0	136.1	137.1	137.8	138.9	.8	3.7
Midwest (formerly North Central)	127.4	128.5	129.6	129.9	131.3	132.1	133.3	134.5	135.6	.8	3.3
West	131.2	131.1	133.1	133.5	134.9	136.0	137.4	138.1	139.4	.9	3.3
Workers, by area size[1]											
Metropolitan areas	131.6	132.4	133.7	134.6	135.8	137.3	138.7	140.2	141.9	1.2	4.5
Other areas	126.6	127.8	129.1	129.8	130.9	133.0	133.5	133.7	134.6	.7	2.8

[1] The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the *Monthly Labor Review* Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

25. 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							
	1986	1987	1987			1988				1989
			II	III	IV	I	II	III[p]	IV[p]	I[p]
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	1.1	3.0	4.1	2.5	3.4	1.8	3.1	3.4	3.5	3.3
Annual rate over life of contract	1.6	2.6	3.9	2.1	2.4	1.8	2.4	3.2	2.1	3.5
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	1.2	2.2	2.6	2.1	2.4	2.1	2.6	2.7	2.6	3.2
Annual rate over life of contract	1.8	2.1	2.9	2.0	1.8	2.3	2.2	2.8	2.2	3.1
Effective adjustments:										
Total effective wage adjustment [3]	2.3	3.1	1.0	.9	.8	.4	.9	.8	.5	.5
From settlements reached in period	.5	.7	.2	.2	.3	.1	.3	.2	.1	.1
Deferred from settlements reached in earlier periods	1.7	1.8	.7	.6	.3	.3	.5	.4	.2	.3
From cost-of-living-adjustments clauses	.2	.5	.2	.1	.2	.1	.1	.2	.2	.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.

[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--							
	1987			1988				1989
	II	III	IV	I	II	III[p]	IV[p]	I[p]
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	1.8	2.7	3.0	3.1	3.0	3.1	3.1	3.3
Annual rate over life of contract	2.1	2.6	2.6	2.5	2.3	2.5	2.5	2.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	1.5	2.0	2.2	2.4	2.4	2.5	2.5	2.7
Contracts with COLA clauses	1.8	2.1	2.3	2.2	2.4	2.4	2.4	2.4
Contracts without COLA clauses	1.3	2.0	2.1	2.5	2.4	2.6	2.7	2.9
Annual rate over life of contract	2.0	2.2	2.1	2.2	2.0	2.2	2.4	2.5
Contracts with COLA clauses	1.7	1.7	1.5	1.4	1.5	1.5	1.8	1.8
Contracts without COLA clauses	2.1	2.5	2.5	2.7	2.5	2.8	2.8	2.9
Manufacturing								
First year of contract	-.8	1.1	2.1	2.4	2.5	2.6	2.2	2.2
Contracts with COLA clauses	1.3	2.1	2.4	2.4	2.5	2.4	2.1	2.1
Contracts without COLA clauses	-2.7	-.1	1.3	2.4	2.5	3.0	2.5	2.5
Annual rate over life of contract	.3	1.0	1.3	1.5	1.6	1.9	2.1	2.1
Contracts with COLA clauses	.8	1.0	1.0	1.0	1.3	1.4	1.8	1.8
Contracts without COLA clauses	-.2	1.2	2.1	2.7	2.5	3.1	2.6	2.7
Nonmanufacturing								
First year of contract	2.3	2.4	2.3	2.3	2.3	2.4	2.8	3.0
Contracts with COLA clauses	2.1	2.1	1.9	1.6	2.2	2.4	2.9	2.9
Contracts without COLA clauses	2.3	2.6	2.4	2.5	2.4	2.5	2.7	3.0
Annual rate over life of contract	2.6	2.8	2.7	2.7	2.4	2.4	2.5	2.7
Contracts with COLA clauses	2.2	2.4	2.7	2.4	1.9	1.8	1.7	1.7
Contracts without COLA clauses	2.7	2.9	2.7	2.7	2.6	2.7	2.8	3.0
Construction								
First year of contract	2.7	3.0	2.9	2.9	2.6	2.1	2.2	2.4
Contracts with COLA clauses	3.7	[1]	[1]	[1]	[2]	[2]	[2]	[2]
Contracts without COLA clauses	2.7	[1]	[1]	[1]	2.6	2.1	2.2	2.4
Annual rate over life of contract	2.9	3.2	3.1	3.1	2.7	2.4	2.6	2.7
Contracts with COLA clauses	3.8	[1]	[1]	[1]	[2]	[2]	[2]	[2]
Contracts without COLA clauses	2.9	[1]	[1]	[1]	2.7	2.4	2.6	2.7

[1] Data do not meet publication standards.

[2] Between -0.05 and 0.05 percent.

[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--						
	1987		1988				1989
	III	IV	I	II	III[p]	IV[p]	I[p]
For all workers:[1]							
Total	2.6	3.1	3.2	3.0	2.9	2.6	2.7
From settlements reached in period	.4	.7	.8	1.0	1.0	.7	.7
Deferred from settlements reached in earlier period	1.7	1.8	1.8	1.6	1.4	1.3	1.3
From cost-of-living-adjustments clauses	.4	.5	.5	.5	.5	.6	.6
For workers receiving changes:							
Total	3.2	3.6	3.8	3.7	3.5	3.3	3.5
From settlements reached in period	1.8	2.9	2.9	2.9	2.9	3.1	3.2
Deferred from settlements reached in earlier period	3.3	3.3	3.3	3.3	3.0	3.0	3.2
From cost-of-living-adjustments clauses	2.3	2.6	2.7	2.3	2.5	2.7	2.9

[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		
	1986	1987	1988
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	6.2	4.9	5.4
Annual rate over life of contract	6.0	4.8	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	5.7	4.9	5.1
Annual rate over life of contract	5.7	5.1	5.3
Effective adjustments:			
Total effective wage adjustment [3]	5.5	4.9	4.7
From settlements reached in period	2.4	2.7	2.3
Deferred from settlements reached in earlier periods	3.0	2.2	2.4
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		1988									1989[p]			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Number of stoppages:															
Beginning in period	46	40	0	5	7	4	7	2	3	1	0	3	0	2	4
In effect during period	51	43	7	11	15	14	18	14	9	5	1	4	2	4	8
Workers involved:															
Beginning in period (in thousands)	174.4	118.0	.0	14.5	13.6	21.0	11.7	4.0	8.6	2.3	.0	7.4	0	30.3	6.6
In effect during period (in thousands)	377.7	121.4	23.9	31.4	34.8	47.4	46.9	34.0	25.9	10.6	2.5	9.9	7.7	37.0	43.6
Days idle:															
Number (in thousands)	4,455.6	4,381.0	331.7	344.5	490.5	725.9	713.1	510.0	293.2	77.9	52.5	152.7	137.8	949.6	1,064.2
Percent of estimated working time[1]	.02	.02	.02	.02	.02	.03	.03	.02	.01	.04	.02	.01	.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 Indexes for All Urban Consumers and for Urban Wage Earners and Clerical Workers: U.S. city average, by expenditure category and commodity or service group

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	113.6	118.3	117.1	117.5	118.0	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1
All items (1967=100)	340.4	354.3	350.8	352.0	353.5	354.9	356.6	358.9	360.1	360.5	360.9	362.7	364.1	366.2	368.8
Food and beverages	113.5	118.2	116.7	117.1	117.6	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0
Food	113.5	118.2	116.6	117.0	117.6	118.8	119.4	120.2	120.3	120.2	120.7	122.2	122.9	123.5	124.2
Food at home	111.9	116.6	114.6	115.1	115.8	117.3	118.1	119.0	119.0	118.7	119.1	121.2	122.0	122.7	123.5
Cereals and bakery products	114.8	122.1	119.8	120.3	120.8	122.1	124.0	124.7	125.6	125.9	126.6	127.9	128.9	129.7	130.4
Meats, poultry, fish, and eggs	110.5	114.3	111.5	112.1	114.6	116.5	117.3	117.4	116.8	116.4	116.1	118.5	118.2	120.5	120.6
Dairy products	105.9	108.4	107.1	107.4	107.2	107.6	108.2	108.9	109.9	110.6	111.4	112.6	113.4	113.8	114.1
Fruits and vegetables	119.1	128.1	126.0	127.1	126.1	129.0	129.9	133.2	131.7	129.5	131.0	134.8	137.1	135.7	138.0
Other foods at home	110.5	113.1	112.1	112.3	112.4	113.1	113.6	114.0	114.8	114.9	115.3	116.6	117.8	118.1	119.0
Sugar and sweets	111.0	114.0	112.3	112.5	113.3	114.0	114.8	115.6	116.0	115.9	116.7	117.2	117.8	118.0	117.9
Fats and oils	108.1	113.1	110.3	111.2	111.5	112.6	114.9	115.9	117.1	117.1	118.5	119.6	120.5	120.4	121.6
Nonalcoholic beverages	107.5	107.5	107.8	107.5	107.1	107.2	107.0	107.4	108.1	108.2	107.8	109.6	111.3	111.3	111.8
Other prepared foods	113.8	118.0	116.6	117.0	117.1	118.3	118.7	119.1	119.9	120.1	120.7	121.9	123.0	123.7	125.2
Food away from home	117.0	121.8	120.7	121.0	121.5	122.1	122.5	123.0	123.4	123.7	124.1	124.7	125.2	125.7	126.2
Alcoholic beverages	114.1	118.6	118.0	118.2	118.7	119.2	119.3	119.6	119.8	119.9	119.9	120.3	121.1	121.8	122.3
Housing	114.2	118.5	117.3	117.7	118.6	119.1	119.5	119.9	119.9	119.9	120.2	120.7	121.1	121.5	121.6
Shelter	121.3	127.1	125.8	126.2	126.6	127.4	128.2	128.4	128.8	129.1	129.3	129.8	130.3	131.2	131.2
Renters' costs (12/82=100)	128.1	133.6	132.9	133.1	133.7	134.7	135.6	134.7	134.8	134.2	134.1	135.2	136.3	138.6	137.9
Rent, residential	123.1	127.8	126.6	126.9	127.3	127.8	128.4	129.1	129.4	129.8	130.1	130.5	130.9	131.1	131.4
Other renters' costs	127.4	134.8	136.0	135.7	137.0	139.2	141.3	135.5	134.8	131.1	130.0	132.7	136.2	144.7	140.7
Homeowners' costs (12/82=100)	124.8	131.1	129.4	129.9	130.4	131.0	131.8	132.6	133.1	133.8	134.0	134.4	134.7	135.0	135.4
Owners' equivalent rent (12/82=100)	124.8	131.1	129.5	130.0	130.4	131.1	131.9	132.7	133.1	133.9	134.1	134.5	134.8	135.1	135.5
Household insurance (12/82=100)	124.0	129.0	128.2	128.2	128.9	129.7	130.1	130.2	130.4	130.2	130.6	130.9	131.2	131.3	131.4
Maintenance and repairs	111.8	114.7	115.3	114.3	114.7	114.5	115.0	115.3	115.0	115.4	115.8	116.1	117.1	117.1	117.3
Maintenance and repair services	114.8	117.9	119.4	117.8	118.1	117.9	118.1	118.1	117.6	118.2	118.4	118.7	119.9	119.6	119.8
Maintenance and repair commodities	107.8	110.4	109.7	109.8	110.1	110.1	110.8	111.7	111.6	111.7	112.4	112.8	113.4	113.8	114.1
Fuel and other utilities	103.0	104.4	102.8	103.5	105.9	106.0	106.1	106.4	105.4	104.3	105.0	106.0	105.9	105.9	106.2
Fuels	97.3	98.0	95.7	96.5	100.8	100.8	100.9	101.0	98.6	96.8	97.4	98.7	98.6	98.5	98.8
Fuel oil, coal, and bottled gas	77.9	78.1	80.2	80.0	79.1	76.9	76.3	75.9	74.6	75.0	76.8	80.5	81.4	81.5	82.5
Gas (piped) and electricity	103.8	104.6	101.6	102.6	107.8	108.1	108.3	108.5	105.8	103.7	104.1	105.1	104.9	104.8	105.0
Other utilities and public services	120.1	122.9	122.3	122.6	122.3	122.4	122.6	123.3	124.5	124.4	125.5	125.9	126.0	125.9	126.2
Household furnishings and operations	107.1	109.4	109.1	109.3	109.6	109.8	109.7	110.1	110.3	110.6	110.6	110.9	110.9	110.5	110.7
Housefurnishings	103.6	105.1	104.9	104.9	105.3	105.5	105.3	105.7	105.9	106.1	105.9	106.0	105.9	105.1	105.0
Housekeeping supplies	111.5	114.7	113.8	114.1	114.7	115.2	114.8	115.5	115.6	116.5	117.0	117.5	117.7	118.5	119.6
Housekeeping services	110.6	114.3	114.7	114.8	114.8	115.0	115.1	115.5	115.5	115.7	115.9	116.6	116.8	116.9	117.1
Apparel and upkeep	110.6	115.4	117.0	116.3	114.6	112.7	112.6	117.8	120.7	119.9	118.0	115.3	115.3	119.3	120.9
Apparel commodities	108.9	113.7	115.5	114.8	112.9	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3
Men's and boys' apparel	109.1	113.4	112.9	113.6	112.5	111.9	111.6	115.2	117.6	118.2	117.3	115.1	114.2	115.9	117.2
Women's and girls' apparel	110.4	114.9	119.6	117.3	114.1	109.8	109.9	118.1	121.9	120.2	116.5	111.6	111.4	119.4	121.5
Infants' and toddlers' apparel	112.1	116.4	117.1	117.7	116.5	116.2	118.2	119.0	118.1	117.2	117.3	115.6	118.8	118.5	123.6
Footwear	105.1	109.9	109.4	109.7	109.2	108.2	107.4	112.2	115.9	114.5	113.5	112.2	112.7	114.1	115.3
Other apparel commodities	108.0	116.0	114.6	114.9	114.6	116.5	116.2	117.4	119.4	119.5	119.1	119.2	120.4	120.4	121.5
Apparel services	119.6	123.7	122.6	122.8	123.1	123.4	124.0	124.4	125.5	126.3	126.7	127.3	127.8	128.5	128.9
Transportation	105.4	108.7	107.2	108.1	108.5	108.9	109.6	109.7	110.0	110.7	110.8	111.1	111.6	111.9	114.6
Private transportation	104.2	107.6	106.0	107.0	107.4	107.8	108.6	108.6	109.0	109.6	109.6	109.8	110.3	110.7	113.6
New vehicles	114.4	116.5	115.6	115.9	116.1	116.1	115.9	116.2	117.2	118.4	119.0	119.4	119.5	119.4	119.2
New cars	114.6	116.9	115.9	116.3	116.5	116.5	116.3	116.8	117.7	118.7	119.1	119.5	119.6	119.6	119.4
Used cars	113.1	118.0	116.6	117.0	117.6	117.9	119.2	119.4	119.9	119.7	120.2	120.5	120.5	120.5	120.7
Motor fuel	80.2	80.9	79.4	81.4	81.4	82.3	84.1	83.1	81.6	81.5	80.3	79.6	80.3	81.5	92.1
Gasoline	80.1	80.8	79.2	81.3	81.3	82.3	84.2	83.1	81.6	81.4	80.3	79.4	80.1	81.3	92.1
Maintenance and repair	114.8	119.7	118.8	119.3	119.7	120.0	120.3	120.9	121.1	121.5	121.5	122.4	123.3	123.5	123.8
Other private transportation	120.8	127.9	125.0	126.3	127.2	127.5	128.7	129.3	131.0	132.1	132.5	133.5	134.3	134.5	134.7
Other private transportation commodities	96.9	98.9	98.2	98.9	98.8	98.2	99.2	99.7	99.3	99.4	100.3	101.0	101.2	100.1	100.8
Other private transportation services	125.6	133.9	130.5	132.0	133.1	133.7	134.8	135.5	137.7	139.1	139.3	140.4	141.4	141.9	142.0
Public transportation	121.1	123.3	122.4	122.4	123.2	123.7	123.7	124.0	124.2	125.3	126.5	127.5	128.1	128.2	128.4
Medical care	130.1	138.6	136.9	137.5	138.2	139.3	139.9	140.4	141.2	141.8	142.3	143.8	145.2	146.1	146.8
Medical care commodities	131.0	139.9	138.1	139.0	139.4	140.5	141.1	142.0	143.2	143.3	144.2	145.0	145.8	147.2	148.4
Medical care services	130.0	138.3	136.6	137.2	137.9	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4
Professional services	128.8	137.5	136.0	136.4	137.5	138.4	138.7	139.2	139.8	140.4	140.8	142.2	143.5	144.4	144.9
Hospital and related services	131.6	143.9	140.7	141.8	142.1	144.3	145.9	146.9	148.5	149.7	150.8	152.9	155.1	155.8	156.6
Entertainment	115.3	120.3	119.6	119.7	120.1	120.5	120.7	121.3	121.8	122.2	122.8	123.8	124.3	124.7	125.4
Entertainment commodities	110.5	115.0	114.2	114.5	114.8	115.3	115.4	116.0	116.3	117.2	117.5	118.1	118.4	118.5	119.0
Entertainment services	122.0	127.7	127.0	126.9	127.3	127.7	128.1	128.6	129.4	129.3	130.0	131.6	132.3	132.9	134.0
Other goods and services	128.5	137.0	134.8	135.1	135.5	136.5	137.5	140.0	140.6	141.0	141.3	143.4	144.1	144.4	144.7
Tobacco products	133.6	145.8	142.9	143.2	143.6	147.5	148.6	148.9	149.3	149.7	149.9	157.0	158.5	159.2	159.5
Personal care	115.1	119.4	118.5	118.7	119.0	119.2	119.0	120.3	121.0	121.8	122.4	122.8	123.2	123.6	124.1
Toilet goods and personal care appliances	113.9	118.1	117.4	117.2	117.5	117.8	117.2	118.7	119.8	120.7	121.6	121.7	121.9	122.4	122.6
Personal care services	116.2	120.7	119.5	120.1	120.4	120.6	121.0	121.9	122.0	122.7	123.1	123.8	124.4	124.8	125.4
Personal and educational expenses	138.5	147.9	145.2	145.5	146.0	146.3	147.8	151.8	152.4	152.7	153.0	154.0	154.4	154.6	154.9
School books and supplies	138.1	148.1	146.3	146.4	146.5	146.5	146.9	151.1	152.0	152.1	152.2	153.3	155.0	155.1	155.2
Personal and educational services	138.7	148.0	145.3	145.6	146.2	146.5	148.1	152.1	152.7	152.9	153.2	154.2	154.6	154.7	155.1

