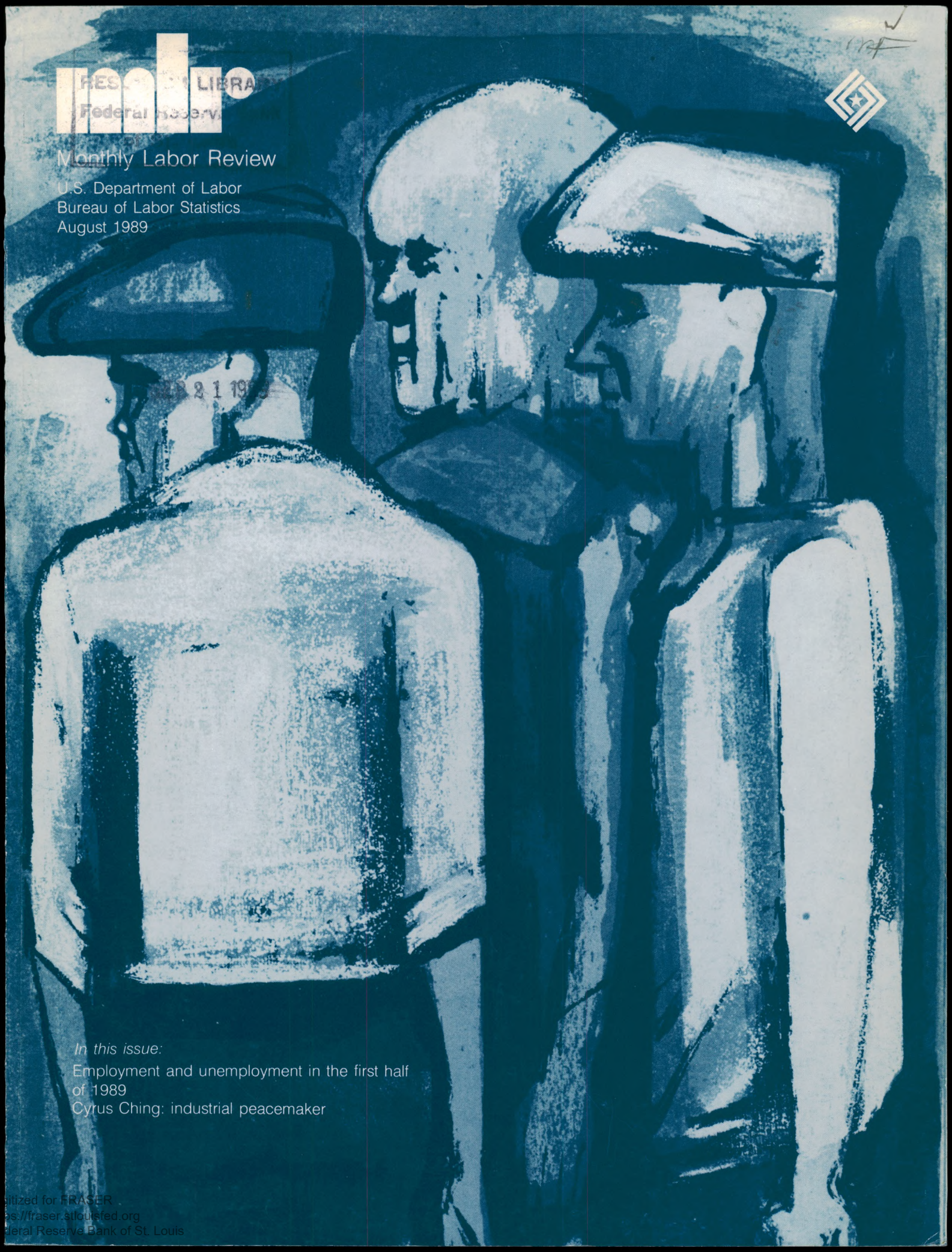
Monthly Labor Review

U.S. Department of Labor
Bureau of Labor Statistics
August 1989



In this issue:

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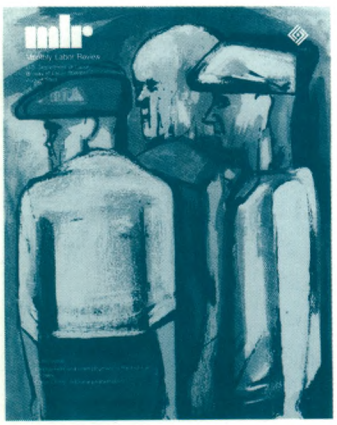
The *Monthly Labor Review* is published by the Bureau of Labor Statistics of the U.S. Department of Labor. Communications on editorial matters should be addressed to the Editor-in-Chief, *Monthly Labor Review,* Bureau of Labor Statistics, Washington, DC 20212. Phone: (202) 523-1327.

Subscription price per year—$20 domestic; $25 foreign. Single copy, $5 domestic; $6.25 foreign. Subscription prices and distribution policies for the *Monthly Labor Review* (ISSN 0098-1818) and other Government publications are set by the Government Printing Office, an agency of the U.S. Congress. Send correspondence on circulation and subscription matters (including address changes) to:
Superintendent of Documents,
Government Printing Office,
Washington, DC 20402

Make checks payable to Superintendent of Documents.

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



August cover:

Unemployed, a 1939 print by Chet Lamore, from the collection of Reba and Dave Williams, included in the exhibit, American Screenprints, organized by the National Academy of Design, New York, displayed from May 17 to September 2, 1988, at the Marriner S. Eccles Federal Reserve Board Building, Washington, DC; photo courtesy of Dave Williams.

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Monthly Labor Review

August 1989
Volume 112, Number 8

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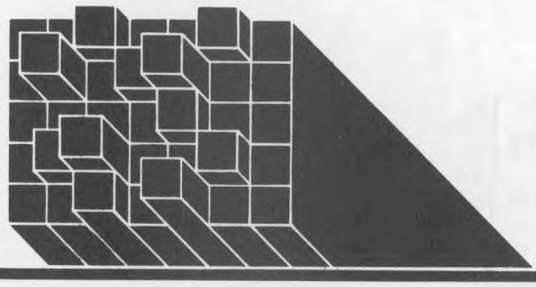
Executive Editor

Articles

Reports

Departments

Labor month in review



INSTITUTIONAL SETTING. Twenty-five years ago, in an essay reviewing the first 50 years of the *Monthly Labor Review,* H.M. Douty discussed the "difficult task of issuing a monthly periodical [with] high standards of accuracy and objectivity, and with as much regard as possible for the English language." The essay also discussed the "institutional setting" that "serves powerfully to determine the character of such journals as the *Monthly Labor Review.*" Douty's reflections are worth recalling as the *MLR* enters its 75th year.

Factfinding. [The *Review's*] recognition as an authoritative research journal, both in this country and abroad, is a reflection of the institutional position of the Bureau of Labor Statistics. This position, in turn, owes much to the support of the Department of Labor, within which the Bureau has functioned since 1913. The integrity that the Bureau has maintained as a factfinding agency in the difficult field of labor research and statistics has been mirrored in the [*Review*]. An institutional setting may well impose limitations upon editorial discretion; it may also, depending upon the nature and character of the institution, be a source of great strength.

The establishment by Congress of the Bureau of Labor Statistics in 1884 was one outcome of the first great wave of labor discontent to pass over the United States. The Knights of Labor, through which the unrest of the period found its principal organized expression, pressed vigorously for a Federal labor agency. Influenced by the pioneering labor bureaus in a number of the States, Congress directed the new agency "to collect information upon the subject of labor, its relation to capital, the hours of work, and the earnings of laboring men and women, and the means of promoting their material, social, intellectual, and moral prosperity."

Wright's legacy. Despite the nature of its mandate, it was not inevitable that the Bureau should, from the beginning, have adopted the operating principles that continue to guide it. It might have ventured more in the direction of policy or of advocacy rather than of factfinding. That it did not do so is part of the legacy from its first Commissioner. Shortly after his appointment, Carroll D. Wright prepared a statement "to indicate clearly the policy which should mark the work of this Office." He concluded that "a Bureau of Labor [Statistics] cannot solve social or industrial problems...[but] by judicious investigations and the fearless publication of the results thereof, it may and should enable the people to more clearly and more fully comprehend many of the problems which now vex them."

This commitment to "investigations" meant, in the days before massive statistical systems, just what the term implies; namely, the first-hand study of particular social problems. It meant the collection of information directly from individuals, business firms, and unions through the use of "special agents." The Bureau's agents, now working under more impressive job titles, were and remain one of its greatest assets. Their patient and often difficult work, embodied in an immense variety of reports, has done much to establish a firm tradition of objective inquiry.

MLR 1915-1990 DIAMOND ANNIVERSARY

Field collection. The first report of the new Bureau was on Industrial Depressions (1886). In his letter of transmittal, the Commissioner stated that the underlying data were gathered by 15 agents in the United States and 5 in Europe. Eighty years later, despite the extensive use in some programs of data collected by mailed questionnaire or assembled by other agencies, the "investigation," in the sense of a special study involving on-the-spot data collection, continues to play a major role in the Bureau's work. Bureau agents often find themselves in unlikely places compiling information on the effect of minimum wage coverage on workers in the shellfish processing industry, employee earnings in hosiery manufacture, the causes of industrial accidents in logging, labor requirements in hospital construction, or the detailed expenditures of a working-class family on goods and services. Many recurring statistical programs, notably in occupational wages and retail prices, are based largely on field collection.

This tradition of first-hand data collection has produced an enormous respect within the Bureau for facts, their useful arrangement, and their dissemination. Equally important has been the Bureau's realization of the contribution of facts, embodied in the results of "investigations" and statistical series, to policymaking and reform. Although in no sense involved itself in policy formation, an impressive case can be made for the contribution of the Bureau to a wide range of reforms that have helped to better conditions for workers in this country. Additionally, and particularly after World War II, key Bureau statistical series have become of great importance in public and private decisions relating to general economic and social policy.

For an agency such as the Bureau, the published results of its research plainly constitute the main reason for its existence. The standards of the agency inevitably have been reflected in its publications. The *Monthly Labor Review* has served the Bureau and the Department of Labor well for 50 years, but the Bureau and the Department in turn have sustained and nourished the *Review* and protected its integrity as a research journal.

Douty retired in 1970 after a distinguished 31-year career in government, most of it at BLS. Since publication of his essay in July 1965, the Bureau has grown in size and responsibilities and has modernized its data collection and processing methods. Yet, Douty's description of the institutional setting remains fully relevant in the *Review's* diamond anniversary year. □

Employment gains slow in the first half of 1989

Slower job growth was particularly evident in construction and manufacturing; the unemployment rate edged up slightly in the second quarter

Steven E. Haugen

Employment growth moderated in the first half of 1989, as the economy moved into its seventh year of expansion from the 1981–82 recession. While unemployment showed continued improvement early in the year, it edged back up in the second quarter. This left both the number of unemployed persons, at 6.5 million, and the civilian unemployment rate, at 5.3 percent, about the same as in the fourth quarter of 1988.

The slackening job growth was most evident in the goods-producing sector. Both manufacturing, which had posted substantial employment growth in 1987–88, and construction, which had also made healthy employment gains, registered a slowdown in job growth during the first half of 1989. For the most part, the service-producing sector continued its pattern of strong employment growth, although several industries in the sector, particularly those closely tied to the goods-producing industries, also experienced a reduction in employment gains.

In the first quarter of 1989, there were already some signs that the brisk pace of economic growth that characterized 1987 and 1988 might be slowing. Interest rates had been trending upward throughout most of 1988, and as rates continued to rise in early 1989, the demand for interest-sensitive products began to wane. Construction activity slowed, owing largely to a decline in the demand for new homes. Consumer spending for durable goods, such as new cars, also softened. The effect of the slowdown in consumption was quickly felt in the Nation's factories: new orders for durable goods dropped in January and February, and industrial production leveled off in the first quarter after rising throughout 1988.

Early in the second quarter, some of these yardsticks of economic performance recovered a bit. The uptrend in interest rates leveled off in April, and rates then began to edge down. Also in April, the number of permits for new housing edged up, and consumer spending increased. Nevertheless, homebuilding generally remained weaker than in 1988, as did sales of such big-ticket durables as new cars. In addition, the sharply rising value of the dollar midway through the second quarter did not augur well for those U.S. manufacturers who had been benefiting from robust export growth in recent years.

Employment

Developments in the labor market also pointed to slower economic growth in the first half of 1989.[1] While nonagricultural payroll employment, as measured by the survey of business establishments, grew by 1.5 million between the fourth quarter of 1988 and the second quarter of 1989, much of the job gain occurred early in the year. (See table 1.) Boosted by a large increase in January, nonagricultural employment expanded by approximately 880,000 in the first quarter, but slowed in the second quarter,

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when only about 620,000 jobs were added.[2] This was the smallest quarterly gain since the third quarter of 1986. The slowing of employment growth within the first half of the year is shown clearly in chart 1, which presents seasonally adjusted monthly changes in nonagricultural employment.

Civilian employment, as measured by the household survey, also showed weaker growth in the second quarter. About three-fourths of the 1.4-million increase in the first half of 1989 occurred in the first quarter. (See table 2.) Overall, the payroll and household surveys indicated about the same volume of employment growth in the first half of 1989. During most of 1987 and 1988, however, the payroll series showed much faster growth than the household series. (For further information on the differences in employment growth between the establishment and household surveys, see the article in this issue entitled "How many new jobs since 1982? Data from two surveys differ.")

Nonagricultural employment exhibited the smallest quarterly gain since the third quarter of 1986.

Goods-producing industries. Several barometers of economic activity indicated weakness in the construction and manufacturing industries during the first half of the year. In construction, declines in the number of building permits, housing starts, and new home sales in the first quarter suggested that the rise in mortgage interest rates, which began during the second half of 1988 and continued into 1989, had contributed to a softening of demand for new housing. Although interest rates eased in May, homebuilding continued at a more tepid pace than in 1988. (See table 3.)

Reflecting these developments, employment growth in the construction industry slowed markedly during the first half of 1989. In the second quarter, payroll employment in construction stood at 5.3 million, the same as in the first quarter and up only 85,000 over the level of the fourth quarter of 1988. The weakness in the industry was most apparent in the general building and special trades contractors divisions, which are highly involved in residential construction. Employment among heavy construction contractors held fairly steady. During the first 6 years of the current recovery, employment in this industry advanced little, while both general building and special trades contractors showed marked employment growth. In particular, job growth in the special trades division accounted for more than two-thirds of the total employment increase in construction.

Rising interest rates may also have affected the manufacturing industry in early 1989. Retail sales softened in the first quarter, particularly the sales of such interest-rate-sensitive items as new cars. Reflecting the slowdown in consumer spending, new orders for durable goods declined slightly from late-1988 levels. Additionally, export growth, which had accounted for much of the strength in manufacturing over the 1987–88 period, eased a little as the value of the dollar stopped declining in 1988 and began to increase in the first half of 1989. The declining dollar had been helping some manufacturers by making U.S. exports less expensive.

Trends in manufacturing employment confirmed some slowing in the industry. Job gains in manufacturing, which had been rising at a rapid clip during much of 1987–88, slowed abruptly during the first quarter of 1989, and employment was essentially unchanged in the second quarter at 19.7 million; this left the job count up only 100,000 from fourth-quarter 1988 levels, about half the growth posted in the second half of 1988. The weakness was most apparent in the durable goods industries, notably in the machinery and electrical equipment components, industries which had been benefiting from the rapid growth in exports. There was also little or no job growth in the lumber industry and in stone, clay, and glass products, reflecting the slowdown in construction. Employment in auto manufacturing declined slightly, as car makers backed away from aggressive production schedules in the face of large inventory-sales imbalances. Employment growth in nondurable manufacturing also slowed in the first half of 1989. Smaller job gains were particularly evident in the paper products and printing and publishing industries.

Despite the slowdown in employment growth, the factory workweek remained at a very high level, as did overtime hours. Employees on manufacturing payrolls continued to average about 41 hours per week during the first 6 months of 1989, roughly as much as in 1987 and 1988. Similarly, manufacturing overtime, at 3.9 hours in the first half, remained at very high levels by historical standards.

After allowing for the effects of labor-management disputes which occurred in June, mining employment rose slightly in the first half of 1989. About half of the increase occurred in oil and gas extraction. Employment gains in this industry are directly related to the price of oil, and it may be that the rise in oil prices since mid-1988 provided an employment boost for the industry. At 715,000 in the second quarter, however, mining employment was still below its level one year earlier.

Service-producing industries. Job growth in the service-producing sector remained healthy

Table 1. Employees on nonagricultural payrolls by industry, seasonally adjusted quarterly averages, 1982–89

[In thousands]

Industry	1982	1984	1988				1989	
	IV	IV	I	II	III	IV	I	II[p]
Total	88,717	95,869	104,355	105,184	105,976	106,799	107,680	108,299
Total private	72,893	79,711	87,111	87,851	88,577	89,288	90,104	90,624
Goods-producing	22,980	24,936	25,022	25,202	25,313	25,452	25,634	25,647
Mining	1,029	956	722	725	723	713	712	717
Oil and gas extraction	651	609	409	411	407	397	395	399
Construction	3,837	4,501	5,028	5,116	5,155	5,189	5,263	5,276
General building contractors	959	1,188	1,354	1,372	1,373	1,373	1,394	1,383
Manufacturing	18,115	19,479	19,271	19,360	19,435	19,550	19,659	19,654
Durable goods	10,484	11,630	11,336	11,404	11,467	11,540	11,601	11,584
Lumber and wood products	596	703	760	763	762	775	780	769
Furniture and fixtures	425	492	528	529	530	532	534	534
Stone, clay, and glass products	558	593	595	599	601	605	607	606
Primary metal industries	824	843	763	770	778	784	787	788
Blast furnaces and basic steel products	344	317	277	278	277	277	276	275
Fabricated metal products	1,349	1,483	1,416	1,426	1,436	1,445	1,458	1,451
Machinery, except electrical	2,051	2,235	2,046	2,068	2,095	2,119	2,138	2,148
Electrical and electronic equipment	1,953	2,247	2,068	2,069	2,072	2,072	2,062	2,051
Transportation equipment	1,662	1,931	2,042	2,053	2,051	2,059	2,072	2,068
Motor vehicles and equipment	659	877	844	855	860	866	874	871
Instruments and related products	699	721	734	744	754	762	773	778
Miscellaneous manufacturing	367	382	384	385	387	387	390	391
Nondurable goods	7,631	7,850	7,935	7,956	7,968	8,011	8,058	8,070
Food and kindred products	1,628	1,608	1,636	1,634	1,628	1,646	1,652	1,656
Tobacco manufactures	68	64	57	56	55	56	56	53
Textile mill products	729	726	734	731	726	725	728	728
Apparel and other textile products	1,139	1,156	1,101	1,095	1,087	1,087	1,096	1,095
Paper and allied products	654	682	689	692	694	695	696	696
Printing and publishing	1,271	1,404	1,540	1,555	1,568	1,582	1,597	1,604
Chemicals and allied products	1,055	1,055	1,050	1,061	1,070	1,076	1,086	1,092
Petroleum and coal products	200	187	161	161	162	162	161	162
Rubber and miscellaneous plastics products	679	792	820	826	833	838	842	842
Leather and leather products	209	176	146	145	144	143	144	142
Service-producing	65,737	70,933	79,333	79,983	80,663	81,346	82,047	82,652
Transportation and public utilities	5,023	5,200	5,481	5,523	5,570	5,615	5,662	5,701
Transportation	2,735	2,963	3,270	3,309	3,353	3,401	3,448	3,486
Communication and public utilities	2,288	2,237	2,211	2,214	2,217	2,214	2,214	2,215
Wholesale trade	5,213	5,644	5,952	6,004	6,053	6,105	6,171	6,219
Durable goods	3,034	3,336	3,508	3,545	3,579	3,612	3,657	3,683
Nondurable goods	2,179	2,308	2,444	2,460	2,474	2,493	2,514	2,536
Retail trade	15,189	16,921	18,943	19,042	19,170	19,280	19,452	19,513
General merchandise stores	2,141	2,317	2,476	2,460	2,454	2,453	2,481	2,488
Food stores	2,510	2,685	3,039	3,073	3,115	3,165	3,212	3,242
Automotive dealers and service stations	1,634	1,833	2,047	2,074	2,106	2,130	2,149	2,156
Eating and drinking places	4,872	5,525	6,240	6,270	6,294	6,321	6,326	6,349
Finance, insurance, and real estate	5,356	5,779	6,635	6,658	6,686	6,727	6,761	6,789
Finance	2,664	2,890	3,291	3,285	3,286	3,300	3,312	3,315
Insurance	1,715	1,784	2,061	2,075	2,088	2,103	2,114	2,123
Real estate	977	1,105	1,283	1,297	1,313	1,324	1,335	1,350
Services	19,131	21,231	25,079	25,422	25,785	26,109	26,424	26,755
Business services	3,289	4,196	5,438	5,532	5,621	5,688	5,724	5,780
Health services	5,892	6,177	6,989	7,085	7,189	7,313	7,442	7,568
Government	15,824	16,159	17,244	17,333	17,399	17,511	17,576	17,675
Federal	2,745	2,830	2,969	2,961	2,970	2,983	2,981	2,993
State	3,641	3,772	4,030	4,057	4,079	4,084	4,094	4,121
Local	9,438	9,557	10,245	10,315	10,350	10,444	10,502	10,561

p = preliminary.

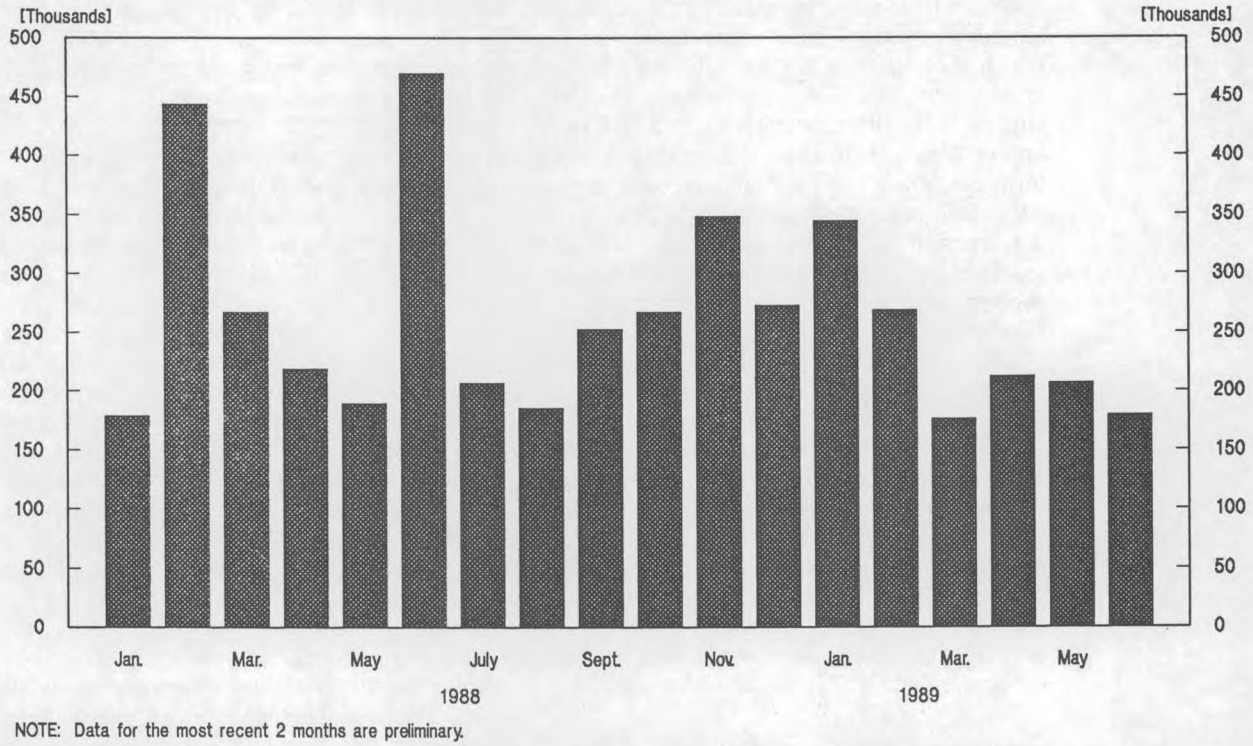
Table 2. Employment status by sex, age, race, and Hispanic origin, seasonally adjusted quarterly averages, 1982–89

[In thousands]

Characteristic	1982	1984	1988				1989	
	IV	IV	I	II	III	IV	I	II
Total								
Civilian labor force	110,959	114,257	121,045	121,352	121,881	122,388	123,291	123,790
Percent of population	64.1	64.5	65.8	65.8	65.9	66.1	66.4	66.5
Employed	99,120	105,944	114,152	114,688	115,202	115,843	116,900	117,289
Agriculture	3,471	3,324	3,212	3,139	3,126	3,223	3,243	3,104
Nonagriculture	95,649	102,620	110,940	111,549	112,076	112,620	113,657	114,185
Employment-population ratio	57.3	59.8	62.1	62.2	62.3	62.5	62.9	63.0
Unemployed	11,839	8,312	6,893	6,664	6,678	6,545	6,391	6,501
Unemployment rate	10.7	7.3	5.7	5.5	5.5	5.3	5.2	5.3
Men, 20 years and over								
Civilian labor force	58,375	68,020	62,522	62,721	62,843	62,971	63,468	63,681
Percent of population	78.8	78.3	78.0	78.0	77.9	77.8	78.1	78.1
Employed	52,553	56,257	59,448	59,756	59,905	60,017	60,642	60,883
Employment-population ratio	70.9	73.4	74.1	74.3	74.3	74.2	74.6	74.7
Unemployed	5,822	3,764	3,074	2,965	2,938	2,953	2,827	2,798
Unemployment rate	10.0	6.3	4.9	4.7	4.7	4.7	4.5	4.4
Women, 20 years and over								
Civilian labor force	44,112	46,357	50,501	50,604	50,919	51,449	51,890	52,131
Percent of population	52.9	54.0	56.6	56.6	56.8	57.2	57.6	57.7
Employed	40,127	43,256	47,963	48,122	48,423	49,022	49,514	49,632
Employment-population ratio	48.1	50.4	53.8	53.8	54.0	54.5	54.9	54.9
Unemployed	3,985	3,101	2,538	2,483	2,496	2,427	2,376	2,499
Unemployment rate	9.0	6.7	5.0	4.9	4.9	4.7	4.6	4.8
Both sexes, 16 to 19 years								
Civilian labor force	8,472	7,880	8,022	8,026	8,119	7,969	7,933	7,978
Percent of population	54.3	54.1	55.0	55.1	56.0	55.2	55.2	56.0
Employed	6,440	6,432	6,742	6,810	6,874	6,804	6,745	6,774
Employment-population ratio	41.3	44.1	46.2	46.7	47.4	47.1	46.9	47.6
Unemployed	2,032	1,448	1,281	1,216	1,244	1,165	1,188	1,203
Unemployment rate	24.0	18.4	16.0	15.2	15.3	14.6	15.0	15.1
White								
Civilian labor force	96,623	98,811	104,255	104,555	104,900	105,286	105,964	106,310
Percent of population	64.4	64.7	66.1	66.2	66.2	66.4	66.7	66.8
Employed	87,452	92,616	99,204	99,691	99,909	100,436	101,338	101,539
Employment-population ratio	58.3	60.7	62.9	63.1	63.1	63.3	63.8	63.8
Unemployed	9,171	6,195	5,050	4,864	4,991	4,849	4,626	4,772
Unemployment rate	9.5	6.3	4.8	4.7	4.8	4.6	4.4	4.5
Black								
Civilian labor force	11,503	12,252	13,137	13,090	13,240	13,342	13,459	13,444
Percent of population	61.5	62.9	63.9	63.4	63.8	64.1	64.4	64.1
Employed	9,155	10,393	11,512	11,530	11,751	11,831	11,898	11,932
Employment-population ratio	48.9	53.3	56.0	55.8	56.7	56.8	56.9	56.9
Unemployed	2,348	1,859	1,626	1,559	1,489	1,510	1,561	1,512
Unemployment rate	20.4	15.2	12.4	11.9	11.2	11.3	11.6	11.2
Hispanic origin								
Civilian labor force	6,826	7,614	8,889	8,914	9,007	9,119	9,212	9,321
Percent of population	63.5	65.4	67.6	67.2	67.3	67.6	67.7	67.9
Employed	5,783	6,819	8,176	8,127	8,286	8,409	8,546	8,568
Employment-population ratio	53.8	58.6	62.2	61.3	61.9	62.3	62.8	62.4
Unemployed	1,043	795	713	787	721	709	666	752
Unemployment rate	15.3	10.4	8.0	8.8	8.0	7.8	7.2	8.1

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.

Chart 1. **Monthly changes in nonagricultural employment, seasonally adjusted, January 1988–June 1989**



NOTE: Data for the most recent 2 months are preliminary.

in the first half of the year. However, the pace of the increase was a little slower relative to the rapid rate of job growth achieved during 1988. Slower growth was particularly evident in industries, such as wholesale and retail trade, that were most affected by the slowdown in the demand for new construction and durable goods. Nevertheless, the service-producing sector grew by 1.3 million, accounting for nearly 9 out of every 10 jobs added.

Employment growth in wholesale trade slowed a bit during the first half. Job gains in durable goods distribution, which had been quite buoyant in 1988 due to strong export demand, slowed somewhat, while growth in nondurable goods distribution held steady. Overall, wholesale trade added 115,000 jobs in the first half of 1989. Employment increases in retail trade also tapered off somewhat in the second quarter, after surging in the first quarter of the year. Smaller job gains occurred in food stores and auto dealers—the latter probably reflecting slower car sales. In finance, insurance, and real estate, employment continued to show moderate growth.

Several service-producing industries continued to exhibit strong employment growth throughout the first half of 1989. Employment in transportation and public utilities continued to make sizable gains, with an increase of about 85,000 (despite the labor-management dispute at Eastern Airlines). Most of the growth occurred in transportation, reflecting in part the ongoing expansion of airlines in order to meet the growing demand for air travel and further growth in trucking. The services industry continued its pattern of strong job growth, adding nearly 650,000 jobs. As has been the case in recent years, the sharpest growth was in health services, while net job additions in business services slowed somewhat. Government employment continued to grow in the first half of the year, driven mostly by increases in the local government area.

Unemployment

Unemployment continued to improve early in 1989, but then edged up in the second quarter. In the first quarter, both the number of unemployed persons and the civilian unemployment rate inched down. In March, these figures reached post-recession lows of 6.1 million and 5.0 percent. Subsequently, unemployment rose a bit, consistent with the slowing of employment growth. At 6.5 million and 5.3 percent,

Despite slower growth, the service-producing sector accounted for nearly 9 out of every 10 new jobs.

both the level and rate of unemployment in the second quarter were about the same as in the fourth quarter of 1988.

Unemployment patterns among the major demographic groups varied somewhat during the first half. Reflecting the overall trend, the unemployment rate for adult women declined slightly in the first quarter, but then edged back up in the second, reaching 4.8 percent. In contrast, the jobless rate for adult men continued to edge down throughout the first half, falling to 4.4 percent. The unemployment rate for teenagers, at 15.1 percent in the second quarter, showed little definitive movement during the first half.

The number of involuntary part-time workers remained above the historical norm for this stage of a recovery.

The jobless rate for black workers also showed little change during the first half of 1989. At 11.2 percent in the second quarter, the black unemployment rate was about the same as in the fourth quarter of 1988. Although it followed the overall improvement in unemployment during the expansion, the black unemployment rate remained $2\frac{1}{2}$ times the rate for white workers (4.5 percent) in the second quarter. The unemployment rate for Hispanic workers was 8.1 percent—continuing about midway between the rates for black and white workers.

Duration and reasons. There was a little improvement in the duration of unemployment during the first half of 1989. Both the mean duration, at 11.9 weeks, and the median, at 5.4 weeks, were down slightly in the second quarter from fourth-quarter 1988 levels. The number of persons without work for 27 weeks or longer, often referred to as the very long-term unemployed, edged down to 650,000 in the second quarter, or about 10 percent of the unemployed.

Little change occurred in the distribution of jobless persons in terms of their reason for being unemployed. The proportion who lost their last job continued to account for the largest segment of the unemployed, at about 43 percent in the second quarter. Those who had left their last job voluntarily to search for another one accounted for 16 percent of the unemployed, while new entrants and reentrants made up approximately 11 and 30 percent, respectively.

Involuntary part-time work and discouragement. In addition to the tally of persons who are unemployed, another measure of labor market difficulty is the number of workers employed part time who would like to work full time. This group—often referred to as involuntary part-time workers or persons employed part time for economic reasons, and sometimes labeled the partially unemployed—totaled 5.0 million in the second quarter, about the same as the fourth-quarter 1988 figure. Although the group had declined markedly in size from recession-high levels, it remained above the historical norm (as a percent of total employment) for this stage of a recovery.

Most persons not in the labor force do not want jobs. However, some report that they would like to work but are not seeking jobs because they do not believe there are any available. These individuals, termed discouraged workers by the Bureau of Labor Statistics, totaled about 870,000 in the second quarter of 1989, down somewhat from the level in the fourth quarter of 1988. Their number has declined very slowly over the past 2 years. Earlier in the expansion, it had dropped sharply from the elevated levels associated with the 1981–82 recession.

EMPLOYMENT GROWTH SLOWED during the first half of 1989, and unemployment finished the half about in line with late-1988 levels. To put this slowdown in labor market improvement in perspective, it should be noted that a similar

Table 3. **Selected indicators pertaining to homebuilding, December 1988 to May 1989**

Indicator	1988	1989				
	Dec.	Jan.	Feb.	Mar.	Apr.	May
Average commitment rate on adjustable-rate mortgages (percent)	8.40	8.55	8.65	9.09	9.40	9.30
Average commitment rate on fixed-rate mortgages (percent)	10.61	10.73	10.65	11.03	11.05	10.77
New housing permits (thousands)	1,518	1,486	1,403	1,230	1,334	1,347
New housing starts (thousands)	1,577	1,678	1,465	1,409	1,343[p]	1,309[p]
New house sales (thousands)	669	700	621	547[p]	597[p]	613[p]

p = preliminary.

SOURCE: Mortgage interest rate data are from the Federal Home Loan Mortgage Corporation's Primary Mortgage Market Survey. Housing data are from the Bureau of the Census and are seasonally adjusted annual rates.

slowdown also occurred during 1986, only to be followed by more than 2 years of very robust job growth. Thus, it remains to be seen whether the moderation in growth in the first half of this year is a harbinger of further weakness, or merely a temporary lull in the pattern of strong labor market performance that has characterized most of the current expansion. □

Footnotes

[1] The employment and labor force data used in this article are taken from two sources: The Current Employment Statistics program, a monthly survey of more than 300,000 business establishments nationwide conducted by the Bureau of Labor Statistics (BLS) in cooperation with State Employment Security Agencies, and the Current Population Survey, a monthly survey of about 56,000 households nationwide conducted for BLS by the Bureau of the Census. For further information on these surveys, see *Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988).

[2] Unless otherwise noted, estimates of employment change in this article refer to differences in seasonally adjusted quarterly averages.

The effects of unions on wages

Relatively centralized bargaining structures are only one of the institutional arrangements that insulate European employers from fear of union wage increases. Unionized competitors tend to face the same wage rates, and laws requiring an extension of negotiated wages to the unorganized sector in some countries require the nonunion sector to adopt the negotiated wage level. Labor policies therefore tend to reduce the competitive threat presented by union wage increases.

Unions in the United States also secure relatively high fringe benefits for their members, which increases the competitive threat from the nonunion sector. In addition, decentralized bargaining may result in differences in fringe benefit costs within the unionized sector. In Europe, most fringe benefits are established by law and hence apply with relatively equal force to most employers. International differences in the division of responsibilities between legislation and collective bargaining therefore influence the competitive threat associated with unions.

—Robert J. Flanagan
Labor Relations and the Litigation Explosion
(Washington, The Brookings Institution, 1987),
pp. 98–99.

How many new jobs since 1982? Data from two surveys differ

Employers have been reporting more job growth than is indicated by the household survey; this divergence may reflect an increase in dual jobholding and in the employment of illegal aliens

Paul O. Flaim

The growth in employment during the expansionary period that began in late 1982 has been extremely robust by any standard. The exact magnitude of the growth, however, depends on the statistical series used to gauge it. As of April 1989, the Bureau of Labor Statistics' survey of employers' payrolls—the Current Employment Statistics program—had shown an increase of about 20 million jobs since November 1982, while the survey of households—the Current Population Survey (CPS) conducted for BLS by the Bureau of the Census—showed an increase of only 18 million in the number of employed persons. There was thus a discrepancy of 2 million between the two surveys.

More recently, the employment figures from the payroll survey have been revised—or "benchmarked"—downward for the period since March 1987,[1] with the level for April 1989 being lowered by more than half a million. This has substantially narrowed the gap in growth estimates between the two employment series. However, for the period from November 1982 to April 1989, the increase in the payroll series still exceeds the growth in total employment, as measured through the household survey, by about 1.4 million.

While much of the divergence between the two series has taken place since mid-1987, their paths had begun to differ noticeably as early as 1984. Such a divergence during expansionary periods is not unprecedented. Even during the expansion of the late 1970's, the payroll survey produced substantially higher estimates of employment growth than did the household survey. Then, as now, the different behavior of the two series was cause for concern among some of the users of these numbers.[2]

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Making the data more comparable

It is important to note that the two surveys do not cover quite the same universe. The employer survey counts *payroll jobs* in the nonfarm sector of the economy, while the household series focuses on employed *persons*, including those in farm work, private household work, unpaid family work, and self-employment. In addition, the two surveys differ in the way they treat dual jobholders and workers on strike or on other unpaid absences. And there are yet other definitional and methodological differences that may allow the trends in the two series to diverge significantly.[3]

For a clearer comparison of the trends in the two series—given the differences noted above—it is useful to adjust the data from the household survey to make them conform more closely to those from the less comprehensive payroll survey. To do so, we must subtract from the household series those groups of workers not covered by the payroll survey. Table 1 summarizes the changes in the data from the two surveys for the period November 1982 to April 1989 both before and after this type of adjustment.[4]

Surprisingly, the difference between the growth paths of the two series turns out to be

even larger when the household data are subjected to this adjustment. While the original estimate from the household series had grown by 1.4 million less than that from the payroll series over the November 1982–April 1989 period, the adjusted series show a bigger and more rapidly expanding growth gap, which is in excess of 2 million for the same period even after the recent downward revision of the payroll data.

As indicated earlier, and as shown in chart 1, the growth disparity between the two jobs series began to develop in mid-1984. During 1985, it averaged about 1 million, but then shrank again, averaging around half a million during 1986 and the first half of 1987. Thereafter, the gap began to widen rapidly, expanding to 2.1 million by April 1989 (and to nearly 2.5 million by May 1989).

Possible reasons for a widening gap

Because the adjustments of the household data outlined above actually pull the paths of the two employment series further apart, we must look for other factors to explain the widening gap, even if we do not have the data with which to quantify their impact. Three such factors are discussed below.

First, the growth of the payroll employment series in recent years may have been boosted by an increase in the rate of dual jobholding—that is, in the number of persons working for more than one employer. Secondly, at least until the recent benchmarking of the payroll data, there appears to have been some overestimation of the jobs being created by newly established firms. And thirdly, the relatively slow growth of the household employment series may reflect an underestimation of the expansion of the population of working age, particularly with regard to the component made up by immigrants.[5]

Dual jobholders. With the strong demand for labor during the recent expansion, many workers may have taken on a second job, perhaps to make up for earnings forgone during the recessions of the early 1980's. By working for two or more employers, these workers would be picked up on more than one payroll. This would lead to an increase in the number of jobs counted in the payroll survey, without affecting the count of employed persons from the household survey—because, in the latter survey, workers are counted only once, regardless of the number of jobs they hold. How important is this definitional difference between the two series in explaining the growing gap between them?

The extent to which dual jobholding may have increased in recent years should be known later this year, when data on "moonlighting"—collected through a special supplement to the May 1989 CPS—become available for analysis. Actually, the data for 1985, the latest available on this topic, already indicated an upward trend in dual jobholding and a possible linkage to the difference in growth between the payroll and the household employment series, which was already becoming noticeable at the time.[6] Because the rate of dual jobholding has also been seen to grow during previous expansionary periods, and because the economy has grown considerably since 1985, a further increase in dual jobholding may be anticipated in the 1989 data.

Table 1. **Changes in employment from November 1982 to April 1989 as measured through the payroll survey and the Current Population Survey**

[In thousands]

Month and year	Payroll jobs	Total CPS employment	Adjusted CPS employment
November 1982 ...	88,671	99,112	85,116
April 1989	108,094	117,113	102,469
Change over period	19,423	18,001	17,353
Difference between change in CPS employment and change in payroll jobs	—	−1,422	−2,070

NOTE: Data are seasonally adjusted.

In this context, it is interesting to note that all of the excess growth in the payroll series, relative to the household series, since late 1982 has occurred in the service-producing industries, principally in retail trade and services. (See table 2.) Many of the jobs in these two industries are of a part-time nature, and their rapid growth would have provided ample opportunities for workers to moonlight. Thus, increased dual jobholding in these two industries is likely to have accounted for a substantial share of the recent divergence between the two employment series.

The growth disparity between the two jobs series began to develop in mid-1984.

It should also be noted that, even if a person does not work for two employers simultaneously, he or she can still be picked up on two (or more) payrolls in the survey of employers. This can occur when a worker leaves one job to take up another during the pay period of reference for this survey. Because this type of mo-

bility is known to increase with the demand for labor, it is likely to have contributed to the rapid growth in the number of jobs reported in the payroll survey during the current economic expansion.

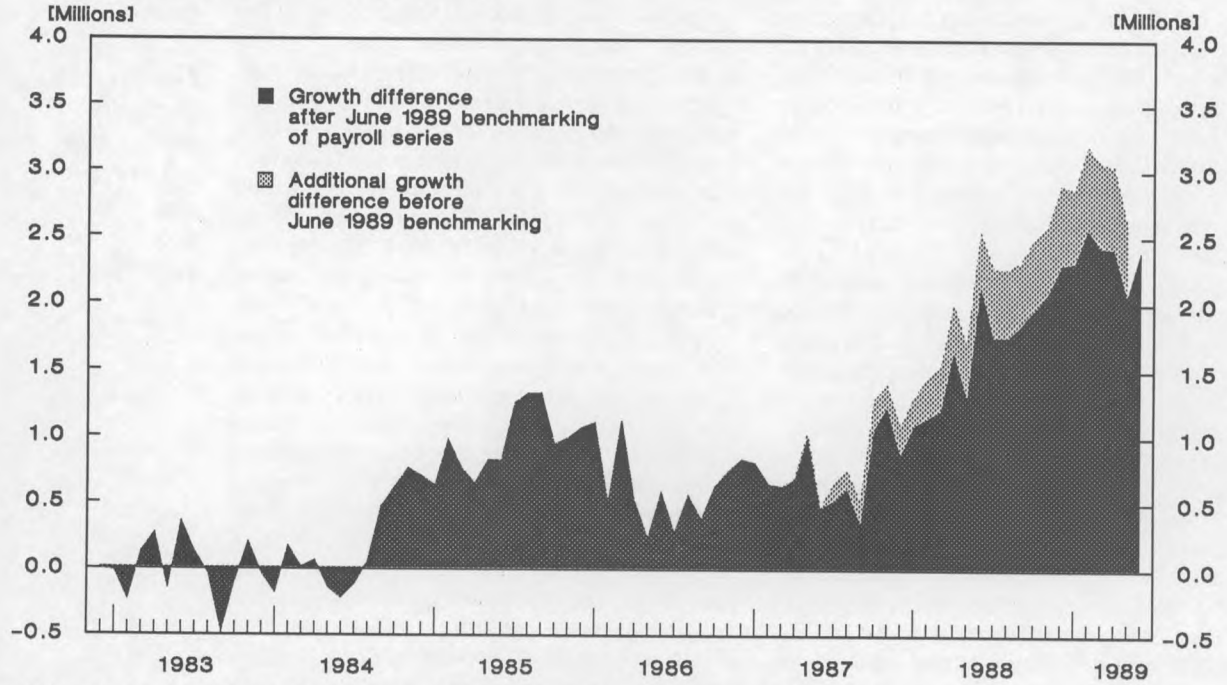
Unfortunately, the dual-jobholders hypothesis does not help at all in explaining why the data from the two surveys have behaved in an entirely opposite fashion in measuring employment growth in the goods-producing industries—mining, construction, and manufacturing. As shown in table 2, the increase in employment in these industries, as well as in a couple of service-producing industries, was actually greater as measured through the household survey than as measured through the payroll survey.

The excess growth has occurred in service-producing industries.

One can only speculate as to why the job data for these industries show a pattern radically different from those for the trade and miscellaneous services industries. Perhaps some of the employment growth in goods-producing industries, which was rather meager over the period in question, consisted of jobs of rather marginal nature that may be reported in the household survey but are not picked up in the establishment-based counts. And there could be other explanations, such as changes in the patterns of unpaid absences, which are treated differently in the two surveys. But there is no actual evidence that any such developments have taken place.

The "new-birth" factor. At least until the recent benchmarking of the payroll data, the estimating assumptions that had to be made about the monthly increases in jobs originating from the "births" of new firms were another factor in the relatively rapid growth of the payroll series. Newly established firms cannot be immediately sampled in the payroll survey, and the number of jobs they create must initially be projected from historical trends. A subsequent annual revision (benchmark) of payroll employment data is then made, based on virtually complete counts of jobs obtained retroactively, largely through the unemployment insurance program. The most recent of these benchmark adjustments was done in June 1989, using actual counts of employment obtained in March 1988. As indicated earlier, the result was a substantial downward revision of the growth in payroll employment since March 1987, with the previously published total for April 1989 being lowered by more than half a million.[7] The direction and magnitude of this revision—illustrated in

Chart 1. **Extent to which the growth in payroll employment since November 1982 has exceeded or trailed the growth in employment as measured by the household survey**



NOTE: The household data have been adjusted to payroll employment concepts.

chart 1—would suggest that the actual rate of job creation stemming from the establishment of new firms was not nearly as strong in the most recent stages of the expansion as had been assumed based on the experience accumulated during the earlier stages of the recovery.

Unfortunately, we will now have to wait until the next annual round of benchmarking, which will be based on a complete count of payroll jobs for March 1989 and be finalized in June 1990, to determine whether the data from the establishment survey, even as recently revised, have accurately portrayed the trend in payroll employment since the March 1988 benchmark count. Depending on the direction and magnitude of future revisions of the payroll data—namely those that will result from the 1990 benchmarking—the growth gap between the two employment series could either be narrowed further or widened once more for the post-March 1988 period.

The population estimates. While it is now obvious that, at least until its recent revision, the payroll series had overstated the growth in employment, the household series has probably understated it. One way this could have come about is if, in projecting the population estimates to which the household job series is hinged, there had been an underestimation of the inflow of aliens into the country. Whether this problem actually occurred during the 1980's, and to what extent, cannot be known with any certainty until the findings from the 1990 census are compiled and analyzed, if then.

In this regard, it is useful to remind ourselves of what happened after the population counts from the 1980 census became available. These counts showed that the population of working age was actually much larger than had been projected in the estimates underlying the household data for the 1970's and early 1980's. The higher 1980 census counts—representing an increase in the size of the undocumented alien population, as well as better reporting by other population groups—made necessary a substantial upward revision of both the population and employment numbers.[8] In fact, the CPS employment estimates for April 1980, the census month, had to be revised upward by about 2 million. The data for all of the 1970's also were modified through a "wedging" procedure to bring them in line with the new numbers for 1980.[9] Until this revision was made, the rate of increase in CPS employment had been much slower than that of payroll employment, creating a pattern very similar to the one we have seen in recent years.

We can only speculate as to how close the 1980 census-based population projections made by the Bureau of the Census for the current decade and beyond will come to the actual findings from the upcoming 1990 census. However, if the projections were to fall substantially short, relative to the 1990 census count, there would have to be another upward revision of both the population data and the labor force and employment numbers from the household survey. Two factors are crucial in this regard: (1) How well the Census Bureau has done in estimating the net inflow of illegal aliens during the 1980's; and, (2) the extent to which these and other persons will actually report themselves in the 1990 census.

