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MONTHLY LABOR REVIEW

U.S. Department of Labor
Bureau of Labor Statistics
August 1986



In this issue:

FOUR ARTICLES ON EMPLOYMENT:
in 1986's first half, in retail trade,
and in health services and hospitals





U.S. DEPARTMENT OF LABOR
William E. Brock, Secretary

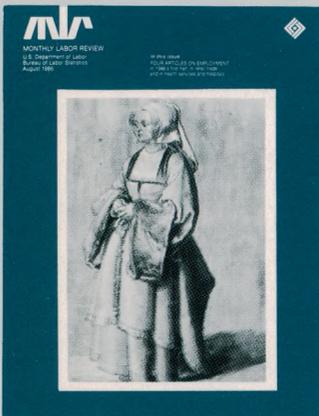
BUREAU OF LABOR STATISTICS
Janet L. Norwood, Commissioner

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AUGUST 1986

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Robert W. Fisher, Executive Editor

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Labor Month In Review



CHANGING DEMOGRAPHICS. A subcommittee of the Congressional Joint Economic Committee conducted hearings in late July on the likely social and economic effects of projected population shifts. Some highlights:

Rep. James H. Scheuer of New York, subcommittee chairman: Four problem areas already are apparent: First is the aging of the population, as women have fewer children, people live longer, and the baby-boom generation grows older. This development will cause major changes in the labor market, in the nature of retirement, in social security, and in the health care system.

Second, we will see big changes in the labor force. The baby boomers born during the 1950's and 1960's are just now entering their prime working years and are swelling demand for good, well-paid jobs. As they approach retirement, there are many fewer young people coming behind to take their places. Thus, the economy is going to have to adjust from an abundance of workers to the possibility of a real shortage.

Third, children will be a declining fraction of the population. Already children make up the majority of Americans in poverty. We are going to have to protect the needs of our children even as we struggle to meet the needs of other population groups, particularly the very old.

Fourth, blacks and other minorities will make up an increasing share of the population. These groups bear a disproportionate share of poverty and unemployment. One of the major challenges facing the public and private sectors is to provide education and job training to these groups.

William E. Brock, Secretary of Labor, pointed to some positive implications of this demographic picture: A slower rate of labor force growth suggests tighter labor markets, which should foster the employment of youth, minorities, women, and the handicapped and a narrowing of occupational and earnings gaps. And a more mature work force implies greater experience, stability, reliability, and productivity.

We have the opportunity to take advantage of projected developments and deal meaningfully with some of the more significant problems our society now faces. But, we must be bold and creative if we are to meet this challenge, specifically by promoting dynamism, flexibility, and adaptability in the economy and labor force.

Janet L. Norwood, Commissioner of Labor Statistics, cited the demonstrated ability of the economy to accommodate large influxes of workers—specifically, women and baby-boom cohorts—although minority groups remain at a severe disadvantage.

The challenge is to make the jobs the economy generates in coming years accommodate the emerging labor force. On the one hand, projected strong growth in highly skilled professional, managerial, and technical occupations will make it easier for the growing proportion of college educated workers to fulfill their job expectations. On the other hand, the shift away from factory operative and laborer occupations may make it more difficult for persons with less education to find jobs.

John G. Keane, director of the Census

Bureau, addressed the implications of an aging society: Tomorrow's elderly will be very different from today's in their ability to function effectively in old age. For example, the relatively high educational attainment of the baby-boom generation bodes well for their lifetime economic status. Another indication that the retirement experience will be quite different in the future is based on changes in occupational patterns. Tomorrow's elderly women, for example, will be much more likely to have been in occupations covered by social security and other pension plans, and thus should be in better financial shape than their grandmothers are today.

Roger D. Semerad, Assistant Secretary of Labor for Employment and Training, examined the public policy implications of the population trends through the year 2000, emphasizing the importance of looking ahead to anticipate potential problems rather than merely reacting to the pressure of immediate concerns. Among the more important considerations: ensuring that individuals achieve minimum levels of educational competency; providing quality, education-oriented child care for two-earner families and single parents; orienting workers to a process of lifelong learning and repeated retraining for new and restructured jobs, and involving employers in the reeducation process; assisting workers in adjusting to occupational dislocation; encouraging more cooperative labor-management relations; and developing alternatives to retirement, including nontraditional work schedules and part-time jobs, for older workers. □

Employment up, unemployment stable in the first half of 1986

Moderate job growth continued, but only in the service-producing sector and in construction; the level and rate of unemployment were about unchanged, as employment increases matched labor force expansion

SUSAN E. SHANK

Employment rose at a steady, though unspectacular, pace in the first 6 months of 1986. However, as the economy moved into the fourth year of recovery following the 1981–82 recession, the number of unemployed persons and the unemployment rate were little changed. Civilian employment increases slowed during 1985 and the first half of 1986 from the very robust gains evident in the 2 years immediately after the recession trough. Similarly, the civilian jobless rate, which had dropped sharply during the first 2 years of the recovery, declined only moderately in 1985 and then leveled off at about 7 percent in early 1986.

Job gains during the first half of 1986 took place entirely in the service-producing sector and construction. In contrast, manufacturing employment declined, and the number of mining jobs dropped precipitously—due mainly to the steep fall in oil prices and the consequent layoffs in oil and gas extraction. Most of these developments represented a continuation of the patterns evident during 1985 and reflected both the long-term trend toward the service-producing sector and cyclical developments. The weakness in the goods-producing sector has been especially pronounced in the 1980's, as employment has declined in absolute numbers, augmenting the longer-term decline in relative terms. This sector failed to regain all the jobs lost during the 1980–82 recessions, and its second quarter 1986 employment level (25 million) was about 1.7 million below the July 1979 all-time high.¹

This article summarizes labor market developments in the

first half of 1986 and compares them to earlier periods in the current economic expansion, as well as to long-term trends. The data are from two sources: household interviews and employer reports.² Changes during the first half of 1986 refer to movements in seasonally adjusted data from the fourth quarter of 1985 to the second quarter of 1986. References to the last 3½ years cover the period from fourth quarter 1982 to second quarter 1986, and the last 1½ years pertain to 1985 and the first half of 1986.

Employment

Only three of the previous seven economic expansions in the post-World War II period lasted as long as the current one (43 months as of June 1986). The growth rate for civilian employment in the first 3½ years of this expansion was 10 percent, substantially more than the increases during comparable periods after the 1948–49 and 1960–61 recessions, but less than the nearly 13-percent rise following the 1973–75 recession. The robust employment increase in the late 1970's was unusual, because it accelerated in the third and fourth years after the recession. The more typical pattern has been for employment to rebound sharply in the first 1½ to 2 years following a recession trough and then to show moderate growth in subsequent quarters.³

The current expansion adhered to the usual pattern of a strong initial rebound followed by slower but steady job growth. In the first half of 1986, the number of employed persons rose by about 900,000 (after allowance for the revisions introduced into the household survey in January 1986),⁴ proportionately less than the gains posted earlier in the recovery. At 109.2 million in the second quarter of 1986, civilian employment had expanded by just about

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10 million from the recession trough in the fourth quarter of 1982—with 7 million of the increase occurring in the first 2 years of the recovery and about 3 million coming in the last 1½ years.

Age and sex. Virtually all of the employment increase during the first 6 months of 1986, as well as throughout the current expansion, has been among adults. (See table 1.) Over the 3½ years since the end of the recession, employment rose by about 5 million each for adult men and adult women, while teenage employment was essentially flat. (However, the teenage employment-population ratio rose in the recovery, offsetting declines in their population.) During the first 2 years of recovery, employment gains for men outpaced those for women, as male employment rebounded strongly from the very sharp job cutbacks experienced during the recession. However, in the past 1½ years, the employment increase for women exceeded that for men (2.1 versus 1.2 million).

Occupation. Consistent with overall movements, employment increases for most major occupational groups slowed in 1985 and 1986. Moreover, the composition of the job movements by occupation changed markedly.⁵ Nonfarm manual occupations registered very strong gains in the early phase of the economic rebound—7.7 percent for skilled workers and 5.6 percent for semi- and low-skilled workers. The following tabulation shows the percent change in employment for major occupations based on averages for the first 6 months of 1983–86:

	1983–84	1984–85	1985–86
All occupations	4.9	2.3	2.2
Managerial and professional ..	5.6	3.7	2.5
Technical, sales, and administrative	4.3	2.6	3.0
Service	3.8	1.7	2.0
Precision production, craft, and repair	7.7	2.8	.2
Operators, fabricators, and laborers	5.6	.3	2.3
Farming, forestry, and fishing.	-3.1	-1.1	-1.7

From 1984 to 1985, the expansion was greatest for office workers, especially highly educated managerial and professional workers, while growth slowed for precision production, craft, and repair workers and almost halted for operatives, fabricators, and laborers.

Between 1985 and 1986, office occupations—particularly technical, sales, and administrative support positions—continued to register the largest increases. The small rise for skilled manual workers took place entirely in the construction trades. Similarly, the employment gain among operators, fabricators, and laborers was led by an extremely large increase for construction laborers. In contrast, the number of machine operators, assemblers, and inspectors (almost all of whom are employed in manufacturing) edged

up only slightly. The service occupations have experienced only moderate growth throughout the last 3 years, while farming, forestry, and fishing jobs have declined.

Industrial developments

The number of employees on nonagricultural payrolls averaged nearly 100 million in the second quarter of 1986. In the 3½ years since the recession trough, payroll employment has increased by about 11.0 million, with 7.3 million of the gain coming in the first 2 years of recovery and just under 4 million taking place in the last 1½ years. (See table 2.) The moderation in the pace of job growth since late 1984 occurred entirely in the goods-producing sector. The following tabulation shows the change (in millions) in nonfarm jobs in service- and goods-producing industries for selected periods:

	Total	Service- producing	Goods- producing
Nov. 1982 to May 1986	11.2	9.2	2.0
Nov. 1982 to Nov. 1984	7.3	5.3	2.0
Nov. 1984 to May 1986	3.9	3.9	.0

As shown, goods-producing employment rebounded strongly in the 2 years immediately following the recession, but then showed no net gain in the subsequent 18 months. In contrast, service-producing employment grew robustly, and at a similar rate per month, in both periods.

Service-producing industries. Throughout the current expansion, the largest absolute job gains have been in services and retail trade, although finance, insurance, and real estate also posted substantial increases. Job growth in each of these three industry divisions ranged from 17 to 20 percent over the 3½-year period of recovery, compared with less than 9 percent in the goods-producing sector. During 1985 and the first half of 1986, most service-producing industries continued to record large increases. Services (up 1.7 million) and retail trade (950,000) led the way, followed by government (550,000) and finance, insurance, and real estate (475,000).

Within the services division, business services has experienced phenomenal job growth over the last decade, especially among those firms that provide computer and data processing services and temporary help.⁶ Since the recession trough, business services employment has jumped by 1.5 million or 45 percent, with 600,000 of the increase occurring in the past 1½ years. Health services also continued its long-term job growth. Engineering and architectural services, as well as accounting, auditing, and bookkeeping, are two other industries that have registered large job increases over the 1985–86 period.

Retail trade employment continued to advance, but at a slower pace than in 1983 and 1984. Three industries—eating and drinking places, automotive dealers and service stations, and food stores—have accounted for almost all the

job growth since late 1984. In contrast, employment in general merchandise or department stores has been about unchanged over the last 1½ years, following a healthy pick-up in the first 2 years of recovery.

Finance, insurance, and real estate, while much smaller than retail trade or services, has also grown at a very brisk pace throughout the current expansion. Moreover, the rate of job growth in this division has accelerated in the last 1½ years, compared with 1983 and 1984. Much of the recent strength has been in finance, reflecting greater activity

among mortgage lenders in response to increased demand for new and refinanced home loans at lower interest rates.

Goods-producing industries. Employment trends within the goods-producing sector differed dramatically during the first half of 1986. Construction employment continued to advance strongly, but mining jobs dropped off sharply, and manufacturing employment edged down.

Construction employment has jumped by 1.1 million, or 30 percent, during the current economic expansion—the

Table 1. Selected labor force indicators by sex, age, race, and Hispanic origin, seasonally adjusted quarterly averages, 1982-86

[Numbers in thousands]

Characteristic	1982 IV	1984 IV	1985				1986	
			I	II	III	IV	I	II
Total								
Civilian labor force	110,926	114,235	115,024	115,206	115,468	116,158	117,027	117,671
Percent of population	64.1	64.5	64.8	64.7	64.7	64.9	65.1	65.3
Employed	99,135	105,959	106,618	106,804	107,200	107,996	108,768	109,225
Agriculture	3,475	3,325	3,319	3,259	3,077	3,093	3,227	3,182
Nonagriculture	95,660	102,634	103,298	103,545	104,123	104,903	105,541	106,043
Employment-population ratio	57.3	59.8	60.1	60.0	60.1	60.4	60.5	60.6
Unemployed	11,791	8,276	8,406	8,402	8,268	8,162	8,259	8,446
Unemployment rate	10.6	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men, 20 years and over								
Civilian labor force	58,340	59,981	60,063	60,217	60,278	60,542	61,221	61,216
Percent of population	78.7	78.2	78.2	78.1	78.0	78.0	78.3	78.1
Employed	52,552	56,234	56,305	56,439	56,597	56,909	57,516	57,421
Employment-population ratio	70.9	73.4	73.3	73.2	73.2	73.4	73.6	73.2
Unemployed	5,788	3,747	3,757	3,778	3,681	3,633	3,705	3,795
Unemployment rate	9.9	6.2	6.3	6.3	6.1	6.0	6.1	6.2
Women, 20 years and over								
Civilian labor force	44,115	46,366	46,900	47,123	47,363	47,749	47,923	48,440
Percent of population	52.9	54.0	54.5	54.6	54.7	54.9	55.0	55.4
Employed	40,139	43,280	43,744	43,947	44,210	44,716	44,829	45,331
Employment-population ratio	48.2	50.4	50.8	50.9	51.0	51.5	51.4	51.8
Unemployed	3,976	3,086	3,156	3,176	3,153	3,033	3,094	3,109
Unemployment rate	9.0	6.7	6.7	6.7	6.7	6.4	6.5	6.4
Both sexes, 16 to 19 years								
Civilian labor force	8,471	7,888	8,061	7,866	7,828	7,867	7,883	8,015
Percent of population	54.3	54.1	55.2	54.2	54.2	54.4	54.5	55.4
Employed	6,445	6,445	6,568	6,418	6,393	6,371	6,423	6,473
Employment-population ratio	41.3	44.2	45.0	44.2	44.2	44.0	44.4	44.7
Unemployed	2,027	1,443	1,493	1,448	1,434	1,496	1,460	1,542
Unemployment rate	23.9	18.3	18.5	18.4	18.3	19.0	18.5	19.2
White								
Civilian labor force	96,604	98,798	99,611	99,672	99,900	100,515	101,147	101,579
Percent of population	64.4	64.7	65.0	64.9	64.9	65.2	65.3	65.4
Employed	87,466	92,622	93,357	93,392	93,706	94,487	94,975	95,331
Employment-population ratio	58.3	60.7	60.9	60.8	60.9	61.3	61.3	61.4
Unemployed	9,138	6,175	6,254	6,280	6,195	6,028	6,172	6,249
Unemployment rate	9.5	6.3	6.3	6.3	6.2	6.0	6.1	6.2
Black								
Civilian labor force	11,500	12,242	12,299	12,351	12,340	12,464	12,583	12,758
Percent of population	61.4	62.8	62.9	63.0	62.6	63.0	63.3	64.0
Employed	9,150	10,393	10,402	10,498	10,520	10,580	10,739	10,857
Employment-population ratio	48.9	53.3	53.2	53.5	53.4	53.5	54.1	54.4
Unemployed	2,350	1,849	1,897	1,853	1,821	1,883	1,843	1,902
Unemployment rate	20.4	15.1	15.4	15.0	14.8	15.1	14.6	14.9
Hispanic origin								
Civilian labor force	6,723	7,610	7,573	7,631	7,779	7,803	7,883	8,029
Percent of population	63.6	65.4	64.4	64.3	65.0	64.6	64.7	65.3
Employed	5,693	6,815	6,794	6,825	6,956	6,966	7,024	7,173
Employment-population ratio	53.9	58.5	57.8	57.5	58.1	57.7	57.7	58.4
Unemployed	1,030	795	778	805	823	837	859	856
Unemployment rate	15.3	10.5	10.3	10.6	10.6	10.7	10.9	10.7

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

population groups.

largest growth rate for any major industry group. What is more, this expansion was just as robust during the 1985–86 period, when the number of construction jobs rose by about 500,000. Much of the recent strength was related to the upsurge in housing starts in the wake of sharply lower mortgage interest rates. In the initial stage of the recovery, both housing starts and the value of residential construction put in place rebounded sharply, but during 1984 they had leveled off.⁷ Also, housing starts, at 1.7 to 1.8 million per year in the 1983–85 period, were below earlier highs of more than 2 million units per year.

Much of the underlying strength in construction in 1984, 1985, and early 1986 has been in private nonresidential building—especially structures for use by service-producing firms.⁸ Between 1983 and 1985, the annual value of construction put in place rose by 76 percent for commercial structures other than office buildings. This category includes shopping malls, department stores, warehouses, banks, gas stations, and other buildings intended for use by trade and service businesses. Office building construction also grew substantially between 1983 and 1985 (by about 40 percent), but industrial construction rose by only 12 percent, reflecting the weakness in manufacturing. The value of all private nonresidential buildings increased by a healthy

35 percent between 1983 and 1985, while residential construction rose by 15 percent.

The number of mining jobs fell by approximately 130,000, or 15 percent, in the first 6 months of 1986, after trending downward more gradually since early 1982. Most of the drop took place in oil and gas extraction, which was adversely impacted by the worldwide oil glut and the subsequent collapse of oil prices. At \$15 a barrel in May 1986, the price of oil had dropped about 40 percent from the first of the year, and many marginal wells had been shut down. Between December 1985 and June 1986, the oil and gas industry lost 1 of 5 of its jobs.

Manufacturing employment edged down from 19.3 million in early 1986 to 19.2 million in the second quarter, and was considerably below its peak of 21.2 million reached in July of 1979. From that record high to the recession trough in 1982, factory employment fell by 3.1 million; during the first 2 years of recovery, it regained almost half of the jobs lost, but has shown no sustained growth since late 1984. In fact, the number of factory jobs declined during most of 1985 before leveling off in the fourth quarter. In the first half, small job losses occurred in primary metals, machinery, and motor vehicles, as well as in leather. However, small gains in lumber and wood products and stone, clay,

Table 2. Employees on nonagricultural payrolls by industry, seasonally adjusted quarterly averages, 1982–86

[In thousands]

Industry	1982 IV	1984 IV	1985				1986	
			I	II	III	IV	I	II ^p
Total	88,725	95,907	96,581	97,295	97,897	98,668	99,403	99,837
Goods-producing	22,982	24,943	24,970	24,947	24,866	24,937	25,028	24,954
Mining	1,029	958	946	943	922	907	876	793
Oil and gas extraction	651	610	600	596	581	565	538	463
Construction	3,837	4,498	4,585	4,681	4,703	4,769	4,868	4,965
General building contractors	959	1,189	1,222	1,242	1,257	1,282	1,316	1,308
Manufacturing	18,116	19,486	19,439	19,323	19,241	19,261	19,284	19,196
Durable goods	10,485	11,635	11,616	11,539	11,459	11,454	11,446	11,370
Nondurable goods	7,631	7,851	7,823	7,784	7,782	7,808	7,838	7,826
Service-producing	65,743	70,964	71,611	72,347	73,031	73,731	74,375	74,883
Transportation and public utilities	5,022	5,201	5,223	5,236	5,239	5,270	5,281	5,233
Transportation	2,735	2,965	2,984	2,999	3,004	3,037	3,052	3,038
Communication and public utilities	2,288	2,236	2,239	2,237	2,235	2,232	2,229	2,194
Wholesale trade	5,214	5,645	5,678	5,721	5,760	5,800	5,838	5,852
Durable goods	3,034	3,337	3,364	3,396	3,424	3,451	3,477	3,473
Nondurable goods	2,179	2,308	2,313	2,325	2,336	2,349	2,361	2,379
Retail trade	15,193	16,931	17,079	17,316	17,452	17,585	17,786	17,891
General merchandise stores	2,139	2,316	2,302	2,328	2,326	2,324	2,331	2,343
Food stores	2,510	2,685	2,718	2,759	2,804	2,884	2,891	2,918
Automotive dealers and service stations	1,635	1,835	1,858	1,889	1,904	1,919	1,935	1,942
Eating and drinking places	4,873	5,227	5,222	5,702	5,748	5,785	5,851	5,889
Finance, insurance, and real estate	5,356	5,779	5,841	5,913	5,989	6,068	6,155	6,253
Finance	2,664	2,890	2,920	2,957	2,998	3,039	3,081	3,134
Insurance	1,715	1,785	1,801	1,820	1,839	1,861	1,889	1,916
Real estate	976	1,105	1,120	1,137	1,152	1,168	1,185	1,203
Services	19,134	21,237	21,551	21,824	22,108	22,410	22,643	22,931
Business services	3,289	4,197	4,298	4,403	4,503	4,601	4,682	4,770
Health services	5,892	6,177	6,231	6,280	6,328	6,400	6,472	6,535
Government	15,824	16,171	16,240	16,337	16,483	16,599	16,672	16,723
Federal	2,745	2,830	2,842	2,867	2,888	2,904	2,920	2,923
State	3,641	3,773	3,801	3,829	3,861	3,900	3,922	3,934
Local	9,438	9,568	9,596	9,641	9,733	9,795	9,830	9,867

p = preliminary.

and glass products—related to the construction boom—and in food and printing partially offset the declines.

Unemployment

The number of unemployed persons and the civilian unemployment rate both showed little change during the first half of 1986.⁹ However, it is not unusual for the unemployment rate to plateau or even increase slightly following a sharp drop in the first 4 to 6 quarters after a recession. Chart 1 clearly shows this pattern in the four postwar expansions that have lasted as long as 3½ years. In the first year and a half of the current recovery, the civilian jobless rate dropped from 10.7 to 7.3 percent; it then remained at that level for a full year before edging down to 7.0 percent at the end of 1985.

Age and sex. The recent stability in overall unemployment has also been evident for most major worker groups. The 6.2-percent jobless rate for men in the second quarter of 1986 and the 6.4-percent rate for women were little changed from the rates posted in late 1985, but both were at their lowest sustained levels since early 1980. However, the rate for teenagers, at 19.2 percent in the second quarter, was slightly above the rate in evidence during most of 1985.

Although recent jobless rates for most worker groups were at or near their lowest levels in 6 years, they remained substantially above the lows recorded in 1979. The difference is most notable for adult men, who were particularly hard hit by the back-to-back recessions of 1980 and 1981–82. The jobless rate for men jumped from 4 percent in mid-1979 to a recession high of nearly 10 percent. Despite marked improvement in the subsequent 3½ years, the second quarter 1986 unemployment rate for men was half again as high as their rate 7 years earlier. The following tabulation shows unemployment rates for men, women, and teenagers, in selected quarters:

	1979-II	1982-IV	1986-II
Total, 16 years and over	5.9	10.6	7.2
Men	4.0	9.9	6.2
Women	5.7	9.0	6.4
Teenagers	16.0	23.9	19.2

The impact of the two recessions in the early 1980's was much less marked for women and teenagers. By the second quarter of 1986, jobless rates for both for these groups had dropped back to only slightly above their 1979 levels.

Race and ethnic origin. The unemployment rate for black workers, at 14.9 percent in the second quarter, was about 2½ times the 6.2-percent rate for whites, while the rate for persons of Hispanic origin—at 10.7 percent—remained in an intermediate position. Jobless rates for all three groups showed little change from late 1985 to mid-1986.

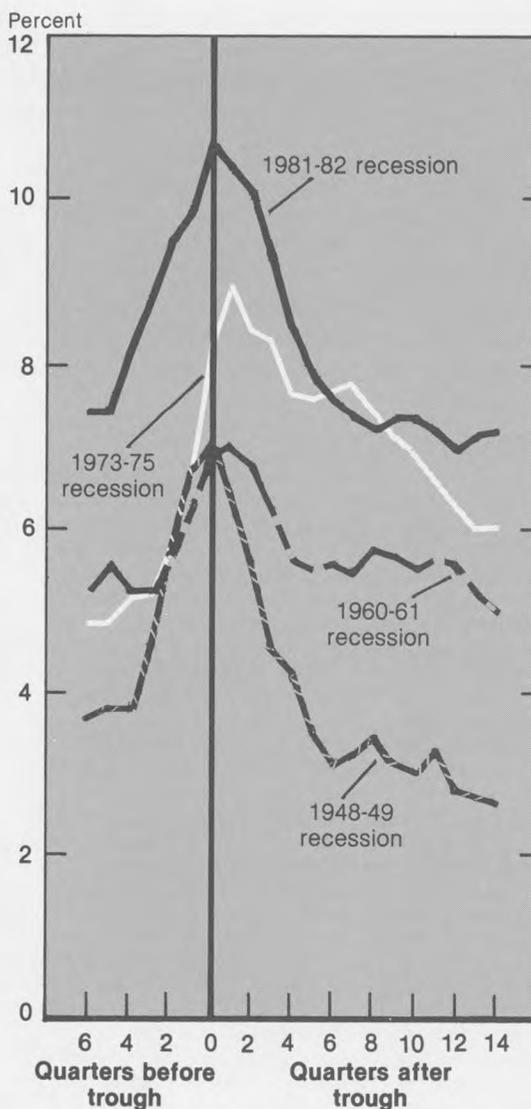
However, unemployment rates for the various race-ethnic groups displayed slightly different patterns during the 1979–

86 period. The already high black rate did not rise quite as much relatively as the white and Hispanic rates (which nearly doubled) during the 1980 and 1981–82 recessions. The following tabulation shows unemployment rates for whites, blacks, and Hispanics, selected quarterly averages:

	1979-II	1982-IV	1986-II
Whites	4.9	9.5	6.2
Blacks	12.5	20.4	14.9
Hispanics	8.2	15.3	10.7

Similarly, during the last 3½ years of expansion, the jobless rate for blacks did not fall proportionately as much as did

Chart 1. Cyclical behavior of civilian unemployment rate in four postwar expansions lasting as long as 3½ years



those for whites or Hispanics. Although there have been considerable drops in unemployment since the recession trough, jobless rates for whites, blacks, and Hispanics in mid-1986 were all about one-fourth above their 1979 lows.

Duration and reason. Although the number of unemployed persons held about steady in the first half of 1986, there were shifts in some key categories. Long-term unemployment (15 weeks or more) dipped to 26 percent of total joblessness in the second quarter of 1986, its lowest proportion since mid-1980. Most of the decrease occurred among persons who had been jobless for more than 6 months. Their proportion of total unemployment declined to about 14 percent in the second quarter from 15½ percent in late 1985. The decrease in long-term joblessness was reflected in a lower mean duration of unemployment—14.6 weeks in the second quarter of 1986, compared with about 15.5 weeks in the last 3 quarters of 1985.

The number of persons unemployed because of layoff from their previous jobs averaged about 1.1 million in the second quarter of 1986, down slightly from late 1985 and substantially below the recessionary high of 2.4 million. In contrast, the number of job leavers, persons who quit or otherwise voluntarily terminate their employment, increased to just over 1 million in the second quarter. The job-leaver component of unemployment tends to move in the opposite direction from job losers. That is, the proportion of the unemployed who voluntarily leave employment and look for other jobs increases in economic upturns and declines during recessions. There was little change during the first half of 1986 in the number of persons unemployed

because they were entering or reentering the labor force, or in the number of job losers who were not on layoff.

Discouraged workers

In the first half of 1986, there were approximately 1.1 million discouraged workers—persons who want to work but are not actively looking for jobs because they believe that they can not find one. The number was down slightly from the levels that had prevailed in the previous 1½ years. The recent decrease was evident both among persons who cite job market factors as the reason for their discouragement and among those citing personal factors. The decline was concentrated among men and whites—two groups that are underrepresented among discouraged workers. By mid-1986, men, who made up 55 percent of the civilian labor force, accounted for only 35 percent of discouraged workers; whites constituted 86 percent of the labor force, but only 66 percent of the discouraged.

THE MODERATE PACE of economic expansion evident during 1985 continued into the first half of 1986. Employment increases just about matched labor force expansion—leaving both the level and rate of unemployment about unchanged. All of the job growth in the past 1½ years has taken place in the service-producing sector—especially the services and retail trade industries—and in construction. Manufacturing employment has edged down since the end of 1985. Mining employment fell precipitously during the first half of 1986, as lower oil prices resulted in sharp reductions in the number of jobs in oil and gas extraction. □

FOOTNOTES

¹ Business cycle peaks and troughs are designated by the National Bureau of Economic Research. The three most recent recessions extended from the following peak-to-trough dates: November 1973 to March 1975, January 1980 to July 1980, and July 1981 to November 1982.

² The Current Population Survey (household survey) is a monthly sample survey of about 59,500 households and provides information on the labor force, employment, and unemployment by demographic and economic characteristics. The Current Employment Statistics program (establishment survey) is a monthly survey of more than 250,000 nonagricultural establishments and provides information on the number of persons on business payrolls.

³ See Susan E. Shank, "Employment rose in the first half of 1985, as the recovery entered its third year," *Monthly Labor Review*, August 1985, pp. 3–8.

⁴ Effective in January 1986, revised population estimates were introduced into the Current Population Survey. The new estimates include an explicit allowance for undocumented immigration since 1980, as well as an improved estimate of emigration. The net effect of these changes was to cause jumps in both the civilian population and labor force of about 400,000 and an employment jump of 350,000 (between December 1985 and January 1986). Adjustments are made for these breaks in series in the discussion of over-the-year changes for all civilian workers. However, with the exception of data for persons of Hispanic origin, data shown in the tables for periods prior to 1986 have not been adjusted.

⁵ Comparisons are based on unadjusted data averaged for the first 6 months of each year. Beginning in 1983, occupational data were coded and published according to the 1980 census system, which evolved from the Standard Occupational Classification. Seasonal adjustment will not be

possible until at least 5 years of data are available on the new classification system. For further information, see "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings*, February 1983, pp. 7–15.

⁶ See the following articles in the April 1986 *Monthly Labor Review*: Wayne J. Howe, "The business services industry sets pace in employment growth," pp. 29–36; and Max L. Carey and Kim L. Hazelbaker, "Employment growth in the temporary help industry," pp. 37–44.

⁷ See U.S. Bureau of the Census, *Construction Reports-Value of New Construction Put in Place: May 1985*, C-30-85-5, and later monthly news releases. All references to value of construction are in constant (1977) dollars.

⁸ Employment data for construction are classified differently from data on the value of construction put in place. The latter estimates are based on the type of construction or the final use of the project. Employment data are classified in two ways: first, based on the type of builder (general or special trades contractors) and second, for the general contractors on whether they construct buildings (of all types) or other projects. The most rapid employment growth in recent years has been among special trades contractors, for example, firms specializing in plumbing, painting, electrical work, or carpentry. These contractors work on all types of construction—residential and nonresidential, private and public.

⁹ On a monthly basis, the unemployment rate declined from 6.9 to 6.7 percent in January 1986, but increased in February to 7.3 percent. Both of these movements appear to have been exaggerated owing to several factors, including coding errors on a question that was reworded slightly in January and exceptionally mild weather in January that was followed by stormy weather in February.

The employment expansion in retail trade, 1973–85

*Strong employment gains in the industry
can be attributed mostly to exceptional growth
in eating and drinking places and food stores;
part-time positions accounted for
much of the overall growth*

STEVEN E. HAUGEN

One of the largest and fastest growing industries in the United States, in terms of employment, is retail trade. Nearly 17.4 million persons were employed in this field in 1985, or more than 1 of every 6 nonagricultural wage and salary workers. From 1973 to 1985, retail trade employment expanded by 5 million, accounting for a fourth of the total nonagricultural employment increase over the period. Only services and manufacturing employed a larger number of workers, and only services; finance, insurance, and real estate; and mining exhibited a higher rate of employment growth over the 12-year period. Although growth in retail trade employment was pervasive, a closer inspection reveals that most of the increase can be attributed to very sharp expansion in two key industries within the retail trade division—eating and drinking places, and food stores.

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This article discusses employment trends in retail trade as well as in key industry groups since 1973. In addition, it explores the changing demographic, occupational, and earnings characteristics of retail trade workers, as well as the incidence of self-employment in the industry. Data for the years 1973 and 1985 were chosen for comparison, because they are indicative of periods characterized by relatively robust economic activity and, more importantly, because they each represent the third year of recovery following a recession.¹

Data for this study were derived from both the Current Employment Statistics survey and the Current Population Survey.² The Current Employment Statistics survey is a monthly sample of the payroll records from 250,000 business establishments nationwide and is widely regarded as the most detailed and statistically reliable source of information on industry employment, hours, and earnings. Data from this survey are used in the analysis of employment and earnings trends among wage and salary workers in retail

trade industries over time. However, because the payroll survey does not provide information on the demographic or occupational characteristics of workers, or on self-employed and unpaid family workers in the industry, data on these subjects were derived from the Current Population Survey, a monthly sample survey of 59,500 households nationwide.

What is retail trade?

The role of retail trade industries in a market-based economy is obvious: to serve as “middlemen” between those who supply goods and those who purchase the goods for final consumption. More formally, the retail trade division, as defined in the 1972 *Standard Industrial Classification Manual*, includes “. . . establishments engaged in selling merchandise for personal or household consumption, and rendering services incidental to the sale of the goods.” These firms are classified into eight major component industries, including general merchandise stores, food stores, automotive dealers and gasoline service stations, apparel and accessory stores, and eating and drinking places.³ Altogether, there were about 2 million retail establishments in 1982.⁴ Clearly, retail industries are the major conduits for the distribution of goods from producer to consumer. As such, they should be distinguished from their wholesale trade counterparts, which employ roughly one-third as many workers basically in the sale of goods to retailers or to industrial or commercial users.

Retail trade, by nature, is highly labor intensive, and by and large it is the retail worker who usually plays the preeminent role in the transaction between buyer and seller. Although there have been recent developments in the way retailers conduct business that are lessening the dependence upon workers for certain tasks, such as the extensive use of computerized gasoline pumps to serve customers, there are many services provided by the industry for which it has been exceedingly difficult to substitute capital for labor. Whether through providing information and assistance to the customer in the selection of the product, ringing up the sale, or in delivering the product, the retail worker is an intrinsic and seemingly irreplaceable “factor of production” in the industry. Therefore, just as consumer demand for all kinds of merchandise has increased over time, retail employment has expanded to handle the larger number of transactions between producer and consumer.

Overall growth

Employment in retail trade expanded by 5.0 million between 1973 and 1985, an increase of about 41 percent. By comparison, employment in all nonagricultural industries increased by about 27 percent. Relatively stronger employment growth in retail trade over the period reflects not only increases during business expansions that were either proportionately equal to or greater than those for all industries, but also more resilience to employment declines during each of the three recessions that occurred during the 12-year

period under study. The following tabulation shows seasonally adjusted percent changes in employment during selected business cycle expansions and contractions. (As of March 1986, the economy was in the 40th month of business recovery since the recession trough in November 1982.)

<i>Business cycles</i>	<i>All nonagricultural industries</i>	<i>Retail trade</i>
Expansions:		
March 1975–January 1980	18.8	20.6
July 1980–July 1981	2.0	1.9
November 1982–March 1986	12.2	17.5
Contractions:		
November 1973–March 1975	-1.8	0
January 1980–July 1980	-1.2	-1.0
July 1981–November 1982	-3.0	-0.4

It may seem somewhat surprising that employment in retail trade was not only far less affected by cyclical downturns than that in all nonagricultural industries, but also that it barely declined at all in the two longer recessions of the 1973–85 period. Logically, when consumer demand wanes, employment in retail trade would be expected to decline as fewer workers are needed to handle the smaller volume of sales. Indeed, although overall employment in the retail division remained relatively unchanged during the three contractions, a closer look reveals that there were substantial differences in the response to cyclical and other developments by individual retail industries.

Employment growth by industry

For the purposes of this analysis, the eight major industry groups within the retail trade division can be broken down into three groups: 1) “slow” growth industries—those which grew only slightly during expansions and experienced deep employment declines as a result of recessions, resulting in little growth over the 1973–85 period, 2) “medium” growth industries—those which exhibited marked employment growth over the period, growing during recoveries and suffering only moderate declines during recessions, and 3) “strong” growth industries—those which grew very sharply during expansions and continued to grow during contractions, thereby establishing a pattern of extraordinary employment growth over the entire period. (See table 1.)

Slow growth industries. The general merchandise stores and automotive dealers and gasoline service stations industry groups exhibited the slowest rate of growth among the retail industries over the period, each expanding by less than 7 percent over the entire 12 years. The general merchandise stores industry, the third largest retail employer in 1985, is basically comprised of department stores and similar establishments which sell a wide variety of products. The industry had been the second largest in 1973 when it employed some 2.2 million workers. However, relatively weak employment growth since that time, in part reflecting sharp and

protracted employment declines as a result of business cycle contractions, substantially eroded its share of retail employment. By 1985, the industry employed 2.3 million workers. Automotive dealers and service stations, at 1.9 million in 1985, were only 115,000 above the 1973 level. Like general merchandise stores, this industry was severely affected by cyclical downturns (which is not surprising, given the industry's close attachment to the very cyclically sensitive automobile manufacturing industry). In addition, the gasoline crises of 1973 and 1979 had a deleterious impact on automotive dealers and gasoline service stations. Resultant losses limited overall employment growth over the 1973-85 period.

Medium growth industries. The building materials and garden supplies, apparel and accessories, furniture and home furnishings, and miscellaneous retail industries registered substantially greater employment growth than the first group of industries over the period. Among these four industries, growth was proportionately the smallest for the building materials and garden supplies industry. Comprised of all stores which sell primarily lumber, hardware, and other building supplies, this industry grew by 28 percent, employing a total of 685,000 persons by 1985. Slightly stronger employment growth occurred within apparel and accessories, as clothing stores and related establishments employed about 1 million persons in 1985, or 31 percent more than in 1973. The furniture and home furnishings industry exhibited fairly sharp growth, expanding by 38 percent to an employment level of 735,000 in 1985. Like the "slow" growth group, though to a lesser degree, all three of these industries suffered significant employment losses as a result of the recessions which occurred over the 1973-85 period. The last member of this "medium" growth group, miscellaneous retail, added 640,000 workers over the period, reaching a level of 2.2 million workers. This represents an expansion of 41 percent. Miscellaneous retail includes all retail

establishments that cannot be classified in the seven other industries, such as drugstores, bookstores, and mail order houses.

Strong growth industries. Food stores and eating and drinking places comprised the "strong" growth group. The food stores industry, which includes all businesses which primarily sell food for home preparation, grew rapidly over the period and by 1985 was the second largest industry within retail trade. This industry is comprised of groceries, bakeries, various produce markets, and similar establishments. There were 2.8 million workers employed in the food stores industry in 1985, up roughly 925,000 from the 1973 level, representing an increase of 50 percent.

The eating and drinking places industry, which remained the largest industry in the division throughout the period, registered the highest employment growth rate since 1973 among the eight retail industries (87 percent). Composed of restaurants of all types, including cafeterias, fast food restaurants, and sit-down eating places, as well as a full range of establishments engaged in the retail sale of beverages for on-site consumption, the industry employed 5.7 million persons in 1985, up 2.7 million since 1973. Thus, this industry alone accounted for half of total employment growth in retail trade over the period.