See footnotes at end of table.

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	113.6	118.3	117.1	117.5	118.0	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1
Commodities	107.7	111.5	110.7	111.1	111.1	111.5	111.9	113.0	113.5	113.5	113.5	113.9	114.3	115.2	116.7
Food and beverages	113.5	118.2	116.7	117.1	117.6	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0
Commodities less food and beverages	104.0	107.3	106.9	107.2	107.1	107.0	107.3	108.5	109.2	109.4	109.0	108.9	109.1	110.1	112.2
Nondurables less food and beverages	101.1	105.2	105.0	105.4	104.9	104.7	105.2	107.1	107.8	107.7	106.9	106.4	106.9	108.9	112.5
Apparel commodities	108.9	113.7	115.5	114.8	112.9	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3
Nondurables less food, beverages, and apparel	99.5	103.2	102.0	103.0	103.2	104.0	104.8	104.9	104.5	104.6	104.5	105.3	106.1	106.9	111.5
Durables	108.2	110.4	109.7	109.9	110.2	110.3	110.3	110.6	111.1	111.8	112.2	112.5	112.4	111.9	111.8
Services	120.2	125.7	124.1	124.6	125.5	126.1	126.7	127.3	127.6	127.8	128.1	128.9	129.4	130.0	130.2
Rent of shelter (12/82=100)	125.9	132.0	130.6	131.0	131.5	132.3	133.1	133.4	133.8	134.1	134.3	134.8	135.4	136.3	136.3
Household services less rent of' shelter (12/82=100)	113.1	115.3	113.7	114.3	116.6	116.9	117.0	117.4	116.6	115.6	116.2	117.0	116.9	116.9	117.2
Transportation services	121.9	128.0	125.8	126.7	127.6	128.1	128.8	129.3	130.6	131.6	132.1	133.0	133.9	134.3	134.5
Medical care services	130.0	138.3	136.6	137.2	137.9	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4
Other services	125.7	132.6	131.0	131.1	131.6	131.9	132.8	134.9	135.5	135.7	136.2	137.3	137.8	138.2	138.8
Special indexes:															
All items less food	113.6	118.3	117.2	117.6	118.1	118.4	118.9	119.7	120.2	120.3	120.4	120.8	121.3	122.0	122.9
All items less shelter	111.6	115.9	114.7	115.2	115.7	116.1	116.5	117.5	117.9	118.0	118.1	118.7	119.2	119.9	121.0
All items less homeowners' costs (12/82=100)	115.1	119.5	118.4	118.8	119.3	119.8	120.3	121.1	121.5	121.5	121.6	122.3	122.9	123.7	124.7
All items less medical care	112.6	117.0	115.9	116.3	116.8	117.2	117.8	118.6	118.9	119.0	119.1	119.7	120.1	120.8	121.7
Commodities less food	104.3	107.7	107.3	107.6	107.4	107.4	107.7	108.9	109.5	109.7	109.4	109.2	109.5	110.5	112.5
Nondurables less food	101.8	105.8	105.6	106.0	105.5	105.4	105.9	107.7	108.3	108.2	107.5	107.1	107.6	109.4	112.8
Nondurables less food and apparel	100.3	104.0	102.9	103.8	104.0	104.8	105.5	105.6	105.2	105.4	105.3	106.0	106.8	107.6	111.7
Nondurables	107.5	111.8	111.0	111.4	111.4	111.9	112.4	113.7	114.2	114.1	113.9	114.3	114.9	116.2	118.4
Services less rent of' shelter (12/82=100)	123.1	128.3	126.5	127.1	128.4	128.9	129.4	130.3	130.5	130.6	131.1	132.1	132.7	133.0	133.4
Services less medical care	119.1	124.3	122.8	123.2	124.1	124.7	125.3	125.9	126.2	126.3	126.6	127.3	127.8	128.3	128.5
Energy	88.6	89.3	87.3	88.7	91.0	91.4	92.3	91.9	89.9	88.9	88.7	89.0	89.3	89.8	94.9
All items less energy	117.2	122.3	121.2	121.5	121.8	122.3	122.8	123.8	124.4	124.7	124.8	125.5	126.0	126.7	127.1
All items less food and energy	118.2	123.4	122.4	122.7	123.0	123.3	123.8	124.7	125.5	125.8	126.0	126.4	126.9	127.6	128.0
Commodities less food and energy	111.8	115.8	115.5	115.5	115.4	115.2	115.2	116.9	118.0	118.2	118.0	117.9	118.1	119.0	119.6
Energy commodities	80.2	80.8	79.7	81.4	81.4	81.9	83.4	82.5	81.0	80.9	80.1	79.9	80.6	81.7	91.2
Services less energy	122.0	127.9	126.5	126.9	127.4	128.0	128.8	129.3	129.9	130.3	130.6	131.4	132.0	132.7	132.9
Purchasing power of the consumer dollar:															
1982-84=$1.00	88.0	84.6	85.4	85.1	84.7	84.4	84.0	83.5	83.2	83.1	83.0	82.6	82.3	81.8	81.2
1967=$1.00	29.4	28.2	28.5	28.4	28.3	28.2	28.0	27.9	27.8	27.7	27.7	27.6	27.5	27.3	27.1
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	112.5	117.0	115.7	116.2	116.7	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8
All items (1967=100)	335.0	348.4	344.7	346.1	347.6	349.1	350.7	353.0	354.2	354.6	355.0	356.7	358.0	360.0	362.9
Food and beverages	113.3	117.9	116.3	116.8	117.4	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7
Food	113.3	117.9	116.2	116.7	117.3	118.5	119.2	119.9	120.1	119.9	120.4	121.9	122.6	123.3	123.9
Food at home	111.7	116.2	114.2	114.7	115.5	116.9	117.8	118.7	118.7	118.4	118.8	120.8	121.7	122.4	123.2
Cereals and bakery products	114.8	122.2	119.9	120.4	120.8	122.1	124.1	124.8	125.7	126.0	126.7	128.0	129.0	129.7	130.5
Meats, poultry, fish, and eggs	110.4	114.1	111.4	112.0	114.5	116.3	117.1	117.3	116.6	116.1	115.8	118.3	118.0	120.3	120.4
Dairy products	105.7	108.1	106.9	107.2	107.0	107.3	107.9	108.6	109.7	110.4	111.2	112.4	113.3	113.6	114.0
Fruits and vegetables	118.8	127.6	125.2	126.4	125.5	128.4	129.6	132.8	131.4	129.1	130.8	134.3	136.8	135.4	137.7
Other foods at home	110.4	113.0	112.0	112.2	112.3	113.0	113.5	113.9	114.7	114.8	115.1	116.5	117.7	118.0	118.9
Sugar and sweets	110.9	113.9	112.2	112.4	113.1	113.9	114.8	115.6	115.9	115.7	116.7	117.3	117.8	118.0	118.1
Fats and oils	107.9	113.0	110.2	111.0	111.4	112.5	114.8	115.8	117.0	117.0	118.3	119.5	120.4	120.3	121.5
Nonalcoholic beverages	107.5	107.7	107.9	107.7	107.3	107.4	107.2	107.6	108.3	108.4	107.8	109.8	111.4	111.4	111.9
Other prepared foods	113.6	117.8	116.4	116.8	116.9	118.1	118.5	118.8	119.7	119.9	120.5	121.7	122.8	123.6	125.0
Food away from home	116.9	121.6	120.6	120.9	121.4	122.0	122.3	122.8	123.2	123.5	124.0	124.6	125.1	125.5	126.1
Alcoholic beverages	113.9	118.3	117.9	118.0	118.4	118.9	118.9	119.2	119.5	119.5	119.5	119.8	120.8	121.4	122.0
Housing	112.8	116.8	115.6	116.0	116.9	117.4	117.8	118.2	118.2	118.3	118.5	119.0	119.3	119.6	119.8
Shelter	118.8	124.3	123.0	123.4	123.9	124.5	125.3	125.6	126.0	126.4	126.5	126.9	127.4	128.1	128.3
Renters' costs (12/84=100)	114.6	119.2	118.4	118.6	119.3	120.0	120.7	120.2	120.4	120.1	120.0	120.7	121.5	123.0	122.7
Rent, residential	122.9	127.5	126.3	126.6	126.9	127.5	128.0	128.7	129.0	129.4	129.7	130.1	130.4	130.7	131.0
Other renters' costs	128.2	135.2	136.1	136.2	138.8	140.8	143.0	136.1	135.1	131.4	129.2	131.8	135.2	144.2	140.9
Homeowners' costs (12/84=100)	113.8	119.5	118.0	118.4	118.8	119.4	120.2	120.9	121.3	122.0	122.2	122.5	122.8	123.0	123.4
Owners' equivalent rent (12/84=100)	113.7	119.5	118.0	118.5	118.8	119.5	120.2	120.9	121.4	122.1	122.2	122.5	122.8	123.1	123.5
Household insurance (12/84=100)	114.1	118.2	117.3	117.3	118.0	118.6	119.0	119.1	119.3	119.2	119.6	119.9	120.0	120.1	120.2
Maintenance and repairs	111.3	114.0	114.7	113.7	113.9	113.8	114.2	114.4	114.1	114.6	115.2	115.6	116.7	116.7	116.7
Maintenance and repair services	114.7	117.7	119.8	117.6	117.9	117.6	118.0	117.7	117.0	117.6	117.8	118.3	119.5	119.2	119.3
Maintenance and repair commodities	106.0	108.3	107.5	107.9	107.9	108.0	108.3	109.1	109.2	109.7	110.6	110.9	111.8	112.1	112.1
Fuel and other utilities	102.7	104.1	102.5	103.0	105.5	105.6	105.8	106.1	105.1	104.1	104.8	105.7	105.7	105.7	105.9
Fuels	97.1	97.7	95.4	96.1	100.5	100.5	100.6	100.8	98.3	96.6	97.2	98.4	98.3	98.2	98.5
Fuel oil, coal, and bottled gas	77.6	77.9	79.9	79.7	78.9	76.7	76.2	75.9	74.6	75.0	76.7	80.3	81.0	81.2	82.1
Gas (piped) and electricity	103.6	104.4	101.4	102.2	107.5	107.8	108.0	108.2	105.5	103.5	103.9	104.8	104.6	104.6	104.8
Other utilities and public services	120.1	122.9	122.3	122.5	122.2	122.4	122.5	123.3	124.7	124.6	125.6	126.2	126.3	126.2	126.5
Household furnishings and operations	106.7	108.9	108.7	108.8	109.1	109.4	109.1	109.6	109.9	110.2	110.2	110.4	110.4	110.0	110.1
Housefurnishings	103.1	104.5	104.2	104.2	104.6	104.9	104.5	105.1	105.4	105.6	105.4	105.5	105.4	104.5	104.3
Housekeeping supplies	111.8	115.1	114.3	114.5	115.1	115.5	115.1	115.8	116.1	116.9	117.4	117.9	118.1	118.9	120.0
Housekeeping services	110.9	115.0	115.6	115.7	115.7	115.9	116.0	116.3	116.3	116.4	116.5	116.9	117.0	117.1	117.2
Apparel and upkeep	110.4	114.9	116.3	115.7	114.1	112.4	112.2	117.2	120.1	119.5	117.6	114.8	114.7	118.4	120.0

See footnotes at end of table.