The number of illegal aliens is, by definition, extremely difficult to estimate. However, data from the U.S. Immigration and Naturalization Service (INS) suggest an upsurge in illegal immigration during the 1980's. While the INS data relate only to the apprehensions of undocumented aliens, the increase in such cases from about 900,000 in 1980 to about 1.8 million in 1986 (chart 2) has, in all likelihood, been accompanied by a substantial increase in the number of aliens who managed to enter the country without being apprehended. Yet, in the absence of "hard data," this rather strong indication of an upsurge in illegal immigration in the mid-1980's has not yet been taken into account

Table 2. Comparison of changes in employment between November 1982 and April 1989 in the payroll and household surveys, by industry

[In thousands]

Industry	Changes between November 1982 and April 1989		
	Payroll survey[1] (A)	Household survey (B)	Difference (A) – (B)
Total nonagricultural wage and salary workers	19,423	[2] 17,182	2,241
Goods-producing industries	2,716	3,625	−909
Mining	−308	−189	−119
Construction	1,432	1,629	−197
Manufacturing	1,592	2,185	−593
Durable goods	1,147	1,417	−270
Nondurable goods	445	768	−323
Service-producing industries	16,707	[2] 13,557	3,150
Transportation and public utilities	662	1,043	−381
Trade	5,315	3,350	1,965
Finance, insurance, and real estate	1,425	1,592	−167
Miscellaneous services	7,506	[2] 5,916	1,590
Government	1,799	1,656	143

[1] Based on preliminary data for April 1989.

[2] Excluding private household workers.

NOTE: Data are seasonally adjusted.

in constructing the official population estimates for the Nation. Instead, it has been assumed that the contribution of illegal aliens to the country's population growth has remained constant during the decade, amounting to some 200,000 per year.

Note from chart 2 that the number of apprehensions of illegal aliens averaged over 1.3 million a year in the 1985–88 period. If we assume that for every two aliens apprehended over this 4-year period, there was one who succeeded in entering the country, the "undetected" inflow would have been well above a half million per year. Thus, the actual yearly increase in illegal aliens (inflows minus outflows) could have averaged far in excess of the 200,000 allowance used by the Census Bureau in constructing the year-by-year population estimates for the 1980's. The 200,000 yearly allowance, it should be noted, is based on the estimated net annual increase in the number of illegal aliens in the early 1980's, years during which unemployment in this country was very high and the demand for labor very low.[10] In subsequent years, when the demand for labor increased considerably, the net inflow of illegal aliens is likely to have reached much higher levels.

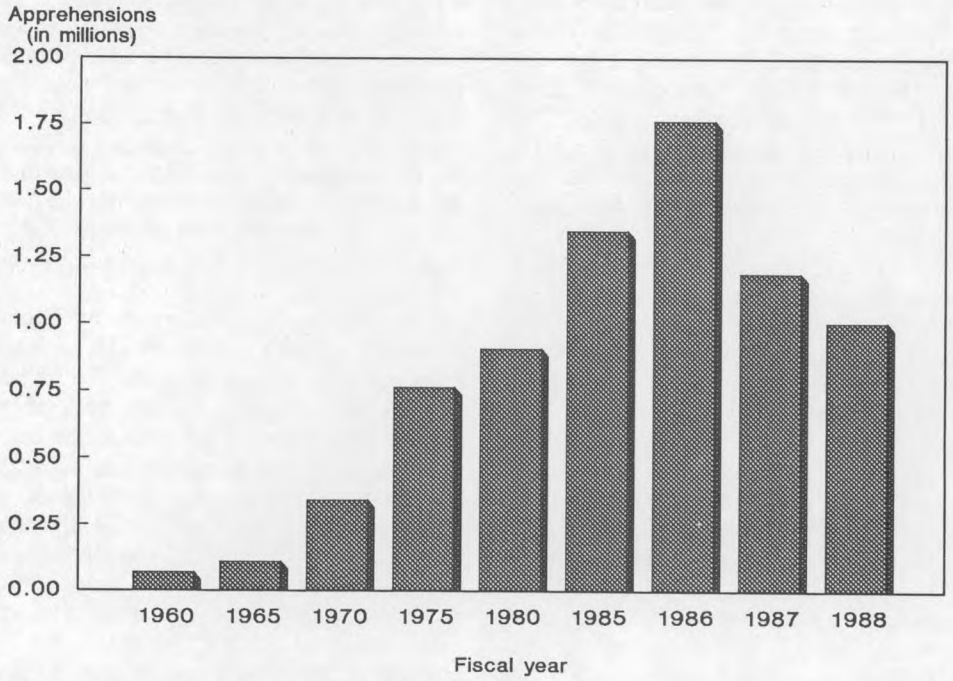
There is a rather strong indication of an upsurge in illegal immigration in the mid-1980's.

It thus is possible that we have had a sizable shortfall in the official estimates of population growth due to the difficulty of estimating the size of the illegal alien component. And because most illegal aliens enter the country to take a job, a substantial underestimation of the increase in their number would inevitably lead to a substantial underestimation of employment growth in the data from the household survey.

A geographic glance. With a few exceptions, the data for individual States show a clear tendency for the payroll employment series to grow at a faster rate than the household series in areas where the demand for labor is strongest. For example, of the 15 States with the lowest jobless rates for 1988 (4.3 percent or below), there were 12 for which the rate of growth in employment since 1983 had been higher as measured through the payroll survey than as measured through the CPS. Conversely, of the 15 States with the highest rates of unemployment in 1988 (6.3 percent or above), 11 showed a slower rate of employment growth in the payroll survey than in the household survey.

This geographic pattern lends support to the hypothesis that the observed divergence in the

Chart 2. **Number of apprehensions of undocumented aliens at or within the U.S. border, selected years, 1960–88**



SOURCE: U.S. Immigration and Naturalization Service.

growth of the two employment series is related to an increase in dual jobholding and to a rise in the net inflow of undocumented workers from abroad. After all, it is in areas with the lowest unemployment rates that a worker who wants to earn some extra money through moonlighting can more easily find a second job. And it is to these areas of strong demand for labor that many immigrants are likely to gravitate in their search for work. □

Footnotes

ACKNOWLEDGMENT: The author thanks John F. Stinson, Jr., a senior economist in the Office of Employment and Unemployment Statistics, who contributed significantly to the preparation of the data for this analysis.

[1] The monthly employment estimates from the Current Employment Statistics program are revised annually to bring them into line with benchmarks (comprehensive counts of employment) for the various nonagricultural industries. The primary sources of benchmark information are employment data, by industry, compiled quarterly by State agencies from reports of all establishments covered under State unemployment insurance laws.

[2] For a discusson of the divergence between the two employment series in the 1970's, see Alexander Korns, "The Difference Between the Payroll and the Household Measures of Employment, 1975–79," *Survey of Current Business*, December 1979, pp. 44–49.

[3] For a detailed description of the definitional differences between the two surveys, see Gloria P. Green, "Comparing Employment Estimates from Household and Payroll Surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

[4] In this adjustment, the following groups of workers are subtracted from the monthly household data: agricultural workers (except those in agricultural services), self-employed nonagricultural workers, private household workers, unpaid family workers, and workers on unpaid absences. These workers fall outside the scope of the payroll survey.

[5] A fourth factor that was also investigated was a possible increase in the employment of 14- and 15-year-olds as wage and salary workers. This would contribute to an increase in the payroll series without having any effect on the household numbers, which are limited to the population age 16 and over. However, an examination of the data showed that, while the *proportion* of 14- and 15-year-olds who are employed as wage and salary workers has indeed increased in recent years, the total number of youths of this age in the population has been declining, and their employment *level* (in absolute numbers) has hardly increased at all. These youths, therefore, could not have contributed much to the increase in payroll employment.

[6] See John F. Stinson, Jr., "Moonlighting: a key to differences in measuring employment growth," *Monthly Labor Review*, February 1987, pp. 30–31.

[7] For a description of this procedure and its results, see Fred R. Cronkhite, "BLS Establishment Estimates Revised to March 1988 Benchmarks," *Employment and Earnings*, June 1989, pp. 6–22.

[8] The 1980 census counts of the noninstitutional population 16 years of age and over turned out to be 3.7 million higher than the official projections for April 1980, the month the census was taken. The Census Bureau subsequently estimated that 1.7 million of these persons were undocumented aliens and that the other 2 million were native-born persons found through "improved coverage"—that is, through better reporting than had been achieved in previous census counts.

[9] For a description of the revision, see Kenneth Buckley, Jennifer Marks, and Ronald Statt, "Revisions in the Current Population Survey Beginning in January 1982," *Employment and Earnings*, February 1982, pp. 7–15.

[10] In constructing the population estimates for the 1980's, the Census Bureau has been assuming that the undocumented alien population has been increasing by 200,000 persons each year. This estimate was arrived at by comparing the increase in the foreign-born population between 1980 and 1983 (as reported in the 1980 census and in a special supplement to the April 1983 CPS) with the net increase in the number of foreign-born persons legally admitted to the country over that period. The excess increase, averaging roughly 200,000 per year, was deemed to consist of undocumented aliens. But it should be noted that the 1980–83 period was one of very high unemployment. The actual increase in the number of illegal aliens in the subsequent years of rapid economic expansion and strong demand for labor in the United States—and of severe strife and mounting economic problems in various countries of Latin America—was probably much higher.

Reasons for not working: poor and nonpoor householders

Compared with their nonpoor counterparts in 1986, poor male householders were more likely to cite inability to find full-year work, illness, or disability as reasons for working part year or not working, and poor female householders with young children were more likely to indicate family responsibilities

Mark S. Littman

Despite a great deal of discussion about what the work activity of the poor is and should be, there is no consensus. Published views range from implying that none of the poor work to implying that they all work year round, full time or have unquestionable reasons for not doing so.[1]

This article compares the work experience of poor (income below the poverty level) and nonpoor (income above the poverty level) heads of family households (hereafter called "householders") between 1959 and 1986.[2] It also examines how the reasons given by the poor for not working or for working part year differ from those given by the nonpoor. The data are based on the official poverty figures from the Bureau of the Census and labor force activity as measured in the Current Population Survey (CPS).[3]

Work rates

In 1986, about 80 percent of nonpoor family householders worked, down from 90 percent in 1959, but unchanged overall in the 1980's. Although several reasons for the decline have been expounded, none has been universally accepted.[4] For example, earlier retirement (before age 65) has been one reason given, but even when the age universe is restricted to householders of preretirement age (22–64), the proportion working in the preceding year declined from about 95 percent of the nonpoor in 1959 to 91 percent by 1986.

In comparison, about 50 percent of the poor worked at all in 1986, down from 68 percent in 1959. Although the proportion of the working poor has been rather stable in the 1980's, it fell precipitously in the 1960's and 1970's. (See table 1.) Several factors are responsible for the different work rates of the poor and nonpoor, but the increase in the proportion of poor families headed by women is the largest single factor explaining the drop in the work force participation of poor householders.[5]

Poor families maintained by women have not shared in the increased labor force participation of women that has characterized the past quarter of a century. Families maintained by women have increased from 23 percent of all poor families in 1959 to 51 percent in 1986. Nonpoor families maintained by women represented 7 percent of all nonpoor families in 1959, and 12 percent in 1986. While the proportion of families maintained by women who worked in the previous year has increased for nonpoor women, it has decreased for poor women. For nonpoor women maintaining families with no spouse present, the proportion working increased from 64 percent in 1959 to 75 percent in 1986; for poor women, the corresponding proportions were 43 percent and 40 percent. (See table 1.)

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While the percent of poor female householders who work has decreased only slightly since 1959, the decline has been more pronounced for their male counterparts. Three of four poor men maintaining families worked in 1959, compared with 3 of 5 in 1986, a proportion that has remained fairly constant during the 1980's. (See table 1.) The proportion of poor male householders working year round, full time has also remained fairly constant, varying only between 24 percent and 27 percent since the mid-1970's. This figure had been 38 percent in 1959. (See table 2.)

Reason for work status

Study of reasons for not working or for working part year is a means of listening to the poor describe the causes of their present work status. Apparently, there have been no studies to investigate the validity of the reasons for the "not working" and "working part year" responses which have been elicited in the CPS for many years as part of the standard questions on weeks worked in previous calendar year. Some analysts believe these data are biased—not because there is evidence to suggest that poor respondents are more prone to give false responses, but because of the belief that survey respondents, regardless of poverty status, tend to give responses which they deem will be accepted without questions by the enumerator or by society.[6]

Table 1. **Percent of poor and nonpoor male and female family householders who worked, selected years, 1959–86**

Year	Poor			Nonpoor		
	Total	Male[1]	Female	Total	Male[1]	Female
1959	67.5	74.9	42.9	89.7	90.9	63.8
1965	60.7	68.7	40.7	88.2	90.0	66.8
1969	54.6	61.4	42.7	87.3	89.1	67.3
1972	53.5	64.9	38.1	85.7	87.6	67.5
1975	50.4	61.5	36.5	82.9	84.5	68.8
1978	49.0	57.6	40.6	82.8	84.1	72.5
1979	48.7	57.1	39.7	82.3	83.5	73.4
1980	49.4	59.5	38.5	81.7	82.6	74.0
1981	50.7	61.0	39.4	80.9	81.8	74.0
1982	48.7	59.2	36.3	80.2	81.1	73.0
1983	49.3	59.7	37.3	79.7	80.5	73.7
1984	49.1	59.8	37.5	79.8	80.5	74.5
1985	50.3	60.1	39.6	79.4	80.0	74.4
1986	49.8	60.1	40.1	79.7	80.4	74.7

[1] Data are for families in which no spouse was present and for all married-couple families.

Table 2. **Percent of poor and nonpoor male and female family householders who worked year round, full time, selected years, 1959–86**

Year	Poor			Nonpoor		
	Total	Male[1]	Female	Total	Male[1]	Female
1959	31.5	37.6	10.9	68.8	70.5	40.5
1965	29.3	36.3	11.6	71.5	73.6	42.6
1969	21.6	29.4	7.9	70.0	72.5	42.1
1972	19.8	29.4	6.9	67.6	70.0	43.3
1975	15.9	24.2	5.6	63.0	65.2	43.6
1978	16.1	26.7	5.6	65.1	67.2	48.2
1979	16.4	25.8	6.4	64.3	66.3	48.5
1980	16.2	25.6	6.0	62.9	64.5	50.2
1981	17.5	27.0	7.1	62.0	63.4	50.5
1982	15.7	23.5	6.5	59.9	61.0	50.6
1983	16.9	26.2	6.2	60.7	61.8	52.2
1984	17.1	26.1	7.3	62.3	63.6	53.1
1985	16.4	25.5	6.5	62.1	63.5	52.2
1986	16.6	25.4	8.3	62.3	63.5	53.0

[1] Data are for families in which no spouse was present and for all married-couple families.

Male householders. Of the 1.3 million poor male householders who did not work in 1986, 36 percent said they were ill or disabled, 37 percent were retired, 13 percent were unable to find work, 9 percent were "keeping house," 3 percent were in school, and 3 percent gave "other reasons." (See table 3.) No further elaboration of these responses is elicited in the CPS. The responses were quite different for nonpoor male householders who did not work in 1986. Three of four of them were retired, 16 percent were ill or disabled, 2 percent were unable to find work, 1 percent were going to school, 6 percent gave "family reasons," and 1 percent gave "other reasons." Thus the retired and ill and disabled categories alone covered about 73 percent of nonworking poor male householders in 1986 (compared with 91 percent of the nonpoor), with about twice as many poor as nonpoor indicating they were ill or disabled.[7]

If, as some analysts maintain, work alone prevents poverty, then the poverty rate would have been very low in 1959 when 75 percent of poor male householders worked. But, that was the year their poverty rate was the highest ever recorded. Clearly, then, working sufficient hours and at sufficient wage levels are important in eliminating poverty.[8]

It would appear that insufficient wages are nearly as important as part-year or part-time work for poor families headed by men: the male householder in 870,000 poor families worked year round, full time in 1986. These men represented 42 percent of poor male householders who worked at all. Including those who did not

The retired and ill and disabled categories alone covered about 73 percent of nonworking poor male householders in 1986, compared with 91 percent of the nonpoor.

Table 3. Poor and nonpoor family householders who did not work or worked part year, by reason, selected years, 1976–86

Work status and reason	Poor						Nonpoor					
	1976	1978	1979	1983	1985	1986	1976	1978	1979	1983	1985	1986
All householders												
Worked part year:												
Number (thousands)	1,502	1,595	1,543	2,168	2,147	2,048	8,864	8,104	8,271	8,732	8,002	8,404
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	11.5	13.7	13.4	7.3	9.4	8.8	14.6	14.4	14.3	9.4	10.7	12.0
Keeping house	25.6	29.5	29.2	16.4	17.7	19.2	6.1	7.4	10.0	5.8	7.1	7.1
Going to school	6.3	5.3	5.9	4.2	4.5	4.9	4.6	5.0	4.5	3.7	3.8	4.2
Unable to find full-year work	43.3	36.7	37.1	58.1	54.4	55.0	48.5	40.7	41.3	54.2	47.1	46.6
Other reasons	13.4	14.9	14.3	14.1	14.0	12.1	26.3	32.5	29.9	26.9	31.3	30.1
Did not work last year:												
Number (thousands)	2,745	2,657	2,706	3,845	3,535	3,491	8,120	8,402	8,737	10,369	10,835	10,889
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	29.5	30.8	31.5	23.5	23.9	23.9	26.4	26.6	25.2	21.0	18.4	17.2
Keeping house	41.9	39.2	40.1	37.5	40.3	40.5	12.4	10.5	13.1	10.3	10.0	9.9
Going to school	3.7	3.3	3.1	3.9	3.8	3.9	1.1	1.2	1.1	1.3	1.2	1.4
Unable to find work	8.8	6.8	6.0	19.2	14.5	13.1	2.5	1.3	1.2	3.3	1.7	1.8
Retired	13.5	16.2	16.9	14.3	15.2	16.9	56.1	58.6	58.3	63.6	67.9	69.0
Other	2.6	3.7	2.1	1.5	2.3	1.7	1.6	1.7	1.1	.6	.8	.7
Male householders[1]												
Worked part year:												
Number (thousands)	823	759	791	1,232	1,157	1,066	7,756	6,992	7,098	7,754	6,905	7,339
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	14.7	19.1	18.6	6.7	8.5	8.3	14.5	14.7	14.6	9.2	10.8	11.7
Keeping house	2.8	3.7	5.2	2.8	4.4	4.3	1.8	2.5	5.7	3.7	4.7	5.2
Going to school	6.4	4.6	5.3	3.7	2.9	3.9	4.7	5.0	4.4	3.6	3.7	3.9
Unable to find full-year work	55.3	47.6	46.1	70.2	69.0	69.5	50.3	42.4	42.2	55.2	48.0	47.6
Other reasons	20.8	25.0	24.7	16.6	15.3	14.0	28.8	35.5	33.0	28.3	32.9	31.7
Did not work:												
Number (thousands)	1,093	1,080	1,154	1,615	1,436	1,328	6,565	6,810	7,152	8,705	9,108	9,160
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	46.2	49.4	45.9	32.6	33.7	36.2	27.9	27.5	25.8	20.3	17.5	16.4
Keeping house	1.7	1.7	6.0	8.9	9.3	9.1	.6	.8	5.3	5.3	5.9	5.5
Going to school	4.6	2.3	2.7	3.6	3.6	2.7	1.1	1.0	.9	1.2	1.1	1.3
Unable to find work	10.9	5.5	5.3	23.9	18.0	12.5	2.6	1.2	1.2	3.3	1.6	1.8
Retired	32.0	36.7	36.3	29.0	31.8	37.0	66.1	68.0	65.7	69.5	73.1	74.4
Other reasons	4.6	4.5	3.7	1.9	3.6	2.5	1.7	1.5	1.1	.5	.7	.6
Female householders												
Worked part year:												
Number (thousands)	678	835	752	937	989	982	1,109	1,112	1,172	976	1,098	1,065
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	7.5	8.7	8.0	8.0	10.4	9.5	15.2	12.8	12.5	10.9	10.5	14.6
Keeping house	53.3	52.9	54.5	34.3	33.2	35.4	36.2	37.9	36.0	22.7	22.3	20.4
Going to school	6.0	5.7	6.5	4.8	6.5	5.8	4.6	5.2	4.9	4.4	4.6	6.1
Unable to find full-year work	28.6	26.8	27.7	42.2	37.4	39.3	35.8	30.2	35.8	46.2	41.3	40.0
Other	4.4	5.7	3.3	10.8	12.5	10.0	8.2	13.8	10.8	15.8	21.3	18.9
Did not work:												
Number (thousands)	1,652	1,577	1,552	2,230	2,099	2,163	1,555	1,591	1,585	1,663	1,727	1,729
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	18.5	18.1	21.2	16.9	17.1	16.3	20.2	23.0	22.5	24.8	23.0	21.2
Keeping house	68.5	64.9	65.5	58.3	61.5	59.7	61.9	52.0	48.6	36.4	31.6	33.5
Going to school	3.1	3.9	3.4	4.2	4.0	4.7	1.4	2.3	2.0	1.7	1.3	2.1
Unable to find work	7.4	7.8	6.4	15.8	12.1	13.5	1.9	1.5	1.1	3.1	2.1	1.6
Retired	1.2	2.2	2.5	3.6	4.0	4.6	13.6	18.7	24.9	33.0	40.8	40.3
Other reasons	1.3	3.0	.9	1.2	1.4	1.2	1.2	2.4	.9	1.1	1.2	1.2
Female householders with children under age 6												
Worked part year:												
Number (thousands)	356	448	433	473	493	554	244	312	284	180	254	257
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	3.1	6.9	8.5	4.7	9.7	7.4	12.7	7.4	10.6	10.0	7.9	14.0
Keeping house	61.8	59.8	56.6	42.9	41.2	39.5	43.4	44.6	38.7	30.6	24.4	19.8
Going to school	6.5	5.6	6.5	5.1	7.3	6.3	6.1	5.8	6.0	5.0	8.3	6.6
Unable to find full-year work	26.4	23.4	24.7	39.1	31.0	36.3	35.2	28.5	37.7	43.3	43.7	44.4
Other reasons	2.2	4.2	3.7	8.2	10.8	10.5	2.5	13.8	7.0	11.1	15.7	15.2
Did not work:												
Number (thousands)	791	813	768	1,136	1,106	1,082	173	148	156	131	146	135
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Reason:												
Ill or disabled	9.0	11.4	11.8	7.5	9.8	7.6	25.4	16.2	22.4	22.1	25.3	13.3
Keeping house	77.1	73.6	76.6	71.1	72.7	73.9	62.4	63.5	63.5	55.0	41.8	56.3
Going to school	4.2	3.9	3.0	4.8	3.6	4.1	5.8	6.8	7.7	3.1	2.7	5.9
Unable to find work	8.2	6.3	7.3	14.2	10.8	12.7	3.5	3.4	2.6	4.6	1.4	7.4
Retired	0	1.4	.5	1.3	1.3	1.1	2.9	6.1	2.6	16.8	27.4	15.6
Other reasons	1.4	3.3	.8	1.9	1.9	.7	0	4.1	1.3	0	0	1.5

[1]Data are for families in which no spouse was present and for all married-couple families.

work, these year-round, full-time workers represented 25 percent of all poor male householders, a proportion that has changed little since 1969. The proportion of poor male householders able to find year-round (but not necessarily full-time) employment—48 percent—was considerably smaller than among the nonpoor (82 percent). Conversely, a much higher proportion of poor male householders worked less than half of the year than did the nonpoor, and a higher proportion usually worked part time.

Do the reasons the 1.1 million poor male householders who worked fewer than 50 weeks differ from those of the nonpoor who also worked part year? The majority (70 percent) of these poor male householders said they were unable to find full-year work, 8 percent were ill or disabled, 4 percent listed family reasons, 4 percent were in school, and 14 percent gave "other reasons." The proportion of part-year workers who said they were "unable to find full-year work" has increased dramatically for the poor, from 48 percent in 1978 to 70 percent in 1981, where it has since remained. In contrast, a much lower proportion of the nonpoor indicated inability to find work as the reason for working part year (only 48 percent in 1986). This indicates that the poor male householders' reported desire to work certainly was no less than that of nonpoor householders.[9] A much higher proportion of nonpoor male householders (32 percent) than poor male householders (14 percent) gave "other reasons" for working part year.

Poor male householders are a diverse lot. The possible solutions for the poverty of those who are of retirement age or who have a work disability are distinct from the 51 percent of the poor male heads who are already working year round or are working part year but want full-year employment. Combined, individuals working year round, those who did not work because they were retired, ill, or disabled, and those who worked part year because they were unable to find year-round work represented 83 percent of all poor families with a male householder in 1986. (See table 4.)

Female householders. The distribution depicted for poor male householders differs considerably from that for poor women maintaining families without a spouse. (See table 4.)

As noted, about 40 percent of poor female householders worked in 1986, about the same proportion as in 1978, but higher than the 36 percent who worked in 1982. (See table 1.) About 8 percent worked year round, full time, a figure only one-third that of poor male householders, and considerably below that for non-

Table 4. Work status of poor and nonpoor family householders in 1986, by reason

Work status and reason	Poor		Nonpoor	
	Number (thousands)	Percent	Number (thousands)	Percent
All householders				
Total	7,023	100.0	57,468	100.0
Worked year round	1,452	20.7	37,424	65.1
Worked part year:				
Unable to find full-year work	1,127	16.0	3,916	6.8
Ill or disabled	181	2.6	1,011	1.8
Family reasons	393	5.6	598	1.0
Other reasons[1]	347	4.9	2,879	5.0
Did not work:				
Ill or disabled	833	11.9	1,868	3.3
Retired	591	8.4	7,512	13.1
Family reasons	1,413	20.1	1,082	1.9
Other reasons[1]	654	9.3	428	.7
In Armed Forces	32	.5	752	1.3
Male householders[2]				
Total	3,410	100.0	50,636	100.0
Worked year round	984	28.9	33,386	65.9
Worked part year:				
Unable to find full-year work	741	21.7	3,490	6.9
Ill or disabled	88	2.6	855	1.7
Other reasons[1]	237	7.0	2,994	5.9
Did not work:				
Ill or disabled	481	14.1	1,501	3.0
Retired	492	14.4	6,815	13.5
Other reasons[1]	356	10.4	843	1.7
In Armed Forces	32	.9	752	1.5
Female householders				
Total	3,613	100.0	6,832	100.0
Worked year round	468	13.0	4,038	59.1
Worked part year:				
Unable to find full-year work	386	10.7	426	6.2
Ill or disabled	93	2.6	156	2.3
Family reasons	348	9.6	217	3.2
Other reasons[1]	155	4.3	266	3.9
Did not work:				
Ill or disabled	352	9.7	367	5.4
Retired	100	2.8	696	10.2
Family reasons	1,292	35.8	580	8.5
Other reasons[1]	420	11.6	85	1.2
Female householders with children under age 6				
Total	1,801	100.0	1,170	100.0
Worked year round	165	9.2	778	66.5
Worked part year:				
Unable to find full-year work	201	11.2	114	9.7
Ill or disabled	41	2.3	36	3.1
Family reasons	219	12.2	51	4.4
Other reasons[1]	93	5.2	56	4.8
Did not work:				
Ill or disabled	82	4.6	18	1.5
Retired	12	.7	21	1.8
Family reasons	800	44.4	76	6.5
Other reasons[1]	189	10.5	20	1.7

[1] For part-year work, this category includes "going to school" and other uncoded responses. For those who did not work all year, this category includes "going to school," "unable to find work," and other uncoded reasons. For male householders, "family reasons" also are included in this category.

[2] Data are for families in which no spouse was present and for all married-couple families.

poor female householders, 53 percent of whom worked year round, full time in 1986.

The reasons for not working for poor female householders differed considerably from those for poor male householders, as might be expected. The reasons also differed considerably from those of nonpoor women, in part because of the different life cycle stages of poor and nonpoor female householders. For example, 40 percent of nonpoor female householders gave retirement as the reason for not working in 1986, compared with only 5 percent of poor female householders. (See table 3.) Poor female householders were less likely than their nonpoor counterparts to report illness or disability as the reason for not working (16 percent versus 21 percent in 1986), unlike the distributions for poor versus nonpoor men. The majority (60 percent) of poor nonworking women gave "taking care of home or family" as the reason for not working; only 34 percent of nonpoor women who did not work gave this as the main reason. This proportion, although holding fairly steady in the 1980's, has declined since 1978 for both the poor and nonpoor. In 1978, 65 percent of poor and 52 percent of nonpoor female householders who did not work gave family responsibilities as the reason.

Poor female householders were less likely than their nonpoor counterparts to report illness or disability as the reason for not working.

Restricting discussion to female family householders with children under age 6 helps control for the life cycle differences between poor and nonpoor female householders. In 1986, only 40 percent of poor women with children under age 6 worked, compared with 88 percent of nonpoor women. The proportion for the nonpoor has increased from about 73 percent in the mid-1960's, while that for the poor is about the same as in 1965, having fluctuated only little. Families with children under age 6 and a female householder accounted for about 1 of 4 poor families and for about half of all poor families with a female householder. In contrast, families with children under age 6 and a female householder are only about 2 percent of the nonpoor families. One could argue that the norm is not the work experience of nonpoor women, but rather of poor women in this family type, given that 61 percent of women with children under age 6 and no spouse present had incomes below the poverty level in 1986. For those who did not work at all, poverty was almost universal, with 89 percent below the poverty level.

About 6 percent of poor female householders with children under age 6 worked year round, full time, 13 percent worked part year because they could not find year-round work or were ill or disabled, and 5 percent did not work at all because of disability or illness or were retired. In contrast, of the nonpoor women, 61 percent worked year round, full time, 13 percent worked part year because they could not find full-year work or were ill or disabled, and 3 percent did not work because of illness, disability, or retirement.[10] In fact, the percent of nonpoor women with children under age 6 who worked year round in 1986 was actually as high as that for nonpoor male householders. Forty-four percent of the poor women with children under age 6 gave family responsibilities as the reason for not working at all, and an additional 12 percent gave a similar response for working part year.

Conclusion

Combined, 83 percent of poor men maintaining families in 1986 either worked full year; worked part year because of illness, disability, or inability to find full-year work; or did not work because of retirement, illness, or disability. An additional 7 percent worked part year for other reasons. Only 10 percent of poor male householders did not work at all for reasons such as going to school, "family reasons," and unspecified reasons.

For poor women maintaining families with no spouse present, only about 39 percent either worked full year or had reasons similar to those for poor men for working part year (illness, disability, or inability to find full-year work) or for not working (retirement, illness, or disability). More than half of those with children under age 6 gave family reasons as the cause of their limited work year or their total lack of work outside the home during 1986. Only 11 percent of nonpoor women with children under age 6 gave a similar rationale.[11]

Society may be philosophically ambivalent about whether mothers with young children should work, but the actions of nonpoor women householders raising children with no spouse to assist them are clear: The vast majority work and work year round, usually full time. In 1986, about 1.5 million children under age 6 were in families with a female householder (no spouse present) who did not work and gave family responsibilities as the reason. Despite child support for some and Federal aid to others, virtually all such children (96 percent) were in poor households.

The data indicate, however, that requirements to work for welfare program eligibility will not alone end poverty in the United States. The majority (at least 60 percent) of poor family householders already work year round, full time; work part year because they cannot find full-year employment, are ill, or disabled; or do not work because of retirement, disability, or illness. □

Footnotes

[1] For an example of the former, see Lawrence Wade, "The Illusions and Realities of Poverty and Income," *The Washington Times*, Aug. 7, 1987. Wade writes, "Many lazy people are poor. The problem for taxpayers is . . . poverty experts refuse to measure laziness." An example of the latter is Sheldon Danziger and Peter Gottschalk, "Work, poverty, and the working poor: a multifaceted problem," *Monthly Labor Review*, September 1986, pp. 17–21. Danzinger and Gottschalk assume in their conclusion, for example, that society at large does not expect college students or women with young children to work, when neither view seems to be supported by the actual recent labor force activity of these groups.

[2] Family householders were chosen because three-fourths of the poor are in families and three-fourths of household members are children or householders themselves, the former presumably dependent on the latter. It should be noted that these are not work history data for this group, and thus the data do not represent changes in the work experience of the same householders over time. The data presented here are derived from tables published by the Census Bureau in the P–60 series of *Current Population Reports*. The data shown for male householders refer to families in which no spouse was present and to married-couple families. Between 5 percent and 10 percent of householders in poor married-couple families are women.

[3] In 1986, the average poverty threshold ranged from about $5,600 for a person living alone to $22,500 for a family of nine or more. For a description of the Federal Government's official poverty definition, see *Poverty in the United States: 1986, Current Population Reports*, Series P-60, No. 160 (Bureau of the Census, 1988).

[4] See Howard Hayghe and Steven E. Haugen, "A profile of husbands in today's labor market," *Monthly Labor Review*, October 1987, pp. 12–17. One reason given has been the advent/availability of disability insurance. See David T. Ellwood and Lawrence H. Summers, "Is Welfare Really the Problem?" *The Public Interest*, Spring 1986, pp. 66–67; and "Work Disincentives and Disability Insurance," in P. Royal Shipp, ed., *Work Disincentives and Income Maintenance Programs* (Washington, Congressional Research Service, 1980), Report No. 80–111 EPW.

[5] Although the age distribution of poor versus nonpoor family householders differs, this explains little of the difference in the proportion who work. For example, our society does not expect the aged to work and, thus, their numbers should be subtracted from those family householders considered eligible for work; but family householders who are 65 years and over represent a smaller proportion of poor family householders (about 10 percent in 1986) than nonpoor householders (16 percent in 1986). Furthermore, the proportion of poor householders who are aged has declined considerably since official poverty statistics were first collected—from 22 percent of all poor families in 1959 to the current 10-percent level—as the poverty rate for the elderly has declined, from the highest rate of any age group in 1959, to one of the lowest in 1986. Thus, the aged are not a factor in explaining the lower rates of working for the poor versus the nonpoor. Excluding both the aged and those householders under age 22 (which eliminates teenage householders still attending school) only increases the proportion of poor householders who worked to 54 percent in 1986. The comparable figure for the nonpoor is 91 percent. Thus, although differences in age composition do exist, controlling for age does not eliminate differences in the work experience of the poor and nonpoor.

[6] David Elwood writes: "There are clearly people who do not work who society does not expect to work even if the lack of work leads to poverty." See David Elwood, "The Hope for Self-Support" in Manuel Carballo and Mary Jo Bane, eds., *The State and Poor in the 1980's* (Boston, Auburn House Publishing Co., 1984), p. 22.

Unfortunately, what is clear to some is not clear to others. For example, some analysts find it difficult to believe that one can look for employment all year and find none. It is interesting to note, however, that the proportion of male householders who indicated an inability to find work as the reason for not working has seemingly fluctuated with the business cycle, increasing to 24 percent in 1983 when the poverty rate was at its recent peak, then decreasing to its present level of 13 percent. This group represented only 5 percent of nonworking poor male households in 1978, a recent low point in the poverty rate. The fact that the proportional size of this group fluctuated with the business cycle would seem to be sufficient evidence that these men are indeed looking for work. As another illustration, "going to school" is arguably a questionable reason for not working for an adult maintaining a family, given that more than half of all college students are employed (see Anne McDougall Young, "Fewer students in work force as school age population declines," *Monthly Labor Review*, July 1984, pp. 34–37) and the figure is undoubtedly higher for family householders. Furthermore, it seems to be a pervasive attitude in the United States that the college years are ones in which at least summer employment is expected. Yet, there seems no better route to better one's lot than through education. Why then should society regard persons who are poor and going to school as deviant? Regardless, only about 3 percent of poor male householders who did not work gave "going to school" as their principal reason, and such householders represent only about 1 percent of all poor male households.

[7] Charles Murray is among those analysts who seem to question the extent of reported disability among the poor. See "In Search of the Working Poor," *The Public Interest*, Fall 1987, pp. 8–9.

[8] See Danziger and Gottschalk, "Work, Poverty and the Working Poor"; and Sar A. Levitan and Isaac Shapiro, *Working But Poor: America's Contradiction* (Baltimore, Johns Hopkins University Press, 1987).

[9] Attitudinal research by Leonard Goodwin seems to confirm the similar work ethic of the poor vis-a-vis the nonpoor. See *Do the Poor Want to Work?* (Washington, The Brookings Institution, 1972).

[10] This is in contrast to often cited figures for working mothers, the majority of whom work part time or part year. The majority of these women are in married-couple families and are not sustaining families by themselves, as are those under discussion here. See *Poverty in the United States: 1986*.

[11] It should be noted that only 1 of 4 of all poor families gave home responsibilities as the reason for their limited participation or nonparticipation in the work force in 1986.

Labor Hall of Fame

Cyrus S. Ching: pioneer in industrial peacemaking

As a manager, and later as a government executive, Ching pointed the way to a cooperative system of labor relations by showing that differences are much more easily resolved when reason, rather than rancor, prevails

A. H. Raskin

Through much of America's rise to greatness as an industrial power, mistrust and misunderstanding have been dominant characteristics of relations between employers and organized labor. Most managements viewed attempts by unions to represent their workers as mischievous intrusions, destructive of the interests of company and employee alike. That attitude found expression in tactics so hostile to unionization that many of the country's foremost corporations built up private armies of labor spies and strongarm men to keep labor at bay.

Unions responded with counterweapons that were violent and often illegal—a response made more virulent by the widespread belief within labor that the agents of law enforcement were vassals of the all-powerful captains of industry. Strikes were long, bitter, and often bloody. The costs were high in lost production, shoddy workmanship, and inefficiency. They frequently were even higher in the damage inflicted on the public by a prolonged cutoff of vital services or by the weakening of companies whose financial health was essential to the jobs of their employees and the well-being of whole communities.

In the 1930's and 1940's, when President Franklin D. Roosevelt's New Deal opened the way for a union assault on the mass production industries, a tiny group of men of good will became pioneers in the development of techniques to reduce the conflict between management and labor by substituting reasonableness for tests of strength. A position of towering eminence in this select circle was occupied by Cyrus S. Ching, a corporate executive who demonstrated such breadth of vision and freedom from parochial identifications that unionists were almost always at least as enthusiastic as their opposite numbers in management when Ching agreed to help find mutually advantageous solutions to seemingly intractable disputes.

The lofty stature he speedily acquired as a mediator transcended the fact that his height of 6 feet 7 inches would have made him an impressive figure in any labor-management conference room. Early in his career, Ching capsulized his philosophy of dispute resolution in words that would remain as guideposts for future practitioners of the mediator's trade. "The only way you can get things settled," he was wont to say, "is to find a way where each side can save face. If one side or the other in a labor dispute tries to push the other to the wall, it's going to have disastrous effects on the situation under consideration as well as for future relations."

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Up through the ranks

Ching was born May 21, 1876, on his father's farm in Prince Edward Island, Canada. The only son in a family with seven daughters, he came of Welsh stock (Chynge was the original spelling of the family name), was educated in a one-room schoolhouse, and early on developed a voracious appetite for reading, mostly history and the classics. At the age of 16, he accompanied a favorite uncle to the county seat, where he sat in on a court trial and was instantly consumed with an overwhelming urge to become a lawyer.

On his return to the farm, young Ching went out to pick potatoes with his father. He took that occasion to inform his dad that never again would he pick potatoes. The elder Ching had no money to send his son to college, but the uncle, who was better off, volunteered to foot the bill. Within a week, Cyrus was in Charlottestown, the capital of Prince Edward Island, and enrolled in Prince of Wales College, a cross between a prep school and an institution of higher education.

He studied there for 2 years before transferring to a business college, where he spent a year acquiring skills in stenography, shorthand, and bookkeeping. In 1895, he abandoned the Gulf of St. Lawrence for a 4-year stay in Alberta, where he worked for a grain elevator company visiting farmers and making contracts for delivery of their grain to the company's elevators. His salary was a munificent $20 a month, plus room and board.

But his ambition from the start was to move across the border to the United States, a country for which Ching had developed an enormous admiration through his reading of Viscount James Bryce's 1888 classic, *The American Commonwealth*. On October 31, 1899, with $31 and a copy of Bryce's book, he went to Boston and filled out an application for employment with the utility company that ran Boston's trolleys and was about to expand into operation of an elevated rapid transit system. A recession was on and jobs were scarce, but Ching persuaded a supervisor to put him on as an extra on the job list for streetcar motormen. His income averaged $7 a week, and most days he had to start his 10-hour schedule at 5:20 a.m. A more serious problem was that his great height made it hard for Ching not to bump his head on the ceiling of his open cab every time he reached for the trolley cord.

Escape came through Ching's assignment as a checker of the fares registered on each trolley as it came off its last night run. He started work at 5 p.m. and stayed on duty until 3 a.m., 7 days a week, at 22 cents an hour. However, his enterprising spirit would quickly lift Ching out of that drudge detail. The elevated system, with electric cars equipped with airbrakes and automatic controls, was scheduled to begin operations June 10, 1901.

Months before that date, while cars still were being fitted out, Ching went on his own time to the system's Charlestown yards and familiarized himself with the new equipment. His mooselike figure quickly became part of the landscape. He displayed endless curiosity in questioning the electrical engineers and airbrake experts on the intricacies of the machinery and the controls. The supervisors in charge of training for the elevated trains developed such respect for the knowledge Ching was picking up that they sent him out as an instructor to help break in the motormen assigned to trial runs. Even though he had no operating experience of his own, Ching proved so adept a teacher that he was assigned as a troubleshooter at the outset of

The Labor Hall of Fame

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

The first eight persons elected to the Labor Hall of Fame were Samuel Gompers, John R. Commons, Cyrus S. Ching, Frances Perkins, John L. Lewis, A. Philip Randolph, George Meany, and James P. Mitchell.

A panel composed of national leaders from unions, industry, academia, and government, and chaired by Monsignor George Higgins, makes the selection to the Labor Hall of Fame. Former Secretary of Labor W. J. Usery, Jr., chairs Friends of the Department of Labor. The Hall of Fame is housed in the north lobby of the Frances Perkins Building, 200 Constitution Avenue, N.W., Washington, DC 20212. Friends of the Department of Labor invites Hall of Fame nominations. They may be submitted to Friends of the Department of Labor, Box 2258, Washington, DC 20013.

regular service on the elevated, and was then quickly promoted to a post in charge of restoring service whenever there was a breakdown or other difficulty on the line. By this time, he had worked himself up to a weekly pay envelope of $18.50 for a 12-hour shift.

Bad luck overtook Ching 2 months after he assumed his broader responsibilities. He was trying to fix a live wire on a defective brake shoe when a board on which he was standing for insulation slipped out from under him, and he received an electric shock so severe that he was unconscious for 6 days. His hair and clothing were burned off in the accident; his eyes were closed by blisters and the doctors feared he might be permanently blind; only diligent effort by his nurses to remove damaged tissue prevented lifelong scarring that would have distorted his face. Until his death, he did carry scars on both hands, marking the places where the current had passed from one side of his body to the other.

Workers never hesitated to share with him their thoughts about the company.

There was no workmen's compensation at that time, and Ching was dropped from the Boston El payroll the minute he entered the charity ward at the Boston municipal hospital. The company did not even offer to pay for his burned clothing. Friends advised Ching to sue the company, but he decided there was no chance of winning because the utility would accuse him of contributory negligence in not taking greater care to make sure that the board on which he was standing was secure.

Two weeks after he left the hospital, the Boston El gave him a temporary job as a prior to restoring him to his old job at the beginning of 1902. Higher-ups in the company had by that time recognized that they had a good thing in Ching. He was transferred to the management side of the fence at a salary of $2,500 a year and put in charge of training motormen to run a new type of streetcar. In his new post, he soon came to know motormen, conductors, and brakemen all over the system. His friendliness made the employees feel he was one of them, not a boss, and they never hesitated to share with him their thoughts about the company and the way it treated its workers. Very little of what they told him was complimentary.

The company had 15,000 employees and its pay scales were frozen from the time the elevated operations started until 1912, a period during which there were no unions, and little talk of unionization, on the system. Over these years, Ching moved through a series of jobs, all of which kept him in close touch with the employees, and he sensed that low wages, lack of overtime pay, overtight schedules, and an utter lack of communication between management and workers were breeding dissatisfaction that could mean trouble for the company.

Ching had become a U.S. citizen in 1909, and in 1912 he had received his law degree after completing night courses at what is now Northeastern University. By that time, his apprehensions about labor trouble at the Boston El were overwhelmingly strong, but he could not get the company to take his warnings seriously. The top men would not believe that a union could get anywhere in their system, even though activists were wearing union buttons openly for the first time in the company's history. The prevailing view was that the union movement could be quashed by firing a few troublemakers, and Ching's superiors thus were not receptive to his entreaties that conditions be improved to alleviate unrest.

The result of this head-in-the-sand policy was a strike by 7,000 of the firm's 15,000 employees, which lasted from June to August of 1912. The company maintained operations on a sporadic basis with strikebreakers, most of them brought in from New York. The Mayor of Boston and the Governor of Massachusetts, under intense public pressure to get the transit system back to normal, put the heat on the company to settle. They called in the Boston El's president, a general in the State militia, and warned him that they had sufficient evidence in their possession to convict him of bribing legislators to influence regulatory legislation affecting the company. They threatened to expose him and turn the incriminating data over to the U.S. district attorney if he failed to recognize the union immediately and sign an agreement ending the strike.

The company president, in words Ching used years later to describe the event, "went all to pieces like a burst balloon." The first news the operating people at the line had of the settlement was a story in the afternoon papers heralding the strike's end. The company president resigned soon after and was replaced by a minor management official who had gained the confidence of the union and the workers. He was Matthew C. Brush, who up to then had been the company's assistant vice president and who later became a firm friend of William D. Mahon, the international president of the Amalgamated Association of Street Car Employees, the union involved in the strike.

The first task confronting the new company leadership was to negotiate specific terms of the settlement. No one on the management team except Ching was willing to take on that assignment. A 23-member committee representing the union trooped into his office, looking both dour and belligerent. He told them to cheer up. "You

gave us a good licking. Why not enjoy it?" he asked.

That broke the ice, and Ching made the initial order of business a pledge by both sides that neither would ever again use spies to sit in on the other's private meetings. The unionists angrily denied that they had ever stooped to such tactics. Ching did not argue the point. Instead, he called into the meeting room one of his own young assistants who, Ching knew, had been planted in his office to ferret out confidential information and feed it to the union. He revealed to the startled assistant and the union committee that his suspicions had been aroused weeks before when he discovered the young aide peering into communications and records that had nothing to do with his job. Ching's Machiavellian response to this discovery was to channel to the spy a steady stream of misleading data intended to confuse the union.

Everyone laughed when Ching finished his recital, and the laughter turned to cheers when he announced that he held no grudge against the young assistant, who was basically an intelligent and useful worker, and that he intended to keep him on his staff in the new era of amicable relations with the union. Ching made no bones that the company, for its part, had been guilty of infiltrating the union's ranks with spies and provocateurs. He promised that the practice would stop at once—a promise Brush, the newly installed company president, was quick to endorse.

The new agreement obligated the company to discharge all the scabs it had brought in, many of whom had been promised permanent employment. They got no bonuses for their strikebreaking activity, simply enough money to get them back home. Other terms of the new contract proved more difficult to hammer out to the satisfaction of both sides. As a result, most of the terms, including new wage scales, were turned over for binding determination by a three-man arbitration panel, chaired by the president of the Boston Chamber of Commerce, with one representative from the company and one from the union as his comembers. Eighty percent of the strikers were reinstated in their old jobs. Those who were dropped from the payroll were fired for stealing fares or for other infractions of established rules, and not for strike-related activities.

Mahon's Amalgamated Association was recognized as bargaining agent for all the hourly rated employees on the Boston transit system, but the American Federation of Labor and its affiliates in the building trades were not happy with that arrangement. After conferences attended by Ching, Mahon, and Samuel Gompers, the federation's founder and president, the Amalgamated ceded jurisdiction over the Boston El's electricians, carpenters, painters and other craftsmen to the construction unions—a concession that meant the company had to make separate agreements, in the form of written contracts or oral understandings, with 34 distinct labor units. That created new complications, especially when it came to harmonizing construction wage rates with those the arbitrators had established for the transit line's operating crews. Facing up to that challenge gave Ching additional opportunities to persuade the chiefs of the Boston El unions of his commitment to fair treatment of the company's employees.

One such opportunity presented itself when the divisional chairman for the Order of Railway Telegraphers sought out Ching with a copy of the union's standard contract. He was startled when Ching refused to sign on the grounds that the proposed wage rate of 32 cents an hour was too low. It had to be 2 cents higher, he insisted, to match the 34-cent rate the transit system's basic contract fixed for motormen and conductors.