Eating and drinking places and food stores industries together employed 8.5 million persons in 1985 (about half of all retail workers), and accounted for 71 percent of employment growth in retail trade since 1973. (See chart 1.) Not only did these industries grow at a much faster pace than the rest of retail trade during expansions, but employment increases in these industries during recessions were sufficient to largely offset declines that occurred in the rest of the retail industries.⁵ The following tabulation shows the changes in employment in the eating and drinking places and food stores industries and all other retail industries during selected business cycle expansions and contractions

Table 1. Number of employees in the retail trade industry by major division, 1973-85 annual averages

[In thousands]

Year	Total nonagricultural employees	Total retail trade	Building materials and garden supplies	General merchandise stores	Food stores	Automotive dealers and service stations	Apparel and accessory stores	Furniture and home furnishings stores	Eating and drinking places	Miscellaneous retail trade
1973	76,790	12,329	535	2,229	1,856	1,778	795	533	3,054	1,551
1974	78,265	12,554	542	2,210	1,948	1,666	811	538	3,231	1,609
1975	76,945	12,645	521	2,113	2,007	1,677	806	517	3,380	1,625
1976	79,382	13,209	546	2,155	2,039	1,744	842	540	3,656	1,687
1977	82,471	13,808	576	2,204	2,106	1,801	870	563	3,949	1,740
1978	86,697	14,573	608	2,308	2,199	1,861	909	595	4,277	1,816
1979	89,823	14,989	629	2,287	2,297	1,812	949	615	4,513	1,886
1980	90,406	15,035	617	2,245	2,384	1,689	957	606	4,626	1,912
1981	91,156	15,189	607	2,230	2,448	1,653	968	595	4,750	1,938
1982	89,566	15,179	588	2,184	2,478	1,632	943	584	4,831	1,940
1983	90,200	15,613	615	2,165	2,556	1,674	963	608	5,042	1,989
1984	94,496	16,545	659	2,267	2,637	1,799	1,008	678	5,388	2,108
1985	97,614	17,360	685	2,320	2,779	1,892	1,042	736	5,715	2,191

NOTE: Data were obtained from the Current Employment Statistics (establishment) survey.

(employment in thousands, seasonally adjusted):

<i>Business cycles</i>	<i>Eating and drinking places and food stores</i>	<i>All other retail industries</i>
Expansions:		
March 1975–January 1980	1,649	954
July 1980–July 1981	210	88
November 1982–March 1986	1,399	1,260
Contractions:		
November 1973–March 1975	289	–255
January 1980–July 1980	51	–216
July 1981–November 1982	158	–235

Job growth factors

There are many factors which can be associated with employment growth in retail trade since 1973. Obviously, increasing consumer demand is largely responsible, and to some extent, this simply reflects population growth and the increase in aggregate income over the period. Perhaps more importantly, there are many demographic and socioeconomic developments which have directly and indirectly magnified demand for goods and services in general, including the increased incidence of working women, and thus of two-income families; an increased number of persons who live alone; and a general trend towards increased demand for leisure time. One end product of these changes is the gradual emergence of a more affluent society, in which time has become a scarcer resource.⁶ This, in turn, has led to increased customer demand for convenience. Consumers have less time for shopping, and they want to be able to shop

whenever time becomes available. As a result, many retail stores have not only increased in size and number, but have expanded their hours of operation as well. Both factors have resulted in the addition of more workers in retail trade, particularly part-timers. Probably the greatest impact of these developments has been in the eating and drinking and food store establishments.

It is generally more expensive to eat meals prepared in restaurants than it is to eat at home, and this disparity has widened over time. Consequently, all other things being equal, one would expect to see a cutback in the amount of dollars spent on food away from home. In fact, there has been a change in eating habits. Data from BLS Consumer Expenditure Surveys indicate that between 1972–73 and 1982–83, not only has the proportion of the overall consumer’s budget spent on food declined, but that of this total food budget, the proportion spent on food away from home has increased significantly.⁷ This preference of eating out to cooking at home can certainly be associated with the increasing desire to conserve time, as it typically takes more time to prepare a meal at home than it does to eat out. As noted previously, there are many groups that have had more constraints placed upon their available time, and many of them find it more convenient to eat out, augmenting demand for the industry.⁸

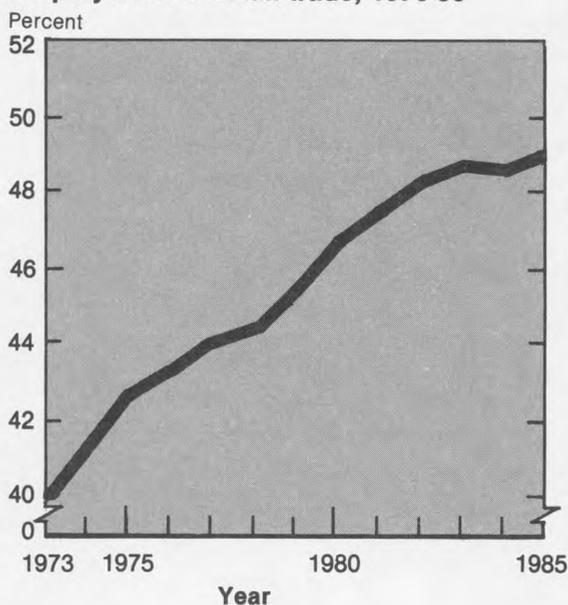
But if this is the case, then why has demand in the food stores industry increased as well? In addition to the marked population growth over the period, one possible reason for the increase over time is the growing diversification of products offered by grocery stores. To meet the customer’s growing demand for convenience, grocery stores have increasingly offered many services and products that once were the province of other industries.⁹ These include the installation of delis and salad bars, service centers for check cashing, and other services such as film processing.¹⁰ Ultimately, demand for the industry has increased as people are able to obtain a wider selection of goods with just one stop at a store, thereby saving time.

Technical innovations and productivity

Employment growth in retail trade over the 1973–85 period would probably have been even more dramatic had it not been for the adoption of many labor-saving and management-related innovations which have helped to increase productivity in the sector. For example, the use of computer technology to manage inventories and handle customer billing and accounting has limited the labor resources that were once needed to handle these tasks.¹¹ In addition, the overall trend towards consumer self-selection of merchandise has limited labor requirements in many industries, such as the proliferation of self-service pumps at gas stations and convenience stores and the self-selection of products in apparel and department stores.

In part reflecting these innovations, productivity in the retail trade division increased at an average annual rate of

Chart 1. Employment in eating and drinking places and food stores as a percentage of employment in retail trade, 1973-85



1.0 percent from 1973–84, slightly higher than the 0.8 percent recorded for the total business sector.¹² However, there were divergent movements in productivity over the period for many of the detailed retail industries. In fact, among the retail industries for which data are available, there were average annual productivity declines for only two industries, eating and drinking places and food stores. As increased output can be satisfied by either increased productivity or increased input, these two industries were increasingly reliant upon labor to meet the higher output requirements.

Characteristics of retail workers

An understanding of certain characteristics of the retail trade work force helps explain employment patterns and trends in this industry division. Historically, the retail trade work force has differed in many respects from the overall work force. For example, the industry has typically employed a disproportionately large share of part-time workers, women and young persons, sales and service workers, workers who have below average earnings, as well as self-employed and unpaid family workers. While this profile has changed little between 1973 and 1985, there have been important changes in the proportionate representation of these groups.¹³

Part-time workers. Employment growth in retail trade may be somewhat misleading if one does not note the fact that much of the growth reflected large increases in the size of the part-time component. More than 1 of every 3 retail trade workers was employed on a part-time basis in 1985—

twice the proportion of total nonagricultural employment. Although the services industry employed a larger number of part-time workers, no other industry had such a large proportion of its work force putting in fewer than 35 hours per week. Part-time employment was even more prevalent in 1985 than it had been 12 years earlier. In fact, about 40 percent of the employment growth in retail trade since 1973 has been among part-time workers; the relative contribution of part-timers to total employment growth for all nonagricultural industries was about one-fourth.¹⁴ (See table 2.) This finding is supported by data from the establishment survey, which show that average weekly hours in the industry have fallen by about 11 percent since 1973, twice the proportional decline in all private nonagricultural industries.

There are several reasons part-time employment is so prevalent in retail trade. From the standpoint of the employer, hiring part-time workers is an efficient way to handle changes in the extended hours of operation necessitated by ever-fluctuating consumer demand for retail goods. Consumer demand for many products varies seasonally, monthly, and even daily. As mentioned earlier, the emergence of a “time-scarce” American consumer has exacerbated the variability of peak and non-peak periods of demand. The result is that most retailers must stay open evenings, Saturdays, and, in many cases, even Sundays, to capture as much of this demand as possible. However, because these oscillations in demand are somewhat predictable, the retailer can use part-time labor to meet the demand at any given time.¹⁵

Just as many retailers have a need for part-time workers, so do many workers have a need for part-time jobs. Part-time schedules are often fairly flexible, allowing the worker time for other activities. This being the case, it is not surprising that women and young workers make up a large portion of the part-time workers in the industry. For example, in 1985, two-thirds of the part-time work force in retail trade were women. For many women, part-time work affords the option of supplementing family income while still allowing time for maintaining a home and child rearing; for youth, part-time work is scheduled around school attendance.

Demographic characteristics of workers. When compared with other industries, retail trade has always had a disproportionately high concentration of women and young workers. Women accounted for just under two-thirds of the employment growth in the industry between 1973 and 1985, boosting their proportion of the retail trade work force to just over one-half. This increase reflects changes occurring in the work force, as women also made up two-thirds of employment growth in all nonagricultural industries over the same period; as a result, the proportion of women in the work force increased from 39 to 45 percent.

The situation is somewhat different for young workers. Despite the general aging of the overall work force, young

Table 2. Percent distribution of employed wage and salary workers in the retail trade industry by selected characteristics, 1973 and 1985 annual averages

Characteristics	1973		1985	
	Total	Retail trade	Total	Retail trade
Total, 16 years and over	100.0	100.0	100.0	100.0
16 to 19 years	8.7	21.6	6.1	18.5
20 to 24 years	15.0	16.7	13.8	21.4
25 years and over	76.3	61.7	80.0	60.1
Men, 16 years and over	61.1	52.0	54.9	47.6
16 to 19 years	4.8	11.6	3.1	8.8
20 to 24 years	8.3	9.3	7.1	10.2
25 years and over	47.9	31.1	44.6	28.5
Women, 16 years and over	38.9	48.0	45.1	52.4
16 to 19 years	3.9	10.0	3.0	9.7
20 to 24 years	6.7	7.4	6.7	11.2
25 years and over	28.4	30.6	35.4	31.6
Full-time workers ¹	86.1	68.0	83.8	65.3
Men, 16 years and over	56.4	41.1	49.9	36.2
Women, 16 years and over	29.7	26.9	33.9	29.1
Part-time workers ¹	13.9	32.0	16.2	34.7
Men, 16 years and over	4.7	10.9	5.0	11.4
Women, 16 years and over	9.3	21.1	11.2	23.3

¹ Employed persons with a job but not at work and persons at work part time are distributed according to whether they usually work full or part time.

NOTE: Data were obtained from the Current Population (household) Survey and exclude agricultural and private household workers.

workers (16 to 24 years of age) commanded an even larger share of retail trade employment in 1985 than in 1973. This was entirely due to very large increases in the number of retail workers 20 to 24 years of age. In fact, about 73 percent of the increase in total industry employment for workers ages 20 to 24 occurred in retail trade. Teenagers accounted for about 1 of every 5 retail workers in 1985, and more than half of all employed teens worked in retail trade. On the whole, about 40 percent of all workers in retail trade were less than 25 years of age in 1985, twice the percentage for the overall work force; the figures in 1973 were 38 and 24 percent, respectively. (See table 2.) There is little variation in the extent to which whites and minorities hold jobs in retail trade. About 17 percent of both white and Hispanic workers were employed in the industry in 1985, compared with about 14 percent of black workers.¹⁶

There are several likely reasons for the relatively high prevalence of young and female workers in retail trade. Young workers typically have fewer job skills and less training than their older counterparts. In addition, as mentioned earlier, both young and female workers have a relatively high proclivity to work part time. Based on the fact that skill requirements in the industry are generally low, and that part-time work arrangements are often easily accommodated, many young and female workers find positions in the industry very suitable.

Occupation. Sales and service jobs were the most prevalent occupations in retail trade in 1985.¹⁷ About 42 percent of all workers in the industry held sales positions, and about 23 percent were employed in service jobs. Most of those in the latter category worked in eating and drinking places. Combined, these two occupational groups accounted for almost two-thirds of the employed total in retail trade; this compares with about 25 percent of those in all industries. Within retail trade, the most prevalent occupations in the sales and service areas were salesworkers, sales supervisors,

Table 3. Occupational distribution of employment in the retail trade industry, 1985 annual averages

Occupation	1985	
	Total employed	Retail trade
Total employed	100.0	100.0
Managerial and professional specialty	24.1	9.5
Executive, administrative, and managerial	11.4	7.6
Professional specialty	12.7	1.9
Technical, sales, and administrative support	31.0	50.0
Technicians and related support	3.0	.3
Sales occupations	11.8	41.6
Administrative support, including clerical	16.2	8.1
Service occupations	13.5	23.3
Private household .....	.9	—
Protective service	1.6	.3
Service, except private household and protective	10.9	23.0
Precision production, craft, and repair	12.4	6.4
Operators, fabricators, and laborers	15.7	10.7
Machine operators, assemblers, and inspectors	7.3	.8
Transportation and material moving occupations	4.2	2.3
Handlers, equipment cleaners, helpers, and laborers	4.1	7.6
Farming, forestry, and fishing	3.2	.1

NOTE: Data were obtained from the Current Population (household) Survey.

cashiers, and food preparation and service workers. (See table 3.)

Earnings. Pay in the retail trade industry has historically been below average, and the disparity has widened. Weekly earnings in the industry (derived from the Current Employment Statistics survey), at \$175 in 1985, were 58 percent of the figure for all private nonagricultural wage and salary workers; this ratio was down from 66 percent in 1973. Within retail trade, weekly earnings ranged from a high of \$273 in automotive dealerships and service stations to \$112 in eating and drinking places in 1985. (See table 4.)

A study of earnings in the industry is complicated, however, by the many varied pay arrangements. Commissions and tips supplement, to varying degrees, earnings within

Table 4. Average weekly earnings of private nonagricultural production or nonsupervisory workers in the retail trade industry, 1973-85 annual averages

Year	Total private nonagricultural employees	Total retail trade	Building materials and garden supplies	General merchandise stores	Food stores	Automotive dealers and service stations	Apparel and accessory stores	Furniture and home furnishings stores	Eating and drinking places	Miscellaneous retail trade
1973	\$145.39	\$96.32	\$128.82	\$86.94	\$111.20	\$133.17	\$80.74	\$131.38	\$65.18	\$101.51
1974	154.76	102.68	136.64	92.68	121.55	143.05	86.88	137.23	69.92	106.57
1975	163.53	108.86	142.88	99.19	131.38	149.76	91.81	144.84	74.21	113.22
1976	175.45	114.60	152.86	104.01	144.21	158.56	98.45	151.92	76.67	118.86
1977	189.00	121.66	163.78	110.93	155.03	170.62	102.81	156.73	81.75	123.55
1978	203.70	130.20	175.68	118.67	167.36	184.88	110.11	169.31	87.26	132.93
1979	219.91	138.62	186.38	129.21	179.74	200.72	117.09	182.34	90.74	143.81
1980	235.10	147.38	195.94	139.76	194.69	212.25	122.12	192.44	96.31	152.29
1981	255.20	158.03	209.76	150.38	212.35	228.23	132.99	205.52	103.10	160.97
1982	267.26	163.85	215.04	157.39	221.65	235.99	136.77	212.72	107.16	167.94
1983	280.70	171.05	221.17	165.50	229.81	249.44	141.06	227.41	112.30	174.89
1984	292.86	174.33	232.32	163.56	233.78	263.81	143.68	235.63	112.04	180.38
1985	299.09	174.64	239.58	169.60	221.97	272.69	143.33	239.57	111.71	182.03

NOTE: Data were obtained from the Current Employment Statistics (establishment) survey.

several component industries. Earnings received on a commission basis, which are included in the Current Employment Statistics survey, occur in industries with a heavy proportion of salesworkers, and vary according to product sold. Big ticket items, such as automobiles, major appliances, and jewelry offer the best chance for commission-type arrangements. Presumably, tips, which are excluded from the survey, are the most common type of compensation over and above regular pay in eating and drinking places. As a result, the payroll data somewhat understate the average earnings of workers in this industry.

Many jobs in retail trade offer no such supplement to regular wages, and therefore it is useful to look at the earnings of workers paid at an hourly rate. Data from the Current Population Survey indicate that the median hourly earnings for retail trade workers paid at an hourly rate in 1985 were \$4.15. About two-thirds of those workers paid at hourly rates made less than \$5 an hour. About one-fourth earned the prevailing minimum wage of \$3.35 or less—a much larger proportion than in any other industry. In fact, half of all minimum wage and subminimum wage workers were employed in retail trade.¹⁸

There are several characteristics of the retail trade work force which can be associated with the generally low earnings in the industry division. These include, among others, an occupational structure heavily biased toward sales and service positions, employment disproportionately composed of young workers, and industry operations that are tailored for part-time positions. Because these groups and job characteristics are associated with lower pay in general, it follows that earnings in retail trade would be affected negatively. Indeed, the increasing proportionate sizes of these

groups in retail trade over time may be related to the widening earnings gap between the industry and the all-industry average.

Self-employed and unpaid family workers. While wage and salary employment in retail trade grew markedly between 1973 and 1985, the number of self-employed workers in the industry changed very little. As a result, their proportion of total employment declined from 10 to 8 percent over the period. The number of unpaid family workers in the retail industry actually fell over the period, and by 1985, they represented less than 1 percent of the employed total in the sector. Both of these developments suggest a decline in the role of self-owned retail businesses in the industry.

THE RELATIVELY STRONG employment growth in the retail trade division over the 1973–85 period can mostly be attributed to extraordinary growth in eating and drinking places and food stores. Although a few other retail industries exhibited substantial employment growth over the period, several factors, including the increased importance of spare time and convenience to consumers, augmented demand for eating and drinking places and food stores to a much larger extent than that for retail trade in general. BLS projections indicate that employment growth in eating and drinking places and in food stores will continue strongly through 1995, albeit at a slightly slower pace than in the past. This, combined with projected declines in the rate of employment growth among other retail industries, seems to suggest that in contrast to past performance, overall retail trade employment growth over the 1984–95 period will be only slightly stronger than that for all industries.¹⁹ □

—FOOTNOTES—

¹The business cycle expansion and contraction periods are determined by the National Bureau of Economic Research, a private, nonprofit research organization located in Cambridge, MA.

²Because the two sources differ in definition, coverage, methods of collection, and estimating procedures, estimates of employment are not identical. For a detailed comparison of the two surveys, see the "Explanatory Notes" section of the BLS monthly publication, *Employment and Earnings*.

³The following industry groups comprise the major "two-digit" retail industries in the sector:

- SIC 52—Building materials, hardware, garden supply, and mobile home dealers
- SIC 53—General merchandise stores
- SIC 54—Food stores
- SIC 55—Automotive dealers and gasoline service stations
- SIC 56—Apparel and accessory stores
- SIC 57—Furniture, home furnishings, and equipment stores
- SIC 58—Eating and drinking places
- SIC 59—Miscellaneous retail

These groups are further broken down into more detailed three- and four-digit industries. See the U.S. Office of Management and Budget's *Standard Industrial Classification Manual, 1972*, for further information and a more detailed explanation of the codes.

⁴See *1982 Census of Retail Trade* (Bureau of the Census, Nov. 1984), p. 2.

⁵One characteristic common to both of these industries that substantially insulates them from cyclical downturns, and thus the associated employment losses, is that food and related products represent a "need" rather than a "want." Consequently, potential employment declines in these industries are mitigated. However, the fact that employment in these industries actually grew significantly during the three recessions reflects considerable consumer demand for their products.

⁶Jagdish N. Sheth, "Emerging Trends for the Retailing Industry," *Journal of Retailing*, Fall 1983, p. 6.

⁷For further information, see Raymond Gieseman and John Rogers, "Consumer expenditures: results from the Diary and Interview surveys," *Monthly Labor Review*, June 1986, pp. 14–18.

⁸William Dunn, "The Meat and Potatoes of Eating Out," *American Demographics*, January 1985, p. 35.

⁹See Sheth, p. 7.

¹⁰See *Progressive Grocer Magazine*, selected "Annual Reports of the Grocery Industry."

¹¹See Michael A. Gallo and Robert B. Nenno, *Computers and Society* (Boston, Prindle, Weber and Schmidt, 1985), pp. 182–86.

¹²Data were obtained from both published and unpublished matrices from the BLS Office of Productivity and Technology. The productivity figures represent output per hour of all persons. Average annual productivity rates of change over the 1973–84 period for the total business sector,

retail trade, and available detailed retail industries are:

Total business sector .....	.8
Retail trade	1.0
SIC 54—Food stores	-.7
SIC 5511—Franchised new car dealers .....	.8
SIC 5541—Gasoline service stations	3.1
SIC 56—Apparel and accessory stores	3.7
SIC 58—Eating and drinking places	-.7
SIC 5912—Drugstores	1.3

¹³For information on the characteristics of workers in the retail trade industry over the 1968–78 period, see Barbara Cottman Job, "Employment and pay trends in the retail trade industry," *Monthly Labor Review*, March 1980, pp. 40–43.

¹⁴These data are based on a new definition of part-time employment recently developed by BLS. For a discussion of the new definition, see Thomas Nardone, "Part-time workers: who are they?" *Monthly Labor Review*, February 1986, pp. 13–19.

¹⁵For information on the demand for part-time labor in retailing, see Roy Thurik and Nico Van Der Wijst, "Part-Time Labor in Retailing," *Journal of Retailing*, Fall 1984, pp. 62–68.

¹⁶Persons of Hispanic origin are included in both the black and white population groups.

¹⁷Beginning with data for 1983, occupational data are classified according to the system used in the 1980 census, which was redesigned to reflect the occupational structure of the changing economy. This system is radically different from the 1970 census-based system which was adopted in 1972 and used through 1982. Therefore, data for 1985 are not comparable with pre-1983 estimates, and for this reason, occupational data for 1985 only are discussed in the text. Occupational data used in this report are representative of all workers in the retail trade industry, including the self-employed, private household workers, and unpaid family workers. Although these components are relatively small, it should be noted that these figures differ from the data used in the discussion of part-time, women, and young workers, which represent only nonagricultural wage and salary workers excluding private household workers.

¹⁸It should be noted, once again, that many of these hourly paid workers receive wages that are supplemented in varying degrees by tips and commissions. Furthermore, the existence of a substantial group of retail workers earning below the minimum wage does not necessarily indicate violations of the Fair Labor Standards Act but in fact may reflect exemptions to the Act, many of which pertain to the retail trade industry. For further information, and a more complete list of full and partial exemptions, see *Report of the Minimum Wage Study Commission*, vol. I, pp. 107–38.

¹⁹See Valerie A. Personick, "A second look at industry output and employment trends to 1995," *Monthly Labor Review*, November 1985, pp. 26–41.

Employment in health services: long-term trends and projections

Demand for health services is expected to grow in response to the increasing number of elderly people; but growth prospects to 1995 for the industry's wage and salary workers are uncertain because of changes in both the financing and delivery of health care

ANNE KAHL AND DONALD E. CLARK

Health care has aptly been described as a system in flux.¹ Throughout much of the post-World War II period, U.S. health policy encouraged expansion of the delivery system and of patients' access to it. There was a perceived need for more physicians and hospitals, and strategies were developed to increase the supply. The number of beds in hospitals and nursing homes rose, and the supply of physicians, nurses, and allied health professionals grew very rapidly. Now that cost control has emerged as a dominant concern, this has changed: evolving methods of payment for health services are based on incentives intended to discourage use of costly resources and to foster price competition. Greater emphasis on providing care in the most cost-effective setting is one of the principal trends reshaping this large and important industry.² This article explores the potential impact on demand for health services workers of the sweeping changes in industry structure currently underway.

Health care is still delivered in doctors' and dentists' offices, hospitals, and nursing homes, for the most part, but the structure of the industry is changing as financial incentives for providing (and using) health services are transformed. Health maintenance organizations (HMO's) are

flourishing and new organizational entities such as urgent care centers, birthing centers, and hospices are taking hold.

The boundary between financing and delivery of health care is becoming less distinct, and vertically integrated systems of care are emerging as providers affiliate with one another, or with hospitals, HMO's, and insurance companies. Additional changes in organizational structure lie ahead, inasmuch as financing is in ferment. The prospective payment system launched by Medicare in October 1983 may be modified as evidence of its impact accumulates and other payers are experimenting with cost containment programs of their own.

Yet even as the delivery system changes, equally dramatic shifts are occurring in the composition of the U.S. population. Americans are growing older, creating a need for suitable health, housing, and social services. Moreover, the segment age 85 and above is recording much faster growth than any other age group in the population. In the decade ahead, the increasing number of elderly people, especially those of very advanced age, is expected to heighten demand for hospital, medical, and surgical care; for long-term care services; and for new services, including geriatric assessment, case management, adult day care, and respite care. The effort to provide adequate and appropriate health care for an aging population within the constraints imposed by cost containment is stimulating innovative approaches to

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program design, organization, and financing. With both the scope and structure of health care services delivery in flux, however, it is very difficult to anticipate the future pattern of health services.

Given the growth and aging of the population, advances in medical technology, and public support for high-quality care, there is little doubt that the health services industry will continue to grow over the 1984–95 period that is the focus of this article. However, there is considerable uncertainty as to how rapid future growth will be, and what the employment implications are likely to be. This article, undertaken in connection with the Bureau of Labor Statistics' expanding coverage of the service sector, illustrates the wide range of possibilities. It sets up a series of alternative scenarios based on qualitative judgments about the possible course of events affecting the health services industry and provides projections of industry and occupational employment consistent with those assumptions.

The Bureau has for several decades developed medium-term projections of the U.S. economy under alternative sets of assumptions. The latest set of 1995 projections is presented in four articles in the November 1985 issue of the *Review*.³ The low-growth, moderate-growth, and high-growth alternatives presented there for all industries reflect alternative fiscal and monetary assumptions, rates of growth of productivity, unemployment rates, or what may be thought of as macro alternatives. This article explores the prospects for a single industry sector, the health services industry, under micro alternatives outlined in exhibit 1.

No attempt was made to quantify the effects of specific assumptions in exhibit 1; rather, they portray service delivery patterns and interrelationships that might reasonably be expected to generate varying levels of demand for health services. The base case projections presented here were taken directly from the moderate-growth projections for the health services industry, while the low- and high-scenario projections were derived from analytical judgment. Projections tied to all three alternative scenarios thus represent a qualitative assessment of the likely effect on industry output and employment of alternative courses of events in the health services industry.

This analysis pertains to wage and salary workers in the health services industry only. Excluded are self-employed and unpaid family workers, on the one hand, and workers employed outside the health sector, on the other. Examples of health professionals excluded from the analysis are (1) physicians, dentists, podiatrists, chiropractors, pharmacists, nurses, physical therapists, speech pathologists and audiologists, and other practitioners who are self-employed; and (2) nurses, nursing aides, dietitians, dental hygienists, social workers, psychologists, occupational therapists, physicians, dentists, and others employed in schools, prisons, residential care facilities, temporary help agencies, and other industry sectors outside health. These exclusions have different effects on the validity of the analysis, depending on

the occupation or industry of interest. Only about 1 physician in 4 is self-employed and, as such, excluded from the scope of this study. However, most chiropractors, and many dentists, podiatrists, and optometrists are self-employed, which diminishes the relevance of this analysis for those occupations. Note, however, that self-employed practitioners generally work in one or another of the health services industry sectors, and are subject to many of the same trends as wage and salary workers in those sectors. Confining the analysis to the health services industry limits the ability to generalize the findings, too. Because of differences in industry distribution, the projections cover virtually all radiologic technologists, for example; about 4 of 5 registered nurses; 3 of 5 occupational therapists; but only about 1 of 5 speech pathologists and audiologists, social workers, or psychologists.

Projection highlights

The health services industry is defined according to the 1972 Standard Industrial Classification (SIC), and includes the following:

SIC

- 801 . . . Offices of physicians
- 802 . . . Offices of dentists
- 803 . . . Offices of osteopathic physicians
- 804 . . . Offices of other health practitioners
- 805 . . . Nursing and personal care facilities
- 806 . . . Hospitals
- 807 . . . Medical and dental laboratories
- 808 . . . Outpatient care facilities
- 809 . . . Health and allied services, not elsewhere classified

In 1995, the number of wage and salary jobs in the health services industry is projected to vary from 7.3 to 10.5 million, compared with nearly 7.2 million in 1984. (See table 1.) The low scenario shows a barely perceptible 2-percent increase in employment over the 1984–95 period, stagnation that represents a radical departure from past trends. The base case yields a projected employment increase of 26 percent. This is faster than average growth compared with the economy as a whole, but a significant slowdown by health industry standards. Even the high scenario, a 46-percent increase over 11 years, implies a slower rate of job growth than in the past.

The 1995 alternatives have a more pronounced effect on some health industry sectors than on others. At one extreme, hospital employment is projected to decline by 17 percent under the assumptions of the low scenario, from 4.1 million jobs in 1984 to 3.4 million in 1995. Alternatively, under the assumptions of the high scenario, hospital employment would exceed 5 million in 1995, an increase of 24 percent. Underlying the three projection alternatives are significantly different assumptions about hospitals' response to cost pressures and the keenly competitive health care environment. (See exhibit 1.)

Job growth in offices of physicians is projected to outpace the industry as a whole. Nonetheless, under the low sce-

nario, extensive market penetration by health maintenance organizations (HMO's) and imposition of stringent fee restraints are assumed to produce a marked slowdown in growth in this major industry. Wage and salary employment in offices of physicians is projected to vary from 1.2 to nearly 1.5 million jobs in 1995, compared with 908,000 in 1984.

Projected 1995 employment in nursing and personal care facilities varies from 1.3 to nearly 2.1 million wage and salary jobs, up from 1.1 million in 1984. Markedly different assumptions about future directions in long-term care help explain the wide variation in nursing home growth between the low and high scenarios. Strong demand for home health care, a key assumption of all three scenarios, is the principal reason for projected employment growth in health and allied services, not elsewhere classified.

Occupations concentrated in industries that have widely differing growth prospects exhibit the greatest variation under the alternatives. This is particularly true of occupations located for the most part in hospitals and nursing homes. Employment in hospital-based occupations such as respiratory therapist and surgical technician is projected to decline in the low scenario, but grow at a faster than average rate under assumptions of the high scenario. In the case of nursing aides, projected patterns of industry growth are largely responsible for a decline in employment in the low scenario for 1995, compared with much faster than average growth in the high scenario.

Historical trends

Health care has enjoyed a long period of expansion, with continuous growth in funding of services and programs from both the public and private sectors. National health expenditures have grown rapidly, consuming an increasing proportion of the Nation's resources. The growing share of gross national product (GNP) allocated to health, up from 4.4 percent of current dollar GNP in 1950 to 10.6 percent in 1984, is reflected by many indicators of economic activity—per-

sonal consumption expenditures on health care, employment, and payroll expenses.

Before turning to an analysis of possible future trends, we should take a careful look at the past. A number of interrelated factors are responsible for the escalation of spending and the expansion of employment in the industry, but incentives built into the health care financing system itself are singularly important. Increases in private health insurance coverage and the introduction of major public programs, including medicare and medicaid, have encouraged greater use of hospital and nursing home care by making such services affordable to segments of the population previously shut out of the health market by price considerations. Methods of financing have shifted as a result of efforts to broaden access to health care. In 1966, the consumer paid directly for half of all personal health care spending, according to estimates by the Health Care Financing Administration. The other half was financed about equally by insurance and public programs. By 1984, public programs accounted for almost 40 percent of all spending; insurance, 31 percent; and the consumer, 28 percent.⁴

The shift of payment responsibility from the consumer to "third parties" such as government and insurance companies is thought to have made patients and providers alike insensitive to the true cost of treatment and care. Both perceive the price of services to be lower than it really is. New programs, new technologies, and new types of personnel have been added because of perceived clinical benefits, with little concern for the cost implications. However, the prevalence of health insurance, as well as the cost of premiums and extent of coverage, differ greatly by sector. Health insurance and public programs currently provide about 90 percent of all spending for hospital care; 72 percent for physicians' services; and 50 percent for nursing home care.

Methods of financing health care have helped shape medical practice patterns and spurred the rapid diffusion of medical technology.⁵ For many years, health insurance has given providers an incentive to apply medical technology,

Table 1. Wage and salary employment in the health services industry, 1984 and three projected 1995 alternatives

(Employment in thousands)

Industry	Actual 1984 employment	Projected 1995 employment			Average annual rate of change						
		Low	Base	High	Historical				Projected 1984-95		
					1972-77	1977-84	1982-84	1972-84	Low	Base	High
Total, health services industry	7,188.7	7,325	9,054	10,535	5.3	3.6	1.8	4.3	0.2	2.1	3.5
Offices of physicians	907.5	1,206	1,313	1,450	7.6	5.0	4.9	6.1	2.6	3.4	4.4
Offices of dentists	425.7	533	551	562	8.8	5.8	5.3	7.0	2.1	2.4	2.6
Offices of osteopathic physicians	129.8	39	44	49	8.1	6.0	5.6	6.9	2.5	3.6	4.6
Offices of other health practitioners	1,148.1	227	290	356	9.7	11.1	10.6	10.5	4.0	6.3	8.3
Nursing and personal care facilities	1,144.6	1,271	1,650	2,057	7.8	4.2	3.6	5.7	1.0	3.4	5.5
Hospitals	4,078.1	3,401	4,366	5,045	3.8	2.2	-0.8	2.9	-1.7	0.6	2.0
Medical and dental laboratories	113.2	126	135	140	6.1	2.8	1.7	4.1	1.0	1.6	1.9
Outpatient care facilities	190.7	284	390	450	12.7	11.5	9.0	12.0	3.7	6.7	8.1
Health and allied services, not elsewhere classified	1151.0	238	315	426	13.9	16.0	20.7	15.1	4.3	7.0	9.9

¹ Unpublished BLS data.

NOTE: "Unpublished data" do not meet publication standards for accuracy and reliability and therefore are not official Bureau estimates.

Exhibit 1. Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Level and distribution of health sector output in 1995	<p>3.0 percent of total private output: \$169 billion in 1977 dollars</p> <p>Distribution by sector Sector 140: 47 percent Sector 141: 32 percent Sector 142: 20 percent</p>	<p>3.5 percent of total private output: \$200 billion in 1977 dollars</p> <p>Distribution by sector Sector 140: 42 percent Sector 141: 36 percent Sector 142: 22 percent</p>	<p>4.0 percent of total private output: \$226 billion in 1977 dollars</p> <p>Distribution by sector Sector 140: 40 percent Sector 141: 36 percent Sector 142: 24 percent</p>
Technology	<p>Same as base case.</p> <p>Technology applied more selectively than in base case.</p> <p>Diffusion of high-cost technologies constrained by restrictive reimbursement policies and hospitals' difficulty in raising capital. Widespread application of technologies that reduce resource utilization.</p>	<p>Advances that permit complex procedures to be performed on an outpatient basis continue, facilitating shift in delivery of services to nonhospital settings.</p> <p>Advances in diagnostic and treatment techniques continue, fostering greater service intensity (more tests and procedures per patient).</p> <p>Rapid diffusion of high-cost technologies continues. Greater effort to develop technologies that reduce resource utilization.</p>	<p>Same as base case.</p> <p>Service intensity somewhat greater than in base case.</p> <p>Diffusion of high-cost technologies more rapid than in base case.</p>
Reimbursement	<p>Stringent reimbursement policies established for physician services.</p> <p>Stringent constraints imposed on reimbursement for hospital services. Together with HMO expansion, these contribute to reduced demand for inpatient hospital care.</p> <p>Stringent constraints on medicare, medicaid, and other third-party reimbursement for nursing home and home health services.</p>	<p>Some tightening of reimbursement for physician services.</p> <p>Continued constraints on reimbursement for hospital services, whether through prospective payment or other methods.</p> <p>Some added constraints on medicare, medicaid, and other third-party reimbursement for nursing home and home health services.</p>	<p>Less tightening of reimbursement for physician services than in the base case.</p> <p>Fewer constraints on reimbursement for hospital services than in the base case.</p> <p>Fewer constraints on third-party reimbursement for nursing home and home health services than in the base case.</p>
Delivery system: Systemwide	<p>Same as base case.</p> <p>Substantial shift away from fee-for-service medicine. HMO's and nonphysician providers account for larger share of office visits for primary care than in the base case.</p>	<p>Shift from inpatient to outpatient care continues.</p> <p>Moderate shift from fee-for-service medicine to managed care, chiefly because of HMO growth.</p>	<p>Same as base case.</p> <p>Limited shift from fee-for-service medicine to managed care, reflecting slower HMO growth than in base case.</p>

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
<p>Delivery system: —continued</p> <p>Systemwide</p>	<p>Same as base case.</p> <p>Less increase in demand for elective or nonemergency health services than in the base case.</p> <p>Same as base case.</p>	<p>Some shift in demand for primary care from physicians to other practitioners because of consumer cost sharing and decision making. Contributing factors include wellness and fitness movement; acceptance of nonphysician providers including nurse practitioners, podiatrists, and chiropractors; greater personal responsibility for health, including treatment options.</p> <p>Moderate increase in demand for health services of an elective or nonemergency nature, such as dental, vision, mental health, counseling, and nutritional services.</p> <p>Nusing home remains principal site for formal long-term care, despite strong growth of home health and community-based programs.</p>	<p>Same as base case.</p> <p>Much greater demand for elective or nonemergency services than in the base case because of consumer preference plus changes in insurance coverage and out-of-pocket spending.</p> <p>Same as base case.</p>
Hospitals	<p>Occupancy declines sharply, largely because of widespread HMO enrollments and practice patterns that limit hospitalization of HMO subscribers.</p> <p>Hospitals emphasize inpatient care. Diversification and expansion into outpatient and community-based services and programs inhibited by severe problems in capital formation. Inability to compensate for reduced demand for inpatient care forces some hospitals to cut back or close altogether.</p> <p>Same as base case.</p>	<p>Occupancy continues to trend down moderately, then levels out.</p> <p>Hospitals provide mix of inpatient and outpatient care. Diversify and expand into nontraditional areas including home health, hospice, nursing home, rehabilitation, alcohol treatment, occupational health and employee assistance, health promotion and wellness, birthing centers, and outpatient surgery. Addition of new services enables hospitals to compensate in part for reduced demand for inpatient care.</p> <p>Techniques for managing patient flow, monitoring physician practice patterns, and achieving staffing efficiencies are implemented.</p>	<p>Occupancy rises, reflecting less stringent controls on admissions and lengths of stay by HMO's, insurance plans, employers, and other payers.</p> <p>Hospitals provide mix of inpatient and outpatient care, and many offer such amenities as luxury suites and gourmet meals. Diversify and expand into nontraditional areas of patient care. Acceleration of trend toward specialization, joint ventures, multihospital networks. Hospitals compete effectively with other providers for outpatients and new sources of revenue.</p> <p>Same as base case.</p>
Nursing homes	<p>Bed supply severely constrained by certificate-of-need regulations and investor uncertainties about the nursing home market.</p>	<p>Bed supply increases as certificate-of-need constraints are lifted and investors take a more favorable view of industry profitability.</p>	<p>Bed supply increases substantially as investors take a favorable view of private pay patients' ability to support such expansion.</p>

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Delivery system: —continued Physicians	Fee-for-service medicine diminishes in importance. Greater standardization of medical practice as physician services predominantly provided through formal organizations or managed care systems such as HMO's, which establish guidelines for ordering of tests, procedures, and hospital stays.	Fee-for-service medicine continues to predominate despite HMO expansion and growth in preferred provider arrangements.	Fee-for-service medicine flourishes. HMO expansion and growth in preferred provider arrangements is less than in the base case.
Staffing: Offices of physicians	Same as base case. Same as base case.	Trends toward group practice, advances in technology, and increased case-mix complexity assumed to produce larger and more diverse medical office staffs. As more nurses, clinical laboratory personnel, radiologic technologists, medical assistants, and others hired to assist with tests and procedures, job growth for clinical support staff expected to outpace that for physicians, and for the industry as a whole. Office automation, plus availability of software tailored for medical office use, assumed to generate productivity gains and somewhat slower job growth for secretaries, typists, and other clerical staff than for the industry as a whole.	Same as base case. Same as base case.
Offices of dentists	Same as base case.	Little change in use of hygienists, assistants, auxiliary personnel. Trend toward group practice and retail dentistry helps sustain widespread utilization of dental auxiliaries.	Same as base case.
Offices of other health practitioners	Same as base case.	Staffing patterns remain relatively stable because establishment size is assumed to stay small. Among practitioners, job growth assumed to be very rapid in fields where public and professional acceptance of private practice, and lifting of legal and reimbursement restrictions, is most recent. More moderate growth among established practitioners including chiropractors, optometrists, and podiatrists.	Same as base case.