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988									1989			
	1987	1988	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Apparel commodities	108.8	113.4	114.9	114.3	112.6	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4
Men's and boys' apparel	108.5	112.8	112.2	113.0	112.1	111.5	111.0	114.4	116.9	117.5	116.5	114.4	113.4	115.1	116.4
Women's and girls' apparel	110.3	114.5	118.8	116.7	113.5	109.5	109.5	117.6	121.5	119.9	116.2	111.3	110.7	118.3	120.2
Infants' and toddlers' apparel	114.0	118.6	119.1	119.7	118.8	118.6	120.4	121.5	120.6	120.1	120.3	118.5	121.8	121.7	126.7
Footwear	105.5	110.4	109.6	109.9	109.6	108.7	108.0	112.7	116.3	115.0	114.0	112.8	113.1	114.1	115.2
Other apparel commodities	107.4	114.9	113.9	114.0	113.5	115.2	114.9	116.2	117.9	118.2	117.8	117.8	119.0	118.5	119.6
Apparel services	119.2	123.0	122.0	122.2	122.4	122.7	123.3	123.7	124.7	125.4	125.8	126.4	126.8	127.7	128.1
Transportation	105.1	108.3	106.8	107.8	108.2	108.6	109.4	109.4	109.8	110.3	110.4	110.7	111.2	111.6	114.5
Private transportation	104.1	107.5	105.9	107.0	107.3	107.7	108.6	108.6	109.0	109.5	109.5	109.7	110.3	110.6	113.7
New vehicles	114.0	116.2	115.3	115.6	115.8	115.8	115.5	115.8	116.9	118.1	118.8	119.2	119.3	119.2	118.9
New cars	114.3	116.6	115.7	116.0	116.2	116.2	116.0	116.4	117.5	118.5	118.9	119.3	119.5	119.4	119.2
Used cars	113.1	117.9	116.6	116.9	117.5	117.8	119.0	119.2	119.8	119.5	120.1	120.3	120.4	120.3	120.5
Motor fuel	80.3	80.9	79.4	81.4	81.4	82.3	84.3	83.1	81.6	81.5	80.4	79.6	80.3	81.5	92.3
Gasoline	80.2	80.8	79.2	81.3	81.3	82.3	84.3	83.2	81.6	81.5	80.4	79.5	80.2	81.4	92.3
Maintenance and repair	115.1	119.8	118.9	119.4	119.8	120.1	120.5	121.0	121.3	121.5	121.5	122.4	123.3	123.5	123.9
Other private transportation	119.0	125.8	123.0	124.3	125.2	125.4	126.5	127.2	128.9	130.0	130.4	131.4	132.2	132.5	132.7
Other private transportation commodities	96.7	98.6	97.9	98.6	98.5	97.9	98.8	99.3	98.8	99.0	99.9	100.5	100.7	99.8	100.4
Other private transportation services	123.4	131.7	128.3	129.7	130.8	131.3	132.5	133.2	135.5	136.8	137.1	138.2	139.2	139.8	139.8
Public transportation	120.4	122.5	121.7	121.8	122.3	123.0	123.0	123.1	123.5	124.3	125.4	126.1	126.8	126.9	127.1
Medical care	130.2	139.0	137.1	137.8	138.5	139.6	140.3	140.8	141.7	142.2	142.8	144.2	145.6	146.5	147.2
Medical care commodities	130.2	139.0	137.2	138.0	138.3	139.4	140.0	141.0	142.1	142.2	143.1	143.9	144.7	146.0	147.4
Medical care services	130.3	139.0	137.1	137.7	138.5	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2
Professional services	129.0	137.7	136.1	136.6	137.7	138.5	138.9	139.3	139.9	140.6	141.0	142.4	143.7	144.7	145.1
Hospital and related services	131.1	143.3	140.1	141.2	141.5	143.8	145.4	146.3	147.8	148.9	150.0	151.9	154.2	154.8	155.6
Entertainment	114.8	119.7	118.9	119.0	119.4	119.8	120.1	120.6	121.2	121.7	122.2	123.1	123.6	124.1	124.8
Entertainment commodities	110.6	115.1	114.2	114.6	114.9	115.4	115.5	116.0	116.5	117.3	117.6	118.1	118.4	118.7	119.1
Entertainment services	121.8	127.2	126.5	126.3	126.8	127.2	127.6	128.1	128.9	129.0	129.7	131.3	131.9	132.7	133.8
Other goods and services	127.8	136.5	134.2	134.5	135.0	136.3	137.2	139.3	139.9	140.3	140.6	143.0	143.7	144.0	144.4
Tobacco products	133.7	146.0	143.1	143.4	143.8	147.9	148.9	149.2	149.5	149.9	150.2	156.9	158.2	158.9	159.2
Personal care	115.0	119.3	118.1	118.5	118.8	119.1	119.0	120.3	120.9	121.7	122.3	122.7	123.0	123.5	123.9
Toilet goods and personal care appliances	113.9	118.0	117.0	117.1	117.4	117.8	117.4	118.8	119.9	120.6	121.5	121.7	121.9	122.3	122.7
Personal care services	116.1	120.5	119.3	119.9	120.2	120.4	120.7	121.9	122.0	122.7	123.0	123.6	124.2	124.6	125.2
Personal and educational expenses	138.2	147.4	144.7	145.2	145.8	146.0	147.4	151.1	151.7	152.0	152.3	153.3	153.7	153.9	154.3
School books and supplies	137.9	147.1	145.4	145.4	145.6	145.6	146.0	150.0	150.8	150.9	151.1	152.0	153.9	154.0	154.1
Personal and educational services	138.4	147.7	144.9	145.4	146.0	146.3	147.8	151.5	152.0	152.3	152.7	153.7	154.0	154.1	154.6
All items	112.5	117.0	115.7	116.2	116.7	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8
Commodities	107.3	111.0	110.1	110.5	110.7	111.1	111.6	112.5	113.0	113.1	113.0	113.5	113.9	114.7	116.4
Food and beverages	113.3	117.9	116.3	116.8	117.4	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7
Commodities less food and beverages	103.6	106.8	106.3	106.7	106.5	106.6	107.0	108.1	108.7	108.9	108.6	108.4	108.7	109.5	111.8
Nondurables less food and beverages	100.8	104.6	104.3	104.8	104.3	104.3	104.9	106.6	107.2	107.1	106.3	105.9	106.3	108.1	112.1
Apparel commodities	108.8	113.4	114.9	114.3	112.6	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4
Nondurables less food, beverages, and apparel	99.2	102.9	101.6	102.6	102.8	103.7	104.7	104.7	104.1	104.3	104.1	104.9	105.6	106.5	111.6
Durables	106.6	108.9	108.1	108.4	108.7	108.8	108.8	109.1	109.7	110.4	110.7	111.0	111.0	110.6	110.5
Services	119.4	124.7	123.1	123.6	124.5	125.1	125.7	126.3	126.7	126.9	127.2	127.9	128.4	128.9	129.1
Rent of shelter (12/84=100)	114.0	119.4	118.2	118.5	119.0	119.6	120.3	120.7	121.1	121.4	121.5	121.9	122.4	123.1	123.2
Household services less rent of shelter (12/84=100)	104.0	105.9	104.4	104.9	107.2	107.4	107.6	108.0	107.2	106.2	106.8	107.5	107.4	107.4	107.6
Transportation services	120.8	127.1	124.8	125.8	126.6	127.1	127.8	128.4	129.9	130.9	131.2	132.2	133.1	133.5	133.7
Medical care services	130.3	139.0	137.1	137.7	138.5	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2
Other services	124.7	131.4	129.8	130.0	130.5	130.8	131.6	133.6	134.2	134.5	135.0	136.1	136.5	137.0	137.6
Special indexes:															
All items less food	112.2	116.7	115.5	116.0	116.5	116.8	117.3	118.1	118.6	118.8	118.8	119.2	119.6	120.2	121.3
All items less shelter	111.0	115.2	113.9	114.4	115.0	115.4	115.9	116.8	117.2	117.3	117.4	118.0	118.5	119.1	120.4
All items less homeowners' costs (12/84=100)	106.4	110.4	109.2	109.7	110.2	110.7	111.1	111.9	112.2	112.3	112.4	113.0	113.4	114.1	115.2
All items less medical care	111.5	115.8	114.6	115.0	115.6	116.0	116.6	117.3	117.7	117.8	117.9	118.5	118.9	119.5	120.5
Commodities less food	103.9	107.2	106.6	107.0	106.9	107.0	107.3	108.4	109.0	109.2	108.9	108.8	109.0	109.9	112.1
Nondurables less food	101.4	105.3	104.9	105.4	105.0	105.1	105.6	107.2	107.8	107.6	106.9	106.5	107.0	108.7	112.4
Nondurables less food and apparel	100.0	103.7	102.5	103.4	103.6	104.5	105.3	105.3	104.9	105.1	104.9	105.6	106.4	107.2	111.7
Nondurables	107.2	111.5	110.5	111.0	111.1	111.6	112.3	113.4	113.8	113.7	113.5	114.0	114.6	115.8	118.1
Services less rent of shelter (12/84=100)	110.8	115.6	113.9	114.4	115.7	116.1	116.6	117.3	117.6	117.6	118.1	119.0	119.5	119.8	120.1
Services less medical care	118.2	123.3	121.7	122.2	123.1	123.6	124.3	124.9	125.2	125.3	125.6	126.3	126.7	127.2	127.4
Energy	88.0	88.6	86.7	88.1	90.3	90.7	91.8	91.3	89.3	88.4	88.1	88.3	88.6	89.2	94.8
All items less energy	116.0	121.0	119.9	120.2	120.5	121.0	121.5	122.4	123.1	123.4	123.6	124.2	124.7	125.3	125.8
All items less food and energy	116.8	121.9	120.8	121.1	121.4	121.7	122.2	123.1	124.0	124.3	124.4	124.8	125.3	125.9	126.3
Commodities less food and energy	110.8	114.7	114.3	114.4	114.3	114.2	114.3	115.8	116.9	117.1	117.0	116.9	117.1	117.9	118.4
Energy commodities	80.3	80.9	79.7	81.5	81.4	82.1	83.8	82.7	81.2	81.2	80.3	79.9	80.6	81.7	91.6
Services less energy	121.2	127.0	125.6	126.0	126.5	127.1	127.8	128.4	129.1	129.5	129.8	130.5	131.1	131.6	131.9
Purchasing power of the consumer dollar:															
1982-84=$1.00	89.0	85.5	86.4	86.1	85.7	85.3	84.9	84.4	84.1	84.0	83.9	83.5	83.2	82.8	82.1
1967=$1.00	29.9	28.7	29.0	28.9	28.8	28.6	28.5	28.3	28.2	28.2	28.2	28.0	27.9	27.8	27.6

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

(1982-84=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	All Urban Consumers							Urban Wage Earners						
		1988			1989				1988			1989			
		Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average	M	117.1	117.5	120.5	121.1	121.6	122.3	123.1	115.7	116.2	119.2	119.7	120.2	120.8	121.8
Region and area size[3]															
Northeast urban	M	120.4	120.7	124.5	125.4	125.8	126.7	127.4	119.2	119.5	123.3	124.1	124.5	125.4	126.2
Size A - More than 1,200,000	M	121.3	121.6	125.3	126.1	126.5	127.4	128.0	119.3	119.5	123.2	124.0	124.3	125.2	125.9
Size B - 500,000 to 1,200,000	M	118.2	118.9	122.2	123.1	123.9	125.1	126.1	117.0	117.7	121.0	121.9	122.7	123.9	124.9
Size C - 50,000 to 500,000	M	118.2	118.7	123.3	124.4	124.3	125.5	126.2	120.7	121.2	125.7	126.8	126.7	127.8	128.6
North Central urban	M	114.9	115.5	118.2	118.7	119.3	119.8	120.8	113.0	113.6	116.3	116.8	117.3	117.9	118.9
Size A - More than 1,200,000	M	115.7	116.0	119.2	119.8	120.4	121.1	121.9	113.1	113.5	116.6	117.1	117.7	118.4	119.2
Size B - 360,000 to 1,200,000	M	115.0	115.7	118.2	118.3	118.6	119.2	120.6	112.6	113.4	115.8	116.0	116.2	116.8	118.2
Size C - 50,000 to 360,000	M	115.2	116.1	118.2	118.8	119.5	119.9	121.2	114.0	114.9	117.1	117.7	118.4	118.7	120.1
Size D - Nonmetropolitan (less than 50,0000	M	111.8	112.2	114.0	114.5	115.1	115.5	116.3	111.3	111.9	113.8	114.3	114.8	115.1	116.1
South urban	M	115.4	115.6	118.5	118.9	119.2	119.8	120.8	114.7	114.9	118.0	118.3	118.7	119.1	120.3
Size A - More than 1,200,000	M	116.0	116.7	119.2	119.7	120.1	120.5	121.4	115.1	115.7	118.4	118.8	119.3	119.6	120.6
Size B - 450,000 to 1,200,000	M	116.3	116.2	119.7	119.9	120.3	121.0	122.2	114.1	114.0	117.8	117.9	118.2	118.8	120.1
Size C - 50,000 to 450,000	M	114.5	114.6	117.6	117.8	118.0	118.5	119.4	114.9	115.0	118.1	118.4	118.6	119.0	120.0
Size D - Nonmetropolitan (less than 50,000)	M	113.6	113.7	116.3	116.9	117.4	118.0	119.4	114.2	114.4	117.0	117.7	118.1	118.7	120.2
West urban	M	117.9	118.5	120.9	121.7	122.3	123.1	123.8	116.6	117.2	119.6	120.3	120.9	121.7	122.6
Size A - More than 1,250,000	M	119.2	120.1	122.5	123.3	123.7	124.7	125.3	116.6	117.4	119.7	120.5	121.0	121.9	122.7
Size B - 330,000 to 1,250,000	M	–	–	119.3	–	–	–	–	–	–	119.4	–	–	–	–
Size C - 50,000 to 330,000	M	116.8	116.5	119.0	119.8	120.5	120.7	122.1	116.2	115.9	118.4	119.3	119.9	120.1	121.5
Size classes:															
A (12/86=100)	M	106.3	106.7	109.4	110.0	110.5	111.2	111.8	106.1	106.6	109.3	109.9	110.3	111.0	111.7
B	M	116.4	116.7	119.8	120.1	120.8	121.5	122.6	114.9	115.3	118.5	118.8	119.3	120.0	121.2
C	M	115.8	116.1	119.1	119.6	120.0	120.5	121.6	116.1	116.4	119.4	120.0	120.4	120.8	122.0
D	M	114.1	114.3	116.8	117.5	118.0	118.4	119.6	114.3	114.6	117.1	117.8	118.3	118.7	119.9
Selected local areas															
Chicago, IL-Northwestern IN	M	117.1	117.0	121.3	121.5	122.2	123.0	123.6	113.3	113.3	117.7	117.9	118.4	119.1	119.8
Los Angeles-Long Beach, Anaheim, CA	M	121.1	122.0	124.2	124.6	125.5	126.2	127.2	118.0	118.9	121.1	121.4	122.3	122.9	124.0
New York, NY-Northeastern NJ	M	122.6	122.7	126.0	127.0	127.6	128.9	129.5	120.6	120.7	124.1	125.1	125.5	126.8	127.5
Philadelphia, PA-NJ	M	120.0	120.9	125.6	125.7	125.4	126.0	126.7	119.8	120.8	125.2	125.5	125.4	125.8	126.7
San Francisco-Oakland, CA	M	118.7	119.7	122.6	124.0	124.0	125.9	125.4	117.8	118.7	121.5	122.8	122.9	124.6	124.8
Baltimore, MD	1	–	117.8	–	121.3	–	122.8	–	–	117.4	–	120.9	–	122.3	–
Boston, MA	1	–	123.1	–	129.0	–	129.7	–	–	123.1	–	128.9	–	129.7	–
Cleveland, OH	1	–	116.6	–	118.9	–	121.5	–	–	111.7	–	113.8	–	116.2	–
Miami, FL	1	–	116.2	–	120.0	–	119.8	–	–	115.1	–	118.8	–	118.7	–
St. Louis, MO-IL	1	–	114.1	–	118.4	–	119.4	–	–	113.7	–	118.0	–	119.1	–
Washington, DC-MD-VA	1	–	120.1	–	124.3	–	126.1	–	–	119.3	–	123.7	–	125.6	–
Dallas-Ft. Worth, TX	2	115.4	–	117.2	–	117.5	–	118.7	114.8	–	117.0	–	117.2	–	118.6
Detroit, MI	2	114.4	–	118.3	–	120.1	–	121.7	111.9	–	115.7	–	117.3	–	119.0
Houston, TX	2	108.2	–	111.3	–	112.7	–	113.2	108.1	–	111.4	–	112.9	–	113.5
Pittsburgh, PA	2	114.5	–	116.7	–	117.9	–	119.2	110.1	–	112.2	–	113.4	–	114.7