When the post-strike agreements came up for renewal in 1916, Ching had stabilized relations with the unions to a point that arbitration was unnecessary. He informed the company's board of directors that a general pay increase of 2 cents an hour would be needed to avert a strike. He also told the board that he had promised the unions they would have the company's answer to their demand for higher wages in time to present it to the rank and file at a rally in a Boston hall the following evening.

"I like people en masse and as individuals," he said.

Unimpressed by this notice, the board adjourned without making a decision on the pay hike. Ching tracked down his boss, Matthew Brush, after the meeting and warned him that the company was making a "horrible mistake." The company president summoned all his top executives to a strategy session the next morning, during which Brush assured Ching that he would back him in any measures necessary to avert a strike. However, he accompanied that assurance with an unequivocal declaration that there was no way to reconvene the company board before the union's scheduled meeting that evening.

Ching had no choice but to invite the officials who would preside at the union session to meet with him an hour before the opening discussion by the union members on whether to strike or stay at work. He admitted to them that he felt terribly let down, but that he must have more time to get the company's OK on the 2-cent increase. The union's international vice presi-

dent, the ranking labor official at the conference with Ching, did not waste time reproaching the board of directors for their failure to bite the bullet. Instead, with the union's 7 o'clock opening session only a few minutes away, he put through a call from Ching's office to the superintendent of the union meeting hall.

He told the superintendent to station his assistant at the hall's main lighting switch and to go himself to the platform and inform those at the meeting that the union's international officers were still in negotiations with the company and could not come to the session. Immediately on that announcement, the assistant superintendent was to pull the switch and plunge the hall into total darkness, so that no rump meeting could be held by militants bent on fomenting a walkout.

At U.S. Rubber, he became the company's de facto director of industrial relations—a somewhat amorphous assignment.

The strategy worked beautifully, and the next morning all the employees reported for work. But Ching felt he owed it to his saviors in the upper echelon of the international union not to let the board of directors off too lightly for their dereliction. He told Brush and the board that they had bought time but that they would have to pay for it. What would now be needed to prevent a strike, he said, would be a 4-cent hourly raise, double the amount that would have been required if the company had honored the original timetable. Privately, Ching had no doubt that the union rank and file would ratify a contract calling for a 3-cent boost, but he wanted to teach the board a lesson in the costs of management obtuseness. The board approved the 4-cent figure and the union could exult in a victory.

That experience made Ching a strong believer throughout his career in involving the parent union directly in negotiations when a fractious local leadership or rank and file appeared eager to shut a company down before efforts at peaceful resolution of disputes had been exhausted. "One reason I get along with people so well," he said in an amplification of his philosophy, "is that I like people. I like people en masse and I like people as individuals." The rapport he established with the multiple unions on the Boston El was so pervasive that, even though all but two unions had a contractual right to arbitration of unresolved grievances, only two cases went that route and both involved unions not covered by the arbitration clause as a matter of right.

The workers' man in management

When the United States entered World War I in 1918, Ching was rejected for military service because no branch of the Armed Forces would take anyone over 6 feet 4 inches. That same year, he quit the Boston El because the declining state of that company's finances had compelled it to petition the Governor and the Massachusetts legislature for takeover by the State. Ching felt he would be happier remaining in private industry and, early in 1919, he went to work for the United States Rubber Company, which had many small plants in New England and other sections of the country. He had no title to start with, but on the basis of his record at the Boston El, he was assigned responsibilities that made him the company's de facto director of industrial relations—a somewhat amorphous assignment because the 40,000 employees working under the U.S. Rubber umbrella were split up among 34 subsidiary companies, most of which had presidents of their own and substantial autonomy in managing their day-to-day affairs.

The first test of how well this bifurcated command structure would operate in the field of labor relations came when workers in the Montreal plant of one affiliate, the Dominion Rubber Company, struck for recognition of a union they were in the process of forming. Ching, with the acquiescence of local management, issued a press statement declaring the company's readiness to meet its employees halfway by setting up grievance machinery, capped by arbitration. That commitment brought Ching a sulphurous rebuke from U.S. Rubber's executive vice president. "Have you gone mad?" Ching's superior bellowed. "We're never going to let outsiders tell our company what to do." Happily for Ching, the president of U.S. Rubber was in the room and promptly overruled his chief aide. "As long as I'm president of this company, we'll never refuse to arbitrate a grievance," he said.

Publication of the Ching statement brought all the strikers back to their jobs in the Canadian unit, and the company established a committee to represent them while arrangements were made for a secret-ballot election on union affiliation. The militantly antimanagement labor movement, the Industrial Workers of the World, had helped initiate the strike, but support for its radical program waned swiftly in the wake of the conciliatory attitude that Ching had persuaded management to adopt. The election resulted in certification of a local chartered directly by the AFL, the first union recognized as a bargaining agent anywhere in the U.S. Rubber corporate structure.

That breakthrough did not unleash a tide of unionization elsewhere in the company, nor did Ching feel it was in the company's best interests to foster such a movement on a broad scale. What deterred him was a recognition that the

AFL's commitment to craft delimitation provided poor protection for the welfare of workers in a mass production industry like rubbermaking, which operated along industrial, rather than craft, lines. A preferable alternative, in Ching's estimation, was that each U.S. Rubber plant encourage employees to organize factory councils, which would choose their own officers to meet regularly with management as spokespeople for the work force. It took Ching 4 years to get general acceptance within the company of the factory council idea. That was partly because he had to persuade skeptical plant executives of the scheme's value before he could begin to enlist employee support.

Ching encountered resistance from plant officials, who were eager to safeguard their autonomy from headquarters interference. One of the approaches he found effective in overcoming their fears is exemplified by his experience with the manager of a plant in Woonsocket, RI. The manager gave Ching an icy greeting, complaining that all his time was wasted on shepherding around bumptious visitors from the company offices in New York. "What the hell do you want?" he demanded. "I don't think what I want is important at all," Ching replied. "It's what you want that is important to me." The manager took him at his word and thrust before Ching a months-old requisition to headquarters for a new boiler to replace one that was in imminent danger of blowing—a requisition that had been consistently ignored despite the manager's frequent, urgent calls for action. Ching got on the phone and shortly obtained from the president of U.S. Rubber the go-ahead for installation of a new boiler at Woonsocket. The incident marked the start of a lifelong friendship between the plant manager and Ching.

Another Ching move to cement relations between the plant managers and his office was his veto of topside suggestions that all the local industrial relations managers report directly to him, rather than to their plant bosses. Ching believed that the plant managers had to be supreme in all matters affecting their operations, subject to removal only if they proved inadequate to their jobs. As he saw it, the function of the local industrial relations manager was to try to persuade the plant chief of the correctness of the policies he was advocating, but to go along with the boss's final decision. The plant managers were counseled to recruit industrial relations managers from inside the plant, with ability to get along with workers and to win their confidence the main yardstick in determining whom they slected.

Ching's spadework paid off in widespread employer support for the factory council concept, then shunned by most other big companies. The underlying idea was that the councils would function as vehicles for two-way communication between management and workers. The bylaws governing all the councils called for arbitration in the event that direct talks between the two sides did not resolve a dispute. During the decade in which the councils flourished, no case ever went to arbitration, strong support for Ching's conviction that an acceptable compromise could always be achieved so long as the people on both sides were reasonable.

The commitment to mutuality of interest became so ingrained among the employees that, in some plants, the factory councils organized sales committees to persuade service stations and other retailers to stock and promote U.S. Rubber tires. Similar employee-initiated sales campaigns focused on the operators of major trucking fleets; the theory behind all of these efforts was that expanded sale of U.S. Rubber products meant more secure jobs. The councils also came up with valuable suggestions for adapting production lines to more advanced tire-building technology. In Detroit, where the company had one of its largest plants, members of the council rode the streetcars to ask employees and riders what they considered the best place to work in Detroit. Eighty-two per cent of those questioned picked U.S. Rubber over all of the giant auto companies that were fast turning the city into the motor capital of the world. One of the automakers was so incensed by U.S. Rubber's sponsorship of factory councils that it canceled a $10 million contract for tire deliveries, but that did not diminish U.S. Rubber's zeal for the concept.

Ching believed each U.S. Rubber plant should encourage employees to form factory councils as spokespeople for the work force.

However, the power balance in the rubber industry shifted substantially during the early 1930's, as Section 7a of the National Industrial Recovery Act set off a wave of union organization in many basic industries. The AFL, still clinging to its preference for craft unionism, reluctantly authorized formation in 1934 of a United Rubber Workers Council to coordinate the federal locals to which it had issued charters. The combined membership of these locals at the end of 1933 was estimated to be close to 50,000 workers, most of them at Goodyear, Goodrich, and Firestone.

Unhappiness with the federation's half-hearted backing for any real unionization campaign in the mass production industries soon led to disaffection within the federal locals. In May 1935, John L. Lewis of the United Mine Workers, spearhead of the industrial union forces clamoring for a fundamental shift in AFL policy, prodded the federation's Executive Council to charter the collapsing federal locals as a new

international union, the United Rubber Workers (URW). Lewis's success in this direction was less than complete, however. The AFL high command specifically excluded from the jurisdiction of the new international all rubber workers engaged in construction or maintenance work or in the manufacture or installation of machinery. This renewed capitulation by the federation to the craft unions, which insisted that they be allowed continued jurisdiction, at least on paper, over rubber workers they had never seriously attempted to unionize, coupled with other limitations the parent organization put on the United Rubber Workers, made that union a quick enrollee under the banner of the Committee for Industrial Organization. Later to become the Congress of Industrial Organizations (CIO), the committee was established by Lewis and other ranking industrial unionists to pressure reforms by the federation establishment.

Other companies regarded Ching as a maverick.

In 1936, the aggressive new rubber workers union called sitdown strikes in Akron at plants of all the major rubber companies except U.S. Rubber, a testimonial to the stability of relationships Ching was able to maintain between the company and the factory councils even in a year of general turbulence. The industrywide drive was a full year old before the first tentative moves to organize U.S. Rubber were made by the URW. Employee attendance was pitifully small at scattered meetings the union called in that initial period, but that did not make Ching complacent.

He could see the union becoming a force in the rest of the industry and had no doubt U.S. Rubber's turn would come. Moreover, he recognized that the parallel organizing effort by the United Auto Workers in the big automobile companies could eventually lead to a situation in which unionized autoworkers would refuse to mount tires that were not union-made on the vehicles coming off the assembly line. The Great Depression had put U.S. Rubber's finances in the precarious shape, and Ching feared the outcome of any strike offensive the URW might launch against the company's plants.

He decided boldness was the best approach to addressing that potential challenge. Apropos of nothing at all, he put in a phone call to the union's newly elected international president. Sherman Dalrymple, a Marine lieutenant in World War I, had come to prominence in rubber unionism through his militancy as first head of the Goodrich local. Ching had never met Dalrymple, but he felt the best way to get his attention was to be blunt in his very first remarks. "I just wanted to tell you something," Ching said as soon as the union chief said hello. "If I didn't know any more about organizing the employees of the United States Rubber Company than you do, I'd quit the job." Dalrymple exploded. "I don't mind telling you we'll get you organized," he shouted at Ching. The response was intended to calm the unionist down. "I know you will, Mr. Dalrymple," Ching said, "but when you do, I want you to organize it right. The way you're doing it is creating a lot of antagonism, which is entirely unnecessary, and I would like to sit down and talk with you."

Dalrymple hesitated, whereupon Ching interjected that he would not go to the union headquarters in Akron and he knew the union head could not come to the company offices in New York without having to account to his people. In the interest of confidentiality, Ching proposed that they meet in Pittsburgh. He said the only associate he would bring along was a veteran plant manager from Indianapolis. When Dalrymple said he would have to have someone with him, Ching agreed, but then startled the unionist for the second time by adding, "I'm going to tell you who you're going to have with you." That ignited a new explosion from Dalrymple's end of the wire. "There isn't anyone going to tell me whom I'm going to have with me," the unionist sputtered. Ching was unabashed. "You're going to have Allan Haywood [the CIO's national director of organization and a close associate of John L. Lewis]," Ching said. When Dalrymple asked whether the U.S. Rubber executive knew Haywood, the response was, "I sure do and I like him very much."

The Pittsburgh meeting started at 10 o'clock one morning and continued without a break until Ching had to leave 12 hours later to catch his train back to New York. The conferees got along famously, with Ching in the role of mentor to Dalrymple on the right road to unionizing the U.S. Rubber work force. He recommended that the union head and his aides get to know the heads of the factory councils at each plant, whom he described as the people in the company best informed about the needs and desires of the workers. If the URW could convince these council leaders that their organizations ought to become part of the union, Ching pointed out, the CIO would not have to devote any money or staff to organizing. He promised that the company would put no obstacles in the union's path but would leave it entirely up to the employees to decide the issue of affiliation.

When Dalrymple objected that neither he nor his aides could get past the guards if they went to the plant gates on their own, Ching promised to take care of that problem. By way of example, he phoned from the hotel room in which the conference was being held and spoke to the manager of the U.S. Rubber plant in Detroit. He

conveyed Dalrymple's desire to meet the manager in Detroit and asked him to give the union president any information he wanted when he visited the plant. "OK if you say so," was the manager's answer, and an appointment was arranged for the following Tuesday. At that time, the plant official supplied the unionist with the names of the council heads and a smooth relationship was promptly achieved in Detroit and at other U.S. Rubber plants. In the months that followed, the erstwhile leaders of the factory councils at several facilities presented themselves to their management counterparts at the regularly scheduled time for their monthly meeting and simply announced that they now were there as representatives of a new unit of the URW. The company's response was, "Fine, let's go on from here," and usually there was very little change, if any, in the old ways of doing things.

In contrast with the chaos that surrounded union bids for recognition at many other large companies, no elections were necessary to establish the URW's right to speak for the employees at U.S. Rubber plants. Under a commitment made to Dalrymple by Ching at their first conference, union recognition was automatic whenever a local came in with cards signed by a majority of the employees at a U.S. Rubber plant. "You can only doublecross me once and I don't think you will; I don't think you're that kind of man," Ching had told Dalrymple. That foundation of trust spared his company discord of the kind that would plague U.S. Rubber's competitors for years.

Peacemaking as profession

For their part, the other companies regarded Ching as a maverick, at least up until World War II. The 1942 appointment of the War Labor Board as monitor of industrial relations and enforcer of the "Little Steel formula," which set an economywide ceiling on pay increases, made coordination of approaches to the union a measure all the tiremakers recognized as a mutual safeguard. Even then, however, the investment Ching had made in winning Dalrymple's respect for the good faith U.S. Rubber consistantly displayed in its dealings with the union worked out advantageously for the company. Thus, when union members at the company's Detroit plant walked out in a 1944 wildcat strike that violated organized labor's wartime pledge to avoid all work stoppages, the international president fined all the members involved and made the penalty stick, despite much protest within the union.

The originality Ching demonstrated in breaking down historic barriers to harmonious labor-management relations frequently prompted the Government to request his services in ironing out disputes that menaced the national welfare. He was also in demand as a member of tripartite panels assisting in the administration of novel programs for promoting industrial stability, especially during the Great Depression and the turbulent periods just before and after World War II.

In the "preparedness" period preceding the Japanese attack on Pearl Harbor, during which the Nation's steel mills were operating under forced draft to produce steel for tanks, guns, and other armaments for the allies fighting the Axis powers, William S. Knudsen, chairman of the National Defense Advisory Commission, called in Ching early in 1941 to head off a threatened strike at the big Lackawanna, NY, plant of Bethlehem Steel. Knudsen, who had been president of General Motors when President Roosevelt drafted him for the defense post, had come to admire Ching for his skillful handling of the business disputes that frequently clouded relationships between General Motors and U.S. Rubber.

Bethlehem Steel, which had repulsed the United Steelworkers in a violent 1937 strike, was in no mood to let the union capitalize on the defense emergency to win recognition 4 years later. When the first pickets appeared outside the Lackawanna gates in February 1941, the company's general counsel phoned Knudsen and asked him to get the Governor of New York to call out the militia to clear the streets around the plant and ensure safe passage for those who wanted to work.

Ching picked up an extension phone and told the Bethlehem lawyer that Knudsen would do no such thing. Instead, he directed the lawyer to round up Joseph Larkin, Bethlehem's vice president for industrial relations, and come to Washington that afternoon for a face-to-face meeting with the defense mobilization chief. The meeting was held in Knudsen's apartment, but the Bethlehem executives were not the only ones there. Ching had arranged to have Philip Murray, the steel union president, and Sidney Hillman, whom the President had named as labor coordinator of the preparedness program, also in attendance.

Ching's own preliminary exploration had made him sure that the union would send everyone back to work if it could get company agreement to let the National Labor Relations Board (NLRB) hold a quick election to determine whether the CIO group had the support of a majority of the plant employees. When that idea was broached to the company officials, they

The foundation of trust he established spared his company the discord that would plague its competitors for years.

asserted that the union support was confined to a handful of agitators. Ching said the only way to find out whether the union spoke for the majority was through an election, and asked Hillman to find out from the NLRB how long it would take to arrange one. The answer was 10 days. When the company assented to the vote, the picket lines were withdrawn and production returned to normal. When the poll was taken, 75 percent of the workers backed the union.

A few weeks later, President Roosevelt appointed Ching as one of four employer members of a tripartite National Defense Mediation Board to do systematic troubleshooting of the kind Ching had done at Bethlehem. The board's life was brief. It collapsed shortly before Pearl Harbor when its two CIO members resigned in protest against the refusal of their 10 colleagues (including the two members representing the AFL) to recommend that the United Mine Workers be given a union shop contract requiring all miners employed in the captive coal mines owned by the steel companies to join the UMW as a condition of employment.

Ching had no philosophical objection to the union shop, if it was voluntarily contracted between the union and management.

Ching himself had no philosophical objection to the union shop, provided it was contracted voluntarily between an employer and a union. However, he felt it was totally inappropriate for any Government agency to mandate compulsory union membership—a position he continued to hold even after the United States became an active combatant and the entire economy was made subject to Government controls on wages, prices, and many other aspects of commercial life. In the captive mine dispute, the President superseded the National Defense Mediation Board with a special arbitration panel consisting of Dr. John Steelman of the White House staff, John L. Lewis of the union, and Benjamin F. Fairless, the chairman of United States Steel. The panel's decision, which by ironic coincidence came down on the very day the Japanese struck at Pearl Harbor, awarded the union shop to Lewis's union. However, the National War Labor Board, which had oversight of labor-management relations throughout World War II, operated under a philosophy, akin to that Ching espoused, against Government imposition of compulsory union membership. As an alternative, the wartime board evolved a compromise formula known as "maintenance of membership," under which workers who belonged to the union at the time a contract was signed were required to remain members, but those who did not belong were under no obligation to join. Ching had no qualms about that formulation. He served as an employer representative on the War Labor Board from February 1942 to September of the following year and then returned to his duties at U.S. Rubber, which was heavily involved in the manufacture of military equipment made of synthetic rubber. In part because of the cooperative tradition he had ingrained, a new plant, rushed into operation in Des Moines early in the war, took on 19,000 employees as fast as they could be processed, with no shred of labor difficulty.

After the war ended and the headaches of reconversion to civilian production were behind the company, Ching decided it was time to retire. When he submitted his notice to the board chairman in August 1947, effective at the close of the year, he was already 6 years past the normal retirement age of 65. The chairman urged him not to wait for his separation date before starting to relax, and Ching went off with his wife to a fishing camp on the Tobique River in New Brunswick, Canada, where he swiftly engrossed himself in catching salmon. Late one afternoon, while the Chings were having cocktails with Mortimer Proctor, the former Governor of Vermont, a caretaker rushed over in great excitement to announce that the White House was on the phone.

The call was from Presidential assistant John Steelman, who said President Truman wanted Ching to become the first director of the Federal Mediation and Conciliation Service (FMCS), recently created under the Taft–Hartley Act (1947). That law, passed by Congress over the President's veto, had been dubbed a "slave labor" law by both wings of organized labor because of the many promanagement revisions it made in the Wagner Act of 1935, long regarded as labor's Magna Carta. Perhaps the least controversial of the changes under the new law was its provision for replacing the old United States Conciliation Service, a branch of the Labor Department, with the independent FMCS, the agency Truman wanted Ching to head. Ching's first response was an emphatic no. All he wanted to do was stay by the river and fish.

His response was the same when Steelman called again to say that the chairman of a House appropriations subcommittee was refusing to approve any funds for the new agency until he knew who its director was going to be. So far Ching was the only one the congressman seemed willing to approve. When Ching refused to be swayed, Steelman contented himself with asking when Ching was getting back to his office in New York. Within an hour of Ching's return to New York, Steelman was back on the phone telling him the President wanted to see him at the White House the next day.

Because he still was technically on the U.S. Rubber payroll, Ching notified the company's

chairman and executive committee of the nature of the upcoming meeting with the President and was told the decision was his to make. Ching's inclination still was to turn the job down and he gave Truman a long list of reasons for doing so. When the President continued to press for acceptance, Ching came up with the argument he expected would be the clincher. "I'm a Republican," he said. Truman looked back at him without blinking. "Well, is that any reason why you shouldn't serve your country?" he asked. Ching knew when he was licked. "You win, Mr. President," he said. He was sworn in the Friday before Labor Day 1947.

None of the savage partisan conflict that had surrounded passage of the Taft–Hartley Act manifested itself in the Senate's confirmation of the Ching nomination. On the contrary, the chairman of the Senate Committee on Education and Labor, Robert A. Taft, who had been the law's chief architect, called the new FCMS director a few days after his appointment to say it would not be necessary for him to appear at a confirmation hearing. The committee had already voted to approve him. So far as Truman was concerned, his sole instruction to Ching was to administer the law in the best way possible to advance the interests of all the country's people. The President made it clear that neither Ching nor anyone else charged with the law's administration was to be influenced by the negative views Truman himself had expressed in the message accompanying his veto of the Taft–Hartley Act.

How seriously the President meant that admonition was swiftly demonstrated to Ching. A sticky dispute developed at the Oak Ridge, TN, nuclear plant between the Union Carbide Company, operating the plant for the Atomic Energy Commission (AEC), and the unions representing the Oak Ridge workers. Mediation failed to break the deadlock, and David E. Lilienthal, the AEC chairman, told Ching that a strike at the facility would be disastrous. On that basis, Ching went to Truman and advised him that the White House ought to move for an 80-day no-strike injunction under the national emergency provisions of Taft–Hartley, the first occasion on which that highly sensitive section of the new law would come into play. However, when the President agreed, Ching felt obliged to sound a cautionary note.

"Now you've listened to me and you say it's the thing to do, but before you proceed, Mr. President, I'd suggest that you talk to some of your political advisors because your political future might be at stake," Ching said. Truman glared at him angrily. "When my political future is placed side by side with the best interests of the American people, my political future is not at all significant," the President snapped. Truman and Ching, who had scarcely known one another before the FMCS appointment, became fast friends. Ching had originally accepted the job for 1 year, but he found the fashioning of new instruments for industrial peace so exhilarating that he stayed on through all of Truman's second term as well. His rapport with the President was in no way damaged by the fact that he had voted for Thomas E. Dewey when Truman ran for reelection in 1948.

The start-up staff of the FMCS was composed entirely of employees of the old United States Conciliation Service. Ching set about improving both the caliber and the morale of the personnel at all levels. The staff's response is well illustrated by an incident that occurred while Ching was holed up in his office one weekend making calls to a half-dozen cities in an effort to settle a critical case. He began early Saturday morning and was still at it at 4 a.m. Sunday when it suddenly hit him that someone on the FMCS switchboard must be matching him in devotion to duty. He picked up his phone and asked the woman at the other end of the line, "What in the world are you still doing around here? When did you come on?" When she said she had been there since before he started work the day before, he blurted, "For heaven's sake, I'm sorry." She would have none of his apology. "Mr. Ching," she said, "I knew you were in a very critical situation and I knew you were going to need telephone service, so I just stayed."

The notion widespread among both labor and management that industrial disputes are most easily resolved when the public knows nothing about what goes on behind the closed doors of the collective bargaining chamber did not appeal to Ching as the proper posture for the head of an agency whose mission it was to promote labor-management amity in behalf of the public. At a press conference after his swearing-in, he informed the reporters on the labor beat that his door would always be open to them. All they had to do was stick their head in whenever they had a question, and he would tell them what he could, limiting himself to "no comment" if he felt anything he might say would jeopardize a settlement.

Ching's rapport with Truman was in no way damaged by the fact that he had voted for Dewey in 1948.

Friends advised Ching that a more practical way to deal with the press was to hire a public information specialist to supplement his personal contacts. That idea proved a bust. The publicist would shoulder Ching aside and insist that he be the one to answer questions from the audience after Ching's frequent speeches before business or labor groups or on college cam-

puses. Worse yet, the press officer spread the word among reporters that he was the one to see whenever they had a question about mediation activities. When that policy was made known to Ching by one irked newsgatherer, he was shocked.

He called in his director of administrative management and announced that he had discovered a way to save money on the FMCS budget: fire the public relations man. That action was followed up with a press conference, at which Ching renewed his assurance to the media representatives that they could always get through to him or anyone else in the agency. Everybody looked pleased until Ching followed his statement up with an announcement that he was creating a special committee to advise him on public relations. The reporters brightened up again when he said: "The committee will consist of you gentlemen in this room and its chairman will be Louis Stark [then the chief labor reporter for *The New York Times* and the acknowledged dean of the press corps]."

As FMCS chief, Ching assured reporters that his door would always be open to them.

The only time Ching held out on the press in connection with a major labor dispute was in 1949, when an industrywide strike in steel over the establishment of company-financed pensions was throttling the economy. The strike had grown out of the steel industry's refusal to accept the recommendation of a Presidential factfinding board, headed by Judge Samuel I. Rosenman, for a pension system underwritten exclusively by contributions from the steel producers.

The basic industry position, with United States Steel as its principal enunciator, was that the workers should share the cost of the system with their employers. Ching suspected that Bethlehem Steel, which ranked second only to U.S. Steel in size, was less than wholehearted in its support of this stand. He knew that Bethlehem had, in fact, been running a noncontributory pension plan for its own employees since 1923.

Three weeks into the strike, Ching phoned Joseph Larkin, Bethlehem's industrial relations chief, and set up a private luncheon at the Drake Hotel in New York. Larkin brought along Eugene Grace, the company's chairman, who authorized direct talks between his aides and a union committee headed by Philip Murray outside the framework of the master negotiations for an industrywide peace formula. The problem then became how to divert the attention of the media from Bethlehem, lest too much publicity torpedo what were, at best, going to be delicate explorations.

The expedient Ching hit on was to announce with considerable fanfare that he believed it would be useful to hold separate conversations with each company on a possible solution. The first such talks, he said, would be with U.S. Steel, the traditional pacesetter, with Ching participating personally in the meetings at the Biltmore Hotel. Nothing was said about any meetings with Bethlehem.

Reporters were out in force at the U.S. Steel conferences, which began at 10 a.m. each morning and continued until 5 p.m., with a midday break for lunch. Ching would brief the press after each session and would profess optimism, even though nothing inside the conference room provided the remotest foundation for hope. U.S. Steel was adamant that any pension plan would have to involve some copayment by workers. On the fourth day, John Stephens, the U.S. Steel vice president for industrial relations, drew Ching aside and asked what game he was playing, because it was so obvious to the company representatives that the whole exercise was a charade. Ching confessed after first extracting a promise from Stephens that he would not tell anyone in his own group what was up with Bethlehem. "God bless you," was Stephens' response. "That's the only way out of this thing." The next day, an accord was concluded at Bethlehem and the rest of the companies soon fell into line. The pattern of noncontributory pensions became widespread in American industry over the next 2 years, another step in the development of a supplemental layer of social security under labor-management auspices.

A problem for Ching throughout his 5 years at FMCS was to preserve the independence of the service from the Labor Department, whose Secretaries had trouble reconciling themselves to the idea that they did not have primary responsibility for moving on industrial disputes, especially those with national overtones. When Truman was reelected in 1948, a pivotal plank in the Democratic platform called for blanket repeal of the Taft–Hartley Act, a step that would have doomed the separate status the law guaranteed for FMCS. When the Congressional session began shortly after Truman's surprise victory, several bills were introduced by ranking Democrats for Taft–Hartley nullification.

One Thursday in January, the clerk of the Senate Committee on Education and Labor notified Ching that the committee wanted him to testify on the repeal measures on the following Tuesday. Ching's testimony was to be confined to the one provision of special interest to him—maintaining the distinct identity of FMCS, free from any institutional attachment to the Labor Department. He knew that his position conflicted with the basic White House position that Taft–Hartley should be annulled in toto. More especially, it was diametrically opposed to the

stand Secretary of Labor Maurice Tobin had persuaded the Administration to take with respect to the mediation service. Tobin, who had been Mayor of Boston and Governor of Massachusetts and a highly effective campaigner for Truman in the 1948 campaign, won strong White House backing for his view that, even if Congress rejected the arguments for repealing the whole law, a fight should be made to give jurisdiction over mediation of industrial conflicts back to the Labor Department.

Aware of the constellation of Administration power arrayed against him, Ching still felt he must let the legislators on Capitol Hill know of his disagreement. He conferred with Peter Seitz, the FMCS general counsel, and began drafting testimony in favor of independence for the Federal mediators. When he got home that Thursday evening, Ching told his wife to start packing their household belongings, because he felt the President would be requesting his resignation for openly differing with the White House on an important policy question. He finished drafting his statement on Friday and arranged a Monday meeting with representatives of the Budget Bureau, whose responsibility it was to review and clear all presentations to Congress by Administration officials.

Before Ching got out of bed on Saturday, his wife informed him that Matthew J. Connelly, the President's executive secretary, was on the phone, eager to talk to him. Ching put his hand over the mouthpiece and whispered to his wife, "Here it comes." Connelly asked him to come right over to see the President. Ushered into Truman's presence, he was told by the Chief Executive that he understood Ching would be testifying on the Taft–Hartley Act 2 days later. "You're very well informed, Mr. President," Ching replied. He was totally unprepared for what followed. "I just wanted to tell you to say anything you believe and never mind what the Administration position is," were Truman's words. "Say whatever you believe to be right." Ching did, and throughout his tenure as chief, further Labor Department challenges to the jurisdiction of the FMCS were almost nonexistent.

Reflections on a career

The qualities that made Ching so impressive in stilling fierce emotional clashes and re-creating an atmosphere of rationality among disputants extended beyond his personal warmth and nimbleness of mind. Where he might readily have used his imposing height as a means of impressing the belligerents, Ching managed to do just the opposite. His shambling gait and the Sherlock Holmes-type curved pipe, from which he coaxed great billows of smoke whenever he was not ostentatiously refilling it with tobacco, combined with his easy manner to fill any conference room with a sense of calm conducive to meetings of mind.

That did not mean Ching could not be tough. At the height of one of the long series of coal strikes ordered by John L. Lewis in the late 1940's, Ching called Lewis and the negotiators for the mine owners to meet with him. He began by asking Lewis and George Love, chairman of the Consolidation Coal Company, to tell him what the dispute was all about. Love deferred to Lewis, who proceeded to excoriate every coal operator in the room as a greedy oppressor of the miners. Then the president of the United Mine Workers had a few choice words to address to the peacemaker sitting in for Uncle Sam:

"Now you, Mr. Ching, have the temerity to sit here representing the United States Government and claim to be impartial. You know you've been a corporation executive all your life. How could you possibly be impartial? I don't expect impartiality from you." When Lewis stopped speaking, Ching asked whether he was quite through. "Yes, sir," was the frigid reply. "Well, I want to tell you something; you've completely failed in your purpose," said Ching. "What do you mean, sir?" Lewis inquired in his most imperious tone. "Your principal object in what you said about me was to get me mad, and you can't do that," Ching declared. "I only get mad when I want to and I just don't want to at this time. I think it's very amusing." That defused Lewis. "Oh, what's the use," he growled. "Let's get down to business." With that, everything got back on track and the negotiations proceeded without further insults.

Ching favored independence from the Labor Department for government mediators.

Ching could be equally forthright when a top industrialist was obstructing resolution of a consequential impasse. In 1949, when the United Steelworkers and the large steel producers were approaching the showdown over employer-subsidized pensions, Ching felt the only way to avert a strike was through appointment of a Presidential factfinding board. Truman, whose early experiences with labor in the White House made him reluctant ever to get back into the middle of a major industrial confrontation, was cool to the idea. Ching had to enlist the support of John Steelman, Clark Clifford, and Tom Clark, then the Attorney General, before Truman said yes. Philip Murray assured Ching that his union would keep its members at work if the companies agreed to appear before the factfinders. Ching anticipated no difficulty on that score, because any recommendations made by the panel would not be binding.

Ching remained actively involved in mediation duties right up to the time of his death at age 91.

The board of directors of United States Steel proved wary, however, and the rest of the industry held off, awaiting "Big Steel's" response. The first word from the board was a telegram to Truman raising questions about the function of the factfinders. Ching regarded all of these inquiries as legitimate, and he had a telegram designed to overcome U.S. Steel's apprehensions sent over the President's signature. The company directors came back with a second telegram to Truman, raising further questions, and Ching was called to the White House for a decision on what the Government's next step should be. Ching advised Truman not to answer the wire, but instead to empower the FMCS chief to call Benjamin Fairless, the company's chairman, and tell him he was speaking in the President's name. Given a green light by Truman to proceed, Ching was blunt in his conversation with Fairless the next day.

"My conversation is going to be very short this morning," Ching said. "Number One, I want to tell you that you can't bargain with the President of the United States and, Number Two, will you send an answer, yes or no, this morning. Either you will or you won't, no more exchanging of telegrams." Fairless gasped. "You're quite plainspoken this morning," he said. "Yes, I intended to be. And that is the message I'm giving you from the President in answer to your telegram." That conversation ended the holdout, and the factfinding panel headed by Judge Rosenman began its vain effort to head off the strike. It took a month of shutdown before the breakthrough at Bethlehem produced a settlement in line with the panel's recommendation that the full cost of pensions be borne by the companies.

President Eisenhower endeavored to persuade Ching to stay on at FMCS after the 1952 election, but Ching felt it was time for a change and enthusiastically recommended David Cole as his successor. Thereupon, Lewis Strauss, the new chairman of the Atomic Energy Commission (AEC), urged Ching to accept the chairmanship of a special labor relations panel to handle disputes at AEC installations. Ching indicated readiness to take on that task, provided he was allowed to submit names of people from academe, industry, and labor to round out the panel and make it possible to set up three-member subcommittees to hold hearings and mediate conflicts in various parts of the country.

Ching's list of panel nominees sat around the White House without action for several weeks in mid-1953. When a dispute broke out at the Oak Ridge installation during that period of drift, Strauss and James P. Mitchell, then Secretary of Labor, phoned Ching at a salmon fishing camp in New Brunswick and told him to get his panel to work on the case right away. Ching responded that there was no panel because the White House had not approved anyone he nominated. Ching said he was going to continue fishing because there was no point in his returning to Washington until there was a panel and he had an opportunity to meet with it and set up operating procedures.

The next day, an official from the White House and another from the AEC flew up to explain to Ching somewhat abashedly that some of those he had recommended were politically unacceptable and that none of them had been cleared with the proper authorities in the Republican Party. Ching was horrified. "If that's the kind of thing you want, why, go ahead. I'm not going to have anything to do with it," he said. It took months before matters were resolved to Ching's satisfaction. In the interim, some of those he had nominated had taken other jobs that made them unavailable for service. However, most of the rest were duly appointed, and Ching was satisfied that he would be presiding over a group of mediators and arbitrators of stature, well able to grapple with any dispute either in a factfinding capacity or with authority from the parties to make definitive decisions both sides would implement. Reports from the subcommittees were to be reviewed by the full panel, and all decisions had to be unanimous. Ching was still actively involved in his duties as panel chairman right up to his death of a heart attack at home on December 27, 1967, at the age of 91.

In a thoughtful memoir tape recorded by Ching in August 1965, he mused on the transformations that had taken place in the labor-management scene since he started work at U.S. Rubber just after World War I. The master-servant relationship still dominated employee relations in most companies in the early days of his career. Ching recalled a visit he had made in the early 1920's to the strikebound Rhode Island plant of a textile company that supplied tire fabric to U.S. Rubber. When he had asked the company treasurer what the strike was about, he was told that the workers had sent a committee to see the treasurer to protest a 10-percent pay cut decreed by the company. "What did you say to them?" Ching asked. "Say to them? When the time comes that I have to talk to my servants, I'll quit," the treasurer replied. As Ching went out the door, his final words were: "Well, the Czar and the Kaiser both said that, and they had to quit."

In the early years, not more than a half-dozen large corporations embraced Ching's concept of two-way communication with the work force through factory councils or other employee rep-

resentation plans. When Ching and Arthur Young, director of industrial relations for International Harvester, were invited to a manufacturers' meeting in the 1920's to outline the experience of their companies with factory councils, the chairman of the session, a top executive of the J. I. Case farm equipment company, cut off any discussion after their presentations. "We've heard enough of this Bolshevik talk; let's go on to the next order of business," he said.

The employer response to unionism in the early years was just as frosty, even among the few companies willing to open doors for employee-employer communication. When Herbert Hoover, who had been United States Food Administrator in World War I, served as president of the Federated Engineering Societies for a year before joining the Harding Cabinet as Secretary of Commerce in 1921, he became friendly with Samuel Gompers of the AFL. Hoover asked the heads of U.S. Rubber and several other companies he regarded as forward-looking to meet with him at the Metropolitan Club in Manhattan one Sunday afternoon. He asked these men why their companies didn't sit down with Gompers and try to work out an amicable relationship with organized labor. Such a relationship, in Hoover's opinion, would be a bulwark against the spread of radicalism reflected in the rise of the "Wobblies," the Industrial Workers of the World. The Hoover initiative got no encouragement from those at the meeting. The obstacles that Hoover did not comprehend, Ching recorded in his memoir, were that Gompers had no standing in the affairs of any company except to the extent that AFL unions had organized the workers, and that the federation's focus on craft unionism precluded any effective organization of the mass-production industries by its affiliates.

Ching's championship, within management, of the concept of nonadversarial relations with workers, organized and unorganized, and his unshakable confidence that "fair, square, open, honest dealings" were bedrock requirements for employer-employee harmony account for his designation alongside Frances Perkins, John R. Commons, and Samuel Gompers as initial entrants to the Labor Hall of Fame. "Labor relations are something like family relations, except the boss and workers can't get a divorce." Making that relationship a mutually rewarding one was his lifelong goal. □

He considered 'fair, square, open, honest' dealings to be bedrock requirements for employer-employee harmony.

Productivity in the retail auto and home supply store industry

Productivity grew at an above-average annual rate during the 1972–87 period, reflecting strong demand and improvements in store operations

Patricia S. Wilder

Productivity, or output per hour of all persons, in the retail auto and home supply store industry[1] rose at an average annual rate of 3.0 percent from 1972 to 1987. This increase was well above the 0.9-percent annual gain in productivity registered by the nonfarm business sector of the economy. The growth in productivity reflects an increase in output of 5.5 percent per year, and a rise in hours of 2.4 percent annually. Contributing to the growth in productivity for the auto and home supply store industry were strong demand and increased use of computers in store operations.

The productivity trend for the 15-year period was one of overall growth for the industry. Since 1972, increases in productivity have occurred in every year but four, ranging from 0.6 percent to 11.4 percent. Declines in productivity occurred in 1974, 1979, and 1982, with no change occurring in 1984. The largest decline occurred in 1974, when productivity posted a 6.2-percent drop. (See table 1.)

Two pronounced subperiod trends in productivity were observed for the years 1972–82 and 1982–87. During the earlier period, productivity in the auto and home supply store industry increased at an average annual rate of 2.7 percent, as output rose 5.2 percent and hours of all persons grew 2.4 percent. Even though the economy experienced two economic recessions during this period, auto and home supply stores recorded substantial growth, demonstrating the countercyclical nature of the industry. During this same period, output of the franchised new car dealers industry reflected the general downturn in the economy, declining 0.7 percent while productivity was growing at a very low rate of 0.6 percent. Auto and home supply stores benefited from the recovery that began in 1983. During the latter period, 1982–87, productivity grew 3.8 percent annually, while output grew at a high rate of 6.9 percent, and hours increased 3.1 percent.

Output and demand

In spite of several economic downturns during 1972–87, output of the auto and home supply store industry increased at a rapid rate of 5.5 percent per year. In comparison, output of the private nonfarm business sector increased an average of 2.8 percent per year. Although auto and home supply store industry output growth can be affected by cyclical changes in the economy, the industry is less prone to the negative effects of economic downturns than other industries. For example, during this same period, output grew at a slow average annual rate in the motor vehicle manufacturing (2.0 percent) and the franchised new car dealers industries (1.2 percent).

During downturns or recessions, consumers who want a new vehicle, but cannot afford one, frequently turn to auto parts stores to maintain their existing vehicles. These "do-it-yourselfers" change their own oil and filters;

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Table 1. **Productivity and related indexes for the auto and home supply stores industry, 1972–87**

[1977=100]

Year	Output per hour of all persons	Output	Hours of all persons	All persons
1972	86.2	68.2	79.1	77.4
1973	90.3	77.5	85.8	84.3
1974	84.7	76.0	89.7	88.8
1975	89.9	81.5	90.7	91.0
1976	90.5	86.0	95.0	95.5
1977	100.0	100.0	100.0	100.0
1978	104.0	104.2	100.2	104.6
1979	103.2	108.5	105.1	109.8
1980	106.7	107.6	100.8	105.1
1981	109.2	110.6	101.3	106.0
1982	107.2	109.9	102.5	106.9
1983	119.4	124.3	104.1	110.6
1984	119.4	136.5	114.3	119.6
1985	126.3	149.4	118.3	124.2
1986	127.0	149.7	117.9	124.8
1987	132.4	154.5	116.7	125.1
	Average annual rates of change (in percent)[1]			
1972–87	3.0	5.5	2.4	3.0
1982–87	3.8	6.9	3.1	3.4

[1] All average rates of change are based on the linear least squares of the logarithms of the index numbers.

replace air filters; install their own car stereos; and in the case of older cars and trucks, attempt more complicated jobs such as brake repair. During the 1980 and 1981–82 recessions, output in the auto and home supply store industry grew 1.1 percent per year, compared with a decline of 3.4 percent in the franchised new car dealers industry.

Reflecting the general economic recovery since 1982, output in the industry again experienced a sharp increase, rising 6.9 percent annually from 1982 to 1987. The surge in light truck sales during this period contributed to the strong demand for accessories and parts. From 1982 to 1987, sales of light trucks increased at an average annual rate of 14.9 percent.[2] Studies indicate that a major proportion of light truck owners plan to purchase items such as heavy-duty shocks, off-road tires and wheels, heavy-duty springs, lift kits, and grille guards. These items are generally purchased within 1 year of vehicle purchase.[3]

Auto parts stores operate in what is commonly referred to as the automotive "aftermarket" because the products they sell are used to improve or repair a vehicle after it has been sold by a dealer. Industry output growth reflects, in part, the growing number of motor vehicles on the road and an increase in the average age of these vehicles. Passenger cars in operation increased at an average annual rate of 2.0 percent between 1972 and 1987. The number of trucks in operation also increased over this period, growing 5.8 percent per year.[4] An increase in the average age of cars and trucks has also contributed to industry output growth. The mean age of passenger cars grew from 5.7 years in 1972 to 7.6 years in 1987. While the mean age of trucks in operation has generally been higher than that of passenger cars, the age of trucks also increased from 7.2 years in 1972 to 8.0 in 1987.[5] Consumers who hold onto their vehicles longer, either for economic or personal reasons, tend to turn to auto parts stores to dress up their vehicles with such items as new floor mats, new body-striping, and new wheel covers.[6]

Of the total automotive service and parts market, the auto and home supply store industry has boosted its share of the market from 17 percent in 1975 to 22 percent in 1985.[7] For new car dealers, who have the largest proportion of the service and parts market, at about 33 percent, market share remained relatively unchanged during this period. The share held by gasoline service stations, however, declined from about 14 percent of the market in 1975 to 8 percent in 1985. The breakdown of sales in the automotive service and parts market by source during 1985 was: franchised new car dealers, 33 percent; automotive repair shops, 28 percent; tire, battery, and accessory dealers (auto supply stores), 22 percent; gasoline service stations, 8 percent; general merchandise stores, 7 percent; and all others, 3 percent. Auto dealers tend to reap the benefits of auto parts sales in the first year of new vehicle ownership. Until recently, new car dealers have not focused much of their attention on auto parts sales. They have been and still are primarily interested in the sale of new vehicles, thus far leaving the major portion of auto parts sales to the automotive aftermarket.

Auto and home supply stores demonstrate substantial countercyclicality during recessions.

Industry structure and employment

The auto and home supply store industry consists of establishments primarily engaged in the sale of tires, batteries, and automobile parts and accessories. Home supply items such as appliances, radios, and television sets are frequently sold by these establishments. However, the percentage of dealers selling home appliances and other home supplies has continued to decline over time. Tire, battery, and accessory stores have grown from over 75 percent of total auto and home supply establishments in 1972 to 90

percent in 1982. Tire, battery, and accessory stores also account for 90 percent of the industry's retail sales.

The retail auto and home supply store industry is characterized by a large number of small, single-unit firms. Auto and home supply stores have relatively few employees per store. In 1972, the industry consisted of 37,510 establishments with an average of nearly 6 employees per store. By 1982, there were 48,846 establishments with average employees per store remaining at about 6. The number of single-unit firms, which make up 90 percent of all establishments, has remained relatively unchanged since 1972.

Workers in marketing and sales represent the largest occupational group in the industry's work force.

While single-unit firms still account for the majority of the stores in the industry, multiunit operations (for example, companies that own a chain of stores) account for 10 percent of total stores and generate about 50 percent of industry sales. Employment in multiunit firms accounts for about 48 percent of the paid employees in the industry. This percentage has not changed significantly since 1972.

The work force of the auto and home supply store industry consists of nonsupervisory workers, supervisory workers, the self-employed, and unpaid family workers. The number of persons employed in the industry rose 62 percent, or 3.0 percent annually, from 214,500 in 1972 to 346,500 in 1987. Hours of all persons increased at an average annual rate of 2.4 percent. The average weekly hours of nonsupervisory workers in the industry fell 8.9 percent between 1972 and 1987, from 43.9 to 39.2.

Employment of nonsupervisory workers, the largest component of the industry work force, increased 55 percent during the period studied, from 166,600 to 257,800. The number of supervisory workers more than doubled, rising from 23,900 to 60,700. From 1972 to 1987, the number of self-employed persons grew 30 percent, from 20,000 to 26,000. During the same period, the number of unpaid family workers declined 50 percent, from 4,000 to 2,000.

Workers in marketing and sales represent the largest occupational group in the retail auto and home supply store industry's work force.[8] In 1986, nearly one-third of the industry's work force was employed in marketing and sales. Within this occupational group, salespersons represented the largest category, accounting for 30 percent of employment in the industry. Mechanic, installer, and repairer occupations represent about 29 percent of the work force. Within this occupational group, tire repairers and changers accounted for almost 14 percent of employment and automotive mechanics about 13 percent.

Factors affecting productivity

One of the most important innovations in this industry has been the increased use of computers for retail operations. Recent productivity growth has benefited from the spread of this technology. However, because most retail auto and home supply stores are small, computer use varies greatly throughout the industry. Although not all stores have fully computerized their operations, most have replaced mechanical cash registers with electronic cash registers.

Computers are often used in conjunction with point-of-sale terminals (cash registers) and electronic scanning devices. This technology varies in its sophistication, but its objective is to computerize the transaction. In some cases, information coded on merchandise is fed into the computer using the scanning devices. In a more labor-intensive operation, the description and price of the items to be purchased are entered by a salesperson into a computer terminal. Accumulating sales information using the computer results in more accurate inventory records and reduces employee time required for monitoring shelf stocks. In addition, the computer provides the location of each item in the stockroom, and, in some cases, the location in which the item belongs on the sales floor. Purchase orders can be automatically generated when computer records show stockroom quantities are too low.

Computers are also used to perform recordkeeping and administrative functions formerly performed manually. For example, by using computerized information on sales activity, store managers can schedule staff hours more efficiently. In some stores, computer terminals are linked directly to a companywide computer system that can be used by each store for operations such as inventory control and product reorder, and for participation in advertising campaigns.