Exhibit 1. Continued—Assumptions underlying various projection scenarios

Factor	Assumptions		
	Low scenario	Base case	High scenario
Staffing: —continued			
Nursing homes	Same as base case.	Efforts to streamline operations assumed to result in joint purchasing and other shared services; more use of computers in clinical, financial, and administrative areas; and smaller proportion of staff in clerical, food service, and housekeeping jobs.	Same as base case.
	Same as base case.	Case-mix assumed to include larger proportion of severely impaired patients, notably Alzheimer's and other chronic "heavy-care" patients, necessitating larger nursing staff.	Same as base case.
	Same as base case.	Increased number of posthospital patients requiring nasogastric feeding, ventilator support, and other advanced nursing skills assumed to produce somewhat greater use of licensed nurses.	Same as base case.
			Greater reliance on private pay patients than in the base case assumed to produce staff changes aimed at extending range of services and improving quality of care; more professionals on staff, notably RN's and LPN's, therapists, physicians, pharmacists, social workers, and activity directors.
Hospitals	Same as base case.	Emphasis on management techniques to schedule patients, procedures, and staff; automated systems to handle clinical, financial, and administrative records; contract services in areas including food service, housekeeping, and clinical laboratory; shared service arrangements in purchasing, laundry, materials warehousing, and computer support.	Same as base case.
	Same as base case.	Larger proportion of hospital staff in professional, managerial, and clinical jobs; fewer in clerical, cleaning and housekeeping, protective service, and other support occupations.	Same as base case.

Factor	Assumptions		
	Low scenario	Base case	High scenario
Hospitals —continued		Emphasis on identifying new markets and adding new programs and services assumed to contribute to larger proportion of social workers, registered nurses, and therapists; more marketing and public relations specialists as well.	Same as base case.
	Same as base case.	Changes in mix of nursing staff: substantially greater use of RN's, less reliance on licensed practical nurses and aides.	Same as base case.

whether in the form of “little ticket items” such as laboratory tests and x-rays, or costly high-tech procedures such as coronary bypass surgery or magnetic resonance scans. Despite recent changes, fee schedules continue to reward physicians more generously for performing tests and procedures than for providing “cognitive services” such as asking questions, listening, and counseling. Extensive ordering of tests and procedures has traditionally been covered by health insurance, contributing to the increasing diffusion of both old and new technologies.⁶

In addition to the role of insurance, other elements have contributed to health sector expansion. Among them are population growth; rising personal and family incomes; public policies designed to support medical research and expand the supply of health care facilities and personnel; advances in scientific knowledge that result in medical intervention for conditions previously undiagnosed or regarded as untreatable; technological developments that foster the use of sophisticated and expensive medical equipment; and practice patterns that encourage referral to medical specialists and extensive use of costly, high-tech procedures.

Historically, only a small share of total increases in health care outlays can be attributed directly to population aging. But in the future, upward shifts in the age structure are expected to have an effect on health care outlays, particularly those for inpatient hospital and nursing home care.⁷ Potential implications of projected growth in the elderly population for health services demand are discussed later, in the section on alternative scenarios.

Output trends. Historical data on the real value of industry output underscore the dramatic expansion of the health sector over the past 25 years. Table 2 documents year-to-year changes since 1960 in the real value of industry output for the total private economy and for the health sector as defined in the BLS economic growth model.⁸ In the economic growth system, output is measured as gross domestic output or duplicated output. Health sector output includes total expen-

ditures for products and services of physicians, dentists, and other practitioners such as chiropractors and podiatrists; expenditures for care in private hospitals and nursing homes; purchases of medical and dental laboratory services; premiums paid to health maintenance organizations; and expenditures for services delivered by home health agencies and outpatient care facilities.⁹

Since 1960, growth in health sector output has been sizable and relatively stable compared with total output growth. Despite price increases that have been much higher than the average for the economy as a whole, the health

Table 2. Output, health sector and total private economy, 1960–84

Year	Output				Health sector output as a percent of total output
	Total private economy		Health sector ¹		
	Millions of 1977 dollars	Annual percent change	Millions of 1977 dollars	Annual percent change	
1960	\$1,910,951	—	\$ 38,021	—	2.0
1961	1,948,379	1.96	39,365	3.5	2.0
1962	2,051,418	5.29	41,893	6.4	2.0
1963	2,150,199	4.82	44,087	5.2	2.1
1964	2,251,433	4.71	49,083	11.3	2.2
1965	2,238,384	5.91	51,133	4.2	2.1
1966	2,510,818	5.30	53,390	4.4	2.1
1967	2,570,789	2.39	57,528	7.8	2.2
1968	2,693,748	4.74	62,113	8.0	2.3
1969	2,776,735	3.08	66,931	7.8	2.4
1970	2,753,283	-0.84	72,427	8.2	2.6
1971	2,847,304	3.41	77,767	7.4	2.7
1972	3,037,923	6.69	82,794	6.5	2.7
1973	3,204,583	5.49	89,058	7.6	2.8
1974	3,161,930	-1.33	91,542	2.8	2.9
1975	3,051,044	-3.51	98,573	7.7	3.2
1976	3,281,891	7.57	102,839	4.3	3.1
1977	3,455,167	5.31	108,136	5.2	3.1
1978	3,620,496	4.78	112,855	4.4	3.1
1979	3,733,089	3.11	116,925	3.6	3.1
1980	3,640,248	-2.49	121,843	4.2	3.3
1981	3,698,255	1.59	126,304	3.7	3.5
1982	3,574,329	-3.35	130,462	3.3	3.6
1983	3,748,177	4.86	134,826	3.3	3.6
1984	4,085,312	8.99	141,174	4.7	3.5

¹ Economic growth sectors 140 (Doctors' and dentists' offices), 141 (Hospitals), and 142 (Medical services, not elsewhere classified). Data include veterinary services, exclude offices of optometrists.

sector averaged a 5.6-percent annual gain in real output during 1960–84, compared with a 3.3-percent rise in real GNP. Increases in health sector output were greatest in the decade following the 1965 enactment of medicare and medicaid, averaging 7.2 percent a year from 1965 to 1973.

Faster growth in health output than in total private output is responsible for the increasing ratio depicted in chart 1. From 2.0 percent in 1960, the health sector's share of total real output climbed to 3.6 percent in 1982. The drop to 3.5 percent in 1984 shows the effect on this statistic of a vigorously rebounding economy.

Employment trends. Along with a rise in demand for the output of the health sector, employment has grown at a very rapid pace. Health sector employment averaged 5.9-percent annual growth during 1960–84—nearly three times the rate of job growth for the private economy as a whole. Almost 32 million new wage and salary jobs were created in the private economy and of these, nearly 4.6 million or 14 percent, were health sector jobs. Health sector employment has exhibited a remarkably stable pattern of growth for more than two decades, as table 3 shows, and annual gains have consistently outstripped those posted for the total economy. Only twice in the 25 years has job growth in health failed to outpace economywide growth—in 1978 and again in 1984. The health sector's share of wage and salary employment in the private economy has more than doubled as a result, rising from 3.1 to 7.4 percent between 1960 and 1984.

Hospitals have dominated the health care system for decades. From a technological perspective, inpatient hospital care is the cornerstone of our system for delivering complex, acute care services. The hospital is the “workshop” for most physicians and the place where most health professionals receive their clinical training. From an employment perspective, hospitals hire the majority of health industry workers (4.1 of 7.2 million in 1984) and provided more than 40 percent of the 2.8 million new jobs created in the industry between 1972 and 1984. (See table 4.)¹⁰

From 1972–1982, hospitals posted an average annual job gain of 3.6 percent. During this period, outpatient and clinic care grew—restraining demand for inpatient services—and “service intensity” replaced bed capacity as the driving force behind industry expansion. Service intensity refers to the quantity and complexity of services provided per admission. For example, a cancer patient may require 19 lab tests, 18 pharmacy prescriptions, 3 radiology procedures, and 1 surgical procedure per admission. Contributing to the growth in hospital service intensity throughout the 1970's were the quickening pace of technological advance, changes in treatment approach, and comprehensive insurance coverage coupled with widespread use of cost-based reimbursement.

Gains in the number of tests and procedures per admission more than offset the slowdown in inpatient days during the 1970's, a slowdown caused by shorter hospital stays and

Table 3. Employment, health sector and total private economy, 1960–84

Year	Wage and salary employment				Health sector employment as a percent of total private employment
	Total private economy		Health sectors ¹		
	Employment in thousands	Annual percent change	Employment in thousands	Annual percent change	
1960	50,785	—	1,568	—	3.1
1961	50,410	-0.74	1,660	5.9	3.3
1962	51,410	2.19	1,760	6.0	3.4
1963	52,318	1.56	1,857	5.5	3.5
1964	53,534	2.32	1,983	6.8	3.7
1965	55,390	3.47	2,100	5.9	3.8
1966	57,677	4.13	2,225	6.0	3.9
1967	58,939	2.19	2,454	10.3	4.2
1968	60,550	2.73	2,659	8.4	4.4
1969	62,513	3.24	2,883	8.4	4.6
1970	62,583	0.11	3,071	6.6	4.9
1971	62,539	-0.07	3,254	6.0	5.2
1972	64,507	3.15	3,417	5.0	5.3
1973	67,180	4.14	3,648	6.8	5.4
1974	68,235	1.57	3,896	6.8	5.7
1975	66,317	-2.81	4,144	6.4	6.2
1976	68,587	3.42	4,364	5.3	6.4
1977	71,438	4.16	4,599	5.4	6.4
1978	75,207	5.28	4,808	4.5	6.4
1979	77,971	3.68	5,013	4.3	6.4
1980	78,176	0.26	5,302	5.8	6.8
1981	79,173	1.28	5,596	5.5	7.1
1982	77,849	-1.67	5,846	4.5	7.5
1983	78,500	0.84	6,025	3.1	7.7
1984	82,593	5.21	6,141	1.9	7.4

¹ Economic growth sectors 140 (Doctors' and dentists' offices), 141 (Hospitals), and 142 (Medical services, not elsewhere classified). Data include veterinary services, exclude offices of optometrists.

growing substitution of outpatient for inpatient services. Outpatient visits to community hospitals rose by 21 percent between 1973 and 1983, compared with a 14-percent increase in inpatient admissions.¹¹ Hospital employment grew 38 percent over the same period, largely because of significant growth in laboratory, diagnostic, surgical, and other services rendered per patient day.

Employment in offices of physicians and osteopathic physicians rose more than twice as fast as hospital employment during 1972–84. Among the factors contributing to rapid growth over the entire period were substantial increases in the supply of practitioners, widespread insurance coverage for medical and surgical care, greater service intensity, technological developments that permitted substitution of ambulatory services for inpatient hospital care, and emphasis on the use of nurses, medical assistants, and other support staff to extend the physician's productivity. The aging of the population also contributed to job growth inasmuch as both the number of physician visits per capita and intensity of services per visit are relatively higher for the elderly. Some of the growth registered in offices of physicians and osteopathic physicians is a statistical artifact, a consequence of practitioners' increasing propensity to incorporate for tax and other business reasons. The resultant shift in class-of-worker status (from self-employed practitioners, who are not included in these employment estimates, to wage and salary workers, who are) affects the trend data displayed in table 4. However, it is impossible to quantify

the impact of this factor on industry growth. Physicians currently account for approximately 19 percent of wage and salary employment in offices of physicians and a somewhat smaller percentage of employment in offices of osteopathic physicians.

Historically, employment has risen much faster in nursing and personal care homes than in hospitals. Increased medicaid coverage for nursing home care, State policies of transferring patients from mental hospitals to nursing homes, growth in real incomes, and an aging population help explain the very rapid rise in the industry's employment during the early 1970's.¹² Nursing home employment increased at an average annual rate of 7.8 percent from 1972 to 1977, then slowed as numerous States imposed controls on nursing home construction and otherwise sought to limit medicaid outlays. Additions to nursing home capacity have not kept up with population growth in recent years, and the disparity may grow, according to industry observers. Together with low medicaid reimbursement rates in many States, changes in tax laws have made nursing home construction less attractive to investors.

There has been little change in recent years in the way nursing home care is financed: about half of the money comes from patients and their families, and the rest comes from public programs, of which medicaid is by far the most important. Because additional nursing home beds may gen-

erate higher levels of medicaid spending, States have an interest in curtailing growth. Some have done so by cutting reimbursement, implementing stringent certificate-of-need policies, and instituting moratoria on new nursing home construction.¹³

Changes in the industry's structure have occurred since Federal subsidies for nursing home care began in 1956, under the Old Age Assistance program. Changes include an increasingly sophisticated medical orientation in nursing home care, a shift from government-owned to proprietary homes, and, more recently, a growing concentration of ownership in multifacility chains. The more sophisticated medical orientation reflects medicaid requirements for covered care, and State as well as Federal efforts to improve quality by enforcing staffing standards. Both skilled and intermediate levels of medicaid-covered care require more nursing involvement than the small old-age homes from which the industry evolved.¹⁴

The increasing professionalism of nursing home care, over the decade of the 1970's, produced an increase in staff-patient ratios. These ratios interact with the bed supply (that is, number of residents) to determine the rate of employment growth. According to the National Center for Health Statistics, the number of full-time equivalent employees in facilities with 25 beds or more increased 98 percent from 1969 to 1980, while the number of nursing

Chart 1. Health sector output as a percentage of total private output, 1960-1984, and projected 1985

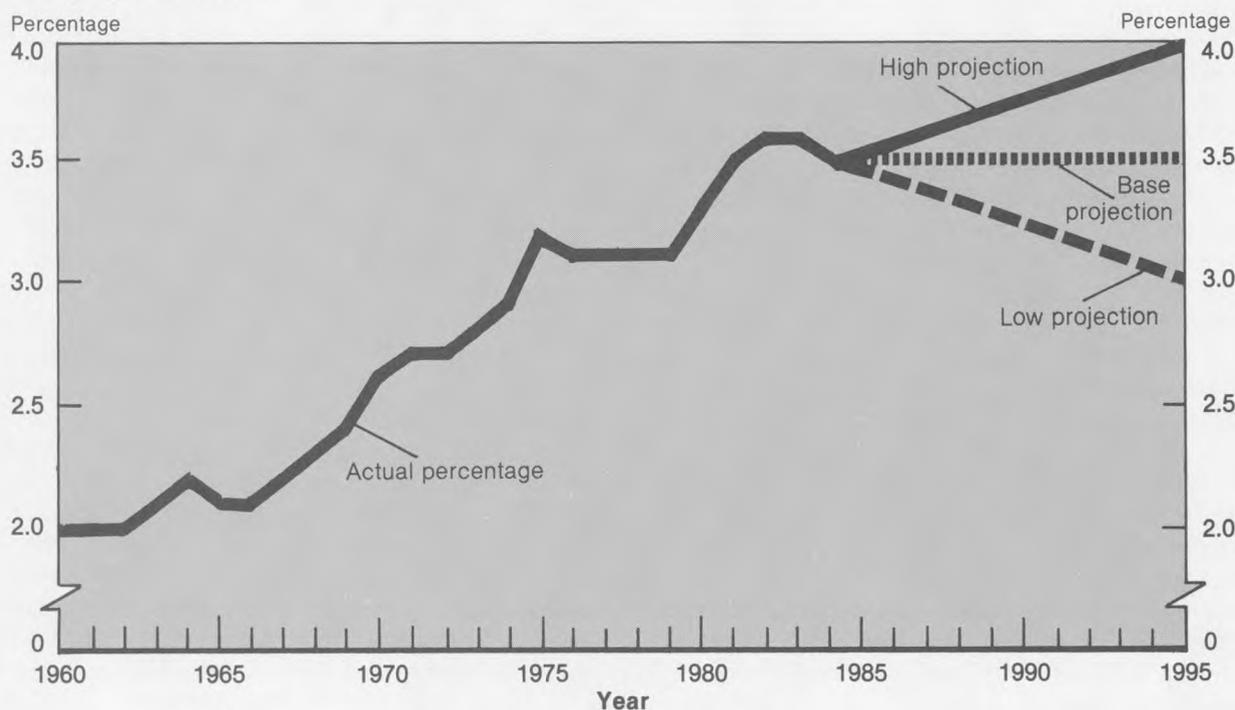


Table 4. Wage and salary employment in the health services industry, 1972-84

[Employment in thousands]

Year	Total, all health industries	Offices of physicians	Offices of dentists	Offices of osteopaths ²	Offices of other practitioners ²	Nursing and personal care facilities	Hospitals ¹	Medical and dental laboratories	Outpatient care facilities	Health and allied services, not elsewhere classified ²
1972	4,338.1	448.1	188.3	13.4	44.6	591.2	2,906.4	69.6	48.8	27.8
1973	4,590.3	497.5	206.3	14.9	50.5	659.0	3,000.8	75.4	54.6	31.4
1974	4,853.0	543.3	227.4	15.9	56.0	708.1	3,126.4	79.5	61.0	35.4
1975	5,125.5	580.5	247.4	16.7	60.2	759.3	3,265.4	84.2	70.4	41.3
1976	5,360.5	613.7	266.2	18.1	64.6	809.1	3,373.3	89.9	78.9	46.7
1977	5,615.7	645.9	286.6	19.8	70.9	860.0	3,497.0	93.5	88.9	53.2
1978	5,867.1	680.6	302.3	21.2	78.5	910.6	3,613.7	99.1	100.4	60.8
1979	6,101.1	716.8	322.0	22.6	88.0	950.8	3,716.7	102.2	113.0	69.0
1980	6,411.5	750.0	341.3	24.1	96.4	996.6	3,883.7	104.7	132.7	81.8
1981	6,699.2	786.8	359.9	25.1	108.9	1,028.9	4,041.2	107.5	149.2	91.7
1982	6,941.1	825.0	383.9	26.7	121.0	1,067.1	4,143.8	109.5	160.4	103.7
1983	7,103.0	867.2	406.7	28.0	134.6	1,106.6	4,151.5	111.6	171.9	125.1
1984	7,188.7	907.5	425.7	29.8	148.1	1,144.6	4,078.1	113.2	190.7	151.0
Average annual rate of change (in percent)										
1972-77	6.7	7.6	8.8	8.1	9.7	7.8	3.8	6.1	12.7	13.9
1977-82	4.3	5.0	8.2	6.2	11.3	4.4	3.5	3.2	12.5	14.3
1982-84	1.8	4.9	5.3	5.6	10.6	3.6	-0.1	1.7	9.0	20.7
1972-84	4.3	6.1	7.0	6.9	10.5	5.7	2.9	4.1	12.0	15.1

¹ SIC 806 plus State and local government hospitals. Data exclude Federal Government hospitals.

NOTE: "Unpublished data" do not meet publication standards for accuracy and reliability and therefore are not official BLS estimates.

² Unpublished BLS data.

home residents rose by 75 percent. The number of full-time equivalent employees per 100 beds rose from 55.0 in 1969 to 62.9 in 1980.¹⁵ However, the overall increase in the staff-to-bed ratio masks significant variation among facilities. Staffing ratios vary according to such factors as degree of illness, payment source, facility size, certification, ownership, and commitment to quality care.

Three industries experienced exceptionally rapid job growth over the 1972-84 period. The industries and their average annual employment gains are as follows: offices of other health practitioners (10 percent), outpatient care facilities (12 percent), and health and allied services, not elsewhere classified (15 percent).

Offices of other health practitioners is a diverse industry that includes a wide variety of health professionals in solo or group practice: chiropractors, optometrists, podiatrists, nurse practitioners, midwives, physical therapists, occupational therapists, speech pathologists and audiologists, dietitians and nutritionists, social workers, and psychologists. No less diverse is the outpatient care facilities industry, which includes HMO's, community mental health centers, family planning clinics, urgent care centers, outpatient surgical centers, birthing centers, and freestanding hospices. Health and allied services, not elsewhere classified, is a relatively homogeneous industry, comprising home health agencies and blood banks.

Job growth in these settings is consistent with steadily increasing acceptance of nonphysician providers, together with the gradual shift away from the hospital as the exclusive site of complex health care. Throughout the decade of the 1970's, ambulatory care alternatives became more important. Technological developments made it possible to

provide increasingly sophisticated care on an outpatient basis, while changes in insurance coverage and benefits made such care financially attractive to health care consumers. The pace of the shift from inpatient to outpatient care has accelerated dramatically in recent years because of the emphasis on providing cost-effective health services.

Recent developments

Increased public and private sector emphasis on health care cost containment is the most important development in recent years. Health economists and policymakers had long been concerned about rapidly rising health care expenditures, but it was not until the early 1980's that the combined impact of inflation, recession, soaring outlays for employee health benefits, threatened medicare insolvency, and State fiscal crises produced significant action by business, labor, and government. The hospital payment system mandated by the Social Security Amendments of 1983, medicare's prospective payment legislation, is the leading example of such action.

Medicare's system links payment for hospital inpatient services to rates for each of 467 diagnosis-related groups (DRG's). Hospitals know in advance how much medicare will pay for the treatment of a patient with a particular diagnosis. Under the previous cost-based retrospective system, hospitals were reimbursed for whatever they spent. Because hospitals now bear the loss if the cost of treatment exceeds the fixed medicare payment, it is in their interest to be selective about the patients they admit, scrutinize tests and procedures, discharge patients as soon as possible, and encourage greater use of outpatient services. Not surprisingly, hospitals have responded to the new system with

programs for managing admissions and patient flow, monitoring physician practice patterns, and controlling operating costs.

Cost containment initiatives figure prominently among the reasons for a recent decline in hospital employment. Average annual employment in private, State, and local government hospitals stood at 4,040,900 in 1985, 110,600 fewer jobs than in the peak year of 1983. More than 73,000 hospital jobs disappeared in 1984, and 37,000 more in 1985. While no single factor can fully explain the loss of hospital jobs, management initiatives to reduce labor costs (about 50 percent of community hospitals' operating budgets) through such belt-tightening measures as staff cuts, hiring freezes, greater use of part-time and on-call staff, and a shift to contract services are partly responsible. However, a drop in hospital utilization—notably inpatient admissions, staffed beds, and length of stay—is the underlying factor.

Data from the American Hospital Association indicate a shift in utilization since the beginning of 1983: shorter hospital stays by elderly patients and a sharp decline in admissions of patients under age 65.¹⁶ The average length-of-stay of patients age 65 and above fell from 11.1 to 10.1 days between 1977 and 1982, then dropped to 8.8 days at the end of 1984. Shorter hospital stays for elderly patients appear to be the direct result of incentives to hospitals in the DRG system, although technology and changing medical practices may be responsible as well. The use of lasers, for example, has reduced recovery periods and lengths-of-stay for certain types of eye surgery. The availability of advanced techniques for delivering antibiotic and nutrition therapy at home may also speed discharge.

The reasons for falling admissions of patients under age 65 are not well understood.¹⁷ The most likely causes are utilization review and the expanded use of consumer cost-sharing features built into employee benefit plans, improved health insurance coverage for ambulatory care and the growth of alternative care settings, increased public awareness of the importance of avoiding hospitalization when possible, plus reduced access to care for the poor. Limitations on medicaid program eligibility and increased financial barriers to serving the uninsured may be holding down hospital use by these groups.¹⁸ In addition, economic weakness in regions with heavy concentrations of industries experiencing poor recovery may be an element.¹⁹

Hospitals confronted with reduced demand for inpatient services have begun to develop a business strategy²⁰ that emphasizes joint ventures, mergers, specialization, and introduction of new programs and services. Home health care is the alternative service offered by more hospitals than any other, according to several recent surveys.²¹ Other services being implemented by hospital administrators include hospice care, nursing home units, rehabilitation, alcohol treatment, occupational health and employee assistance, birthing centers, outpatient surgery, cancer screening, and geriatric assessment. A number of hospitals have set up wellness and

fitness centers that offer medical and physiological testing, assessment of lifestyle-related health risks, health education, and sports medicine.

Other changes, too, are occurring in the health care environment. One of the most striking is the rise in HMO enrollments, up from 10 to 21 million subscribers between 1981 and 1985.²² Industry observers expect continued rapid growth. There is a wide range of opinion on the extent to which HMO's will penetrate traditional health-care markets (many analysts expect HMO enrollment to peak at 30 to 35 million by 1995, but some estimates are considerably higher).

HMO's are prepaid health insurance plans designed to deliver affordable and comprehensive medical services to enrolled members. Starting from the premise that physicians govern a substantial portion of total health spending by virtue of their authority to hospitalize, order batteries of tests, and so forth, HMO's and other systems of "managed care" seek to control utilization by influencing physicians' ordering behavior. Comparative studies have found that HMO enrollees pay 10 to 40 percent less than those enrolled in fee-for-service health insurance plans. In addition, the hospitalization rate for people enrolled in HMO's is considerably below the rate for those enrolled in traditional fee-for-service plans. This is attributed to HMO emphasis on preventive health care, broad ambulatory coverage, multispecialty staff, and risk-sharing by HMO physicians, who are offered incentives to reduce unnecessary hospitalization.

There are three types of HMO's. The first, called a "staff model" HMO, delivers medical services at one location or more, using physicians directly employed by the organization. The second kind, known as an "individual practice association" (IPA), makes contractual arrangements with doctors in private practice who treat HMO members in their own offices. The third, the "group" or "network" HMO, involves contractual arrangements between the HMO and two group medical practices or more.

Long-term care constitutes the third major area of change in recent years. Heightened awareness of the "greying" of America has focused attention on the distinctive needs of individuals who are disabled, chronically ill, or functionally impaired. By no means are all of these people elderly. Nonetheless, the need for long-term care services is strongly associated with age. Elderly persons, by virtue of their high risk of disabling conditions, are the primary recipients of long-term care services, whether formal or informal. In recent years, both the number and proportion of the population 65 and older have increased significantly (table 5), a demographic trend of major proportions that will continue well into the next century. Within the 1984-95 timeframe that is the focus of this article, projected growth in the number of persons 85 and above merits special attention because of the implications for long-term care, in general, and for the nursing home sector in particular.

At advanced ages, there is a high risk of chronic disease, limitations in mobility and ability to perform everyday activities, and the loss of spouse or other family helpers. The following tabulation, based on 1977 data,²³ reveals the sharp increase in nursing home use after age 85:

Percent of age group residing in nursing homes

	Men	Women
All age groups	0.4	0.8
Under 65 years	0.1	0.1
65 years and over	3.0	5.9
65 to 74 years	1.3	1.6
75 to 84 years	4.0	7.6
85 and over	17.8	26.2

Utilization rates that take marital status into account underscore the role of informal social supports in precipitating institutionalization, on the one hand, or delaying it, on the other. Elderly people with serious health problems are more likely to enter a nursing home if they are widowed or single than if they are married. Further, it appears that substantially greater use of nursing homes by women than by men is not simply because of women's greater longevity, but also reflects their greater likelihood of becoming widowed.

Traditional health and social service providers have begun to modify their programs to respond more effectively to the service needs of the elderly. Many hospitals, for example, regard the elderly as a market opportunity and are expanding their home health and community outreach programs accordingly.²⁴ Family service agencies, too, are re-vamping their offerings as clients' needs change. A broad range of long-term care initiatives has been launched in recent years, many with foundation support or on a demonstration basis. Most of these seek to improve community-based services, strengthening the network of formal and

informal care givers whose services permit people with disabilities to remain at home. Community-based long-term care is likely to play a more prominent role in 1995 than it does today, because of consumer preference and provider flexibility. However, the potential impact on the nursing home industry is difficult to assess, for it is unclear to what extent community-based care complements, rather than substitutes for, institutional care.

Alternative scenarios

The size and structure of the health industry in 1995 will be shaped by events that are still unfolding. Despite considerable uncertainty about the future, a number of relevant factors can be identified and assessed. This section begins with a discussion of three such factors: the impact on overall demand for health services of HMO expansion and changes in physician reimbursement; prospects for hospital utilization; and directions in long-term care financing. Qualitative assumptions consistent with each of three growth scenarios (low, base, and high) are presented in exhibit 1. The section then explains how the growth scenarios were translated into alternative projections of health industry employment in 1995.

A shift from traditional, fee-for-service medicine to systems of managed care is underway. Indicative of this trend are the emergence and very rapid growth of such organizations as HMO's, IPA's, preferred provider arrangements, and medicare "gatekeeping" schemes in which primary-care physicians control referral to specialists. Systems such as these limit consumer choice and set guidelines for physicians and other practitioners in order to gain greater control over service utilization—for example, lab tests, x-rays, and hospital admissions. According to one estimate, patient use of traditional fee-for-service medicine, an estimated 94 percent in 1982, could drop to 70 percent by 1987.²⁵ Depending on the extent to which managed care systems replace fee-for-service medicine by 1995, practice patterns, establishment size, and staffing in offices of physicians could change. Furthermore, the shift to managed care may reduce future demand for hospital care. It is generally agreed that the fee-for-service method of paying physicians encourages more hospitalization and greater use of tests and procedures.

Much will depend on future developments in health care financing, including changes in reimbursement patterns and regulation of physicians' fees. Reform of the medicare payment system for physician services lies ahead, with extension of prospective payment to physicians being one of a number of options under consideration. Each of the three growth scenarios embodies a different set of assumptions about the future role of fee-for-service medicine, on the one hand, and constraints on physician reimbursement, on the other. (See exhibit 1.)

As noted, hospital utilization is down sharply, according to such standard measures as admissions, inpatient days, and average length of stay. Recent reductions in hospital use

Table 5. Growth of the older population, actual and projected, 1950-95

[In thousands]

Age group	1950	1960	1970	1980	1984	1990	1995
All ages	150,697	179,323	203,302	226,505	236,416	249,657	259,559
Under 65	138,427	162,763	183,322	200,960	208,431	217,960	225,672
65 years and over	12,270	16,560	19,980	25,545	27,985	31,697	33,887
65-74 years	8,415	10,997	12,447	15,578	16,596	18,035	18,503
75-84 years	3,278	4,633	6,124	7,727	8,793	10,349	11,311
85 years and over	577	929	1,409	2,240	2,596	3,313	4,073
Percent distribution							
All ages	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Under 65	91.9	90.8	90.2	88.7	88.2	87.3	86.9
65 years and over	8.1	9.2	9.8	11.3	11.3	12.7	13.1
65-74 years	5.6	6.1	6.1	6.9	7.0	7.2	7.1
75-84 years	2.2	2.6	3.0	3.4	3.7	4.1	4.4
85 years and over	.4	.5	.7	1.0	1.1	1.3	1.6

NOTE: 1950-80 are decennial census data; 1984-95 are middle-series estimates and projections as of July 1.

SOURCE: U.S. Bureau of the Census.

are attributed to rising HMO enrollments, greater consumer cost sharing, and stricter utilization review procedures, as well as to medicare's prospective payment system. However, whether the decline will continue over the long run is questionable.²⁶ For one thing, technological progress could lead to greater—rather than less—hospitalization as medical possibilities are enhanced.

The aging of the population will put pressure on demand for hospital care during the next 10 years unless health status, practice patterns, or both, change a great deal. Hospital use is significantly greater for the elderly than for persons under 65; elderly people are hospitalized more frequently and stay there longer. In addition, the rapidly growing population 85 years and above uses twice as many hospital days per capita as persons aged 65 to 74 years. One reason for this is the presence of multiple health problems in the very old, which produce much longer hospital stays. Another is a dramatic increase in the number of surgical procedures performed on elderly patients, as technological advances continue to make surgery less risky. The growing importance of outpatient surgery could have a dampening effect on demand for inpatient hospital care, depending on future patterns in outpatient surgery on the elderly.

Also contributing to uncertainty about future trends in hospital use is the issue of length of stay. Recent decreases have been dramatic, but will they continue? We may be approaching the limit for shortening the hospital stays of elderly patients, who account for approximately 40 percent of all hospital days of care. Among patients under 65, the proportion in HMO's—together with hospitalization guidelines adopted by HMO's—will play a significant role in future length-of-stay trends. Because so many factors are at work, the three growth scenarios reflect widely varying assumptions about the level and nature of future demand for hospital care. (See exhibit 1.)

What has been termed the "nursing home dilemma" centers on the conflict between the demographics of population aging, on the one hand, and the economics of the nursing home industry, on the other.²⁷ The number of people seeking admission to nursing homes can be expected to continue to rise for a number of reasons, but very rapid growth in the population over the age of 85 is the key factor. Americans age 85 or above are projected to number 4.1 million in 1995, up from 2.6 million in 1984, as table 5 shows. This represents a 57-percent gain, markedly faster growth than that projected for any other age group.

The prospect of explosive growth in the population needing long-term care is widely acknowledged, but future directions in financing and service delivery are cloudy. All payers—Federal, State, and private—are reluctant to expand benefits or push for significant improvements in long-term care financing because of concern about "uncontrollable" costs. Uncertainty about the potential costs of community-based long-term care programs, together with concern about increasing expenditures under medicaid and

other public programs that currently finance much institutional long-term care, have shifted attention to private sector initiatives that might relieve fiscal pressures on public programs and, at the same time, improve the elderly's ability to finance long-term care. Some of the options that have emerged in recent years as feasible alternatives for financing long-term care include private health insurance, health care Individual Retirement Accounts, life care communities, and home equity conversion.²⁸

Interest in private long-term care insurance appears to be mounting.²⁹ This method of financing long-term care is backed by the American Health Care Association and the American Association of Retired Persons, among others, and many States—faced with mounting medicaid expenditures for nursing home care—are expressing interest in it. Private insurance for long-term care has been suggested not only because of growing fiscal constraints on public program expenditures, but more basically because private insurance coverage is currently available for a wide variety of health care services, but it is generally not available for long-term care services or for the costs associated with chronic illnesses such as Alzheimer's disease. Tremendous growth would be necessary before private long-term care insurance covered a substantial portion of nursing home costs; currently, such insurance pays about 1 percent. However, if significant developments occur in this area it could dramatically alter the long-term care picture in the future.

Underlying the base case, as exhibit 1 shows, is the assumption that demographic pressures will force some resolution of the financing, reimbursement, and certificate-of-need issues that have slowed nursing home growth in recent years. The low scenario assumes that uncertainty will continue to prevail, discouraging investment and putting a brake on industry expansion despite very rapid growth in the elderly population. The high scenario makes relatively optimistic assumptions about public and private spending for institutional long-term care.

Moving from the qualitative assumptions summarized in exhibit 1 to alternative projections of industry and occupational employment was a procedure that encompassed several steps. As the first step, data points above and below the base case level were selected to represent projected output under high and low scenario conditions. The output projections were then used, first in conjunction with the Bureau's input-output model and then with its industry-occupational matrix, to generate alternative projections of wage and salary employment by detailed health industry and occupation. The five steps that make up the projections process are summarized below.

1. Set alternative levels of projected output for the private health sector by projecting the ratio of health sector to total private sector output. The moderate-growth projection (3.5 percent in 1995) was chosen for the base case; data points above (4.0 percent) and below (3.0 percent) the base case were selected to represent the high and low scenarios. This determined the total dollar value

of goods and services that would be produced by practitioners and establishments in the economic growth sectors (doctors' and dentists' offices, hospitals, and medical services, not elsewhere classified) under varying assumptions about health system performance in 1995.

2. Set alternative levels of projected output for each of the three economic growth health sectors by varying the distribution of total health sector output.

3. Derive estimates of projected employment for each of the detailed economic growth sectors. That is, estimate the number of wage and salary workers required to produce the projected level of output established in step 2.

4. Translate projected employment in the economic growth sectors into industries categorized by Standard Industrial Classification and adjust these data to include State and local hospitals and offices of optometrists and exclude veterinary services, so these data conform to the configuration of the National Industry-Occupational Matrix.³⁰

5. Convert the industry employment data developed in step 4 into projections of occupational employment by applying staffing patterns consistent with each of the alternative scenarios.

Output and employment

In 1984, services produced by the private health sector were valued at more than \$141 billion in constant dollars, or 3.5 percent of the Nation's total private sector output that year. By 1995, under the moderate-growth projections discussed in the November 1985 issue of the *Review*, output for the private economy as a whole is expected to reach \$5.6 trillion. The health sector's share is projected to range from \$169 billion to \$226 billion.

Base case. Efforts to constrain spending are expected to dampen rising demand for health services under the assumptions of the base case. As table 6 shows, health sector output is projected to increase at an annual rate of 3.2 percent over 1984-95. This is markedly slower growth than in the past (compound growth rates): 5.6 percent during 1960-80, 4.9 percent over 1970-84, and 3.9 percent, 1977-84. The base case assumes no change between 1984 and 1995 in the share of private sector output generated by the health sector. (See chart 1.) A departure from historical trends, this assumption seems plausible in light of intense cost containment pressures and excess hospital capacity. Wage and salary employment is projected to grow at an annual rate of 2.5 percent under the assumptions of the base case, less than half the rate attained during 1970-84. With labor costs constituting providers' largest single outlay, efforts to achieve efficiencies in a cost-conscious climate are bound to target staff.

Low scenario. The low scenario assumes cost containment measures that alter medical practice patterns; restrictive reimbursement policies, declining admissions, and problems in capital formation for hospitals; and deceleration in the rate of spending for institutional long-term care. Private health sector output is projected to grow at an annual rate of 1.7 percent, roughly one-third the rate posted during 1970-84. The output of the health sector is assumed to decline as a percentage of total private sector output. A decline in this statistic is unprecedented. Wage and salary employment in the health sector is projected to grow at an annual rate of only 0.5 percent over the 1984-95 period under the low scenario.

High scenario. Output of the private health sector is projected to grow at an annual rate of 4.4 percent under the high-scenario assumptions, about the rate attained during the latter half of the 1970's. From a 1984 level of 3.5 percent of private sector output, health sector output is projected to reach 4.0 percent by 1995, continuing the long-term upward trend, but at a slower rate than in the past.