[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, U.S. city average, all items and major groups

(1982-84=100)

Series	1980	1981	1982	1983	1984	1985	1986	1987	1988
Consumer Price Index for All Urban Consumers:									
All items:									
Index	82.4	90.9	96.5	99.6	103.9	107.6	109.6	113.6	118.3
Percent change	13.5	10.3	6.2	3.2	4.3	3.6	1.9	3.6	4.1
Food and beverages:									
Index	86.7	93.5	97.3	99.5	103.2	105.6	109.1	113.5	118.2
Percent change	8.5	7.8	4.1	2.3	3.7	2.3	3.3	4.0	4.1
Housing:									
Index	81.1	90.4	96.9	99.5	103.6	107.7	110.9	114.2	118.5
Percent change	15.7	11.5	7.2	2.7	4.1	4.0	3.0	3.0	3.8
Apparel and upkeep:									
Index	90.9	95.3	97.8	100.2	102.1	105.0	105.9	110.6	115.4
Percent change	7.1	4.8	2.6	2.5	1.9	2.8	.9	4.4	4.3
Transportation:									
Index	83.1	93.2	97.0	99.3	103.7	106.4	102.3	105.4	108.7
Percent change	17.9	12.2	4.1	2.4	4.4	2.6	-3.9	3.0	3.1
Medical care:									
Index	74.9	82.9	92.5	100.6	106.8	113.5	122.0	130.1	138.6
Percent change	11.0	10.7	11.6	8.8	6.2	6.3	7.5	6.6	6.5
Entertainment:									
Index	83.6	90.1	96.0	100.1	103.8	107.9	111.6	115.3	120.3
Percent change	9.0	7.8	6.5	4.3	3.7	3.9	3.4	3.3	4.3
Other goods and services:									
Index	75.2	82.6	91.1	101.1	107.9	114.5	121.4	128.5	137.0
Percent change	9.1	9.8	10.3	11.0	6.7	6.1	6.0	5.8	6.6
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	82.9	91.4	96.9	99.8	103.3	106.9	108.6	112.5	117.0
Percent change	13.4	10.3	6.0	3.0	3.5	3.5	1.6	3.6	4.0

33. Producer Price Indexes, by stage of processing

(1982=100)

Grouping	Annual average		1988								1989			
	1987	1988	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Finished goods	105.4	108.0	107.5	107.7	108.6	108.7	108.6	109.4	109.8	110.0	111.0	111.7	112.2	113.0
Finished consumer goods	103.6	106.2	105.7	105.9	107.0	107.1	107.0	107.6	108.0	108.2	109.3	110.2	110.7	111.8
Finished consumer foods	109.5	112.6	111.2	112.3	113.6	113.6	115.1	114.6	114.9	115.1	116.5	117.3	118.4	117.8
Finished consumer goods excluding foods	100.7	103.1	103.0	102.8	103.8	103.9	103.0	104.1	104.6	104.8	105.8	106.6	106.9	108.9
Nondurable goods less food	94.9	97.3	97.4	97.1	98.3	98.4	97.6	97.7	98.4	98.7	99.9	101.0	101.3	104.3
Durable goods	111.5	113.8	113.1	113.2	113.6	113.8	112.8	116.4	116.1	116.1	116.6	116.7	116.8	116.4
Capital equipment	111.7	114.3	113.8	113.9	114.2	114.5	114.3	116.0	116.1	116.4	117.0	117.4	117.5	117.6
Intermediate materials, supplies, and components	101.5	107.1	106.3	107.4	108.2	108.4	108.7	108.6	108.9	109.4	110.5	110.9	111.6	112.3
Materials and components for manufacturing	105.3	113.2	112.3	112.9	114.0	114.3	114.9	115.5	116.2	116.8	117.8	118.2	118.9	118.9
Materials for food manufacturing	100.8	106.0	104.0	106.9	109.9	108.9	109.5	108.3	107.7	108.6	109.9	109.8	111.4	111.5
Materials for nondurable manufacturing	102.2	112.9	111.7	112.2	113.8	114.5	115.2	116.0	116.8	117.5	118.9	119.7	119.9	120.6
Materials for durable manufacturing	106.2	118.7	117.7	118.5	119.3	119.7	120.3	121.8	123.2	124.3	125.3	125.3	126.9	125.7
Components for manufacturing	108.8	112.3	111.9	112.1	112.4	112.8	113.2	113.5	113.8	114.1	114.9	115.2	115.6	115.8
Materials and components for construction	109.8	116.1	115.4	115.8	116.5	116.7	117.1	117.5	118.1	118.7	119.3	119.8	120.4	121.0
Processed fuels and lubricants	73.3	71.2	71.5	73.9	73.6	73.5	72.6	69.7	69.0	69.8	71.5	72.0	73.2	76.7
Containers	114.5	120.1	119.5	120.0	120.5	121.3	122.3	122.4	122.6	122.7	123.0	124.1	124.5	125.0
Supplies	107.7	113.7	112.3	113.8	115.2	115.1	115.6	116.0	116.2	116.2	117.1	117.4	118.0	117.9
Crude materials for further processing	93.7	96.0	97.2	97.9	97.3	96.9	96.7	95.9	94.5	97.3	101.0	101.0	103.1	104.1
Foodstuffs and feedstuffs	96.2	106.1	104.7	108.6	110.1	110.4	112.0	111.9	108.0	109.5	112.4	111.0	113.7	111.4
Crude nonfood materials	87.9	85.5	88.2	87.0	85.1	84.4	83.0	81.9	82.0	85.4	89.5	90.3	91.9	94.9
Special groupings														
Finished goods, excluding foods	104.0	106.5	106.2	106.1	106.9	107.1	106.4	107.7	108.1	108.3	109.1	109.8	110.1	111.4
Finished energy goods	61.8	59.8	61.6	60.3	61.3	61.1	58.8	58.7	60.0	59.2	60.9	61.9	62.1	68.3
Finished goods less energy	112.3	115.8	114.8	115.3	116.2	116.4	116.7	117.7	117.8	118.2	119.1	119.8	120.2	120.1
Finished consumer goods less energy	112.5	116.3	115.2	115.8	116.9	117.0	117.5	118.3	118.5	118.9	119.9	120.6	121.2	121.0
Finished goods less food and energy	113.3	117.0	116.2	116.4	117.1	117.4	117.2	118.8	118.9	119.4	120.0	120.6	120.9	120.9
Finished consumer goods less food and energy	114.2	118.5	117.6	117.9	118.8	119.1	118.9	120.5	120.6	121.2	121.8	122.6	122.8	122.8
Consumer nondurable goods less food and energy	116.3	122.0	120.9	121.3	122.7	123.0	123.3	123.6	123.9	125.0	125.8	126.9	127.2	127.5
Intermediate materials less foods and feeds	101.7	106.9	106.4	107.2	107.8	108.1	108.3	108.3	108.7	109.2	110.2	110.8	111.5	112.3
Intermediate foods and feeds	99.2	109.5	104.8	111.8	116.6	114.5	115.5	114.7	113.4	113.0	115.2	113.8	115.2	114.0
Intermediate energy goods	73.0	70.9	71.2	73.5	73.3	73.1	72.3	69.4	68.7	69.5	71.2	71.6	72.8	76.3
Intermediate goods less energy	107.3	114.6	113.6	114.4	115.5	115.7	116.3	116.8	117.3	117.8	118.7	119.1	119.8	119.9
Intermediate materials less foods and energy	107.8	115.2	114.4	114.9	115.7	116.1	116.7	117.3	118.0	118.6	119.4	119.9	120.5	120.7
Crude energy materials	75.0	67.7	71.4	70.0	67.3	66.1	64.7	63.3	62.9	66.6	71.2	72.0	73.2	77.0
Crude materials less energy	100.9	112.6	111.1	114.0	115.5	116.0	117.1	117.0	114.7	116.1	118.5	117.7	120.5	118.5
Crude nonfood materials less energy	115.7	133.0	131.3	131.2	132.9	133.9	133.4	133.4	135.6	136.9	137.7	138.5	141.5	140.3

34. Producer Price indexes, by durability of product

(1982=100)

Grouping	Annual average		1988								1989			
	1987	1988	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total durable goods	109.9	114.7	114.1	114.4	114.8	115.1	115.2	116.4	116.8	117.2	117.9	118.2	118.7	118.6
Total nondurable goods	97.5	101.1	100.8	101.8	102.6	102.6	102.7	102.2	102.0	102.8	104.6	105.2	106.1	107.4
Total manufactures	104.4	109.1	108.6	109.0	109.8	110.0	110.1	110.5	111.0	111.4	112.3	112.8	113.5	114.4
Durable	109.6	114.1	113.5	113.7	114.1	114.4	114.5	115.6	116.0	116.4	117.0	117.3	117.8	117.7
Nondurable	99.2	104.1	103.7	104.3	105.4	105.6	105.6	105.4	106.1	106.4	107.6	108.3	109.2	110.9
Total raw or slightly processed goods	94.2	95.9	95.6	97.5	97.8	97.2	97.5	96.5	94.8	96.7	99.8	100.1	101.0	101.3
Durable	122.6	148.0	143.1	144.2	149.3	150.6	149.5	150.1	154.8	157.5	158.4	159.0	161.7	158.3
Nondurable	92.9	93.4	93.3	95.3	95.3	94.7	95.0	93.9	92.0	93.9	97.0	97.3	98.1	98.6

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

(1982=100)

Index	1979	1980	1981	1982	1983	1984	1985	1986	1987
Finished goods:									
Total	77.6	88.0	96.1	100.0	101.6	103.7	104.7	103.2	105.4
Consumer goods	77.5	88.6	96.6	100.0	101.3	103.3	103.8	101.4	103.6
Capital equipment	77.5	85.8	94.6	100.0	102.8	105.2	107.5	109.7	111.7
Intermediate materials, supplies, and components:									
Total	78.4	90.3	98.6	100.0	100.6	103.1	102.7	99.1	101.5
Materials and components for manufacturing	80.9	91.7	98.7	100.0	101.2	104.1	103.3	102.2	105.3
Materials and components for construction	84.2	91.3	97.9	100.0	102.8	105.6	107.3	108.1	109.8
Processed fuels and lubricants	61.6	85.0	100.6	100.0	95.4	95.7	92.8	72.7	73.3
Containers	79.4	89.1	96.7	100.0	100.4	105.9	109.0	110.3	114.5
Supplies	80.2	89.9	96.9	100.0	101.8	104.1	104.4	105.6	107.7
Crude materials for further processing:									
Total	85.9	95.3	103.0	100.0	101.3	103.5	95.8	87.7	93.7
Foodstuffs and feedstuffs	100.0	104.6	103.9	100.0	101.8	104.7	94.8	93.2	96.2
Nonfood materials except fuel	69.6	84.6	101.8	100.0	100.7	102.2	96.9	81.6	87.9
Fuel	57.3	69.4	84.8	100.0	105.1	105.1	102.7	92.2	84.1