Computers now are being used more frequently in service bay areas of firms that have combined parts stores with complete service operations. Computerized diagnostic equipment can pinpoint car problems quickly and provide a complete engine analysis, helping mechanics perform auto repairs faster and more accurately. Other equipment available for auto repair includes comprehensive testing devices for the more sophisticated electronic ignition systems in automobiles. These devices allow mechanics to trigger the electronic ignition system without starting the engine, thereby avoiding long and costly road testing of vehicles.

Electronic equipment is available for wheel balancing. This equipment is compact and easy to operate. These units use light beams for

measuring off-balance motion, detect imbalances, and recommend weight adjustments with electronic speed and accuracy. The units are designed to be set up faster and to operate more easily than other balancers and can be used for a wide range of automobiles.

A product that uses the latest laser technology is available to assist mechanics in aligning wheels and suspensions accurately. Compact design and portability make these devices attractive. Some models do not require a rack or a dedicated bay, and the setup time is about half that of other systems.

The extent to which sophisticated diagnostic equipment is being used varies greatly throughout the industry. The skill and equipment mix usually found in the smaller establishments often is not well suited for the more complex diagnosis and repair work. The effect of this technology on the industry has been further limited because many firms, especially smaller ones, cannot afford the high cost of much of the equipment.

Other factors, such as store layout and design and self-service merchandising, have had an impact on productivity growth in the retail auto and home supply store industry. Some stores have sought to increase productivity growth and sales by remodeling older stores and improving the design and layout of new facilities. Because more than two-thirds of all purchasing decisions are made after the customer enters the store, adequate signs and displays are important.[9] By emphasizing the more popular product lines, auto and home supply stores are able to use the do-it-yourself trend to help increase their total sales volume. Furthermore, store layout emphasizes the self-service concept, which is increasingly important as stores operate with a low ratio of sales personnel to customers.[10] Self-service store layouts have helped to reduce the work load of store personnel by allowing customers to browse for their choice of merchandise.

Outlook

Industry productivity growth should benefit from the continuing diffusion of electronic data processing equipment. The availability of more affordable personal computers has put computer technology within the reach of many more small store owners. More complex technology, such as electronic shopping systems for the sale of auto parts and accessories, could lead to increases in productivity for the industry if its use becomes widespread. These computerized systems can print customer orders, shipping date, and credit card information, and provide inventory status for the retailer. Also, increased use of more sophisticated technology, such as electronic diagnostic equipment, lasers, and other electronic testing devices, will help to improve productivity. Continued improvements in store layout and design should also be a contributing factor to productivity growth in the industry.

Mergers and acquisitions are beginning to occur more frequently and are expected to continue in the near future. If this trend continues, it could have a positive effect on productivity because the economies of scale and financial resources of larger companies have facilitated the introduction and use of computer technology. Also, industry output growth is expected to continue even during periods when new car sales are down. The continuing popularity of light trucks is predicted to boost sales for the parts market into the 1990's.[11]

The skill composition of the work force of the auto and home supply store industry is not expected to change much over the next decade. Based on Bureau of Labor Statistics projections, the proportion of marketing and sales personnel is expected to rise from about 33 percent of wage and salary worker employment in 1986 to 34 percent in the year 2000. The share of employment held by salespersons is expected to rise slightly to about 32 percent. Numbers of automotive mechanics and tire repairers and changers are expected to rise by less than 1 percent. Workers in administrative support occupations, including clerical, are projected to decline from about 15 percent of industry employment in 1986 to about 13 percent in 2000, reflecting the diffusion of computer technology in the future. □

Footnotes

[1] The auto and home supply store industry is classified as SIC 5531 in the 1987 *Standard Industrial Classification Manual*, published by the U.S. Office of Management and Budget.

[2] Based on statistics published in *Wards Automotive Yearbook* (Detroit, MI, Ward's Communications, Inc., 1983 to 1988).

[3] "Truck surge means gold for aftermarket," *Automotive News*, Aug. 15, 1988.

[4] Based on statistics published in *Wards Automotive Yearbook, 1987*, and *Wards Automotive Yearbook, 1988* (Detroit, MI, Ward's Communications, Inc.).

[5] *Motor Vehicle Facts and Figures, 1988* (Detroit, MI, Motor Vehicle Manufacturers Association, 1988).

[6] "Falling Car Sales a Boon to Parts Sellers," *The Washington Post,* Dec. 7, 1987, business section.

[7] *NADA Data for 1981, 1985, 1986* (McLean, VA, National Automobile Dealers Association), pp. 8 and 10.

[8] Figures cited in this section are based on data developed by the Bureau of Labor Statistics in the 1986–2000 National Industry-Occupational Matrix.

[9] "Why POP advertising works," *Automotive Chain Store,* July 1982, p. 32.

[10] "Strategies," *Automotive Chain Store,* May 1983, p. 28.

[11] "Parts firms see bonanza in light-truck boom," *Automotive News,* Aug. 1, 1988.

APPENDIX: Measurement techniques and limitations

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

The preferred output index for retail trade industries would be obtained from data on quantities of the various goods sold by the industry, each weighted (that is, multiplied) by the employee hours required to sell one unit of each good in some specified base period. This concept also embodies the services associated with moving the goods from the retail establishment to the consumer. Thus, those goods that require more retail labor are given more importance in the index.

Data on the quantities of goods sold usually are not available for trade industries, including auto and home supply stores. Therefore, real output was measured by removing the effects of changing price levels from the current dollar value of sales. Because an adjustment for changing price levels usually lowers the dollar value, such a series is usually referred to as a deflated value measure.

Output measures based on deflated value have two major characteristics. First, they can reflect shifts in sales among products of different value that have the same unit labor requirements. (For example, if customers begin to purchase more unadvertised brands instead of "nationally advertised" brands, dollar sales will decrease if the unadvertised brand is priced lower.) Thus, a change can occur in the output per hour index even if the labor required to sell the merchandise does not change.

Second, the sales level, in both current and constant dollars, reflects differences in unit values for identical products sold in different types of establishments. For example, the unit value associated with a product sold in a self-service "discount" store may be lower than the unit value associated with the same product sold in a store that provides many sales clerks and delivery service. The output measure, therefore, reflects changes in the level of service provided to customers, insofar as differences in unit values reflect the difference in service among the various types of establishments.

In addition to the deflated value technique, weights relating to labor importance were used to combine segments of the output index into a total output measure. The weights used were gross margin weights. These weights, calculated for each merchandise line category, represent the percentage markup provided by the auto and home supply store industry. Gross margins are used in place of labor importance weights, which are unavailable for this industry. These procedures result in a final output index that is closer, conceptually, to the preferred output measure.

The index of hours for the auto and home supply store industry is for all persons, that is, hours for paid employees, self-employed, and unpaid family workers. As in all of the output per hour measures published by the Bureau of Labor Statistics, hours and employment are each considered homogeneous and additive. Adequate information does not exist to weight the various types of labor separately.

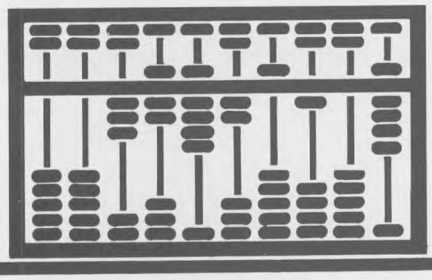
The indexes of output per hour relate total output to one input—labor time. The indexes do not measure the specific contribution of labor, capital, or any other single factor. Rather, they reflect the joint effect of many interrelated influences, such as changes in technology, capital investment, capacity utilization, store design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

No explicit adjustments were made to the measures to take into account increases or decreases in some services provided to the consumer. There has been a trend toward more self-service operations. This has shifted some of the hours in retailing from the employee to the consumer. However, data are not available to measure the effect of this change. Adjustments for changes in product quality are made to the extent that changes in quality have been accounted for in the price indexes used to deflate the current dollar value of sales.

The basic sources for the output series for this measure consist of the total sales data and sales by merchandise line reported by the U.S. Department of Commerce. The deflators were developed using various Consumer Price Indexes published by the Bureau of Labor Statistics. The gross margin weights were developed from data reported by the U.S. Department of Commerce.

The basic sources for the all person hour series consist of data on employment and hours published by the Bureau of Labor Statistics and the Bureau of the Census, supplemented by data from special tabulations compiled for the Bureau of Labor Statistics by the Bureau of the Census.

Technical notes



Milestones in Producer Price Index methodology and presentation

Andrew G. Clem

Some of the most profound changes in the history of the Bureau of Labor Statistics' Producer Price Index (PPI) program have occurred during the 1980's. The completion of the PPI Revision has not only greatly expanded the coverage of the index, but has also vastly improved sampling and calculation procedures. It has also made PPI data more compatible with other economic time series by making more extensive use of the Standard Industrial Classification (SIC).

Now that the transition has been completed, it is an appropriate time to review what specific changes have been made in the index itself and in the monthly detailed report, *Producer Price Indexes*. For obvious reasons, the focus here will be on the most recent changes; however, notable earlier accomplishments will be outlined as well. This technical note should be of particular benefit for statistical researchers. (Although the name "Wholesale Price Index" was officially used until 1978, the term "Producer Price Index" as used in this report refers, for the sake of clarity, to the industrial price program over the years.)

The Bureau conducted the first comprehensive overhaul of the PPI when the January 1952 index was published.[1] This overhaul involved a major expansion of the sample of commodities, a revision of the weight structure, and a retroactive recalculation of the indexes back to 1947. The scope of the sample expansion is reflected by the large number of index series in the PPI historical files whose data begin in 1947—1,811 individual items and commodity groupings. Only 81 series date back further than 1947. The other significant first in 1952 was the introduction of indexes for "economic sectors," what we now call "stages of processing" (SOP).

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The next watershed year in the industrial price program was 1967. The commodity code system was extended to provide more "room" for expansion: detailed items' codes were expanded to eight digits instead of six as in the past. This accommodated a new level of aggregation, the subproduct class (below the four-digit product class level). In addition, there was a revision of the weight structure, and a major reclassification involving machinery, transportation equipment, tobacco, and beverages. Finally, the first indexes classified by SIC were published under the Industry–Sector Price Index (ISPI) program, a precursor to the PPI Revision.

The double-digit rates of inflation during the 1970's gave rise to heightened public awareness of government price statistics. In the PPI program, special efforts were made to improve the quality and sample breadth of energy price indexes. Seasonal adjustment methodology was improved, and given greater public prominence. In July 1975, seasonally adjusted percent changes for the principal PPI series were cited as the primary analytical measure of overall price change for the first time. More importantly, research was begun on the comprehensive project to revise the methodology of the PPI.

The year 1978 was marked by several crucial events, both cosmetic and substantive. In March, the name of the program was officially changed from the "Wholesale Price Index" to the "Producer Price Index." For years, the term "wholesale" had been misleading many people into thinking that the index was based on quotes that wholesalers or distributors charged to retail outlets. The name change to "PPI" was intended to express more correctly the type of price collected, which was always the price *received* by the *producer*. At the same time, the analytical focus of the program shifted from the major commodity groups to the stage-of-processing categories. Thus, the Index for All Commodities was replaced by the Finished Goods Price Index as the principal measure of industrial prices. The use of stage-of-processing indexes, instead of major commodity groupings, went a long way toward eliminating the double-counting problem that had been a major criticism of the PPI. By May of 1978, the regular cycle of revising indexes on the fourth month after their original publication was in place. July 1978 marked the introduction of published indexes from the "pilot survey" of four industries for the PPI Revision.[2]

Regular publication of indexes under the revised methodology began in January 1980. The expansion of coverage under the PPI Revision proceeded almost as scheduled during the first half of the decade, in spite of tight budget constraints. Many industries, such as printing and publishing, logging, ship and boat building, and various engineering and scientific instruments were introduced into the PPI for the first time. In addition, coverage was expanded considerably for many other industries, such as aircraft and parts, chemicals, plastics, and special industry machinery. Indexes for steel mill products (July 1982) and refined petroleum products (July 1985) were among those substantially overhauled because of the PPI Revision. However, one consequence of the scientific sampling procedures used in the PPI Revision process was that many detailed indexes could no longer be published.

As the PPI Revision neared completion, several major changes were made in the physical presentation of the data. In January 1985, price indexes for the net output of higher level SIC groupings were introduced. Until then, the highest level indexes that had been published were four-digit industry indexes. A number of three-digit industry group and several two-digit major industry group indexes were first published between 1985 and 1986, thus affording even better compatibility between the PPI and other economic time series.

In January 1986, the first stage of the PPI Revision program was completed, as the final batch of 74 mining and manufacturing industries was published to bring the total up to 490. By that time, the universe of coverage excluded all imported goods. In addition, indexes were first published for the net output of the total mining and total manufacturing sectors. The few remaining Industry–Sector Price Indexes were eliminated, as their function was supplanted by the new industry-classified indexes under

the PPI Revision. Because of these changes, the content of the detailed report changed considerably, with some tables being eliminated, others renumbered, and yet others being reformatted. In July 1986, indexes measuring prices for material inputs to the construction sector were first published. This is a pilot project for what is hoped will eventually become a system of material input indexes for goods-producing industries.

The weighting structure of the PPI commodity grouping indexes was revised at the beginning of 1987, as 1982 census values of shipments replaced the 1972 weights that had been used since 1976.[3] In January 1988, the reference base was changed from 1967 = 100 to 1982 = 100, the first such change since 1971. Thus, the weight base year and the index reference year coincided for the first time in the modern era.

Industry-based "revised" stage-of-process indexes were first released to the public in January 1988; this new system relies exclusively on the input-output table to allocate industries. Indexes for several new "service-sector" industries were first published during 1988, including air freight, deep sea transportation, and radio broadcasting. These represent the first major step in the next stage—an expansion of the PPI into service industries, which are increasingly important in the American economy. □

Footnotes

[1] All dates cited in this report refer to the month to which the indexes pertain, usually 1 month before the indexes were published.

[2] The results of this test phase were described in John Early, "The Producer Price Index Revision: overview and pilot survey results," *Monthly Labor Review*, December 1979, pp. 11–19.

[3] An article describing the weight change and analyzing its effects on the index is Andrew Clem and William D. Thomas, "New weight structure being used in Producer Price Index," *Monthly Labor Review*, August 1987, pp. 12–21.

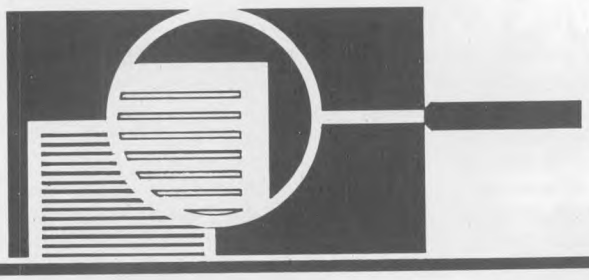
Patterns of locational adjustment

It has been argued that there are a number of changes in the economic and technological environment of an industry which could make a particular country less attractive as a production location. One might expect that both foreign- and domestically-owned firms would respond to these changes in a broadly similar fashion. That is, if local production becomes less attractive, both groups will reduce it, perhaps closing local production facilities.

It has been suggested, however, that both respective adjustment paths and the new configurations of multinational and domestic firms may differ. Specifically, it is argued that, given the characteristics of the industry in question, multinationals will be more responsive than domestic firms to changes in the attractiveness of local production. According to this view, multinationals can and do relocate production quickly in response to local factor price, exchange rate and regulatory changes and that domestic firms are either less inclined or less able to do this.

—Donald G. McFetridge
Trade Liberalization and the Multinationals
(Ottawa, Economic Council of Canada, 1989),
p. 5.

Research summaries



Do more-educated workers fare better following job displacement?

Paul Swaim and Michael Podgursky

Increased international competition and capital mobility, new workplace technologies, and structural changes in industry continue to focus attention on the problem of job displacement and on labor market policies to reduce and more equitably distribute the costs of such changes.[1] It has been argued that the ongoing—and perhaps accelerating—process of structural economic change has increased employers' demand for higher educational attainment among workers, because workers with good cognitive skills are more easily trained and generally more adaptable. For example, according to authors of a recent joint publication of the U.S. Departments of Education and Labor, shifts in the industrial and job mix are placing an increasing premium on basic educational skills that many workers lack.[2] In economic terms, this means that workers with better general education will have lower costs of displacement.

The argument that general education facilitates labor market adjustment is intuitively plausible and supported by some case study evidence.[3] Statistical tests of this hypothesis, however, have been hampered by scarcity of data, because, until recently, microdata on the postdisplacement experience of a large sample of permanently displaced workers have not been available. In this report, we use a large sample of displaced workers from the January 1984 and January 1986 Displaced Workers Surveys, special supplements to the Current Population Survey (CPS),[4] to examine the effect of education on postdisplacement labor market adjustment. We find strong evidence that workers with more schooling experience smaller economic losses as a result of displacement.

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Educational credentials of workers

In January 1984 and again in January 1986, all respondents from 60,000 CPS households were asked whether they or any other member of their household age 20 or older had "lost or left a job" within the previous 5 years "because of an employer going out of business, a layoff from which [the worker] was not recalled, or other similar reasons." An affirmative response triggered 18 supplemental questions concerning the nature of the job lost and postdisplacement labor market experience. These displacement questions, of course, supplement the extensive demographic and labor force data in the basic monthly CPS.

For this study, we pooled the two surveys and drew a sample of 10,659 workers between the ages of 20 and 61 whose full-time nonagricultural jobs were eliminated between January 1979 and January 1986 due to plant or company closures or moves, slack work, or abolishment of position or shift.[5] We excluded workers age 62 and older because they would generally be eligible for Social Security retirement payments and possibly private pensions as well. They thus face a different set of circumstances in the labor market than do younger workers. Finally, the Displaced Workers Surveys only provided information on usual weekly earnings and full-time/part-time nature of the worker's former job. By limiting our sample to full-time workers, we attempt to control for

Table 1. **Average educational and demographic characteristics of displaced and employed workers, by occupation of former job**

Occupation	Percent of displaced workers	Education (years)	Age (years)	Percent female	Percent black
Total displaced workers[1]	100.0	[2]12.3	[2]34.3	[2]34.4	[2]12.0
(Total employed workers)	(100.0)	(13.1)	(37.1)	(40.5)	(10.1)
Operatives	[2]28.6	11.3	[2]34.3	[2]35.3	15.0
	(13.7)	(11.2)	(38.0)	(28.5)	(14.5)
Craft and precision	[2]21.3	11.8	[2]34.9	[2]12.5	[2]9.1
	(14.0)	(11.8)	(37.0)	(8.2)	(6.6)
Laborers	[2]8.2	11.3	[2]32.1	[2]17.3	[3]19.9
	(3.5)	(11.2)	(34.2)	(15.7)	(16.7)
Clerical	[2]10.1	[2]12.6	[2]33.7	[2]68.5	[3]13.6
	(17.5)	(12.8)	(37.1)	(77.6)	(11.0)
Managerial	[2]8.8	[2]14.0	[2]35.8	[2]40.5	5.2
	(13.3)	(14.6)	(39.2)	(33.1)	(5.4)
Sales	[2]8.4	[2]13.1	[2]34.7	39.1	4.3
	(9.7)	(13.5)	(36.3)	(36.0)	(4.5)
Service	[2]5.6	11.9	[2]34.0	[2]58.7	23.6
	(9.7)	(11.8)	(37.2)	(51.3)	(21.0)
Professional	[2]5.8	[2]14.8	[2]34.9	[2]36.3	7.6
	(14.3)	(16.1)	(37.9)	(46.5)	(7.3)
Technical	[2]3.1	13.8	[2]32.9	[2]33.9	5.8
	(3.8)	(13.9)	(34.6)	(46.1)	(8.1)

[1] Workers ages 20 to 61 displaced from full-time nonagricultural wage and salary jobs between January 1979 and January 1986. Statistics in parentheses refer to workers ages 20 to 61 employed in full-time nonagricultural jobs in January 1984. To facilitate comparison between these two groups, the age criterion for displaced workers refers to age at the time of displacement.

[2] Difference between the upper (displaced) and lower (total employed) estimates significant at the 1-percent level.

[3] Difference between the upper (displaced) and lower (total employed) estimates significant at the 5-percent level.

hours of work on the old job when comparing pre- and postdisplacement earnings levels.

Sampling weights provided with the CPS can be used to estimate national totals corresponding to our sample. Such tabulations suggest that displacement is widespread. For example, weighted tabulations from the 1986 survey indicate that approximately 5.8 million workers who fit our sample definition were displaced from at least one full-time job between 1981 and 1984.[6]

Table 1 presents descriptive statistics for these workers, broken down by the broad occupational class of the worker's former job. For comparison, we indicate in parentheses the average characteristics of all full-time workers employed in these same occupational groups in January 1984. The first column of the table shows occupational shares of the relevant population. Blue-collar workers (operatives, craftworkers, and laborers) account for the majority of displaced workers and are much more likely to be displaced than are white-collar or service workers. For example, operatives represent just 13.7 percent of employment, but 28.6 percent of displaced workers.

The second column of table 1 compares the average educational attainment of displaced workers with the corresponding averages for all workers. Displaced workers tend to have less formal schooling than does the average employed worker. This occurs not because displaced workers have less education than employed workers in the same occupation, but because workers in blue-collar occupations, in which average education is lower, are much more likely to be displaced.[7] This is particularly true for operatives and laborers, who have considerably lower educational attainment, on average, than do sales and clerical workers, not to mention professional, technical, and managerial workers. As a group, displaced workers are also younger than the total work force, and are disproportionately male and black.

Table 2. **Median earnings losses and number of weeks of joblessness following displacement, by educational attainment and occupation**

Occupation on former job	Years of schooling completed			
	11 or fewer	12	13 to 15	16 or more
All displaced workers:[1]				
Percent earnings loss	16.1	10.2	8.4	2.0
Number of weeks jobless	39	24	15	12
Operatives:				
Percent earnings loss	16.1	12.8	14.0	5.2
Number of weeks jobless	52	26	17	20
Craft and precision:				
Percent earnings loss	17.2	8.4	13.3	4.1
Number of weeks jobless	26	20	16	15
Laborers:				
Percent earnings loss	14.7	10.9	13.6	[2]
Number of weeks jobless	51	24	24	[2]
Clerical:				
Percent earnings loss	17.5	9.5	6.1	1.6
Number of weeks jobless	36	26	16	12
Managerial:				
Percent earnings loss	[3]27.2	12.8	8.4	2.0
Number of weeks jobless	[3]30	12	12	9
Sales:				
Percent earnings loss	9.5	8.4	.6	.0
Number of weeks jobless	24	12	12	12
Service:				
Percent earnings loss	19.5	5.3	5.7	[3]6.3
Number of weeks jobless	36	13	13	[3]12
Professional:				
Percent earnings loss	[2]	11.2	3.8	.2
Number of weeks jobless	[2]	20	8	10
Technical:				
Percent earnings loss	[2]	12.0	9.2	1.9
Number of weeks jobless	[2]	16	13	8

[1] Workers ages 20 to 61 displaced from full-time nonagricultural wage and salary jobs between January 1979 and January 1986. Earnings loss, which is only defined for workers reemployed on the survey date, is the percentage reduction in usual weekly earnings between the old job and the current job. Earnings on the old job were adjusted for trend growth in occupational wages between the year of job loss and the date of the survey (as reported in various issues of the Bureau of Labor Statistics monthly publication *Employment and Earnings*). The tabulations of numbers of weeks jobless are for workers displaced at least 1 year prior to the survey. Although some of these workers' jobless spells are right-censored (that is, still in progress on the survey date), the median spell durations are not biased because fewer than 50 percent of the workers in any cell experience a year or more without work.

[2] Median value not reported because fewer than 26 observations were available.

[3] Between 26 and 50 observations were available.

The cost of displacement

From the worker's perspective, two potential costs of displacement are the time spent finding a new job and reductions in earnings from predisplacement levels once the worker is reemployed. Table 2 presents median weeks of joblessness and median percentage-point earnings losses for our sample of displaced workers by educational level. The data for all displaced workers in the first two rows show that workers with fewer years of schooling experience much larger losses. The median reduction in usual weekly earnings falls from 16.1 percent for workers lacking a high school diploma to just 2.0 percent for those having completed at least 4 years of college. Similarly, median weeks of joblessness falls from 39 to 12.

The benefits of more education are also evident for the nine broad occupational categories. With only a few exceptions, earnings loss and number of weeks spent jobless fall steadily as years of schooling increase. It is noteworthy, however, that the profile of the decline in displacement-related costs with education differs somewhat among the occupations. For example, completion of high school is very important in blue-collar occupations, but attending college does not appear to bring additional improvements unless a 4-year degree is obtained. By contrast, the distinction between having 12 years of schooling and having 13 to 15 years is important for managerial, sales, professional, and technical workers.

This decline in weeks of joblessness and in earnings loss with education need not be attributable to schooling, if education is correlated with other determinants of adjustment success. Table 3 presents multivariate statistical estimates of the effect of an additional year of completed schooling on short- and long-term displacement costs. In addition to education, our models include a large number of independent variables that control for other worker and labor market characteristics likely to affect postdisplacement adjustment. We also control for years since displacement, because

Table 3. **The effect of an additional year of educational attainment on private costs of job displacement[1]**

Dependent variable	Education coefficient and average value of variable (in parentheses)			
	Blue-collar		White-collar and service	
	Men	Women	Men	Women
Change in—				
1) Median weeks of joblessness	[2]−2.3 (24.5)	[2]−5.3 (47.5)	−0.4 (12.5)	[2]−2.4 (18.5)
2) Probability of full-time reemployment	[2]3.2 (56.2)	[2]2.1 (40.2)	[2]1.7 (69.0)	[2]1.8 (49.3)
3) Percent loss in full-time weekly earnings	[2]−2.6 (9.4)	[2]−3.7 (9.4)	[2]−3.5 (3.8)	[2]−5.0 (2.7)
4) Probability that group health insurance was not replaced	[2]−2.4 (39.6)	[2]−2.7 (41.6)	[2]−3.6 (27.3)	[2]−1.8 (30.8)

[1] In addition to years of schooling, the following independent variables were included in the model: age (linear term plus a spline at age 50); dummy variables for race, marital status, and number of children; the log of weekly earnings, years of tenure, and occupation (eight dummy variables) for prior job; unionization rate in industry of prior employment; dummy variables for plant shutdown, abolishment of shift or position, eligibility for unemployment insurance benefits, receiving of advance notice of layoff, year of displacement, and years since displacement; and local unemployment rate at time of displacement. The effects reported in rows 2 and 4 are based on maximum-likelihood logit coefficients. The effects in row 1 are calculated from maximum-likelihood coefficients of a Weibull duration model. The effects in row 3 are ordinary least squares coefficients.

[2] Significant at the 1-percent level.

some of the reductions in earnings associated with displacement may be transitory. We estimated separate multivariate models for four subgroups defined by sex and broad occupational groupings, because coefficient values are likely to differ for these groups. More-detailed occupational stratification was not attempted because unreliably small sample sizes would result. However, dummy variables were included for each of the nine occupational groups in table 2.[8]

Row 1 of table 3 focuses on the duration of joblessness following displacement. The education coefficient is the estimated effect of an incremental year of education on the median spell of joblessness for an average worker in the four subsamples. (These are computed from the estimated coefficients of a flexible multivariate survival model fit to the distribution of jobless spells.[9]) For blue-collar men, an incremental year of education reduced the median spell by 2.3 weeks. The effect was similar for white-collar women (2.4 weeks), but considerably greater for blue-collar women (5.3 weeks). Schooling had a smaller and marginally significant effect for men in the white-collar and service groups (0.4 weeks, significant at the 12-percent level).[10]

Another indication of adjustment success is whether these workers, all of whom lost full-time jobs, returned to full-time employment. The second row of table 3 shows the percentage-point effect of an extra year of education on the probability that a worker was reemployed full time at the survey date (that is, in January 1984 or January 1986). (These are computed from maximum-likelihood logit coefficients for an average worker in each of the four subsamples.) An additional year of education raises the probability of subsequent full-time employment by 3.2 percentage points for blue-collar men, and is significant and positive for the other three groups as well. Thus, the coefficients in the first two rows of the table clearly show that more-educated workers spend less time without work following displacement and are more likely to return to full-time employment.

The percentage reduction in full-time weekly earnings associated with displacement also is smaller for workers with greater educational attainment. The third row of table 3 shows the percentage-point change in earnings loss associated with an extra year of education for workers who were reemployed full time when surveyed. (These were computed from the ordinary least squares coefficients of an earnings equation with full-time weekly earnings in January 1984 or January 1986 as the dependent variable.) The reduction in earnings loss per year of education ranges from 2.6 percentage points for male blue-collar workers up to 5.0 percentage points for female white-collar workers.[11]

Finally, higher educational attainment reduces the likelihood of losing employer group health insurance—a major fringe benefit. Because employer-based plans usually terminate within 90 days of layoff, the risk of health insurance loss looms large for displaced workers. Among blue-collar men, 39.6 percent of workers who had an employer-sponsored group health plan on their old job reported that they were covered by *no* group plan at the time of the survey. The educational effects reported in row 4 of the table are computed from maximum-likelihood coefficients of a logit model of health insurance loss. For the blue-collar men, an incremental year of schooling reduced the loss rate by 2.4 percentage points. Similar reductions in loss rates result for the other three subgroups.[12]

Conclusion

Data from the Displaced Worker Surveys show that more-educated workers fare better in the job market following displacement. In the face of involuntary job loss, workers with greater educational attainment suffer smaller economic losses. Among otherwise comparable workers, displaced workers who have completed more years of schooling spend significantly less time finding a new job and are more likely to return to full-time employment. More-educated workers also become reemployed at earnings levels that compare more favorably to those on their former job and are more likely to replace employer-sponsored health plans lost with the prior job.

Does education also reduce the social cost of economic change? The reductions in the *private* costs of displacement associated with education also represent net reductions in the *social* costs of economic change if the better adjustment experience of educated workers reflects their greater productivity in new jobs or their greater productivity in finding the right new job. Such productivity gains, in turn, would reflect the increased value of investing in general skills during a period of rapid structural change. It is possible, however, that some of the advantages accruing to more-educated workers do not reflect true social gains if educational credentials are serving as a signal of native intelligence or perseverance, rather than of productive skills acquired in school.[13] Unfortunately, our data do not tell us why more-educated workers fare better, just that they do.[14]

One final caveat is in order. While greater educational attainment lowers the costs of displacement, it by no means elim-

inates these costs. Many workers with above-average education still experience long spells of joblessness and large earnings losses upon reemployment. Improved general education thus is unlikely to address fully the concerns motivating targeted adjustment assistance for displaced workers, such as Job Training Partnership Act Title III programs. □

Footnotes

ACKNOWLEDGMENT: Paul Swaim wishes to acknowledge the support of the American Statistical Association/National Science Foundation/Bureau of Labor Statistics' Research Fellows Program. The authors thank Jaesung Kim of the Bureau of Labor Statistics for programming assistance, and Neil Alper of Northeastern University, Robert Costrell of the University of Massachusetts, and Ann Polivka and Marilyn Manser of the Bureau of Labor Statistics for helpful comments on an earlier draft of this report.

[1] Recent reports examining the problems of displaced workers include *Economic Adjustment and Worker Dislocation in a Competitive Society,* Report of the Secretary of Labor's Task Force on Economic Adjustment and Worker Dislocation (U.S. Department of Labor, December 1986); U.S. Congress, Office of Technology Assessment, *Technology and Structural Unemployment: Reemploying Displaced Adults,* OTA–ITE–250 (Washington, U.S. Government Printing Office, February 1986); and Richard M. Cyert and David C. Mowery, *Technology and Employment: Innovation and Growth in the U.S. Economy* (Washington, National Academy Press, 1987).

[2] See U.S. Department of Education and U.S. Department of Labor, *The Bottom Line: Basic Skills in the Workplace* (Washington, U.S. Government Printing Office, 1988).

Other authors have come to similar conclusions. Robert Reich and Michael Piore and Charles Sabel emphasize that a broadly trained work force is necessary for the "flexible production" model of work organization that is emerging in competitive sectors of U.S. manufacturing. (See Robert Reich, *The Next American Frontier* (New York, Times Books, 1983); and Michael Piore and Charles Sabel, *The Second Industrial Divide* (New York, Basic Books, 1984).) Similarly, authors of a major econometric study using Current Population Survey microdata on earnings covering more than two decades conclude that labor market returns to education have risen sharply in the 1980's, and that increased demand for educated workers is an important cause of that rise. (See Kevin Murphy and Finis Welch, "The Structure of Wages," Working Paper (Los Angeles, Unicon Research Corporation, April 1988).) Theodore Schultz argues that educational investments produce not only more productive but also more adaptable workers—that is, workers better able to redeploy their human resources in the face of economic change. (See Theodore Schultz, "The Value of the Ability to Deal with Disequilibria," *Journal of Economic Literature,* September 1975, pp. 827–46.)

[3] In a 1986 report on technology and structural unemployment by the Office of Technology Assessment (see footnote 1), the authors note the adjustment problems of workers lacking basic educational skills who participated in various Federal Job Training Partnership Act Title III ("Dislocated Worker") programs. For evidence from earlier case studies, see Jeanne Prial Gordus, Paul Jarley, and Louis Ferman, *Plant Closings and Economic Dislocation* (Kalamazoo, MI, W. E. Upjohn, 1981).

[4] The Current Population Survey is a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample, selected to represent the U.S. population 16 years of age and older, consisted of about 60,000 households in 1984 and 1986.

[5] We excluded workers who reported job loss due to self-employed business failure, termination of a seasonal job, or "other" reasons, which is consistent with the technique employed by other researchers. (See Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how have they fared?" *Monthly Labor Review,* June 1985, pp. 3–16; and Francis Horvath, "The pulse of economic change: displaced workers of 1981–85," *Monthly Labor Review,* June 1987, pp. 3–12.) Unlike these authors, however, we do not exclude workers with less than 3 years of seniority on their former jobs. None of the findings of this study are changed if we restrict our sample to workers with 3 or more years of tenure.

[6] Because the 1984 and 1986 surveys both include workers displaced in 1981–83, the total weighted count for our pooled sample would overstate the incidence of displacement. Year-by-year comparisons for the two surveys suggest that many workers "displaced" in the year prior to the survey are eventually recalled by their former employers. (See Michael Podgursky, "Job Displacement and Labor Market Adjustment: Evidence from the Displaced Worker Surveys," in Richard M. Cyert and David M. Mowery, eds., *The Impact of Technological Change on Employment and Economic Growth* (Cambridge, MA, Ballinger, 1988), pp. 3–41.) Hence our choice to report the weighted count for 1981–84 from the 1986 Displaced Worker Survey.

[7] As is indicated in table 1, mean educational attainment is significantly lower for displaced workers than for all employed in four of the white-collar occupations (clerical, managerial, sales, and professional). Within-occupation differences in years of schooling, however, account for just 0.1 year of the 0.8 year of educational gap between all displaced workers and all employed.

[8] A complete list of the independent variables is provided in a footnote to table 3. For reasons of space, we report only education coefficients in the table. The full set of estimated coefficients for all the independent variables and related statistics is available on request from the authors.

[9] Specifically, we used a Weibull regression model. For a description of this model, see Michael Podgursky and Paul Swaim, "Duration of Joblessness Following Displacement," *Industrial Relations,* Fall 1987, pp. 213–26.

[10] The relatively weak association between education and weeks spent jobless for white-collar men is at least partially attributable to the fact that years of schooling completed enters the survival-time model as a linear effect. We reestimated the model replacing the linear education term with dummy variables for the four intervals used in table 2 (0 to 11, 12, 13 to 15, and 16 or more years of schooling). The estimated coefficients indicate much longer jobless durations for the least educated group (significant at the 2-percent level), but very similar spell lengths for the remaining three groups.

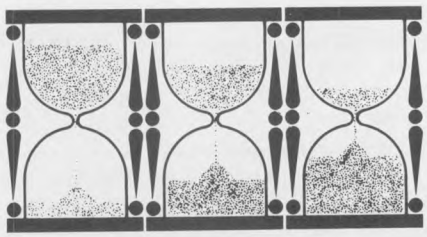
[11] Because data on reemployment earnings are unavailable for workers not employed on the survey date, the estimated impacts of education on weekly earnings may be unreliable for these workers. In "Job Displacement and Earnings Loss: Evidence from the Displaced Worker Survey," *Industrial and Labor Relations Review,* October 1987, pp. 17–29, Michael Podgursky and Paul Swaim analyze sample selection for this model using 1984 Displaced Worker Survey data. Their results suggest that nonrandom selection into reemployment probably does not significantly bias the estimated coefficients for education.

[12] In "Health insurance loss: the case of the displaced worker," *Monthly Labor Review,* April 1987, pp. 30–33, Michael Podgursky and Paul Swaim show that health insurance loss rates are much lower for reemployed workers, but that a substantial number become reemployed in jobs without employer-sponsored health insurance. More-educated workers are more likely to replace their former health plan both because they become reemployed more quickly and because their new jobs are more likely to provide insurance coverage.

[13] Michael Spence analyzes educational credentials as signals of native abilities. See Michael Spence, "Job Market Signaling," *Quarterly Journal of Economics,* Vol. 87, 1973, pp. 355–74. Similarly, if more-educated workers bump less-educated workers further back in job queues, the social return to education is reduced. See Lester Thurow, *Generating Inequality* (New York, Basic Books, 1975).

[14] The Displaced Worker Survey data suggest one possible explanation for the link between education and adjustment to displacement. More-educated workers are more likely to make employment-related moves to a new city or county. For example, 14.9 percent of the men with 0 to 11 years of schooling made such a move, as compared to 27.1 percent for those with 16 or more years of schooling. The corresponding migration rates for women were 9.7 and 22.0 percent.

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 Compensation and Working Conditions. The list includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification. Labor organizations listed are affiliated with the AFL–CIO, except where noted as independent (Ind.).

Private industry

Construction

National Electrical Contractors Association, American Line Builders, Interstate; Electrical Workers (IBEW), 1,400 workers

National Electrical Contractors Association, Southern Florida; Electrical Workers (IBEW), 1,200 workers

Northeastern States Area Agreement, Interstate; Boilermakers, 1,000 workers

Western States Field Construction Negotiating Committee, Interstate; Boilermakers, 6,000 workers

Food products

Fluid milk and ice cream companies, California; Teamsters, 1,500 workers

Paper

Federal Paper Board Co., Riegelwood, NC; Paperworkers, 1,200 workers

Hammermill Paper Co., Thilmany Pulp and Paper Division, Kaukauna, WI; Paperworkers, 1,250 workers

Chemicals

Revlon, Inc., Edison, NJ; Automobile Workers, 2,000 workers

Glass

Anchor Hocking Corp., Lancaster, OH; Flint Glass Workers, 1,500 workers

Steel

Acme Steel Co., Riverdale, IL; United Steelworkers, 1,050 workers

Al Tech Specialty Steel Corp., Dunkirk and Watertown, NY; United Steelworkers, 1,550 workers

Armco, Inc., Butler, PA; Butler Armco Independent Union (Ind.), 2,100 workers

Atlantic Steel Co., Atlanta, GA; United Steelworkers, 1,000 workers

Copperweld Steel Co., Warren, OH; United Steelworkers, 1,300 workers

Cyclops Corp., Cytemps Specialty Steel Division, Pittsburgh and Titusville, PA; United Steelworkers, 1,000 workers

Cyclops Corp., Empire–Detroit Steel Division, Mansfield, OH; United Steelworkers, 1,200 workers

Machinery, except electrical

Dresser Industries, Inc., Dresser Clark Division, Olean, NY; United Steelworkers, 1,250 workers

Harnischfeger Corp., Milwaukee, WI; United Steelworkers, 1,300 workers

Electrical and electronic equipment

Amana Refrigeration, a subsidiary of Raytheon Corp., Amana, IA; Machinists, 1,475 workers

Whirlpool Corp., Fort Smith, AR; Allied Industrial Workers, 3,800 workers

Transportation equipment

Borg–Warner Corp., Muncie, IN; Automobile Workers, 2,250 workers

Transportation

Hampton Roads Shipping Association, Virginia; Mobile Steamship Association, Mobile, AL; New Orleans Steamship Association, New Orleans, LA; New York Shipping Association, Port of New York–New Jersey; Philadelphia Marine trade Association, Philadelphia, PA; Steamship Trade Association of Baltimore, Baltimore, MD; South Atlantic Employers Negotiating Committee, South Atlantic ports; Southeast Florida Employers Association, Florida; and the West Gulf Maritime Association, West South Central ports; International Longshoremen's Association, 26,000 workers

Public utilities

Consumer Power Co., Michigan, excluding Detroit; Utility Workers, 4,300

Retail trade

A&P Food Stores, Baltimore, MD; Food and Commercial Workers, 2,000 workers

Alpha Beta, Frys Food Stores, and Safeway Food Stores, Arizona; Food and Commercial Workers, 4,000 workers

Giant Food Stores, Baltimore, MD; Food and Commercial Workers, 4,125 workers

Giant Food Stores, Washington, DC, area; Food and Commercial Workers, 9,000 workers

Jewel Food Stores, Illinois and Indiana; Food and Commercial Workers, 17,000 workers

Safeway Food Stores, Baltimore, MD, area; Food and Commercial Workers, 7,500 workers

Schnuck Supermarkets, St. Louis, MO; Food and Commercial Workers, 1,200 workers

Insurance

Prudential Insurance Co., interstate; Food and Commercial Workers, 15,000 workers

Hotels

Casino hotels in Atlantic City, NJ; Hotel Employees and Restaurant Employees, 13,000 workers

Hotel Association of Washington, Washington, DC; Hotel Employees and Restaurant Employees, 5,000 workers

Amusement services

Disneyland, Anaheim, CA; various unions, 2,000 workers

Hospitals

Albert Einstein College of Medicine, New York, NY; Retail, Wholesale and Department Store, 1,300 workers

Brigham and Women's Hospital, Boston, MA; Massachusetts Nurses Association (Ind.), 1,400 workers

Public activities

General administration

Alameda County general employees, Alameda County, CA; Service Employees, 5,500 workers

Public activities—Continued

General administration—Continued

Los Angeles County clerical employees, Los Angeles County, CA; Service Employees, 14,500 workers

Los Angeles County administrative and technical employees, Los Angeles County, CA; Service Employees, 2,500 workers

Los Angeles County supervisors, Los Angeles County, CA; Service Employees, 1,450 workers

Los Angeles County artisans and blue-collar employees, Los Angeles County, CA; Service Employees, 2,650 workers

Education

Brentwood teachers, Brentwood, NY; American Federation of Teachers, 1,000 workers

Compton teachers, Compton, CA; National Education Association (Ind.), 1,300 workers

Health care

Los Angeles County paramedical employees, Los Angeles County, CA; Service Employees, 1,250 workers

Los Angeles County Registered Nurses, Los Angeles County, CA; Service Employees, 4,425 workers

Los Angeles County institutional supervisors Los Angeles County, CA; Service Employees, 1,250 workers

Protective services

Michigan State Police, Michigan; Service Employees, 1,850 workers

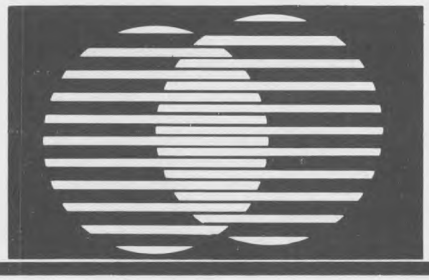
Finding workable solutions

Labor relations did not play a dominant role in professional sports until the early 1970's. Although player conflicts over work practices came early in the development of professional sports, they were characterized by infrequent and transitory confrontations with team owners. In the decades before unions and collective bargaining became ingrained in the sports industry, professional athletes were treated like privileged peons. They had adulation from the public and generally made larger incomes from playing games than they would have made in outside pursuits, but hardly any made big money. Players viewed themselves as knights on a noble mission to provide entertainment and have fun in the process. They were not engaged in the contests for power with management that coal miners and steelworkers were. Sport was more avocation and pastime than career and business. . . .

By the early 1970's, growing fan interest in the games, heightened by network television, had transformed professional sports into lucrative business enterprises. Leagues expanded to take advantage of population explosions in the cities of the West and South. Wealthy business moguls bid for sports franchises as tax havens and ego builders. Entirely new leagues sprang up to compete with established organizations and lure away players at attractive salaries. As sports became more like traditional businesses, players increasingly turned to agents to represent them in individual salary negotiations. Most important, players' associations, formerly weak or nonexistent, became a countervailing power to the owners' exclusive interests. Professional sports entered a new era, featuring collective bargaining, court actions, and strikes.

—Paul D. Staudohar
The Sports Industry and Collective Bargaining
2d ed. (Ithaca, NY, Cornell University, New York State School of Industrial and Labor Relations, 1989), pp. 4–5.

Developments in industrial relations



AT&T settlement

American Telephone & Telegraph Co. (AT&T) settled with the Communications Workers of America and the International Brotherhood of Electrical Workers on a 3-year contract. The settlement focused on "family care benefits," reflecting the increasing concern throughout the Nation regarding adequate care for children and/or elderly or infirm relatives in families in which both spouses are employed. A 1987 survey of AT&T employees—53 percent of whom are women—showed a growing concern for family care, particularly child care.

Company vice president Raymond E. Williams called the agreement "the most progressive ever negotiated by AT&T. It recognizes the needs for AT&T's changing work force and it will further strengthen AT&T's competitive thrust and cost containment as the company enters the 1990's."

Similar sentiments regarding child care and elder care were expressed by Communications Workers' president Morton Bahr and Electrical Workers' president John J. Barry. The two unions bargained as one with AT&T, a departure from their past practice of coordinating bargaining but settling separately, which sometimes resulted in variations in terms. The 1989 accord covered 135,000 employees represented by the Communications Workers and 40,000 represented by the Electrical Workers.

The new family care approach calls for—

- A $5 million company obligation to fund efforts to increase the number of professional organizations able to meet the child and elder care needs of employees.
- Up to 12 months of unpaid leave for the birth or adoption of a child (up from 6 months), and a provision permitting employees to take up to 12 months of leave within a 2-year period to care for seriously ill family members. During both types of leave, AT&T will pay the full cost of death benefits and basic group life insurance for up to 1 year and medical expense benefits for up to 6 months, with employees paying the full cost of supplemental life insurance on themselves and dependent health insurance coverage.
- A company payment of up to $2,000 to employees adopting children under age 18, effective January 1, 1990.
- Resource and referral organizations, engaged by the company, to assist employees in locating and evaluating care for children under age 13 and relatives older than age 59. The separate organizations are to begin operating on January 1 of 1990 and 1991, respectively, and will also foster the expansion and establishment of care plans.
- New dependent care reimbursement accounts allowing employees to deposit up to $5,000 a year, free from Federal income and Social Security taxes. The money will be used to provide care in or out of the employee's home—but not in a nursing home—for dependent children under age 13 and for elderly dependents not capable of self-care. Money remaining in individual accounts at the end of a plan year will be shifted into a general account and credited to all participants.
- A trial revision of the existing excused workday plan—during 1990, employees can take off on short notice and in increments of at least 2 hours, one of the 4 annual paid days off.

Wage increases for the 115,000 "nonmanufacturing" or operating employees are 4 percent retroactive to May 28, 1989, 2.5 percent on May 27, 1990, and 2.25 percent on May 26, 1991. The 60,000 manufacturing employees received an immediate lump-sum payment equal to 8 percent of their earnings during the preceding 12 months, followed by wage increases of 3.5 percent on May 27, 1990, and 3 percent on May 26, 1991. The 10,000 skilled trades manufacturing workers also received an immediate 50-cent-an-hour wage increase. Prior to the settlement, average weekly pay reportedly was $512 for operating employees and $494.68 for all manufacturing employees.

A new profit-sharing plan, the AT&T Performance Award, provides for possible distributions to employees in March of 1991, 1992, and 1993, based on AT&T's operating results during the preceding year. The distributions will be in equal amounts to all workers, and will come from an allocation equal to 5 percent of the company's net income after an amount equal to 8 percent of common shareholders' equity is deducted.

Revisions in the savings and security plan include a company pay-in equal to two-thirds of the employee's basic investment in AT&T stock shares (was one-half) and the employee's maximum investment in the basic and supplemental portions of the plan was raised to 16 percent of basic pay. Also, the plan's administrative and investment costs were shifted to participants and they now are allowed to borrow against their holdings.

Effective July 1, 1989, pensions were increased by 12 percent for employees retiring after May 27, 1989. This brought the benefit rate range to $19.17–$46.68 a month for each year of credited service, from $17.12–$41.68. The parties also raised pensions 5 percent for employees who retired prior to January 31, 1988, and by prorated amounts for some of those who retired later, effective January 1, 1991.