Compared with the base and low scenarios, the high scenario offers a more optimistic picture of prospects for hospital sector expansion. In addition, it assumes exceptionally rapid growth of the nursing home and home health industries because of significantly increased spending for long-term care. (See exhibit 1.) Wage and salary employment is projected to grow at an annual rate of 4.0 percent, slightly less than the 4.2-percent rate posted during 1977-84.

Projected 1995 employment in the health industry, under the alternative sets of assumptions summarized in exhibit 1, varies from 7.3 to 10.5 million wage and salary jobs. In each alternative, projected growth is slow by historical standards, as table 1 shows. The projected increase of nearly 1.9 million health industry jobs under the assumptions of the base case represents an annual growth rate of 2.1 percent

Table 6. Health sector output and employment under alternative projection scenarios, 1984 and projected 1995

Year	Sectors 140-142	Sector 140	Sector 141	Sector 142
Output (in millions of 1977 dollars)				
1984	\$141,174	\$58,882	\$54,927	\$27,365
Projected:				
1995 Low	169,311	79,782	54,927	34,602
1995 Base	199,705	84,591	70,826	44,288
1995 High	225,748	90,299	81,269	54,180
Average annual rate of change (in percent)				
1984-95 Low	1.7	2.8	0.0	2.2
1984-95 Base	3.2	3.3	2.3	4.5
1984-95 High	4.4	4.0	3.6	6.4
Employment (in thousands of wage and salary jobs)				
1984	6,141	1,396	2,994	1,751
Projected:				
1995 Low	6,473	1,842	2,441	2,190
1995 Base	8,049	1,972	3,253	2,824
1995 High	9,468	2,125	3,870	3,473
Average annual rate of change (in percent)				
1984-95 Low	0.5	2.5	-1.9	2.1
1984-95 Base	2.5	3.2	0.8	4.4
1984-95 High	4.0	3.9	2.4	6.4

NOTE: Sector 140 — Doctors' and dentists' offices (sic 801, 802, 803, 8041)
Sector 141 — Hospitals (sic 806)
Sector 142 — Medical services, not elsewhere classified (sic 8049, 805, 807, 808, 809, 074)

during 1984–95, less than half the rate posted for 1972–84. The high scenario, which generates approximately 3.3 million new health industry jobs, assumes a rate of growth roughly equivalent to that attained over the 1977–84 period.

Historical patterns of job growth vary greatly across the nine health industries, and this variation carries forward in the projections to 1995. Detailed industry discussions follow.

Offices of physicians (sic 801). The annual rate of job growth in offices of physicians is projected to outpace the health industry as a whole under all three scenarios, although several other sectors are projected to experience much faster growth. In 1995, wage and salary employment in this industry is projected to range from 1.2 to nearly 1.5 million jobs, a difference of 20 percent between the low and high scenarios. Helping to explain the variation is the low scenario assumption of market penetration by HMO's and the shift to managed care, trends which are expected to dampen demand for medical services. At least partially offsetting the dampening, however, is rapid expansion of IPA and network-type HMO's, which contract with physicians in private practice to provide medical care to their members. Essentially unchanged policies regarding reimbursement for physicians' services is a key assumption of the high scenario.

Offices of dentists (sic 802). Wage and salary employment in offices of dentists is projected to be roughly the same under all three 1995 scenarios.

Offices of osteopaths (sic 803). Osteopathic physicians are likely to be affected similarly to other physicians by the assumptions that underlie the alternative scenarios. Employment in this small industry is projected to vary by approximately 26 percent between the low and the high scenarios. Under the base case, 1995 wage and salary employment is projected to reach 44,000, rising from a 1984 level of 30,000.

Offices of other health practitioners (sic 804). Consumer acceptance of nonphysician providers is so well-established, and the trend toward alternative delivery systems is so strong, that continued rapid expansion is assumed under each scenario, placing offices of other health practitioners in the ranks of the fastest-growing health industries. Wage and salary employment is projected to increase at a rate nearly double that for offices of physicians and osteopaths.

The wide range in projected 1995 employment—a difference of nearly 57 percent between the low and high scenarios—is largely explained by different assumptions about third-party reimbursement. The high scenario assumes more favorable coverage for the services of nonphysician providers than is the case today, for example, more liberal mental health benefits.

Nursing and personal care facilities (sic 805). Second only to hospitals in employment size, the nursing and personal care sector provided more than 1.1 million wage and salary jobs in 1984. Projected employment in 1995 ranges widely from 1.3 to nearly 2.1 million jobs.

Hospitals (sic 806 plus State and local government hospitals). From a level of 4.1 million wage and salary jobs in 1984, hospital employment is projected to increase more slowly than average under the base case. Employment is projected to decline sharply in the low scenario, dropping to 3.4 million jobs in 1995. The high scenario paints an entirely different picture: faster than average growth is projected to create 1 million additional hospital jobs over the 1984–95 period.

The base case assumes a downturn in use of inpatient services as occupancy rates slide. Offsetting this is an expansion of outpatient services and diversification into non-traditional areas such as home health. The base case also assumes that hospitals' ability to restructure to take advantage of emerging market opportunities is constrained by problems in raising capital. Limited access to needed capital is an even greater constraint in the low scenario. However, the key assumption of the low scenario is the shift to managed care, which produces stringent controls on hospital utilization by HMO subscribers and others in managed care systems. These assumptions are outlined in exhibit 1.

Medical and dental laboratories (sic 807). The alternative scenarios sketched here have a limited effect on projected employment in this small industry. The volume of laboratory work ordered by physicians may be affected by changes in reimbursement levels and guidelines, to the extent that testing has been implicated as a source of rising health care costs. However, other factors besides physicians' ordering practices determine how much laboratory work is sent to commercial laboratories for analysis.

Among these are the economics of in-house versus contracted clinical laboratory services for hospitals; advances in medical diagnostics that increase the amount of testing as new tests are developed; changes in case mix—an increase in the number of patients with illnesses that require extensive laboratory workups, for example; and the availability of portable analyzers that can be installed in the physician's office or clinic. The potential impact of further developments in laboratory automation must also be kept in mind. Automation of chemistry and hematology, two of the most labor-intensive functions in the clinical laboratory, is already well-established.³¹ Microbiology, immunology, and serology are candidates for widespread automation in the coming decade. Prospects for even greater diffusion of automated systems help explain the very modest growth projected for this industry under all scenarios.

Outpatient care facilities (sic 808). This small industry

includes HMO's, outpatient surgical centers, diagnostic imaging centers, urgent care centers, alcoholism treatment centers, community mental health centers, family planning clinics, and other outpatient facilities. Employment is projected to rise much faster than average under all three scenarios. Under the base scenario, for example, employment is projected to increase at an annual rate of 6.7 percent, more than triple that projected for the health industry as a whole. Exceptionally rapid growth in the base case reflects not only the shift to outpatient care, but the success of providers in this industry sector in capturing much of the market.

Turning to the high scenario, favorable reimbursement policies (expanded coverage for mental health and alcoholism treatment, for example) and higher overall levels of health care spending are expected to contribute to very rapid projected growth. Employment in this industry might be higher still under the high scenario, were it not for the assumption that hospitals will set up a broad range of outpatient services—competing effectively in the outpatient market with freestanding outpatient facilities, on the one hand, and large group medical practices, on the other.

Health and allied services (sic 809). This rapidly growing industry includes home health agencies and blood banks. It seems reasonable to assume that home health care—not blood banking—is responsible for recent recordbreaking growth in this industry. This assumption is carried forward in each projection scenario. On the one hand, intense pressure on the demand for services provided by home health agencies is expected to persist because of the aging of the population, consumer preference, incentives to discharge hospital patients as soon as possible, and changes in private insurance and medicare coverage that make home health more affordable for patients recovering from acute illnesses. Second, blood banking is ripe for automation. Industry observers anticipate that automated laboratory systems will be used by the early 1990's, with likely displacement of blood bank employees.

The annual rate of employment growth in this industry is projected to outstrip the rest of the health services industry under all three scenarios. According to the base case, employment is projected to double during 1984–95, rising from 151,000 to 315,000 jobs. Increased public and private spending for home health care is a key assumption of the base case. The high scenario assumes an increase in out-of-pocket spending for home health services for patients not eligible for insurance benefits, those with chronic conditions and long-term care needs, for the most part.

Occupational projections

In the National Industry-Occupational Matrix, occupational employment in the target year is determined by projected industry employment, on the one hand, and projected staffing patterns, on the other. To project staffing ratios,

first, 1984 staffing patterns (“industry-occupational ratios”) for each of the nine matrix health industries were analyzed. This step included comparing the 1984 data with patterns from earlier years and other sources, including the Current Population Survey and the annual American Hospital Association survey. Next, projected 1995 ratios were developed, consistent with the assumptions of the base case about future trends in health care financing and service delivery. For example, this involved judgments about the impact of technology, use of contract services and temporary employees, and trends in professional practice, case mix, and length of stay.

The procedure was repeated under staffing assumptions consistent with both the low and high scenarios. For example, staffing patterns for nursing and personal care facilities were adjusted to reflect the impact of more private-pay patients in the high scenario. Facilities serving these patients would presumably offer more amenities, as well as more intense therapy, nursing, recreational, and social services. Some of these assumptions are presented in exhibit 1.

Next, occupational staffing patterns were applied to the industry totals shown in table 1. This generated three sets of industry-occupational matrices for each of the nine health industries, plus industrywide estimates of 1984 and projected 1995 employment for 200 detailed occupations. Industrywide estimates for selected health occupations are shown in table 7.

A wide range of growth prospects appears when projected growth under each of three alternatives is compared with the average rate of job growth for the economy as a whole, 1.3 percent a year over the 1984–95 period. For example, employment of health services managers, physicians, physician assistants, and medical assistants is projected to grow faster than average even in the low alternative. Except for health services managers, who are dispersed across all nine health industries, these occupations are concentrated largely in offices of physicians and osteopathic physicians, industries that are projected to grow considerably faster than the health services industry as a whole under the low scenario assumptions. In addition, most of these occupations are projected to increase as a proportion of industry employment as HMO's, group medical practices, and other large establishments increasingly dominate medical practice.

Considerable attention has been paid to new job opportunities in ambulatory and outpatient settings including home health programs, health maintenance organizations, urgent care centers, wellness and fitness programs, and life care communities. The alternatives presented here show that in the case of registered nurses, the hospital will remain the major source of employment in 1995, despite the emergence of alternative delivery systems and the expansion of long-term care.

Because recent nursing school graduates are a major source of supply for the profession,³² nursing education will confront vastly different challenges depending on the rate of

industry growth in the decade ahead. The number of new jobs for registered nurses varies widely according to the projection scenario, as table 7 shows. As few as 72,000 additional registered nurse jobs—or as many as 650,000—might be created in the health services industry between 1984 and 1995, depending on the alternative selected. Because supply and demand are roughly in balance in the base case, realization of the high scenario could entail such measures as stepped-up recruiting of inactive nurses, wage incentives, and expansion of training opportunities for nurses. Nursing homes would face a formidable recruiting challenge. Conversely, the sluggish job growth depicted by the low scenario would mean less favorable job prospects in nursing overall, depending on replacement needs and on how rapidly nursing school enrollments responded to an oversupply.

For a number of occupations, the “shrinkage” of the hospital industry under the assumptions of the low scenario would mean an employment decline between 1984 and 1995. Such occupations include licensed practical nurses, nursing aides, psychiatric aides, clinical laboratory technologists and technicians, EKG technicians, respiratory therapists, surgical technicians, social workers, dietitians, dietetic technicians, pharmacists, and recreational therapists.

Careful tracking of hospital industry trends is advisable for policy makers and planners concerned with occupations in this group.³³ For if instead of the low scenario, the high-scenario assumptions are realized, prospects are for faster-than-average job growth in many of these occupations. This would require a totally different response from vocational and higher education planners, as well as from industry officials responsible for recruitment and in-service training.

Table 8 depicts projected change in employment for health workers by broad occupational group. Employment in most groups at the lower end of the skill ladder is projected to grow more slowly than the industry average under each of the three alternatives. This continuation of a long-term trend reflects changes in case mix and patterns of patient care, use of contract and shared service arrangements, and widespread application of computers for clinical, financial, and administrative purposes.

Conclusions

Although one can imagine other ways that the next decade may unfold, the three scenarios presented here are representative possibilities. The base scenario assumes that output and employment growth will be somewhat below historical levels, in general because of increased emphasis on cost

Table 7. Wage and salary employment in the health services industry, selected occupations, 1984 and three projected 1995 alternatives

Occupation	Actual 1984 employment	Projected 1995 employment			Average annual rate of change, 1984-95 (in percent)		
		Low	Base	High	Low	Base	High
All occupations	7,188,700	7,325,000	9,054,000	10,535,000	0.2	2.1	3.5
Health services managers	336,204	396,151	482,779	559,382	1.4	3.3	4.7
Psychologists	18,022	19,447	25,060	29,764	0.7	3.0	4.7
Recreation workers	14,431	15,614	20,302	25,618	0.7	3.1	5.4
Social workers	67,187	61,006	82,726	100,819	-0.9	1.9	3.8
Chiropractors	9,371	10,398	12,433	13,989	0.9	2.6	3.7
Dentists	69,513	86,114	90,230	92,956	2.0	2.4	2.7
Dietitians and nutritionists	24,458	23,056	30,875	38,306	-0.6	2.1	4.2
Opticians, dispensing and measuring	16,192	21,364	24,984	28,148	2.6	4.0	5.2
Pharmacists	35,161	32,741	42,025	48,859	-0.7	1.6	3.0
Podiatrists	5,741	6,695	8,020	9,200	1.4	3.1	4.4
Physician assistants	22,077	27,408	31,852	35,961	2.0	3.4	4.5
Physicians	293,407	342,746	394,556	443,843	1.4	2.7	3.8
Registered nurses	1,130,997	1,201,175	1,517,820	1,782,421	0.5	2.7	4.2
Therapists	142,645	144,077	214,798	240,772	0.1	3.8	4.9
Occupational therapists	14,911	15,698	21,326	26,680	0.5	3.3	5.4
Physical therapists	40,648	45,973	61,206	77,233	1.1	3.8	6.0
Recreational therapists	11,665	10,828	14,598	18,365	-0.7	2.1	4.2
Respiratory therapists	54,892	48,639	66,311	82,224	-1.0	1.7	3.7
Speech pathologists and audiologists	11,103	12,214	15,947	19,501	0.9	3.3	5.3
All other therapists	9,426	10,725	14,084	16,769	1.2	3.7	5.4
Dental hygienists	74,037	92,265	95,843	98,088	2.0	2.4	2.6
EKG technicians	17,437	16,319	20,613	23,701	-0.6	1.5	2.8
EEG technicians	5,878	5,632	7,027	8,046	-0.4	1.6	2.9
Licensed practical nurses	485,835	441,787	557,143	673,138	-0.9	1.3	3.0
Clinical laboratory technicians and technologists	210,746	188,746	226,377	257,153	-1.0	0.7	1.8
Dietetic technicians	15,819	14,747	19,057	23,112	-0.6	1.7	3.5
Emergency medical technicians	14,564	12,582	16,122	18,582	-1.2	0.9	2.2
Medical record technicians	29,700	31,128	39,591	46,051	0.4	2.6	4.1
Radiologic technologists	111,026	116,379	138,018	156,873	0.4	2.0	3.2
Surgical technicians	36,284	35,127	41,474	47,753	-0.3	1.2	2.5
Dental assistants	164,241	204,896	213,100	218,368	2.0	2.4	2.6
Medical assistants	121,846	176,456	200,345	226,027	3.4	4.6	5.8
Nursing aides and orderlies	930,366	927,744	1,202,144	1,434,762	-0.1	2.4	4.0
Psychiatric aides	61,882	51,480	66,122	76,499	-1.4	0.6	1.9
Dental laboratory technicians	38,055	44,048	46,892	48,525	1.3	1.9	2.2
Physical, corrective therapy assistants	32,766	32,196	41,923	51,486	-0.2	2.3	4.2

Table 8. Wage and salary employment in the health services industry, by major occupational group, 1984 and three projected 1995 alternatives

Occupational group	Actual 1984 employment	Projected 1995 employment			Average annual rate of change, 1984-95 (in percent)		
		Low	Base	High	Low	Base	High
Total, all occupations	7,188,700	7,325,000	9,054,000	10,535,000	0.2	2.1	3.5
Managerial and management related occupations	397,843	462,883	565,228	654,282	1.4	3.2	4.6
Professional and technical occupations	3,032,158	3,130,002	3,867,484	4,511,088	0.3	2.2	3.7
Administrative support occupations, including clerical	1,227,084	1,189,649	1,442,470	1,642,754	-0.3	1.5	2.7
Service occupations	2,242,698	2,257,703	2,827,438	3,319,710	0.1	2.1	3.6
Cleaning and building services	318,959	287,210	358,765	421,984	-0.9	1.1	2.6
Food and beverage preparers and services	373,628	351,685	453,453	547,289	-0.5	1.8	3.5
Health services and related	1,349,213	1,426,970	1,767,566	2,058,225	0.5	2.5	3.9
Personal services	32,012	34,619	45,554	54,107	0.7	3.3	4.9
Protective services	35,680	26,388	33,849	39,344	-2.1	-0.5	0.9
All other services	133,206	130,831	168,251	198,761	-0.2	2.1	3.7
All other occupations	288,917	284,763	351,380	407,166	-0.1	1.8	3.2

containment. More explicit assumptions involve some growth and rapid diffusion of technology, but an emphasis on that which saves resources, as opposed to resource-intensive high-cost technology. Some tightening of physician reimbursement is assumed, as well as a moderate continuation of the shift from fee-for-service physician care to HMO care. Hospital occupancy is assumed to continue its recent downward trend but then to level, with a shift towards heavier employment of skilled workers relative to clerical, janitorial, and other workers. The bed supply in nursing homes is assumed to increase as regulation of that industry eases. Other assumptions generally involve a moderate continuation of present trends.

Although it lies between the low and high scenarios, the

base case does not represent a midpoint. With respect to prospects for job growth, the low scenario may be more extreme on the unfavorable side than the high scenario is on the favorable side. In any event, the sharply contrasting futures depicted by the low and high scenarios make it clear that the outlook is uncertain. The health services industry is in transition, and it remains to be seen whether organizational forms and approaches that take hold over the coming decade will entail gradual and moderate changes in employment levels, staffing patterns, and educational requirements—or abrupt, even disruptive, change. For employers, educators, and policy makers who seek to plan effectively for the future, staying abreast of industry developments has never been more necessary. □

—FOOTNOTES—

¹ Warren Greenberg and Richard Mck. Southby, eds., *Health Care Institutions in Flux: Changing Reimbursement Patterns in the 1980's* (Arlington, VA., Information Resources Press, 1984).

² Ross H. Arnett, III, Carol S. Cowell, Lawrence M. Davidoff, and Mark S. Freeland, "Health spending trends in the 1980's: Adjusting to financial incentives," *Health Care Financing Review*, Spring 1985; Mark S. Freeland and Carol S. Schendler, "Health spending in the 1980's: Integration of clinical practice patterns with management," *Health Care Financing Review*, Spring 1984.

³ Those articles, with supplementary tables and a description of the projection methodology, are reprinted in *Employment Projections for 1995: Data and Methods*, Bulletin 2253 (Bureau of Labor Statistics, 1986).

⁴ Katharine R. Levit, "Personal health care expenditures, by State: 1966-82," *Health Care Financing Review*, Summer 1985; Katharine R. Levit, Helen Lazenby, Daniel R. Waldo, and Lawrence M. Davidoff, "National health expenditures, 1984," *Health Care Financing Review*, Fall 1985.

⁵ Louise B. Russell, *Technology in Hospitals: Medical Advances and their Diffusion* (Washington, DC, The Brookings Institution, 1979).

⁶ Marcia Angell, "Cost containment and the physician," *Journal of the American Medical Association*, Sept. 6, 1985.

⁷ Louise B. Russell, "An aging population and the use of medical care," *Medical Care*, June 1981; Dorothy P. Rice and Jacob J. Feldman, "Living longer in the United States: Demographic changes and health needs of the elderly," *Milbank Memorial Fund Quarterly/Health and Society*, Summer 1983; Beth J. Soldo and Kenneth G. Manton, "Changes in the health status and service needs of the oldest old: Current patterns and future trends," *Milbank Memorial Fund Quarterly/Health and Society*, Spring 1985.

⁸ Economic growth sectors 140, 141, and 142 make up the health sector. Coverage is as follows: sector 140, Doctors' and dentists' offices; sector 141, Hospitals; sector 142, Medical services, not elsewhere classified.

The industry composition of each sector, as defined by the 1972 Standard Industrial Classification (sic) is:

Sector 140-Doctors' and dentists' offices	sic 801-Offices of physicians sic 802-Offices of dentists sic 803-Offices of osteopathic physicians sic 8041-Offices of chiropractors
Sector 141-Hospitals	sic 806-Hospitals (excludes Federal, State, and local government hospitals)
Sector 142-Medical services, not elsewhere classified	sic 8049-Offices of health practitioners, not elsewhere classified sic 805-Nursing and personal care facilities sic 807-Medical and dental laboratories sic 808-Outpatient care facilities sic 809-Health and allied services, not elsewhere classified sic 074-Veterinary services

sic 8042, Offices of optometrists, is not included in the economic growth health sectors.

⁹ Output includes primary (health care) and some secondary products and services such as nonmedical testing performed in medical laboratories. This measure of industry output differs from a measure of commodity output because of these secondary products.

This measure is gross or somewhat duplicated in that some intermediate products or services may be counted more than once in the estimate. Orthodontal appliances sold first by a dental laboratory to a dentist, and subsequently sold again to the patient, illustrate duplication in the measure of output.

Historical estimates of output are converted from current year or nominal dollars to constant dollars and projections of 1995 output are based on constant 1977 prices.

¹⁰ Data on employment by SIC category, shown in table 4, differ from those by economic growth sector shown in table 3 as follows:

Table 3: Excludes State and local government hospitals
Excludes 8042, Offices of optometrists
Includes 074, Veterinary services

Table 4: Includes State and local government hospitals
Includes 8042, Offices of optometrists
Excludes 074, Veterinary services

Excluded from the data shown in both tables are Federal hospital employees, as well as employees of publicly operated nursing homes, clinics, and other governmental health care facilities. These data also exclude self-employed workers.

¹¹ American Hospital Association, *Hospital Statistics, 1984 ed.* (Chicago, 1984).

¹² The number of nursing home users rose from about 300,000 in 1950 to 470,000 by 1960 and over 1,400,000 in 1980. A portion of this increase represented a substitution among different kinds of health care institutions. Beginning in the late 1950's after the introduction of psychotropic drugs, but predominantly in the late 1960's and early 1970's, many mental patients were transferred to nursing homes or board and care homes. The deinstitutionalization movement reflected prevailing views about the desirability of providing care in less restrictive settings, court orders, and cost savings to the States from placing patients in facilities where the Federal Government—via Medicaid and Supplemental Security Income—would pay some or all of the cost. Burton David Dunlop, *The Growth of Nursing Home Care* (Lexington Books, Lexington, MA, 1979).

¹³ William J. Scanlon and Judith Feder, "The long-term care marketplace: An overview," *Healthcare Financial Management*, January 1984.

¹⁴ Ibid.

¹⁵ National Center for Health Statistics, *Trends in Nursing and Related Care Homes and Hospitals, United States, Selected Years 1969-80* (Washington, U.S. Government Printing Office, 1984).

¹⁶ See *Economic Trends* (Chicago, IL, Hospital Research and Educational Trust, 1985).

¹⁷ Karen Davis, Gerard F. Anderson, Steven C. Renn, Diane Rowland, Carl J. Schramm, and Earl Steinberg, "Is Cost Containment Working?" *Health Affairs*, Fall 1985.

¹⁸ Davis, "Is Cost Containment Working?"

¹⁹ Hospital Research and Educational Trust, *Economic Trends*.

²⁰ Dean C. Coddington, Lowell E. Palmquist, and William V. Trollinger, "Strategies for survival in the hospital industry," *Harvard Business Review*, May-June 1985; Robert A. Vraciu, "Hospital strategies for the eighties: a mid-decade look," *Health Care Management Review*, Fall 1985.

²¹ Bill Jackson and Joyce Jensen, "Home care leads rising trend of new services," *Modern Healthcare*, December 1984; W. Barry Moore, "CEO's plan to expand home health, outpatient services," *Hospitals*, Jan. 1, 1985.

²² *National HMO Census, June 1985* (Excelsior, MN, InterStudy, 1986).

²³ Based on the 1977 National Nursing Home Survey conducted by the National Center for Health Statistics. See *Demographic and Socioeconomic Aspects of Aging in the United States*, Current Population Reports, Series P-23, No. 138 (U.S. Bureau of the Census, 1984), p. 83. Until results of the 1985 National Nursing Home Survey are released, the 1977 utilization data are the most recent available.

²⁴ Stanley J. Brody and Nancy A. Persily, eds., *Hospitals and the Aged: The New Old Market* (Rockville, MD, Aspen Systems Corporation, 1984).

²⁵ *Environmental Assessment Overview 1984* (Chicago, IL, Hospital Research and Educational Trust, 1984).

²⁶ Davis, "Is Cost Containment Working?"

²⁷ Martha Farnsworth Riche, "The nursing home dilemma," *American Demographics*, October 1985; U.S. General Accounting Office, *Medicaid and Nursing Home Care: Cost Increases and the Need for Services are Creating Problems for the States and the Elderly* (Washington, 1983).

²⁸ Carol O'Shaughnessy, Richard Price, and Jeanne Griffith, *Financing and Delivery of Long-Term Care Services for the Elderly* (Washington, The Library of Congress, Congressional Research Service, 1985).

²⁹ Mark Meiners, "The case for long-term care insurance," *Health Affairs*, Summer 1983.

³⁰ Employment projections for the nine health industry categories of the National Industry-Occupational Matrix were derived from economic growth sectors 140-142 in a two-part procedure.

First, projected employment in SIC 074, veterinary services, was removed from projected private wage and salary employment in the economic growth sectors. Next, disaggregation to the nine matrix industries was accomplished using a time series regression analysis. The results were reviewed and adjusted according to analytical judgment.

Second, projections of State and local government hospital employment were added to the estimate of private hospital employment in SIC 806. No explicit adjustment was made for SIC 8042, Offices of optometrists.

³¹ "Automated microbiology systems," *Journal of Health Care Technology*, Winter 1985.

³² U.S. Department of Health and Human Services, *Report to the President and Congress on the Status of Health Personnel in the United States* (Washington, DC, U.S. Government Printing Office, 1986).

³³ See, for example, annual payroll data on hospital personnel by detailed occupation provided to the Bureau of Health Professions by the American Hospital Association. Survey data for 1981-83, are summarized in *Trends in Hospital Personnel, 1981-83*, ODAM Report No. 5-85 (Rockville, MD, U.S. Department of Health and Human Services, 1985).

Hospital employment under revised medicare payment schedules

A preliminary study of the employment effects of medicare payments based on Diagnosis Related Groups suggests that cost-cutting responses by hospitals will result in smaller, more highly skilled staff and a higher proportion of clerical to health care workers

EILEEN APPELBAUM AND CHERLYN SKROMME GRANROSE

In the face of declining employment in manufacturing, service sector industries such as health services are expected to offer expanded employment opportunities in the future. More than 900,000 jobs have been added in the health services industry since 1975, making it one of the largest industries in the U.S. economy. Moreover, the number of Americans over 65, who make the greatest use of health care services, is currently approaching 29 million and continues to grow.

Recently, however, the Federal Government has attempted to limit the rise in health care costs by instituting a prospective payment system based on Diagnosis Related Groups, or DRG's. Under the former system, reimbursement for hospital treatment covered by medicare at an acute care hospital¹ was based on the prevailing rates for hospital and physician care in the locality. Hospitals typically recovered the full cost of care for each patient.

Under the new system, payment is based on the average cost of patient care, with hospitals recovering more than the actual cost in some cases, and less in others. Reimbursements are made according to a fee schedule that mandates

specific payments for each of 467 Diagnosis Related Groups. Payment to hospitals for inpatient care is assigned according to four criteria: a patient's principal diagnosis or surgical procedure, whether there is an important secondary diagnosis, the patient's age, and whether or not the patient was alive upon discharge. (An example of a Diagnosis Related Group is DRG 122: Circulatory disorders with acute myocardial infarction; without cardiovascular complications; patient discharged alive.) Each hospital's payment is adjusted for local wage levels.

The payment is expected to cover all costs except those related to staff education and capital expenditures. All direct medical education costs as well as indirect costs are reimbursed separately, as are capital expenses. Moreover, services provided on an outpatient basis or outside an acute care facility are currently exempted from DRG coverage. The DRG schedule is applied to inpatient services rendered to medicare beneficiaries. Therefore, the importance of medicare as a source of hospital revenue varies according to the size and complexity of the medicare caseload. This payment system provides an incentive to reduce costs within acute care hospitals because hospitals receiving medicare payments are permitted to retain any savings but must also absorb any expenses exceeding the scheduled payment rates.

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These attempts to limit the growth of health care costs have begun to affect employment opportunities in several important ways, including the number of jobs, hours of work, skill levels, and mix of occupations. This article is a preliminary report on the way in which human resource use in the hospital sector of the health service industry is responding to current efforts to contain expenditures. The following discussion briefly outlines the economic setting and related changes affecting hospitals, and then describes the strategies that have been adopted by certain Philadelphia hospitals to cope with this environment.

The changing environment

The cost of health care in the United States has risen steadily over the last few decades, increasing from 4.4 percent of gross national product in 1950 to 10 percent in 1984. Payments to hospitals have been the largest component of such expenditures, increasing from about 28 percent of the total in 1950 to just over 40 percent in 1980.² Payments from medicare, a Federal program established in 1965 to meet the costs of hospital care for elderly or disabled patients, currently amount to 38 percent of all hospital revenues.³

In an effort to slow the growth of medical costs and hold down public expenditures for health care, Congress passed legislation in October 1983 that established a medicare payment system based on DRG's. DRG's were phased in over a 3-year period beginning the following year. Between January and August 1984, 70 percent of community hospitals came under this pricing system.

Uncertain about the eventual effects of DRG's on revenues and anticipating a need to reduce costs across the board, hospitals with large medicare caseloads attempted to reduce admissions of less acutely ill patients and shorten hospital stays before the new system was implemented. As a result, the patient census declined sharply at some hospitals, but then recovered somewhat as hospitals became more familiar with the system. In addition, as described below, DRG's and changes in private insurance approaches to health care have encouraged the establishment of nonhospital treatment facilities. Younger or healthier patients may prefer these outpatient alternatives.

The effect of these developments on hospital utilization is reflected in aggregate data. Total admissions, which had already leveled off in 1982 and 1983 for reasons largely unrelated to DRG's, fell sharply—by 4 percent—in 1984. The average length of a hospital stay declined by 2 percent in 1983 and 5.1 percent in 1984.⁴ For medicare patients, it declined by about 20 percent between 1983 and 1984, from 9.6 to 7.4 days.⁵

Cost containment measures adopted at many facilities slowed the growth in cost per case. Hospital expenses rose only 4.6 percent in 1984 compared with 10.2 percent in 1983, despite the fact that inflationary pressures on hospitals were virtually unchanged.⁶ Medicare payments to hospitals

increased 9 percent in the fiscal year ending June 1985 compared to an average of 19 percent in each of the 3 preceding fiscal years.⁷

Labor costs are the single largest budget item for hospitals, constituting over one-half of operating expenses in most instances.⁸ Many of the cost-cutting strategies which hospitals have adopted are intended to effect savings in this area through reductions in employment or changes in staffing patterns. Thus, despite continued growth in employment in the health service sector, hospital employment turned down for the first time in 1984, with all of the decline occurring in general medical and surgical hospitals.⁹ These are precisely the institutions which are subject to DRG's.

While the effects of DRG's on total hospital employment are reasonably clear, their effect on the mix of occupations and skills is uncertain. There are many possible strategies that hospitals might adopt to adjust to these cost containment measures, each with somewhat different implications for trends in health care employment. Our study focused on the strategies adopted by a number of hospitals located in Philadelphia and explored their human resource implications.

Data for this study were collected in three stages. First, a short, structured questionnaire was distributed to all administrators attending a meeting of the Philadelphia Hospital Personnel Society. This questionnaire asked respondents to classify their hospital's size, type, and specialization and to indicate their own administrative position. It also asked them to indicate for each of a list of occupations whether full-time, part-time, and contract employment was declining, static, or growing in their hospital. Thirteen completed responses were obtained at this meeting. Of the hospitals responding, 10 were private and 3 were public; 10 were teaching institutions and 3 were community hospitals. They ranged in size from 82 to 600 beds with an average size of 257 beds. All of the hospitals were nonprofit.

The second stage of data collection consisted of a series of 1½- to 2-hour personal interviews of seven of the hospital administrators who filled out the initial questionnaire. These interviews, conducted in August and September of 1985, focused on the general employment strategy of the hospital, any changes in strategy in response to DRG's, and the rationale behind adoption of these policies and practices. We also requested more precise estimates of the number or proportion of employees in each employment category added, deleted, or transferred since the implementation of DRG's. Hospitals selected for interviews were chosen to provide as much variation as possible. However, no attempt was made to obtain a representative sample and caution should be exercised in generalizing from these results.

A third aspect of data gathering consisted of using archival data to identify the broader changes in patient census and employment in all Philadelphia area hospitals. This enabled us to place the responses of interviewees into a more general context.

Effects of DRG's uneven

Just as their counterparts elsewhere, Philadelphia area hospitals began preparing for the implementation of DRG's even before the authorizing legislation had been passed. In the view of some of the hospital administrators interviewed, the initial response at many institutions was an overreaction to the prospect of a fixed fee schedule. With 2 years of experience since passage of the legislation, the administrators believed that reactions had moderated, although the extent and difficulty of required adjustment varied widely among hospitals.

An overview of pertinent hospital operations in the Philadelphia area can provide useful perspective for interpreting these and other responses to our study. Admissions for the 90 Philadelphia area hospitals (including those in the New Jersey suburbs) declined nominally from 325,966 in late 1982 to 325,733 in late 1983, then rose to 326,943 by 1984.¹⁰ Philadelphia's experience in this respect differs sharply from that of the Nation as a whole, which experienced an unprecedented decline in admissions in 1984. Reasons for this difference include the relatively high proportion of elderly people in the Philadelphia area, the substantial number of referrals from outside the area to major medical centers in Philadelphia, and the below-average enrollments of health maintenance organizations (HMO's) in the area.

While admissions remained essentially stable in Philadelphia, hospital stays were shortened. Length of stay in acute care hospitals declined steadily from 8.8 days at the end of 1982 to 7.5 days in 1984.¹¹ The combination of stable admissions and declining length of stay enabled Philadelphia hospitals to earn record income while containing costs. Of the 60 hospitals in Philadelphia and its Pennsylvania suburbs, all but three were in the black for the fiscal year ending June 30, 1985. The five hospitals with the highest net income included a children's hospital, a community hospital, and three teaching hospitals. Taken together, the 60 Philadelphia hospitals had income exceeding \$165 million on revenue of more than \$3 billion.¹²

While DRG's provide incentives to all hospitals to decrease length of hospital stay and to compensate for the decrease in bed occupancy rates by increasing the volume of admissions, the effects are very uneven across institutions. The employment impact depends, in part, on the extent to which the hospital is affected by DRG's and the size of the hospital's medicare caseload. DRG's currently do not apply to specialty hospitals, which do not provide acute care. These include psychiatric institutions, drug and alcohol treatment centers, and physical rehabilitation facilities. Children's hospitals are also waived under present regulations. Cost containment pressures thus are far less severe in these institutions than in acute care hospitals. Nevertheless, specialty hospitals are responding to a number of pressures for change. These include the expectation that coverage by

DRG's will eventually be extended to them, incentives from private health insurers to reduce costs, greater acceptance by patients of less expensive outpatient care, and increased competition from freestanding, specialized facilities established by acute care hospitals to avoid DRG coverage.

One specialty hospital we examined had initiated a study of how it should respond to the impact of DRG's. As a result of what it had learned by the time of the interview, this hospital had taken steps to become an outpatient surgery facility. It had arranged for an acute care hospital to take its more seriously ill patients and had already converted an entire inpatient floor to day surgery. Because of these measures and the increasingly competitive environment in which the hospital operates, the inpatient census at this facility was at 40-percent occupancy in 1985, compared with 56 percent a year earlier. However, the outpatient service increased over the same period: outpatient visits increased 8.4 percent between fiscal years 1984 and 1985 while outpatient surgical procedures increased 19.7 percent over the same period.

In this hospital, the effect on employment levels had been minimal, although employees had been shifted from inpatient to outpatient care. The nursing staff remained stable between 1983 and 1985, with 82 registered nurses (of whom 76 work full time), 14 nurse's aides, and no licensed practical nurses. The number of ward clerks in patient care units decreased from 16 to 12 over that period. However, total clerical employment also remained stable at about 41, because three positions for coder-abstracters (currently filled by temporary workers) have been added in the medical records department. The number of people employed as medical technicians, secretaries, and administrators remained unchanged.

The hospital anticipated reduced labor requirements in areas such as dietary, housekeeping, and maintenance services as the shift from inpatient to outpatient care proceeds, but this had not occurred at the time of the interview. Employment in the service unit, which numbered about 125 in 1983, had been reduced by two full-time-equivalent positions, and there had been a moderate shift toward more part-time staff in this area. The only employment growth anticipated by this hospital was in the medical records department, which at the time was burdened by the increase in the number of people seen as outpatients. A systems analyst position was expected to be added and two or three clerical positions were to be made permanent when an evaluation of medical records operations was completed.

Separate reimbursement for medical education expenses under the DRG payment system has had differential effects on the revenues of teaching and nonteaching hospitals. Payments for direct education costs are based on actual cost, while those for indirect costs depend on the size of house staff, the number of beds, and the total payment from medicare. It has been estimated that adjustments for indirect teaching costs increase the payments to teaching hospitals with one or more interns or residents for every four beds by

an average of 53 percent, while combined adjustments for direct and indirect medical education costs approximately double the reimbursement to a teaching hospital compared with the DRG payment per case to a nonteaching hospital.¹³ In part, these increased payments are intended by medicare to compensate teaching hospitals for the greater severity of the illnesses they treat and for the free care they provide to patients with no medical coverage, although other hospitals with acutely ill patients or which provide free medical services receive no such compensation. The result of this payment system has been to encourage teaching hospitals to categorize expenditures as direct educational costs whenever possible and to shield their revenues from the effects of DRG's.

The administrator of one very large teaching hospital stated that DRG's were having negligible effects on admissions, length of stay, and occupancy. This hospital's 1984 occupancy rate exceeded 79 percent, compared with an average of 73.4 percent for other medical school hospitals and 69.3 percent for other acute care hospitals in the region.¹⁴ Not surprisingly, DRG's had not affected employment levels at this hospital at the time of our study and were viewed by the respondent as only one among many factors affecting decisions about human resource use. However, a second medical school hospital administrator stated that his institution was already initiating changes to increase volume of admissions and reduce length of stay in anticipation of cutbacks in medicare payments for educational costs. (At the time of our interview, the Advisory Council on Medicare had already proposed to Congress that these payments be terminated by 1987.)