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1986		1987				1988				1989
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES		97.9	99.0	99.9	102.2	102.8	104.9	106.5	109.5	111.9	111.6	113.2
Food	0	86.0	90.1	87.3	89.9	86.7	94.6	95.2	103.4	118.7	114.2	117.1
Meat and meat preparations	01	111.3	114.5	115.0	121.2	118.8	116.8	122.8	131.0	137.0	130.3	132.9
Fish and crustaceans	03	111.9	115.9	117.1	125.8	131.1	138.5	140.9	145.0	175.9	174.0	169.1
Grain and grain preparations	04	66.3	72.5	68.3	71.0	67.8	77.4	79.8	87.2	108.5	102.0	108.0
Vegetables and fruit	05	114.6	117.5	115.3	112.4	101.1	100.5	97.5	104.3	109.9	110.3	108.8
Animal feeds, excluding unmilled cereals	08	123.9	119.7	117.0	123.8	123.1	145.2	134.6	158.1	161.0	157.0	154.1
Miscellaneous food products	09	98.7	99.9	100.1	100.6	100.3	100.3	102.3	102.8	105.2	104.9	106.8
Beverages and tobacco	1	97.3	102.6	102.6	105.0	105.5	107.0	109.6	110.6	112.0	111.7	117.2
Tobacco and tobacco products	12	97.0	102.6	102.6	105.0	105.5	107.0	109.8	110.7	112.1	111.8	117.6
Crude materials	2	99.6	102.4	105.7	114.5	118.7	125.2	130.0	139.9	140.8	135.8	142.4
Raw hides and skins	21	108.3	115.9	131.9	149.6	147.7	157.1	171.4	166.8	156.7	136.8	146.5
Oilseeds	22	97.5	95.2	90.4	101.6	95.1	109.6	115.6	143.0	154.7	135.7	139.3
Crude rubber	23	99.6	98.9	99.9	101.0	102.8	105.3	104.5	106.1	109.1	109.9	110.6
Wood	24	102.9	107.9	111.2	116.2	141.7	146.0	150.2	149.6	150.0	148.6	156.8
Pulp and waste paper	25	129.0	129.4	144.2	149.9	153.0	160.4	171.2	179.5	181.7	182.1	192.2
Textile fibers	26	73.0	90.9	97.8	112.4	116.5	111.6	107.5	109.9	100.8	103.6	107.0
Crude minerals	27	98.0	96.8	94.4	94.0	91.6	91.6	92.8	94.2	94.8	94.8	98.9
Metal ores and metal scrap	28	100.4	96.8	98.8	107.0	117.4	125.9	131.8	146.0	145.0	150.4	162.8
Fuels and related products	3	77.4	77.8	81.3	82.8	84.6	82.5	79.3	82.1	79.5	79.4	81.7
Coal and coke	32	93.5	92.0	92.6	88.2	91.0	89.8	90.6	92.0	92.9	93.4	93.7
Crude petroleum and petroleum products	33	–	–	–	–	–	100.0	90.8	97.2	89.2	88.4	94.3
Fats and oils	4	–	–	–	–	–	–	–	–	–	–	–
Animal oils and fats	41	62.2	79.9	81.1	86.7	86.7	88.7	101.3	101.6	104.3	95.7	92.0
Fixed vegetable oils and fats	42	60.2	64.6	67.3	71.9	71.2	75.4	85.7	93.7	99.1	87.1	88.2
Chemicals and related products	5	95.7	95.2	99.6	106.7	107.7	112.9	117.9	121.6	124.9	125.5	125.5
Organic chemicals	51	91.6	92.4	101.9	118.4	116.1	123.5	135.1	144.6	153.3	150.8	149.6
Dyeing, tanning, and coloring materials	53	101.1	101.4	103.6	104.2	105.5	108.5	109.1	110.1	111.5	113.0	115.5
Medicinal and pharmaceutical products (12/85=100)	54	101.2	100.8	101.0	101.4	102.2	105.4	109.3	106.3	105.9	107.5	108.9
Essential oils, polish and cleaning preparations	55	104.5	104.2	105.5	105.7	107.3	108.4	111.2	113.6	120.2	122.4	124.9
Fertilizers, manufactured	56	85.1	77.4	85.6	91.6	100.9	106.5	110.6	109.8	116.4	119.9	119.4
Artificial resins, plastics and cellulose	57	98.2	99.5	104.8	111.9	116.4	124.8	129.4	137.5	138.2	132.5	125.8
Chemical materials and products, n.e.s.	58	97.6	97.3	97.5	97.7	97.1	98.2	100.3	101.7	104.1	105.4	108.4
Intermediate manufactured products	6	103.8	104.2	106.4	107.9	110.3	111.2	114.4	117.7	119.6	120.6	122.6
Leather and furskins	61	104.2	107.8	123.6	126.9	128.7	118.0	125.7	125.1	128.6	125.0	118.3
Rubber manufactures	62	100.5	100.9	102.0	102.5	103.9	104.1	105.2	108.8	109.4	110.4	112.9
Paper and paperboard products	64	109.1	110.8	114.7	117.0	120.1	122.4	126.2	129.0	130.2	131.1	132.7
Textiles	65	101.9	101.8	103.3	103.7	104.1	105.2	106.5	107.9	108.6	111.6	113.9
Non-metallic mineral manufactures (9/85=100)	66	104.7	108.0	106.8	108.7	110.4	111.3	113.4	114.1	115.6	116.8	120.2
Iron and steel	67	102.3	101.9	102.9	102.9	100.7	102.9	106.1	110.8	111.4	112.1	116.0
Nonferrous metals	68	105.3	102.6	106.6	113.0	123.0	124.4	134.0	143.5	149.1	150.0	151.4
Metal manufactures, n.e.s.	69	100.8	100.8	101.5	101.3	102.3	103.4	104.5	107.6	109.9	110.9	112.6
Machinery and transport equipment, excluding military and commercial aircraft	7	101.0	101.6	101.7	101.8	102.1	102.4	103.2	104.0	104.8	105.8	106.6
Power generating machinery and equipment	71	102.5	103.7	104.6	103.7	104.8	105.2	107.0	108.4	108.5	109.3	111.8
Machinery specialized for particular industries	72	100.4	100.6	100.0	100.1	100.5	100.9	102.1	103.6	104.7	106.0	107.2
Metalworking machinery	73	103.0	104.2	105.8	106.7	107.8	108.2	109.3	110.8	111.0	114.4	115.8
General industrial machines and parts, n.e.s.	74	102.5	103.3	104.2	104.5	104.6	105.4	106.7	108.1	109.3	110.3	112.4
Office machines and automatic data processing equipment	75	98.8	98.2	96.0	96.1	95.7	95.5	95.8	95.7	96.8	96.4	95.5
Telecommunications, sound recording and reproducing equipment	76	99.7	101.3	101.9	101.4	101.4	101.9	102.8	104.6	104.1	105.1	107.1
Electrical machinery and equipment	77	99.7	100.3	101.7	102.1	102.5	101.8	103.1	103.4	105.3	105.7	106.2
Road vehicles and parts	78	101.9	103.3	103.1	103.5	103.8	104.6	104.5	104.9	105.4	106.8	107.2
Other transport equipment, excluding military and commercial aviation	79	102.8	103.5	104.5	105.5	105.8	106.6	107.4	109.6	109.7	111.9	113.5
Miscellaneous manufactured articles	8	103.4	103.8	104.6	105.2	105.4	105.6	106.9	108.1	108.9	110.5	111.6
Furniture and parts	82	–	–	–	–	–	–	–	–	–	–	–
Professional, scientific, and controlling instruments and apparatus	87	103.0	103.5	104.4	105.5	106.3	107.1	110.0	111.1	112.5	113.9	115.5
Photographic apparatus and supplies, optical goods, watches, and clocks	88	102.4	102.1	102.7	102.5	99.0	97.9	97.6	100.1	99.4	99.9	98.6
Miscellaneous manufactured articles, n.e.s.	89	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1987				1988				1989
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES		106.5	110.0	110.9	112.5	113.8	116.8	115.3	117.6	119.6
ALL COMMODITIES, EXCLUDING FUELS		113.7	116.5	117.5	120.8	123.7	126.7	126.1	129.1	129.7
Food and live animals	0	105.2	108.3	109.1	112.5	114.1	114.0	112.7	114.3	114.2
Meat and meat preparations	01	105.0	108.0	114.4	113.4	111.5	107.0	111.2	108.7	111.2
Dairy products and eggs	02	119.3	122.3	121.7	125.1	125.6	125.0	122.2	125.8	124.0
Fish and crustaceans	03	121.8	126.0	130.4	131.0	132.5	129.3	125.9	126.7	126.9
Bakery goods, pasta products, grain, and grain preparations	04	122.3	126.2	124.8	130.7	135.8	139.8	136.9	142.2	139.9
Fruits and vegetables	05	101.9	110.1	110.0	116.2	115.4	120.3	123.7	127.7	124.0
Sugar, sugar preparations, and honey	06	107.4	109.6	109.0	107.0	109.6	110.0	112.1	110.8	109.8
Coffee, tea, cocoa	07	89.9	87.0	85.1	90.6	94.3	93.3	87.4	90.6	91.2
Beverages and tobacco	1	107.8	112.8	112.2	113.5	116.0	116.2	115.3	116.2	117.0
Beverages	11	112.1	114.2	114.8	116.2	118.7	120.0	118.9	119.9	120.7
Crude materials	2	115.1	116.2	120.3	122.1	129.2	137.8	135.4	143.2	147.2
Crude rubber (including synthetic and reclaimed)	23	98.4	103.7	110.7	120.1	121.7	151.1	133.3	121.5	123.0
Cork and wood	24	113.5	110.2	117.4	108.8	112.4	111.4	109.7	107.8	112.1
Pulp and waste paper	25	127.0	132.0	133.4	141.0	151.0	160.5	169.6	174.7	184.5
Textile fibers	26	110.9	118.4	128.1	135.2	137.8	145.5	141.9	145.6	151.5
Crude fertilizers and crude minerals	27	98.2	99.6	99.2	99.9	100.4	101.0	97.2	100.2	103.2
Metalliferous ores and metal scrap	28	122.8	124.5	128.7	137.9	151.2	167.6	172.2	205.4	204.3
Crude animal and vegetable materials, n.e.s.	29	113.0	109.0	107.6	118.3	135.8	148.2	122.0	139.5	150.7
Fuels and related products	3	67.4	74.1	74.3	67.2	60.6	63.4	57.7	56.4	66.7
Crude petroleum and petroleum products	33	67.4	74.4	75.2	67.8	60.4	63.6	57.7	56.1	67.2
Fats and oils	4	82.9	87.9	96.4	102.1	106.4	111.2	114.0	112.3	112.5
Fixed vegetable oils and fats (9/87=100)	42	–	–	100.0	105.7	111.1	116.1	119.2	117.4	117.3
Chemicals and related products	5	102.6	104.8	105.6	110.1	114.2	116.4	119.2	122.2	123.6
Organic chemicals	51	96.1	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.7
Inorganic chemicals	52	90.5	89.8	89.8	90.1	92.0	92.3	93.0	96.1	93.1
Medicinal and pharmaceutical products	54	120.1	123.4	124.3	126.3	135.3	140.3	145.4	146.4	155.2
Essential oils and perfumes	55	117.6	117.8	119.2	123.0	125.7	126.2	127.5	130.5	130.3
Manufactured fertilizers	56	92.9	94.6	109.3	133.6	133.7	136.3	136.5	139.9	143.5
Artificial resins and plastics and cellulose	58	110.0	114.7	114.4	117.6	121.6	124.3	127.6	129.5	129.6
Chemical materials and products, n.e.s.	59	115.1	117.7	120.6	124.8	138.7	148.5	153.4	156.5	154.3
Intermediate manufactured products	6	108.6	112.5	116.3	119.8	124.4	132.2	132.3	135.0	137.3
Leather and furskins	61	110.9	116.6	117.8	124.4	131.8	137.0	136.6	134.9	134.0
Rubber manufactures, n.e.s.	62	104.3	104.6	103.2	104.6	106.0	107.7	109.1	111.1	111.7
Cork and wood manufactures	63	118.0	124.3	128.3	128.2	133.8	138.2	136.1	134.1	136.7
Paper and paperboard products	64	104.8	104.9	110.3	112.3	117.2	118.3	119.5	119.9	120.6
Textiles	65	110.4	111.8	114.6	118.6	120.0	120.6	119.1	120.5	120.4
Nonmetallic mineral manufactures, n.e.s.	66	120.5	126.7	130.4	133.4	137.4	142.5	139.7	141.9	147.5
Iron and steel	67	102.7	106.6	109.4	114.0	120.0	127.2	129.9	130.7	132.7
Nonferrous metals	68	102.5	112.4	120.9	125.8	132.7	159.7	158.9	169.1	172.7
Metal manufactures	69	112.1	112.7	114.6	117.8	121.1	126.9	127.5	130.7	132.4
Machinery and transport equipment	7	117.5	119.9	119.9	123.1	125.4	127.3	126.7	129.9	130.1
Machinery (including SITC 71-77)	7hyb	–	–	–	–	–	–	–	–	–
Machinery specialized for particular industries	72	130.4	136.1	134.3	142.1	146.8	149.8	143.7	150.8	149.1
Metalworking machinery	73	126.4	128.1	130.2	135.5	139.9	142.4	139.7	144.1	142.9
General industrial machinery and parts, n.e.s.	74	127.9	130.8	130.1	137.0	140.4	143.7	139.6	144.2	144.1
Office machines and automatic data processing equipment	75	110.0	114.0	114.8	118.3	118.1	119.5	118.7	118.7	119.2
Telecommunications, sound recording and reproducing apparatus	76	110.5	110.3	110.2	112.1	112.8	113.8	113.9	115.5	115.5
Electrical machinery and equipment	77	112.4	115.8	115.1	118.2	122.2	124.2	125.9	129.3	130.7
Road vehicles and parts	78	118.6	120.5	120.6	122.6	125.5	127.6	127.1	130.8	130.6
Miscellaneous manufactured articles	8	114.5	117.8	118.5	121.8	124.2	125.7	124.2	126.6	126.2
Plumbing, heating, and lighting fixtures	81	111.6	117.0	116.2	121.0	123.4	126.9	124.5	127.2	130.1
Furniture and parts	82	114.8	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2
Travel goods, handbags, and similar goods (6/85=100)	83	96.1	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.7
Clothing	84	106.4	109.2	111.9	112.3	115.6	114.9	116.7	117.2	117.6
Footwear	85	114.8	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2
Professional, scientific, and controlling instruments and apparatus	87	131.3	135.9	132.7	138.7	140.0	142.5	135.8	141.9	141.1
Photographic apparatus and supplies, optical goods, watches, and clocks	88	123.7	126.0	122.1	127.3	129.2	129.3	125.4	130.6	130.3
Miscellaneous manufactured articles, n.e.s.	89	–	–	–	–	–	–	–	–	–

– Data not available.

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

(1985 = 100 unless otherwise indicated)

Category	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	87.4	91.5	88.0	96.6	98.5	110.1	124.5	117.4	120.6
Industrial supplies and materials	100.8	106.1	109.1	111.8	114.2	118.3	118.7	118.6	120.5
Capital goods	101.4	101.6	101.8	102.1	103.4	104.3	104.9	105.7	106.7
Automotive	103.4	103.6	104.0	104.5	104.3	104.8	106.5	107.7	108.1
Consumer goods	105.9	106.3	106.9	108.0	110.1	110.6	111.3	112.9	115.4
Consumer nondurables, manufactured, except rugs	105.4	104.3	104.6	106.3	107.4	108.7	109.3	110.0	111.3
Consumer durables, manufactured	105.5	106.6	107.3	107.9	110.4	110.4	110.7	112.6	115.6
Agricultural (9/88=100)	89.8	95.0	92.1	99.3	101.1	110.9	120.6	114.0	117.4
All exports, excluding agricultural (9/88=100)	–	–	–	–	–	–	–	–	–

– Data not available.

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

(1985=100)

Category	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
All imports, excluding petroleum (6/88=100)	113.1	116.1	117.0	120.3	123.2	126.2	125.4	128.3	128.8
Foods, feeds, and beverages	105.2	107.8	109.0	112.1	113.7	113.7	112.7	114.2	113.9
Industrial supplies and materials	88.4	93.5	95.3	93.7	92.7	97.8	95.2	96.4	101.9
Petroleum and petroleum products, excluding natural gas	67.2	74.1	74.7	67.6	60.3	63.5	57.5	56.2	67.1
Industrial supplies and materials, excluding petroleum	–	–	–	–	–	–	–	–	–
Capital goods, except automotive	118.7	122.2	121.9	126.6	128.6	131.0	129.0	132.3	132.3
Automotive vehicles, parts and engines	116.5	118.4	118.4	120.6	123.7	125.8	126.0	129.2	129.1
Consumer goods except automotive	114.2	116.9	118.2	121.4	124.2	126.3	125.0	127.4	128.5
Nondurables, manufactured	–	–	–	–	–	–	–	–	–
Durables, manufactured	–	–	–	–	–	–	–	–	–

– Data not available.

40. U.S. export price indexes by Standard Industrial Classification [1]

(1985=100)

Industry group	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products	102.0	107.4	107.1	116.3	120.8	125.1	128.9	123.5	124.5
Lumber and wood products, except furniture	112.8	116.2	138.9	142.5	146.1	145.4	146.1	144.0	151.3
Furniture and fixtures	108.0	108.6	108.7	111.2	112.5	112.9	112.9	115.3	115.9
Paper and allied products	109.3	112.3	115.5	119.3	124.6	129.8	133.1	135.6	139.8
Chemicals and allied products	100.5	107.6	108.7	113.8	118.4	122.3	125.4	125.5	125.8
Petroleum and coal products	73.5	80.5	81.4	78.8	73.0	77.8	73.7	75.4	79.6
Primary metal products	110.6	117.2	122.3	126.6	126.9	133.8	133.5	133.6	130.8
Machinery, except electrical	99.6	99.4	99.4	99.7	100.6	101.3	102.2	102.8	103.2
Electrical machinery	101.9	102.1	102.5	102.2	102.9	103.7	104.9	105.4	106.4
Transportation equipment	106.2	106.7	106.9	107.8	108.1	109.1	109.4	110.9	111.9
Scientific instruments; optical goods; clocks	105.8	106.8	106.6	107.1	109.2	110.8	112.0	113.4	114.5

[1] SIC - based classification.

41. U.S. import price indexes by Standard Industrial Classification [1]

(1985=100)

Industry group	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products	103.8	106.3	108.4	110.6	114.0	114.4	115.0	115.4	114.8
Textile mill products	114.1	116.1	119.4	124.3	127.4	128.9	127.0	127.8	128.1
Apparel and related products	107.0	109.4	112.3	113.4	116.6	115.8	117.0	117.5	118.1
Lumber and wood products, except furniture	114.8	115.0	120.3	115.4	119.5	120.3	118.6	117.0	120.4
Furniture and fixtures	116.1	117.0	118.3	118.9	122.2	124.0	124.8	128.0	125.6
Paper and allied products	105.1	105.9	110.9	113.6	119.1	121.3	123.8	125.2	127.4
Chemicals and allied products	105.7	106.2	107.2	112.2	116.8	121.3	123.5	130.6	130.7
Petroleum refining and allied products	120.2	136.4	138.4	127.4	114.5	119.2	110.8	111.6	121.2
Rubber and miscellaneous plastics products	110.6	113.6	112.3	115.7	117.2	119.0	117.7	122.6	122.3
Leather and leather products	109.3	113.3	113.3	118.4	120.8	124.6	123.7	124.0	122.7
Stone, clay, glass, and concrete products	121.6	130.0	129.6	133.9	138.2	141.5	140.5	144.3	145.0
Primary metal products	102.7	110.4	115.2	120.0	122.6	137.0	136.2	140.2	140.7
Fabricated metal products	116.7	117.5	119.8	123.2	127.3	133.3	133.0	136.3	138.5
Machinery, except electrical	123.4	127.4	127.8	133.9	135.9	138.2	135.0	138.4	138.4
Electrical machinery and supplies	109.4	110.7	110.2	112.5	114.7	116.1	116.7	119.0	119.7
Transportation equipment	119.9	122.1	122.5	124.6	127.3	129.5	129.3	132.8	132.7
Scientific instruments; optical goods; clocks	128.8	132.5	128.8	134.0	135.8	137.0	132.2	137.7	136.7
Miscellaneous manufactured commodities	115.1	118.1	121.4	123.8	127.7	133.1	130.6	132.2	136.6

[1] SIC - based classification.