On January 1, 1990, a new AT&T Transfer System will replace two existing plans. Under the new approach, employees who are declared surplus are permitted to transfer to other locations, with the company paying up to $7,000 of moving expenses. If the new job has a lower pay rate, the cut will be imposed in stages varying by length of service, until the lower rate is reached. The maximum transition period is 65 weeks for employees with at least 15 years of service. Surplus employees will be relocated in seniority order and will have precedence over "nonsurplus" employees seeking a career change. Nonsurplus employees will not receive relocation pay.

AT&T did not win its initial demand for higher deductibles on health insurance benefits, but the existing $150 a year deductible was extended to cover additional

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"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.

services. In another move to control medical costs, the settlement encourages the use of preferred provider organizations by penalizing employees who do not use them once they are established in an area. In such cases, employees who remain under the existing medical expense plan will go from full coverage to paying 20 percent of expenses after a $200 deductible. Other changes include coverage of two mammograms per year and midwife charges, elimination of a requirement for a second medical opinion prior to surgery, and provisions requiring physicians to accept the payments offered by the plan and prohibiting them from directly billing patients for charges in excess of the payments.

After the AT&T accord, the Communications Workers and Electrical Workers still faced 1989 negotiations with the seven regional companies that, with AT&T, made up the Bell Telephone System prior to its court-ordered breakup in 1984. The first round of settlements after the breakup, in 1986, resulted in wide variations in wage and benefit terms, a departure from the past practice of pattern bargaining. Industry observers generally expected variations to continue in the 1989 settlements, except for emphasis on adoption of various types of family care provisions.

National Steel–United Steelworkers

In the second 1989 settlement in the steel industry, National Steel Corp. and the United Steelworkers agreed on terms similar to those at Bethlehem Steel Corp., with some exceptions. (See *Monthly Labor Review*, July 1989, p. 43, for the Bethlehem terms.) The differences resulted because the 1986 accord at National called for smaller cuts in wages and benefits than the Bethlehem accord—64 cents an hour versus $1.97, according to a Steelworkers' official—and because the companies continue to insist that terms must be tailored to their individual conditions, in contrast to the pre-1986 practice of settling on essentially identical contracts.

The differences were an immediate 31-cent-an-hour wage restoration increase for production workers at National (42 cents for office and technical employees), compared with the 8.09-percent immediate increase at Bethlehem (future increases were the same at both companies—$1 an hour in January 1991 and 50 cents an hour in January 1992), and companywide distribution of the entire annual profit-sharing allocation (10 percent of pretax profits) at National. At Bethlehem, 60 percent of the allocation will be distributed companywide and the balance will be allocated to company units in proportion to their profits, for payment to their employees.

The National settlement, for 7,300 employees at three plants in Michigan, Illinois, and Indiana was first rejected by union members, but was later accepted after National agreed to changes in the profit-sharing and inflation recognition payments. The accord left only Inland Steel Co. and Armco, Inc., to settle with the Steelworkers in the 1989 round of bargaining at the major producers. The 1987 agreement with USX Corp., the largest company in the industry, expires in January 1991.

Elsewhere in the steel industry, relations were less conciliatory between CitiSteel USA Inc. of Claymont, DE, and the Steelworkers. According to the union, the company was not keeping a commitment to staff the reopened plant with employees of the former operator, Phoenix Steel Corp., which had shut down in 1987 after declaring bankruptcy. Accordingly, the union, which had represented Phoenix employees since 1943, filed a complaint with the National Labor Relations Board.

China International Trust and Investment Corp., the new owner, countered that any hiring commitments were not valid because they had been made by a prospective partner who did not actually participate in the purchase. CitiSteel's president said that up to a third of the 190 employees hired so far were former Phoenix Steel employees. Employment is expected to total 300 when full production is reached in 1990.

Civil rights cases

The Supreme Court issued several rulings that were generally viewed as restraints on women's and minorities' efforts to redress allegedly unfair employment practices.

In *Wards Cove Packing Co.* v. *Antonio*, the Court held that employees must now prove that racial imbalances in their employer's work force result from practices that have no valid business justification. Under the previous interpretation of Title VII of the Civil Rights Act of 1964, a statistical indication of racial imbalance was sufficient for a finding of discrimination, even if there was no evidence that the employer intended to discriminate. Title VII prohibits discrimination in employment based on sex or race.

The case, which originated 15 years ago, involved salmon cannery workers, mostly Filipinos and Alaskan Natives. They claimed that Wards Cove Packing's hiring and promotion practices—which included racially segregating work, eating, and sleep areas and not promoting from within—relegated them to canning line jobs, generally leaving the higher paying nonline jobs to whites. Wards Cove argued that the plaintiffs had failed to demonstrate which particular employment practices caused the alleged discrimination. The company also contended that its ability to fill the nonline jobs was limited by the pool of available trained applicants.

Justice Byron R. White, writing for the five-member majority, remanded the case to an appeals court for further review. The opinion stated that the plaintiff's statistical comparison of the percentage of whites in line and nonline jobs was not appropriate if the absence of minorities from nonline jobs resulted from a dearth of minority applicants that could not be attributed to the company.

In dissent, Justice John Paul Stevens, joined by Justices William J. Brennan Jr., Thurgood Marshall, and Harry A. Blackmun, accused the majority of "turning a blind eye to the meaning and purpose of Title VII." In a separate dissent, Justice Blackmun said that the majority decision would protect blatantly discriminatory employment practices.

In *Martin* v. *Wilks*, the Supreme Court ruled that a group of white firefighters in Birmingham, AL, could challenge an affirmative action plan that had been adopted in 1981 with approval of a lower court to settle charges by blacks that the city had engaged in discriminatory hiring and promotion practices. In their 1983 suit, the white plaintiffs claimed that the affirmative action plan had denied them promotions because of their race, a violation, they maintained, of Title VII of the Civil Rights Act and the Fourteenth Amendment.

In the majority opinion, Chief Justice William Rehnquist acknowledged that "the great majority" of appeals courts had rejected challenges to affirmative action plans by "secondary parties" such as the white firefighters, particularly when the plaintiffs were aware of the plan when it was adopted but delayed in initiating a court test. However, he said, the white firefighters' challenge must be allowed because a voluntary settlement between a group of employees and their employer "cannot possibly settle . . . the conflicting claims of another group of employees who do not join in the agreement."

In dissent, Justice John Paul Stevens, writing for Justices William J. Brennan, Jr., Thurgood Marshall, and Harry A. Blackmun, said the ruling was "unfathomable" and will "subject large employers who seek to comply with the law to a never-ending stream of litigation and potential liability."

In *Lorance* v. *AT&T Technologies, Inc.*, the Supreme Court held that three women

employees of an AT&T plant in Aurora, IL, waited too long before filing a lawsuit contending that a new job seniority system had sexually discriminated against them. Under the new system, the jobs held by the women had been converted to coverage by plantwide job preference seniority rules, from department rules, dropping them to lower paying jobs.

The five-member ruling, written by Justice Antonin Scalia, said the claim should have been filed within 300 days after the seniority change was adopted. The opinion maintained that the Congress intended to give "special treatment" to seniority systems to avert challenges that would disrupt employees "settled expectations."

Justice Thurgood Marshall, joined in dissent by Justices William J. Brennan, Jr., and Harry A. Blackmun, said the decision was at odds with the Civil Rights Act because it required the women to sue before they had suffered adverse effects.

In *Mansell* v. *Mansell*, the Supreme Court held that the divorced spouse of a military retiree is not entitled to a share of any disability benefits received by the retiree. (Possible disability benefits are paid to retirees in combination with regular pensions, which are reduced by the amount of the disability benefits. The disability portion is tax free, unlike the regular pension portion.) The decision hinged on the intent of the Congress in passing the Uniformed Services Former Spouses Protection Act, which permitted State courts to treat military retirement pensions as marital property in divorce settlements.

Justice Thurgood Marshall, writing for the seven-member majority, expressed sympathy for affected former spouses but said that the "plain language" of the act specifically excluded disability benefits from marital property.

Justice Sandra Day O'Connor, joined in dissent by Justice Harry A. Blackmun said that the intent of the Congress was to overturn a 1981 decision in which the court had excluded all retirement benefits from marital property. Justice O'Connor said that this legislative intent made it inconceivable that the Congress intended the broad remedial purpose of the statute to be thwarted by such an exclusion.

Drug test rulings

In *Consolidated Rail Corp.* v. *Railway Labor Executives' Association*, the Supreme Court held that railroads are not required to bargain with unions before including drug tests in the periodic physical examinations. The case arose in 1987, when Consolidated Rail Corp. (Conrail) added drug tests to the physical exam all employees must undergo every 3 years and employees in safety-related jobs must undergo if they are off duty more than 30 days.

In the 7–2 decision, the Court decided that Conrail's action was a minor dispute under provisions of the Railway Labor Act, meaning that the unions' only recourse was after-the-fact arbitration. In contrast, major disputes must be resolved through negotiations prior to any changes.

The ruling will extend to the airline transportation industry, where collective bargaining is also covered by the Railway Labor Act. An official of the Airline Industrial Relations Conference, an employers' group, said that drug tests in conjunction with physical examinations were already common in the industry, but the major remaining question was the Federal Aviation Administration's order that airlines conduct spot drug tests of employees in safety-related jobs.

The National Labor Relations Board issued two rulings regarding drug and alcohol testing of private industry employees outside of railroads and airline transportation. In one case, the Board ruled that the Johnson–Bateman Co., a concrete pipemaker, acted contrary to the National Labor Relations Act when it attempted to unilaterally institute drug and alcohol tests for employees who require medical treatment for on-the-job injuries. Instead, the Board said, the company should have negotiated with the Machinists union, which initiated the legal test, because the attempted change was "germane to the working environment."

In the second case, the Board ruled that the *Minneapolis Star Tribune* newspaper had acted properly in beginning drug and alcohol tests of job applicants without engaging in collective bargaining. The Board said that its decision hinged on the fact that the applicants did not become part of collective bargaining units until they were hired. The case was initiated by The Newspaper Guild.

Building service workers

Some 10,000 employees of office and commercial buildings in the Chicago area were covered by similar Service Employees Local 25 settlements with the Building Owners and Managers Association and independent firms.

The 1-year contracts raised base wage rates 40 cents an hour, to $9.40 for janitors, $9.70 for elevator operators, and $8.65 for security employees. The employers' payment into the health and welfare fund was raised by 10 cents per hour worked (to 95 cents), and is subject to an additional 10-cent increase if needed to maintain benefit levels.

The settlement also enables the union to collect financial penalties from employers who are chronically late in forwarding union dues collected from employees.

Toshiba American accord

In the electrical appliance manufacturing industry, there was a collective bargaining settlement at the Japanese-owned Toshiba American, Inc., plant in Lebanon, TN, where Local 429 of the International Brotherhood of Electrical Workers has represented employees since 1980. After a 2-week work stoppage involving 500 employees, the parties agreed on a 3-year contract to succeed one that expired in April.

Pay was raised a total of 90 cents over the term. (Prior to the settlement, pay averaged $8.57 an hour, according to the union.) Other provisions included addition of a pension plan with a benefit rate of $7 a month for each year of credited service, and a new prescription drug plan covering all but $3 of the cost of each prescription.

Toshiba hired about 70 replacement workers during the stoppage, but they were terminated when the regular employees returned to work. After the stoppage ended, Toshiba and the union were awaiting an arbitrator's decision on the 1-week suspension of 47 employees for allegedly illegal picket line action.

Wheeling–Nisshin workers vote

Union efforts to organize foreign-controlled facilities in domestic industries moved forward when employees of the Wheeling–Nisshin Steel Co. in Follansbee, WV, voted 39 to 20 for representation by the United Steelworkers. A union official who had been trying to organize the plant since it opened in April 1988, believes the balloting was strongly influenced by the size of the initial profit-sharing distribution at the plant, which had ranged from $3 to $300, instead of the $1,800 employees had expected. The company's president explained that the employees were not scheduled to receive a share of profits until after 1989, but the company decided on an earlier payout after it attained profitability in the fourth quarter of 1988, based on operating results for the full year. He said the company would not contest the election results and was prepared to negotiate an initial labor contract. Prior to the contract, employee earnings averaged $10.20 an hour plus benefits.

The highly automated mill is unusual because 48 of the 64 employees in the bargaining unit hold 2- or 4-year college degrees. Most of them completed their advanced education after losing jobs in the steel and coal industries.

Wheeling–Nisshin Steel Co. produces galvanized steel. The plant is 70-percent owned by Nisshin–Steel Co., a Japanese firm; the remainder is owned by Wheeling–Pittsburgh Steel Co.

Mack Trucks employees vote

The United Auto Workers' renewed drive to organize domestic plants in the South and other areas received a boost when a majority of employees of a Mack Trucks, Inc., plant in Winnsboro, SC, voted in favor of union representation. The tally was 453 votes for the union, 398 votes for no union, and 2 votes for an employee group purporting to be an alternative to the Auto Workers.

Mack filed objections with the National Labor Relations Board, claiming that the Auto Workers had been paying transferees from its Pennsylvania and Maryland plants, "thereby interfering with their free choice and inducing them to vote for the union." Mack also asserted that the union engaged in coercive and intimidating activity that prevented a free election. Company officials vowed to carry the case as far as necessary to prove their contentions, which could delay a final decision on the vote outcome for 2 years or more.

Union officials denied the charges, maintaining that the $100 a week they had paid to about 300 workers in the preceding 18 months was a "transition payment" to help them adapt to the lower pay scales of the Winnsboro plant.

The election dispute was the latest in a series of confrontations that began in 1987, when Mack closed a major plant in Allentown, PA, and cut back operations at its Hagerstown, MD, plant, shifting much of the work to the new Winnsboro plant. Later, a judge ruled that displaced employees had the right to transfer to Winnsboro. Of the 400 that transferred, about 300 were still on the payroll at the time of the representation election.

Elections set at Nissan

The National Labor Relations Board scheduled a representation election for employees of Nissan Motor Manufacturing Corp., USA, in Smyrna, TN, in response to a petition from the Auto Workers. The union claimed that more than half of the 2,400 employees had signed election authorization cards, but company officials contended that the total was much lower. (Under the law, 30 percent of eligible employees must sign the cards before an election can be held.)

The election announcement came after a 17-month organizing drive, and was accompanied by the beginning of Auto Workers efforts to organize two other Japanese-owned plants—the Toyota plant in Georgetown, KY, and the Subaru–Isuzu plant in Lafayette, IN.

So far, the union's organizing successes in the automobile industry have been limited to 6,400 employees of plants operated jointly by Japanese and American companies, such as New United Motor Manufacturing Inc. in Fremont, CA (operated by General Motors Corp. and Toyota Motor Co.) and Mazda Motor Manufacturing in Flat Rock, MI (partly owned by Ford Motor Co.).

The union's first major organizing effort at a Japanese-owned plant involved the Honda of America Manufacturing Corp. operation in Marysville, OH. This effort ended in 1986, when the union withdrew its petition to the Board for an election, presumably because of doubts that it could garner a majority of votes. (See *Monthly Labor Review,* May 1986, p. 51.)

Boston, Los Angeles teachers settle

In addition to providing for salary increases, settlements for public school teachers in Los Angeles, CA, and Boston, MA, gave teachers a larger role in determining school operating policies.

Under the Los Angeles accord, committees at each of the 600 schools will address budget, curriculum, and other matters. The committees will have 12 to 16 members—one half of them teachers and the other half, school administrators, parents of students, and, in some cases, students. The committee will decide by majority vote such issues as budgets, teaching methods and materials, and student discipline. There will also be one overall district committee, with the same makeup, to resolve impasses in the local committees.

The settlement for the 22,000 Los Angeles teachers was preceded by a 10-day work stoppage. The contract provided for an 8-percent salary increase in each of the 3 contract years, bringing the salary range to $29,529–$51,490 a year. It eliminated a requirement that elementary teachers supervise school playgrounds, but did not restore financial penalties that had been imposed on some teachers for refusing to perform these and other duties prior to the start of the work stoppage.

The teachers are represented by United Teachers of Los Angeles, which is affiliated with the National Education Association and the American Federation of Teachers.

In Boston, negotiators also moved to decentralize administration by establishing "school site councils" of principals, teachers, parents, and students that will make decisions about school operations. The councils will make decisions regarding teachers without regard to their seniority, and will be permitted to seek waivers of State and local school regulations to improve educational attainment.

The 3-year contract was negotiated by the school board and the American Federation of Teachers. It provided for an initial 7-percent salary increase, which was deferred 3 months (to December 1989) in return for retention of 184 teachers scheduled to be laid off, followed by 7-percent increases in September of 1990 and 1991. Prior to the settlement, pay ranged from $24,000 for starting teachers to more than $38,000 after 20 years of service.

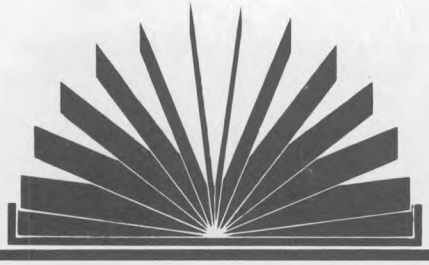
Hospital bargaining units set

After reviewing comments from interested parties, the National Labor Relations Board has adopted its 1988 proposal to place hospital employees in eight predetermined categories for purposes of forming collective bargaining units. (See *Monthly Labor Review,* November 1988, p. 40.) Since 1974, when the National Labor Relations Act was amended to cover hospital workers, the Board had made determinations of proper bargaining units on a case-by-case basis, which drew union criticism that the units sometimes consisted of employees with dissimilar interests and goals, leading to union losses in representation elections.

The American Hospital Association, which announced that it would test the decision in court, had proposed that employees be placed in two broad classes: professionals and nonprofessionals. The Association contended that the Board's decision would foster union organizing efforts, forcing hospitals to expend "tremendous . . . time and energy and resources" in negotiating as many as eight contracts with different provisions and termination dates. The Association also claimed that the ruling increases the possibility of work stoppages.

The eight designated categories of employees are physicians, nurses, other professional employees, technical employees, skilled maintenance employees, business office clerical employees, guards, and other nonprofessional employees. □

Book reviews



Challenges for working women

Women's Quest for Economic Equality. By Victor R. Fuchs. Cambridge, MA, Harvard University Press, 1988. 171 pp. $18.95.

Women at Work. Edited by Rosalind M. Schwartz. Los Angeles, CA, University of California, Institute of Industrial Relations, 1988. 210 pp.

The changing role of women in American society is strongly reflected in their increased labor force participation. Data from the Bureau of Labor Statistics show that labor participation grew 41 percent for women from 1966 to 1988. From 1976 to 1985, the participation rate has grown by 56 percent among women between ages 18 and 44 with a child under 12 months old. Two recent books, *Women's Quest for Economic Equality*, by Victor Fuchs, and *Women at Work*, edited by Rosalind Schwartz, use these labor force statistics as a basis for discussions of current workplace conditions, and the need for change. The first book is a treatise on how far women have progressed, and how much further they have to go. The second book is a collection of research papers addressing the changing roles and expertise of women in the workplace. For increasing numbers of women, the workplace has become a great source of satisfaction but also a source of problems and challenges.

Current concerns for working women are debated in each book. In many cases, the topics mirror those currently receiving national attention, through legislation and lobbying efforts. These topics include: occupational segregation, wage gaps, difficulty in promoting to management positions, unequal responsibility for the household, child care, and time off from work for new parents. Employer-provided benefits for new parents, such as worksite child care centers, are still in their infancy. Adequate social policy provisions are lacking to meet these specific needs. Victor Fuchs asks, "What can be done?" and suggests that certain family-oriented policies can be adopted by employers to meet these needs.

Fuchs' book describes how the extraordinary changes in gender roles have had a profound effect on American society over the last quarter century. He explains that the relatively weaker economic position of women results primarily from conflicts between career and family. These conflicts are much stronger in women than in men. On average, women have stronger desires for children than men, and have greater concerns for the welfare of children after they are born. This creates an economic disadvantage for women. Fuchs mentions that even though women have increased their income, they have less leisure time than men do; the lower marriage rate has made more women dependent on their own income; similarly, women have become more financially responsible for their children. It has been argued that decisions made by men and women with regard to work, marriage, fertility, and children affect the entire society. Fuchs contends that women bear the greatest portion of the work-family burden, and he advocates a strong affirmative action program in the labor market to counteract this imbalance.

Fuchs' book describes and analyzes four possible scenarios for future society in light of the current roles of women, and their quest for economic equality. These scenarios are: a return to *the traditional gender roles* that prevailed prior to the 1960's; a return to a *split society* that is deeply divided between a religious (traditional) minority and secular (egalitarian) majority; an *egalitarian stable role* where men and women seek equal roles at work and at home; and a continued *role of a persistent disequalibrium* where gains for women continue to be offset by losses. He argues that no specific scenario would exist exclusively and concludes that future society may be a blend of all the elements given in the four scenarios, while women continue to strive for equal roles at work and at home.

Women at Work is a collection of research papers organized into four major sections. Section one looks at the changing structure of employment, including more flexibility and choice, and discusses the implications of these changes for women. Section two, "Women as Professionals," focuses on the allocation of work to this unique group of female workers. In the next section, three articles provide an analytical study of the combined role of women at home and at work, its effect on their mental health, and potential welfare policies for a flexible and less stressful environment for working women. The final section examines the health of working women, especially those of childbearing age, and considers the implications for public policy.

Susan Christopherson's article on "labor flexibility," the opening essay in *Women at Work*, explores the nature of the contingent work force (part-time, temporary, and contract workers). Through the use of contingent workers, Christopherson argues, firms can often avoid the responsibilities of providing benefits for working parents. The contingent worker, on the other hand, has more flexible time at her disposal to adapt to different strategies to maximize income. During the 1980's, the thriving contingent work force, which is estimated at about 30 million people, has played an important role in responding to the business climate, according to Christopherson. For the vast majority of women, especially minority women, this work has helped bring about flexibility and freedom. Unfortunately, such advantages come with a cost, as contingent work does not guarantee basic benefits, good wages, or a clear-cut career path. The author calls for new labor market theories to fit the realities of the 1980's. Her article urges employers to offer more flexible work hours, shared jobs, part-time jobs, and flexitime to fit the needs of working women.

In the fourth section of *Women at Work*, Susan Gardin's article, "Physical activity on the job: effects of birth outcomes and implications for the public policy," reviews research on the topic conducted in the United States and Europe. The results of her analysis of the relationship between pregnant working women and the low birth rate are inconclusive; there is insufficient evidence to support a call for mandatory parental leave policies to be implemented by employers. Her article cites numerous world studies and hypothesizes that the

United States is not yet ready to establish a comprehensive parental leave policy. Such a leave policy would be dependent upon a variety of socio-economic and cultural factors, and would represent social opinion about the importance of motherhood, children, and the bonding of parent and child. Current U.S. policy suggests that "motherhood" and maternity support are not popular concepts, according to the article.

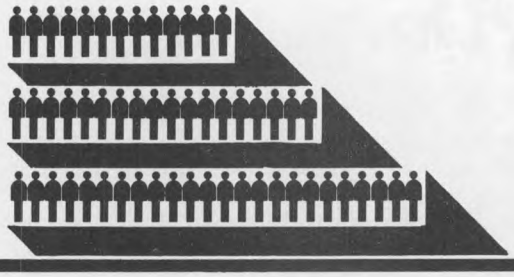
Both books address common issues: working women, role relations, and public policy implications. Fuchs' book provides fewer details on research methodology, while *Women at Work* emphasizes methodology and empirical evidence. The information provided in these books is relevant, factual, and of human interest; both have used a multidisciplinary approach in studying women's changing behavior. The books complement each other. Work/family issues, such as parental leave and child care, have received considerable attention recently, including congressional debate, and will likely remain on the public agenda as women continue to increase their participation in the labor force. These books will help in defining women's concerns to policymakers, especially those charged with developing employer-provided benefits.

—Rita S. Jain
Division of Occupational Pay and
Employee Benefit Levels
Bureau of Labor Statistics

MLR staff positions

The *Monthly Labor Review* would like to hear from persons interested in future staff positions. Applicants should describe editing and economics skills and submit U.S. Form 171 to the editor-in-chief.

Current labor statistics



Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

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

Seasonally adjusted data appear in tables 1–3, 4–10, 13–15, 17–18, 42, and 45.) Seasonally adjusted labor force data in tables 12 and 4–10 were revised in the February 1989 issue of the *Review* and reflect the experience through 1988. Seasonally adjusted establishment survey data shown in tables 13–15 and 17–18 were revised in the July 1989 *Review* and reflect the experience through March 1989. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 15—are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of $3 and a current price index number of 150, where 1977 = 100, the hourly rate expressed in 1977 dollars is $2 ($3/150 × 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1977" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the data books—*Revised Seasonally Adjusted Labor Force Statistics*, Bulletin 2306, and *Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2307. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennally by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

n.e.c. = not elsewhere classified.

n.e.s. = not elsewhere specified.

p = preliminary. To increase the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.

r = revised. Generally, this revision reflects the availability of later data but may also reflect other adjustments.

Comparative Indicators

(Tables 1–3)

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

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

Data on **changes in compensation, prices, and productivity** are presented in table 2. Measures of rates of change of compensation and wages from the Employment Cost Index program are provided for all civilian nonfarm workers (excluding Federal and household workers) and for all private nonfarm workers. Measures of changes in: consumer prices for all urban consumers; producer prices by stage of processing; and the overall export and import price indexes are given. Measures of productivity (output per hour of all persons) are provided for major sectors.

Alternative measures of wage and compensation rates of change, which

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

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review*'s "Current Labor Statistics Notes." Users may also wish to consult *Major Programs, Bureau of Labor Statistics,* Report 718 (Bureau of Labor Statistics, 1985).

Employment and Unemployment Data

(Tables 1; 4–21)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 55,800 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

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

The **labor force** consists of all employed or unemployed civilians plus members of the Armed Forces stationed in the United States. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons who are retired, those engaged in their own housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job-market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-population ratio** is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the intercensal 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.*

Labor force data in tables 1 and 4–10 are seasonally adjusted based on the experience through December 1988. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X–11 ARIMA which was developed at Statistics Canada as an extension of the standard X–11 method previously used by BLS. A detailed description of the procedure appears in the *X–11 ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12–564E, February 1980).

At the end of each calendar year, seasonally adjusted data for the previous 5 years are revised, and projected seasonal adjustment factors are calculated for use during the January–June period. In July, new seasonal adjustment factors, which incorporate the experience through June, are produced for the July–December period but no revisons are made in the historical data.

Additional sources of information

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

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

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 300,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is

engaged in one type of economic activity.

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

Production workers in manufacturing include working supervisors and nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–17 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

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

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

The Diffusion Index represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. The March 1989 *Review* introduced an expanded index on private nonagricultural employment based on 349 industries, and a new manufacturing index based on 141 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1988 benchmarks, was made with the release of May 1989 data, published in the July 1989 issue of the *Review*. Coincident with the benchmark adjustments, seasonally adjusted data were revised to reflect the experience through March 1989. Unadjusted data have been revised back to April 1987; seasonally adjusted data back to January 1984. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1989). Unadjusted data from April 1988 forward and seasonally adjusted data from January 1985 forward are subject to revision in future benchmarks.

The BLS also uses the X–11 ARIMA methodology to seasonally adjust establishment survey data. Beginning in June 1989, projected seasonal adjustment factors are calculated only for the first 6 months after benchmarking, rather than for 12 months (April–March) as was previously done. A second set of projected factors, which incorporate the experience though September, will be produced for the subsequent period and introduced with the publication of data for October. The change makes the procedure used for the establishment survey data more parallel to that used in adjusting the household survey data. Revisions of historical data will continue to be made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the 2 most recent months are based on incomplete returns and are published as preliminary in the tables (13 to 18 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and final in March.

Additional sources of information

Detailed national data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Earlier comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–84*, Bulletin 1312–12 (Bureau of Labor Statistics, 1985) and its annual supplement. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988).

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

Unemployment data by State

Description of the series

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

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

Notes on the data

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

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988).

Compensation and Wage Data

(Tables 1–3; 22–29)

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

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over time in employer costs of employing labor. The index is not seasonally adjusted.

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

The Employment Cost Index probability sample consists of about 3,400 private nonfarm establishments providing about 18,000 occupational observations and 700 State and local government establishments providing 3,500 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargaining status, region, and metropolitan/nonmetropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

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

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

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

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

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series of changes in wages and salaries and for total compensation in the State and local government sector and in the civilian nonfarm economy (excluding Federal employees) were published beginning in 1981. Historical indexes (June 1981=100) of the quarterly rates of change are presented in the March issue of the BLS periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor'," July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "Estima-tion procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

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

Collective bargaining settlements

Description of the series

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

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

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

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average straight-time hourly wage rate plus shift premium at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly com-

pensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

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

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

Notes on the data

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

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988). Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semiannually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the April issue of the BLS periodical, *Current Wage Developments*.

Work stoppages

Description of the series

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

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

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly and historical data appear in the BLS periodical, *Current Wage Developments*. Historical data appear in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

Other compensation data

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

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

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

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

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

Price Data

(Tables 2; 30–41)

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

Consumer Price Indexes

Description of the series

The **Consumer Price Index** (CPI) is a measure of the average change in the prices paid by urban consumers for a fixed market basket of goods and services. The CPI is calculated monthly for two population groups, one consisting only of urban

households whose primary source of income is derived from the employment of wage earners and clerical workers, and the other consisting of all urban households. The wage earner index (CPI–W) is a continuation of the historic index that was introduced well over a half-century ago for use in wage negotiations. As new uses were developed for the CPI in recent years, the need for a broader and more representative index became apparent. The all urban consumer index (CPI–U), introduced in 1978, is representative of the 1982–84 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 32 percent represented in the CPI–W. In addition to wage earners and clerical workers, the CPI–U covers professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

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

Data collected from more than 21,000 retail establishments and 60,000 housing units in 91 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 27 major urban centers are presented in table 31. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

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

Additional sources of information

For a discussion of the general method for computing the CPI, see BLS *Handbook of Methods,* Bulletin 2285 (Bureau of Labor Statistics, 1988). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review,* July 1982, pp. 9–14. An overview of the recently introduced revised CPI, reflecting 1982–84 expenditure patterns, is contained in *The Consumer Price Index: 1987 Revision*, Report 736 (Bureau of Labor Statistics, 1987).

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

Producer Price Indexes

Description of the series

Producer Price Indexes (PPI) measure average changes in prices received by domestic producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,100 commodities and about 75,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The stage of processing structure of Producer Price Indexes organizes products by class of buyer and degree of fabrication (that is, finished goods, intermediate goods, and crude materials). The traditional commodity structure of PPI organizes products by similarity of end use or material composition.

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

Since January 1987, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1982. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

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

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

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988).

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

International Price Indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national

income accounts: it includes corporations, businesses, and individuals but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1985 = 100, unless otherwise indicated.

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

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

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

Notes on the data

The export and import price indexes are weighted indexes of the Laspeyres type. Price relatives are assigned equal importance within each weight category and are then aggregated to the SITC level. The values assigned to each weight category are based on trade value figures compiled by the Bureau of the Census. The trade weights currently used to compute both indexes relate to 1985.

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

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

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

Additional sources of information

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

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). For further information on the foreign currency indexes, see "BLS publishes average exchange rate and foreign currency price indexes," *Monthly Labor Review,* December 1987, pp. 47–49.

Productivity Data

(Tables 2; 42–44)

U. S. productivity and related data

Description of the series

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

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

Definitions

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

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

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

Unit labor costs are the labor compensation costs expended in the production of a

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

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

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

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

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

Notes on the data

Constant-dollar output for the **business sector** is equal to constant-dollar gross national product but excludes the rental value of owner-occupied dwellings, the rest-of-world sector, the output of nonprofit institutions, the output of paid employees of private households, general government, and the statistical discrepancy. Output of the **nonfarm business sector** is equal to business sector output less farming. The measures are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual measures of manufacturing output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are developed from data of the Bureau of Labor Statistics and the Bureau of Economic Analysis.

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

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988). Historical data for selected industries are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

International Comparisons

(Tables 45–47)

Labor force and unemployment

Description of the series

Tables 45 and 46 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitions

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

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France, Sweden, and from 1973 onward, the United Kingdom; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, the United Kingdom; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

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

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

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

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

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

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin

1979 (Bureau of Labor Statistics, 1978), Appendix B, and Supplements to Appendix B. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

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

Definitions

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

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

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

Notes on the data

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

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

Additional sources of information

For additional information, see the *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988), and periodic *Monthly Labor Review* articles. Historical data are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The statistics are issued twice per year—in a news release (generally in June) and in a *Monthly Labor Review* article.

Occupational Injury and Illness Data

(Table 48)

Description of the series

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

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

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

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

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

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

Comparable data for individual States are available from the BLS Office of Safety, Health, and Working Conditions.

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

Additional sources of information

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

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988); *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases.

1. Labor market indicators

Selected indicators	1987	1988	1987			1988				1989
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey):[1]										
Labor force participation rate	65.6	65.9	65.6	65.6	65.7	65.8	65.8	65.9	66.1	66.4
Employment-population ratio	61.5	62.3	61.5	61.7	61.9	62.1	62.2	62.3	62.5	62.9
Unemployment rate	6.2	5.5	6.3	6.0	5.9	5.7	5.5	5.5	5.3	5.2
Men	6.2	5.5	6.4	6.0	5.8	5.6	5.4	5.4	5.4	5.2
16 to 24 years	12.6	11.4	13.1	12.2	11.9	11.8	11.2	11.4	11.3	11.2
25 years and over	4.8	4.2	4.9	4.6	4.4	4.3	4.2	4.1	4.1	4.0
Women	6.2	5.6	6.2	6.0	6.0	5.8	5.6	5.6	5.3	5.2
16 to 24 years	11.7	10.6	11.7	11.4	11.2	11.0	10.7	10.5	10.3	10.2
25 years and over	4.8	4.3	4.7	4.7	4.6	4.5	4.3	4.4	4.2	4.0
Unemployment rate, 15 weeks and over	1.7	1.3	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1
Employment, nonagricultural (payroll data), in thousands:[1]										
Total	102,200	105,584	101,772	102,500	103,491	104,355	105,184	105,976	106,799	107,680
Private sector	85,190	88,212	84,798	85,481	86,336	87,111	87,851	88,577	89,288	90,104
Goods-producing	24,708	25,249	24,602	24,751	24,961	25,022	25,202	25,313	25,452	25,634
Manufacturing	19,024	19,403	18,941	19,061	19,199	19,271	19,360	19,435	19,550	19,659
Service-producing	77,492	80,335	77,170	77,749	78,530	79,333	79,983	80,663	81,346	82,047
Average hours:										
Private sector	34.8	34.7	34.8	34.8	34.8	34.7	34.7	34.7	34.7	34.7
Manufacturing	41.0	41.1	40.9	40.9	41.2	41.0	41.1	41.1	41.1	41.1
Overtime	3.7	3.9	3.7	3.8	3.9	3.8	3.9	3.9	3.9	3.9
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	3.6	5.0	.7	1.2	.8	1.4	1.1	1.3	1.0	1.2
Private industry workers	3.3	4.9	.7	1.0	.7	1.5	1.2	1.0	1.0	1.3
Goods-producing[2]	3.1	4.4	.7	.8	1.0	1.8	1.1	.6	.8	1.0
Service-producing[2]	3.7	5.1	.7	1.0	.5	1.3	1.4	1.2	1.2	1.5
State and local government workers	4.4	5.6	.3	2.3	.9	1.3	.3	2.7	1.1	1.2
Workers by bargaining status (private industry):										
Union	2.8	3.9	.5	.6	1.1	1.6	1.0	.7	.5	.8
Nonunion	3.6	5.1	.7	1.1	.6	1.5	1.3	1.1	1.2	1.5

[1] Quarterly data seasonally adjusted.

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

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

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

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

[2] Excludes Federal and private household workers.

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

[4] Output per hour of all employees.

3. Alternative measures of wage and compensation changes

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

[1] Seasonally adjusted.

[2] Excludes Federal and household workers.

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

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

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

(Numbers in thousands)

Employment status	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Noninstitutional population [1, 2]	184,490	186,322	186,247	186,402	186,522	186,666	186,801	186,949	187,098	187,340	187,461	187,581	187,708	187,854	187,995
Labor force[2]	121,602	123,378	123,209	123,331	123,692	123,688	123,778	124,215	124,259	125,124	124,865	124,948	125,343	125,283	125,768
Participation rate [3]	65.9	66.2	66.2	66.2	66.3	66.3	66.3	66.4	66.4	66.8	66.6	66.6	66.8	66.7	66.9
Total employed [2]	114,177	116,677	116,686	116,707	116,895	117,074	117,260	117,652	117,705	118,407	118,537	118,820	118,797	118,888	119,207
Employment-population ratio [4]	61.9	62.6	62.7	62.6	62.7	62.7	62.8	62.9	62.9	63.2	63.2	63.3	63.3	63.3	63.4
Resident Armed Forces [1]	1,737	1,709	1,685	1,673	1,692	1,704	1,687	1,705	1,696	1,696	1,684	1,684	1,684	1,673	1,666
Civilian employed	112,440	114,968	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541
Agriculture	3,208	3,169	3,121	3,060	3,142	3,176	3,238	3,238	3,193	3,300	3,223	3,206	3,104	3,112	3,096
Nonagricultural industries	109,232	111,800	111,880	111,974	112,061	112,194	112,335	112,709	112,816	113,411	113,630	113,930	114,009	114,102	114,445
Unemployed	7,425	6,701	6,523	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546	6,395	6,561
Unemployment rate [5]	6.1	5.4	5.3	5.4	5.5	5.3	5.3	5.3	5.3	5.4	5.1	4.9	5.2	5.1	5.2
Not in labor force	62,888	62,944	63,038	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365	62,571	62,228
Men, 16 years and over															
Noninstitutional population [1, 2]	88,476	89,404	89,367	89,445	89,504	89,577	89,637	89,716	89,792	89,914	89,973	90,032	90,094	90,167	90,237
Labor force[2]	67,784	68,474	68,436	68,461	68,685	68,604	68,569	68,686	68,638	69,032	69,113	69,190	69,360	69,114	69,507
Participation rate [3]	76.6	76.6	76.6	76.5	76.7	76.6	76.5	76.6	76.4	76.8	76.8	76.9	77.0	76.7	77.0
Total employed [2]	63,684	64,820	64,894	64,941	64,931	65,015	64,976	65,074	65,055	65,322	65,572	65,920	65,767	65,713	66,110
Employment-population ratio [4]	72.0	72.5	72.6	72.6	72.5	72.6	72.5	72.5	72.5	72.6	72.9	73.2	73.0	72.9	73.3
Resident Armed Forces [1]	1,577	1,547	1,523	1,512	1,529	1,540	1,526	1,542	1,534	1,532	1,521	1,521	1,521	1,511	1,501
Civilian employed	62,107	63,273	63,371	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246	64,202	64,609
Unemployed	4,101	3,655	3,542	3,520	3,754	3,589	3,593	3,612	3,583	3,710	3,540	3,270	3,593	3,401	3,397
Unemployment rate [5]	6.1	5.3	5.2	5.1	5.5	5.2	5.2	5.3	5.2	5.4	5.1	4.7	5.2	4.9	4.9
Women, 16 years and over															
Noninstitutional population [1, 2]	96,013	96,918	96,880	96,957	97,018	97,089	97,164	97,234	97,306	97,427	97,488	97,550	97,614	97,687	97,758
Labor force[2]	53,818	54,904	54,773	54,870	55,007	55,084	55,209	55,529	55,621	56,091	55,752	55,758	55,983	56,169	56,261
Participation rate [3]	56.1	56.6	56.5	56.6	56.7	56.7	56.8	57.1	57.2	57.6	57.2	57.2	57.4	57.5	57.6
Total employed[2]	50,494	51,858	51,792	51,766	51,964	52,059	52,284	52,578	52,650	53,085	52,965	52,900	53,029	53,175	53,097
Employment-population ratio [4]	52.6	53.5	53.5	53.4	53.6	53.6	53.8	54.1	54.1	54.5	54.3	54.2	54.3	54.4	54.3
Resident Armed Forces [1]	160	162	162	161	163	164	161	163	162	164	163	163	163	162	165
Civilian employed	50,334	51,696	51,630	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866	53,013	52,932
Unemployed	3,324	3,046	2,981	3,104	3,043	3,025	2,925	2,951	2,971	3,006	2,787	2,858	2,953	2,994	3,164
Unemployment rate [5]	6.2	5.5	5.4	5.7	5.5	5.5	5.3	5.3	5.3	5.4	5.0	5.1	5.3	5.3	5.6

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

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

(Numbers in thousands)

Employment status	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
TOTAL															
Civilian noninstitutional population[1]	182,753	184,613	184,562	184,729	184,830	184,962	185,114	185,244	185,402	185,644	185,777	185,897	186,024	186,181	186,329
Civilian labor force	119,865	121,669	121,524	121,658	122,000	121,984	122,091	122,510	122,563	123,428	123,181	123,264	123,659	123,610	124,102
Participation rate	65.6	65.9	65.8	65.9	66.0	66.0	66.0	66.1	66.1	66.5	66.3	66.3	66.5	66.4	66.6
Employed	112,440	114,968	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541
Employment-population ratio[2]	61.5	62.3	62.3	62.3	62.3	62.4	62.4	62.6	62.6	62.9	62.9	63.0	63.0	63.0	63.1
Unemployed	7,425	6,701	6,523	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546	6,395	6,561
Unemployment rate	6.2	5.5	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3
Not in labor force	62,888	62,944	63,038	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365	62,571	62,228
Men, 20 years and over															
Civilian noninstitutional population[1]	79,565	80,553	80,526	80,608	80,669	80,751	80,851	80,924	81,001	81,162	81,256	81,333	81,413	81,524	81,592
Civilian labor force	62,095	62,768	62,669	62,729	62,916	62,884	62,915	62,995	63,002	63,358	63,490	63,557	63,709	63,503	63,831
Participation rate	78.0	77.9	77.8	77.8	78.0	77.9	77.8	77.8	77.8	78.1	78.1	78.1	78.3	77.9	78.2
Employed	58,726	59,781	59,780	59,897	59,839	59,979	60,004	59,999	60,049	60,420	60,636	60,869	60,757	60,798	61,093
Employment-population ratio[2]	73.8	74.2	74.2	74.3	74.2	74.3	74.2	74.1	74.1	74.4	74.6	74.8	74.6	74.6	74.9
Agriculture	2,329	2,271	2,231	2,252	2,273	2,249	2,315	2,313	2,292	2,277	2,320	2,317	2,252	2,284	2,256
Nonagricultural industries	56,397	57,510	57,549	57,645	57,566	57,730	57,689	57,686	57,757	58,143	58,316	58,552	58,505	58,514	58,837
Unemployed	3,369	2,987	2,889	2,832	3,077	2,905	2,911	2,996	2,953	2,938	2,853	2,688	2,952	2,705	2,737
Unemployment rate	5.4	4.8	4.6	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6	4.3	4.3
Women, 20 years ond over															
Civilian noninstitutional population[1]	88,583	89,532	89,502	89,588	89,670	89,735	89,807	89,887	89,954	90,072	90,153	90,242	90,318	90,432	90,526
Civilian labor force	49,783	50,870	50,690	50,807	50,959	50,991	51,201	51,558	51,587	51,998	51,821	51,851	51,992	52,171	52,231
Participation rate	56.2	56.8	56.6	56.7	56.8	56.8	57.0	57.4	57.3	57.7	57.5	57.5	57.6	57.7	57.7
Employed	47,074	48,383	48,205	48,242	48,492	48,535	48,788	49,113	49,165	49,543	49,514	49,484	49,544	49,690	49,661
Employment-population ratio[2]	53.1	54.0	53.9	53.8	54.1	54.1	54.3	54.6	54.7	55.0	54.9	54.8	54.9	54.9	54.9
Agriculture	622	625	626	549	609	638	640	640	646	715	666	664	615	628	610
Nonagricultural industries	46,453	47,757	47,579	47,693	47,883	47,897	48,148	48,473	48,519	48,827	48,849	48,819	48,929	49,062	49,051
Unemployed	2,709	2,487	2,485	2,565	2,467	2,456	2,413	2,445	2,422	2,455	2,306	2,367	2,448	2,480	2,570
Unemployment rate	5.4	4.9	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7	4.8	4.9
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	14,606	14,527	14,534	14,533	14,491	14,477	14,456	14,433	14,447	14,410	14,367	14,323	14,293	14,224	14,211
Civilian labor force	7,988	8,031	8,165	8,122	8,125	8,109	7,975	7,957	7,974	8,071	7,871	7,856	7,958	7,936	8,040
Participation rate	54.7	55.3	56.2	55.9	56.1	56.0	55.2	55.1	55.2	56.0	54.8	54.9	55.7	55.8	56.6
Employed	6,640	6,805	7,016	6,895	6,872	6,856	6,781	6,835	6,795	6,748	6,703	6,783	6,812	6,726	6,786
Employment-population ratio[2]	45.5	46.8	48.3	47.4	47.4	47.4	46.9	47.4	47.0	46.8	46.7	47.4	47.7	47.3	47.8
Agriculture	258	273	264	259	260	289	283	285	255	307	237	224	237	200	230
Nonagricultural industries	6,382	6,532	6,752	6,636	6,612	6,567	6,498	6,550	6,540	6,441	6,466	6,559	6,575	6,526	6,556
Unemployed	1,347	1,226	1,149	1,227	1,253	1,253	1,194	1,122	1,179	1,323	1,168	1,073	1,146	1,210	1,254
Unemployment rate	16.9	15.3	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6
White															
Civilian noninstitutional population[1]	156,958	158,194	158,166	158,279	158,340	158,422	158,524	158,603	158,705	158,865	158,947	159,020	159,098	159,200	159,297
Civilian labor force	103,290	104,756	104,716	104,651	105,013	105,036	105,051	105,395	105,411	106,106	105,798	105,988	106,312	106,164	106,455
Participation rate	65.8	66.2	66.2	66.1	66.3	66.3	66.3	66.5	66.4	66.8	66.6	66.7	66.8	66.7	66.8
Employed	97,789	99,812	99,902	99,761	99,907	100,058	100,199	100,543	100,567	101,183	101,278	101,554	101,458	101,465	101,693
Employment-population ratio[2]	62.3	63.1	63.2	63.0	63.1	63.2	63.2	63.4	63.4	63.7	63.7	63.9	63.8	63.7	63.8
Unemployed	5,501	4,944	4,814	4,890	5,106	4,978	4,852	4,852	4,844	4,923	4,521	4,434	4,854	4,699	4,762
Unemployment rate	5.3	4.7	4.6	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6	4.4	4.5
Black															
Civilian noninstitutional population[1]	20,352	20,692	20,683	20,715	20,736	20,762	20,786	20,811	20,842	20,877	20,905	20,930	20,956	20,986	21,012
Civilian labor force	12,993	13,205	13,066	13,283	13,236	13,201	13,290	13,330	13,405	13,477	13,476	13,425	13,287	13,444	13,600
Participation rate	63.8	63.8	63.2	64.1	63.8	63.6	63.9	64.1	64.3	64.6	64.5	64.1	63.4	64.1	64.7
Employed	11,309	11,658	11,543	11,761	11,733	11,758	11,807	11,831	11,856	11,860	11,873	11,961	11,846	11,968	11,982
Employment-population ratio[2]	55.6	56.3	55.8	56.8	56.6	56.6	56.8	56.8	56.9	56.8	56.8	57.1	56.5	57.0	57.0
Unemployed	1,684	1,547	1,523	1,522	1,503	1,443	1,483	1,499	1,549	1,617	1,603	1,464	1,442	1,476	1,618
Unemployment rate	13.0	11.7	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8	11.0	11.9

See footnotes at end of table.