In general, the hospitals with revenues most adversely affected by the DRG payment system were acute care community hospitals, especially those serving an elderly or poor population. The reasons for this are implicit in the type of diagnosis-based, per-case reimbursement system which medicare has adopted. The DRG system uses limited information in assigning a patient to one of its 467 categories. In particular, it largely ignores the severity of the illness in making an assignment and it ignores socioeconomic characteristics of the patient that may affect the number of complications and thus the cost of treatment. In addition, no allowance is made under DRG's for free medical care provided to those unable to pay for services.

A study conducted at Johns Hopkins found that teaching status of a hospital did not necessarily predict the severity of illness of its patient population. Some nonteaching community hospitals have severe case mixes despite their low resident-to-bed ratio. These hospitals receive little reimbursement from medicare for educational costs to offset their higher than average treatment costs.¹⁵ The greatest pressures for cost containment, and the greatest challenges to hospitals that want to maintain the quality of, and access to, their services, occur in this category.

The hospital in which we observed the greatest effect of DRG's was a community hospital that had responded to what

it termed "the Federal mandate for quality health care" in the 1960's and 1970's by gearing up to provide care for the poor and the aged. At the time of the study, 60 percent of its patients were on medicare. The hospital had responded to the medicare revenue cuts that accompanied the implementation of DRG's with a concerted cost containment effort. Most obvious was the reduction in average length of patient stay from 10 days to 7.2 days between 1983 and 1985. In contrast, the average length of stay at acute care hospitals in the Philadelphia area had fallen from 8.8 days to 7.5 days over the same period.¹⁶ In this hospital's view, the longer average length of stay for its patients in 1983 was due to the fact that recovery takes longer when the patient population is older and poorer, not to inefficiencies in the hospital's operations. This contrasts with medicare's underlying assumption that all cost differences in treating patients in the same Diagnosis Related Group result from differences in efficiency among hospitals. Under extreme pressure to reduce costs, this hospital had brought its average length of stay in line with the Philadelphia average. As a result, the hospital's patient census had declined more than 15 percent since 1983, yielding its 1985 occupancy rate of 62 percent.

Anticipating the implementation of DRG's, in 1983 this hospital obtained a 2-year grant to study the effects of DRG's on the lives of the elderly. Preliminary results suggested that while there had been no increase in medical risk, more than 54 percent of the 200 patients interviewed in the first year indicated a fear that they were returning home too early in their recovery. The hospital was concerned about the social and psychological stress to which these elderly patients are being exposed, the adequacy of care available to elderly people living alone, and the stress placed on relatives asked to care for these patients.

Strategies for coping with DRG's

Strategies to adjust to the changing financial environment can be divided into three categories—strategies for "beating the system," marketing strategies, and human resource strategies. Strategies in the first two categories also have consequences for human resource use, even though these practices are not adopted specifically as human resource strategies.

"Beating the system." The uneven effects of DRG's on hospitals and the complex economic incentives the payment system provides have led hospitals to adopt a variety of strategies for maximizing income under the new rules. These include such obvious tactics as identifying combinations of patient diagnoses that maximize payments and choosing the principal diagnosis or procedure carefully to achieve the same end. These practices were aggressively pursued at all of the hospitals we observed. Training was provided for personnel ranging from doctors to medical records clerks in assigning diagnoses to the DRG category that yields the most revenue for the hospital. This practice

may have contributed to the increase in recent years in the case mix index—a national measure of the severity of patient illnesses—which is rising much more rapidly than expected,¹⁷ although acuity levels at hospitals are increasing as less ill patients are treated at outpatient, rehabilitation, or other facilities. In addition, separate payments by medicare for capital expenses favor the use of capital intensive techniques. They also encourage hospitals to experiment with equipment leasing and innovative accounting procedures to qualify for reimbursement for capital expenditures.

Partly as a result of the favored status afforded capital intensive techniques under DRG's, some hospitals have continued to add employees in high technology specialties. Four of the hospitals at which we interviewed cited recent or anticipated employment growth in radiology, ultrasound, magnetic resonance, CAT-scan, nuclear medicine, and nuclear studies in cardiology. Between 5 and 10 technician or technologist positions had been added at these hospitals in 1984 and similar employment growth was anticipated for 1985. Competition for individuals highly credentialed in these areas is keen, and some hospitals had had to offer higher starting wages in order to recruit such workers, and to renegotiate contracts in order to retain them. One hospital reported retraining existing personnel to fill some of these positions.

Employment growth in technical specialties was far outpaced by the number of new clerical and administrative positions added in medical records, billing, and related departments in response to DRG's. All of the hospitals we observed had increased employment in these areas. Administering DRG's to yield the highest payment for each patient had caused one hospital at which there were substantial cutbacks in patient care personnel to increase the numbers of medical record administrators, technicians, and clerks; to add three programmers; and to employ an additional admitting officer, financial analyst, manager of financial planning, and several accountants. Another hospital which had reduced the number of licensed practical nurses and nurse's aides by more than 30 positions between 1983 and 1985 reported large employment increases in billing, data processing, medical records, and utilization review over the same period. The billing department alone had grown from 40 to 60 people, while the number of coders in medical records rose from 17 to 25. The hospital also reported having retrained clerical employees to choose the best diagnosis financially while conforming to regulations.

Marketing strategies. Marketing strategies at the hospitals where we interviewed were two-pronged. The hospitals had made significant efforts to increase admissions. They had also developed marketing strategies that focused on procedures, populations, and services for which DRG limits are less constraining.

To increase admissions, and to target the populations they wish to admit, hospitals throughout the country are compet-

ing for patients through direct marketing and advertising activities. The hospitals we visited were making increased use of marketing consultants, and some institutions had hired or were planning to hire marketing directors.

Hospitals are also courting physicians. Four of the acute care hospitals we studied reported that they were increasing the number of attending physicians. Some were encouraging attending doctors to form health maintenance organizations. More often, hospitals today are encouraging doctors to form professional associations to provide specialized services such as radiology within the hospital on a private, for-profit contract basis. This practice appeared to be widespread in the two teaching hospitals we observed, extending beyond medical imaging and anaesthesiology to include such unlikely specialties as dermatology. Other hospitals had also developed such subcontract arrangements or were discussing them for medical specialties as diverse as biomedical services, urology, and the short procedures unit, in which outpatient surgery is conducted. In return, the hospitals expected doctors with whom they have such arrangements to admit more patients.

To escape the constraints of DRG's, and in response to private health insurance incentives for avoiding inpatient care as well, hospitals are increasing the provision of services not covered by these regulations. The most common strategy is to enlarge the short procedures unit and to shift from inpatient to outpatient services. In some of our study cases, entire floors or units had been shut down and the personnel reassigned or released. Some of these hospitals were establishing new, independent units to provide psychiatric, physical rehabilitation, or drug and alcohol treatment outside the acute care facility. Such units are exempted from DRG coverage. Home health care is another new service with which hospitals were experimenting.

Another strategy used by hospitals to increase revenues is to attract specific types of patients who will make relatively less use of the hospitals' resources than other patients within the same DRG. A recent study confirms the fact that patients with the same diagnosis may be more or less acutely ill. In a related study comparing reimbursement rates with the actual extent or severity of illness, researchers found both substantial overpayments and underpayments. Some institutions received payments that were as much as 59 percent too high and others received 25 percent too little in relation to the burden of illness and the actual costs of treating their patients.¹⁸

Hospitals prefer patients who are younger or are in sociodemographic groups that are likely to have fewer complications and shorter hospital stays. They also prefer patients with private insurance coverage which does not rely on DRG-type reimbursement policies. In addition, hospitals have identified those diseases which are profitable for them under the DRG system, and they seek to increase admissions of patients with these ailments. Treating the right type of patient increases the "contribution margin" to the hospital,

raising the difference between what hospitals are paid for treating the patient and the actual variable cost of the care. A leading management consulting firm has prepared what it labels "a survival guide for the hospital industry," in which hospitals are advised that they must determine their "winners" and "losers"—that is, those DRG's that are most and least profitable; identify the types of patients that provide the greatest contribution margin and target them; and decide which physicians should be encouraged to use hospital resources.¹⁹

For persons concerned about the wide availability of quality health care, the benefits of marketing strategies are not always clear. One hospital administrator cited unproductive competition with suburban hospitals for attending physicians and patient admissions in categories where costs are below average. A respondent at a rehabilitation hospital pointed to a shift in workers and other resources from an older facility in a lower income, black community to a newer center in a middle income, white neighborhood. While the hospitals at which we interviewed, especially the community hospitals, expressed a continuing commitment to providing medical care to those who need it, the practice of using marketing strategies to attract a preferred patient population raises troubling questions about access for persons requiring hospital stays that exceed the average or for those who lack medical insurance coverage.

All of these marketing strategies have implications for human resource use. This was most evident at a speciality hospital we observed where a new administration decided last January to take steps to run the hospital more like a business. In addition to 13 positions, including 10 office and clerical jobs that had already been added in 1984, 35 new positions were approved for 1985. The new positions included a director of development, an insurance liaison person, an admissions liaison person, and a coordinator to test-market potential products.

In general, we found that the medical records department had grown at each of the hospitals we visited. Greater use of outpatient facilities and short procedures units has increased the number of patient visits, and hence the number of bills that must be sent to patients. At one medium-sized hospital, not only had there been a shift from inpatient to outpatient care but the hospital's general practice department had become part of a health maintenance organization. The resulting increase in billing requirements had led to a marked increase in employment in the billing department.

The establishment of freestanding units to provide specialized treatment outside the hospital and the subcontracting of hospital services to professional associations of doctors had affected the number of workers officially counted on hospital payrolls, although the effect on actual employment was less clear. Doctors in these situations negotiated with hospitals over the sharing of expenses and over whether the staff in their facilities would be employees of the doctors or of the hospital. We found that where hospitals were not

unionized, workers were often considered employees of the doctors. The hospital would prepare the payroll and send out paychecks, but the workers were not carried on the hospital's employment rolls.

Labor force strategies. Responding to DRG's through the use of human resource strategies, Philadelphia hospitals were attempting to reduce labor costs while avoiding widespread layoffs. Layoffs had occurred at some hospitals, but most of the reported reductions in staff at the hospitals we visited had been accomplished through attrition and incentives for early retirement. One hospital, adjusting to a decline in its occupancy rate of 20 percentage points as a result of a reduction in average length of stay from 10 to 7 days, had found it necessary to reduce its staff by 111 positions. First, retirement incentives were made available at all vertical levels of the employment structure, although the hospital found that this option appealed mainly to less skilled, lower paid workers. As a result, 31 people retired early. The second stage of the reduction was accomplished by laying off workers over a 5-month period in 1985. Such workers were given preemptive rights to return—that is, they were hired back as others left voluntarily and jobs for which they were qualified opened up. By the end of 1985, only 9 people remained on the layoff list, the rest having been rehired in the course of normal turnover.

While only two hospitals had found it necessary to lay workers off, all of the hospital administrators interviewed reported having used attrition to achieve targeted reductions in staff. Selective cutbacks through attrition had been accomplished at every employment level including administration, although most reductions had occurred among less skilled nursing staff. If targets were not met by the end of the fiscal year (June 1986), some hospitals anticipated using layoffs to reach employment goals.

Attrition is a viable strategy for hospitals because of the high turnover that characterizes many of them. One large hospital we visited, with approximately 3,200 employees, reported turnover of about 17 percent in fiscal 1984 and 23 percent in fiscal 1985. This occasioned the hiring of about 950 new workers in 1984, and about 750 in 1985. Thus, there had been extensive hiring at this hospital despite a reduction in staff of more than 100 positions during fiscal 1985. Several medium-sized hospitals reported reductions in staff through attrition of up to 100 positions over the preceding 2 fiscal years.

Despite the use of retirement incentives, attrition, and occasional layoffs, hospitals were not planning across-the-board reductions in staff. Most of the hospitals we visited had conducted detailed studies of staffing needs and had set employment targets for each department, including increases in some areas and reductions in others. This had involved considerable shifting of employees among departments. The closing of entire inpatient nursing floors and the scaling down of some programs at the hospitals had been

accompanied by expansion of short procedures units and other outpatient facilities.

Nurses and ward clerks had been shifted from inpatient to outpatient care. One hospital reported that about 70 percent of those displaced from inpatient care had been reabsorbed in this way. Another hospital had found that shifting nurses from the nursing floor to day surgery required a new orientation and specialized training; staff nurses had been given the option of getting the training in order to retain their jobs. The most unusual reassignment we observed occurred at a hospital where requirements for less skilled nurses were declining while the need for clerical workers was increasing. The administration had given licensed practical nurses the option of shifting to clerical work. Several nurses had taken advantage of the offer and had made the change quite successfully.

Engineering and maintenance requirements remained virtually unchanged as hospitals adjusted to DRG's, and house-keeping services experienced about a 10-percent decline in employment. However, several hospitals reported that they had not filled all of the positions in these departments lost through attrition.

Only food service requirements had consistently and markedly declined as a result of the decline in inpatient census and the increase in outpatient services. One hospital reported making shifts in the assignment of nonunion employees in this area, but not for those who were unionized.

Hospitals are also adopting a variety of human resource strategies that increase their flexibility in using their employees. One notable development, emphasized by all but one of the hospitals we observed, is increased reliance on registered nurses, especially those with Bachelor of Science in Nursing degrees, and reduced employment of nurse's aides and licensed practical nurses. Reducing the length of hospital stays during the recuperative period means that patients who are in hospitals are more acutely ill, with the result that more skilled nursing care is required.

Most of the hospital administrators we interviewed believed that it is inefficient to continue to use licensed practical nurses and nurse's aides, who are limited in the tasks they can perform. One hospital had already eliminated all licensed practical nurses. Only one community hospital administrator, sorely pressed by DRG's, took the position that registered nurses should be used to provide professional nursing services only, while auxiliary services should be provided by lower paid licensed practical nurses and aides.

The result is that many of the hospitals we visited were maintaining employment levels for registered nurses and graduate nurses (and some were even recruiting in this area) because such nurses can provide the entire range of nursing services. At the same time, there had been cutbacks in the less skilled nursing positions. One hospital reported having laid off 17 workers in July 1984 and the same number the following October. Most of those laid off were nurse's aides. Cutbacks at other hospitals had been less

extreme, but several reported no new hiring of aides or licensed practical nurses within the last 6 months of the interview, and no future plans to hire them.

Some hospitals reported having instituted, or considered establishing, internal labor pools to increase flexibility in assigning workers to departments where they are needed. Such a strategy usually is intended to avoid layoffs and increased use of part-time workers. The underlying premise, viewed as still unproven by most of the administrators we interviewed, is that one department is busy while another has down time. The argument is that down time can be reduced and productivity increased by assigning people of like educational attainment to a labor pool, rather than to a department, and cross training them to do a variety of jobs. Workers can then be assigned from the pool to a department as needed. Several hospitals had begun (or were considering) using a labor pool to staff less skilled jobs in house-keeping, grounds, maintenance, food service, and transport.

A few hospitals were coping with fluctuations in admissions and swings in patient census by establishing nursing pools. Nurses who do not want, cannot find, or are not needed by the hospital for full-time employment are carried on the rolls of the hospital's nursing pool and called in to work by the day. One medium-sized hospital with 155 registered nurses and graduate nurses on the floor, another 15 in education, administration and supervision, and about 25 licensed practical nurses and 35 aides, had a nursing pool of about 80, of whom no more than 30 were actively contacted by the hospital on an average day. The people in this pool were not reported as hospital employees in employment statistics kept by the institution. They were paid a straight wage for the days they worked and received no fringe benefits. They became eligible for a pension if they worked more than 1,000 hours in any year, so the hospital attempted to keep their employment under this level.

Another hospital, unable to fully employ all of its nurses in the face of the decline in its patient census, operated a different type of nursing pool in which everyone is a hospital employee and is guaranteed work every day but not necessarily at the hospital. The hospital operated the nursing pool as a temporary help service, sending the nurses it did not require on any given day out to nursing homes or other facilities, as needed. This pool had, in fact, become a "profit center" for the hospital.

Several hospitals had small clerical pools as well. At one, a pool of five clerical workers was treated as belonging to the employee relations department. These workers, who were viewed as permanent employees of the hospital, were called in as needed and charged to whatever department used them. The hospital treated them as part-time workers.

Several alternative strategies for reducing labor costs which we expected to find were notable by their absence. In general, the hospitals we observed had made only limited use of part-time employment to increase flexibility in work assignments. Perhaps 10 percent of employees at these

hospitals work part time, usually in food service and in weekend nursing services. One hospital had gone from two full-time shifts in food service to one full-time and one part-time shift. Other hospitals reported that about a third of their food service workers were part time.

Weekend nursing services have traditionally employed part time registered nurses, licensed practical nurses, and aides who wanted those hours. Today, fewer patients remain in the hospital on weekends. But hospitals are providing additional outpatient services on weekends and evenings in order to meet increased competition from freestanding facilities. One hospital we visited had begun providing physical therapy and respiratory therapy at those hours.

In recent years, hospitals have also begun making part-time work available to physical therapists, who are currently in short supply, in order to make the jobs attractive. Apparently, a substantial number of physical therapists do not want full-time work and are able, in the current market, to command the hours they desire. The net effect of this trend on part-time employment among the hospitals we visited had been small.

None of the seven hospitals we observed had increased the responsibilities of lower paid workers in order to economize on the use of more highly skilled and higher paid staff. On the contrary, they sought to hire the most highly credentialed workers available. This was especially evident in nursing, where the proportion of registered nurses was increasing and the nurses were being asked to perform the entire spectrum of nursing services, but it applied to technicians and therapists as well. Hospital administrators reported that greater cost savings are realized as a result of the flexibility provided by a smaller staff of highly skilled workers than through an increase in the proportion and responsibilities of lower paid workers.

Hospitals do make use of temporary workers, mainly in nursing services and, to a lesser extent, in clerical work. But the hospitals we observed made only occasional use of temporary help service agencies. Instead, they preferred to contract with individuals for these services, forming their own internal pools of temporary workers. Often, the workers in these pools previously held full-time positions at the hospitals, but for personal reasons came to prefer fewer hours. Other workers in the pools may desire full-time jobs at a particular hospital and view the pool as a way of getting preferential treatment should an opening arise. Sometimes the pool was established as an alternative to laying off workers entirely.

In general, the hospitals in our survey did very little contracting out of services. None of the hospitals we visited contracted out services such as food service, housekeeping, groundskeeping, or maintenance. One hospital was contracting out electrical services at the time of the interview but planned to hire its own electrician shortly. Another hospital was contracting out food service in the employee and visitor cafeterias, but not its inpatient food service. The

hospital administrators we interviewed rejected the use of temporary help agencies or of contract services because they believed there are hidden or long-run costs associated with the use of workers who are not their own employees. Because pay at these hospitals rose during the 1970's, the administrators no longer viewed their institutions as employers of last resort. Quality of employees at every level was higher by the mid 1980's than it had been 10 or 15 years earlier, and respondent hospitals thus were reluctant to surrender control over this employment to outside agencies.

Implications for employment outlook

According to our study, implementation of a prospective payment system by medicare had an immediate effect on employment in acute care community hospitals most directly affected by DRG's. Cutbacks in employment in these facilities have largely been in patient care occupations. They are associated with the reduction in length of hospital stay and with the incentives for cost containment implicit in a system which allows hospitals to retain the difference between scheduled prospective payments and the actual costs of providing health care services.

Employment growth was centered in occupations associated with hospital efforts to prosper under DRG's by increasing admissions, targeting a preferred patient population, coding patient diagnoses so they are most financially remunerative, increasing the use of capital intensive procedures for which payment is more easily obtained, and establishing or expanding treatment facilities and services that are not yet covered by the payment system. In our interviews, we observed only small changes in employment in the specialty and teaching hospitals, which are less severely constrained by DRG regulations. However, all but one of these hospitals were expecting that future regulatory changes would directly affect them. They reported that they were exploring the use of (and, in one instance, were actively utilizing) the marketing and human resource strategies that acute care community hospitals had adopted during the 2 years preceding our study.

In direct patient care occupations, the overall employment of registered nurses and graduate nurses was stable, although there had been a definite shift in location of a substantial proportion of these jobs to short procedures units, outpatient services, offsite specialty units, or freestanding facilities in more prosperous communities. The employment of licensed practical nurses and nurse's aides was declining, while a few specific technical specialties benefiting from DRG regulations were experiencing small increases. Physical therapists, who benefit from the exemption from DRG coverage of rehabilitation facilities, were also facing a high demand for their services.

In support service occupations, those concerned with the maintenance of physical facilities had experienced stable employment, though hiring was limited to replacement only and was sometimes sluggish. Support service occupations

that depend on the hospital's inpatient census, such as food service, housekeeping, and patient transport, were declining. Food service occupations were the hardest hit, and some workers in this area who did retain their jobs had had their hours reduced.

The largest increases had occurred in administrative and administrative support occupations. We observed small increases in positions for upper level administrators with skills in marketing, product development, finance, and DRG administration. These had been filled through outside hiring. Larger increases were reported in clerical occupations in billing and medical records, especially in occupations related to DRG reporting requirements. These positions had sometimes been filled through outside hiring. Often, however, they had been staffed through transfers within the hospital from departments experiencing cutbacks.

Our limited data suggest that the major impact of the decline in hospital employment is being felt in the less skilled, traditionally female occupations such as licensed practical nurses, nurse's aides, and food service workers. A case study of hospitals such as this does not provide information on whether workers displaced from hospital employment are finding jobs in nursing homes, home health services, or other health service facilities. Even if this is the case, however, displaced workers are unlikely to find jobs that pay as well or provide as many hours of work as those they previously held. Hospital administrators with contracts with home health care agencies or who were developing this service themselves reported that the position of home health care aide is becoming more skilled than that of a nurse's aide in a hospital setting because there is less direct supervision. Yet the job pays about \$3.35 to \$5 an hour, about half the hospital pay scale for nurse's aides, and the hours, which are not dependable, may vary from 10 to 40 a week.

Our findings also suggest that while high turnover and the continued need to fill a few specialized positions precludes a hiring freeze at hospitals, very little net growth in employment in the hospital component of the health services sector can be anticipated in the next few years. This is especially true of acute care institutions. We also noted a shift in the composition of the nursing staff at hospitals toward graduate and registered nurses, whose numbers were stable or growing slightly. This appears to be the result of both the thrust within nursing for professionalization and the desire of hospitals to operate with a nursing staff that is smaller overall but more highly skilled and flexible. The preference for more highly skilled workers was apparent as well in other occupations at the hospitals we observed. These hospitals were continuing to recruit employees with training in specialized technical procedures and those with traditional business specialties such as marketing and finance.

Our method addresses the proximate effects of DRG's on hospital employment. However, it does not allow an analysis of overall employment effects in health services as full adjustment to the new payment plan is undertaken. Many questions remain. These include whether displaced licensed practical nurses and nurse's aides are finding alternative employment in nursing homes and home health care; whether the stresses on families caring for elderly patients at home are creating unrecognized increases in the demand for psychological and social work services; and what the effect will be on the demand for health services provided outside of hospital facilities. However, our case study of a small number of hospitals strongly suggests that DRG's are triggering changes in hospital employment and in the delivery of medical care that are having major spillover effects elsewhere in the health services sector and, perhaps, in the larger economy. □

—FOOTNOTES—

¹ For purposes of program administration, an "acute care hospital" is defined by exception; that is, a facility is considered an acute care hospital unless it falls within a category specifically excluded from the program by law, such as an alcohol rehabilitation center. However, the term may be approximated by the American Hospital Association's definition of "community hospitals": Non-Federal, short-term general and other special hospitals, excluding hospital units of institutions, whose facilities and services are available to the public. See *Hospital Statistics, 1985 Edition* (Chicago, American Hospital Association, 1985), p. xi.

² R. R. Arons, *The New Economics of Health Care: DRG's, Case Mix, and Length of Stay* (New York, Praeger Publishers, 1984), pp. 4 and 114.

³ "Health Care Costs: The Fever Breaks," *Business Week*, Oct. 21, 1985, pp. 86-94.

⁴ "1984 Hospital Cost and Utilization Trends," *Economic Trends* (Hospital Research and Educational Trust), Spring 1985.

⁵ R. Sullivan, "Decline in Hospital Use Tied to New U.S. Policies," *The New York Times*, Apr. 16, 1985, p. A1.

⁶ "1984 Hospital Cost."

⁷ "Health Care Costs," p. 86.

⁸ D. Kidder and D. Sullivan, "Hospital Payroll Costs, Productivity, and Employment Under Prospective Reimbursement," *Health Care Financing*

Review, December 1982, pp. 89-99.

⁹ *Employment and Earnings* (Bureau of Labor Statistics), various issues, table B2.

¹⁰ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*, for the period July 1 to Dec. 31, 1984.

¹¹ *Ibid.*

¹² G. M. Gaul, "Diagnosis for Hospitals: Good Financial Health," *The Philadelphia Inquirer*, Nov. 17, 1985, p. D1.

¹³ R. S. Stern and A. M. Epstein, "Institutional Responses to Prospective Payment Based on Diagnosis-Related Groups," *The New England Journal of Medicine*, Mar. 7, 1985, pp. 621-27.

¹⁴ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

¹⁵ "DRG Disbursement," *Medical World News*, July 22, 1985, pp. 50-51.

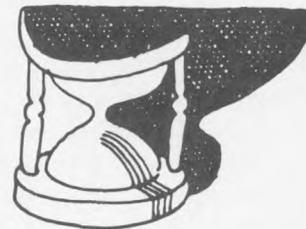
¹⁶ Delaware Valley Hospital Council, *DVHC Semi-Annual Utilization Comparison*.

¹⁷ Stern and Epstein, "Institutional Responses."

¹⁸ "DRG Disbursement," p. 51.

¹⁹ Arthur Young, *Prospective Payment Survival Guide*.

Major Agreements Expiring Next Month



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

Industry or activity	Employer and location	Labor organization ¹	Number of workers	
Private				
Construction	Northeastern States Boilermakers Employers (Interstate)	Boilermakers	1,500	
	Western States Field Construction agreement (Interstate)	Boilermakers	5,300	
	National Electrical Contractors Association, South Florida Chapter (Florida)	Electrical Workers (IBEW)	1,150	
Food products	A. E. Staley Mfg. Co. (Decatur, IL)	Industrial Workers	1,300	
	Fluid milk and ice cream companies (California)	Teamsters (Ind.)	1,200	
Textiles	Textile dyeing, printing, and finishing companies (Interstate)	Clothing and Textile Workers	3,400	
Paper	Federal Paper Board Co., Inc. (Riegelwood, NC)	Paperworkers	1,200	
Chemicals	Hercules Inc. (Radford, VA)	Oil, Chemical and Atomic Workers	2,200	
Primary metals	American Steel Foundries (Interstate)	Steelworkers	1,000	
	CF&I Steel Corp. (Pueblo, CO)	Steelworkers	1,600	
	Weirton Steel Corp. (West Virginia)	Independent Steelworkers Union (Ind.)	8,000	
	Universal-Cyclops, Specialty Steel Division (Pennsylvania)	Steelworkers	1,100	
	Atlantic Steel Co. (Atlanta, GA)	Steelworkers	1,000	
	Interlake Inc. (Riverdale, IL)	Steelworkers	1,200	
	Al Tech Specialty Steel Corp. (New York)	Steelworkers	1,750	
	Dresser Industries Inc., Dresser Clark Division (Olean, NY)	Steelworkers	1,400	
	Lufkin Industries Inc. (Lufkin, TX)	Various unions	1,800	
	Rheem Manufacturing Co. (Fort Smith, AR)	Steelworkers	1,200	
Electrical products	Whirlpool Corp. (Fort Smith, AR)	Industrial Workers	3,500	
	Amana Refrigeration, Inc. (Amana, IA)	Machinists	1,500	
Transportation equipment	Magic Chef, Inc. (Cleveland, TN)	Molders	1,000	
	General American Transportation Corp. (Interstate)	Steelworkers	1,000	
Water transportation	Borg-Warner Corp., Warner Gear Division (Muncie, IN)	Auto workers	1,600	
	New York Shipping Association (Interstate)	Longshoremen's Association	8,500	
	Philadelphia Marine Trade Association (Pennsylvania)	Longshoremen's Association	2,250	
	Steamship Trade Association of Baltimore (Maryland)	Longshoremen's Association	4,500	
	Hampton Roads Maritime Association (Virginia)	Longshoremen's Association	2,500	
	New Orleans Steamship Association (Louisiana)	Longshoremen's Association	3,200	
	West Gulf Maritime Association (Texas and Louisiana)	Longshoremen's Association	5,000	
Air transportation	South Atlantic Employers Negotiating Committee (North Carolina and Florida)	Longshoremen's Association	3,250	
	Mobile Steamship Association (Alabama)	Longshoremen's Association	1,000	
	Southwest Florida Employers Association (Florida)	Longshoremen's Association	1,100	
	Republic Airlines, mechanics, related personnel, stock clerks (Interstate)	Machinists	2,500	
Utilities	Consumer Power Co. (Jackson, MI)	Utility Workers	4,700	
Retail trade	Waldbaum, Food-A-Rama, and three others (New York, NY)	Retail, Wholesale, and Department Store	18,000	
	Giant Food Stores (Washington, DC)	Food and Commercial Workers	7,000	
	Safeway Food Stores (Washington, DC)	Food and Commercial Workers	5,000	
	Giant Food Stores (Baltimore, MD)	Food and Commercial Workers	3,000	
	Safeway Food Stores (Baltimore, MD)	Food and Commercial Workers	1,400	
	Building Managers Association (Chicago, IL)	Service Employees	6,000	
	Apartment Owners Advisory Council (Westchester, NY)	Service Employees	3,500	
	Hotel Association of Washington, DC (Washington, DC)	Hotel Employees and Restaurant Employees	6,000	
	Services	American Protective Services, Inc. (California)	International Union of Security Officers (Ind.)	2,800
		Walt Disney Productions, Disneyland (Anaheim, CA)	Various unions	1,850

See footnote at end of table.

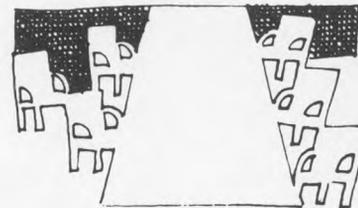
Industry or activity	Employer and location	Labor organization ¹	Number of workers
Educational services	Albert Einstein College of Medicine (New York, NY)	Retail, Wholesale, and Department Store	1,300
Public			
Education	Arkansas: Little Rock Board of Education, teachers	Education Association (Ind.)	1,100
	California: Compton Board of Education, classified employees	State Employees Association	1,400
General government	Florida: Jacksonville general unit	State, County and Municipal Employees	3,000
	St. Petersburg blue-collar unit	Firemen and Oilers	1,050
Social services	Michigan: State Mental Health Institutional unit	State, County and Municipal Employees	6,900
Fire protection	Texas: San Antonio Fire Department	Fire Fighters	1,100
Law enforcement	San Antonio Police Department	Police Association	1,050

¹ Affiliated with AFL-CIO except where noted as independent (Ind.).

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, D.C. 20212.

Developments in Industrial Relations



More steel settlements

The third settlement in the round of bargaining in the steel industry occurred when Bethlehem Steel Corp. and the United Steelworkers agreed on a 37-month contract for 30,000 employees. Reflecting the breakup of the major companies' united bargaining front and the union's recognition of the variations in the competitive problems facing the individual companies, Bethlehem's terms varied from the leadoff LTV Steel and National Steel accords. (See *Monthly Labor Review*, June 1986, pp. 45-46.)

The Bethlehem contract, which the workers approved by a vote of 11,600 to 8,369, calls for a cut in compensation totaling \$1.97 an hour. According to the union, this reduces average hourly labor costs to between \$22.50 and \$23. The wage portion of compensation was cut 8.1 percent, or an average of 98.6 cents an hour.

As at LTV Steel, the settlement provides for a plan under which employees' wage and benefit sacrifices will be repaid in cash or shares of a new issue of dividend-bearing stock. Retirees and employees will receive annual payments from an allocation equal to 10 percent of profits up to \$100 million and 20 percent of any excess. If this is not enough to offset the employees' sacrifices, the balance will be in shares of the stock.

As in the earlier accords, the Bethlehem settlement establishes a gain-sharing approach permitting local unions and management to develop plans for distributing cash to employees based on one or more of the following:

- tons of steel shipped;
- work hours per ton;
- quality of product; and
- reductions in nonlabor costs attributable to employee efforts or initiative.

The plans may include inducements—such as improved early retirement benefits and severance payments—in exchange for negotiated reductions in the work force, but Bethlehem is not permitted to contract out any work that had been performed by departing employees.

"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.

Among the cost-reducing contract changes accepted by the union were suspension of the provision for automatic quarterly cost-of-living pay adjustments, elimination of three paid holidays, time and one-quarter premium pay for Sunday work instead of time and one-half, and exclusion of overtime, Sunday premium, and shift premiums from calculations of vacation pay (unlike LTV Steel, the duration of vacations was not reduced).

Utility contracts

In Massachusetts, members of the Utility Workers Union ended a 1-month strike against Boston Edison Co. after ratifying 4-year contracts. Terms, which were similar for the three units of workers, included pay increases of 5 percent in the first year, 4.75 percent in the second and third years, and 4.5 percent in the final year. The shift differential also was raised by 5 cents an hour in each year, bringing it to 70 cents.

The pension plan was revised to permit 30-year employees to retire at age 60 at unreduced benefit rates (previously, the age requirement was 62). The plan also was revised to permit immediate retirement for 15-year employees who become disabled and are not able to perform the duties of their job or a similar job. If the company doctor and the employee's doctor are unable to agree on the extent of the disability, the decision would be made by a specialist recommended by the American Medical Association. Previously, such rulings were made by a review board, which required 100 percent disability. In another change, if an employee with at least 10 years of service dies, the surviving spouse will be entitled to a survivorship benefit (previously, the minimum requirement was 20 years of service).

A major concern was resolved when the parties agreed to establish a joint safety committee. Its first task is to oversee installation of a fire sprinkler system and removal of asbestos from the building where about 25 percent of the 2,800 employees work.

Other contract changes included doubling of accidental death and dismemberment insurance coverage to \$200,000; 5-year pay rate retention for disabled employees demoted to lower paying jobs because of inability to perform current duties; a switch to a health insurance plan containing various requirements designed to contain premium cost increases;

and extension to clerical employees of grievance and arbitration procedures for resolving disputes over contracting out of work.

In the Washington, DC, area, 1,800 employees were covered by a 3-year agreement between the Washington Gas Light Co. and the International Gas Workers Union and the Office and Professional Employees. The settlement ended a 3-week strike, the first since a 17-day stoppage in 1961.

Wages were raised by 4.25 percent at the beginning of the first and second years, and by 4.7 percent at the beginning of the third year. The 4.7-percent increase is subject to renegotiation if the Consumer Price Index rises 5.5 percent or more between March 1987 and March 1988.

The company responded to the workers' concern over job security by promising to make every effort to avoid layoffs during the contract period, which ends in May 1989.

Consolidated Edison Co. of New York City and the Utility Workers Union agreed on a 3-year contract for 14,500 workers. It provides for 4-percent wage increases in June of 1986, 1987, and 1988. The employees also received an immediate \$100 lump-sum payment for ratifying the accord before June 22.

The contract provides for a \$250 annual allowance for employees who use their cars on the job; a choice of three health insurance plans (previously, only one plan was available) and two dental plans (previously, one plan); and improved early retirement benefits.

OSHA issues new asbestos standards

The Department of Labor's Occupational Safety and Health Administration has adopted stricter standards for worker exposure to asbestos. The new standards differ for the construction industry and the general industry. Secretary of Labor William Brock said the standards will "substantially increase protections for more than 1.3 million workers and reduce their risk of cancer and other serious disease."

The new limit for exposure to asbestos is 0.2 fiber per cubic centimeter of airspace, averaged over an 8-hour day. This limit, although one-tenth the level in effect since 1976, drew criticism from organized labor. The AFL-CIO described the change as "significant progress" but said the new limit came only "after years of delay" and that workers will still be endangered.

The Associated General Contractors, comprising 8,500 construction firms, contended that the limit is too stringent.

The Asbestos Information Association, an employer group, and industry in general, had backed the 0.5 fiber per cubic centimeter limit OSHA had proposed in 1984.

OSHA said the 0.2 limit will benefit 1.3 million employees above the 0.1 fiber per cubic centimeter "action level" at which employers must begin some monitoring, training, and corrective measures. The agency estimated that the 0.2 requirement will reduce the number of asbestos-caused cancer deaths from 64 of 1,000 exposed workers to 6.7, and that it expects the number of asbestosis cases to drop from 50 of 1,000 exposed workers to 5.

The standards require all employers to:

- Alert workers to the dangers of asbestos and train them in safe work practices.
- Distribute respirators to workers in situations where air quality can not be reduced to the acceptable level through engineering controls and work practices.
- Distribute respirators to maintenance employees and in emergencies.
- Post warning signs and labels.
- Keep employee medical and exposure records for at least 30 years.
- Separate change rooms, showers, and lunch rooms when the fiber content of air exceeds the limit.
- Provide medical monitoring of employees when the action level is attained for workers under the general industry standard, and when it is maintained for at least 30 days or negative pressure respirators are used for those under the construction standard.

In addition, the new standards require construction employers to:

- Provide negative pressure enclosures to prevent the escape of asbestos fibers to other areas.
- Provide employee decontamination areas.
- Select a "competent person" to identify existing hazards and take corrective action.

OSHA will continue to require employers to use engineering controls and work practices for protecting workers from excessive exposure to asbestos, which is derived from a mineral and used in textiles, insulation, and other building materials. This approach is favored by unions, which objected to the agency's original proposal, which called for use of "any feasible combination" of engineering controls, work practices, and protective equipment. □

Book Reviews



A monument to the labor movement

The Samuel Gompers Papers: Vol. 1, The Making of a Union Leader, 1850–86. Edited by Stuart B. Kaufman. Champaign, IL, University of Illinois Press, 1986. 529 pp. \$39.95.

This is the first of a projected 12-volume series of documentary papers of and about Sam Gompers. This first volume takes the reader from the poorest section of London (his parents' marriage certificate, 1849, and SG's birth certificate, 1850), the passenger list of the ship *London* in which the family arrived in New York in 1863, to Gompers' election as the first president of the new American Federation of Labor, 1886.

All labor history buffs have a treat in store for them as they follow through Gompers' eyes the workingman's efforts at organization in the turbulent post-Civil War industrial era. Readers will enjoy learning more about the institutions, politics, and mores of that period. Here we find the ethnic splits in Gompers' union, the Cigarmakers, the ideological split between the Knights of Labor and the trade unions, and the continuing thrusts and parries between those who put first the building of socialism and those who put first the building of trade unions. In the middle of all this strides Gompers, young and vigorous, very sure of his facts and his views, and working ceaselessly.

Two highlights are worthy of special mention. The first is Gompers' testimony, at age 33, before the U.S. Senate Education and Labor Committee, documenting wages and working conditions, explaining the reasoning behind the movement for an 8-hour day, giving details of individual strikes along with his personal philosophy of trade unionism. Sixty-six fascinating pages of testimony.

The second concerns Gompers' efforts in 1881, as an official of the Cigarmakers, to outlaw by legislation the practice of manufacturing cigars in New York City tenements. Gompers personally conducted a special investigation into the practice of employers who used tenement families to roll cigars in their two-room tenement flats, which were filled from morning to night with tobacco leaf and its attendant tobacco dust. His extensive report included case histories of individual contractors and individual tenement houses, as well as medical evidence of the deleterious effects of tobacco, especially on pregnant women and their

chances for healthy births. This, 83 years before the Surgeon General's Report on cigarette smoking.