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

(1977=100)

Item	Quarterly Indexes										
	1986		1987				1988				1989
	III	IV	I	II	III	IV	I	II	III	IV	I
Business:											
Output per hour of all persons	110.0	109.8	109.9	110.6	111.7	111.8	112.8	111.8	112.3	112.0	113.0
Compensation per hour	184.0	186.2	187.3	189.0	191.1	194.0	195.8	198.1	201.1	203.2	206.0
Real compensation per hour	101.6	102.1	101.4	101.1	101.3	101.9	101.9	102.0	102.4	102.3	102.4
Unit labor costs	167.3	169.6	170.5	170.8	171.1	173.5	173.5	177.1	179.0	181.4	182.3
Unit nonlabor payments	166.6	163.7	165.6	168.7	171.5	168.9	170.0	170.4	172.7	174.6	177.0
Implicit price deflator	167.0	167.5	168.7	170.1	171.2	171.9	172.3	174.7	176.8	179.0	180.4
Nonfarm business:											
Output per hour of all persons	108.0	107.8	107.8	108.6	109.6	109.9	110.8	110.1	110.7	110.9	111.1
Compensation per hour	183.1	185.4	186.4	187.9	190.0	192.9	194.6	196.6	199.4	201.9	204.8
Real compensation per hour	101.2	101.7	100.9	100.5	100.7	101.4	101.3	101.3	101.5	101.7	101.8
Unit labor costs	169.5	172.1	172.9	173.0	173.3	175.6	175.7	178.6	180.2	182.0	184.3
Unit nonlabor payments	168.1	164.9	167.2	169.8	173.0	170.9	171.6	171.8	173.9	177.9	177.6
Implicit price deflator	169.0	169.5	170.9	171.9	173.2	174.0	174.2	176.2	178.0	180.6	182.0
Nonfinancial corporations:											
Output per hour of all employees	109.6	110.3	110.1	110.9	112.2	112.2	113.3	112.9	112.7	112.7	–
Compensation per hour	180.2	182.2	182.9	184.3	186.1	188.5	189.9	191.9	194.5	196.6	–
Real compensation per hour	99.5	100.0	99.0	98.6	98.7	99.0	98.9	98.8	99.0	99.0	–
Total unit costs	168.4	168.8	169.9	170.3	170.2	172.0	171.5	173.8	176.4	178.3	–
Unit labor costs	164.3	165.1	166.2	166.1	165.9	168.1	167.5	170.0	172.6	174.4	–
Unit nonlabor costs	180.3	179.6	180.8	182.6	183.0	183.6	183.4	185.1	187.8	189.6	–
Unit profits	133.6	129.7	128.5	129.8	136.4	128.3	132.5	132.6	129.6	133.9	–
Unit nonlabor payments	164.0	162.1	162.5	164.1	166.6	164.2	165.6	166.7	167.4	170.1	–
Implicit price deflator	164.2	164.1	164.9	165.4	166.1	166.7	166.9	168.8	170.8	172.9	–
Manufacturing:											
Output per hour of all persons	128.0	128.8	130.0	131.7	132.8	133.2	134.3	135.5	137.2	137.8	139.0
Compensation per hour	183.6	185.3	185.9	186.3	187.2	188.2	190.7	192.1	194.4	196.8	198.8
Real compensation per hour	101.4	101.7	100.7	99.7	99.3	98.9	99.3	99.0	99.0	99.1	98.8
Unit labor costs	143.4	143.8	143.1	141.4	141.0	141.3	142.1	141.8	141.6	142.9	143.0

– Data not available.

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

(1977=100)

Item	1960	1970	1973	1977	1979	1981	1982	1983	1984	1985	1986	1987
Private business												
Productivity:												
Output per hour of all persons	67.3	88.4	95.9	100.0	99.5	100.6	100.3	103.0	105.6	107.9	110.3	111.2
Output per unit of capital services	103.7	102.7	105.6	100.0	99.7	92.3	86.6	88.3	92.7	92.9	93.0	93.7
Multifactor productivity	78.5	93.1	99.2	100.0	99.6	97.6	95.2	97.6	100.9	102.4	103.9	104.7
Output	55.3	80.2	93.0	100.0	107.9	108.9	105.4	109.9	119.2	124.3	128.7	133.4
Inputs:												
Hours of all persons	82.2	90.8	96.9	100.0	108.4	108.2	105.2	106.7	112.9	115.2	116.7	120.0
Capital services	53.3	78.1	88.0	100.0	108.2	117.9	121.8	124.4	128.6	133.8	138.5	142.4
Combined units of labor and capital input	70.5	86.1	93.7	100.0	108.3	111.5	110.7	112.6	118.1	121.4	123.9	127.4
Capital per hour of all persons	64.9	86.1	90.8	100.0	99.8	108.9	115.8	116.6	113.9	116.1	118.7	118.6
Private nonfarm business												
Productivity:												
Output per hour of all persons	70.7	89.2	96.4	100.0	99.2	99.6	99.1	102.5	104.7	106.2	108.3	109.1
Output per unit of capital services	104.9	103.5	106.3	100.0	98.9	91.0	85.1	87.3	91.3	91.0	90.8	91.5
Multifactor productivity	81.2	93.8	99.7	100.0	99.1	96.7	94.1	97.0	99.9	100.7	102.0	102.7
Output	54.4	79.9	92.9	100.0	107.9	108.4	104.8	110.1	119.3	124.0	128.3	133.2
Inputs:												
Hours of all persons	77.0	89.6	96.3	100.0	108.8	108.8	105.7	107.4	114.0	116.8	118.5	122.0
Capital services	51.9	77.2	87.3	100.0	109.1	119.1	123.3	126.1	130.6	136.3	141.3	145.5
Combined units of labor and capital input	67.1	85.2	93.2	100.0	108.9	112.2	111.4	113.5	119.4	123.1	125.8	129.6
Capital per hour of all persons	67.4	86.2	90.7	100.0	100.3	109.4	116.6	117.4	114.6	116.7	119.3	119.2
Manufacturing												
Productivity:												
Output per hour of all persons	62.2	80.8	93.4	100.0	101.4	103.6	105.9	112.0	118.1	123.6	127.7	131.9
Output per unit of capital services	103.0	99.1	112.0	100.0	99.5	89.0	81.6	86.7	95.5	97.3	98.4	102.0
Multifactor productivity	72.0	85.3	98.0	100.0	100.9	99.7	99.2	105.0	112.1	116.4	119.5	123.6
Output	52.5	78.6	96.3	100.0	108.1	104.8	98.4	104.7	117.5	122.0	124.7	130.1
Inputs:												
Hours of all persons	84.4	97.3	103.1	100.0	106.5	101.1	92.9	93.5	99.5	98.7	97.7	98.6
Capital services	51.0	79.3	86.0	100.0	108.6	117.8	120.5	120.8	123.0	125.4	126.8	127.6
Combined units of labor and capital inputs	72.9	92.1	98.3	100.0	107.1	105.1	99.2	99.7	104.8	104.8	104.4	105.3
Capital per hour of all persons	60.4	81.5	83.4	100.0	101.9	116.5	129.8	129.3	123.7	127.1	129.8	129.4

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

(1977=100)

Item	1960	1970	1973	1977	1979	1981	1982	1983	1984	1985	1986	1987	1988
Business:													
Output per hour of all persons	67.6	88.4	95.9	100.0	99.6	100.7	100.3	103.0	105.5	107.7	110.1	111.0	112.2
Compensation per hour	33.6	57.8	70.9	100.0	119.1	143.7	154.9	161.4	167.9	175.5	183.1	190.4	199.4
Real compensation per hour	68.9	90.3	96.8	100.0	99.4	95.8	97.3	98.2	97.9	98.8	101.2	101.5	102.1
Unit labor costs	49.7	65.4	73.9	100.0	119.5	142.7	154.5	156.7	159.1	162.9	166.3	171.5	177.8
Unit nonlabor payments	46.4	59.4	72.5	100.0	112.5	134.6	136.6	146.4	156.5	160.9	165.0	168.7	172.0
Implicit price deflator	48.5	63.2	73.4	100.0	117.0	139.8	148.1	153.0	158.2	162.2	165.8	170.5	175.7
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	100.0	99.3	99.8	99.2	102.5	104.6	106.1	108.2	109.0	110.6
Compensation per hour	35.3	58.2	71.2	100.0	118.9	143.6	154.8	161.5	167.8	174.9	182.3	189.4	198.0
Real compensation per hour	72.3	90.9	97.2	100.0	99.2	95.8	97.2	98.3	97.9	98.5	100.8	101.0	101.4
Unit labor costs	49.7	65.2	73.9	100.0	119.7	144.0	156.0	157.6	160.4	164.9	168.6	173.8	179.1
Unit nonlabor payments	46.3	60.0	69.3	100.0	110.5	133.5	136.5	148.3	156.3	161.9	166.4	170.2	173.9
Implicit price deflator	48.5	63.4	72.3	100.0	116.5	140.3	149.2	154.3	159.0	163.8	167.8	172.5	177.3
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	100.0	99.8	99.6	100.4	103.5	106.0	107.7	109.7	111.3	112.8
Compensation per hour	36.9	59.2	71.6	100.0	118.7	143.3	154.3	159.9	165.8	172.5	179.5	185.5	193.1
Real compensation per hour	75.5	92.5	97.7	100.0	99.1	95.5	96.9	97.3	96.7	97.1	99.2	98.9	98.9
Total unit costs	49.4	64.8	72.7	100.0	118.2	147.7	159.5	159.5	160.8	164.1	167.3	170.6	175.0
Unit labor costs	50.2	65.0	73.4	100.0	119.0	143.8	153.8	154.5	156.5	160.2	163.6	166.6	171.1
Unit nonlabor costs	47.0	64.2	70.7	100.0	115.8	159.1	176.4	174.3	173.6	175.8	178.4	182.5	186.5
Unit profits	59.8	52.3	65.6	100.0	94.5	98.1	78.5	110.9	136.5	133.0	132.4	130.8	132.2
Unit nonlabor payments	51.5	60.1	68.9	100.0	108.4	137.8	142.1	152.1	160.6	160.8	162.3	164.4	167.5
Implicit price deflator	50.7	63.3	71.9	100.0	115.4	141.7	149.8	153.7	157.9	160.4	163.2	165.8	169.9
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	100.0	101.4	103.6	105.9	112.0	118.1	123.6	127.7	132.0	136.2
Compensation per hour	36.5	57.4	68.8	100.0	118.6	145.2	157.5	162.4	168.0	176.4	183.0	186.9	193.5
Real compensation per hour	74.8	89.6	93.9	100.0	99.0	96.8	98.9	98.8	98.0	99.3	101.2	99.7	99.1
Unit labor costs	58.7	71.0	73.7	100.0	117.0	140.1	148.7	145.0	142.2	142.7	143.3	141.7	142.1
Unit nonlabor payments	60.0	64.1	70.7	100.0	98.9	111.8	114.0	128.5	138.6	130.4	136.3	139.2	–
Implicit price deflator	59.1	69.0	72.8	100.0	111.7	131.8	138.6	140.2	141.2	139.1	141.3	141.0	–

– Data not available.

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

Country	Annual average		1987		1988				1989
	1987	1988	III	IV	I	II	III	IV	I
Total labor force basis									
United States	6.1	5.4	5.9	5.8	5.6	5.4	5.4	5.3	5.1
Canada	8.8	7.7	8.6	8.1	7.8	7.6	7.8	7.7	7.5
Australia	8.1	7.2	7.9	7.9	7.5	7.4	6.9	6.8	–
Japan	2.9	2.5	2.8	2.7	2.7	2.5	2.6	2.4	–
France	10.6	10.3	10.6	10.3	10.3	10.3	10.4	10.2	10.2
Germany	6.8	7.0	7.0	7.0	7.0	7.0	7.0	6.8	6.3
Italy [1, 2]	7.7	7.8	7.8	7.9	7.8	7.8	7.8	7.8	7.6
Sweden[3]	1.9	1.6	1.9	1.7	1.7	1.6	1.6	1.4	1.4
United Kingdom	10.2	8.3	10.0	9.4	9.0	8.6	8.0	7.5	7.0
Civilian labor force basis									
United States	6.2	5.5	6.0	5.9	5.7	5.5	5.5	5.3	5.2
Canada	8.9	7.8	8.6	8.1	7.8	7.7	7.8	7.7	7.6
Australia	8.1	7.2	8.0	8.0	7.6	7.5	7.0	6.8	–
Japan	2.9	2.5	2.8	2.7	2.7	2.5	2.6	2.4	–
France	10.8	10.5	10.8	10.6	10.6	10.5	10.6	10.4	10.4
Germany	6.9	7.1	7.2	7.1	7.1	7.2	7.1	6.9	6.5
Italy[1, 2]	7.9	7.9	8.0	8.1	7.9	7.9	8.0	7.9	7.7
Sweden[3]	1.9	1.6	1.9	1.7	1.7	1.6	1.6	1.4	1.4
United Kingdom	10.3	8.3	10.0	9.5	9.0	8.6	8.0	7.6	7.0

[1] Quarterly rates are for the first month of the quarter.

[2] Many Italians reported as unemployed did not actively seek work in the past 30 days, and they have been excluded for comparability with U.S. concepts. Inclusion of such persons would about double the Italian unemployment rate in 1985 and earlier years and increase it to 11-12 percent for 1986 onward.

[3] Break in series beginning in 1987. The 1986 rate based on the new series was 2.2 percent.