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

(Numbers in thousands)

Employment status	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Hispanic origin															
Civilian noninstitutional population[1]	12,867	13,325	13,306	13,344	13,381	13,419	13,458	13,495	13,533	13,564	13,606	13,649	13,690	13,731	13,772
Civilian labor force	8,541	8,982	9,009	8,997	8,963	9,061	9,075	9,148	9,133	9,205	9,219	9,210	9,262	9,428	9,272
Participation rate	66.4	67.4	67.7	67.4	67.0	67.5	67.4	67.8	67.5	67.9	67.8	67.5	67.7	68.7	67.3
Employed	7,790	8,250	8,222	8,265	8,214	8,378	8,368	8,419	8,441	8,434	8,596	8,607	8,495	8,686	8,524
Employment-population ratio[2]	60.5	61.9	61.8	61.9	61.4	62.4	62.2	62.4	62.4	62.2	63.2	63.1	62.1	63.3	61.9
Unemployed	751	732	787	732	749	683	707	729	692	771	624	603	767	742	748
Unemployment rate	8.8	8.2	8.7	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3	7.9	8.1

[1] The population figures are not seasonally adjusted.
[2] Civilian employment as a percent of the civilian noninstitutional population.
NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Civilian employed, 16 years and over	112,440	114,968	115,001	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541
Men	62,107	63,273	63,371	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246	64,202	64,609
Women	50,334	51,696	51,630	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866	53,013	52,932
Married men, spouse present	40,265	40,472	40,493	40,518	40,511	40,513	40,504	40,407	40,483	40,925	40,928	41,083	40,890	40,902	41,102
Married women, spouse present	28,107	28,756	28,678	28,669	28,809	28,836	28,890	28,995	29,053	29,589	29,412	29,569	29,656	29,739	29,481
Women who maintain families	6,060	6,211	6,130	6,170	6,280	6,253	6,344	6,375	6,399	6,416	6,385	6,256	6,243	6,331	6,403
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,632	1,621	1,583	1,572	1,607	1,612	1,661	1,672	1,698	1,684	1,645	1,656	1,554	1,610	1,550
Self-employed workers	1,423	1,398	1,375	1,362	1,411	1,421	1,405	1,450	1,349	1,387	1,419	1,403	1,419	1,358	1,412
Unpaid family workers	153	150	161	149	158	137	177	125	149	189	150	138	124	127	126
Nonagricultural industries:															
Wage and salary workers	100,771	103,021	102,953	103,189	103,207	103,501	103,733	103,770	103,904	104,510	104,797	104,982	104,985	105,245	105,519
Government	16,800	17,114	17,049	17,031	17,111	17,145	17,240	17,387	17,423	17,393	17,311	17,382	17,180	17,230	17,261
Private industries	83,970	85,907	85,904	86,158	86,096	86,356	86,493	86,383	86,481	87,117	87,486	87,600	87,806	88,015	88,259
Private households	1,208	1,153	1,146	1,132	1,128	1,119	1,152	1,209	1,210	1,196	1,135	1,163	1,117	1,128	1,140
Other	82,762	84,754	84,758	85,026	84,968	85,237	85,341	85,174	85,271	85,921	86,350	86,437	86,689	86,887	87,118
Self-employed workers	8,201	8,519	8,536	8,531	8,508	8,570	8,479	8,619	8,602	8,718	8,517	8,645	8,671	8,516	8,570
Unpaid family workers	260	260	297	251	241	230	232	300	266	298	285	332	281	322	241
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	5,401	5,206	5,302	5,341	5,192	5,097	4,963	5,061	5,321	5,097	4,981	4,968	5,143	4,837	4,957
Slack work	2,385	2,350	2,346	2,471	2,315	2,266	2,220	2,279	2,549	2,302	2,303	2,232	2,373	2,296	2,318
Could only find part-time work	2,672	2,487	2,586	2,538	2,473	2,389	2,399	2,375	2,410	2,352	2,333	2,393	2,425	2,343	2,289
Voluntary part time	14,395	14,963	14,612	15,026	14,999	15,270	15,161	15,446	15,363	15,401	15,126	15,561	15,498	15,316	15,416
Nonagricultural industries:															
Part time for economic reasons	5,122	4,965	5,073	5,102	4,972	4,862	4,727	4,819	5,033	4,837	4,697	4,709	4,930	4,609	4,801
Slack work	2,201	2,199	2,183	2,334	2,171	2,102	2,095	2,116	2,377	2,144	2,105	2,048	2,243	2,102	2,190
Could only find part-time work	2,587	2,408	2,504	2,493	2,408	2,317	2,319	2,288	2,307	2,283	2,272	2,317	2,369	2,301	2,236
Voluntary part time	13,928	14,509	14,180	14,606	14,564	14,819	14,679	14,986	14,928	14,970	14,688	15,127	15,060	14,976	14,977

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

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CHARACTERISTIC															
Total, all civilian workers	6.2	5.5	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3
Both sexes, 16 to 19 years	16.9	15.3	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6
Men, 20 years and over	5.4	4.8	4.6	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6	4.3	4.3
Women, 20 years and over	5.4	4.9	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7	4.8	4.9
White, total	5.3	4.7	4.6	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6	4.4	4.5
Both sexes, 16 to 19 years	14.4	13.1	12.3	12.9	13.7	13.4	12.9	11.9	12.6	14.1	12.1	11.3	12.3	13.1	13.0
Men, 16 to 19 years	15.5	13.9	13.2	14.3	13.9	14.5	14.4	12.6	13.4	16.4	14.0	12.3	13.1	14.8	13.4
Women, 16 to 19 years	13.4	12.3	11.4	11.4	13.5	12.3	11.3	11.3	11.8	11.7	10.2	10.2	11.5	11.2	12.6
Men, 20 years and over	4.8	4.1	4.0	3.9	4.3	4.1	4.1	4.2	4.1	4.0	3.8	3.6	4.0	3.6	3.7
Women, 20 years and over	4.6	4.1	4.1	4.3	4.1	4.1	4.0	4.0	3.9	3.9	3.6	3.8	4.1	4.1	4.1
Black, total	13.0	11.7	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8	11.0	11.9
Both sexes, 16 to 19 years	34.7	32.4	30.6	31.7	32.1	31.9	30.9	31.1	29.6	34.5	32.4	31.6	30.8	32.4	36.5
Men, 16 to 19 years	34.4	32.7	31.5	31.2	32.1	31.9	32.8	32.1	29.8	36.7	33.1	28.6	35.5	36.9	33.5
Women, 16 to 19 years	34.9	32.0	29.6	32.4	32.0	31.9	28.6	29.9	29.3	32.0	31.6	34.8	26.2	28.4	40.2
Men, 20 years and over	11.1	10.1	9.9	9.6	9.7	9.1	9.6	9.8	10.0	10.4	10.5	9.8	10.0	9.4	9.4
Women, 20 years and over	11.6	10.4	10.6	10.3	10.0	9.7	9.8	9.8	10.5	10.4	10.3	9.1	8.8	9.5	10.5
Hispanic origin, total	8.8	8.2	8.7	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3	7.9	8.1
Married men, spouse present	3.9	3.3	3.2	3.1	3.4	3.1	3.1	3.3	3.1	3.1	3.1	2.9	3.2	2.9	2.8
Married women, spouse present	4.3	3.9	3.9	4.0	4.0	3.8	3.7	3.8	3.7	3.6	3.4	3.5	4.0	3.8	3.8
Women who maintain families	9.2	8.1	7.9	8.5	7.5	8.1	7.9	7.7	8.2	8.0	8.0	7.9	7.6	8.3	7.9
Full-time workers	5.8	5.2	5.0	5.0	5.3	5.1	5.0	5.0	5.1	5.0	4.8	4.8	5.0	4.8	4.8
Part-time workers	8.4	7.6	7.7	8.0	7.4	7.4	7.4	7.1	7.0	7.9	7.3	6.2	7.2	6.9	7.7
Unemployed 15 weeks and over	1.7	1.3	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.2	1.1	1.0
Labor force time lost[1]	7.1	6.3	6.3	6.4	6.4	6.3	6.1	6.2	6.3	6.2	5.9	5.8	6.0	5.9	6.1
INDUSTRY															
Nonagricultural private wage and salary workers	6.2	5.5	5.4	5.4	5.6	5.4	5.4	5.5	5.4	5.6	5.1	5.0	5.4	5.2	5.3
Mining	10.0	7.9	6.8	5.4	7.0	8.6	8.8	8.9	7.7	6.1	8.0	7.0	5.6	4.5	3.7
Construction	11.6	10.6	10.3	10.4	10.7	9.6	10.0	10.6	10.4	10.4	10.0	9.4	9.7	9.3	10.0
Manufacturing	6.0	5.3	4.9	5.2	5.5	5.4	5.3	5.1	5.2	5.3	4.9	4.8	4.9	4.9	5.2
Durable goods	5.8	5.0	4.5	4.9	5.0	5.2	5.0	4.9	5.0	5.0	4.4	4.7	4.7	4.5	4.6
Nondurable goods	6.3	5.7	5.5	5.6	6.3	5.8	5.7	5.3	5.5	5.7	5.5	4.9	5.2	5.5	6.1
Transportation and public utilities	4.5	3.9	4.1	3.6	3.8	3.8	3.5	4.0	3.8	3.8	3.9	3.9	4.0	4.0	4.4
Wholesale and retail trade	6.9	6.2	6.0	6.2	6.4	6.2	6.0	6.2	6.3	6.3	5.6	5.6	5.9	5.5	6.0
Finance and service industries	4.9	4.5	4.6	4.5	4.4	4.4	4.5	4.6	4.1	4.7	4.3	4.1	4.8	4.7	4.3
Government workers	3.5	2.8	2.9	3.0	2.9	2.7	2.6	2.5	2.7	2.7	2.7	2.6	2.7	2.9	3.0
Agricultural wage and salary workers	10.5	10.6	10.0	11.0	11.0	10.8	10.2	9.3	8.8	9.5	8.9	8.9	10.5	10.3	11.0

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

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

(Civilian workers)

Sex and age	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total, 16 years and over	6.2	5.5	5.4	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3
16 to 24 years	12.2	11.0	10.5	10.9	11.0	10.9	10.9	10.6	10.9	11.9	10.5	9.8	10.5	10.4	11.3
16 to 19 years	16.9	15.3	14.1	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6
16 to 17 years	19.1	17.4	15.9	17.5	18.5	19.6	17.2	15.8	16.6	18.3	18.2	15.3	14.9	16.2	17.5
18 to 19 years	15.2	13.8	13.3	13.1	13.7	12.8	13.3	12.9	13.3	15.4	12.7	12.5	13.8	14.5	14.9
20 to 24 years	9.7	8.7	8.5	8.5	8.4	8.4	8.6	8.7	8.7	9.3	8.1	7.7	8.4	7.7	8.9
25 years and over	4.8	4.3	4.2	4.2	4.4	4.2	4.1	4.2	4.1	4.1	4.0	3.9	4.1	4.0	4.0
25 to 54 years	5.0	4.5	4.4	4.4	4.5	4.4	4.3	4.4	4.3	4.2	4.2	4.1	4.4	4.2	4.1
55 years and over	3.3	3.1	3.0	3.1	3.2	2.9	2.8	2.8	3.0	3.1	3.1	2.6	2.9	2.9	3.3
Men, 16 years and over	6.2	5.5	5.3	5.3	5.6	5.4	5.4	5.4	5.3	5.5	5.2	4.8	5.3	5.0	5.0
16 to 24 years	12.6	11.4	11.0	11.3	11.4	11.3	11.8	10.9	11.1	12.8	11.1	9.7	10.7	11.0	11.5
16 to 19 years	17.8	16.0	15.4	16.3	16.0	16.4	16.5	14.8	15.4	18.6	16.7	14.2	15.5	17.0	15.8
16 to 17 years	20.2	18.2	17.5	18.1	17.7	20.8	18.5	17.3	17.3	20.6	19.6	15.8	17.0	18.8	20.0
18 to 19 years	16.0	14.6	14.3	14.4	14.5	13.5	15.0	13.0	13.5	17.9	15.1	13.2	14.6	15.7	13.6
20 to 24 years	9.9	8.9	8.5	8.5	8.9	8.5	9.2	8.8	8.7	9.6	8.1	7.2	8.0	7.7	9.2
25 years and over	4.8	4.2	4.1	4.0	4.4	4.1	4.0	4.2	4.1	4.0	4.0	3.8	4.2	3.7	3.7
25 to 54 years	5.0	4.4	4.2	4.2	4.5	4.3	4.2	4.4	4.3	4.2	4.1	4.0	4.4	3.9	3.7
55 years and over	3.5	3.3	3.2	3.2	3.4	2.9	3.0	3.2	3.3	3.0	3.4	2.8	3.2	2.9	3.0
Women, 16 years and over	6.2	5.6	5.5	5.7	5.5	5.5	5.3	5.3	5.4	5.4	5.0	5.1	5.3	5.3	5.6
16 to 24 years	11.7	10.6	10.0	10.5	10.4	10.5	9.9	10.3	10.7	10.9	9.7	10.0	10.4	9.8	11.0
16 to 19 years	15.9	14.4	12.6	13.8	14.8	14.5	13.3	13.3	14.2	14.0	12.8	13.1	13.2	13.4	15.4
16 to 17 years	18.0	16.6	14.1	16.8	19.2	18.2	15.8	14.1	15.8	15.9	16.8	14.8	12.7	13.4	14.7
18 to 19 years	14.3	12.9	12.1	11.6	12.8	12.0	11.6	12.8	13.1	12.7	10.0	11.7	12.8	13.3	16.2
20 to 24 years	9.4	8.5	8.6	8.6	8.0	8.2	7.9	8.6	8.7	9.1	8.0	8.3	8.9	7.7	8.6
25 years and over	4.8	4.3	4.3	4.4	4.3	4.3	4.2	4.2	4.1	4.1	3.9	4.0	4.1	4.4	4.4
25 to 54 years	5.1	4.6	4.6	4.7	4.6	4.5	4.5	4.4	4.4	4.3	4.2	4.3	4.4	4.6	4.5
55 years and over	3.0	2.8	2.8	2.9	2.8	2.9	2.4	2.4	2.6	3.1	2.5	2.3	2.6	3.0	3.8

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

(Numbers in thousands)

Reason for unemployment	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Job losers	3,566	3,092	3,070	3,085	3,112	3,079	2,951	3,031	3,066	3,121	2,876	2,831	2,984	2,724	2,765
On layoff	943	851	861	853	880	833	844	814	819	827	774	808	847	790	806
Other job losers	2,623	2,241	2,209	2,232	2,232	2,246	2,107	2,217	2,247	2,294	2,102	2,023	2,137	1,934	1,958
Job leavers	965	983	953	923	986	985	984	963	998	985	985	885	978	1,114	1,023
Reentrants	1,974	1,809	1,747	1,883	1,843	1,767	1,747	1,766	1,725	1,835	1,740	1,730	1,894	1,852	2,051
New entrants	920	816	800	799	800	761	747	799	799	780	765	713	671	683	742
PERCENT OF UNEMPLOYED															
Job losers	48.0	46.1	46.7	46.1	46.2	46.7	45.9	46.2	46.5	46.4	45.2	46.0	45.7	42.7	42.0
On layoff	12.7	12.7	13.1	12.8	13.1	12.6	13.1	12.4	12.4	12.3	12.2	13.1	13.0	12.4	12.3
Other job losers	35.3	33.4	33.6	33.4	33.1	34.1	32.8	33.8	34.1	34.1	33.0	32.8	32.7	30.3	29.8
Job leavers	13.0	14.7	14.5	13.8	14.6	14.9	15.3	14.7	15.1	14.7	15.5	14.4	15.0	17.5	15.5
Reentrants	26.6	27.0	26.6	28.1	27.3	26.8	27.2	26.9	26.2	27.3	27.3	28.1	29.0	29.1	31.2
New entrants	12.4	12.2	12.2	11.9	11.9	11.5	11.6	12.2	12.1	11.6	12.0	11.6	10.3	10.7	11.3
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.0	2.5	2.5	2.5	2.6	2.5	2.4	2.5	2.5	2.5	2.3	2.3	2.4	2.2	2.2
Job leavers	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.7	.8	.9	.8
Reentrants	1.6	1.5	1.4	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.7
New entrants	.8	.7	.7	.7	.7	.6	.6	.7	.7	.6	.6	.6	.5	.6	.6

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Less than 5 weeks	3,246	3,084	3,093	2,985	3,158	3,116	3,059	3,117	3,029	3,181	3,247	3,055	3,090	3,041	3,309
5 to 14 weeks	2,196	2,007	1,910	2,041	1,956	1,896	1,835	1,935	2,039	2,081	1,865	1,821	2,034	2,017	1,999
15 weeks and over	1,983	1,610	1,543	1,619	1,636	1,568	1,554	1,502	1,495	1,512	1,304	1,310	1,426	1,313	1,258
15 to 26 weeks	943	801	749	826	831	775	788	787	758	757	665	648	689	702	659
27 weeks and over	1,040	809	794	793	805	793	766	715	737	755	639	663	737	611	599
Mean duration in weeks	14.5	13.5	13.2	13.5	13.5	13.5	13.4	12.6	12.8	12.7	12.1	12.4	12.7	11.8	11.1
Median duration in weeks	6.5	5.9	5.9	6.2	5.9	5.7	5.7	5.6	5.8	5.7	5.3	5.4	5.4	5.3	5.5

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

State	May 1988	May 1989	State	May 1988	May 1989
Alabama	6.5	6.3	Montana	7.2	5.5
Alaska	10.0	7.7	Nebraska	3.3	2.5
Arizona	6.6	4.6	Nevada	5.3	5.0
Arkansas	8.3	8.0	New Hampshire	2.3	2.9
California	5.8	5.2	New Jersey	3.8	3.0
Colorado	6.2	6.1	New Mexico	8.3	6.5
Connecticut	2.4	2.9	New York	4.1	5.2
Delaware	2.8	3.0	North Carolina	3.3	3.4
District of Columbia	4.8	5.5	North Dakota	4.6	3.7
Florida	4.7	6.2	Ohio	5.8	5.1
Georgia	6.1	5.2	Oklahoma	7.0	5.9
Hawaii	3.4	3.2	Oregon	6.0	5.2
Idaho	5.9	5.0	Pennsylvania	5.0	4.4
Illinois	6.9	5.9	Rhode Island	3.2	4.2
Indiana	4.8	4.0	South Carolina	4.8	3.7
Iowa	4.4	3.6	South Dakota	3.7	3.7
Kansas	4.6	4.1	Tennessee	5.3	5.5
Kentucky	8.4	6.6	Texas	7.3	5.9
Louisiana	10.9	9.4	Utah	5.0	5.1
Maine	3.6	3.8	Vermont	2.6	3.6
Maryland	4.7	3.8	Virginia	3.5	3.4
Massachusetts	2.7	3.4	Washington	6.0	5.4
Michigan	6.5	6.4	West Virginia	10.2	8.1
Minnesota	3.7	4.3	Wisconsin	4.0	4.4
Mississippi	6.5	8.1			
Missouri	5.8	5.0	Wyoming	5.6	6.0

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 1988	Apr. 1989	May 1989[p]	State	May 1988	Apr. 1989	May 1989[p]
Alabama	1,549.7	1,566.9	1,572.8	Nebraska	693.2	710.8	715.4
Alaska	212.8	213.3	220.9	Nevada	534.3	563.4	570.6
Arizona	1,419.6	1,443.1	1,442.5	New Hampshire	523.8	527.1	533.5
Arkansas	861.5	883.0	887.6				
California	12,048.0	12,344.1	12,385.8	New Jersey	3,649.4	3,669.1	3,683.8
				New Mexico	539.5	550.7	553.3
Colorado	1,419.5	1,438.7	1,441.9	New York	8,178.0	8,233.1	8,279.5
Connecticut	1,674.9	1,689.5	1,699.0	North Carolina	2,965.8	3,012.6	3,019.6
Delaware	329.6	340.7	342.2	North Dakota	259.3	257.3	260.8
District of Columbia	671.4	684.5	685.5				
Florida	5,061.2	5,274.5	5,267.5	Ohio	4,692.3	4,761.0	4,816.2
				Oklahoma	1,136.1	1,139.9	1,147.7
Georgia	2,865.8	2,925.9	2,930.7	Oregon	1,146.6	1,179.9	1,192.5
Hawaii	477.3	490.4	492.7	Pennsylvania	5,048.6	5,095.3	5,109.8
Idaho	347.8	355.3	359.7	Rhode Island	457.6	458.6	461.4
Illinois	5,073.6	5,136.1	5,154.1				
Indiana	2,405.2	2,455.7	2,482.5	South Carolina	1,457.7	1,499.9	1,511.9
				South Dakota	267.6	263.8	268.6
Iowa	1,165.0	1,191.4	1,201.2	Tennessee	2,074.2	2,078.8	2,086.2
Kansas	1,037.7	1,057.8	1,060.9	Texas	6,649.5	6,754.7	6,771.7
Kentucky	1,375.1	1,389.7	1,396.7	Utah	657.7	678.0	683.3
Louisiana	1,502.5	1,513.6	1,519.4				
Maine	518.7	517.8	524.5	Vermont	250.9	253.4	254.1
				Virginia	2,773.5	2,862.3	2,885.0
Maryland	2,092.9	2,113.1	2,126.0	Washington	1,934.1	2,011.3	2,033.3
Massachusetts	3,128.6	3,140.2	3,160.8	West Virginia	621.3	610.6	618.0
Michigan	3,806.6	3,852.7	3,883.1	Wisconsin	2,147.9	2,178.5	2,206.9
Minnesota	2,028.1	2,058.7	2,089.1				
Mississippi	897.0	912.3	915.1	Wyoming	185.6	185.8	189.8
Missouri	2,249.6	2,272.3	2,280.6	Puerto Rico	807.0	821.8	824.8
Montana	279.3	279.0	283.5	Virgin Islands	41.4	41.7	41.5

[p] = preliminary

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

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

(In thousands)

Industry	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
TOTAL	102,200	105,584	105,561	105,768	105,954	106,207	106,475	106,824	107,097	107,442	107,711	107,888	108,101	108,308	108,488
PRIVATE SECTOR	85,190	88,212	88,199	88,418	88,578	88,736	88,991	89,299	89,574	89,897	90,124	90,291	90,475	90,625	90,773
GOODS-PRODUCING	24,708	25,249	25,265	25,323	25,303	25,313	25,384	25,460	25,513	25,626	25,629	25,646	25,671	25,661	25,610
Mining	717	721	726	725	725	719	717	712	711	711	711	714	720	722	710
Oil and gas extraction	402	406	411	410	408	404	400	396	394	393	394	397	400	400	397
Construction	4,967	5,125	5,139	5,150	5,153	5,163	5,162	5,191	5,213	5,267	5,270	5,252	5,279	5,278	5,270
General building contractors	1,320	1,368	1,378	1,372	1,372	1,374	1,363	1,375	1,380	1,404	1,398	1,380	1,377	1,386	1,386
Manufacturing	19,024	19,403	19,400	19,448	19,425	19,431	19,505	19,557	19,589	19,648	19,648	19,680	19,672	19,661	19,630
Production workers	12,970	13,254	13,250	13,295	13,270	13,263	13,324	13,365	13,385	13,423	13,426	13,442	13,430	13,429	13,401
Durable goods	11,194	11,437	11,431	11,475	11,462	11,464	11,509	11,545	11,565	11,605	11,594	11,604	11,600	11,591	11,561
Production workers	7,439	7,635	7,630	7,672	7,658	7,653	7,690	7,717	7,730	7,758	7,749	7,749	7,744	7,738	7,716
Lumber and wood products	741	765	762	762	761	763	770	775	780	784	778	777	772	770	766
Furniture and fixtures	516	530	529	531	529	530	531	532	532	532	534	535	537	534	532
Stone, clay, and glass products	586	600	600	602	600	600	603	605	607	607	608	607	606	604	607
Primary metal industries	747	774	773	780	776	779	783	784	785	786	786	788	788	787	788
Blast furnaces and basic steel products	268	277	278	278	277	277	277	277	276	276	276	276	275	276	275
Fabricated metal products	1,401	1,431	1,432	1,438	1,435	1,436	1,442	1,445	1,449	1,458	1,458	1,457	1,454	1,452	1,447
Machinery, except electrical	2,008	2,082	2,077	2,092	2,094	2,098	2,110	2,120	2,126	2,134	2,138	2,143	2,144	2,148	2,151
Electrical and electronic equipment	2,069	2,070	2,072	2,072	2,073	2,072	2,073	2,075	2,067	2,065	2,062	2,060	2,058	2,051	2,043
Transportation equipment	2,051	2,051	2,053	2,058	2,052	2,044	2,055	2,060	2,063	2,079	2,067	2,071	2,073	2,074	2,058
Motor vehicles and equipment	867	857	855	862	859	859	865	867	867	882	871	869	875	876	861
Instruments and related products	706	749	748	751	755	756	758	762	767	770	772	776	777	779	778
Miscellaneous manufacturing industries	371	386	385	389	387	386	384	387	389	390	391	390	391	392	391
Nondurable goods	7,830	7,967	7,969	7,973	7,963	7,967	7,996	8,012	8,024	8,043	8,054	8,076	8,072	8,070	8,069
Production workers	5,531	5,619	5,620	5,623	5,612	5,610	5,634	5,648	5,655	5,665	5,677	5,693	5,686	5,691	5,685
Food and kindred products	1,620	1,636	1,633	1,628	1,629	1,627	1,644	1,648	1,646	1,650	1,650	1,655	1,657	1,655	1,655
Tobacco manufactures	55	56	56	55	55	55	55	56	56	56	56	56	54	53	53
Textile mill products	726	729	731	730	723	726	726	725	724	728	728	729	728	727	728
Apparel and other textile products	1,099	1,092	1,093	1,091	1,085	1,085	1,083	1,088	1,090	1,092	1,096	1,101	1,098	1,094	1,092
Paper and allied products	680	693	694	695	694	693	695	695	696	696	696	697	696	697	696
Printing and publishing	1,506	1,561	1,560	1,564	1,568	1,573	1,577	1,581	1,588	1,595	1,595	1,600	1,601	1,603	1,608
Chemicals and allied products	1,026	1,065	1,066	1,068	1,071	1,072	1,074	1,075	1,079	1,084	1,085	1,088	1,090	1,094	1,093
Petroleum and coal products	164	162	162	162	162	162	162	162	162	160	161	161	162	162	163
Rubber and misc. plastics products	811	829	830	836	832	830	836	839	840	839	843	845	843	843	839
Leather and leather products	143	144	144	144	144	144	144	143	143	143	144	144	143	142	142
SERVICE-PRODUCING	77,492	80,335	80,296	80,445	80,651	80,894	81,091	81,364	81,584	81,816	82,082	82,242	82,430	82,647	82,878
Transportation and public utilities	5,372	5,548	5,542	5,557	5,572	5,581	5,596	5,616	5,634	5,654	5,667	5,666	5,682	5,700	5,721
Transportation	3,164	3,334	3,326	3,340	3,353	3,365	3,381	3,402	3,421	3,439	3,453	3,452	3,467	3,485	3,505
Communication and public utilities	2,208	2,214	2,216	2,217	2,219	2,216	2,215	2,214	2,213	2,215	2,214	2,214	2,215	2,215	2,216
Wholesale trade	5,844	6,029	6,027	6,038	6,051	6,071	6,086	6,104	6,125	6,146	6,171	6,197	6,206	6,222	6,229
Durable goods	3,427	3,561	3,561	3,569	3,578	3,590	3,599	3,612	3,626	3,638	3,657	3,676	3,676	3,685	3,688
Nondurable goods	2,417	2,467	2,466	2,469	2,473	2,481	2,487	2,492	2,499	2,508	2,514	2,521	2,530	2,537	2,541
Retail trade	18,483	19,110	19,096	19,139	19,182	19,188	19,229	19,282	19,328	19,407	19,460	19,488	19,489	19,524	19,525
General merchandise stores	2,412	2,461	2,459	2,457	2,454	2,452	2,447	2,452	2,460	2,472	2,481	2,490	2,492	2,492	2,479
Food stores	2,962	3,098	3,090	3,105	3,117	3,122	3,149	3,165	3,182	3,200	3,212	3,223	3,233	3,242	3,250
Automotive dealers and service stations	2,004	2,090	2,082	2,096	2,107	2,115	2,124	2,131	2,136	2,143	2,150	2,155	2,159	2,157	2,152
Eating and drinking places	6,106	6,282	6,283	6,284	6,302	6,296	6,314	6,322	6,328	6,323	6,332	6,322	6,335	6,345	6,367
Finance, insurance, and real estate	6,547	6,676	6,672	6,678	6,686	6,695	6,710	6,726	6,744	6,746	6,763	6,774	6,776	6,790	6,801
Finance	3,270	3,290	3,286	3,284	3,285	3,288	3,293	3,299	3,307	3,308	3,311	3,316	3,312	3,318	3,316
Insurance	2,024	2,082	2,081	2,084	2,087	2,092	2,098	2,102	2,110	2,109	2,116	2,117	2,119	2,123	2,128
Real estate	1,253	1,304	1,305	1,310	1,314	1,315	1,319	1,325	1,327	1,329	1,336	1,341	1,345	1,349	1,357
Services	24,236	25,600	25,597	25,683	25,784	25,888	25,986	26,111	26,230	26,318	26,434	26,520	26,651	26,728	26,887
Business services	5,195	5,571	5,567	5,595	5,617	5,651	5,667	5,682	5,715	5,707	5,729	5,736	5,760	5,778	5,801
Health services	6,805	7,144	7,123	7,153	7,187	7,228	7,267	7,313	7,359	7,396	7,442	7,488	7,528	7,568	7,609
Government	17,010	17,372	17,362	17,350	17,376	17,471	17,484	17,525	17,523	17,545	17,587	17,597	17,626	17,683	17,715
Federal	2,943	2,971	2,956	2,958	2,967	2,985	2,986	2,983	2,981	2,978	2,982	2,982	2,982	2,998	2,998
State	3,967	4,063	4,062	4,071	4,079	4,088	4,081	4,085	4,085	4,084	4,095	4,102	4,111	4,117	4,134
Local	10,100	10,339	10,344	10,321	10,330	10,398	10,417	10,457	10,457	10,483	10,510	10,513	10,533	10,568	10,583

[p] = preliminary

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

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

Industry	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
PRIVATE SECTOR	34.8	34.7	34.7	34.8	34.6	34.7	34.8	34.7	34.7	34.8	34.6	34.7	34.9	34.6	34.6
MANUFACTURING	41.0	41.1	41.1	41.1	41.0	41.1	41.2	41.2	41.0	41.1	41.1	41.0	41.3	41.0	40.9
Overtime hours	3.7	3.9	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	3.9	4.0	3.9	3.8	3.8
Durable goods	41.5	41.8	41.8	41.8	41.7	41.9	41.9	41.9	41.7	41.8	41.8	41.7	41.9	41.5	41.5
Overtime hours	3.8	4.1	4.1	4.1	4.1	4.1	4.2	4.2	4.1	4.1	4.1	4.1	4.1	3.9	3.9
Lumber and wood products	40.6	40.3	40.2	40.4	40.1	40.1	40.7	40.3	40.3	40.3	39.6	40.0	40.5	39.7	39.9
Furniture and fixtures	40.0	39.4	39.4	39.6	39.2	39.6	39.4	39.5	39.4	39.8	39.7	39.8	39.9	39.4	39.4
Stone, clay, and glass products	42.3	42.3	42.4	42.2	42.2	42.3	42.5	42.6	42.4	42.5	42.2	42.2	42.5	41.9	41.9
Primary metal industries	43.1	43.6	43.6	43.5	43.5	43.9	43.7	43.7	43.5	43.6	43.4	43.5	43.3	43.2	43.1
Blast furnaces and basic steel products	43.4	44.0	44.2	44.0	44.1	44.5	44.2	44.0	43.8	44.0	43.8	44.1	43.5	43.6	43.4
Fabricated metal products	41.6	41.9	42.0	41.9	41.8	42.0	41.9	42.1	41.8	41.9	41.9	41.8	41.9	41.7	41.4
Machinery except electrical	42.2	42.6	42.6	42.8	42.5	42.7	42.7	42.5	42.5	42.5	42.6	42.5	42.7	42.5	42.4
Electrical and electronic equipment	40.9	41.0	41.0	41.0	40.9	40.9	41.0	41.0	40.8	40.9	40.9	40.6	41.0	40.7	40.6
Transportation equipment	42.0	42.7	42.9	42.7	42.7	43.0	43.1	43.1	42.8	42.8	43.1	43.1	42.8	42.5	42.5
Motor vehicles and equipment	42.2	43.5	43.9	42.9	43.6	44.1	43.9	44.1	43.7	43.6	43.9	43.9	43.3	42.8	42.9
Instruments and related products	41.4	41.5	41.4	41.7	41.5	41.6	41.8	41.6	41.1	41.5	41.5	41.1	41.5	41.2	41.1
Miscellaneous manufacturing	39.4	39.2	39.4	39.3	39.3	39.2	39.1	39.3	39.0	39.4	39.5	39.5	39.8	39.5	39.1
Nondurable goods	40.2	40.1	40.1	40.2	40.1	40.2	40.2	40.2	40.0	40.1	40.2	40.1	40.4	40.2	40.2
Overtime hours	3.6	3.7	3.6	3.7	3.6	3.7	3.7	3.6	3.6	3.6	3.7	3.8	3.8	3.7	3.7
Food and kindred products	40.2	40.3	40.3	40.4	40.3	40.3	40.4	40.6	40.2	40.1	40.3	40.4	40.7	40.6	40.7
Textile mill products	41.8	41.1	40.8	41.0	41.0	41.0	41.0	41.0	40.5	40.9	40.8	41.1	41.7	41.4	41.4
Apparel and other textile products	37.0	37.0	37.0	37.0	36.9	37.1	36.9	37.0	36.8	37.0	37.1	36.9	37.6	37.1	37.0
Paper and allied products	43.4	43.2	43.2	43.2	43.2	43.2	43.2	43.1	43.2	43.1	43.2	43.3	43.4	43.3	43.2
Printing and publishing	38.0	38.0	38.0	38.0	38.0	38.1	38.0	37.9	37.8	38.0	38.0	37.9	37.9	37.7	37.9
Chemicals and allied products	42.3	42.3	42.4	42.3	42.2	42.3	42.5	42.3	42.3	42.3	42.3	42.3	42.6	42.2	42.3
Rubber and miscellaneous plastics products	41.6	41.7	41.7	41.7	41.6	41.7	41.6	41.7	41.4	41.7	41.7	41.6	41.6	41.5	41.5
Leather and leather products	38.2	37.5	37.1	37.2	37.5	37.5	37.8	37.3	37.7	38.0	38.6	38.0	38.3	37.4	37.9
TRANSPORTATION AND PUBLIC UTILITIES	39.2	39.3	39.4	39.4	39.3	39.4	39.4	39.3	39.4	39.6	39.4	39.4	40.1	39.6	39.6
WHOLESALE TRADE	37.5	37.4	38.0	38.1	37.9	38.1	38.1	38.0	38.1	38.1	38.1	38.1	38.3	37.9	38.0
RETAIL TRADE	29.2	29.1	29.1	29.3	29.0	29.1	29.2	29.0	29.1	29.1	28.9	28.9	29.1	28.9	28.9
SERVICES	32.5	32.6	32.5	32.7	32.5	32.6	32.7	32.5	32.7	32.7	32.5	32.6	32.8	32.5	32.4

[p] = preliminary

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

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

Industry	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
PRIVATE SECTOR (in current dollars)[1]	$8.98	$9.29	$9.27	$9.31	$9.32	$9.37	$9.43	$9.42	$9.45	$9.49	$9.52	$9.54	$9.61	$9.61	$9.62
Construction	12.71	13.01	12.97	13.05	13.03	13.07	13.08	13.10	13.15	13.18	13.22	13.26	13.33	13.33	13.35
Manufacturing	9.91	10.18	10.18	10.18	10.21	10.25	10.29	10.30	10.31	10.33	10.37	10.40	10.40	10.42	10.45
Excluding overtime	9.48	9.72	9.71	9.72	9.75	9.78	9.80	9.83	9.85	9.87	9.89	9.92	9.92	9.97	9.99
Transportation and public utilities	12.03	12.32	12.32	12.35	12.37	12.37	12.41	12.39	12.36	12.45	12.48	12.50	12.52	12.55	12.54
Wholesale trade	9.60	9.94	9.90	9.98	9.95	10.03	10.14	10.06	10.11	10.19	10.18	10.21	10.36	10.27	10.30
Retail trade	6.12	6.31	6.30	6.32	6.33	6.36	6.38	6.40	6.43	6.44	6.45	6.47	6.51	6.49	6.52
Finance, insurance, and real estate	8.73	9.09	9.01	9.11	9.09	9.18	9.35	9.26	9.35	9.40	9.35	9.36	9.54	9.44	9.49
Services	8.49	8.91	8.87	8.93	8.95	9.00	9.07	9.05	9.10	9.15	9.19	9.24	9.32	9.34	9.33
PRIVATE SECTOR (in constant (1977) dollars)[1]	4.86	4.84	4.84	4.84	4.82	4.83	4.84	4.82	4.82	4.81	4.81	4.80	4.80	4.77	–

[1] Includes mining, not shown separately.

– Data not available.

[p] = preliminary.

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

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

Industry	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
PRIVATE SECTOR	$8.98	$9.29	$9.23	$9.24	$9.24	$9.40	$9.45	$9.46	$9.46	$9.54	$9.55	$9.56	$9.62	$9.59	$9.58
MINING	12.54	12.75	12.61	12.72	12.69	12.82	12.79	12.89	13.03	13.20	13.22	13.15	13.19	13.14	13.10
CONSTRUCTION	12.71	13.01	12.89	12.96	12.99	13.16	13.17	13.08	13.19	13.26	13.21	13.26	13.30	13.29	13.27
MANUFACTURING	9.91	10.18	10.16	10.17	10.13	10.25	10.25	10.31	10.37	10.37	10.38	10.41	10.41	10.42	10.44
Durable goods	10.44	10.71	10.70	10.67	10.65	10.78	10.79	10.85	10.90	10.90	10.91	10.93	10.93	10.94	10.97
Lumber and wood products	8.40	8.61	8.60	8.66	8.58	8.69	8.77	8.69	8.76	8.71	8.69	8.68	8.76	8.78	8.87
Furniture and fixtures	7.67	7.94	7.93	7.99	8.02	8.09	8.06	8.02	8.06	8.10	8.08	8.13	8.12	8.15	8.21
Stone, clay, and glass products	10.25	10.47	10.47	10.53	10.45	10.55	10.57	10.60	10.57	10.59	10.62	10.62	10.71	10.70	10.73
Primary metal industries	11.94	12.15	12.14	12.22	12.10	12.24	12.19	12.22	12.26	12.27	12.27	12.27	12.26	12.25	12.27
Blast furnaces and basic steel products	13.77	13.97	13.95	14.09	13.96	14.07	14.03	14.01	14.07	14.04	14.13	14.13	14.06	14.05	13.98
Fabricated metal products	10.00	10.26	10.29	10.20	10.21	10.34	10.34	10.36	10.44	10.45	10.46	10.47	10.48	10.50	10.49
Machinery, except electrical	10.72	11.01	10.97	10.98	10.97	11.09	11.11	11.22	11.24	11.21	11.23	11.25	11.26	11.28	11.34
Electrical and electronic equipment	9.88	10.13	10.15	10.13	10.15	10.19	10.16	10.24	10.29	10.27	10.26	10.30	10.31	10.33	10.35
Transportation equipment	12.94	13.31	13.30	13.19	13.21	13.44	13.45	13.56	13.59	13.58	13.59	13.65	13.60	13.57	13.67
Motor vehicles and equipment	13.53	14.00	14.09	13.79	13.83	14.10	14.09	14.18	14.23	14.20	14.19	14.28	14.20	14.15	14.25
Instruments and related products	9.72	9.98	9.90	9.96	9.94	9.99	10.08	10.07	10.13	10.12	10.14	10.17	10.17	10.17	10.20
Miscellaneous manufacturing	7.76	8.01	7.96	7.98	7.95	8.01	8.10	8.12	8.20	8.22	8.23	8.23	8.21	8.26	8.27
Nondurable goods	9.18	9.43	9.40	9.46	9.41	9.50	9.49	9.54	9.61	9.62	9.62	9.66	9.65	9.68	9.70
Food and kindred products	8.93	9.10	9.11	9.12	9.02	9.11	9.03	9.15	9.25	9.27	9.26	9.33	9.32	9.34	9.38
Tobacco manufactures	14.07	14.68	15.92	15.78	14.97	14.09	14.01	14.56	14.31	14.39	14.75	15.34	15.87	16.13	16.63
Textile mill products	7.17	7.37	7.33	7.31	7.37	7.43	7.45	7.47	7.52	7.60	7.59	7.59	7.60	7.62	7.64
Apparel and other textile products	5.94	6.12	6.10	6.03	6.09	6.21	6.22	6.25	6.29	6.32	6.32	6.34	6.32	6.32	6.35
Paper and allied products	11.43	11.65	11.66	11.72	11.65	11.72	11.68	11.74	11.81	11.78	11.80	11.84	11.83	11.89	11.93
Printing and publishing	10.28	10.52	10.43	10.48	10.54	10.70	10.68	10.67	10.70	10.73	10.74	10.79	10.73	10.76	10.72
Chemicals and allied products	12.37	12.67	12.60	12.70	12.62	12.75	12.78	12.86	12.90	12.85	12.88	12.91	12.92	12.99	13.06
Petroleum and coal products	14.58	14.98	14.96	14.93	14.84	15.01	15.14	15.18	15.21	15.24	15.45	15.46	15.50	15.36	15.19
Rubber and miscellaneous plastics products	8.92	9.14	9.10	9.15	9.17	9.22	9.23	9.26	9.31	9.32	9.31	9.33	9.35	9.40	9.41
Leather and leather products	6.08	6.27	6.26	6.19	6.22	6.30	6.33	6.41	6.44	6.48	6.49	6.54	6.55	6.57	6.53
TRANSPORTATION AND PUBLIC UTILITIES	12.03	12.32	12.27	12.32	12.35	12.40	12.42	12.46	12.42	12.47	12.50	12.46	12.51	12.50	12.48
WHOLESALE TRADE	9.60	9.94	9.88	9.95	9.91	10.04	10.10	10.07	10.14	10.23	10.23	10.21	10.36	10.27	10.28
RETAIL TRADE	6.12	6.31	6.27	6.28	6.26	6.38	6.39	6.43	6.43	6.48	6.47	6.48	6.52	6.49	6.49
FINANCE, INSURANCE, AND REAL ESTATE	8.73	9.09	8.97	9.03	9.03	9.14	9.29	9.27	9.32	9.46	9.47	9.43	9.59	9.47	9.44
SERVICES	8.49	8.91	8.79	8.80	8.81	9.00	9.09	9.11	9.16	9.25	9.28	9.29	9.34	9.31	9.25

[p] = preliminary

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

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

Industry	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[p]	June[p]
PRIVATE SECTOR															
Current dollars	$312.50	$322.36	$322.13	$324.32	$323.40	$327.12	$329.81	$328.26	$330.15	$329.13	$327.57	$328.86	$334.78	$330.86	$332.43
Seasonally adjusted	–	–	321.67	323.99	322.47	325.14	328.16	326.87	327.92	330.25	329.39	331.04	335.39	332.51	332.85
Constant (1977) dollars	169.28	167.81	168.13	168.57	167.30	168.10	168.96	167.99	168.70	167.41	165.94	165.76	167.39	164.53	–
MINING	531.70	539.33	535.93	539.33	532.98	541.00	544.85	540.09	557.68	557.04	551.27	552.30	564.53	553.19	554.13
CONSTRUCTION	480.44	493.08	498.84	500.26	501.41	505.34	514.95	494.42	491.99	483.99	478.20	495.92	504.07	501.03	502.93
MANUFACTURING															
Current dollars	406.31	418.40	418.59	413.92	414.32	423.33	423.33	427.87	432.43	425.17	423.50	426.81	426.81	426.18	428.04
Constant (1977) dollars	220.10	217.80	218.47	215.14	214.34	217.54	216.87	218.97	220.97	216.26	214.54	215.13	213.41	211.92	–
Durable goods	433.26	447.68	449.40	439.60	439.85	452.76	453.18	457.87	463.25	455.62	452.77	455.78	455.78	454.01	456.35
Lumber and wood products	341.04	346.98	351.74	349.00	345.77	350.21	359.57	347.60	353.90	345.79	338.91	345.46	354.78	352.08	359.24
Furniture and fixtures	306.80	312.84	312.44	310.81	315.19	324.41	323.21	320.00	326.43	319.14	315.93	321.95	319.12	317.85	323.47
Stone, clay, and glass products	433.58	442.88	448.12	446.47	444.13	451.54	454.51	452.62	446.05	439.49	436.48	444.98	456.25	453.68	453.88
Primary metal industries	514.61	529.74	530.52	526.68	521.51	538.56	531.48	536.46	540.67	536.20	532.52	533.75	529.63	527.98	528.84
Blast furnaces and basic steel products	597.62	614.68	620.78	619.96	608.66	628.93	615.92	616.44	621.89	617.76	617.48	621.72	613.02	612.58	609.53
Fabricated metal products	416.00	429.89	434.24	419.22	423.72	435.31	434.28	441.34	445.79	438.90	435.14	436.60	437.02	435.75	436.38
Machinery, except electrical	452.38	469.03	468.42	464.45	460.74	473.54	473.29	480.22	488.94	477.55	477.28	479.25	478.55	477.14	481.95
Electrical and electronic equipment	404.09	415.33	417.17	409.25	412.09	417.79	416.56	423.94	430.12	422.10	416.56	417.15	419.62	417.33	421.25
Transportation equipment	543.48	568.34	571.90	550.02	552.18	577.92	579.70	591.22	591.17	582.58	584.37	591.05	584.80	579.44	582.34
Motor vehicles and equipment	570.97	609.00	622.78	575.04	583.63	621.81	619.96	632.43	633.24	619.12	621.52	631.18	620.54	612.70	615.60
Instruments and related products	402.41	414.17	409.86	409.36	409.53	415.58	420.34	422.94	425.46	420.99	420.81	419.00	420.02	415.95	419.22
Miscellaneous manufacturing	305.74	313.99	313.62	308.03	310.05	314.79	320.76	323.18	325.54	323.05	322.62	324.26	325.12	324.62	323.36
Nondurable goods	369.04	378.14	376.94	377.45	378.28	384.75	382.45	386.37	389.21	383.84	382.88	385.43	386.97	388.17	389.94
Food and kindred products	358.99	366.73	367.13	367.54	368.02	371.69	367.52	374.24	377.40	369.87	366.70	372.27	372.80	378.27	381.77
Tobacco manufactures	548.73	584.26	633.62	620.15	600.30	580.51	578.61	586.77	570.97	546.82	557.55	556.84	604.65	637.14	643.58
Textile mill products	299.71	302.91	300.53	295.32	304.38	307.60	306.94	309.26	308.32	309.32	307.40	311.19	313.12	313.94	317.82
Apparel and other textile products	219.78	226.44	227.53	221.30	225.33	230.39	230.76	233.13	233.99	232.58	233.21	233.95	234.47	233.84	236.86
Paper and allied products	496.06	503.28	502.55	502.79	499.79	512.16	505.74	509.52	519.64	508.90	506.22	509.12	509.87	512.46	514.18
Printing and publishing	390.64	399.76	392.17	396.14	401.57	411.95	406.91	406.53	410.88	404.52	404.90	408.94	405.59	402.42	402.00
Chemicals and allied products	523.25	535.94	534.24	533.40	528.78	539.33	540.59	547.84	553.41	544.84	544.82	546.09	549.10	548.18	552.44
Petroleum and coal products	641.52	665.11	674.70	676.33	661.86	672.45	676.76	670.96	673.80	662.94	679.80	667.87	686.65	671.23	657.73
Rubber and miscellaneous plastics products	371.07	381.14	380.38	376.07	378.72	384.47	384.89	388.92	391.95	390.51	387.30	387.20	388.03	390.10	391.46
Leather and leather products	232.26	235.13	237.25	230.89	234.49	236.25	239.91	239.73	246.65	244.94	245.32	244.60	247.59	247.03	252.71
TRANSPORTATION AND PUBLIC UTILITIES	471.58	484.18	484.67	490.34	490.30	489.80	490.59	489.68	490.59	490.07	488.75	488.43	497.90	492.50	496.70
WHOLESALE TRADE	365.76	378.71	376.43	381.09	376.58	382.52	385.82	382.66	387.35	387.72	386.69	386.96	395.75	389.23	391.67
RETAIL TRADE	178.70	183.62	184.34	188.40	186.55	185.66	185.95	185.18	190.33	184.03	183.10	184.68	188.43	186.91	189.51
FINANCE, INSURANCE, AND REAL ESTATE	316.90	326.33	321.13	325.98	322.37	327.21	334.44	330.94	333.66	341.51	339.03	337.59	348.12	337.13	337.95
SERVICES	275.93	290.47	287.43	290.40	288.97	292.50	297.24	296.08	298.62	301.55	300.67	301.00	306.35	301.64	301.55