This is the work of many hands. Stuart Kaufman, along with four associate and two contributing editors, faced a herculean task inasmuch as Gompers' papers had been scattered to the four winds (and some destroyed). Since its start in 1973, the project has gathered speed and the next two volumes are nearing publication. The book's format is helpful to the reader. Documents are grouped together, roughly chronologically, with introductory notes clarifying events and identifying individuals.

It's true that basic labor history can be more easily obtained elsewhere, but the letters, newspaper articles, organization reports, committee minutes, and convention proceedings endow history with the stuff of reality. You are there. Don't miss it.

—PETER HENLE
Arbitrator
Arlington, VA

Book notes

Employment Termination: Rights and Remedies. By William J. Holloway and Michael J. Leech. Washington, The Bureau of National Affairs, Inc., 1985. 567 pp. \$70. Available from BNA Books, Distribution and Customer Service Center, 9435 Key West Avenue, Rockville, MD 20850-3397.

"This book covers a most significant area of the law which, for all practical purposes, didn't exist until only a few years ago. The black-letter rule used to be . . . that the 'at will' employee could be fired 'for any reason, for an improper reason, or for no reason at all.' The rule had been handed down and repeated virtually without question or exception from medieval times—seemingly since the beginning of time."

Employment Termination covers principal contract issues concerning the formation, performance, and termination of employment contracts; common law, statutory, and constitutional claims that often follow in the wake of an alleged wrongful discharge; preclusions, procedural issues, and pre-

emption doctrines which may limit employee causes of action related to discharge; the rights of private voluntary associations and their decisions to admit or exclude members; legal remedies, measures of damages, and equitable remedies of reinstatement and injunction against discharge. Also included is a comprehensive State-by-State listing of employee protection statutes.

A Decade of New Opportunity: Affirmative Action in the 1970's. By Herbert Hammerman. Washington, The Potomac Institute, Inc., 1984. 100 pp. \$6, paper.

In contrast to an earlier (1973) Potomac Institute study—which concluded that “more than a decade of affirmative action policy has yielded woefully inadequate results”—this study reports that women and minorities have made substantial progress in the work force in recent years, largely as a result of affirmative action programs. Hammerman says that “the gains have been uneven, and in most areas, parity is still remote. But the trend is unmistakably in the direction of equal opportunity, particularly in the higher positions that were for so long closed to the traditional victims of discrimination.”

Publications received

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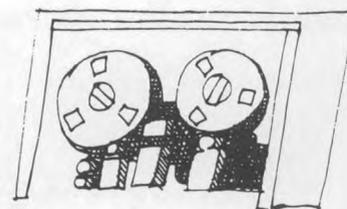
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Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	August 1	July	September 5	August	October 3	September	1; 4-21
Producer Price Index	August 15	July	September 12	August	October 10	September	2; 33-35
Consumer Price Index	August 21	July	September 23	August	October 23	September	2; 30-32
Real earnings	August 21	July	September 23	August	October 23	September	14-17
Major collective bargaining settlements					October 27	1st 9 months	3; 25-28
Employment Cost Index					October 28	3rd quarter	1-3; 22-24
Productivity and costs:							
Nonfarm business and manufacturing					October 29	3rd quarter	2; 42-44
Nonfinancial corporations	August 27	2nd quarter					2; 42-44
U.S. Import and Export Price Indexes					October 30	3rd quarter	2; 36-41
Occupational illnesses and injuries					November 13	1985	48

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 is 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, 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 being seasonally adjusted with a new 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 Estla Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year 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 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in July 1985 using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The \$2 (or any other resulting values) are described as "real," "constant," or "1967" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. Press 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 is published in the two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. More data from the establishment survey appears in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the annual supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Prices and Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennially 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.

EMPLOYMENT DATA

(Tables 1; 4-21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

Unemployed persons are those who did not work during the survey week, but were available for work except for temporary illness and had looked for jobs within the preceding 4 weeks. Persons who did not look for work because they were on layoff or waiting to start new jobs within the next 30 days are also counted among the unemployed. The **overall unemployment rate** represents the number unemployed as a percent of the labor force, including the resident Armed Forces. The **civilian unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own household, 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

Notes on the data

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

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 1984.

Additional sources of information

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

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

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 200,000 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 blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

Earnings are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments.

Real earnings are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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

The Diffusion Index, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1985 data, published in the July 1985 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 1983; seasonally adjusted data have been revised back to January 1980. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1985). Unadjusted data from April 1984 forward, and seasonally adjusted data from January 1981 forward are subject to revision in future benchmarks.

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

Additional sources of information

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

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

Unemployment data by State

Description of the series

Data presented in this section are obtained from two major sources—the Current Population Survey (CPS) and the Local Area Unemployment Statistics (LAUS) program, which is conducted in cooperation with State employment security agencies.

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

Notes on the data

Data refer to State of residence. Monthly data for 11 States—California, Florida, Illinois, Massachusetts, Michigan, New York, New Jersey, North Carolina, Ohio, Pennsylvania, and Texas—are obtained directly from the CPS, because the size of the sample is large enough to meet BLS standards of reliability. Data for the remaining 39 States and the District of Columbia are derived using standardized procedures established by BLS. Once a year, estimates for the 11 States are revised to new population controls. For the remaining States and the District of Columbia, data are benchmarked to annual average CPS levels.

Additional sources of information

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

labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

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

The Employment Cost Index probability sample consists of about 2,200 private nonfarm establishments providing about 12,000 occupational observations and 700 State and local government establishments providing

3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Fixed employment weights from the 1970 Census of Population are used each quarter to calculate the indexes for civilian, private, and State and local governments. 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 1970 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 costs for employee benefits.

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

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

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

Notes on the data

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

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see Chapter 11, "The Employment Cost Index," in the *Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), 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

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

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

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

Definitions

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

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

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

Notes on the data

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

Additional sources of information

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

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

Work stoppages

Description of the series

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

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

Definitions

Number of stoppages: The number of strikes and lockouts involving 1,000 workers or more and lasting a full shift or longer.

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

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

Days of idleness as a percent of estimated working time: Aggregate work days lost as a percent of the aggregate number of standard work days in the period multiplied by total employment in the period.

Notes on the data

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

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly data appear in the BLS

monthly periodical, *Current Wage Developments*. Historical data appear in the *BLS Handbook of Labor Statistics*.

Other compensation data

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

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

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

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

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

PRICE DATA (Tables 2; 30-41)

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Consumer Price Indexes

Description of the series

The **Consumer Price Index (CPI)** is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI-W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI-U) introduced in 1978 is representative of the 1972-73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 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 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 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.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134-2 (Bureau of Labor Statistics, 1984). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, June 1982, pp. 9-14.

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

Producer price indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end-use or material composition.

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

Since January 1976, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

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

The Bureau has completed the first major stage of its comprehensive overhaul of the theory, methods, and procedures used to construct the Producer Price Indexes. Changes include the replacement of judgment sampling with probability sampling techniques; expansion to systematic coverage of the net output of virtually all industries in the mining and

manufacturing sectors; a shift from a commodity to an industry orientation; the exclusion of imports from, and the inclusion of exports in, the survey universe; and the respecification of commodities priced to conform to Bureau of the Census definitions. These and other changes have been phased in gradually since 1978. The result is a system of indexes that is easier to use in conjunction with data on wages, productivity, and employment and other series that are organized in terms of the Standard Industrial Classification and the Census product class designations.

Additional sources of information

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

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

International price indexes

Description of the series

The **BLS International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1977 = 100, unless otherwise indicated.

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

To the extent possible, the data gathered refer to prices at the U.S. border for exports and at either the foreign border or the U.S. border for imports. For nearly all products, the prices refer to transactions completed during the first 2 weeks of the third month of each calendar quarter—March, June, September, and December. Survey respondents are asked to indicate all discounts, allowances, and rebates applicable to the reported prices, so that the price used in the calculation of the indexes is the actual price for which the product was bought or sold.

In addition to general indexes of prices for U.S. exports and imports, indexes are also published for detailed product categories of exports and imports. These categories are defined by the 4- and 5-digit level of detail of the Standard Industrial Trade Classification System (SITC). The calculation of indexes by SITC category facilitates the comparison of U.S. price trends and sector production with similar data for other countries. Detailed indexes are also computed and published on a Standard Industrial Classification (SIC-based) basis, as well as by end-use class.

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyeres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled

by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1980.

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

For the export price indexes, the preferred pricing basis is f.a.s. (free alongside ship) U.S. port of exportation. When firms report export prices f.o.b. (free on board), production point information is collected which enables the Bureau to calculate a shipment cost to the port of exportation.

PRODUCTIVITY DATA (Tables 2; 42-47)

U. S. productivity and related data

Description of the series

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

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

Definitions

Output per hour of all persons (labor productivity) is the value of goods and services in constant prices produced per hour of labor input. **Output per unit of capital services** (capital productivity) is the value of goods and services in constant dollars produced per unit of capital services input.

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

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

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

An attempt is made to collect two prices for imports. The first is the import price f.o.b. at the foreign port of exportation, which is consistent with the basis for valuation of imports in the national accounts. The second is the import price c.i.f. (cost, insurance, and freight) at the U.S. port of importation, which also includes the other costs associated with bringing the product to the U.S. border. It does not, however, include duty charges.

Additional sources of information

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

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

Unit profits include corporate profits and the value of inventory adjustments per unit of output.

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

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

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

Notes on the data

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

The productivity and associated cost measures in tables 42-44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

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

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. 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 are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but 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 and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours paid in the United States, hours worked in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and

Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, 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 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

OCCUPATIONAL INJURY AND ILLNESS DATA

(Table 48)

Description of the series

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

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

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

The survey is based on stratified random sampling with a Neyman

allocation and a ratio estimator. The characteristics used to stratify the establishments are the Standard Industrial Classification (SIC) code and size of employment.

Definitions

Recordable occupational injuries and illnesses are: (1) occupational deaths, regardless of the time between injury and death, or the length of the illness; or (2) nonfatal occupational illnesses; or (3) nonfatal occupational injuries which involve one or more of the following: loss of consciousness, restriction of work or motion, transfer to another job, or medical treatment (other than first aid).

Occupational injury is any injury such as a cut, fracture, sprain, amputation, and so forth, which results from a work accident or from exposure involving a single incident in the work environment.

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

Lost workday cases are cases which involve days away from work, or days of restricted work activity, or both.

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

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

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

The number of days away from work or days of restricted work activity does not include the day of injury or onset of illness or any days on which the employee would not have worked even though able to work.

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

Notes on the data

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

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

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

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

Additional sources of information

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

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

1. Labor market indicators

Selected indicators	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey) ¹										
Labor force participation rate	64.4	64.8	64.5	64.4	64.5	64.8	64.7	64.7	64.9	65.1
Employment-population ratio	59.5	60.1	59.6	59.7	59.8	60.1	60.0	60.1	60.4	60.5
Unemployment rate	7.5	7.2	7.5	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Men	7.4	7.0	7.4	7.3	7.1	7.1	7.1	7.0	6.9	6.8
16 to 24 years	14.4	14.1	14.3	14.5	13.8	14.1	14.2	14.0	14.0	13.3
25 years and over	5.7	5.3	5.7	5.5	5.4	5.4	5.4	5.3	5.2	5.3
Women	7.6	7.4	7.6	7.6	7.5	7.6	7.5	7.4	7.2	7.3
16 to 24 years	13.3	13.0	13.5	13.1	12.9	13.1	13.0	12.7	13.1	13.2
25 years and over	6.0	5.9	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.5	2.3	2.1	2.0	2.0	2.0	1.9	1.9
Employment, nonagricultural (payroll data): ^{1, 2}										
Total	94,496	97,614	94,064	94,977	95,907	96,581	97,295	97,897	98,668	99,403
Private sector	78,472	81,199	78,096	78,914	79,736	80,341	80,958	81,414	82,069	82,731
Goods-producing	24,727	24,930	24,690	24,891	24,943	24,970	24,947	24,866	24,937	25,028
Manufacturing	19,378	19,314	19,381	19,489	19,486	19,439	19,323	19,241	19,261	19,284
Service-producing	69,769	72,684	69,374	70,086	70,964	71,611	72,347	73,031	73,731	74,375
Average hours:										
Private sector	35.2	34.9	35.2	35.1	35.1	35.0	34.9	34.9	34.9	34.9
Manufacturing	40.7	40.5	40.8	40.6	40.5	40.4	40.4	40.6	40.8	40.7
Overtime	3.4	3.3	3.5	3.3	3.4	3.3	3.2	3.3	3.5	3.4
Employment Cost Index										
Percent change in the ECI, compensation: ³										
All workers (excluding farm, household, and Federal workers)	-	-	.8	1.3	1.2	1.3	.7	1.6	.6	1.1
Private industry workers	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1
Goods-producing ⁴	-	-	.9	.9	1.1	1.5	.7	.6	.6	1.1
Service-producing ⁴	-	-	1.0	.7	1.4	1.0	1.0	1.8	.5	1.1
State and local government workers	-	-	.4	3.5	1.0	1.2	.2	3.4	.7	1.0
Workers by bargaining status (private industry)										
Union	-	-	.9	.7	1.1	.7	.6	.8	.5	1.0
Nonunion	-	-	1.0	.9	1.3	1.6	1.0	1.4	.6	1.2

¹ Quarterly data seasonally adjusted.

² Data for final quarter are preliminary.

³ Quarterly changes calculated using the last month of each quarter.

⁴ Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

- Data not available.

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

Selected measures	1984	1985	1984			1985				1986	
			II	III	IV	I	II	III	IV	I	
Compensation data: ^{1, 2}											
Employment Cost Index--Compensation (wages, salaries, benefits)											
Civilian nonfarm	-	-	0.8	1.3	1.2	1.3	0.7	1.6	0.6	1.1	
Private nonfarm	-	-	.9	.8	1.3	1.2	.8	1.3	.6	1.1	
Employment Cost Index--Wages and Salaries											
Civilian nonfarm	-	-	.8	1.3	1.2	1.2	.9	1.7	.6	1.0	
Private nonfarm	-	-	.9	.8	1.2	1.2	1.1	1.3	.6	1.0	
Price data ¹											
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.1	1.2	.3	1.0	1.1	.7	.9	-4	
Producer Price Index											
Finished goods	1.7	1.8	-2	-5	.9	.0	.7	-1.4	2.5	-3.1	
Finished consumer goods	1.6	1.5	-3	-5	.8	-3	.7	-1.4	2.5	-4.0	
Capital equipment	1.8	2.7	.5	-5	1.1	1.3	.4	-1.4	2.5	.2	
Intermediate materials, supplies, components	1.3	-3	.6	-4	-1	-4	.2	-5	.4	-3.0	
Crude materials	-1.6	-5.6	-1.7	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.7	
U.S. Export Price Index	-	-	-	-	-	-	-	-	-	-	
U.S. Import Price Index	-	-	-	-	-	-	-	-	-	-	
Productivity data ¹											
Output per hour of all persons:											
Business sector	4.0	.2	4.5	1.0	.0	1.3	.7	2.1	-4.0	2.7	
Nonfarm business sector	3.0	-6	3.9	-5	-5	1.1	-2	.5	-4.7	3.6	
Nonfinancial corporations ³	4.2	-4	5.0	-8	-3	-2	-1.1	3.2	-2.3	-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. Productivity data are seasonally adjusted.

² Excludes Federal and private household workers.

³ Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended in--						
	1984	1985				1986	1984	1985				1986	
	IV	I	II	III	IV	I	IV	I	II	III	IV	I	
Average hourly compensation: ¹													
All persons, business sector	3.1	4.8	4.4	4.2	3.4	1.4	3.8	3.8	4.1	4.1	4.2	3.4	
All employees, nonfarm business sector	3.2	4.7	3.8	2.8	3.2	2.2	3.8	3.7	3.8	3.6	3.7	3.0	
Hourly earnings Index: ²													
All private nonfarm	-	-	-	-	-	-	-	-	-	-	-	-	
Employment Cost Index--compensation:													
Civilian nonfarm ³	1.2	1.3	0.7	1.6	0.6	1.1	5.2	4.8	4.6	4.9	4.3	4.1	
Private nonfarm	1.3	1.2	.8	1.3	.6	1.1	4.9	4.4	4.2	4.7	3.9	3.8	
Union	1.1	.7	.6	.8	.5	1.0	4.3	3.5	3.1	3.2	2.6	2.9	
Nonunion	1.3	1.6	1.0	1.4	.6	1.2	5.2	4.9	4.9	5.4	4.6	4.2	
State and local governments	1.0	1.2	.2	3.4	.7	1.0	6.6	6.3	6.1	6.0	5.7	5.5	
Employment Cost Index--wages and salaries:													
Civilian nonfarm ³	1.2	1.2	.9	1.7	.6	1.0	4.5	4.4	4.5	5.0	4.4	4.2	
Private nonfarm	1.2	1.2	1.1	1.3	.6	1.0	4.1	4.1	4.3	4.8	4.1	3.9	
Union .....	.9	.7	1.1	.9	.5	.7	3.4	3.0	3.4	3.6	3.1	3.2
Nonunion	1.3	1.4	1.1	1.5	.6	1.1	4.5	4.6	4.8	5.4	4.6	4.3	
State and local governments .....	.8	1.0	.2	3.5	.8	1.0	5.9	5.6	5.5	5.6	5.6	5.5
Total effective wage adjustments ⁴	.7	.7	.8	1.2	.5	.6	3.7	3.6	3.5	3.5	3.3	3.1	
From current settlements .....	.3	.1	.2	.2	.1	.0	.8	.7	.9	.9	.7	.6
From prior settlements .....	.2	.6	.5	.5	.2	.4	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living provision .....	.2	.1	.1	.4	.1	.2	.9	.7	.7	.8	.7	.8
Negotiated wage adjustments from settlements ⁴													
First-year adjustments	2.3	3.3	2.5	2.0	2.1	.8	2.4	2.4	2.4	2.4	2.3	2.0	
Annual rate over life of contract	1.5	3.2	2.8	3.1	1.9	1.6	2.4	2.3	2.4	2.5	2.7	2.5	
Negotiated wage and benefit adjustments from settlements: ⁵													
First-year adjustment	3.7	3.6	3.5	2.0	2.0	.3	3.6	3.4	3.4	3.1	2.6	2.3	
Annual rate over life of contract	2.0	2.7	3.4	3.0	1.4	1.2	2.8	2.6	2.7	2.7	2.7	2.6	

¹ Seasonally adjusted.

² Production or nonsupervisory workers.

³ Excludes Federal and household workers.

⁴ Limited to major collective bargaining units of 1,000 workers or more. The

most recent data are preliminary.

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

- Data not available.

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

(Numbers in thousands)

Employment status	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Noninstitutional population ^{1, 2}	178,080	179,912	179,798	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183
Labor force ²	115,241	117,167	116,726	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796
Participation rate ³	64.7	65.1	64.9	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8
Total employed ²	106,702	108,856	108,303	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353
Employment-population ratio ⁴	59.9	60.5	60.2	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1
Resident Armed Forces ¹	1,697	1,706	1,702	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680
Civilian employed	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Agriculture	3,321	3,179	3,140	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165
Nonagricultural industries	101,685	103,971	103,461	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508
Unemployed	8,539	8,312	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443
Unemployment rate ⁵	7.4	7.1	7.2	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0
Not in labor force	62,839	62,744	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387
Men, 16 years and over															
Noninstitutional population ^{1, 2}	85,156	86,025	85,970	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288
Labor force ²	65,386	65,967	65,808	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964
Participation rate ³	76.8	76.7	76.5	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7
Total employed ²	60,642	61,447	61,175	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322
Employment-population ratio ⁴	71.2	71.4	71.2	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4
Resident Armed Forces ¹	1,551	1,556	1,552	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525
Civilian employed	59,091	59,891	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Unemployed	4,744	4,521	4,633	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642
Unemployment rate ⁵	7.3	6.9	7.0	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9
Women, 16 years and over															
Noninstitutional population ^{1, 2}	92,924	93,886	93,828	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803	94,895
Labor force ²	49,855	51,200	50,918	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832
Participation rate ³	53.7	54.5	54.3	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7
Total employed ²	46,061	47,409	47,128	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031
Employment-population ratio ⁴	49.6	50.5	50.2	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7
Resident Armed Forces ¹	146	150	150	150	152	152	149	149	149	152	152	153	154	154	155
Civilian employed	45,915	47,259	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876
Unemployed	3,794	3,791	3,790	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801
Unemployment rate ⁵	7.6	7.4	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2

¹ The population and Armed Forces figures are not adjusted for seasonal variation.

² Includes members of the Armed Forces stationed in the United States.

³ Labor force as a percent of the noninstitutional population.

⁴ Total employed as a percent of the noninstitutional population.

⁵ Unemployment as a percent of the labor force (including the resident Armed Forces).

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

(Numbers in thousands)

Employment status	Annual average		1985								1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
TOTAL																
Civilian noninstitutional population ¹	176,383	178,206	178,096	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	
Civilian labor force	113,544	115,461	115,024	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	
Participation rate	64.4	64.8	64.6	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	
Employed	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	
Employment-population ratio ²	59.5	60.1	59.9	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	
Unemployed	8,539	8,312	8,423	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	
Unemployment rate	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	
Not in labor force	62,839	62,744	63,072	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	
Men, 20 years and over																
Civilian noninstitutional population ¹	76,219	77,195	77,135	77,243	77,306	77,389	77,498	77,566	77,651	78,101	78,171	78,236	78,309	78,387	78,484	
Civilian labor force	59,701	60,277	60,246	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	
Participation rate	78.3	78.1	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	
Employed	55,769	56,562	56,384	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	
Employment-population ratio ²	73.2	73.3	73.1	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	
Agriculture	2,418	2,278	2,260	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278	2,320	
Nonagricultural industries	53,351	54,284	54,124	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241	
Unemployed	3,932	3,715	3,862	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	
Unemployment rate	6.6	6.2	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	
Women, 20 years and over																
Civilian noninstitutional population ¹	85,429	86,506	86,477	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263	87,355	87,444	87,547	
Civilian labor force	45,900	47,283	47,185	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	
Participation rate	53.7	54.7	54.6	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	
Employed	42,793	44,154	44,033	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	
Employment-population ratio ²	50.1	51.0	50.9	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	
Agriculture	595	596	572	596	581	557	609	591	597	696	593	598	576	609	565	
Nonagricultural industries	42,198	43,558	43,461	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	
Unemployed	3,107	3,129	3,152	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	
Unemployment rate	6.8	6.6	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	
Both sexes, 16 to 19 years																
Civilian noninstitutional population ¹	14,735	14,506	14,483	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484	14,480	14,472	
Civilian labor force	7,943	7,901	7,593	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	
Participation rate	53.9	54.5	52.4	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	
Employed	6,444	6,434	6,184	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	
Employment-population ratio ²	43.7	44.4	42.7	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	
Agriculture	309	305	308	294	283	289	261	269	276	254	246	276	298	274	280	
Nonagricultural industries	6,135	6,129	5,876	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	
Unemployed	1,499	1,468	1,409	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	
Unemployment rate	18.9	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	
White																
Civilian noninstitutional population ¹	152,347	153,679	153,597	153,717	153,819	153,938	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376	
Civilian labor force	98,492	99,926	99,527	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	
Participation rate	64.6	65.0	64.8	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	
Employed	92,120	93,736	93,132	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	
Employment-population ratio ²	60.5	61.0	60.6	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	
Unemployed	6,372	6,191	6,395	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	
Unemployment rate	6.5	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	
Black																
Civilian noninstitutional population ¹	19,348	19,664	19,646	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	
Civilian labor force	12,033	12,364	12,317	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	
Participation rate	62.2	62.9	62.7	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	
Employed	10,119	10,501	10,538	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	
Employment-population ratio ²	52.3	53.4	53.6	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	
Unemployed	1,914	1,864	1,779	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	
Unemployment rate	15.9	15.1	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	

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		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin															
Civilian noninstitutional population ¹	11,478	11,915	11,897	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,326
Civilian labor force	7,451	7,698	7,669	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110
Participation rate	64.9	64.6	64.5	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8
Employed	6,651	6,888	6,856	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251
Employment-population ratio ²	57.9	57.8	57.6	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8
Unemployed	800	811	813	843	808	818	872	829	810	789	815	832	878	858	858
Unemployment rate	10.7	10.5	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6

¹ The population figures are not seasonally adjusted.

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

because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,601	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673
Men	59,091	59,891	59,623	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797
Women	45,915	47,259	46,978	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876
Married men, spouse present ..	39,056	39,248	38,966	39,096	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,365	39,555	39,614	39,626
Married women, spouse present	25,636	26,336	26,174	26,316	26,392	26,531	26,702	26,721	26,804	26,958	26,593	26,656	26,802	26,920	27,427
Women who maintain families ..	5,465	5,597	5,643	5,607	5,627	5,556	5,514	5,605	5,693	5,702	5,733	5,771	5,812	5,718	5,668
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,530	1,479	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,689	1,587	1,480	1,498
Self-employed workers	1,553	1,458	1,451	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504
Unpaid family workers	213	185	159	170	176	179	172	158	164	163	156	172	180	186	154
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,391	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,698	97,831	97,994	98,372
Government	15,770	16,031	16,000	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387
Private industries	77,794	79,841	79,391	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984
Private households	1,238	1,249	1,228	1,251	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279
Other	76,556	78,592	78,163	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,394	80,705
Self-employed workers	7,785	7,811	7,728	7,724	7,874	7,846	7,991	8,013	7,903	7,655	7,669	7,644	7,571	7,757	7,807
Unpaid family workers	335	289	292	277	303	266	248	249	250	273	270	240	253	229	235
PERSONS AT WORK PART TIME¹															
All industries:															
Part time for economic reasons ..	5,744	5,590	5,544	5,596	5,680	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,923	5,980	5,537
Slack work	2,430	2,430	2,524	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,659	2,434
Could only find part-time work ..	2,948	2,819	2,751	2,766	2,835	2,815	2,897	2,883	2,864	2,883	2,703	2,953	2,974	2,893	2,810
Voluntary part time	13,169	13,489	13,439	13,634	13,622	13,496	13,713	13,645	13,556	13,958	13,817	13,754	13,933	13,638	14,268
Nonagricultural industries:															
Part time for economic reasons ..	5,512	5,334	5,278	5,328	5,413	5,299	5,241	5,295	5,294	5,275	5,158	5,301	5,621	5,673	5,320
Slack work	2,291	2,273	2,334	2,251	2,319	2,292	2,115	2,196	2,195	2,208	2,224	2,159	2,430	2,523	2,308
Could only find part-time work ..	2,866	2,730	2,675	2,686	2,740	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724
Voluntary part time	12,704	13,038	12,995	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,285	13,599	13,191	13,779

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		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1
Both sexes, 16 to 19 years	18.9	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1
Men, 20 years and over	6.6	6.2	6.4	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2
Women, 20 years and over	6.8	6.6	6.7	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4
White, total	6.5	6.2	6.4	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1
Both sexes, 16 to 19 years	16.0	15.7	16.0	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2
Men, 16 to 19 years	16.8	16.5	16.7	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8
Women, 16 to 19 years	15.2	14.8	15.2	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4
Men, 20 years and over	5.7	5.4	5.7	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4
Women, 20 years and over	5.8	5.7	5.8	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4
Black, total	15.9	15.1	14.4	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1
Both sexes, 16 to 19 years	42.7	40.2	39.5	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2
Men, 16 to 19 years	42.7	41.0	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5
Women, 16 to 19 years	42.6	39.2	37.8	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9
Men, 20 years and over	14.3	13.2	12.5	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3
Women, 20 years and over	13.5	13.1	12.7	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8
Hispanic origin, total	10.7	10.5	10.6	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6
Married men, spouse present	4.6	4.3	4.6	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5
Married women, spouse present	5.7	5.6	5.8	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2
Women who maintain families	10.3	10.4	9.9	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1
Full-time workers	7.2	6.8	6.9	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7
Part-time workers	9.3	9.3	9.5	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0
Labor force time lost ¹	8.6	8.1	8.2	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1
Mining	10.0	9.5	10.9	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6
Construction	14.3	13.1	13.5	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1
Manufacturing	7.5	7.7	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3
Durable goods	7.2	7.6	7.9	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1
Nondurable goods	7.8	7.8	7.5	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5
Transportation and public utilities	5.5	5.1	5.3	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5
Wholesale and retail trade	8.0	7.6	7.7	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7
Finance and service industries	5.9	5.6	5.7	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4
Government workers	4.5	3.9	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6
Agricultural wage and salary workers	13.5	13.2	12.5	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2

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		1985								1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
	Total, 16 years and over	7.5	7.2	7.3	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1
16 to 24 years	13.9	13.6	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	
16 to 19 years	18.9	18.6	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	
16 to 17 years	21.2	21.0	21.6	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	
18 to 19 years	17.4	17.0	16.4	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	
20 to 24 years	11.5	11.1	11.2	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	
25 years and over	5.8	5.6	5.8	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	
25 to 54 years	6.1	5.8	6.0	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	
55 years and over	4.5	4.1	4.3	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	
Men, 16 years and over	7.4	7.0	7.2	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	
16 to 24 years	14.4	14.1	14.2	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0	
16 to 19 years	19.6	19.5	19.2	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	
16 to 17 years	21.9	21.9	23.2	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4	
18 to 19 years	18.3	17.9	16.4	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4	
20 to 24 years	11.9	11.4	11.7	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0	
25 years and over	5.7	5.3	5.6	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	
25 to 54 years	5.9	5.6	5.8	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	
55 years and over	4.6	4.1	4.4	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	
Women, 16 years and over	7.6	7.4	7.5	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	
16 to 24 years	13.3	13.0	12.9	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	
16 to 19 years	18.0	17.6	17.8	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	
16 to 17 years	20.4	20.0	19.9	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	
18 to 19 years	16.6	16.0	16.4	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	
20 to 24 years	10.9	10.7	10.6	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	
25 years and over	6.0	5.9	6.0	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	
25 to 54 years	6.3	6.2	6.3	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	
55 years and over	4.2	4.1	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1	

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

(Numbers in thousands)

Reason for unemployment	Annual average		1985								1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Job losers	4,421	4,139	4,167	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335	
On layoff	1,171	1,157	1,135	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	
Other job losers	3,250	2,982	3,032	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	
Job leavers	823	877	983	894	875	852	911	808	876	996	1,001	1,002	1,110	975	1,013	
Reentrants	2,184	2,256	2,233	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,064	
New entrants	1,110	1,039	1,018	1,098	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,059	
PERCENT OF UNEMPLOYED																
Job losers	51.8	49.8	49.6	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	
On layoff	13.7	13.9	13.5	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6	
Other job losers	38.1	35.9	36.1	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	
Job leavers	9.6	10.6	11.7	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	
Reentrants	25.6	27.1	26.6	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	
New entrants	13.0	12.5	12.1	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	
PERCENT OF CIVILIAN LABOR FORCE																
Job losers	3.9	3.6	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	
On layoff	.7	.8	.9	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9	
Other job losers	1.9	2.0	1.9	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	
Job leavers	1.0	.9	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985								1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
Less than 5 weeks	3,350	3,498	3,466	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,628	3,705	3,384	
5 to 14 weeks	2,451	2,509	2,536	2,514	2,508	2,505	2,536	2,448	2,460	2,441	2,622	2,640	2,685	2,737	2,708	
15 weeks and over	2,737	2,305	2,328	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	
15 to 26 weeks	1,104	1,025	1,033	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	
27 weeks and over	1,634	1,280	1,295	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	
Mean duration in weeks	18.2	15.6	15.5	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	
Median duration in weeks	7.9	6.8	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	

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

State	May 1985	May 1986	State	May 1985	May 1986
Alabama	8.2	9.2	Montana	7.1	7.1
Alaska	9.4	10.7	Nebraska	5.2	4.7
Arizona	6.6	6.3	Nevada	8.0	5.9
Arkansas	8.1	7.8	New Hampshire	4.0	3.2
California	6.6	6.1	New Jersey	5.0	5.3
Colorado	5.7	6.9	New Mexico	8.8	9.0
Connecticut	4.8	3.5	New York	6.8	6.9
Delaware	4.9	4.9	North Carolina	5.4	5.4
District of Columbia	8.2	6.7	North Dakota	5.4	6.1
Florida	4.9	5.3	Ohio	7.5	7.5
Georgia	6.6	5.6	Oklahoma	6.9	8.6
Hawaii	5.8	5.0	Oregon	8.6	9.2
Idaho	7.7	8.1	Pennsylvania	8.4	7.7
Illinois	9.4	8.2	Rhode Island	4.9	3.4
Indiana	7.4	6.5	South Carolina	6.8	6.6
Iowa	7.4	6.3	South Dakota	4.7	4.0
Kansas	4.7	5.2	Tennessee	7.4	7.3
Kentucky	8.8	9.1	Texas	6.6	9.3
Louisiana	11.4	13.0	Utah	5.6	5.2
Maine	5.3	5.2	Vermont	4.6	4.5
Maryland	4.2	3.7	Virginia	5.5	4.9
Massachusetts	3.4	4.0	Washington	7.7	7.5
Michigan	9.8	9.4	West Virginia	11.9	10.4
Minnesota	5.2	5.0	Wisconsin	6.5	6.5
Mississippi	9.7	11.5	Wyoming	7.1	9.3
Missouri	5.8	5.5			

- Data not available.

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	May 1985	Apr. 1986	May 1986 ^P	State	May 1985	Apr. 1986	May 1986 ^P
Alabama	1,427.7	1,443.8	1,446.2	Nebraska	656.0	652.4	661.9
Alaska	232.0	224.8	229.7	Nevada	447.0	458.3	462.7
Arizona	1,284.0	1,343.6	1,347.1	New Hampshire	461.0	479.8	485.1
Arkansas	803.3	820.9	824.8	New Jersey	3,415.4	3,486.6	3,515.4
California	10,963.2	11,155.5	11,205.0	New Mexico	519.3	521.4	522.9
Colorado	1,422.7	1,446.2	1,453.7	New York	7,768.3	7,839.3	7,905.7
Connecticut	1,567.6	1,597.6	1,607.7	North Carolina	2,645.5	2,709.8	2,717.3
Delaware	292.6	293.7	297.9	North Dakota	254.4	247.6	251.3
District of Columbia	623.2	642.2	644.3	Ohio	4,404.3	4,481.6	4,533.0
Florida	4,429.6	4,563.4	4,561.3	Oklahoma	1,191.0	1,161.2	1,162.2
Georgia	2,563.0	2,617.9	2,629.4	Oregon	1,028.6	1,040.7	1,053.3
Hawaii	423.6	428.9	429.7	Pennsylvania	4,745.6	4,788.2	4,827.5
Idaho	337.0	332.7	334.6	Rhode Island	428.6	424.9	430.9
Illinois	4,778.9	4,767.0	4,790.2	South Carolina	1,304.0	1,334.5	1,345.0
Indiana	2,188.7	2,234.9	2,256.2	South Dakota	252.3	247.0	252.1
Iowa	1,091.9	1,080.0	1,088.1	Tennessee	1,856.4	1,916.8	1,930.9
Kansas	984.3	990.3	998.1	Texas	6,699.1	6,703.1	6,688.8
Kentucky	1,261.3	1,269.9	1,278.1	Utah	621.7	634.3	635.9
Louisiana	1,607.0	1,553.1	1,543.9	Vermont	222.6	224.5	225.9
Maine	457.0	462.2	472.4	Virginia	2,449.7	2,517.8	2,540.9
Maryland	1,892.1	1,913.7	1,932.1	Washington	1,709.4	1,746.1	1,760.5
Massachusetts	2,935.2	2,966.0	2,987.4	West Virginia	602.9	594.1	611.6
Michigan	3,512.1	3,558.7	3,591.2	Wisconsin	1,987.8	1,993.1	2,019.2
Minnesota	1,882.2	1,876.5	1,907.1	Wyoming	206.1	196.3	202.0
Mississippi	839.6	849.9	852.7	Puerto Rico	691.9	703.0	706.6
Missouri	2,111.6	2,138.6	2,163.9	Virgin Islands	37.1	36.8	36.6
Montana	281.3	275.3	278.0				

^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		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
TOTAL	94,496	97,614	97,442	97,672	97,890	98,128	98,428	98,666	98,910	99,296	99,429	99,484	99,783	99,908	99,819
PRIVATE SECTOR	78,472	81,199	81,082	81,222	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,165	83,104
GOODS PRODUCING	24,727	24,930	24,897	24,875	24,880	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,964	24,859
Mining	966	930	936	928	922	917	913	907	901	897	880	852	821	788	769
Oil and gas extraction	607	585	590	585	581	577	571	565	560	556	541	518	488	459	443
Construction	4,383	4,687	4,671	4,679	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,976	4,946
General building contractors	1,161	1,251	1,241	1,246	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,312	1,296
Manufacturing	19,378	19,314	19,290	19,268	19,256	19,198	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,200	19,144
Production workers	13,285	13,130	13,105	13,079	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,026	12,996
Durable goods	11,505	11,516	11,517	11,483	11,473	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,317
Production workers	7,739	7,660	7,654	7,621	7,619	7,572	7,594	7,594	7,595	7,595	7,579	7,545	7,547	7,522	7,479
Lumber and wood products	704	700	696	698	700	702	705	708	710	716	716	715	719	719	722
Furniture and fixtures	487	493	491	492	495	491	493	494	494	494	494	493	494	496	496
Stone, clay, and glass products	593	591	589	589	591	590	591	591	593	596	597	594	600	599	598
Primary metal industries	857	813	814	807	798	795	797	801	803	798	795	787	785	779	763
Blast furnaces and basic steel products	334	305	307	305	302	304	304	302	303	300	299	293	291	288	288
Fabricated metal products	1,463	1,468	1,468	1,465	1,463	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,442
Machinery, except electrical	2,198	2,182	2,190	2,176	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,087
Electrical and electronic equipment	2,208	2,207	2,207	2,196	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,176	2,148
Transportation equipment	1,901	1,971	1,970	1,970	1,977	1,970	1,987	1,993	1,998	1,996	1,998	1,989	1,986	1,972	1,973
Motor vehicles and equipment	862	876	879	874	876	871	873	870	872	867	864	858	854	839	837
Instruments and related products	714	723	724	724	724	723	722	723	725	724	725	726	723	721	720
Miscellaneous manufacturing industries	382	369	368	366	366	365	365	367	367	368	370	369	369	369	368
Nondurable goods	7,873	7,798	7,773	7,785	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,822	7,827
Production workers	5,546	5,470	5,451	5,458	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,504	5,517
Food and kindred products	1,612	1,608	1,611	1,604	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,639	1,650
Tobacco manufactures	64	65	65	64	64	65	64	65	64	64	63	63	63	62	62
Textile mill products	746	704	700	698	698	697	699	701	702	702	705	707	703	705	706
Apparel and other textile products	1,185	1,125	1,109	1,122	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,112	1,106
Paper and allied products	681	683	682	683	682	682	683	687	686	687	687	688	689	689	689
Printing and publishing	1,376	1,435	1,433	1,440	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,473	1,478
Chemicals and allied products	1,049	1,046	1,046	1,045	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,028	1,025	1,023
Petroleum and coal products	189	178	179	178	177	171	171	170	169	168	167	166	166	166	165
Rubber and misc. plastics products	780	790	784	784	787	785	790	794	798	802	803	804	800	797	796
Leather and leather products	189	166	164	167	165	165	164	164	164	163	162	160	157	154	152
SERVICE-PRODUCING	69,769	72,684	72,545	72,797	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,944	74,960
Transportation and public utilities	5,159	5,242	5,238	5,241	5,219	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,262	5,170
Transportation	2,917	3,006	3,001	3,006	2,983	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,036	3,039
Communication and public utilities	2,242	2,236	2,237	2,235	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,226	2,131
Wholesale trade	5,555	5,740	5,736	5,740	5,762	5,777	5,796	5,796	5,809	5,830	5,843	5,841	5,864	5,868	5,824
Durable goods	3,276	3,409	3,408	3,416	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,485	3,449
Nondurable goods	2,279	2,331	2,328	2,324	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,383	2,375
Retail trade	16,545	17,360	17,379	17,404	17,464	17,489	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,903	17,919
General merchandise stores	2,267	2,320	2,329	2,325	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,342	2,345	2,341
Food stores	2,637	2,779	2,781	2,795	2,805	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,910	2,912	2,932
Automotive dealers and service stations	1,799	1,892	1,894	1,897	1,904	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,943	1,944
Eating and drinking places	5,388	5,715	5,728	5,734	5,749	5,761	5,772	5,783	5,801	5,831	5,854	5,868	5,859	5,889	5,918
Finance, insurance, and real estate	5,689	5,953	5,939	5,964	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,228	6,256	6,275
Finance	2,854	2,979	2,970	2,985	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,134	3,149
Insurance	1,757	1,830	1,827	1,832	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,916	1,921
Real estate	1,078	1,144	1,142	1,147	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,198	1,206	1,205
Services	20,797	21,974	21,893	21,998	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,912	23,057
Business services	4,057	4,452	4,433	4,462	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,698	4,750	4,752	4,807
Health services	6,122	6,310	6,291	6,301	6,333	6,350	6,375	6,401	6,424	6,447	6,471	6,497	6,511	6,540	6,553
Government	16,024	16,415	16,360	16,450	16,462	16,536	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,743	16,715
Federal	2,807	2,875	2,872	2,879	2,886	2,899	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,923	2,931
State	3,734	3,848	3,835	3,851	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,933	3,930
Local	9,482	9,692	9,653	9,720	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,887	9,854