– 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	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Labor force										
United States	104,962	106,940	108,670	110,204	111,550	113,544	115,461	117,834	119,865	121,669
Canada	11,231	11,573	11,904	11,958	12,183	12,399	12,639	12,870	13,121	13,275
Australia	6,519	6,693	6,810	6,910	6,997	7,133	7,272	7,562	7,736	7,949
Japan	55,210	55,740	56,320	56,980	58,110	58,480	58,820	59,410	60,050	60,860
France	22,660	22,800	22,950	23,160	23,140	23,300	23,360	23,450	23,520	–
Germany	26,250	26,520	26,650	26,700	26,650	26,770	26,970	27,110	27,290	27,440
Italy	20,850	21,120	21,320	21,410	21,590	21,670	21,800	22,280	22,340	–
Netherlands	5,100	5,310	5,520	5,570	5,600	5,620	5,710	5,760	5,810	–
Sweden	4,262	4,312	4,327	4,350	4,369	4,385	4,418	4,443	4,480	4,530
United Kingdom	26,350	26,520	26,590	26,740	26,790	27,180	27,370	27,540	27,760	–
Participation rate[1]										
United States	63.7	63.8	63.9	64.0	64.0	64.4	64.8	65.3	65.6	65.9
Canada	63.4	64.1	64.8	64.1	64.4	64.8	65.2	65.7	66.2	66.7
Australia	61.6	62.1	61.9	61.7	61.4	61.5	61.8	63.0	63.0	63.4
Japan	62.7	62.6	62.6	62.7	63.1	62.7	62.3	62.1	61.9	61.9
France	57.5	57.2	57.1	57.1	56.6	56.6	56.3	56.1	55.8	–
Germany	53.3	53.2	52.9	52.6	52.3	52.4	52.6	52.8	53.1	–
Italy	48.0	48.2	48.3	47.7	47.5	47.3	47.2	48.2	48.2	–
Netherlands	49.0	50.2	51.4	51.2	50.9	50.5	50.7	50.5	50.3	–
Sweden	66.6	66.9	66.8	66.8	66.7	66.6	66.9	67.1	67.4	67.7
United Kingdom	62.6	62.5	62.2	62.3	62.1	62.6	62.7	62.7	63.0	–
Employed										
United States	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597	112,440	114,968
Canada	10,395	10,708	11,006	10,644	10,734	11,000	11,311	11,634	11,955	12,244
Australia	6,111	6,284	6,416	6,415	6,300	6,490	6,670	6,952	7,107	7,373
Japan	54,040	54,600	55,060	55,620	56,550	56,870	57,260	57,740	58,320	59,310
France	21,300	21,330	21,200	21,240	21,170	20,980	20,920	20,960	20,970	–
Germany	25,470	25,750	25,560	25,140	24,750	24,800	24,960	25,220	25,400	25,490
Italy	19,930	20,200	20,280	20,250	20,320	20,390	20,490	20,610	20,590	–
Netherlands	4,830	4,980	5,010	4,980	4,890	4,930	5,110	5,200	5,270	–
Sweden	4,174	4,226	4,219	4,213	4,218	4,249	4,293	4,326	4,396	4,458
United Kingdom	24,940	24,670	23,800	23,710	23,600	24,000	24,310	24,450	24,910	–
Employment-population ratio[2]										
United States	59.9	59.2	59.0	57.8	57.9	59.5	60.1	60.7	61.5	62.3
Canada	58.7	59.3	59.9	57.0	56.7	57.4	58.4	59.4	60.3	61.6
Australia	57.8	58.3	58.4	57.3	55.3	56.0	56.6	57.9	57.9	58.8
Japan	61.4	61.3	61.2	61.2	61.4	61.0	60.6	60.4	60.1	60.4
France	54.0	53.5	52.8	52.3	51.8	51.0	50.4	50.2	49.7	–
Germany	51.7	51.7	50.8	49.6	48.6	48.5	48.7	49.2	49.4	–
Italy	45.9	46.1	45.9	45.2	44.7	44.5	44.4	44.6	44.4	–
Netherlands	46.4	47.0	46.6	45.8	44.5	44.3	45.3	45.6	45.6	–
Sweden	65.3	65.6	65.1	64.7	64.4	64.5	65.0	65.4	66.2	66.7
United Kingdom	59.2	58.1	55.7	55.3	54.7	55.3	55.7	55.7	56.6	–
Unemployed										
United States	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237	7,425	6,701
Canada	836	865	898	1,314	1,448	1,399	1,328	1,236	1,167	1,031
Australia	408	409	394	495	697	642	602	610	629	575
Japan	1,170	1,140	1,260	1,360	1,560	1,610	1,560	1,670	1,730	1,550
France	1,360	1,470	1,750	1,920	1,970	2,320	2,440	2,490	2,550	–
Germany	780	770	1,090	1,560	1,900	1,970	2,010	1,890	1,890	1,950
Italy	920	920	1,040	1,160	1,270	1,280	1,310	1,680	1,760	–
Netherlands	270	330	510	590	710	690	600	560	540	–
Sweden	88	86	108	137	151	136	125	117	84	72
United Kingdom	1,420	1,850	2,790	3,030	3,190	3,180	3,060	3,090	2,850	–
Unemployment rate										
United States	5.8	7.1	7.6	9.7	9.6	7.5	7.2	7.0	6.2	5.5
Canada	7.4	7.5	7.5	11.0	11.9	11.3	10.5	9.6	8.9	7.8
Australia	6.3	6.1	5.8	7.2	10.0	9.0	8.3	8.1	8.1	7.2
Japan	2.1	2.0	2.2	2.4	2.7	2.8	2.6	2.8	2.9	2.5
France	6.0	6.4	7.6	8.3	8.5	10.0	10.4	10.6	10.8	10.5
Germany	3.0	2.9	4.1	5.8	7.1	7.4	7.5	7.0	6.9	7.1
Italy	4.4	4.4	4.9	5.4	5.9	5.9	6.0	7.5	7.9	7.9
Netherlands	5.3	6.2	9.2	10.6	12.7	12.3	10.5	9.7	9.3	–
Sweden	2.1	2.0	2.5	3.1	–	3.1	2.8	2.6	1.9	1.6
United Kingdom	5.4	7.0	10.5	11.3	11.9	11.7	11.2	11.2	10.3	8.3

[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	1976	1977	1978	1980	1981	1982	1983	1984	1985	1986	1987
Output per hour														
United States	62.2	80.8	93.4	97.1	100.0	101.5	101.4	103.6	105.9	112.0	118.1	123.6	127.7	132.0
Canada	50.7	75.6	90.3	94.8	100.0	101.1	98.2	102.9	98.3	105.4	114.4	117.3	117.7	120.5
Japan	23.2	64.8	83.1	94.3	100.0	108.0	122.7	127.2	135.0	142.3	152.5	161.1	163.8	170.5
Belgium	33.0	60.4	78.8	95.3	100.0	106.1	119.2	127.6	135.2	148.2	154.3	159.0	165.3	170.3
Denmark	37.2	65.6	83.3	98.2	100.0	101.5	112.3	114.2	114.6	120.2	119.6	117.6	113.5	114.9
France	37.4	71.4	83.8	94.4	100.0	104.6	110.6	113.9	122.0	125.1	127.6	131.0	134.9	139.2
Germany	40.3	71.2	84.0	96.4	100.0	103.1	108.6	111.0	112.6	119.2	123.7	128.4	128.4	130.3
Italy	35.4	72.7	90.9	98.9	100.0	103.0	116.9	124.8	129.6	138.6	147.8	151.7	152.9	157.8
Netherlands	32.4	64.3	81.5	95.8	100.0	106.4	113.9	116.9	119.4	127.5	140.5	145.5	144.8	145.5
Norway	54.3	81.3	94.4	100.4	100.0	101.2	107.4	108.0	109.2	117.2	124.1	126.8	125.9	134.9
Sweden	42.3	80.7	94.8	101.7	100.0	102.8	112.7	113.2	116.5	125.5	131.0	136.1	136.0	141.8
United Kingdom	55.9	80.4	95.5	99.1	100.0	101.5	101.9	107.0	113.5	123.2	130.0	134.7	138.3	147.8
Output														
United States	52.5	78.6	96.3	93.1	100.0	106.0	103.2	104.8	98.4	104.7	117.5	122.0	124.7	130.1
Canada	41.3	73.5	93.5	96.5	100.0	104.6	103.6	107.4	93.6	99.6	112.5	118.8	121.9	128.5
Japan	19.2	69.9	91.9	94.8	100.0	106.7	124.1	129.8	137.3	148.2	165.4	177.0	178.0	184.1
Belgium	41.9	78.6	96.4	99.7	100.0	101.4	106.8	105.7	110.1	114.8	117.5	119.9	122.0	123.1
Denmark	49.2	82.0	95.9	99.6	100.0	99.7	110.1	106.6	108.3	115.6	121.0	123.0	123.9	120.5
France	36.5	75.5	90.5	95.6	100.0	102.3	104.6	102.9	104.0	103.8	102.6	101.5	102.1	103.3
Germany	50.0	86.6	96.1	98.0	100.0	101.8	106.6	104.9	102.4	103.6	106.4	110.0	110.8	111.6
Italy	36.4	78.0	90.5	97.9	100.0	101.8	115.4	115.1	113.4	114.3	119.0	121.8	125.8	131.2
Netherlands	44.8	84.4	95.8	99.0	100.0	102.8	106.6	106.7	105.0	107.0	113.3	116.7	118.1	118.7
Norway	54.8	86.5	99.2	102.1	100.0	97.7	99.5	98.6	96.8	97.2	102.7	106.5	106.9	108.3
Sweden	52.6	92.5	100.3	106.1	100.0	97.3	104.0	100.6	100.1	105.2	111.5	115.3	114.7	119.2
United Kingdom	71.2	95.0	104.8	98.2	100.0	100.6	91.7	86.2	86.4	88.9	92.6	95.2	95.4	100.6
Total hours														
United States	84.4	97.3	103.1	95.9	100.0	104.4	101.7	101.1	92.9	93.5	99.5	98.7	97.7	98.6
Canada	81.4	97.2	103.6	101.8	100.0	103.4	105.5	104.3	95.2	94.5	98.3	101.2	103.6	106.6
Japan	82.7	107.9	110.7	100.6	100.0	98.8	101.2	102.0	101.7	104.2	108.5	109.8	108.7	108.0
Belgium	127.1	130.2	122.3	104.6	100.0	95.5	89.6	82.8	81.4	77.5	76.1	75.4	73.8	72.3
Denmark	132.4	125.1	115.2	101.4	100.0	98.3	98.0	93.4	94.5	96.2	101.2	104.6	109.2	104.9
France	97.6	105.7	107.9	101.3	100.0	97.8	94.6	90.3	85.2	83.0	80.4	77.5	75.7	74.2
Germany	123.8	121.7	114.4	101.6	100.0	98.7	98.1	94.6	91.0	86.9	86.1	85.7	86.3	85.7
Italy	102.8	107.4	99.6	99.0	100.0	98.8	98.7	92.2	87.5	82.5	80.5	80.3	82.3	83.2
Netherlands	138.4	131.2	117.6	103.3	100.0	96.6	93.6	91.2	88.0	83.9	80.6	80.2	81.5	81.6
Norway	101.0	106.4	105.1	101.7	100.0	96.5	92.6	91.3	88.6	82.9	82.8	84.0	84.9	80.3
Sweden	124.4	114.6	105.7	104.3	100.0	94.6	92.3	88.9	85.9	83.9	85.1	84.7	84.3	84.0
United Kingdom	127.3	118.1	109.8	99.0	100.0	99.1	90.1	80.6	76.2	72.2	71.2	70.7	69.0	68.0
Compensation per hour														
United States	36.5	57.4	68.8	92.1	100.0	108.2	132.4	145.2	157.5	162.4	168.0	176.4	183.0	186.9
Canada	27.5	47.9	60.0	90.3	100.0	107.6	131.3	151.1	167.0	177.2	185.6	194.4	203.5	214.0
Japan	8.9	33.9	55.1	90.7	100.0	106.6	120.7	129.8	136.6	140.7	144.9	151.4	158.8	161.1
Belgium	13.8	34.9	53.5	89.5	100.0	107.8	130.3	144.5	150.7	159.8	173.1	183.6	190.8	194.5
Denmark	12.6	36.3	56.1	90.4	100.0	110.2	135.9	149.7	162.9	174.2	184.1	196.2	202.7	226.3
France	15.0	36.3	51.9	87.8	100.0	113.0	148.5	172.0	204.0	225.1	245.0	265.4	277.2	285.7
Germany	18.8	48.0	67.5	91.2	100.0	107.8	125.6	134.5	141.0	148.3	155.5	164.6	171.7	178.6
Italy	8.4	26.1	43.7	84.2	100.0	114.5	160.2	198.4	238.3	282.9	316.5	348.0	359.4	380.5
Netherlands	12.5	39.0	60.5	91.9	100.0	108.4	123.6	129.1	137.5	144.0	150.0	157.4	162.2	166.5
Norway	15.8	37.9	54.5	88.8	100.0	110.0	128.0	142.8	156.0	173.5	188.3	204.3	224.2	262.6
Sweden	14.7	38.5	54.2	91.5	100.0	111.4	133.6	148.1	158.9	173.3	189.7	212.4	228.7	244.8
United Kingdom	15.2	31.4	47.9	88.4	100.0	116.7	168.6	193.4	211.7	226.6	242.3	258.8	277.9	297.6
Unit labor costs: National currency basis														
United States	58.7	71.0	73.7	94.9	100.0	106.6	130.6	140.1	148.7	145.0	142.2	142.7	143.3	141.7
Canada	54.2	63.4	66.5	95.3	100.0	106.5	133.7	146.7	170.0	168.1	162.3	165.7	172.8	177.5
Japan	38.4	52.3	66.4	96.2	100.0	98.7	98.4	102.0	101.2	98.9	95.0	94.0	97.0	94.5
Belgium	41.7	57.8	67.9	93.9	100.0	101.6	109.3	113.2	111.5	107.8	112.2	115.5	115.5	114.2
Denmark	33.8	55.4	67.4	92.1	100.0	108.6	121.0	131.1	142.2	144.9	153.9	166.8	178.7	197.0
France	40.2	50.8	62.0	93.0	100.0	108.0	134.3	151.0	167.2	179.9	192.0	202.7	205.4	205.2
Germany	46.6	67.4	80.3	94.6	100.0	104.5	115.7	121.2	125.2	124.4	125.8	128.3	133.7	137.1
Italy	23.7	36.0	48.1	85.1	100.0	111.2	137.0	158.9	184.0	204.1	214.1	229.4	235.1	241.2
Netherlands	38.5	60.7	74.3	96.0	100.0	101.8	108.5	110.4	115.2	113.0	106.8	108.1	112.0	114.4
Norway	29.2	46.6	57.8	88.5	100.0	108.7	119.1	132.2	142.9	148.0	151.8	161.1	178.1	194.7
Sweden	34.8	47.7	57.2	90.0	100.0	108.4	118.6	130.9	136.3	138.1	144.8	156.1	168.2	172.6
United Kingdom	27.2	39.1	50.2	89.2	100.0	115.0	165.5	180.7	186.5	184.0	186.4	192.1	200.9	201.3
Unit labor costs: U.S. dollar basis														
United States	58.7	71.0	73.7	94.9	100.0	106.6	130.6	140.1	148.7	145.0	142.2	142.7	143.3	141.7
Canada	59.4	64.5	70.6	102.7	100.0	99.3	121.5	130.0	146.3	144.9	133.2	128.9	132.1	142.3
Japan	28.5	39.1	65.6	86.9	100.0	126.8	116.8	123.8	108.8	111.5	107.2	105.6	154.2	175.0
Belgium	30.0	41.7	62.7	87.2	100.0	115.8	134.2	109.6	87.2	75.6	69.6	69.7	92.6	109.6
Denmark	29.5	44.4	67.2	91.5	100.0	118.4	129.0	110.3	102.3	95.1	89.3	94.5	132.5	172.7
France	40.3	45.2	68.6	95.8	100.0	117.9	156.4	136.4	124.9	116.1	108.1	111.0	145.8	167.8
Germany	25.9	42.9	70.4	87.3	100.0	121.0	147.9	124.9	119.7	113.1	102.6	101.2	143.0	177.0
Italy	33.7	50.6	73.1	90.5	100.0	115.6	141.4	123.2	119.9	118.6	107.6	106.1	139.2	164.2
Netherlands	25.1	41.2	65.6	89.1	100.0	115.7	134.1	108.9	105.8	97.1	81.6	80.0	112.2	138.6
Norway	21.8	34.7	53.5	86.4	100.0	110.4	128.4	122.5	117.8	107.9	99.0	99.8	128.1	153.7
Sweden	30.1	41.1	58.7	92.3	100.0	107.2	125.3	115.4	96.9	80.4	78.2	81.1	105.4	121.5
United Kingdom	43.7	53.7	70.5	92.2	100.0	126.4	220.6	209.6	186.9	159.8	142.8	142.9	169.0	189.2

– Data not available.