– Data not available.
[p] = preliminary

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

18. Diffusion indexes of employment change, seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Private nonagricultural payrolls, 349 industries											
Over 1-month span:												
1987	55.6	59.3	61.0	61.9	58.6	59.7	65.3	60.6	63.0	67.8	64.5	60.7
1988	60.7	63.5	63.0	62.8	61.3	67.2	63.6	58.0	55.4	63.9	68.2	64.6
1989	68.3	60.5	61.0	58.2	56.3	54.3	–	–	–	–	–	–
Over 3-month span:												
1987	60.7	62.0	66.6	65.2	65.8	65.9	67.8	71.1	71.2	72.3	70.9	65.9
1988	64.8	65.6	69.5	70.2	71.1	71.9	71.2	64.2	65.3	70.1	73.4	74.6
1989	71.6	70.1	64.5	61.9	59.0	–	–	–	–	–	–	–
Over 6-month span:												
1987	67.3	65.8	64.8	66.8	67.6	69.5	71.3	73.5	73.2	71.5	71.8	72.2
1988	69.9	70.2	71.5	73.9	73.9	69.1	70.2	74.6	73.5	73.9	74.5	75.8
1989	75.1	69.9	66.2	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1987	66.6	68.2	68.2	71.8	71.9	72.5	72.2	74.1	75.4	72.5	73.8	76.9
1988	76.2	76.1	74.8	74.6	75.8	74.9	78.1	75.5	75.5	74.8	75.2	73.1
1989	–	–	–	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 141 industries											
Over 1-month span:												
1987	44.3	53.9	54.3	55.7	55.3	54.3	62.8	59.9	63.8	59.9	65.6	56.4
1988	58.5	56.0	55.0	59.9	58.5	61.7	59.6	51.1	49.3	62.8	64.9	58.5
1989	62.4	53.5	53.2	49.6	46.8	48.6	–	–	–	–	–	–
Over 3-month span:												
1987	52.1	51.4	59.6	61.3	58.5	62.8	67.0	71.6	68.4	70.6	67.7	64.5
1988	63.1	61.0	62.4	64.9	67.4	67.0	64.5	58.2	62.1	66.7	71.3	70.9
1989	67.4	63.8	55.7	51.4	47.5	–	–	–	–	–	–	–
Over 6-month span:												
1987	57.4	56.7	55.3	62.4	64.9	67.0	67.4	70.6	71.3	69.5	69.5	68.1
1988	66.3	66.3	67.7	69.5	66.7	64.2	66.0	70.9	68.8	69.9	71.6	74.1
1989	69.5	58.2	54.3	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1987	55.3	58.5	58.5	63.5	66.3	67.4	71.6	72.7	71.6	69.1	68.4	72.3
1988	73.8	70.2	70.9	71.6	72.0	69.9	70.9	69.1	71.6	70.2	69.9	65.6
1989	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

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

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

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

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total employment	90,406	91,156	89,566	90,200	94,496	97,519	99,525	102,200	105,584
Private sector	74,166	75,126	73,729	74,330	78,472	81,125	82,832	85,190	88,212
Goods-producing	25,658	25,497	23,813	23,334	24,727	24,859	24,558	24,708	25,249
Mining	1,027	1,139	1,128	952	966	927	777	717	721
Construction	4,346	4,188	3,905	3,948	4,383	4,673	4,816	4,967	5,125
Manufacturing	20,285	20,170	18,781	18,434	19,378	19,260	18,965	19,024	19,403
Service-producing	64,748	65,659	65,753	66,866	69,769	72,660	74,967	77,492	80,335
Transportation and public utilities	5,146	5,165	5,082	4,954	5,159	5,238	5,255	5,372	5,548
Wholesale trade	5,275	5,358	5,278	5,268	5,555	5,717	5,753	5,844	6,029
Retail trade	15,035	15,189	15,179	15,613	16,545	17,356	17,930	18,483	19,110
Finance, insurance, and real estate	5,160	5,298	5,341	5,468	5,689	5,955	6,283	6,547	6,676
Services	17,890	18,619	19,036	19,694	20,797	22,000	23,053	24,236	25,600
Government	16,241	16,031	15,837	15,869	16,024	16,394	16,693	17,010	17,372
Federal	2,866	2,772	2,739	2,774	2,807	2,875	2,899	2,943	2,971
State	3,610	3,640	3,640	3,662	3,734	3,832	3,893	3,967	4,063
Local	9,765	9,619	9,458	9,434	9,482	9,687	9,901	10,100	10,339

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

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

Industry	1980	1981	1982	1983	1984	1985	1986	1987	1988
Private sector									
Average weekly hours	35.3	35.2	34.8	35.0	35.2	34.9	34.8	34.8	34.7
Average hourly earnings (in dollars)	6.66	7.25	7.68	8.02	8.32	8.57	8.76	8.98	9.29
Average weekly earnings (in dollars)	235.10	255.20	267.26	280.70	292.86	299.09	304.85	312.50	322.36
Mining									
Average weekly hours	43.3	43.7	42.7	42.5	43.3	43.4	42.2	42.4	42.3
Average hourly earnings (in dollars)	9.17	10.04	10.77	11.28	11.63	11.98	12.46	12.54	12.75
Average weekly earnings (in dollars)	397.06	438.75	459.88	479.40	503.58	519.93	525.81	531.70	539.33
Construction									
Average weekly hours	37.0	36.9	36.7	37.1	37.8	37.7	37.4	37.8	37.9
Average hourly earnings (in dollars)	9.94	10.82	11.63	11.94	12.13	12.32	12.48	12.71	13.01
Average weekly earnings (in dollars)	367.78	399.26	426.82	442.97	458.51	464.46	466.75	480.44	493.08
Manufacturing									
Average weekly hours	39.7	39.8	38.9	40.1	40.7	40.5	40.7	41.0	41.1
Average hourly earnings (in dollars)	7.27	7.99	8.49	8.83	9.19	9.54	9.73	9.91	10.18
Average weekly earnings (in dollars)	288.62	318.00	330.26	354.08	374.03	386.37	396.01	406.31	418.40
Transportation and public utilities									
Average weekly hours	39.6	39.4	39.0	39.0	39.4	39.5	39.2	39.2	39.3
Average hourly earnings (in dollars)	8.87	9.70	10.32	10.79	11.12	11.40	11.70	12.03	12.32
Average weekly earnings (in dollars)	351.25	382.18	402.48	420.81	438.13	450.30	458.64	471.58	484.18
Wholesale trade									
Average weekly hours	38.5	38.5	38.3	38.5	38.5	38.4	38.3	38.1	38.1
Average hourly earnings (in dollars)	6.96	7.56	8.09	8.55	8.89	9.16	9.35	9.60	9.94
Average weekly earnings (in dollars)	267.96	291.06	309.85	329.18	342.27	351.74	358.11	365.76	378.71
Retail trade									
Average weekly hours	30.2	30.1	29.9	29.8	29.8	29.4	29.2	29.2	29.1
Average hourly earnings (in dollars)	4.88	5.25	5.48	5.74	5.85	5.94	6.03	6.12	6.31
Average weekly earnings (in dollars)	147.38	158.03	163.85	171.05	174.33	174.64	176.08	178.70	183.62
Finance, insurance, and real estate									
Average weekly hours	36.2	36.3	36.2	36.2	36.5	36.4	36.4	36.3	35.9
Average hourly earnings (in dollars)	5.79	6.31	6.78	7.29	7.63	7.94	8.36	8.73	9.09
Average weekly earnings (in dollars)	209.60	229.05	245.44	263.90	278.50	289.02	304.30	316.90	326.33
Services									
Average weekly hours	32.6	32.6	32.6	32.7	32.6	32.5	32.5	32.5	32.6
Average hourly earnings (in dollars)	5.85	6.41	6.92	7.31	7.59	7.90	8.18	8.49	8.91
Average weekly earnings (in dollars)	190.71	208.97	225.59	239.04	247.43	256.75	265.85	275.93	290.47

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

(June 1981=100)

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

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

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

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

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

– Data not available.

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

(June 1981 = 100)

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

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.
[2] Consists of legislative, judicial, administrative, and regulatory activities.
[3] Includes, for example, library, social and health services.
– Data not available.

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

(June 1981=100)

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

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

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

Measure	Annual average		Quarterly average							
	1987	1988	1987			1988				1989
			II	III	IV	I	II	III[p]	IV[p]	I[p]
Specified adjustments:										
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:										
First year of contract	3.0	3.1	4.1	2.5	3.4	1.8	3.1	3.4	3.5	3.3
Annual rate over life of contract	2.6	2.5	3.9	2.1	2.4	1.8	2.4	3.2	2.1	3.5
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.2	2.5	2.6	2.1	2.4	2.1	2.6	2.7	2.6	3.2
Annual rate over life of contract	2.1	2.4	2.9	2.0	1.8	2.3	2.2	2.8	2.2	3.1
Effective adjustments:										
Total effective wage adjustment [3]	3.1	2.6	1.0	.9	.8	.4	.9	.8	.5	.5
From settlements reached in period	.7	.7	.2	.2	.3	.1	.3	.2	.1	.1
Deferred from settlements reached in earlier periods	1.8	1.3	.7	.6	.3	.3	.5	.4	.2	.3
From cost-of-living-adjustments clauses	.5	.6	.2	.1	.2	.1	.1	.2	.2	.1

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

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

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

[1] Data do not meet publication standards.
[2] Between -0.05 and 0.05 percent.
[p] = preliminary.

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

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

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

[p] = preliminary.

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

Measure	Annual average		
	1986	1987	1988
Specified adjustments:			
Total compensation [1] adjustments, [2] settlements covering 5,000 workers or more:			
First year of contract	6.2	4.9	5.4
Annual rate over life of contract	6.0	4.8	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	5.7	4.9	5.1
Annual rate over life of contract	5.7	5.1	5.3
Effective adjustments:			
Total effective wage adjustment [3]	5.5	4.9	4.7
From settlements reached in period	2.4	2.7	2.3
Deferred from settlements reached in earlier periods	3.0	2.2	2.4
From cost-of-living-adjustment clauses	([4])	([4])	([4])

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

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

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

[4] Less than 0.05 percent.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1988							1989[p]					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Number of stoppages:															
Beginning in period	46	40	7	4	7	2	3	1	0	3	0	2	4	7	0
In effect during period	51	43	15	14	18	14	9	5	1	4	2	4	8	13	5
Workers involved:															
Beginning in period (in thousands)	174.3	118.3	13.6	21.0	11.7	4.0	8.6	2.3	.0	7.4	.0	30.3	6.6	54.7	.0
In effect during period (in thousands)	214.6	121.9	34.8	47.4	46.9	34.0	25.9	10.6	2.5	9.9	7.7	37.0	43.6	94.3	44.7
Days idle:															
Number (in thousands)	4,468.8	4,364.3	473.7	725.9	713.2	510.0	293.2	77.9	52.5	152.7	137.8	949.6	1,064.2	1,227.1	938.2
Percent of estimated working time[1]	.02	.02	.02	.03	.03	.02	.01	.04	.02	.01	.01	.04	.05	.05	.04

[1] Agricultural and government employees are included in the total employed and total working time: private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is found in "'Total economy' measure of strike idleness," *Monthly Labor Review,* October 1968, pp. 54-56.

[p] = preliminary

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	113.6	118.3	118.0	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1	123.8	124.1
All items (1967=100)	340.4	354.3	353.5	354.9	356.6	358.9	360.1	360.5	360.9	362.7	364.1	366.2	368.8	370.8	371.7
Food and beverages	113.5	118.2	117.6	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0	124.7	124.9
Food	113.5	118.2	117.6	118.8	119.4	120.2	120.3	120.2	120.7	122.2	122.9	123.5	124.2	124.9	125.0
Food at home	111.9	116.6	115.8	117.3	118.1	119.0	119.0	118.7	119.1	121.2	122.0	122.7	123.5	124.4	124.3
Cereals and bakery products	114.8	122.1	120.8	122.1	124.0	124.7	125.6	125.9	126.6	127.9	128.9	129.7	130.4	131.5	132.1
Meats, poultry, fish, and eggs	110.5	114.3	114.6	116.5	117.3	117.4	116.8	116.4	116.1	118.5	118.2	120.5	120.6	120.7	121.4
Dairy products	105.9	108.4	107.2	107.6	108.2	108.9	109.9	110.6	111.4	112.6	113.4	113.8	114.1	113.8	113.6
Fruits and vegetables	119.1	128.1	126.1	129.0	129.9	133.2	131.7	129.5	131.0	134.8	137.1	135.7	138.0	142.7	140.2
Other foods at home	110.5	113.1	112.4	113.1	113.6	114.0	114.8	114.9	115.3	116.6	117.8	118.1	119.0	118.9	119.2
Sugar and sweets	111.0	114.0	113.3	114.0	114.8	115.6	116.0	115.9	116.7	117.2	117.8	118.0	117.9	118.1	119.2
Fats and oils	108.1	113.1	111.5	112.6	114.9	115.9	117.1	117.1	118.5	119.6	120.5	120.4	121.6	121.6	121.6
Nonalcoholic beverages	107.5	107.5	107.1	107.2	107.0	107.4	108.1	108.2	107.8	109.6	111.3	111.3	111.8	111.5	111.6
Other prepared foods	113.8	118.0	117.1	118.3	118.7	119.1	119.9	120.1	120.7	121.9	123.0	123.7	125.2	125.2	125.5
Food away from home	117.0	121.8	121.5	122.1	122.5	123.0	123.4	123.7	124.1	124.7	125.2	125.7	126.2	126.7	127.1
Alcoholic beverages	114.1	118.6	118.7	119.2	119.3	119.6	119.8	119.9	119.9	120.3	121.1	121.8	122.3	123.1	123.5
Housing	114.2	118.5	118.6	119.1	119.5	119.9	119.9	119.9	120.2	120.7	121.1	121.5	121.6	122.1	122.9
Shelter	121.3	127.1	126.6	127.4	128.2	128.4	128.8	129.1	129.3	129.8	130.3	131.2	131.2	131.8	132.3
Renters' costs (12/82=100)	128.1	133.6	133.7	134.7	135.6	134.7	134.8	134.2	134.1	135.2	136.3	138.6	137.9	137.8	138.7
Rent, residential	123.1	127.8	127.3	127.8	128.4	129.1	129.4	129.8	130.1	130.5	130.9	131.1	131.4	131.7	132.3
Other renters' costs	127.4	134.8	137.0	139.2	141.3	135.5	134.8	131.1	130.0	132.7	136.2	144.7	140.7	139.7	141.5
Homeowners' costs (12/82=100)	124.8	131.1	130.4	131.0	131.8	132.6	133.1	133.8	134.0	134.4	134.7	135.0	135.4	136.2	136.5
Owners' equivalent rent (12/82=100)	124.8	131.1	130.4	131.1	131.9	132.7	133.1	133.9	134.1	134.5	134.8	135.1	135.5	136.3	136.6
Household insurance (12/82=100)	124.0	129.0	128.9	129.7	130.1	130.2	130.4	130.2	130.6	130.9	131.2	131.3	131.4	132.1	132.8
Maintenance and repairs	111.8	114.7	114.7	114.5	115.0	115.3	115.0	115.4	115.8	116.1	117.1	117.1	117.3	117.4	118.3
Maintenance and repair services	114.8	117.9	118.1	117.9	118.1	118.1	117.6	118.2	118.4	118.7	119.9	119.6	119.8	120.2	121.0
Maintenance and repair commodities	107.8	110.4	110.1	110.1	110.8	111.7	111.6	111.7	112.4	112.8	113.4	113.8	114.1	113.8	114.7
Fuel and other utilities	103.0	104.4	105.9	106.0	106.1	106.4	105.4	104.3	105.0	106.0	105.9	105.9	106.2	107.0	109.2
Fuels	97.3	98.0	100.8	100.8	100.9	101.0	98.6	96.8	97.4	98.7	98.6	98.5	98.8	99.6	103.2
Fuel oil, coal, and bottled gas	77.9	78.1	79.1	76.9	76.3	75.9	74.6	75.0	76.8	80.5	81.4	81.5	82.5	81.5	80.2
Gas (piped) and electricity	103.8	104.6	107.8	108.1	108.3	108.5	105.8	103.7	104.1	105.1	104.9	104.8	105.0	106.1	110.5
Other utilities and public services	120.1	122.9	122.3	122.4	122.6	123.3	124.5	124.4	125.5	125.9	126.0	125.9	126.2	127.0	127.1
Household furnishings and operations	107.1	109.4	109.6	109.8	109.7	110.1	110.3	110.6	110.6	110.9	110.9	110.5	110.7	110.8	111.1
Housefurnishings	103.6	105.1	105.3	105.5	105.3	105.7	105.9	106.1	105.9	106.0	105.9	105.1	105.0	104.7	105.1
Housekeeping supplies	111.5	114.7	114.7	115.2	114.8	115.5	115.6	116.5	117.0	117.5	117.7	118.5	119.6	120.9	121.2
Housekeeping services	110.6	114.3	114.8	115.0	115.1	115.5	115.5	115.7	115.9	116.6	116.8	116.9	117.1	117.3	117.4
Apparel and upkeep	110.6	115.4	114.6	112.7	112.6	117.8	120.7	119.9	118.0	115.3	115.3	119.3	120.9	120.4	117.8
Apparel commodities	108.9	113.7	112.9	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3	118.6	115.8
Men's and boys' apparel	109.1	113.4	112.5	111.9	111.6	115.2	117.6	118.2	117.3	115.1	114.2	115.9	117.2	117.8	115.9
Women's and girls' apparel	110.4	114.9	114.1	109.8	109.9	118.1	121.9	120.2	116.5	111.6	111.4	119.4	121.5	119.5	114.8
Infants' and toddlers' apparel	112.1	116.4	116.5	116.2	118.2	119.0	118.1	117.2	117.3	115.6	118.8	118.5	123.6	125.4	123.9
Footwear	105.1	109.9	109.2	108.2	107.4	112.2	115.9	114.5	113.5	112.2	112.7	114.1	115.3	114.9	114.0
Other apparel commodities	108.0	116.0	114.6	116.5	116.2	117.4	119.4	119.5	119.1	119.2	120.4	120.4	121.5	121.7	121.6
Apparel services	119.6	123.7	123.1	123.4	124.0	124.4	125.5	126.3	126.7	127.3	127.8	128.5	128.9	129.9	130.0
Transportation	105.4	108.7	108.5	108.9	109.6	109.7	110.0	110.7	110.8	111.1	111.6	111.9	114.6	116.0	115.9
Private transportation	104.2	107.6	107.4	107.8	108.6	108.6	109.0	109.6	109.6	109.8	110.3	110.7	113.6	115.0	114.9
New vehicles	114.4	116.5	116.1	116.1	115.9	116.2	117.2	118.4	119.0	119.4	119.5	119.4	119.2	119.2	118.9
New cars	114.6	116.9	116.5	116.5	116.3	116.8	117.7	118.7	119.1	119.5	119.6	119.6	119.4	119.5	119.1
Used cars	113.1	118.0	117.6	117.9	119.2	119.4	119.9	119.7	120.2	120.5	120.5	120.5	120.7	121.0	121.3
Motor fuel	80.2	80.9	81.4	82.3	84.1	83.1	81.6	81.5	80.3	79.6	80.3	81.5	92.1	96.6	96.0
Gasoline	80.1	80.8	81.3	82.3	84.2	83.1	81.6	81.4	80.3	79.4	80.1	81.3	92.1	96.7	96.2
Maintenance and repair	114.8	119.7	119.7	120.0	120.3	120.9	121.1	121.5	121.5	122.4	123.3	123.5	123.8	124.3	124.5
Other private transportation	120.8	127.9	127.2	127.5	128.7	129.3	131.0	132.1	132.5	133.5	134.3	134.5	134.7	135.6	135.9
Other private transportation commodities	96.9	98.9	98.8	98.2	99.2	99.7	99.3	99.4	100.3	101.0	101.2	100.1	100.8	101.5	101.9
Other private transportation services	125.6	133.9	133.1	133.7	134.8	135.5	137.7	139.1	139.3	140.4	141.4	141.9	142.0	142.9	143.2
Public transportation	121.1	123.3	123.2	123.7	123.7	124.0	124.2	125.3	126.5	127.5	128.1	128.2	128.4	128.9	129.6
Medical care	130.1	138.6	138.2	139.3	139.9	140.4	141.2	141.8	142.3	143.8	145.2	146.1	146.8	147.5	148.5
Medical care commodities	131.0	139.9	139.4	140.5	141.1	142.0	143.2	143.3	144.2	145.0	145.8	147.2	148.4	150.0	151.0
Medical care services	130.0	138.3	137.9	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4	146.9	147.9
Professional services	128.8	137.5	137.5	138.4	138.7	139.2	139.8	140.4	140.8	142.2	143.5	144.4	144.9	145.2	146.1
Hospital and related services	131.6	143.9	142.1	144.3	145.9	146.9	148.5	149.7	150.8	152.9	155.1	155.8	156.6	157.3	158.5
Entertainment	115.3	120.3	120.1	120.5	120.7	121.3	121.8	122.2	122.8	123.8	124.3	124.7	125.4	125.5	126.2
Entertainment commodities	110.5	115.0	114.8	115.3	115.4	116.0	116.3	117.2	117.5	118.1	118.4	118.5	119.0	119.3	119.5
Entertainment services	122.0	127.7	127.3	127.7	128.1	128.6	129.4	129.3	130.0	131.6	132.3	132.9	134.0	133.9	135.0
Other goods and services	128.5	137.0	135.5	136.5	137.5	140.0	140.6	141.0	141.3	143.4	144.1	144.4	144.7	145.4	146.3
Tobacco products	133.6	145.8	143.6	147.5	148.6	148.9	149.3	149.7	149.9	157.0	158.5	159.2	159.5	161.1	164.2
Personal care	115.1	119.4	119.0	119.2	119.0	120.3	121.0	121.8	122.4	122.8	123.2	123.6	124.1	124.8	124.5
Toilet goods and personal care appliances	113.9	118.1	117.5	117.8	117.2	118.7	119.8	120.7	121.6	121.7	121.9	122.4	122.6	122.7	122.2
Personal care services	116.2	120.7	120.4	120.6	121.0	121.9	122.0	122.7	123.1	123.8	124.4	124.8	125.4	126.8	127.0
Personal and educational expenses	138.5	147.9	146.0	146.3	147.8	151.8	152.4	152.7	153.0	154.0	154.4	154.6	154.9	155.2	155.8
School books and supplies	138.1	148.1	146.5	146.5	146.9	151.1	152.0	152.1	152.2	153.3	155.0	155.1	155.2	155.2	155.6
Personal and educational services	138.7	148.0	146.2	146.5	148.1	152.1	152.7	152.9	153.2	154.2	154.6	154.7	155.1	155.4	156.0

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
All items	113.6	118.3	118.0	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1	123.8	124.1
Commodities	107.7	111.5	111.1	111.5	111.9	113.0	113.5	113.5	113.5	113.9	114.3	115.2	116.7	117.5	117.2
Food and beverages	113.5	118.2	117.6	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0	124.7	124.9
Commodities less food and beverages	104.0	107.3	107.1	107.0	107.3	108.5	109.2	109.4	109.0	108.9	109.1	110.1	112.2	112.9	112.4
Nondurables less food and beverages	101.1	105.2	104.9	104.7	105.2	107.1	107.8	107.7	106.9	106.4	106.9	108.9	112.5	113.6	112.7
Apparel commodities	108.9	113.7	112.9	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3	118.6	115.8
Nondurables less food, beverages, and apparel	99.5	103.2	103.2	104.0	104.8	104.9	104.5	104.6	104.5	105.3	106.1	106.9	111.5	113.6	113.7
Durables	108.2	110.4	110.2	110.3	110.3	110.6	111.1	111.8	112.2	112.5	112.4	111.9	111.8	111.9	112.1
Services	120.2	125.7	125.5	126.1	126.7	127.3	127.6	127.8	128.1	128.9	129.4	130.0	130.2	130.8	131.6
Rent of shelter (12/82=100)	125.9	132.0	131.5	132.3	133.1	133.4	133.8	134.1	134.3	134.8	135.4	136.3	136.3	136.9	137.4
Household services less rent of' shelter (12/82=100)	113.1	115.3	116.6	116.9	117.0	117.4	116.6	115.6	116.2	117.0	116.9	116.9	117.2	118.0	120.1
Transportation services	121.9	128.0	127.6	128.1	128.8	129.3	130.6	131.6	132.1	133.0	133.9	134.3	134.5	135.2	135.6
Medical care services	130.0	138.3	137.9	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4	146.9	147.9
Other services	125.7	132.6	131.6	131.9	132.8	134.9	135.5	135.7	136.2	137.3	137.8	138.2	138.8	139.2	139.8
Special indexes:															
All items less food	113.6	118.3	118.1	118.4	118.9	119.7	120.2	120.3	120.4	120.8	121.3	122.0	122.9	123.5	123.9
All items less shelter	111.6	115.9	115.7	116.1	116.5	117.5	117.9	118.0	118.1	118.7	119.2	119.9	121.0	121.7	122.0
All items less homeowners' costs (12/82=100)	115.1	119.5	119.3	119.8	120.3	121.1	121.5	121.5	121.6	122.3	122.9	123.7	124.7	125.3	125.6
All items less medical care	112.6	117.0	116.8	117.2	117.8	118.6	118.9	119.0	119.1	119.7	120.1	120.8	121.7	122.3	122.6
Commodities less food	104.3	107.7	107.4	107.4	107.7	108.9	109.5	109.7	109.4	109.2	109.5	110.5	112.5	113.2	112.8
Nondurables less food	101.8	105.8	105.5	105.4	105.9	107.7	108.3	108.2	107.5	107.1	107.6	109.4	112.8	113.9	113.1
Nondurables less food and apparel	100.3	104.0	104.0	104.8	105.5	105.6	105.2	105.4	105.3	106.0	106.8	107.6	111.7	113.6	113.8
Nondurables	107.5	111.8	111.4	111.9	112.4	113.7	114.2	114.1	113.9	114.3	114.9	116.2	118.4	119.3	119.0
Services less rent of' shelter (12/82=100)	123.1	128.3	128.4	128.9	129.4	130.3	130.5	130.6	131.1	132.1	132.7	133.0	133.4	134.0	135.2
Services less medical care	119.1	124.3	124.1	124.7	125.3	125.9	126.2	126.3	126.6	127.3	127.8	128.3	128.5	129.1	129.9
Energy	88.6	89.3	91.0	91.4	92.3	91.9	89.9	88.9	88.7	89.0	89.3	89.8	94.9	97.4	99.0
All items less energy	117.2	122.3	121.8	122.3	122.8	123.8	124.4	124.7	124.8	125.5	126.0	126.7	127.1	127.6	127.7
All items less food and energy	118.2	123.4	123.0	123.3	123.8	124.7	125.5	125.8	126.0	126.4	126.9	127.6	128.0	128.3	128.5
Commodities less food and energy	111.8	115.8	115.4	115.2	115.2	116.9	118.0	118.2	118.0	117.9	118.1	119.0	119.6	119.7	119.3
Energy commodities	80.2	80.8	81.4	81.9	83.4	82.5	81.0	80.9	80.1	79.9	80.6	81.7	91.2	95.0	94.4
Services less energy	122.0	127.9	127.4	128.0	128.8	129.3	129.9	130.3	130.6	131.4	132.0	132.7	132.9	133.4	133.9
Purchasing power of the consumer dollar:															
1982-84=$1.00	88.0	84.6	84.7	84.4	84.0	83.5	83.2	83.1	83.0	82.6	82.3	81.8	81.2	80.8	80.6
1967=$1.00	29.4	28.2	28.3	28.2	28.0	27.9	27.8	27.7	27.7	27.6	27.5	27.3	27.1	27.0	26.9
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	112.5	117.0	116.7	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8	122.5	122.8
All items (1967=100)	335.0	348.4	347.6	349.1	350.7	353.0	354.2	354.6	355.0	356.7	358.0	360.0	362.9	364.9	365.9
Food and beverages	113.3	117.9	117.4	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7	124.4	124.6
Food	113.3	117.9	117.3	118.5	119.2	119.9	120.1	119.9	120.4	121.9	122.6	123.3	123.9	124.6	124.8
Food at home	111.7	116.2	115.5	116.9	117.8	118.7	118.7	118.4	118.8	120.8	121.7	122.4	123.2	124.0	123.9
Cereals and bakery products	114.8	122.2	120.8	122.1	124.1	124.8	125.7	126.0	126.7	128.0	129.0	129.7	130.5	131.5	132.0
Meats, poultry, fish, and eggs	110.4	114.1	114.5	116.3	117.1	117.3	116.6	116.1	115.8	118.3	118.0	120.3	120.4	120.5	121.2
Dairy products	105.7	108.1	107.0	107.3	107.9	108.6	109.7	110.4	111.2	112.4	113.3	113.6	114.0	113.6	113.3
Fruits and vegetables	118.8	127.6	125.5	128.4	129.6	132.8	131.4	129.1	130.8	134.3	136.8	135.4	137.7	142.5	140.0
Other foods at home	110.4	113.0	112.3	113.0	113.5	113.9	114.7	114.8	115.1	116.5	117.7	118.0	118.9	118.8	119.0
Sugar and sweets	110.9	113.9	113.1	113.9	114.8	115.6	115.9	115.7	116.7	117.3	117.8	118.0	118.1	118.4	119.2
Fats and oils	107.9	113.0	111.4	112.5	114.8	115.8	117.0	117.0	118.3	119.5	120.4	120.3	121.5	121.5	121.5
Nonalcoholic beverages	107.5	107.7	107.3	107.4	107.2	107.6	108.3	108.4	107.8	109.8	111.4	111.4	111.9	111.5	111.6
Other prepared foods	113.6	117.8	116.9	118.1	118.5	118.8	119.7	119.9	120.5	121.7	122.8	123.6	125.0	125.0	125.3
Food away from home	116.9	121.6	121.4	122.0	122.3	122.8	123.2	123.5	124.0	124.6	125.1	125.5	126.1	126.5	127.0
Alcoholic beverages	113.9	118.3	118.4	118.9	118.9	119.2	119.5	119.5	119.5	119.8	120.8	121.4	122.0	122.8	123.2
Housing	112.8	116.8	116.9	117.4	117.8	118.2	118.2	118.3	118.5	119.0	119.3	119.6	119.8	120.3	121.1
Shelter	118.8	124.3	123.9	124.5	125.3	125.6	126.0	126.4	126.5	126.9	127.4	128.1	128.3	128.8	129.3
Renters' costs (12/84=100)	114.6	119.2	119.3	120.0	120.7	120.2	120.4	120.1	120.0	120.7	121.5	123.0	122.7	122.8	123.6
Rent, residential	122.9	127.5	126.9	127.5	128.0	128.7	129.0	129.4	129.7	130.1	130.4	130.7	131.0	131.2	131.8
Other renters' costs	128.2	135.2	138.8	140.8	143.0	136.1	135.1	131.4	129.2	131.8	135.2	144.2	140.9	139.9	142.3
Homeowners' costs (12/84=100)	113.8	119.5	118.8	119.4	120.2	120.9	121.3	122.0	122.2	122.5	122.8	123.0	123.4	124.1	124.4
Owners' equivalent rent (12/84=100)	113.7	119.5	118.8	119.5	120.2	120.9	121.4	122.1	122.2	122.5	122.8	123.1	123.5	124.2	124.5
Household insurance (12/84=100)	114.1	118.2	118.0	118.6	119.0	119.1	119.3	119.2	119.6	119.9	120.0	120.1	120.2	120.9	121.5
Maintenance and repairs	111.3	114.0	113.9	113.8	114.2	114.4	114.1	114.6	115.2	115.6	116.7	116.7	116.7	116.9	117.9
Maintenance and repair services	114.7	117.7	117.9	117.6	118.0	117.7	117.0	117.6	117.8	118.3	119.5	119.2	119.3	119.8	121.0
Maintenance and repair commodities	106.0	108.3	107.9	108.0	108.3	109.1	109.2	109.7	110.6	110.9	111.8	112.1	112.1	112.0	112.7
Fuel and other utilities	102.7	104.1	105.5	105.6	105.8	106.1	105.1	104.1	104.8	105.7	105.7	105.7	105.9	106.7	109.0
Fuels	97.1	97.7	100.5	100.5	100.6	100.8	98.3	96.6	97.2	98.4	98.3	98.2	98.5	99.2	103.0
Fuel oil, coal, and bottled gas	77.6	77.9	78.9	76.7	76.2	75.9	74.6	75.0	76.7	80.3	81.0	81.2	82.1	81.2	80.1
Gas (piped) and electricity	103.6	104.4	107.5	107.8	108.0	108.2	105.5	103.5	103.9	104.8	104.6	104.6	104.8	105.8	110.3
Other utilities and public services	120.1	122.9	122.2	122.4	122.5	123.3	124.7	124.6	125.6	126.2	126.3	126.2	126.5	127.2	127.4
Household furnishings and operations	106.7	108.9	109.1	109.4	109.1	109.6	109.9	110.2	110.2	110.4	110.4	110.0	110.1	110.1	110.4
Housefurnishings	103.1	104.5	104.6	104.9	104.5	105.1	105.4	105.6	105.4	105.5	105.4	104.5	104.3	104.0	104.4
Housekeeping supplies	111.8	115.1	115.1	115.5	115.1	115.8	116.1	116.9	117.4	117.9	118.1	118.9	120.0	121.2	121.6
Housekeeping services	110.9	115.0	115.7	115.9	116.0	116.3	116.3	116.4	116.5	116.9	117.0	117.1	117.2	117.4	117.6
Apparel and upkeep	110.4	114.9	114.1	112.4	112.2	117.2	120.1	119.5	117.6	114.8	114.7	118.4	120.0	119.4	116.9

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988							1989					
	1987	1988	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Apparel commodities	108.8	113.4	112.6	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4	117.7	115.0
Men's and boys' apparel	108.5	112.8	112.1	111.5	111.0	114.4	116.9	117.5	116.5	114.4	113.4	115.1	116.4	116.9	115.0
Women's and girls' apparel	110.3	114.5	113.5	109.5	109.5	117.6	121.5	119.9	116.2	111.3	110.7	118.3	120.2	118.1	113.5
Infants' and toddlers' apparel	114.0	118.6	118.8	118.6	120.4	121.5	120.6	120.1	120.3	118.5	121.8	121.7	126.7	128.3	126.7
Footwear	105.5	110.4	109.6	108.7	108.0	112.7	116.3	115.0	114.0	112.8	113.1	114.1	115.2	115.0	114.1
Other apparel commodities	107.4	114.9	113.5	115.2	114.9	116.2	117.9	118.2	117.8	117.8	119.0	118.5	119.6	119.8	119.8
Apparel services	119.2	123.0	122.4	122.7	123.3	123.7	124.7	125.4	125.8	126.4	126.8	127.7	128.1	128.9	129.0
Transportation	105.1	108.3	108.2	108.6	109.4	109.4	109.8	110.3	110.4	110.7	111.2	111.6	114.5	116.0	116.0
Private transportation	104.1	107.5	107.3	107.7	108.6	108.6	109.0	109.5	109.5	109.7	110.3	110.6	113.7	115.3	115.2
New vehicles	114.0	116.2	115.8	115.8	115.5	115.8	116.9	118.1	118.8	119.2	119.3	119.2	118.9	119.0	118.7
New cars	114.3	116.6	116.2	116.2	116.0	116.4	117.5	118.5	118.9	119.3	119.5	119.4	119.2	119.3	118.9
Used cars	113.1	117.9	117.5	117.8	119.0	119.2	119.8	119.5	120.1	120.3	120.4	120.3	120.5	120.9	121.1
Motor fuel	80.3	80.9	81.4	82.3	84.3	83.1	81.6	81.5	80.4	79.6	80.3	81.5	92.3	96.7	96.1
Gasoline	80.2	80.8	81.3	82.3	84.3	83.2	81.6	81.5	80.4	79.5	80.2	81.4	92.3	96.9	96.3
Maintenance and repair	115.1	119.8	119.8	120.1	120.5	121.0	121.3	121.5	121.5	122.4	123.3	123.5	123.9	124.4	124.6
Other private transportation	119.0	125.8	125.2	125.4	126.5	127.2	128.9	130.0	130.4	131.4	132.2	132.5	132.7	133.5	133.9
Other private transportation commodities	96.7	98.6	98.5	97.9	98.8	99.3	98.8	99.0	99.9	100.5	100.7	99.8	100.4	101.1	101.5
Other private transportation services	123.4	131.7	130.8	131.3	132.5	133.2	135.5	136.8	137.1	138.2	139.2	139.8	139.8	140.7	141.2
Public transportation	120.4	122.5	122.3	123.0	123.0	123.1	123.5	124.3	125.4	126.1	126.8	126.9	127.1	127.5	128.2
Medical care	130.2	139.0	138.5	139.6	140.3	140.8	141.7	142.2	142.8	144.2	145.6	146.5	147.2	147.9	148.8
Medical care commodities	130.2	139.0	138.3	139.4	140.0	141.0	142.1	142.2	143.1	143.9	144.7	146.0	147.4	148.9	149.9
Medical care services	130.3	139.0	138.5	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2	147.6	148.6
Professional services	129.0	137.7	137.7	138.5	138.9	139.3	139.9	140.6	141.0	142.4	143.7	144.7	145.1	145.5	146.4
Hospital and related services	131.1	143.3	141.5	143.8	145.4	146.3	147.8	148.9	150.0	151.9	154.2	154.8	155.6	156.2	157.3
Entertainment	114.8	119.7	119.4	119.8	120.1	120.6	121.2	121.7	122.2	123.1	123.6	124.1	124.8	124.9	125.5
Entertainment commodities	110.6	115.1	114.9	115.4	115.5	116.0	116.5	117.3	117.6	118.1	118.4	118.7	119.1	119.5	119.7
Entertainment services	121.8	127.2	126.8	127.2	127.6	128.1	128.9	129.0	129.7	131.3	131.9	132.7	133.8	133.6	134.6
Other goods and services	127.8	136.5	135.0	136.3	137.2	139.3	139.9	140.3	140.6	143.0	143.7	144.0	144.4	145.2	146.3
Tobacco products	133.7	146.0	143.8	147.9	148.9	149.2	149.5	149.9	150.2	156.9	158.2	158.9	159.2	160.7	163.8
Personal care	115.0	119.3	118.8	119.1	119.0	120.3	120.9	121.7	122.3	122.7	123.0	123.5	123.9	124.7	124.4
Toilet goods and personal care appliances	113.9	118.0	117.4	117.8	117.4	118.8	119.9	120.6	121.5	121.7	121.9	122.3	122.7	122.9	122.4
Personal care services	116.1	120.5	120.2	120.4	120.7	121.9	122.0	122.7	123.0	123.6	124.2	124.6	125.2	126.7	126.9
Personal and educational expenses	138.2	147.4	145.8	146.0	147.4	151.1	151.7	152.0	152.3	153.3	153.7	153.9	154.3	154.6	155.3
School books and supplies	137.9	147.1	145.6	145.6	146.0	150.0	150.8	150.9	151.1	152.0	153.9	154.0	154.1	154.1	154.5
Personal and educational services	138.4	147.7	146.0	146.3	147.8	151.5	152.0	152.3	152.7	153.7	154.0	154.1	154.6	154.9	155.7
All items	112.5	117.0	116.7	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8	122.5	122.8
Commodities	107.3	111.0	110.7	111.1	111.6	112.5	113.0	113.1	113.0	113.5	113.9	114.7	116.4	117.1	116.9
Food and beverages	113.3	117.9	117.4	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7	124.4	124.6
Commodities less food and beverages	103.6	106.8	106.5	106.6	107.0	108.1	108.7	108.9	108.6	108.4	108.7	109.5	111.8	112.6	112.2
Nondurables less food and beverages	100.8	104.6	104.3	104.3	104.9	106.6	107.2	107.1	106.3	105.9	106.3	108.1	112.1	113.4	112.6
Apparel commodities	108.8	113.4	112.6	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4	117.7	115.0
Nondurables less food, beverages, and apparel	99.2	102.9	102.8	103.7	104.7	104.7	104.1	104.3	104.1	104.9	105.6	106.5	111.6	113.9	114.0
Durables	106.6	108.9	108.7	108.8	108.8	109.1	109.7	110.4	110.7	111.0	111.0	110.6	110.5	110.6	110.7
Services	119.4	124.7	124.5	125.1	125.7	126.3	126.7	126.9	127.2	127.9	128.4	128.9	129.1	129.7	130.6
Rent of shelter (12/84=100)	114.0	119.4	119.0	119.6	120.3	120.7	121.1	121.4	121.5	121.9	122.4	123.1	123.2	123.7	124.2
Household services less rent of shelter (12/84=100)	104.0	105.9	107.2	107.4	107.6	108.0	107.2	106.2	106.8	107.5	107.4	107.4	107.6	108.3	110.5
Transportation services	120.8	127.1	126.6	127.1	127.8	128.4	129.9	130.9	131.2	132.2	133.1	133.5	133.7	134.4	134.8
Medical care services	130.3	139.0	138.5	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2	147.6	148.6
Other services	124.7	131.4	130.5	130.8	131.6	133.6	134.2	134.5	135.0	136.1	136.5	137.0	137.6	137.9	138.6
Special indexes:															
All items less food	112.2	116.7	116.5	116.8	117.3	118.1	118.6	118.8	118.8	119.2	119.6	120.2	121.3	122.0	122.3
All items less shelter	111.0	115.2	115.0	115.4	115.9	116.8	117.2	117.3	117.4	118.0	118.5	119.1	120.4	121.1	121.3
All items less homeowners' costs (12/84=100)	106.4	110.4	110.2	110.7	111.1	111.9	112.2	112.3	112.4	113.0	113.4	114.1	115.2	115.8	116.1
All items less medical care	111.5	115.8	115.6	116.0	116.6	117.3	117.7	117.8	117.9	118.5	118.9	119.5	120.5	121.2	121.5
Commodities less food	103.9	107.2	106.9	107.0	107.3	108.4	109.0	109.2	108.9	108.8	109.0	109.9	112.1	112.9	112.5
Nondurables less food	101.4	105.3	105.0	105.1	105.6	107.2	107.8	107.6	106.9	106.5	107.0	108.7	112.4	113.6	113.0
Nondurables less food and apparel	100.0	103.7	103.6	104.5	105.3	105.3	104.9	105.1	104.9	105.6	106.4	107.2	111.7	113.8	114.0
Nondurables	107.2	111.5	111.1	111.6	112.3	113.4	113.8	113.7	113.5	114.0	114.6	115.8	118.1	119.1	118.8
Services less rent of shelter (12/84=100)	110.8	115.6	115.7	116.1	116.6	117.3	117.6	117.6	118.1	119.0	119.5	119.8	120.1	120.7	121.9
Services less medical care	118.2	123.3	123.1	123.6	124.3	124.9	125.2	125.3	125.6	126.3	126.7	127.2	127.4	128.0	128.9
Energy	88.0	88.6	90.3	90.7	91.8	91.3	89.3	88.4	88.1	88.3	88.6	89.2	94.8	97.4	98.9
All items less energy	116.0	121.0	120.5	121.0	121.5	122.4	123.1	123.4	123.6	124.2	124.7	125.3	125.8	126.2	126.4
All items less food and energy	116.8	121.9	121.4	121.7	122.2	123.1	124.0	124.3	124.4	124.8	125.3	125.9	126.3	126.6	126.8
Commodities less food and energy	110.8	114.7	114.3	114.2	114.3	115.8	116.9	117.1	117.0	116.9	117.1	117.9	118.4	118.5	118.2
Energy commodities	80.3	80.9	81.4	82.1	83.8	82.7	81.2	81.2	80.3	79.9	80.6	81.7	91.6	95.6	94.9
Services less energy	121.2	127.0	126.5	127.1	127.8	128.4	129.1	129.5	129.8	130.5	131.1	131.6	131.9	132.4	132.9
Purchasing power of the consumer dollar:															
1982-84=$1.00	89.0	85.5	85.7	85.3	84.9	84.4	84.1	84.0	83.9	83.5	83.2	82.8	82.1	81.6	81.4
1967=$1.00	29.9	28.7	28.8	28.6	28.5	28.3	28.2	28.2	28.2	28.0	27.9	27.8	27.6	27.4	27.3

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

(1982-84=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	All Urban Consumers							Urban Wage Earners						
		1988		1989					1988		1989				
		June	July	Feb.	Mar.	Apr.	May	June	June	July	Feb.	Mar.	Apr.	May	June
U.S. city average	M	118.0	118.5	121.6	122.3	123.1	123.8	124.1	116.7	117.2	120.2	120.8	121.8	122.5	122.8
Region and area size[3]															
Northeast urban	M	121.4	121.8	125.8	126.7	127.4	128.3	128.5	120.2	120.6	124.5	125.4	126.2	127.1	127.4
Size A - More than 1,200,000	M	122.0	122.6	126.5	127.4	128.0	128.7	129.1	120.0	120.6	124.3	125.2	125.9	126.7	127.1
Size B - 500,000 to 1,200,000	M	119.9	120.0	123.9	125.1	126.1	127.2	127.0	118.7	118.8	122.7	123.9	124.9	126.0	125.9
Size C - 50,000 to 500,000	M	119.8	120.0	124.3	125.5	126.2	127.6	127.6	122.2	122.4	126.7	127.8	128.6	130.0	130.3
North Central urban	M	116.0	116.6	119.3	119.8	120.8	121.3	121.8	114.1	114.7	117.3	117.9	118.9	119.4	119.9
Size A - More than 1,200,000	M	117.0	117.7	120.4	121.1	121.9	122.2	123.0	114.4	115.1	117.7	118.4	119.2	119.5	120.3
Size B - 360,000 to 1,200,000	M	115.6	115.8	118.6	119.2	120.6	120.8	120.9	113.3	113.5	116.2	116.8	118.2	118.5	118.5
Size C - 50,000 to 360,000	M	116.1	116.6	119.5	119.9	121.2	122.2	122.1	114.9	115.5	118.4	118.7	120.1	121.1	121.0
Size D - Nonmetropolitan (less than 50,0000	M	112.8	113.5	115.1	115.5	116.3	116.8	117.4	112.4	113.2	114.8	115.1	116.1	116.8	117.2
South urban	M	116.1	116.6	119.2	119.8	120.8	121.3	121.7	115.5	116.1	118.7	119.1	120.3	120.9	121.3
Size A - More than 1,200,000	M	117.2	117.7	120.1	120.5	121.4	122.0	122.4	116.4	116.9	119.3	119.6	120.6	121.3	121.7
Size B - 450,000 to 1,200,000	M	116.7	117.1	120.3	121.0	122.2	122.4	123.0	114.7	115.2	118.2	118.8	120.1	120.5	121.0
Size C - 50,000 to 450,000	M	114.9	115.6	118.0	118.5	119.4	120.0	120.4	115.3	116.1	118.6	119.0	120.0	120.6	121.1
Size D - Nonmetropolitan (less than 50,000)	M	114.5	115.0	117.4	118.0	119.4	120.4	120.4	115.3	115.8	118.1	118.7	120.2	121.3	121.3
West urban	M	118.7	119.2	122.3	123.1	123.8	124.5	124.6	117.4	117.8	120.9	121.7	122.6	123.3	123.3
Size A - More than 1,250,000	M	120.2	120.5	123.7	124.7	125.3	126.2	126.3	117.5	117.8	121.0	121.9	122.7	123.5	123.6
Size C - 50,000 to 330,000	M	117.2	117.9	120.5	120.7	122.1	122.5	122.4	116.6	117.3	119.9	120.1	121.5	121.9	121.7
Size classes:															
A (12/86=100)	M	107.2	107.6	110.5	111.2	111.8	112.4	112.7	107.1	107.6	110.3	111.0	111.7	112.3	112.7
B	M	117.2	117.5	120.8	121.5	122.6	123.1	123.3	115.8	116.1	119.3	120.0	121.2	121.8	122.0
C	M	116.5	117.1	120.0	120.5	121.6	122.4	122.5	116.8	117.4	120.4	120.8	122.0	122.8	123.0
D	M	115.0	115.4	118.0	118.4	119.6	120.3	120.5	115.3	115.7	118.3	118.7	119.9	120.7	120.8
Selected local areas															
Chicago, IL–Northwestern IN	M	118.9	119.8	122.2	123.0	123.6	123.9	125.7	115.2	116.2	118.4	119.1	119.8	120.1	121.8
Los Angeles–Long Beach, Anaheim, CA	M	122.0	122.1	125.5	126.2	127.2	128.3	128.7	118.9	119.0	122.3	122.9	124.0	125.0	125.3
New York, NY–Northeastern NJ	M	123.1	123.6	127.6	128.9	129.5	130.2	130.5	121.2	121.7	125.5	126.8	127.5	128.2	128.7
Philadelphia, PA–NJ	M	121.9	123.2	125.4	126.0	126.7	127.9	128.8	121.8	123.1	125.4	125.8	126.7	127.9	128.9
San Francisco–Oakland, CA	M	120.1	120.9	124.0	125.9	125.4	126.3	126.2	119.0	119.7	122.9	124.6	124.8	125.7	125.6
Baltimore, MD	1	–	119.9	–	122.8	–	124.1	–	–	119.7	–	122.3	–	123.7	–
Boston, MA	1	–	123.8	–	129.7	–	130.5	–	–	123.7	–	129.7	–	130.6	–
Cleveland, OH	1	–	117.6	–	121.5	–	122.8	–	–	112.6	–	116.2	–	117.7	–
Miami, FL	1	–	116.8	–	119.8	–	120.9	–	–	116.0	–	118.7	–	120.0	–
St. Louis, MO–IL	1	–	116.0	–	119.4	–	121.5	–	–	115.7	–	119.1	–	121.2	–
Washington, DC–MD–VA	1	–	120.7	–	126.1	–	127.1	–	–	119.9	–	125.6	–	126.6	–
Dallas–Ft. Worth, TX	2	115.6	–	117.5	–	118.7	–	120.0	115.4	–	117.2	–	118.6	–	120.0
Detroit, MI	2	115.4	–	120.1	–	121.7	–	122.1	112.7	–	117.3	–	119.0	–	119.3
Houston, TX	2	109.4	–	112.7	–	113.2	–	114.1	109.4	–	112.9	–	113.5	–	114.5
Pittsburgh, PA	2	114.3	–	117.9	–	119.2	–	120.4	110.0	–	113.4	–	114.7	–	115.9

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

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:.