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		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR	35.2	34.9	34.9	34.8	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.8
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.5	40.4	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6
Overtime hours	3.4	3.3	3.2	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.3
Durable goods	41.4	41.2	41.2	41.1	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.2
Overtime hours	3.6	3.5	3.4	3.4	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.4
Lumber and wood products	39.9	39.9	40.1	39.8	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	40.2
Furniture and fixtures	39.7	39.4	39.1	39.0	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.4
Stone, clay, and glass products	42.0	41.9	41.9	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.4
Primary metal industries	41.7	41.5	41.5	41.4	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.6
Blast furnaces and basic steel products	40.7	41.1	41.1	41.2	41.5	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.2
Fabricated metal products	41.4	41.3	41.4	41.4	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.0
Machinery except electrical	41.9	41.5	41.6	41.4	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.6
Electrical and electronic equipment	41.0	40.6	40.6	40.4	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0
Transportation equipment	42.7	42.6	42.4	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	42.0	42.2
Motor vehicles and equipment	43.8	43.5	42.9	43.4	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.9	42.5
Instruments and related products	41.3	41.0	41.1	40.8	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.8	41.0
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.5	39.4	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8
Overtime hours	3.1	3.1	3.0	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2
Food and kindred products	39.8	40.0	39.8	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.3	40.1
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	39.5	39.2	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.5
Apparel and other textile products	36.4	36.4	36.3	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.7
Paper and allied products	43.1	43.1	42.9	42.9	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.3
Printing and publishing	37.9	37.8	37.6	37.5	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	38.0
Chemicals and allied products	41.9	41.9	41.9	41.8	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.8
Petroleum and coal products	43.7	43.0	42.7	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.3	43.8
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.5	39.3	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.1	39.1
WHOLESALE TRADE	38.5	38.4	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3
RETAIL TRADE	29.8	29.4	29.5	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.2
SERVICES	32.6	32.5	32.5	32.4	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.5

- Data not available.
P = preliminary

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

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

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^p	June ^p
PRIVATE SECTOR	\$8.32	\$8.57	\$8.54	\$8.52	\$8.52	\$8.67	\$8.64	\$8.66	\$8.71	\$8.72	\$8.74	\$8.73	\$8.72	\$8.72	\$8.72
Seasonally adjusted	-	-	8.57	8.55	8.59	8.62	8.63	8.65	8.70	8.68	8.71	8.73	8.72	8.73	8.75
MINING	11.63	11.98	12.02	11.92	11.99	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.43	12.51
CONSTRUCTION	12.13	12.31	12.17	12.21	12.28	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.34	12.31
MANUFACTURING	9.19	9.53	9.52	9.55	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70
Durable goods	9.74	10.10	10.08	10.10	10.06	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.27	10.27
Lumber and wood products	8.03	8.22	8.26	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.36	8.45
Furniture and fixtures	6.84	7.17	7.17	7.20	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.40	7.46
Stone, clay, and glass products	9.57	9.84	9.85	9.90	9.87	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.03	10.04
Primary metal industries	11.47	11.68	11.65	11.78	11.63	11.69	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.98
Blast furnaces and basic steel products	12.98	13.34	13.28	13.49	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.83	13.94
Fabricated metal products	9.40	9.70	9.68	9.70	9.64	9.74	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.84	9.85
Machinery, except electrical	9.96	10.29	10.28	10.31	10.26	10.38	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55	10.57
Electrical and electronic equipment	9.04	9.47	9.46	9.47	9.50	9.54	9.55	9.61	9.68	9.60	9.60	9.62	9.62	9.64	9.62
Transportation equipment	12.20	12.72	12.66	12.65	12.65	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.80
Motor vehicles and equipment	12.73	13.42	13.36	13.35	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.46	13.47
Instruments and related products	8.84	9.16	9.12	9.17	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.39	9.39
Miscellaneous manufacturing	7.05	7.30	7.30	7.32	7.28	7.33	7.32	7.37	7.48	7.48	7.50	7.51	7.50	7.52	7.56
Nondurable goods	8.38	8.71	8.69	8.75	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.91	8.90
Food and kindred products	8.39	8.57	8.58	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.75
Tobacco manufactures	11.22	11.94	12.76	12.83	12.34	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.37	13.63
Textile mill products	6.46	6.71	6.68	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.85
Apparel and other textile products	5.55	5.73	5.71	5.70	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.79
Paper and allied products	10.41	10.82	10.79	10.91	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.11
Printing and publishing	9.41	9.71	9.63	9.69	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.92	9.90
Chemicals and allied products	11.07	11.56	11.51	11.59	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.88	11.90
Petroleum and coal products	13.44	14.06	13.99	14.05	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.00	14.03
Rubber and miscellaneous plastics products	8.29	8.54	8.51	8.55	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.74	8.76
Leather and leather products	5.71	5.82	5.83	5.84	5.81	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.89	5.87
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.34	11.37	11.42	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.52	11.58
WHOLESALE TRADE	8.89	9.16	9.16	9.14	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.28	9.33
RETAIL TRADE	5.85	5.94	5.91	5.90	5.88	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.96	7.88	7.91	8.04	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.33	8.43
SERVICES	7.59	7.89	7.85	7.80	7.82	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10

- Data not available.

P = preliminary

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

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

Industry	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May ^P	June ^P
PRIVATE SECTOR															
Current dollars	\$292.86	\$299.09	\$300.61	\$299.05	\$299.90	\$303.45	\$301.54	\$301.37	\$306.59	\$302.58	\$300.66	\$302.93	\$301.71	\$302.58	\$305.20
Seasonally adjusted	-	-	299.09	297.54	299.79	300.84	301.19	301.02	303.63	303.80	303.98	304.68	303.46	303.80	304.50
Constant (1977) dollars	172.78	170.42	171.19	170.11	170.30	171.83	170.36	169.59	172.05	169.32	168.82	171.05	170.94	170.85	-
MINING	503.58	519.93	525.27	510.18	519.17	526.59	518.40	521.42	537.43	543.46	522.37	522.41	522.06	518.33	526.67
CONSTRUCTION	458.51	464.09	462.46	471.31	471.55	479.71	475.69	450.68	460.14	459.05	434.72	444.81	462.10	468.92	467.78
MANUFACTURING															
Current dollars	374.03	385.97	387.46	382.96	384.35	390.46	390.05	393.87	406.16	394.79	390.91	395.60	392.85	394.23	395.76
Constant (1977) dollars	220.67	219.93	220.65	217.84	218.26	221.10	220.37	221.65	227.92	220.92	219.49	223.38	222.58	222.60	-
Durable goods	403.24	416.12	417.31	410.06	412.46	420.21	419.20	424.13	439.45	425.18	421.89	426.42	423.54	423.12	425.18
Lumber and wood products	320.40	327.98	337.01	326.33	334.94	338.20	335.32	327.46	335.67	329.51	328.55	333.20	334.46	338.58	345.61
Furniture and fixtures	271.55	282.50	281.06	275.76	283.68	289.35	291.60	291.34	303.32	289.98	284.36	288.12	286.30	288.60	294.67
Stone, clay, and glass products	401.94	412.30	418.63	418.77	418.49	421.18	419.48	414.24	414.92	414.34	403.56	412.10	425.00	428.28	431.72
Primary metal industries	478.30	484.72	486.97	485.34	480.32	486.30	480.65	491.99	504.38	493.66	503.52	504.78	499.20	501.23	500.76
Blast furnaces and basic steel products	528.29	548.27	552.45	558.49	550.43	553.32	544.79	557.35	564.48	556.72	578.64	576.84	569.38	575.33	581.30
Fabricated metal products	389.16	400.61	402.69	395.76	397.17	405.18	403.94	406.02	422.17	407.79	403.85	409.03	403.44	404.42	405.82
Machinery, except electrical	417.32	427.04	427.65	420.65	422.71	431.81	430.97	438.06	452.60	437.85	437.00	442.24	437.83	437.83	439.71
Electrical and electronic equipment	370.64	384.48	385.02	376.91	383.80	387.32	387.73	396.89	408.50	394.56	389.76	395.38	392.50	393.31	394.42
Transportation equipment	520.94	541.87	539.32	531.30	530.04	544.43	545.71	551.27	577.25	555.13	545.69	552.12	542.71	538.46	541.44
Motor vehicles and equipment	557.57	583.77	578.49	571.38	565.68	585.03	585.98	588.12	625.59	595.58	583.01	592.84	574.10	568.01	576.52
Instruments and related products	365.09	375.56	374.83	369.55	373.11	380.18	376.07	382.85	400.01	383.05	384.99	389.57	385.81	381.23	384.99
Miscellaneous manufacturing	277.77	287.62	287.62	282.55	284.65	293.20	295.00	296.27	304.44	297.70	294.75	299.65	297.75	296.29	301.64
Nondurable goods	332.69	344.92	344.12	343.88	345.39	349.20	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.62	355.11
Food and kindred products	333.92	342.80	342.34	342.80	342.55	348.02	343.80	346.12	354.50	347.93	339.69	344.36	346.50	352.96	351.75
Tobacco manufactures	436.46	444.17	481.05	434.94	457.81	434.32	444.48	435.71	448.82	448.25	453.11	478.50	469.94	508.06	530.21
Textile mill products	257.75	266.39	266.53	258.23	270.14	275.40	276.48	279.75	283.45	278.80	274.57	278.52	278.92	282.08	280.17
Apparel and other textile products	202.02	208.57	209.56	206.34	208.25	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.97	214.81
Paper and allied products	448.67	466.34	463.97	465.86	465.89	473.49	472.40	477.20	490.40	479.37	472.57	477.60	474.05	479.27	481.06
Printing and publishing	356.64	367.04	359.20	361.44	370.88	374.74	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.98	373.23
Chemicals and allied products	463.83	484.36	484.57	482.14	482.56	486.97	486.72	495.60	503.63	495.75	492.48	494.76	495.26	498.96	499.80
Petroleum and coal products	587.33	604.58	597.37	606.96	607.07	621.37	619.76	610.64	622.29	616.03	612.45	621.41	615.96	603.40	614.51
Rubber and miscellaneous plastics products	345.69	350.99	350.61	347.13	346.76	351.82	350.99	356.42	366.66	359.77	356.29	360.14	356.75	359.21	360.04
Leather and leather products	210.13	216.50	220.96	219.00	216.71	219.21	216.95	219.21	220.96	217.41	209.88	212.72	213.81	215.57	218.95
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	451.33	449.12	454.52	458.14	453.46	457.81	460.92	452.01	456.29	457.83	450.45	448.13	456.25
WHOLESALE TRADE	342.27	351.74	353.58	352.80	351.12	354.97	351.74	355.36	360.14	355.42	355.68	357.34	355.81	356.35	359.21
RETAIL TRADE	174.33	174.64	176.71	177.59	176.99	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	177.30
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	292.13	286.04	287.13	293.46	290.76	291.77	299.11	296.30	304.70	304.61	301.76	302.38	309.38
SERVICES	247.43	256.43	256.70	255.84	256.50	258.88	259.68	260.02	263.90	263.09	264.71	265.03	263.09	262.44	264.87

- Data not available.
P = preliminary

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

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

Industry	Not seasonally adjusted				Seasonally adjusted					
	June 1985	Apr. 1986	May 1986 ^P	June 1986 ^P	June 1985	Feb. 1986	Mar. 1986	Apr. 1986	May 1986	June 1986 ^P
PRIVATE SECTOR (in current dollars)	164.8	168.4	168.6	169.0	165.2	168.2	168.5	168.4	168.6	169.4
Mining ¹	179.0	181.2	180.7	181.2	-	-	-	-	-	-
Construction	148.9	149.9	150.9	150.5	149.8	149.7	149.2	150.6	151.2	151.4
Manufacturing	168.5	172.2	172.5	172.5	168.7	171.3	171.8	172.0	172.4	172.7
Transportation and public utilities	165.2	169.0	168.7	169.7	166.4	169.6	170.2	169.3	169.7	170.9
Wholesale trade ¹	169.0	171.3	171.3	172.1	-	-	-	-	-	-
Retail trade	155.4	157.8	157.7	157.9	155.2	157.3	157.4	157.3	157.1	157.7
Finance, insurance, and real estate ¹	172.2	178.9	179.6	181.6	-	-	-	-	-	-
Services	167.7	173.1	173.1	173.5	168.7	173.1	174.0	173.1	173.3	174.5
PRIVATE SECTOR (in constant dollars)	93.8	95.4	95.2	-	94.2	94.4	95.1	95.4	95.4	-

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

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

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

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span												
1984	67.8	72.7	67.6	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	59.7	53.5	45.1	54.1	50.5	44.1	-	-	-	-	-	-
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	50.0	47.6	-	-	-	-	-	-	-
Over 6-month span												
1984	78.1	76.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	54.1	48.1	-	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.6	51.4	48.6
1985	46.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	49.2	47.6
1986	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.
 NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. 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	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,897	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Goods-producing	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Mining	813	851	958	1,027	1,139	1,128	952	966	930
Construction	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Manufacturing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Service-producing	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Transportation and public utilities	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Wholesale trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Retail trade	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Finance, insurance, and real estate	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Services	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
Federal	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
State	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
Local	9,023	9,446	9,633	9,765	9,619	9,458	9,434	9,482	9,692

NOTE: Data include Alaska and Hawaii beginning in 1959. 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	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

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

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1986	
Civilian workers ²	119.8	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	1.1	4.1
Workers, by occupational group:											
White-collar workers	120.9	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	1.1	4.6
Blue-collar workers	117.7	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	1.0	3.3
Service workers	122.0	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	1.0	4.1
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	120.7	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	1.0	4.5
Services	125.0	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	1.2	5.2
Public administration ³	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1
Private industry workers	119.0	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	1.1	3.8
Workers, by occupational group:											
White-collar workers	119.9	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	1.2	4.4
Blue-collar workers	117.5	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	1.0	3.1
Service workers	121.5	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	1.1	3.6
Workers, by industry division:											
Manufacturing	117.9	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	1.3	3.1
Nonmanufacturing	119.6	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	1.0	4.3
State and local government workers	123.9	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	1.0	5.5
Workers, by occupational group:											
White-collar workers	124.5	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	1.0	5.7
Blue-collar workers	121.9	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	1.5	5.2
Workers, by industry division:											
Services	124.5	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	.9	5.7
Schools	124.5	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	.9	6.1
Elementary and secondary	125.4	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	.7	6.4
Hospitals and other services ⁴	124.4	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	1.2	4.3
Public administration ³	122.9	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	1.5	5.1

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 Consists of legislative, judicial, administrative, and regulatory activities.

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

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

(June 1981=100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar., 1986										
Civilian workers ¹	117.9	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	1.0	4.2
Workers, by occupational group:											
White-collar workers	119.3	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	1.1	4.8
Blue-collar workers	115.3	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	.9	3.4
Service workers	120.0	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	.9	4.0
Workers, by industry division											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Nonmanufacturing	118.9	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	.9	4.6
Services	123.3	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	1.2	5.2
Public administration ²	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4
Private industry workers	117.2	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	1.0	3.9
Workers, by occupational group:											
White-collar workers	118.5	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	1.0	4.5
Professional and technical	122.2	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	.9	3.9
Managers and administrators	118.0	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	1.6	5.4
Salesworkers	110.2	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	-.1	5.2
Clerical workers	119.8	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	1.3	3.9
Blue-collar workers	115.1	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	.9	3.4
Craft and kindred workers	116.5	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	1.2	3.7
Operatives, except transport	114.9	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	.8	3.1
Transport equipment operatives	111.7	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	.2	3.1
Nonfarm laborers	112.9	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	.2	2.8
Service workers	119.8	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	1.1	3.4
Workers, by industry division:											
Manufacturing	115.7	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	1.2	3.6
Durables	115.7	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	1.1	3.5
Nondurables	115.8	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	1.2	3.7
Nonmanufacturing	118.0	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	.9	4.2
Construction	113.3	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	.3	2.4
Transportation and public utilities	118.5	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	.9	3.8
Wholesale and retail trade	114.3	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	.6	4.8
Wholesale trade	118.2	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	1.1	4.9
Retail trade	112.8	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	.5	4.8
Finance, insurance, and real estate	116.1	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	.1	3.8
Services	124.2	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	1.6	4.8
State and local government workers	121.6	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	1.0	5.5
Workers, by occupational group											
White-collar workers	122.2	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	1.0	5.6
Blue-collar workers	119.1	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	1.6	5.0
Workers, by industry division											
Services	122.2	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	.9	5.7
Schools	122.2	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	.7	6.2
Elementary and secondary	122.9	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	.6	6.6
Hospitals and other services ³	121.9	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	1.1	3.7
Public administration ²	120.4	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	1.4	5.4

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.

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

(June 1981 = 100)

Series	1984				1985				1986	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1986										
COMPENSATION											
Workers, by bargaining status¹											
Union	120.6	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	1.0	2.9
Manufacturing	119.3	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	1.2	2.3
Nonmanufacturing	121.9	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	.9	3.5
Nonunion	118.0	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	1.2	4.2
Manufacturing	116.6	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	1.4	3.6
Nonmanufacturing	118.6	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	1.1	4.5
Workers, by region¹											
Northeast	118.9	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	1.3	5.2
South	119.7	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	1.2	3.6
Midwest (formerly North Central)	117.2	117.9	119.7	120.8	122.0	122.7	124.2	124.6	125.9	1.0	3.2
West	121.0	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	.8	3.2
Workers, by area size¹											
Metropolitan areas	119.4	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	1.1	3.8
Other areas	116.7	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	1.3	3.4
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union	118.1	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	.7	3.2
Manufacturing	116.1	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	.7	3.2
Nonmanufacturing	120.1	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	.8	3.3
Nonunion	116.7	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	1.1	4.3
Manufacturing	115.4	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	1.4	3.8
Nonmanufacturing	117.2	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	.9	4.5
Workers, by region¹											
Northeast	117.4	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	.9	5.0
South	117.9	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	1.1	3.7
Midwest (formerly North Central)	115.5	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	1.1	3.8
West	118.8	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	.8	3.3
Workers, by area size¹											
Metropolitan areas	117.6	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	.9	4.1
Other areas	115.1	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	1.3	3.3

¹ The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the

Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

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

Measure	Annual average		Quarterly average							
	1984	1985	1984			1985				1986
			II	III	IV	I	II	III	IV		^{P}
Specified adjustments:										
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	3.5	2.7	3.7	3.6	3.5	2.0	2.0	0.3
Annual rate over life of contract	2.8	2.7	3.2	3.1	2.0	2.7	3.4	3.0	1.4	1.2
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.6	2.1	2.3	3.3	2.5	2.0	2.1	.8
Annual rate over life of contract	2.4	2.7	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6
Effective adjustments:										
Total effective wage adjustment ³	3.7	3.3	.9	1.2	.7	.7	.8	1.2	.5	.6
From settlements reached in period .....	.8	.7	.1	.2	.3	.1	.2	.2	.1	.0
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.7	.2	.6	.5	.5	.2	.4
From cost-of-living-adjustments clauses .....	.9	.7	.2	.3	.2	.1	.1	.4	.1	.2

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

compensation or wages.

³ Because of rounding total may not equal sum of parts.

² Adjustments are the net result of increases, decreases, and no changes in

^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--							
	1984			1985				1986
	II	III	IV	I	II	III	IV		^{P}
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.7	4.2	3.6	3.4	3.4	3.1	2.6	2.3
Annual rate over life of contract	3.5	3.2	2.8	2.6	2.7	2.7	2.7	2.6
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.5	3.2	2.4	2.4	2.4	2.4	2.3	2.0
Contracts with COLA clauses	4.6	4.5	2.9	2.5	2.3	1.9	1.6	1.6
Contracts without COLA clauses	2.7	2.3	2.1	2.4	2.4	2.7	2.7	2.2
Annual rate over life of contract	3.1	2.8	2.4	2.3	2.4	2.5	2.7	2.5
Contracts with COLA clauses	2.9	2.8	1.8	1.3	1.5	1.8	2.5	2.6
Contracts without COLA clauses	3.2	2.8	2.7	2.8	2.8	3.0	2.8	2.5
Manufacturing								
First year of contract	3.0	2.6	2.3	2.1	2.0	1.5	.8	.8
Contracts with COLA clauses	3.2	1.5	2.1	2.0	1.9	1.5	.8	.8
Contracts without COLA clauses	2.8	3.7	2.9	2.5	2.2	1.5	.9	.9
Annual rate over life of contract	3.1	2.8	1.5	1.4	1.5	1.6	1.8	1.8
Contracts with COLA clauses	2.8	1.8	1.0	.9	1.0	1.4	2.1	2.1
Contracts without COLA clauses	3.6	3.8	3.3	3.2	3.0	2.4	1.6	1.5
Nonmanufacturing								
First year of contract	3.7	3.3	2.5	2.6	2.7	3.2	3.3	2.8
Contracts with COLA clauses	5.2	5.4	5.5	5.1	4.3	4.0	3.6	3.5
Contracts without COLA clauses	2.6	2.1	2.0	2.4	2.5	3.0	3.3	2.7
Annual rate over life of contract	3.0	2.8	2.9	2.8	2.9	3.3	3.3	3.0
Contracts with COLA clauses	3.0	3.1	4.8	4.0	3.8	3.9	3.6	3.6
Contracts without COLA clauses	3.0	2.6	2.6	2.7	2.8	3.2	3.3	2.9
Construction								
First year of contract .....	.8	.9	.5	.9	1.1	1.0	1.5	1.7
Contracts with COLA clauses	-.4	4.0	4.0	4.6	9.2	(¹)	(¹)	(¹)
Contracts without COLA clauses .....	.9	.9	.4	.8	1.0	(¹)	(¹)	(¹)
Annual rate over life of contract	1.7	1.4	1.0	1.4	1.7	1.7	2.1	2.2
Contracts with COLA clauses .....	.0	1.4	1.4	1.7	4.6	(¹)	(¹)	(¹)
Contracts without COLA clauses	1.8	1.4	1.0	1.4	1.7	(¹)	(¹)	(¹)

¹ Data do not meet publication standards.

^P = preliminary.

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

Effective wage adjustment	Average for four quarters ending--						
	1984		1985				1986
	III	IV	I	II	III ^P	IV	I
For all workers:¹							
Total	4.2	3.7	3.6	3.5	3.5	3.3	3.1
From settlements reached in period	1.0	.8	.7	.9	.9	.7	.6
Deferred from settlements reached in earlier period	2.1	2.0	2.2	1.9	1.8	1.8	1.7
From cost-of-living-adjustments clauses	1.2	.9	.7	.7	.8	.7	.8
For workers receiving changes:							
Total	5.0	4.4	4.5	4.2	4.3	4.1	4.0
From settlements reached in period	3.7	3.0	2.9	2.9	2.8	3.4	2.9
Deferred from settlements reached in earlier period	4.2	4.0	4.2	3.9	3.7	3.7	3.5
From cost-of-living-adjustments clauses	3.2	2.7	2.3	2.3	2.8	2.2	2.5

¹ Because of rounding total may not equal sum of parts.

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		Second 6 months 1985 ^P
	1984	1985	
Specified adjustments:			
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment ³	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
From cost-of-living-adjustment clauses	(*)	(*)	(*)

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.

^P = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P	May ^P	June ^P
Number of stoppages:															
Beginning in period	62	54	2	9	6	11	6	3	2	4	3	3	4	6	11
In effect during period	68	61	8	13	18	20	20	13	9	7	7	9	9	11	16
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	15.7	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3	7.2	29.7	199.1
In effect during period (in thousands)	391.0	584.1	28.5	56.9	66.8	93.9	119.3	47.0	38.0	12.0	28.4	39.7	18.7	42.3	207.0
Days idle:															
Number (in thousands)	8,499.0	7,079.0	454.3	500.2	869.7	931.4	1,433.0	651.2	665.4	170.0	39.7	390.6	321.5	314.6	3,707.4
Percent of estimated working time ¹ .....	.04	.03	.02	.02	.04	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07

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.
- Data not available.
^P = preliminary

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

(1967=100, unless otherwise indicated)

Series	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
	CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:														
All items	311.1	322.2	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9
All items (1957-59=100)	361.9	374.7	374.8	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4
Food and beverages	295.1	302.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5
Food	302.9	309.8	309.3	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1
Food at home	292.6	296.8	296.0	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6
Cereals and bakery products	305.3	317.0	317.3	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1
Meats, poultry, fish, and eggs	266.6	263.4	259.8	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1
Dairy products	253.2	258.0	257.8	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2
Fruits and vegetables	317.4	325.7	329.0	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8
Other foods at home	352.2	361.1	360.8	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1
Sugar and sweets	389.1	398.8	398.3	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5
Fats and oils	288.0	294.4	296.0	297.8	297.1	294.8	291.2	292.1	290.3	292.1	291.4	290.2	288.5	287.2	287.0
Nonalcoholic beverages	443.0	451.7	451.5	448.2	449.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9	480.0
Other prepared foods	284.9	294.2	293.4	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7
Food away from home	333.4	346.6	346.9	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2
Alcoholic beverages	222.1	229.5	227.8	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1
Housing	336.5	349.9	350.4	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2
Shelter	361.7	382.0	381.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6
Renters' costs (12/82=100)	108.6	115.4	115.1	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6
Rent, residential	249.3	264.6	263.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4
Other renters' costs	373.4	398.4	401.6	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2
Homeowners' costs (12/82=100)	107.3	113.1	112.8	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0
Owners' equivalent rent (12/82=100)	107.3	113.2	112.8	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0
Household insurance (12/82=100)	107.5	112.4	112.7	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9
Maintenance and repairs	359.2	368.9	367.6	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6
Maintenance and repair services	409.7	421.1	423.2	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4
Maintenance and repair commodities	262.7	269.6	265.7	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7
Fuel and other utilities	387.3	393.6	399.4	399.9	398.4	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8
Fuels	485.5	488.1	497.7	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0
Fuel oil, coal, and bottled gas	641.8	619.5	612.0	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8	486.6
Gas (piped) and electricity	445.2	452.7	465.6	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0
Other utilities and public services	230.2	240.7	241.1	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2
Household furnishings and operations	242.5	247.2	247.1	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2
Housefurnishings	199.1	200.1	200.0	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8
Housekeeping supplies	303.2	313.6	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6
Housekeeping services	327.5	338.9	338.3	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1
Apparel and upkeep	200.2	206.0	204.6	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5
Apparel commodities	187.0	191.6	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4
Men's and boys' apparel	192.4	197.9	196.4	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2	198.1
Women's and girls' apparel	163.6	169.5	166.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3
Infants' and toddlers' apparel	287.0	299.7	300.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7
Footwear	209.5	212.1	213.9	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0
Other apparel commodities	216.4	215.5	216.3	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8
Apparel services	305.0	320.9	319.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3
Transportation	311.7	319.9	321.8	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	308.6
Private transportation	306.6	314.2	316.3	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8
New vehicles	208.0	214.9	214.3	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0
New cars	208.5	215.2	214.7	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	223.0	224.2
Used cars	375.7	379.7	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5
Motor fuel	370.7	373.8	384.7	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	299.4
Gasoline	370.2	373.3	384.5	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	299.1
Maintenance and repair	341.5	351.4	350.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1
Other private transportation	273.3	287.6	286.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0
Other private transportation commodities	201.5	202.6	203.9	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5
Other private transportation services	295.0	312.8	311.3	313.0	313.0	310.4	315.4	321.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8
Public transportation	385.2	402.8	399.3	402.4	403.7	408.0	411.5	412.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4
Medical care	379.5	403.1	401.7	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7	432.0
Medical care commodities	239.7	256.7	257.0	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3
Medical care services	410.3	435.1	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8
Professional services	346.1	367.3	366.4	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3
Other medical care services	488.0	517.0	513.6	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2
Entertainment	255.1	265.0	264.8	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9
Entertainment commodities	253.3	260.6	260.1	260.8	260.5	262.5	264.0	264.0	262.5	264.7	265.2	265.0	264.8	265.3	266.1
Entertainment services	258.3	271.8													

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

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985								1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	
All items	311.1	322.2	322.3	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	
Commodities	280.7	286.7	286.9	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8	
Food and beverages	295.1	302.0	301.4	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nondurables less food and beverages	275.7	282.1	283.5	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7	
Apparel commodities	187.0	191.6	190.2	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	
Nondurables less food, beverages, and apparel	325.8	333.3	336.2	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6	305.2	308.4	
Durables	266.5	270.7	270.4	269.3	268.6	268.7	270.2	271.5	271.4	271.4	270.5	269.7	269.2	269.6	269.9	
Services	363.0	381.5	381.3	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8	397.9	401.0	
Rent of shelter	107.7	113.9	113.6	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9	
Household services less rent of shelter	108.1	111.2	112.7	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2	
Transportation services	321.1	337.0	335.3	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3	
Medical care services	410.3	435.1	433.0	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	
Other services	296.0	314.1	312.0	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6	328.2	329.2	
Special indexes:																
All items less food	311.3	323.3	323.6	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6	
All items less shelter	295.1	303.9	304.3	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4	305.2	303.6	304.7	306.5	
All items less homeowners' costs	106.3	109.7	109.8	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1	
All items less medical care	307.3	317.7	317.9	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2	
Commodities less food	267.0	272.5	273.1	272.4	272.3	274.4	275.7	274.4	275.7	274.7	270.9	265.2	261.2	262.1	263.0	
Nondurables less food	270.8	277.2	278.4	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8	
Nondurables less food and apparel	311.9	319.2	321.7	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1	
Nondurables	286.6	293.2	293.7	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2	
Services less rent of shelter	108.5	113.5	113.7	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2	
Services less medical care	355.6	373.3	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3	
Energy	423.6	426.5	436.8	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6	
All items less energy	302.9	314.8	313.9	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5	
All items less food and energy	301.2	314.4	313.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.5	
Commodities less food and energy	253.1	259.7	259.0	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0	
Energy commodities	409.8	409.9	418.7	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	327.1	
Services less energy	356.4	375.9	374.6	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9	
Purchasing power of the consumer dollar:																
1967=\$1.00	32.1	31.0	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5	
1957-59=\$1.00	27.6	26.7	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2	
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:																
All items	307.6	318.5	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	
All items (1957-59=100)	357.7	370.4	370.6	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6	
Food and beverages	295.2	301.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	
Food	302.7	309.3	308.8	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6	
Food at home	291.2	295.3	294.5	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0	
Cereals and bakery products	303.7	315.4	315.7	315.7	316.8	317.6	317.3	318.2	320.4	320.9	321.1	320.9	322.1	324.5		
Meats, poultry, fish, and eggs	266.0	262.7	259.3	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	262.7	263.5	262.6	264.2	
Dairy products	252.2	256.9	256.7	256.6	256.3	256.8	255.9	255.9	255.7	256.0	255.0	255.5	255.8	255.9		
Fruits and vegetables	312.5	320.3	323.5	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5	
Other foods at home	352.7	361.5	361.3	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9	
Sugar and sweets	388.6	398.3	398.0	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9	410.6	410.9	
Fats and oils	287.5	293.9	295.6	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	289.7	287.8	286.6	286.4	
Nonalcoholic beverages	444.4	453.2	453.0	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5	
Other prepared foods	286.4	295.7	295.0	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0	
Food away from home	336.7	349.7	350.1	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2	362.0	363.5	
Alcoholic beverages	225.3	232.6	231.0	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3	242.2	242.9	
Housing	329.2	343.3	344.0	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3	
Shelter	350.0	370.4	369.5	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	388.1	388.8	389.4	
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Rent, residential	248.6	263.7	262.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5	
Other renters' costs	372.4	397.9	401.0	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5	
Homeowners' costs (12/84=100)	-	103.1	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4	
Owners' equivalent rent (12/84=100)	-	103.0	102.8	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4	
Household insurance (12/84=100)	-	103.2	103.4	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1	
Maintenance and repairs	356.3	364.1	362.9	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	363.2	
Maintenance and repair services	403.5	415.0	417.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6	
Maintenance and repair commodities	257.2	261.1	258.4	260.0	260.6	260.5	260.5	262.7	264.2	267.2	268.1	261.1	259.4	258.0	255.7	
Fuel and other utilities	388.6	394.7	400.9	401.2	401.0	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.6	380.0	384.9	
Fuels	485.0	487.5	497.7	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3	
Fuel oil, coal, and bottled gas	644.3	622.0	614.3	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5	499.9	489.9	
Gas (piped) and electricity	444.1	451.6	465.1	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7	
Other utilities and public services	231.2	241.6	242.0	243.7	245.1	245.6	245.7	246.8	246.7	248.3	248.8	249.9	252.1	252.2	255.8	
Household furnishings and operations	239.1	243.4	243.3	24												

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

(1967 = 100, unless otherwise indicated)