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]								
	1979	1980	1981	1982	1983	1984	1985	1986	1987
PRIVATE SECTOR[3]									
Total cases	9.5	8.7	8.3	7.7	7.6	8.0	7.9	7.9	8.3
Lost workday cases	4.3	4.0	3.8	3.5	3.4	3.7	3.6	3.6	3.8
Lost workdays	67.7	65.2	61.7	58.7	58.5	63.4	64.9	65.8	69.9
Agriculture, forestry, and fishing[3]									
Total cases	11.7	11.9	12.3	11.8	11.9	12.0	11.4	11.2	11.2
Lost workday cases	5.7	5.8	5.9	5.9	6.1	6.1	5.7	5.6	5.7
Lost workdays	83.7	82.7	82.8	86.0	90.8	90.7	91.3	93.6	94.1
Mining									
Total cases	11.4	11.2	11.6	10.5	8.4	9.7	8.4	7.4	8.5
Lost workday cases	6.8	6.5	6.2	5.4	4.5	5.3	4.8	4.1	4.9
Lost workdays	150.5	163.6	146.4	137.3	125.1	160.2	145.3	125.9	144.0
Construction									
Total cases	16.2	15.7	15.1	14.6	14.8	15.5	15.2	15.2	14.7
Lost workday cases	6.8	6.5	6.3	6.0	6.3	6.9	6.8	6.9	6.8
Lost workdays	120.4	117.0	113.1	115.7	118.2	128.1	128.9	134.5	135.8
General building contractors:									
Total cases	16.3	15.5	15.1	14.1	14.4	15.4	15.2	14.9	14.2
Lost workday cases	6.8	6.5	6.1	5.9	6.2	6.9	6.8	6.6	6.5
Lost workdays	111.2	113.0	107.1	112.0	113.0	121.3	120.4	122.7	134.0
Heavy construction contractors:									
Total cases	16.6	16.3	14.9	15.1	15.4	14.9	14.5	14.7	14.5
Lost workday cases	6.7	6.3	6.0	5.8	6.2	6.4	6.3	6.3	6.4
Lost workdays	123.1	117.6	106.0	113.1	122.4	131.7	127.3	132.9	139.1
Special trade contractors:									
Total cases	16.0	15.5	15.2	14.7	14.8	15.8	15.4	15.6	15.0
Lost workday cases	6.9	6.7	6.6	6.2	6.4	7.1	7.0	7.2	7.1
Lost workdays	124.3	118.9	119.3	118.6	119.0	130.1	133.3	140.4	135.7
Manufacturing									
Total cases	13.3	12.2	11.5	10.2	10.0	10.6	10.4	10.6	11.9
Lost workday cases	5.9	5.4	5.1	4.4	4.3	4.7	4.6	4.7	5.3
Lost workdays	90.2	86.7	82.0	75.0	73.5	77.9	80.2	85.2	95.5
Durable goods									
Lumber and wood products:									
Total cases	20.7	18.6	17.6	16.9	18.3	19.6	18.5	18.9	18.9
Lost workday cases	10.8	9.5	9.0	8.3	9.2	9.9	9.3	9.7	9.6
Lost workdays	175.9	171.8	158.4	153.3	163.5	172.0	171.4	177.2	176.5
Furniture and fixtures:									
Total cases	17.6	16.0	15.1	13.9	14.1	15.3	15.0	15.2	15.4
Lost workday cases	7.1	6.6	6.2	5.5	5.7	6.4	6.3	6.3	6.7
Lost workdays	99.6	97.6	91.9	85.6	83.0	101.5	100.4	103.0	103.6
Stone, clay, and glass products:									
Total cases	16.8	15.0	14.1	13.0	13.1	13.6	13.9	13.6	14.9
Lost workday cases	8.0	7.1	6.9	6.1	6.0	6.6	6.7	6.5	7.1
Lost workdays	133.7	128.1	122.2	112.2	112.0	120.8	127.8	126.0	135.8
Primary metal industries:									
Total cases	17.3	15.2	14.4	12.4	12.4	13.3	12.6	13.6	17.0
Lost workday cases	8.1	7.1	6.7	5.4	5.4	6.1	5.7	6.1	7.4
Lost workdays	134.7	128.3	121.3	101.6	103.4	115.3	113.8	125.5	145.8
Fabricated metal products:									
Total cases	19.9	18.5	17.5	15.3	15.1	16.1	16.3	16.0	17.0
Lost workday cases	8.7	8.0	7.5	6.4	6.1	6.7	6.9	6.8	7.2
Lost workdays	124.2	118.4	109.9	102.5	96.5	104.9	110.1	115.5	121.9
Machinery, except electrical:									
Total cases	14.7	13.7	12.9	10.7	9.8	10.7	10.8	10.7	11.3
Lost workday cases	5.9	5.5	5.1	4.2	3.6	4.1	4.2	4.2	4.4
Lost workdays	83.6	81.3	74.9	66.0	58.1	65.8	69.3	72.0	72.7
Electric and electronic equipment:									
Total cases	8.6	8.0	7.4	6.5	6.3	6.8	6.4	6.4	7.2
Lost workday cases	3.4	3.3	3.1	2.7	2.6	2.8	2.7	2.7	3.1
Lost workdays	51.9	51.8	48.4	42.2	41.4	45.0	45.7	49.8	55.9
Transportation equipment:									
Total cases	11.6	10.6	9.8	9.2	8.4	9.3	9.0	9.6	13.5
Lost workday cases	5.5	4.9	4.6	4.0	3.6	4.2	3.9	4.1	5.7
Lost workdays	85.9	82.4	78.1	72.2	64.5	68.8	71.6	79.1	105.7
Instruments and related products:									
Total cases	7.2	6.8	6.5	5.6	5.2	5.4	5.2	5.3	5.8
Lost workday cases	2.8	2.7	2.7	2.3	2.1	2.2	2.2	2.3	2.4
Lost workdays	40.0	41.8	39.2	37.0	35.6	37.5	37.9	42.2	43.9
Miscellaneous manufacturing industries:									
Total cases	11.7	10.9	10.7	9.9	9.9	10.5	9.7	10.2	10.7
Lost workday cases	4.7	4.4	4.4	4.1	4.0	4.3	4.2	4.3	4.6
Lost workdays	67.7	67.9	68.3	69.9	66.3	70.2	73.2	70.9	81.5

See footnotes at end of table.

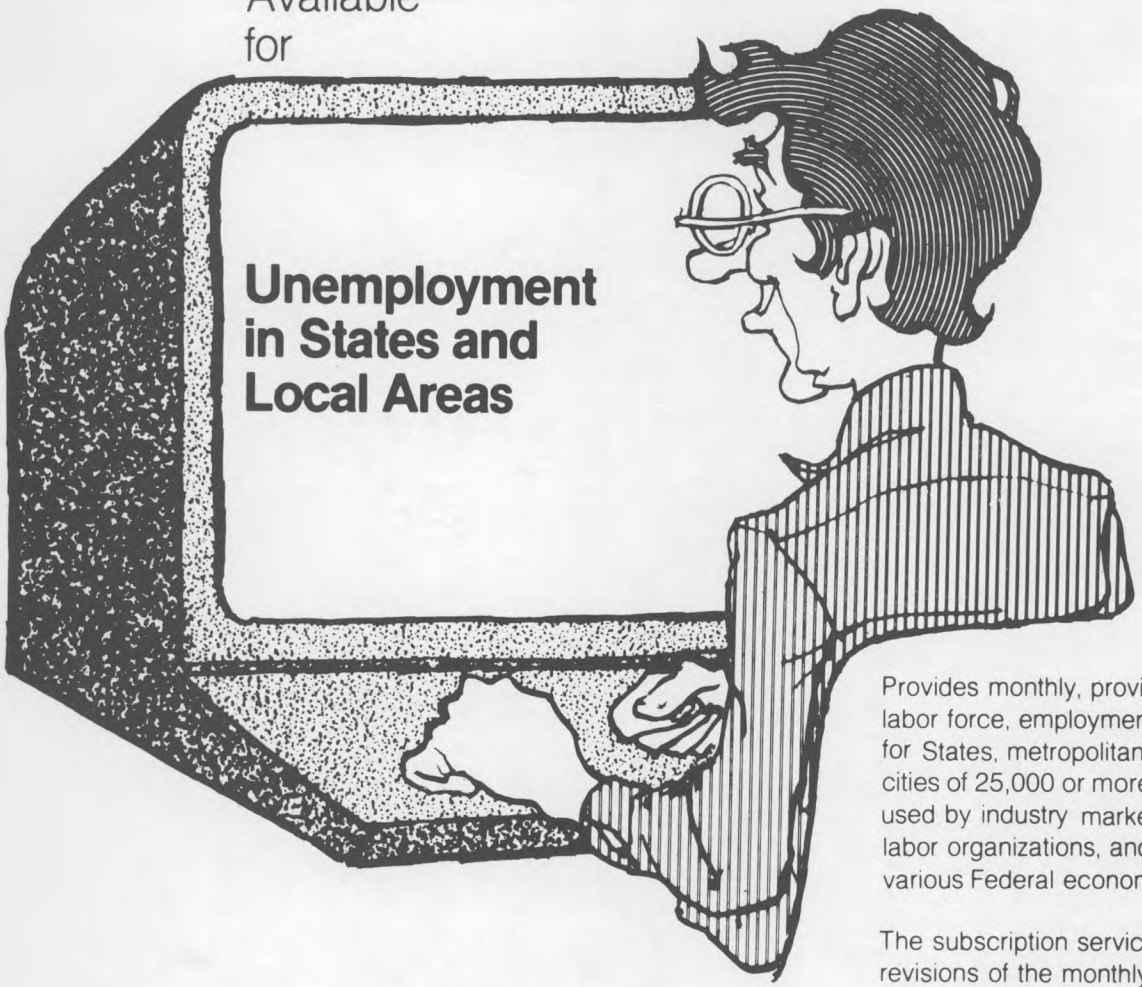
48. Continued— Occupational injury and illness incidence rates by industry, United States

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1979	1980	1981	1982	1983	1984	1985	1986	1987
Nondurable goods									
Food and kindred products:									
Total cases	19.9	18.7	17.8	16.7	16.5	16.7	16.7	16.5	17.7
Lost workday cases	9.5	9.0	8.6	8.0	7.9	8.1	8.1	8.0	8.6
Lost workdays	141.8	136.8	130.7	129.3	131.2	131.6	138.0	137.8	153.7
Tobacco manufacturing:									
Total cases	9.3	8.1	8.2	7.2	6.5	7.7	7.3	6.7	8.6
Lost workday cases	4.2	3.8	3.9	3.2	3.0	3.2	3.0	2.5	2.5
Lost workdays	64.8	45.8	56.8	44.6	42.8	51.7	51.7	45.6	46.4
Textile mill products:									
Total cases	9.7	9.1	8.8	7.6	7.4	8.0	7.5	7.8	9.0
Lost workday cases	3.4	3.3	3.2	2.8	2.8	3.0	3.0	3.1	3.6
Lost workdays	61.3	62.8	59.2	53.8	51.4	54.0	57.4	59.3	65.9
Apparel and other textile products:									
Total cases	6.5	6.4	6.3	6.0	6.4	6.7	6.7	6.7	7.4
Lost workday cases	2.2	2.2	2.2	2.1	2.4	2.5	2.6	2.7	3.1
Lost workdays	34.1	34.9	35.0	36.4	40.6	40.9	44.1	49.4	59.5
Paper and allied products:									
Total cases	13.5	12.7	11.6	10.6	10.0	10.4	10.2	10.5	12.8
Lost workday cases	6.0	5.8	5.4	4.9	4.5	4.7	4.7	4.7	5.8
Lost workdays	108.4	112.3	103.6	99.1	90.3	93.8	94.6	99.5	122.3
Printing and publishing:									
Total cases	7.1	6.9	6.7	6.6	6.6	6.5	6.3	6.5	6.7
Lost workday cases	3.1	3.1	3.0	2.8	2.9	2.9	2.9	2.9	3.1
Lost workdays	45.1	46.5	47.4	45.7	44.6	46.0	49.2	50.8	55.1
Chemicals and allied products:									
Total cases	7.7	6.8	6.6	5.7	5.5	5.3	5.1	6.3	7.0
Lost workday cases	3.5	3.1	3.0	2.5	2.5	2.4	2.3	2.7	3.1
Lost workdays	54.9	50.3	48.1	39.4	42.3	40.8	38.8	49.4	58.8
Petroleum and coal products:									
Total cases	7.7	7.2	6.7	5.3	5.5	5.1	5.1	7.1	7.3
Lost workday cases	3.6	3.5	2.9	2.5	2.4	2.4	2.4	3.2	3.1
Lost workdays	62.0	59.1	51.2	46.4	46.8	53.5	49.9	67.5	65.9
Rubber and miscellaneous plastics products:									
Total cases	17.1	15.5	14.6	12.7	13.0	13.6	13.4	14.0	15.9
Lost workday cases	8.2	7.4	7.2	6.0	6.2	6.4	6.3	6.6	7.6
Lost workdays	127.1	118.6	117.4	100.9	101.4	104.3	107.4	118.2	130.8
Leather and leather products:									
Total cases	11.5	11.7	11.5	9.9	10.0	10.5	10.3	10.5	12.4
Lost workday cases	4.9	5.0	5.1	4.5	4.4	4.7	4.6	4.8	5.8
Lost workdays	76.2	82.7	82.6	86.5	87.3	94.4	88.3	83.4	114.5
Transportation and public utilities									
Total cases	10.0	9.4	9.0	8.5	8.2	8.8	8.6	8.2	8.4
Lost workday cases	5.9	5.5	5.3	4.9	4.7	5.2	5.0	4.8	4.9
Lost workdays	107.0	104.5	100.6	96.7	94.9	105.1	107.1	102.1	108.1
Wholesale and retail trade									
Total cases	8.0	7.4	7.3	7.2	7.2	7.4	7.4	7.7	7.7
Lost workday cases	3.4	3.2	3.1	3.1	3.1	3.3	3.2	3.3	3.4
Lost workdays	49.0	48.7	45.3	45.5	47.8	50.5	50.7	54.0	56.1
Wholesale trade:									
Total cases	8.8	8.2	7.7	7.1	7.0	7.2	7.2	7.2	7.4
Lost workday cases	4.1	3.9	3.6	3.4	3.2	3.5	3.5	3.6	3.7
Lost workdays	59.1	58.2	54.7	52.1	50.6	55.5	59.8	62.5	64.0
Retail trade:									
Total cases	7.7	7.1	7.1	7.2	7.3	7.5	7.5	7.8	7.8
Lost workday cases	3.1	2.9	2.9	2.9	3.0	3.2	3.1	3.2	3.3
Lost workdays	44.7	44.5	41.1	42.6	46.7	48.4	47.0	50.5	52.9
Finance, insurance, and real estate									
Total cases	2.1	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0
Lost workday cases	.9	.8	.8	.9	.9	.9	.9	.9	.9
Lost workdays	13.3	12.2	11.6	13.2	12.8	13.6	15.4	17.1	14.3
Services									
Total cases	5.5	5.2	5.0	4.9	5.1	5.2	5.4	5.3	5.5
Lost workday cases	2.5	2.3	2.3	2.3	2.4	2.5	2.6	2.5	2.7
Lost workdays	38.1	35.8	35.9	35.8	37.0	41.1	45.4	43.0	45.8

[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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