Series	Annual average		1985							1986					
	1984	1985	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Apparel commodities	186.6	191.3	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7
Men's and boys' apparel	192.9	198.2	196.6	194.8	197.3	201.8	203.5	203.7	202.2	198.8	196.8	198.0	199.3	200.0	198.0
Women's and girls' apparel	165.0	171.3	168.4	165.5	169.9	178.2	180.0	178.3	174.5	166.1	165.2	169.0	169.3	165.9	162.0
Infants' and toddlers' apparel	297.6	311.7	313.5	306.4	311.2	314.9	314.8	320.7	317.3	332.7	328.6	329.6	331.3	334.3	335.6
Footwear	210.0	212.5	214.1	211.6	210.5	211.0	212.6	215.9	213.6	209.9	208.4	210.7	212.1	212.0	210.6
Other apparel commodities	204.5	203.1	204.0	204.5	205.2	202.5	202.4	202.5	202.4	203.5	204.2	203.5	204.1	203.8	204.5
Apparel services	302.9	318.5	317.6	319.0	320.5	321.6	323.2	323.6	324.4	327.2	328.1	329.0	330.2	330.9	331.9
Transportation	313.9	321.6	323.6	323.5	322.3	321.1	322.2	324.6	325.3	325.1	320.1	310.3	303.5	305.9	308.7
Private transportation	310.1	317.4	319.6	319.3	318.0	316.6	317.6	320.1	320.8	320.2	314.8	304.5	297.4	299.9	302.8
New vehicles	207.3	214.2	213.6	213.6	213.5	213.5	215.3	217.5	218.6	219.0	219.4	219.4	220.2	222.0	223.2
New cars	207.9	214.5	214.0	214.0	213.9	213.8	215.5	217.8	218.8	219.2	219.7	219.5	220.4	222.3	223.4
Used cars	375.7	379.7	380.3	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5
Motor fuel	372.2	375.4	386.2	387.2	383.8	379.5	376.3	378.7	379.6	375.3	353.0	309.6	280.1	290.3	300.6
Gasoline	371.8	375.0	386.0	387.0	383.7	379.2	375.8	378.1	378.9	374.6	352.3	308.8	279.1	289.6	300.3
Maintenance and repair	342.2	352.6	351.5	352.2	352.9	354.5	356.9	357.2	359.0	359.4	360.4	360.9	362.2	362.8	363.6
Other private transportation	274.2	287.7	286.9	287.7	287.6	285.2	289.2	293.7	294.7	296.9	298.4	300.6	300.4	299.8	301.2
Other private transportation commodities	203.9	204.7	205.9	204.3	204.9	205.6	205.0	203.7	204.3	205.6	205.4	206.0	204.6	204.9	203.9
Other private transportation services	295.4	312.3	310.9	312.4	312.1	308.9	314.1	320.2	321.3	323.7	325.7	328.3	328.5	327.7	329.6
Public transportation	376.8	391.7	388.4	392.1	393.5	396.8	399.3	400.1	400.2	408.6	412.6	412.0	413.0	413.8	415.1
Medical care	377.7	401.2	399.8	402.0	404.5	406.3	408.5	410.9	412.6	416.0	420.0	423.5	425.7	427.3	429.6
Medical care commodities	239.7	256.3	256.7	257.4	259.0	259.8	260.9	262.2	262.3	264.1	267.0	268.8	270.7	271.7	272.5
Medical care services	407.9	432.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0
Professional services	346.5	367.7	366.8	368.5	370.4	372.1	373.7	375.8	377.6	379.3	382.2	385.6	387.4	388.8	390.8
Other medical care services	484.7	513.9	510.5	514.5	518.4	520.7	524.4	527.5	530.4	536.9	543.0	547.3	550.0	552.3	555.8
Entertainment	251.2	260.1	260.1	260.9	260.8	261.6	263.0	263.7	263.0	265.4	266.5	266.5	266.9	267.3	268.4
Entertainment commodities	247.7	254.2	253.9	254.5	254.3	256.0	257.1	257.2	255.7	257.8	258.3	258.3	258.4	258.7	259.8
Entertainment services	258.5	271.6	272.0	273.2	273.3	272.6	274.6	276.3	276.8	280.0	282.0	282.1	283.0	283.6	284.8
Other goods and services	304.9	322.7	319.5	321.8	322.9	328.7	330.1	330.5	331.9	334.9	336.1	337.0	337.6	338.0	338.4
Tobacco products	309.7	328.1	324.4	329.7	331.1	332.4	334.0	334.3	337.1	342.4	344.4	345.2	346.0	346.0	346.7
Personal care	269.4	279.6	279.2	279.9	280.9	281.8	282.7	283.1	284.0	285.9	286.8	288.0	288.2	288.6	288.6
Toilet goods and personal care appliances	270.3	279.0	278.2	279.2	280.0	281.1	282.0	281.9	283.3	285.9	286.7	288.1	288.4	288.6	287.6
Personal care services	268.8	280.5	280.7	280.9	282.2	282.8	283.7	284.8	285.2	286.4	287.4	288.4	288.4	289.0	290.0
Personal and educational expenses	368.2	399.3	391.6	392.5	393.2	414.5	416.5	417.3	417.4	418.9	419.9	420.1	421.2	422.0	422.9
School books and supplies	327.5	355.7	349.9	350.6	351.2	366.9	369.2	369.3	369.4	375.6	378.4	379.0	379.1	379.1	380.2
Personal and educational services	378.2	410.1	401.9	402.9	403.6	426.1	428.1	428.9	429.1	429.7	430.3	430.5	431.8	432.8	433.6
All items	307.6	318.5	318.7	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0
Commodities	280.4	286.5	286.8	286.4	286.3	286.8	287.6	288.9	289.7	289.8	287.0	283.1	280.4	281.3	282.0
Food and beverages	295.2	301.8	301.2	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3
Commodities less food and beverages	269.3	-	277.7	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	277.5	283.8	285.4	285.0	285.1	286.5	287.0	288.5	288.7	286.9	280.1	269.6	262.0	263.6	265.2
Apparel commodities	186.6	191.3	190.0	187.8	190.4	195.1	196.6	196.5	194.1	189.4	188.2	190.4	191.2	190.1	187.7
Nondurables less food, beverages, and apparel	327.0	334.2	337.2	337.6	336.6	336.4	336.5	338.8	340.1	339.6	330.1	313.2	301.6	304.5	308.0
Durables	261.1	265.2	265.1	263.8	263.1	263.1	264.5	265.7	265.7	265.6	264.6	263.7	263.3	263.5	263.6
Services	358.0	377.3	377.4	379.2	380.7	382.0	383.0	384.2	385.1	387.2	388.8	390.5	392.2	393.2	396.4
Rent of shelter (12/84 = 100)	-	103.2	102.9	103.5	104.3	104.5	105.1	105.8	106.1	106.4	106.7	107.4	108.3	108.5	108.7
Household services less rent of shelter (12/84 = 100)	-	102.6	104.2	104.5	104.6	104.8	103.3	102.1	102.0	102.6	103.0	102.8	102.7	103.4	106.4
Transportation services	317.2	332.2	330.6	332.2	332.4	331.4	335.5	339.3	340.5	343.3	345.4	347.0	347.5	347.3	348.9
Medical care services	407.9	432.7	430.7	433.3	436.1	438.1	440.6	443.2	445.4	449.2	453.5	457.3	459.5	461.3	464.0
Other services	292.9	310.1	308.4	309.3	310.1	315.0	316.7	317.8	318.3	320.4	321.6	322.1	322.9	323.6	324.6
Special indexes:															
All items less food	307.5	319.4	319.8	320.3	320.9	321.9	322.9	324.2	324.6	325.1	323.8	321.5	320.2	321.2	323.2
All items less shelter	295.1	303.4	303.9	304.0	304.0	304.8	305.4	306.4	307.2	307.9	306.4	303.8	302.1	303.0	304.8
All items less homeowners' costs (12/84 = 100)	-	101.8	102.0	102.0	102.1	102.4	102.6	103.0	103.2	103.5	103.0	102.3	101.8	102.1	102.7
All items less medical care	304.0	314.3	314.6	314.9	315.3	316.1	316.9	318.1	318.9	319.6	318.3	316.2	315.2	316.1	317.7
Commodities less food	267.1	272.8	273.6	272.8	272.7	273.4	274.5	275.9	275.9	275.0	270.9	264.9	260.7	261.6	262.6
Nondurables less food	272.6	279.0	280.4	280.0	280.2	281.5	282.4	283.8	283.9	282.3	276.1	266.4	259.4	260.9	262.4
Nondurables less food and apparel	313.2	320.3	322.9	323.2	322.4	322.3	323.1	325.0	326.3	325.9	317.5	302.6	292.2	294.9	298.0
Nondurables	287.4	293.9	294.4	294.3	294.5	295.2	295.7	297.1	298.2	298.4	295.0	289.8	286.3	287.5	288.4
Services less rent of shelter (12/84 = 100)	-	102.6	102.8	103.3	103.5	103.8	103.9	103.9	104.2	104.9	105.5	105.7	105.9	106.2	107.6
Services less medical care	350.5	369.0	369.3	371.1	372.5	373.6	374.5	375.5	376.2	378.2	379.1	381.0	382.7	383.6	386.8
Energy	423.3	426.3	436.9	437.2	433.9	432.5	426.6	425.4	426.8	424.7	408.1	379.0	358.4	364.6	378.1
All items less energy	298.3	309.9	309.1	309.5	310.4	311.5	313.0	314.5	315.3	316.5	316.9	317.8	318.8	319.2	319.7
All items less food and energy	295.8	308.7	307.8	308.3	309.4	310.7	312.7	314.2	314.6	315.4	316.1	317.2	318.3	318.6	319.1
Commodities less food and energy	250.5	256.8	256.2	255.3	255.8	257.2	258.8	259.5	259.2	258.8	258.5	258.7	258.8	258.8	258.5
Energy commodities	410.5	410.9	419.9	419.6	415.7	412.6	411.2	416.3	418.9	414.1	387.3	343.3	312.9	319.8	328.1
Services less energy	350.8	371.1	369.9	371.9	373.7	374.9	377.3	379.8	380.8	382.9	384.5	386.5	388.8	389.4	390.8
Purchasing power of the consumer dollar:				</											

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

(1967 = 100, unless otherwise indicated)

Area ¹	Pricing schedule ²	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			June	July	Feb.	Mar.	Apr.	May	June	June	July	Feb.	Mar.	Apr.	May	June
U.S. city average		-	322.3	322.8	327.5	326.0	325.3	326.3	327.9	318.7	319.1	323.2	321.4	320.4	321.4	323.0
Chicago, Ill.-Northwestern																
Ind.	M	-	324.1	324.4	326.4	323.9	323.7	324.2	330.4	310.9	311.1	312.8	309.7	309.1	309.6	315.6
Detroit, Mich.	M	-	317.0	318.0	322.9	320.0	318.8	321.7	321.0	307.4	308.3	312.3	309.3	308.1	311.0	310.2
Los Angeles-Long Beach, Anaheim, Calif.	M	-	319.3	321.3	326.6	328.2	326.8	329.4	331.3	314.1	315.8	320.4	321.6	320.2	322.7	324.5
New York, N.Y.-Northeastern N.J.	M	-	313.2	313.5	322.3	322.4	321.4	320.6	322.8	306.3	306.5	314.7	314.5	313.2	312.3	314.4
Philadelphia, Pa.-N.J.	M	-	314.2	315.5	320.1	319.1	317.8	318.9	321.7	317.2	318.6	322.8	321.4	319.7	320.8	323.5
Anchorage, Alaska (10/67 = 100)	1	10/67	-	283.1	-	291.2	-	288.9	-	-	276.0	-	284.4	-	281.8	-
Baltimore, Md.	1	-	-	324.0	-	331.1	-	329.1	-	-	323.4	-	329.5	-	326.8	-
Boston, Mass.	1	-	-	317.7	-	324.9	-	322.6	-	-	315.7	-	322.3	-	319.3	-
Cincinnati, Ohio-Ky.-Ind.	1	-	-	330.0	-	329.4	-	332.0	-	-	323.2	-	321.8	-	324.8	-
Denver-Boulder, Colo.	1	-	-	360.3	-	355.7	-	356.3	-	-	355.9	-	350.1	-	350.3	-
Miami, Fla. (11/77 = 100)	1	11/77	-	171.4	-	174.5	-	173.0	-	-	172.7	-	175.1	-	173.4	-
Milwaukee, Wis.	1	-	-	331.1	-	329.1	-	332.0	-	-	350.4	-	347.2	-	350.6	-
Northeast, Pa.	1	-	-	306.6	-	309.3	-	309.2	-	-	305.7	-	308.3	-	308.1	-
Portland, Oreg.-Wash.	1	-	-	312.9	-	315.0	-	314.6	-	-	303.2	-	304.3	-	303.2	-
St. Louis, Mo.-Ill.	1	-	-	319.9	-	319.2	-	318.6	-	-	316.6	-	315.0	-	314.2	-
San Diego, Calif.	1	-	-	372.8	-	379.2	-	382.8	-	-	336.9	-	341.9	-	345.2	-
Seattle-Everett, Wash.	1	-	-	322.0	-	325.0	-	323.5	-	-	309.1	-	311.4	-	309.4	-
Washington, D.C.-Md.-Va.	1	-	-	323.3	-	329.1	-	329.6	-	-	325.9	-	330.5	-	330.2	-
Alanta, Ga.	2	-	328.0	-	336.9	-	334.9	-	338.5	326.0	-	334.3	-	331.7	-	335.5
Buffalo, N.Y.	2	-	307.3	-	310.1	-	308.0	-	308.9	293.7	-	295.8	-	292.7	-	294.0
Cleveland, Ohio	2	-	346.4	-	350.2	-	346.9	-	350.6	325.3	-	328.3	-	324.4	-	328.2
Dallas-Ft. Worth, Tex.	2	-	339.6	-	347.0	-	341.4	-	344.7	333.5	-	340.4	-	334.1	-	337.4
Honolulu, Hawaii	2	-	293.5	-	301.2	-	299.0	-	299.2	300.4	-	308.5	-	306.0	-	306.5
Houston, Tex.	2	-	337.6	-	337.2	-	330.0	-	333.3	335.0	-	334.3	-	327.7	-	330.9
Kansas City, Mo.-Kansas	2	-	320.1	-	321.1	-	320.7	-	322.9	310.5	-	310.1	-	308.9	-	311.4
Minneapolis-St. Paul, Minn.-Wis.	2	-	336.7	-	339.9	-	338.4	-	342.1	332.3	-	334.9	-	332.3	-	336.2
Pittsburgh, Pa.	2	-	325.9	-	330.1	-	328.1	-	328.6	308.3	-	311.4	-	307.8	-	308.3
San Francisco-Oakland, Calif.	2	-	333.2	-	341.1	-	339.3	-	344.0	328.7	-	336.0	-	333.2	-	338.1
Region ³																
Northeast	2	12/77	170.4	-	174.5	-	173.7	-	174.2	168.4	-	172.3	-	171.1	-	171.6
North Central	2	12/77	174.2	-	175.4	-	173.9	-	176.1	171.0	-	171.8	-	170.0	-	172.2
South	2	12/77	173.8	-	176.6	-	175.1	-	176.3	173.7	-	176.1	-	174.1	-	175.2
West	2	12/77	174.6	-	177.5	-	176.8	-	178.7	172.8	-	175.4	-	174.5	-	176.3
Population size class ³																
A-1	2	12/77	170.9	-	174.7	-	173.9	-	175.7	167.2	-	170.5	-	169.3	-	171.0
A-2	2	12/77	176.0	-	178.7	-	177.4	-	178.9	173.2	-	175.5	-	173.8	-	175.2
B	2	12/77	174.7	-	176.9	-	175.6	-	177.0	172.3	-	174.2	-	172.7	-	174.1
C	2	12/77	172.3	-	174.7	-	173.4	-	174.7	172.9	-	175.0	-	173.4	-	174.6
D	2	12/77	171.9	-	174.0	-	172.7	-	173.4	173.5	-	175.2	-	173.6	-	174.2
Region/population size class cross classification ³																
Class A:																
Northeast	2	12/77	167.5	-	171.8	-	171.0	-	171.8	164.2	-	168.1	-	166.9	-	167.7
North Central	2	12/77	177.6	-	179.2	-	177.8	-	180.3	172.8	-	174.0	-	172.1	-	174.7
South	2	12/77	174.1	-	177.3	-	175.5	-	176.8	174.2	-	177.0	-	174.9	-	176.1
West	2	11/77	176.1	-	179.8	-	179.6	-	181.8	172.2	-	175.5	-	174.9	-	177.1
Class B:																
Northeast	2	12/77	173.5	-	176.4	-	174.7	-	175.2	170.5	-	173.4	-	171.7	-	172.2
North Central	2	12/77	172.6	-	173.7	-	172.1	-	174.1	169.0	-	169.7	-	167.7	-	169.7
South	2	12/77	175.3	-	178.2	-	177.0	-	178.5	172.2	-	174.6	-	173.2	-	174.6
West	2	12/77	176.2	-	177.6	-	176.7	-	178.3	176.8	-	178.2	-	177.1	-	178.7

See footnotes at end of table.

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

(1967=100, unless otherwise indicated)

Area ¹	Pricing schedule ²	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			June	July	Feb.	Mar.	Apr.	May	June	June	July	Feb.	Mar.	Apr.	May	June
Class C:																
Northeast	2	12/77	179.0	-	183.1	-	183.0	-	183.4	183.7	-	187.8	-	187.4	-	187.8
North Central	2	12/77	169.6	-	170.4	-	168.5	-	170.7	166.7	-	167.1	-	165.1	-	167.2
South	2	12/77	172.8	-	175.3	-	173.6	-	174.5	174.5	-	176.6	-	174.3	-	175.2
West	2	12/77	168.4	-	171.1	-	170.5	-	171.6	167.2	-	169.6	-	168.9	-	169.9
Class D:																
Northeast	2	12/77	173.7	-	178.9	-	177.9	-	176.1	173.8	-	178.6	-	177.2	-	175.5
North Central	2	12/77	170.4	-	170.7	-	170.0	-	171.3	172.5	-	172.4	-	171.4	-	172.6
South	2	12/77	172.2	-	174.7	-	173.2	-	173.9	174.0	-	176.0	-	174.0	-	174.6
West	2	12/77	172.5	-	174.8	-	172.6	-	174.1	174.2	-	176.3	-	173.9	-	175.4

¹ Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

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.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- Data not available.

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

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

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing:									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967=100)

Grouping	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods	291.1	293.7	294.8	293.5	290.0	294.7	296.4	297.2	296.0	291.9	288.1	286.9	289.0	288.9
Finished consumer goods	290.3	291.8	293.1	291.4	288.2	292.3	294.4	295.4	293.8	288.4	283.5	281.6	284.2	284.1
Finished consumer goods	273.3	271.2	271.2	268.7	265.7	268.2	271.8	275.0	275.0	272.0	272.2	272.4	274.9	275.1
Finished consumer goods excluding foods	294.1	297.3	299.2	297.8	294.7	299.4	300.7	300.7	298.3	291.8	284.4	281.4	284.1	283.8
Nondurable goods less food	337.3	339.3	342.4	340.0	340.3	340.3	342.6	343.2	339.6	328.0	315.0	308.6	312.9	312.6
Durable goods	236.8	241.5	241.9	241.8	234.5	244.9	245.0	244.3	243.5	243.9	243.9	245.4	245.8	245.8
Capital equipment	294.0	300.5	300.8	301.0	296.3	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.8	305.8
Intermediate materials, supplies, and components	320.0	318.7	318.6	317.9	317.7	317.6	318.1	318.9	317.4	313.5	309.4	307.0	306.8	307.1
Materials and components for manufacturing	301.8	299.5	299.8	299.1	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.2	295.3	295.3
Materials for food manufacturing	271.1	258.8	260.3	253.0	249.9	252.3	254.0	254.3	252.8	249.2	246.3	244.6	248.6	247.8
Materials for nondurable manufacturing	290.5	285.9	285.8	285.8	285.1	283.3	282.8	283.1	283.8	282.4	281.9	279.0	278.0	278.0
Materials for durable manufacturing	325.1	320.2	320.9	320.3	319.2	318.6	317.5	317.6	313.4	313.1	313.6	313.1	313.2	313.3
Components for manufacturing	287.5	291.5	291.6	291.9	292.1	292.3	292.3	292.4	293.1	293.6	294.2	294.1	294.1	294.2
Materials and components for construction	310.3	315.2	316.9	316.5	315.6	315.5	315.0	315.7	316.2	316.5	316.8	318.0	318.3	317.7
Processed fuels and lubricants	566.2	548.9	544.0	539.8	542.4	542.6	550.5	557.2	540.8	500.8	453.9	430.2	425.7	429.3
Containers	302.3	311.2	311.4	310.3	309.9	310.4	309.8	310.6	310.9	311.2	311.2	312.5	313.9	313.6
Supplies	283.4	284.2	283.6	284.1	284.5	285.1	285.6	285.7	286.6	286.4	286.7	287.0	287.2	287.3
Crude materials for further processing ...	330.8	306.1	303.9	295.3	291.8	297.8	304.7	304.3	301.0	289.0	280.9	272.8	278.9	274.9
Foodstuffs and feedstuffs	259.5	235.0	231.6	221.0	215.4	224.6	236.6	236.8	231.7	227.2	224.0	220.1	228.9	226.1
Nonfood materials ¹	380.5	355.3	353.5	351.2	352.2	352.8	352.0	351.6	352.4	321.8	293.2	280.8	278.8	279.4
Special groupings														
Finished goods, excluding foods	294.8	299.0	300.5	299.5	295.9	301.3	302.4	302.4	300.7	296.3	291.1	289.4	291.3	291.1
Finished energy goods	750.3	720.9	733.8	719.9	718.2	716.5	729.5	733.8	700.9	629.3	551.1	511.3	532.7	531.5
Finished goods less energy	265.1	269.2	269.7	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.3	273.2	274.2	274.2
Finished consumer goods less energy	257.8	261.3	261.9	260.9	257.7	262.1	263.4	264.3	264.8	264.0	264.2	265.0	266.2	266.2
Finished goods less food and energy	262.3	268.7	269.4	269.4	265.7	271.6	271.8	271.4	272.1	272.5	272.6	273.7	274.2	274.1
Finished consumer goods less food and energy	245.9	252.1	252.9	252.9	249.6	254.9	255.0	254.6	255.5	256.0	256.1	257.1	257.7	257.6
Consumer nondurable goods less food and energy	239.0	246.2	247.4	247.3	247.9	248.3	248.5	248.3	250.5	251.1	251.3	251.8	252.5	252.3
Intermediate materials less foods and feeds	325.0	325.0	325.0	324.5	324.4	324.1	324.5	325.3	323.6	319.7	315.5	312.9	312.5	312.8
Intermediate foods and feeds	253.1	232.8	231.7	227.1	225.4	228.6	231.4	232.7	232.6	228.9	227.6	226.8	229.4	229.0
Intermediate energy goods	545.0	528.3	523.8	519.8	522.3	522.2	529.3	536.2	520.0	482.0	437.4	414.9	410.5	413.9
Intermediate goods less energy	303.8	304.0	304.3	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.2	302.8	303.0	302.9
Intermediate materials less foods and energy	303.6	305.2	305.6	305.5	305.0	304.6	304.2	304.5	304.3	304.2	304.4	304.0	304.0	303.9
Crude energy materials	785.2	748.1	752.6	742.9	743.2	743.1	737.1	735.6	732.8	662.9	618.4	570.7	571.6	554.2
Crude materials less energy	255.5	233.2	230.1	221.8	217.9	224.7	233.2	233.0	229.8	226.5	224.0	221.8	228.5	226.5
Crude nonfood materials less energy	266.1	249.7	247.2	245.8	246.7	246.5	244.6	242.9	245.8	246.5	245.6	249.1	249.3	250.0

¹ Crude nonfood materials except fuel.

34. Producer Price indexes, by durability of product

(1967 = 100)

Grouping	Annual average		1985						1986					
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total durable goods	293.6	297.3	297.8	297.8	295.2	298.8	298.5	298.5	298.1	298.4	298.7	299.5	299.7	299.6
Total nondurable goods	323.3	317.2	317.3	314.1	313.0	314.3	317.6	318.8	316.8	308.4	300.6	295.7	297.9	297.4
Total manufactures	302.9	304.3	304.6	303.8	302.2	304.4	305.4	306.0	304.8	301.1	297.3	296.0	296.9	297.0
Durable	293.9	298.1	298.7	298.6	296.0	299.7	299.5	299.5	299.0	299.3	299.5	300.3	300.5	300.5
Nondurable	312.3	310.5	310.6	309.0	308.4	309.2	311.4	312.5	310.6	302.9	294.7	291.2	292.8	293.1
Total raw or slightly processed goods	346.6	327.9	327.5	320.2	317.6	320.6	326.2	327.6	326.0	316.3	310.4	302.0	305.6	302.6
Durable	266.7	252.2	247.6	249.7	249.7	248.1	245.2	244.3	248.2	251.2	251.5	252.7	252.0	250.9
Nondurable	351.4	332.4	332.3	324.4	321.6	324.9	331.2	332.7	330.6	320.2	313.8	304.7	308.7	305.5

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

(1967 = 100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

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

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1983		1984				1985				1986
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83=100)		100.0	99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0
Food (3/83=100)	0	113.1	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5
Meat (3/83=100)	01	100.8	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5
Fish (3/83=100)	03	97.7	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2
Grain and grain preparations (3/80=100)	04	111.5	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1
Vegetables and fruit (3/83=100)	05	114.8	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2
Feedstuffs for animals (3/83=100)	08	121.4	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5
Misc. food products (3/83=100)	09	102.8	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	106.0
Beverages and tobacco (6/83=100)	1	100.0	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6
Beverages (9/83=100)	11	100.0	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9
Tobacco and tobacco products (6/83=100)	12	100.0	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1
Crude materials (6/83=100)	2	114.6	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8
Raw hides and skins (6/80=100)	21	129.2	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9
Oilseeds and oleaginous fruit (9/77=100)	22	105.6	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	100.0	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0	106.0
Wood	24	128.7	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7
Pulp and waste paper (6/83=100)	25	103.5	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	99.3
Textile fibers	26	117.3	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6
Crude fertilizers and minerals	27	144.8	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0
Metalliferous ores and metal scrap	28	100.0	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4
Mineral fuels	3	100.0	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6	91.9
Animal and vegetable oils, fats, and waxes	4	125.6	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8
Fixed vegetable oils and fats (6/83=100)	42	138.2	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7	95.4
Chemicals (3/83=100)	5	97.0	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5
Organic chemicals (12/83=100)	51	-	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5
Fertilizers, manufactured (3/83=100)	56	89.8	96.8	108.3	96.9	97.4	94.8	92.5	87.9	89.8	90.0	88.6
Intermediate manufactured products (9/81=100)	-	100.8	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3
Leather and furskins (9/79=100)	6	70.1	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8
Rubber manufactures	61	145.0	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0
Paper and paperboard products (6/78=100)	62	139.7	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2
Iron and steel (3/82=100)	64	96.6	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	98.2	98.4
Nonferrous metals (9/81=100)	-	102.3	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2
Metal manufactures, n.e.s. (3/82=100)	-	101.9	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	135.9	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0
Power generating machinery and equipment (12/78=100)	68	152.3	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1
Machinery specialized for particular industries (9/78=100)	69	149.1	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.1	155.4
Metalworking machinery (6/78=100)	7	148.3	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4	159.0
General industrial machines and parts n.e.s. 9/78=100)	71	145.4	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3
Office machines and automatic data processing equipment	72	103.2	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9
Telecommunications, sound recording and reproducing equipment	73	132.2	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5
Electrical machinery and equipment	74	109.4	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1
Road vehicles and parts (3/80=100)	75	127.5	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5
Other transport equipment, excl. military and commercial aviation	76	176.4	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3
Other manufactured articles	77	100.0	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6
Apparel (9/83=100)	78	100.0	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-
Professional, scientific, and controlling instruments and apparatus	79	169.0	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	130.0	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6
Miscellaneous manufactured articles, n.e.s.	84	100.0	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6
Gold, non-monetary (6/83=100)	971	100.2	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.8

- Data not available.

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

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/82=100)		98.0	98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5
Food (9/77=100)	0	102.5	103.5	102.0	98.1	98.5	96.8	94.9	102.8	113.5
Meat	01	133.4	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7
Dairy products and eggs (6/81=100)	02	100.8	99.8	98.9	98.4	98.3	97.9	99.1	100.5	106.8
Fish	03	132.7	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	136.5	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9
Fruits and vegetables	05	136.1	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4
Sugar, sugar preparations, and honey (3/82=100)	06	117.1	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6
Coffee, tea, cocoa	07	61.4	62.4	60.3	58.4	57.0	56.0	54.4	64.6	85.9
Beverages and tobacco	1	155.3	156.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2
Beverages	11	152.6	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8
Crude materials	2	103.2	102.6	100.6	98.9	94.0	93.6	91.5	91.2	94.7
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	100.0	93.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8
Wood (9/81=100)	24	114.8	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3
Pulp and waste paper (12/81=100)	25	87.6	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9
Crude fertilizers and crude minerals (12/83=100)	27	100.0	96.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5
Metalliferous ores and metal scrap (3/84=100)	28	100.0	102.8	100.1	95.6	90.4	87.6	89.5	90.1	96.2
Crude vegetable and animal materials, n.e.s.	29	100.0	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6
Fuels and related products (6/82=100)	3	88.3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3
Petroleum and petroleum products (6/82=100)	33	88.2	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7
Fats and oils (9/83=100)	4	117.4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4
Vegetable oils (9/83=100)	42	118.1	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3
Chemicals (9/82=100)	5	101.1	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6
Medicinal and pharmaceutical products (3/84=100)	54	100.0	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9
Manufactured fertilizers (3/84=100)	56	100.0	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2
Chemical materials and products, n.e.s. (9/84=100)	59	-	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9
Intermediate manufactured products (12/77=100)	6	137.6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0
Leather and furskins	61	141.6	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6
Rubber manufactures, n.e.s.	62	141.8	140.8	139.6	140.5	139.5	138.6	137.3	138.1	136.5
Cork and wood manufactures	63	130.1	131.0	126.4	126.1	121.3	121.2	123.4	124.0	130.8
Paper and paperboard products	64	148.0	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1
Textiles	65	130.8	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2
Nonmetallic mineral manufactures, n.e.s.	66	168.4	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2
Iron and steel (9/78=100)	67	118.5	123.8	124.7	123.7	121.0	121.0	119.1	118.3	117.3
Nonferrous metals (12/81=100)	68	95.0	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4
Metal manufactures, n.e.s.	69	119.7	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4
Machinery and transport equipment (6/81=100)	7	104.0	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5
Machinery specialized for particular industries (9/78=100)	72	100.4	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1
Metalworking machinery (3/80=100)	73	94.3	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0
General industrial machinery and parts, n.e.s. (6/81=100)	74	93.7	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8
Office machines and automatic data processing equipment (3/80=100)	75	97.8	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	94.2	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4
Electrical machinery and equipment (12/81=100)	77	94.2	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.3
Road vehicles and parts (6/81=100)	78	109.0	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4
Misc. manufactured articles (3/80=100)	8	100.6	101.5	99.7	100.0	97.0	98.0	99.6	100.8	103.3
Plumbing, heating, and lighting fixtures (6/80=100)	81	109.5	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1
Furniture and parts (6/80=100)	82	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Clothing (9/77=100)	84	130.2	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4
Footwear	85	136.8	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	98.7	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	89.6	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3
Misc. manufactured articles, n.e.s. (6/82=100)	89	105.2	104.0	98.3	96.3	91.2	95.2	96.4	97.9	102.1
Gold, non-monetary (6/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

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

(September 1983 = 100 unless otherwise indicated)

Category	Per-centage of 1980 Trade Value	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	16.294	92.8	98.5	88.8	83.0	81.5	80.9	76.2	77.5	75.5
Raw materials	30.696	102.2	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0
Raw materials, nondurable	21.327	103.6	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5
Raw materials, durable	9.368	98.8	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5
Capital goods (12/82=100)	30.186	103.2	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4
Automotive vehicles, parts and engines (12/82=100)	7.483	104.5	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5
Consumer goods	7.467	100.9	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7
Durables	3.965	100.1	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8
Nondurables	3.501	101.8	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5

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

(December 1982=100)

Category	Per-centage of 1980 Trade Value	1984				1985				1986
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	7.477	106.0	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8
Petroleum and petroleum products, excl. natural gas	31.108	88.8	88.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4
Raw materials, excluding petroleum	19.205	103.5	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5
Raw materials, nondurable	9.391	100.7	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1
Raw materials, durable	9.814	106.5	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.0
Capital goods	13.164	100.8	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8
Automotive vehicles, parts and engines	11.750	103.6	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.6
Consumer goods	14.250	101.0	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5
Durable	5.507	101.1	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4
Nondurable	8.743	100.9	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0

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

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/83=100)	109.0	112.7	105.6	103.3	99.5	99.5	96.7	98.1	97.0
Lumber and wood products, except furniture (6/83=100)	101.5	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5
Furniture and fixtures (9/83=100)	101.8	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2
Paper and allied products (3/81=100)	98.6	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7
Chemicals and allied products (12/84=100)	103.3	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9
Petroleum and coal products (12/83=100)	101.6	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5
Primary metal products (3/82=100)	105.1	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4
Machinery, except electrical (9/78=100)	137.4	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6
Electrical machinery (12/80=100)	108.0	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6
Transportation equipment (12/78=100)	155.7	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2
Scientific instruments; optical goods; clocks (6/77=100)	153.1	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7

¹ SIC - based classification.

- Data not available.

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

Industry group	1984				1985				1986
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77 = 100)	122.3	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7
Textile mill products (9/82 = 100)	104.4	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7
Apparel and related products (6/77 = 100)	128.1	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4
Lumber and wood products, except furniture (6/77 = 100)	129.4	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1
Furniture and fixtures (6/80 = 100)	95.7	96.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2
Paper and allied products (6/77 = 100)	136.5	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6
Chemicals and allied products (9/82 = 100)	101.8	101.8	99.8	98.2	95.3	93.9	93.3	95.8	98.6
Rubber and miscellaneous plastic products (12/80 = 100)	98.1	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9
Leather and leather products	140.3	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8
Primary metal products (6/81 = 100)	90.1	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0
Fabricated metal products (12/84 = 100)	-	-	-	100.0	99.0	99.1	101.0	102.6	104.9
Machinery, except electrical (3/80 = 100)	97.8	97.1	95.5	94.1	91.8	93.4	96.6	100.0	105.5
Electrical machinery (9/84 = 100)	-	-	100.0	98.6	95.1	95.8	94.5	95.8	96.8
Transportation equipment (6/81 = 100)	110.6	111.6	110.7	112.9	113.1	114.2	114.8	119.6	123.9
Scientific instruments; optical goods; clocks (12/79 = 100)	94.0	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9
Miscellaneous manufactured commodities (9/82 = 100)	99.8	99.1	95.8	96.4	95.1	95.1	96.6	98.7	100.0

¹ SIC - based classification.

- Data not available.

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

(1977 = 100)

Item	Annual average	Quarterly Indexes											
		1984	1983		1984				1985				1986
			III	IV	I	II	III	IV	I	II	III	IV	I
Business:													
Output per hour of all persons	105.2	103.5	103.6	104.9	105.5	105.3	105.0	105.3	105.5	105.9	104.9	105.5	
Compensation per hour	168.2	162.1	164.1	166.1	167.5	169.1	170.4	172.4	174.3	176.1	177.6	178.2	
Real compensation per hour	98.2	98.1	98.3	98.3	98.2	98.2	98.1	98.5	98.5	98.9	98.7	98.7	
Unit labor costs	159.9	156.6	158.4	158.4	158.7	160.6	162.3	163.8	165.2	166.3	169.3	168.9	
Unit nonlabor payments	156.5	146.8	148.6	153.4	156.8	157.3	158.0	157.6	158.2	158.6	156.2	159.1	
Implicit price deflator	158.7	153.1	154.9	156.6	158.0	159.4	160.8	161.6	162.7	163.5	164.6	165.4	
Nonfarm business:													
Output per hour of all persons	104.1	103.3	103.0	104.0	104.5	104.2	103.8	104.1	104.2	104.3	103.2	104.1	
Compensation per hour	168.0	162.3	164.0	165.9	167.4	168.8	170.1	172.1	173.7	175.0	176.4	177.3	
Real compensation per hour	98.0	98.2	98.2	98.1	98.1	98.0	97.9	98.3	98.2	98.3	98.0	98.2	
Unit labor costs	161.4	157.1	159.1	159.6	160.1	162.0	163.9	165.3	166.8	167.8	170.9	170.3	
Unit nonlabor payments	156.3	148.9	150.7	152.5	156.3	157.6	158.4	158.8	160.2	161.4	157.7	161.9	
Implicit price deflator	159.6	154.2	156.1	157.1	158.8	160.5	161.9	163.0	164.5	165.5	166.3	167.4	
Nonfinancial corporations:													
Output per hour of all employees	106.2	104.6	105.0	106.2	106.7	106.1	105.8	105.8	105.8	106.5	105.9	105.8	
Compensation per hour	166.1	160.8	162.4	164.2	165.6	166.8	167.9	169.4	170.8	172.0	173.3	173.9	
Real compensation per hour	96.9	97.3	97.3	97.1	97.1	96.9	96.7	96.7	96.6	96.6	96.3	96.3	
Total unit costs	161.2	159.6	159.5	159.1	159.9	162.2	163.6	164.4	165.8	165.5	167.2	168.0	
Unit labor costs	156.4	153.8	154.8	154.7	155.1	157.2	158.7	160.0	161.5	161.5	163.7	164.3	
Unit nonlabor costs	175.3	176.7	173.7	172.3	174.0	177.0	177.9	177.6	178.6	177.2	177.8	179.0	
Unit profits	135.6	114.4	124.0	132.9	139.1	134.3	135.9	138.3	139.1	150.2	143.1	146.1	
Unit nonlabor payments	161.4	154.9	156.3	158.5	161.8	162.1	163.2	163.8	164.8	167.7	165.7	167.5	
Implicit price deflator	158.1	154.2	155.3	156.0	157.4	158.9	160.3	161.3	162.6	163.6	164.4	165.4	
Manufacturing:													
Output per hour of all persons	118.5	114.5	114.7	116.7	117.8	119.8	119.5	120.0	121.8	122.8	122.4	123.1	
Compensation per hour	169.1	163.3	164.4	166.7	168.1	169.9	171.8	174.3	176.1	177.3	178.8	179.2	
Real compensation per hour	98.7	98.8	98.5	98.6	98.6	98.7	98.9	99.5	99.5	99.6	99.4	99.3	
Unit labor costs	142.8	142.6	143.4	142.8	142.7	141.9	143.7	145.3	144.5	144.4	146.0	145.6	

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

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.6	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

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

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.5	88.3	95.9	93.9	98.3	100.8	99.6	99.2	100.7	100.3	103.2	105.2	105.3
Compensation per hour	33.6	57.7	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.9	168.2	175.0
Real compensation per hour	68.8	90.1	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.5	98.2	98.6
Unit labor costs	49.8	65.4	73.9	82.7	94.3	107.7	119.6	132.6	142.7	154.5	157.0	159.9	166.2
Unit nonlabor payments	46.3	59.4	72.5	76.4	93.4	106.7	112.5	118.8	134.7	136.8	145.4	156.5	157.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	152.8	158.7	163.1
Nonfarm business:													
Output per hour of all persons	70.9	89.1	96.4	94.3	98.5	100.8	99.2	98.8	99.8	99.2	102.6	104.1	103.9
Compensation per hour	35.3	58.1	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	162.1	168.0	174.2
Real compensation per hour	72.2	90.7	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.6	98.0	98.1
Unit labor costs	49.8	65.2	73.9	82.7	94.2	107.7	119.8	132.9	144.0	156.0	158.0	161.4	167.7
Unit nonlabor payments	46.2	60.0	69.4	74.0	93.1	105.6	110.5	118.5	133.5	136.6	147.0	156.3	159.5
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.1	159.6	164.8
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	104.0	106.2	105.9
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	160.6	166.1	171.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.7	96.9	96.5
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	156.4	161.7
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.2	161.4	165.5
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	163.0
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Compensation per hour	36.5	57.3	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Real compensation per hour	74.7	89.4	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	99.3	98.7	99.5
Unit labor costs	58.7	70.9	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Unit nonlabor payments	60.2	64.3	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	132.4	140.5	138.9
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	141.0	142.1	143.3

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984		1985				1986
	1984	1985	III	IV	I	II	III	IV	I
Total labor force basis									
United States	7.4	7.1	7.3	7.1	7.2	7.2	7.1	6.9	7.0
Canada	11.2	10.4	11.2	11.1	11.0	10.5	10.2	10.1	9.7
Australia	8.9	8.2	8.7	8.6	8.5	8.4	8.1	7.8	7.9
Japan	2.7	2.6	2.8	2.7	2.6	2.5	2.6	2.9	2.6
France	9.7	10.1	9.9	10.0	10.2	10.1	10.2	9.9	10.0
Germany	7.7	7.7	7.8	7.7	7.8	7.8	7.7	7.7	7.7
Great Britain	12.8	13.0	13.0	12.8	12.9	13.0	13.2	12.8	13.0
Italy ^{1, 2}	5.8	5.9	5.8	5.7	5.8	5.7	5.9	6.2	6.2
Sweden	3.1	2.8	3.0	3.0	3.0	2.9	2.7	2.7	2.8
Civilian labor force basis									
United States	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1
Canada	11.3	10.5	11.3	11.1	11.1	10.6	10.2	10.1	9.7
Australia	9.0	8.3	8.8	8.6	8.6	8.5	8.2	7.9	8.0
Japan	2.8	2.6	2.8	2.7	2.6	2.6	2.7	2.9	2.7
France	9.9	10.3	10.1	10.3	10.5	10.4	10.4	10.1	10.2
Germany	7.8	7.9	7.9	7.8	7.9	8.0	7.9	7.8	7.8
Great Britain	12.9	13.2	13.2	13.0	13.1	13.2	13.4	13.0	13.1
Italy	5.9	6.0	5.9	5.8	5.9	5.8	6.0	6.3	6.3
Sweden	3.1	2.8	3.1	3.0	3.0	2.9	2.8	2.7	2.8

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

² Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons

would more than double the Italian unemployment rate shown.

NOTE: Quarterly and monthly figures for France, Germany, and Great Britain 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, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,110	23,250	23,320
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700	27,010
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,950
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.5	56.6	56.8
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.3	52.7	53.4
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,150	20,940	20,910
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610	24,880
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,410
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.7	51.0	50.9
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.4	48.6	49.2
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.3
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,410
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,280	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.3
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.2
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.6	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- 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								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR³									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing³									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

See footnotes at end of table.

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

Industry and type of case ¹	Incidence rates per 100 full-time workers ²								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	6.8	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	69.0	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases .....	.7	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	38.4	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

¹ Total cases include fatalities.

² The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as: (N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.
200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

³ Excludes farms with fewer than 11 employees since 1976.

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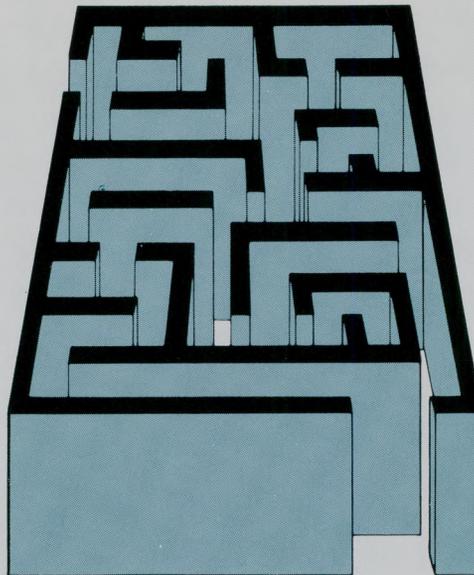
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