M - Every month.

1 - January, March, May, July, September, and November.

2 - February, April, June, August, October, and December.

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

– Data not available.

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

32. Annual data: Consumer Price Index, U.S. city average, all items and major groups

(1982-84=100)

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

33. Producer Price Indexes, by stage of processing

(1982=100)

Grouping	Annual average		1988						1989					
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Finished goods	105.4	108.0	108.6	108.7	108.6	109.4	109.8	110.0	111.1	111.7	112.2	113.0	114.2	114.1
Finished consumer goods	103.6	106.2	107.0	107.1	107.0	107.6	108.0	108.2	109.4	110.1	110.7	111.8	113.3	113.0
Finished consumer foods	109.5	112.6	113.6	113.6	115.1	114.6	114.9	115.1	116.7	117.2	118.4	117.8	119.1	118.4
Finished consumer goods excluding foods	100.7	103.1	103.8	103.9	103.0	104.1	104.6	104.8	105.8	106.6	106.9	108.9	110.4	110.3
Nondurable goods less food	94.9	97.3	98.3	98.4	97.6	97.7	98.4	98.7	100.0	100.9	101.3	104.3	106.1	105.9
Durable goods	111.5	113.8	113.6	113.8	112.8	116.4	116.1	116.1	116.6	117.0	116.8	116.4	117.1	117.2
Capital equipment	111.7	114.3	114.2	114.5	114.3	116.0	116.1	116.4	117.1	117.5	117.5	117.6	117.9	118.6
Intermediate materials, supplies, and components	101.5	107.1	108.2	108.4	108.7	108.6	108.9	109.4	110.6	111.0	111.6	112.3	112.7	112.6
Materials and components for manufacturing	105.3	113.2	114.0	114.3	114.9	115.5	116.2	116.8	118.0	118.3	118.9	118.9	118.9	118.4
Materials for food manufacturing	100.8	106.0	109.9	108.9	109.5	108.3	107.7	108.6	110.4	110.1	111.4	111.5	112.4	112.1
Materials for nondurable manufacturing	102.2	112.9	113.8	114.5	115.2	116.0	116.8	117.5	119.2	119.7	119.9	120.6	120.5	119.6
Materials for durable manufacturing	106.2	118.7	119.3	119.7	120.3	121.8	123.2	124.3	125.5	125.3	126.9	125.7	124.9	123.6
Components for manufacturing	108.8	112.3	112.4	112.8	113.2	113.5	113.8	114.1	114.9	115.3	115.6	115.8	116.1	116.3
Materials and components for construction	109.8	116.1	116.5	116.7	117.1	117.5	118.1	118.7	119.4	119.9	120.4	121.0	121.5	121.4
Processed fuels and lubricants	73.3	71.2	73.6	73.5	72.6	69.7	69.0	69.8	71.6	72.1	73.2	76.7	78.1	79.3
Containers	114.5	120.1	120.5	121.3	122.3	122.4	122.6	122.7	123.1	123.9	124.5	125.0	125.5	125.8
Supplies	107.7	113.7	115.2	115.1	115.6	116.0	116.2	116.2	117.2	117.4	118.0	117.9	118.0	118.0
Crude materials for further processing	93.7	96.0	97.3	96.9	96.7	95.9	94.5	97.3	101.4	101.2	103.1	104.1	106.3	103.9
Foodstuffs and feedstuffs	96.2	106.1	110.1	110.4	112.0	111.9	108.0	109.5	112.5	111.0	113.7	111.4	115.0	111.4
Crude nonfood materials	87.9	85.5	85.1	84.4	83.0	81.9	82.0	85.4	90.0	90.7	91.9	94.9	96.2	94.6
Special groupings														
Finished goods, excluding foods	104.0	106.5	106.9	107.1	106.4	107.7	108.1	108.3	109.2	109.9	110.1	111.4	112.6	112.7
Finished energy goods	61.8	59.8	61.3	61.1	58.8	58.7	60.0	59.2	60.8	61.8	62.1	68.3	72.0	70.1
Finished goods less energy	112.3	115.8	116.2	116.4	116.7	117.7	117.8	118.2	119.2	119.8	120.2	120.1	120.8	121.1
Finished consumer goods less energy	112.5	116.3	116.9	117.0	117.5	118.3	118.5	118.9	120.0	120.6	121.2	121.0	121.8	121.9
Finished goods less food and energy	113.3	117.0	117.1	117.4	117.2	118.8	118.9	119.4	120.1	120.7	120.9	120.9	121.3	122.0
Finished consumer goods less food and energy	114.2	118.5	118.8	119.1	118.9	120.5	120.6	121.2	121.9	122.6	122.8	122.8	123.3	124.0
Consumer nondurable goods less food and energy	116.3	122.0	122.7	123.0	123.3	123.6	123.9	125.0	125.9	126.8	127.2	127.5	127.9	129.0
Intermediate materials less foods and feeds	101.7	106.9	107.8	108.1	108.3	108.3	108.7	109.2	110.4	110.8	111.5	112.3	112.6	112.6
Intermediate foods and feeds	99.2	109.5	116.6	114.5	115.5	114.7	113.4	113.0	115.6	114.0	115.2	114.0	114.2	112.7
Intermediate energy goods	73.0	70.9	73.3	73.1	72.3	69.4	68.7	69.5	71.2	71.8	72.8	76.3	77.7	78.9
Intermediate goods less energy	107.3	114.6	115.5	115.7	116.3	116.8	117.3	117.8	118.9	119.1	119.8	119.9	120.0	119.7
Intermediate materials less foods and energy	107.8	115.2	115.7	116.1	116.7	117.3	118.0	118.6	119.6	119.9	120.5	120.7	120.8	120.5
Crude energy materials	75.0	67.7	67.3	66.1	64.7	63.3	62.9	66.6	71.2	72.0	73.2	77.0	78.7	77.3
Crude materials less energy	100.9	112.6	115.5	116.0	117.1	117.0	114.7	116.1	119.3	118.1	120.5	118.5	121.0	117.8
Crude nonfood materials less energy	115.7	133.0	132.9	133.9	133.4	133.4	135.6	136.9	140.3	140.3	141.5	140.3	139.8	137.7

34. Producer Price indexes, by durability of product

(1982=100)

Grouping	Annual average		1988						1989					
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
Total durable goods	109.9	114.7	114.8	115.1	115.2	116.4	116.8	117.2	118.1	118.3	118.7	118.6	118.8	118.8
Total nondurable goods	97.5	101.1	102.6	102.6	102.7	102.2	102.0	102.8	104.8	105.2	106.1	107.4	108.7	108.1
Total manufactures	104.4	109.1	109.8	110.0	110.1	110.5	111.0	111.4	112.5	112.9	113.5	114.4	114.9	114.8
Durable	109.6	114.1	114.1	114.4	114.5	115.6	116.0	116.4	117.1	117.4	117.8	117.7	118.0	118.1
Nondurable	99.2	104.1	105.4	105.6	105.6	105.4	106.1	106.4	107.8	108.3	109.2	110.9	111.6	111.2
Total raw or slightly processed goods	94.2	95.9	97.8	97.2	97.5	96.5	94.8	96.7	99.9	100.1	101.0	101.3	103.5	102.4
Durable	122.6	148.0	149.3	150.6	149.5	150.1	154.8	157.5	162.6	161.9	161.7	158.3	156.5	151.3
Nondurable	92.9	93.4	95.3	94.7	95.0	93.9	92.0	93.9	97.0	97.2	98.1	98.6	101.0	100.1

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

(1982=100)

Index	1980	1981	1982	1983	1984	1985	1986	1987	1988
Finished goods:									
Total	88.0	96.1	100.0	101.6	103.7	104.7	103.2	105.4	108.0
Consumer goods	88.6	96.6	100.0	101.3	103.3	103.8	101.4	103.6	106.2
Capital equipment	85.8	94.6	100.0	102.8	105.2	107.5	109.7	111.7	114.3
Intermediate materials, supplies, and components:									
Total	90.3	98.6	100.0	100.6	103.1	102.7	99.1	101.5	107.1
Materials and components for manufacturing	91.7	98.7	100.0	101.2	104.1	103.3	102.2	105.3	113.2
Materials and components for construction	91.3	97.9	100.0	102.8	105.6	107.3	108.1	109.8	116.1
Processed fuels and lubricants	85.0	100.6	100.0	95.4	95.7	92.8	72.7	73.3	71.2
Containers	89.1	96.7	100.0	100.4	105.9	109.0	110.3	114.5	120.1
Supplies	89.9	96.9	100.0	101.8	104.1	104.4	105.6	107.7	113.7
Crude materials for further processing:									
Total	95.3	103.0	100.0	101.3	103.5	95.8	87.7	93.7	96.0
Foodstuffs and feedstuffs	104.6	103.9	100.0	101.8	104.7	94.8	93.2	96.2	106.1
Nonfood materials except fuel	84.6	101.8	100.0	100.7	102.2	96.9	81.6	87.9	85.5
Fuel	69.4	84.8	100.0	105.1	105.1	102.7	92.2	84.1	82.1

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1986		1987				1988				1989
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES		97.9	99.0	99.9	102.2	102.8	104.9	106.5	109.5	111.9	111.6	113.2
Food	0	86.0	90.1	87.3	89.9	86.7	94.6	95.2	103.4	118.7	114.2	117.1
Meat and meat preparations	01	111.3	114.5	115.0	121.2	118.8	116.8	122.8	131.0	137.0	130.3	132.9
Fish and crustaceans	03	111.9	115.9	117.1	125.8	131.1	138.5	140.9	145.0	175.9	174.0	169.1
Grain and grain preparations	04	66.3	72.5	68.3	71.0	67.8	77.4	79.8	87.2	108.5	102.0	108.0
Vegetables and fruit	05	114.6	117.5	115.3	112.4	101.1	100.5	97.5	104.3	109.9	110.3	108.8
Animal feeds, excluding unmilled cereals	08	123.9	119.7	117.0	123.8	123.1	145.2	134.6	158.1	161.0	157.0	154.1
Miscellaneous food products	09	98.7	99.9	100.1	100.6	100.3	100.3	102.3	102.8	105.2	104.9	106.8
Beverages and tobacco	1	97.3	102.6	102.6	105.0	105.5	107.0	109.6	110.6	112.0	111.7	117.2
Tobacco and tobacco products	12	97.0	102.6	102.6	105.0	105.5	107.0	109.8	110.7	112.1	111.8	117.6
Crude materials	2	99.6	102.4	105.7	114.5	118.7	125.2	130.0	139.9	140.8	135.8	142.4
Raw hides and skins	21	108.3	115.9	131.9	149.6	147.7	157.1	171.4	166.8	156.7	136.8	146.5
Oilseeds	22	97.5	95.2	90.4	101.6	95.1	109.6	115.6	143.0	154.7	135.7	139.3
Crude rubber	23	99.6	98.9	99.9	101.0	102.8	105.3	104.5	106.1	109.1	109.9	110.6
Wood	24	102.9	107.9	111.2	116.2	141.7	146.0	150.2	149.6	150.0	148.6	156.8
Pulp and waste paper	25	129.0	129.4	144.2	149.9	153.0	160.4	171.2	179.5	181.7	182.1	192.2
Textile fibers	26	73.0	90.9	97.8	112.4	116.5	111.6	107.5	109.9	100.8	103.6	107.0
Crude minerals	27	98.0	96.8	94.4	94.0	91.6	91.6	92.8	94.2	94.8	94.8	98.9
Metal ores and metal scrap	28	100.4	96.8	98.8	107.0	117.4	125.9	131.8	146.0	145.0	150.4	162.8
Fuels and related products	3	77.4	77.8	81.3	82.8	84.6	82.5	79.3	82.1	79.5	79.4	81.7
Coal and coke	32	93.5	92.0	92.6	88.2	91.0	89.8	90.6	92.0	92.9	93.4	93.7
Crude petroleum and petroleum products	33	–	–	–	–	–	100.0	90.8	97.2	89.2	88.4	94.3
Fats and oils	4	–	–	–	–	–	–	–	–	–	91.5	90.4
Animal oils and fats	41	62.2	79.9	81.1	86.7	86.7	88.7	101.3	101.6	104.3	95.7	92.0
Fixed vegetable oils and fats	42	60.2	64.6	67.3	71.9	71.2	75.4	85.7	93.7	99.1	87.1	88.2
Chemicals and related products	5	95.7	95.2	99.6	106.7	107.7	112.9	117.9	121.6	124.9	125.5	125.5
Organic chemicals	51	91.6	92.4	101.9	118.4	116.1	123.5	135.1	144.6	153.3	150.8	149.6
Dyeing, tanning, and coloring materials	53	101.1	101.4	103.6	104.2	105.5	108.5	109.1	110.1	111.5	113.0	115.5
Medicinal and pharmaceutical products (12/85=100)	54	101.2	100.8	101.0	101.4	102.2	105.4	109.3	106.3	105.9	107.5	108.9
Essential oils, polish, and cleaning preparations	55	104.5	104.2	105.5	105.7	107.3	108.4	111.2	113.6	120.2	122.4	124.9
Fertilizers, manufactured	56	85.1	77.4	85.6	91.6	100.9	106.5	110.6	109.8	116.4	119.9	119.4
Artificial resins, plastics and cellulose	57	98.2	99.5	104.8	111.9	116.4	124.8	129.4	137.5	138.2	132.5	125.8
Chemical materials and products, n.e.s.	58	97.6	97.3	97.5	97.7	97.1	98.2	100.3	101.7	104.1	105.4	108.4
Intermediate manufactured products	6	103.8	104.2	106.4	107.9	110.3	111.2	114.4	117.7	119.6	120.6	122.6
Leather and furskins	61	104.2	107.8	123.6	126.9	128.7	118.0	125.7	125.1	128.6	125.0	118.3
Rubber manufactures	62	100.5	100.9	102.0	102.5	103.9	104.1	105.2	108.8	109.4	110.4	112.9
Paper and paperboard products	64	109.1	110.8	114.7	117.0	120.1	122.4	126.2	129.0	130.2	131.1	132.7
Textiles	65	101.9	101.8	103.3	103.7	104.1	105.2	106.5	107.9	108.6	111.6	113.9
Non-metallic mineral manufactures (9/85=100)	66	104.7	108.0	106.8	108.7	110.4	111.3	113.4	114.1	115.6	116.8	120.2
Iron and steel	67	102.3	101.9	102.9	102.9	100.7	102.9	106.1	110.8	111.4	112.1	116.0
Nonferrous metals	68	105.3	102.6	106.6	113.0	123.0	124.4	134.0	143.5	149.1	150.0	151.4
Metal manufactures, n.e.s.	69	100.8	100.8	101.5	101.3	102.3	103.4	104.5	107.6	109.9	110.9	112.6
Machinery and transport equipment, excluding military and commercial aircraft	7	101.0	101.6	101.7	101.8	102.1	102.4	103.2	104.0	104.8	105.8	106.6
Power generating machinery and equipment	71	102.5	103.7	104.6	103.7	104.8	105.2	107.0	108.4	108.5	109.3	111.8
Machinery specialized for particular industries	72	100.4	100.6	100.0	100.1	100.5	100.9	102.1	103.6	104.7	106.0	107.2
Metalworking machinery	73	103.0	104.2	105.8	106.7	107.8	108.2	109.3	110.8	111.0	114.4	115.8
General industrial machines and parts, n.e.s.	74	102.5	103.3	104.2	104.5	104.6	105.4	106.7	108.1	109.3	110.3	112.4
Office machines and automatic data processing equipment	75	98.8	98.2	96.0	96.1	95.7	95.5	95.8	95.7	96.8	96.4	95.5
Telecommunications, sound recording and reproducing equipment	76	99.7	101.3	101.9	101.4	101.4	101.9	102.8	104.6	104.1	105.1	107.1
Electrical machinery and equipment	77	99.7	100.3	101.7	102.1	102.5	101.8	103.1	103.4	105.3	105.7	106.2
Road vehicles and parts	78	101.9	103.3	103.1	103.5	103.8	104.6	104.5	104.9	105.4	106.8	107.2
Other transport equipment, excluding military and commercial aviation	79	102.8	103.5	104.5	105.5	105.8	106.6	107.4	109.6	109.7	111.9	113.5
Miscellaneous manufactured articles	8	103.4	103.8	104.6	105.2	105.4	105.6	106.9	108.1	108.9	110.5	111.6
Furniture and parts	82	–	–	–	–	–	–	–	–	–	114.2	114.9
Professional, scientific, and controlling instruments and apparatus	87	103.0	103.5	104.4	105.5	106.3	107.1	110.0	111.1	112.5	113.9	115.5
Photographic apparatus and supplies, optical goods, watches, and clocks	88	102.4	102.1	102.7	102.5	99.0	97.9	97.6	100.1	99.4	99.9	98.6
Miscellaneous manufactured articles, n.e.s.	89	–	–	–	–	–	–	–	–	–	108.7	110.7

– Data not available.

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1987				1988				1989
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES		106.5	110.0	110.9	112.5	113.8	116.8	115.3	117.6	119.6
ALL COMMODITIES, EXCLUDING FUELS		113.7	116.5	117.5	120.8	123.7	126.7	126.1	129.1	129.7
Food and live animals	0	105.2	108.3	109.1	112.5	114.1	114.0	112.7	114.3	114.2
Meat and meat preparations	01	105.0	108.0	114.4	113.4	111.5	107.0	111.2	108.7	111.2
Dairy products and eggs	02	119.3	122.3	121.7	125.1	125.6	125.0	122.2	125.8	124.0
Fish and crustaceans	03	121.8	126.0	130.4	131.0	132.5	129.3	125.9	126.7	126.9
Bakery goods, pasta products, grain, and grain preparations	04	122.3	126.2	124.8	130.7	135.8	139.8	136.9	142.2	139.9
Fruits and vegetables	05	101.9	110.1	110.0	116.2	115.4	120.3	123.7	127.7	124.0
Sugar, sugar preparations, and honey	06	107.4	109.6	109.0	107.0	109.6	110.0	112.1	110.8	109.8
Coffee, tea, cocoa	07	89.9	87.0	85.1	90.6	94.3	93.3	87.4	90.6	91.2
Beverages and tobacco	1	107.8	112.8	112.2	113.5	116.0	116.2	115.3	116.2	117.0
Beverages	11	112.1	114.2	114.8	116.2	118.7	120.0	118.9	119.9	120.7
Crude materials	2	115.1	116.2	120.3	122.1	129.2	137.8	135.4	143.2	147.2
Crude rubber (including synthetic and reclaimed)	23	98.4	103.7	110.7	120.1	121.7	151.1	133.3	121.5	123.0
Cork and wood	24	113.5	110.2	117.4	108.8	112.4	111.4	109.7	107.8	112.1
Pulp and waste paper	25	127.0	132.0	133.4	141.0	151.0	160.5	169.6	174.7	184.5
Textile fibers	26	110.9	118.4	128.1	135.2	137.8	145.5	141.9	145.6	151.5
Crude fertilizers and crude minerals	27	98.2	99.6	99.2	99.9	100.4	101.0	97.2	100.2	103.2
Metalliferous ores and metal scrap	28	122.8	124.5	128.7	137.9	151.2	167.6	172.2	205.4	204.3
Crude animal and vegetable materials, n.e.s.	29	113.0	109.0	107.6	118.3	135.8	148.2	122.0	139.5	150.7
Fuels and related products	3	67.4	74.1	74.3	67.2	60.6	63.4	57.7	56.4	66.7
Crude petroleum and petroleum products	33	67.4	74.4	75.2	67.8	60.4	63.6	57.7	56.1	67.2
Fats and oils	4	82.9	87.9	96.4	102.1	106.4	111.2	114.0	112.3	112.5
Fixed vegetable oils and fats (9/87=100)	42	–	–	100.0	105.7	111.1	116.1	119.2	117.4	117.3
Chemicals and related products	5	102.6	104.8	105.6	110.1	114.2	116.4	119.2	122.2	123.6
Organic chemicals	51	96.1	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.7
Inorganic chemicals	52	90.5	89.8	89.8	90.1	92.0	92.3	93.0	96.1	93.1
Medicinal and pharmaceutical products	54	120.1	123.4	124.3	126.3	135.3	140.3	145.4	146.4	155.2
Essential oils and perfumes	55	117.6	117.8	119.2	123.0	125.7	126.2	127.5	130.5	130.3
Manufactured fertilizers	56	92.9	94.6	109.3	133.6	133.7	136.3	136.5	139.9	143.5
Artificial resins and plastics and cellulose	58	110.0	114.7	114.4	117.6	121.6	124.3	127.6	129.5	129.6
Chemical materials and products, n.e.s.	59	115.1	117.7	120.6	124.8	138.7	148.5	153.4	156.5	154.3
Intermediate manufactured products	6	108.6	112.5	116.3	119.8	124.4	132.2	132.3	135.0	137.3
Leather and furskins	61	110.9	116.6	117.8	124.4	131.8	137.0	136.6	134.9	134.0
Rubber manufactures, n.e.s.	62	104.3	104.6	103.2	104.6	106.0	107.7	109.1	111.1	111.7
Cork and wood manufactures	63	118.0	124.3	128.3	128.2	133.8	138.2	136.1	134.1	136.7
Paper and paperboard products	64	104.8	104.9	110.3	112.3	117.2	118.3	119.5	119.9	120.6
Textiles	65	110.4	111.8	114.6	118.6	120.0	120.6	119.1	120.5	120.4
Nonmetallic mineral manufactures, n.e.s.	66	120.5	126.7	130.4	133.4	137.4	142.5	139.7	141.9	147.5
Iron and steel	67	102.7	106.6	109.4	114.0	120.0	127.2	129.9	130.7	132.7
Nonferrous metals	68	102.5	112.4	120.9	125.8	132.7	159.7	158.9	169.1	172.7
Metal manufactures	69	112.1	112.7	114.6	117.8	121.1	126.9	127.5	130.7	132.4
Machinery and transport equipment	7	117.5	119.9	119.9	123.1	125.4	127.3	126.7	129.9	130.1
Machinery (including SITC 71-77)	7hyb	–	–	–	–	–	–	–	128.7	129.1
Machinery specialized for particular industries	72	130.4	136.1	134.3	142.1	146.8	149.8	143.7	150.8	149.1
Metalworking machinery	73	126.4	128.1	130.2	135.5	139.9	142.4	139.7	144.1	142.9
General industrial machinery and parts, n.e.s.	74	127.9	130.8	130.1	137.0	140.4	143.7	139.6	144.2	144.1
Office machines and automatic data processing equipment	75	110.0	114.0	114.8	118.3	118.1	119.5	118.7	118.7	119.2
Telecommunications, sound recording and reproducing apparatus	76	110.5	110.3	110.2	112.1	112.8	113.8	113.9	115.5	115.5
Electrical machinery and equipment	77	112.4	115.8	115.1	118.2	122.2	124.2	125.9	129.3	130.7
Road vehicles and parts	78	118.6	120.5	120.6	122.6	125.5	127.6	127.1	130.8	130.6
Miscellaneous manufactured articles	8	114.5	117.8	118.5	121.8	124.2	125.7	124.2	126.6	126.2
Plumbing, heating, and lighting fixtures	81	111.6	117.0	116.2	121.0	123.4	126.9	124.5	127.2	130.1
Furniture and parts	82	114.8	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2
Travel goods, handbags, and similar goods (6/85=100)	83	96.1	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.7
Clothing	84	106.4	109.2	111.9	112.3	115.6	114.9	116.7	117.2	117.6
Footwear	85	114.8	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2
Professional, scientific, and controlling instruments and apparatus	87	131.3	135.9	132.7	138.7	140.0	142.5	135.8	141.9	141.1
Photographic apparatus and supplies, optical goods, watches, and clocks	88	123.7	126.0	122.1	127.3	129.2	129.3	125.4	130.6	130.3
Miscellaneous manufactured articles, n.e.s.	89	–	–	–	–	–	–	–	131.4	131.6

– Data not available.

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

(1985 = 100 unless otherwise indicated)

Category	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	87.4	91.5	88.0	96.6	98.5	110.1	124.5	117.4	120.6
Industrial supplies and materials	100.8	106.1	109.1	111.8	114.2	118.3	118.7	118.6	120.5
Capital goods	101.4	101.6	101.8	102.1	103.4	104.3	104.9	105.7	106.7
Automotive	103.4	103.6	104.0	104.5	104.3	104.8	106.5	107.7	108.1
Consumer goods	105.9	106.3	106.9	108.0	110.1	110.6	111.3	112.9	115.4
Consumer nondurables, manufactured, except rugs	105.4	104.3	104.6	106.3	107.4	108.7	109.3	110.0	111.3
Consumer durables, manufactured	105.5	106.6	107.3	107.9	110.4	110.4	110.7	112.6	115.6
Agricultural (9/88=100)	89.8	95.0	92.1	99.3	101.1	110.9	120.6	114.0	117.4
All exports, excluding agricultural (9/88=100)	–	–	–	–	–	–	–	111.6	112.9

– Data not available.

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

(1985=100)

Category	1987				1988				1989
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
All imports, excluding petroleum (6/88=100)	113.1	116.1	117.0	120.3	123.2	126.2	125.4	128.3	128.8
Foods, feeds, and beverages	105.2	107.8	109.0	112.1	113.7	113.7	112.7	114.2	113.9
Industrial supplies and materials	88.4	93.5	95.3	93.7	92.7	97.8	95.2	96.4	101.9
Petroleum and petroleum products, excluding natural gas	67.2	74.1	74.7	67.6	60.3	63.5	57.5	56.2	67.1
Industrial supplies and materials, excluding petroleum	–	–	–	–	–	–	–	129.6	130.7
Capital goods, except automotive	118.7	122.2	121.9	126.6	128.6	131.0	129.0	132.3	132.3
Automotive vehicles, parts and engines	116.5	118.4	118.4	120.6	123.7	125.8	126.0	129.2	129.1
Consumer goods except automotive	114.2	116.9	118.2	121.4	124.2	126.3	125.0	127.4	128.5
Nondurables, manufactured	–	–	–	–	–	–	–	125.4	126.2
Durables, manufactured	–	–	–	–	–	–	–	127.4	127.8

– Data not available.

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

(1985=100)

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

[1] SIC–based classification.

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

(1985=100)

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

[1] SIC–based classification.

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

(1977=100)

Item	Quarterly Indexes										
	1986		1987				1988				1989
	III	IV	I	II	III	IV	I	II	III	IV	I
Business:											
Output per hour of all persons	110.0	109.8	109.9	110.6	111.7	111.8	112.8	111.8	112.3	112.0	112.5
Compensation per hour	184.0	186.2	187.3	189.0	191.1	194.0	195.8	198.1	201.1	203.2	205.9
Real compensation per hour	101.6	102.1	101.4	101.1	101.3	101.9	101.9	102.0	102.4	102.3	102.3
Unit labor costs	167.3	169.6	170.5	170.8	171.1	173.5	173.5	177.1	179.0	181.4	183.0
Unit nonlabor payments	166.6	163.7	165.6	168.7	171.5	168.9	170.0	170.4	172.7	174.6	176.1
Implicit price deflator	167.0	167.5	168.7	170.1	171.2	171.9	172.3	174.7	176.8	179.0	180.5
Nonfarm business:											
Output per hour of all persons	108.0	107.8	107.8	108.6	109.6	109.9	110.8	110.1	110.7	110.9	110.6
Compensation per hour	183.1	185.4	186.4	187.9	190.0	192.9	194.6	196.6	199.4	201.9	204.6
Real compensation per hour	101.2	101.7	100.9	100.5	100.7	101.4	101.3	101.3	101.5	101.7	101.7
Unit labor costs	169.5	172.1	172.9	173.0	173.3	175.6	175.7	178.6	180.2	182.0	185.0
Unit nonlabor payments	168.1	164.9	167.2	169.8	173.0	170.9	171.6	171.8	173.9	177.9	176.6
Implicit price deflator	169.0	169.5	170.9	171.9	173.2	174.0	174.2	176.2	178.0	180.6	182.0
Nonfinancial corporations:											
Output per hour of all employees	109.6	110.3	110.1	110.9	112.2	112.2	113.3	112.9	112.7	112.7	112.4
Compensation per hour	180.2	182.2	182.9	184.3	186.1	188.5	189.9	191.9	194.5	196.6	199.1
Real compensation per hour	99.5	100.0	99.0	98.6	98.7	99.0	98.9	98.8	99.0	99.0	99.0
Total unit costs	168.4	168.8	169.9	170.3	170.2	172.0	171.5	173.8	176.4	178.3	181.1
Unit labor costs	164.3	165.1	166.2	166.1	165.9	168.1	167.5	170.0	172.6	174.4	177.2
Unit nonlabor costs	180.3	179.6	180.8	182.6	183.0	183.6	183.4	185.1	187.8	189.6	192.7
Unit profits	133.6	129.7	128.5	129.8	136.4	128.3	132.5	132.6	129.6	133.9	123.4
Unit nonlabor payments	164.0	162.1	162.5	164.1	166.6	164.2	165.6	166.7	167.4	170.1	168.5
Implicit price deflator	164.2	164.1	164.9	165.4	166.1	166.7	166.9	168.8	170.8	172.9	174.2
Manufacturing:											
Output per hour of all persons	128.0	128.8	130.0	131.7	132.8	133.2	134.3	135.5	137.2	137.8	138.5
Compensation per hour	183.6	185.3	185.9	186.3	187.2	188.2	190.7	192.1	194.4	196.8	198.8
Real compensation per hour	101.4	101.7	100.7	99.7	99.3	98.9	99.3	99.0	99.0	99.1	98.8
Unit labor costs	143.4	143.8	143.1	141.4	141.0	141.3	142.1	141.8	141.6	142.9	143.6

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

(1977=100)

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

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

(1977=100)

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

– Data not available.

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

Country	Annual average		1987		1988				1989
	1987	1988	III	IV	I	II	III	IV	I
Total labor force basis									
United States	6.1	5.4	5.9	5.8	5.6	5.4	5.4	5.3	5.1
Canada	8.8	7.7	8.6	8.1	7.8	7.6	7.8	7.7	7.5
Australia	8.1	7.2	7.9	7.9	7.5	7.4	6.9	6.8	6.6
Japan	2.9	2.5	2.8	2.7	2.7	2.5	2.6	2.4	–
France	10.6	10.3	10.6	10.3	10.3	10.3	10.4	10.2	10.2
Germany	6.8	7.0	7.0	7.0	7.0	7.0	7.0	6.8	6.4
Italy [1, 2]	7.7	7.8	7.8	7.9	7.8	7.8	7.8	7.8	7.6
Sweden [3]	1.9	1.6	1.9	1.7	1.7	1.6	1.6	1.4	1.4
United Kingdom	10.2	8.3	10.0	9.4	9.0	8.6	8.0	7.5	7.0
Civilian labor force basis									
United States	6.2	5.5	6.0	5.9	5.7	5.5	5.5	5.3	5.2
Canada	8.9	7.8	8.6	8.1	7.8	7.7	7.8	7.7	7.6
Australia	8.1	7.2	8.0	8.0	7.6	7.5	7.0	6.8	6.6
Japan	2.9	2.5	2.8	2.7	2.7	2.5	2.6	2.4	–
France	10.8	10.5	10.8	10.6	10.6	10.5	10.6	10.4	10.4
Germany	6.9	7.1	7.1	7.1	7.1	7.2	7.1	7.0	6.5
Italy [1, 2]	7.9	7.9	8.0	8.1	7.9	7.9	8.0	7.9	7.7
Sweden [3]	1.9	1.6	1.9	1.7	1.7	1.6	1.6	1.4	1.4
United Kingdom	10.3	8.3	10.0	9.5	9.0	8.6	8.0	7.6	7.0

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

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

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

– Data not available.

NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

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

(Numbers in thousands)

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

[1] Labor force as a percent of the civilian working-age population.
[2] Employment as a percent of the civilian working-age population.
– Data not available.

47. Annual indexes of manufacturing productivity and related measures, 12 countries

(1977=100)

Item and country	1960	1970	1973	1976	1977	1978	1980	1981	1982	1983	1984	1985	1986	1987	1988
Output per hour															
United States	62.2	80.8	93.4	97.1	100.0	101.5	101.4	103.6	105.9	112.0	118.1	123.6	127.7	132.0	136.2
Canada	50.7	75.6	90.3	94.8	100.0	101.1	98.2	102.9	98.3	105.4	114.4	117.3	117.7	120.5	124.3
Japan	23.2	64.8	83.1	94.3	100.0	108.0	122.7	127.2	135.0	142.3	152.5	161.1	163.7	176.5	190.0
Belgium	33.0	60.4	78.8	95.3	100.0	106.1	119.2	127.6	135.2	148.1	155.0	158.6	164.5	170.5	–
Denmark	37.2	65.6	83.3	98.2	100.0	101.5	112.3	114.2	114.6	120.2	119.6	120.3	116.2	117.2	117.2
France	37.4	71.4	83.8	94.4	100.0	104.6	110.6	113.9	122.0	125.1	127.5	132.7	135.2	136.8	144.1
Germany	40.3	71.2	84.0	96.4	100.0	103.1	108.6	111.0	112.6	119.2	123.7	128.4	128.3	129.9	135.9
Italy	37.2	69.8	83.4	97.9	100.0	106.5	122.1	125.4	128.5	135.3	148.8	156.8	158.3	162.3	167.1
Netherlands	32.4	64.3	81.5	95.8	100.0	106.4	113.9	116.9	119.4	127.9	139.2	145.1	144.8	145.9	153.2
Norway	54.3	81.3	94.4	100.4	100.0	101.2	107.5	108.0	109.2	117.2	124.1	126.8	125.9	132.2	–
Sweden	42.3	80.7	94.8	101.7	100.0	102.8	112.7	113.2	116.5	125.5	131.0	136.1	136.0	141.8	145.0
United Kingdom	55.9	80.3	95.4	99.1	100.0	101.4	101.9	107.1	113.5	123.1	129.9	134.1	138.6	147.6	154.9
Output															
United States	52.5	78.6	96.3	93.1	100.0	106.0	103.2	104.8	98.4	104.7	117.5	122.0	124.7	130.1	138.1
Canada	41.3	73.5	93.5	96.5	100.0	104.6	103.6	107.4	93.6	99.6	112.5	118.8	121.9	128.5	136.0
Japan	19.2	69.9	91.9	94.8	100.0	106.7	124.1	129.8	137.3	148.2	165.4	177.0	177.8	190.8	212.3
Belgium	41.9	78.6	96.4	99.7	100.0	101.4	106.8	105.6	110.1	114.7	118.0	119.6	121.4	123.3	–
Denmark	49.2	82.0	95.9	99.6	100.0	99.7	110.1	106.6	108.3	115.6	121.0	124.9	125.9	121.1	118.4
France	36.5	75.5	90.5	95.6	100.0	102.3	104.6	102.9	104.0	103.8	102.6	103.0	102.8	101.8	105.7
Germany	50.0	86.6	96.1	98.0	100.0	101.8	106.6	104.9	102.4	103.6	106.4	110.0	110.8	111.6	116.3
Italy	33.0	69.0	83.5	96.5	100.0	104.9	121.9	119.9	118.7	119.7	125.3	129.0	131.9	137.3	145.3
Netherlands	44.8	84.4	95.8	99.0	100.0	102.8	106.6	106.7	105.0	107.0	113.3	116.7	118.1	118.7	123.8
Norway	54.8	86.5	99.2	102.1	100.0	97.7	99.5	98.6	96.8	97.2	102.7	106.5	106.9	108.3	–
Sweden	52.6	92.5	100.3	106.1	100.0	97.3	104.0	100.6	100.1	105.2	111.5	115.3	114.7	119.2	124.0
United Kingdom	71.2	94.9	104.7	98.1	100.0	100.6	91.8	86.3	86.4	88.8	92.5	94.8	95.6	101.0	108.2
Total hours															
United States	84.4	97.3	103.1	95.9	100.0	104.4	101.7	101.1	92.9	93.5	99.5	98.7	97.7	98.6	101.4
Canada	81.4	97.2	103.6	101.8	100.0	103.4	105.5	104.3	95.2	94.5	98.3	101.2	103.6	106.6	109.4
Japan	82.7	107.9	110.7	100.6	100.0	98.8	101.2	102.0	101.7	104.2	108.5	109.8	108.6	108.1	111.7
Belgium	127.1	130.2	122.3	104.6	100.0	95.5	89.6	82.8	81.4	77.5	76.1	75.4	73.8	72.3	–
Denmark	132.4	125.1	115.2	101.4	100.0	98.3	98.0	93.4	94.5	96.2	101.2	103.8	108.4	103.3	101.0
France	97.6	105.7	107.9	101.3	100.0	97.8	94.6	90.3	85.2	83.0	80.4	77.6	76.1	74.4	73.4
Germany	123.8	121.7	114.4	101.6	100.0	98.7	98.1	94.6	91.0	86.9	86.1	85.7	86.4	85.9	85.5
Italy	88.9	98.9	100.1	98.6	100.0	98.5	99.8	95.6	92.4	88.5	84.2	82.3	83.3	84.6	87.0
Netherlands	138.4	131.2	117.6	103.3	100.0	96.6	93.6	91.2	88.0	83.6	81.4	80.5	81.5	81.3	80.8
Norway	101.1	106.4	105.1	101.7	100.0	96.5	92.6	91.3	88.6	82.9	82.8	84.0	84.9	81.9	–
Sweden	124.4	114.6	105.7	104.3	100.0	94.6	92.3	88.9	85.9	83.9	85.1	84.7	84.3	84.0	85.5
United Kingdom	127.3	118.1	109.8	99.0	100.0	99.1	90.1	80.6	76.2	72.2	71.2	70.7	69.0	68.5	69.8
Compensation per hour															
United States	36.5	57.4	68.8	92.1	100.0	108.2	132.4	145.2	157.5	162.4	168.0	176.4	183.0	186.9	193.5
Canada	27.5	47.9	60.0	90.3	100.0	107.6	131.3	151.1	167.0	177.2	185.6	194.4	203.5	214.0	227.1
Japan	8.9	33.9	55.1	90.7	100.0	106.6	120.7	129.8	136.6	140.7	144.9	151.4	158.9	162.5	171.3
Belgium	13.8	34.9	53.5	89.5	100.0	107.8	130.2	144.5	150.7	159.8	173.1	183.6	190.8	194.7	–
Denmark	12.6	36.3	56.1	90.4	100.0	110.2	135.9	149.7	162.9	174.2	184.1	196.5	203.5	225.9	230.1
France	15.0	36.3	51.9	87.8	100.0	113.0	148.5	172.0	204.0	225.2	244.9	265.4	278.7	291.4	301.9
Germany	18.8	48.0	67.5	91.2	100.0	107.8	125.6	134.5	141.0	148.3	155.5	164.6	171.5	178.1	185.5
Italy	9.2	27.1	41.2	84.5	100.0	115.2	163.7	197.9	233.3	273.1	313.3	352.0	367.4	391.2	416.3
Netherlands	12.5	39.0	60.5	91.9	100.0	108.4	123.6	129.1	137.5	144.5	148.6	156.9	162.2	167.0	172.8
Norway	15.8	37.9	54.6	88.9	100.0	110.0	128.0	142.8	156.1	173.5	188.3	204.3	224.2	257.4	–
Sweden	14.7	38.5	54.2	91.5	100.0	111.4	133.6	148.1	158.9	173.3	189.7	212.4	228.7	244.8	261.1
United Kingdom	15.2	31.4	47.9	88.4	100.0	116.7	168.6	193.4	211.7	226.6	242.3	258.8	277.8	295.7	319.3
Unit labor costs: National currency basis															
United States	58.7	71.0	73.7	94.9	100.0	106.6	130.6	140.1	148.7	145.0	142.2	142.7	143.3	141.7	142.1
Canada	54.2	63.4	66.5	95.3	100.0	106.5	133.7	146.7	170.0	168.1	162.3	165.7	172.8	177.5	182.7
Japan	38.4	52.3	66.4	96.2	100.0	98.7	98.4	102.0	101.2	98.9	95.0	94.0	97.1	92.1	90.2
Belgium	41.7	57.8	67.9	93.9	100.0	101.6	109.2	113.2	111.5	107.9	111.7	115.8	116.0	114.2	–
Denmark	33.8	55.4	67.4	92.1	100.0	108.6	121.0	131.1	142.2	144.9	153.9	163.3	175.1	192.8	196.3
France	40.2	50.8	62.0	93.0	100.0	108.0	134.3	151.0	167.2	179.9	192.0	200.0	206.2	213.0	209.6
Germany	46.6	67.4	80.3	94.6	100.0	104.5	115.7	121.2	125.2	124.4	125.8	128.3	133.7	137.1	136.4
Italy	24.7	38.8	49.4	86.3	100.0	108.1	134.0	157.8	181.6	201.9	210.6	224.5	232.0	241.0	249.1
Netherlands	38.5	60.7	74.3	96.0	100.0	101.8	108.5	110.4	115.2	113.0	106.8	108.1	112.0	114.4	112.8
Norway	29.2	46.6	57.8	88.5	100.0	108.7	119.1	132.2	142.9	148.0	151.8	161.1	178.1	194.7	–
Sweden	34.8	47.7	57.2	90.0	100.0	108.4	118.6	130.9	136.3	138.1	144.8	156.1	168.2	172.6	180.0
United Kingdom	27.2	39.1	50.2	89.2	100.0	115.0	165.5	180.6	186.5	184.1	186.5	193.0	200.4	200.4	206.2
Unit labor costs: U.S. dollar basis															
United States	58.7	71.0	73.7	94.9	100.0	106.6	130.6	140.1	148.7	145.0	142.2	142.7	143.3	141.7	142.1
Canada	59.4	64.5	70.6	102.7	100.0	99.3	121.5	130.0	146.3	144.9	133.2	128.9	132.1	142.3	157.8
Japan	28.5	39.1	65.6	86.9	100.0	126.8	116.8	123.8	108.8	111.5	107.2	105.6	154.4	170.5	188.4
Belgium	30.0	41.7	62.7	87.2	100.0	115.8	134.0	109.6	87.2	75.6	69.3	69.9	93.1	109.5	–
Denmark	29.5	44.4	67.2	91.5	100.0	118.4	129.0	110.3	102.3	95.1	89.3	92.5	129.9	169.0	174.8
France	40.3	45.2	68.6	95.8	100.0	117.9	156.4	136.4	124.9	116.1	108.1	109.5	146.3	174.2	172.9
Germany	25.9	42.9	70.4	87.3	100.0	121.0	147.9	124.9	119.7	113.1	102.6	101.2	143.0	177.0	180.3
Italy	35.1	54.7	75.0	91.8	100.0	112.4	138.4	122.4	118.4	117.3	105.9	103.8	137.4	164.0	168.8
Netherlands	25.1	41.2	65.6	89.1	100.0	115.7	134.1	108.9	105.8	97.1	81.6	80.0	112.2	138.6	139.9
Norway	21.8	34.7	53.5	86.4	100.0	110.4	128.4	122.5	117.8	107.9	99.0	99.8	124.7	153.7	–
Sweden	30.1	41.1	58.7	92.3	100.0	107.2	125.3	115.4	96.9	80.4	78.2	81.1	105.4	121.5	131.1
United Kingdom	43.7	53.7	70.5	92.3	100.0	126.5	220.6	209.6	186.8	160.0	142.9	143.5	168.6	188.3	210.5

– Data not available.

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

Industry and type of case[1]	Incidence rates per 100 full-time workers[2]								
	1979	1980	1981	1982	1983	1984	1985	1986	1987
PRIVATE SECTOR[3]									
Total cases	9.5	8.7	8.3	7.7	7.6	8.0	7.9	7.9	8.3
Lost workday cases	4.3	4.0	3.8	3.5	3.4	3.7	3.6	3.6	3.8
Lost workdays	67.7	65.2	61.7	58.7	58.5	63.4	64.9	65.8	69.9
Agriculture, forestry, and fishing[3]									
Total cases	11.7	11.9	12.3	11.8	11.9	12.0	11.4	11.2	11.2
Lost workday cases	5.7	5.8	5.9	5.9	6.1	6.1	5.7	5.6	5.7
Lost workdays	83.7	82.7	82.8	86.0	90.8	90.7	91.3	93.6	94.1
Mining									
Total cases	11.4	11.2	11.6	10.5	8.4	9.7	8.4	7.4	8.5
Lost workday cases	6.8	6.5	6.2	5.4	4.5	5.3	4.8	4.1	4.9
Lost workdays	150.5	163.6	146.4	137.3	125.1	160.2	145.3	125.9	144.0
Construction									
Total cases	16.2	15.7	15.1	14.6	14.8	15.5	15.2	15.2	14.7
Lost workday cases	6.8	6.5	6.3	6.0	6.3	6.9	6.8	6.9	6.8
Lost workdays	120.4	117.0	113.1	115.7	118.2	128.1	128.9	134.5	135.8
General building contractors:									
Total cases	16.3	15.5	15.1	14.1	14.4	15.4	15.2	14.9	14.2
Lost workday cases	6.8	6.5	6.1	5.9	6.2	6.9	6.8	6.6	6.5
Lost workdays	111.2	113.0	107.1	112.0	113.0	121.3	120.4	122.7	134.0
Heavy construction contractors:									
Total cases	16.6	16.3	14.9	15.1	15.4	14.9	14.5	14.7	14.5
Lost workday cases	6.7	6.3	6.0	5.8	6.2	6.4	6.3	6.3	6.4
Lost workdays	123.1	117.6	106.0	113.1	122.4	131.7	127.3	132.9	139.1
Special trade contractors:									
Total cases	16.0	15.5	15.2	14.7	14.8	15.8	15.4	15.6	15.0
Lost workday cases	6.9	6.7	6.6	6.2	6.4	7.1	7.0	7.2	7.1
Lost workdays	124.3	118.9	119.3	118.6	119.0	130.1	133.3	140.4	135.7
Manufacturing									
Total cases	13.3	12.2	11.5	10.2	10.0	10.6	10.4	10.6	11.9
Lost workday cases	5.9	5.4	5.1	4.4	4.3	4.7	4.6	4.7	5.3
Lost workdays	90.2	86.7	82.0	75.0	73.5	77.9	80.2	85.2	95.5
Durable goods									
Lumber and wood products:									
Total cases	20.7	18.6	17.6	16.9	18.3	19.6	18.5	18.9	18.9
Lost workday cases	10.8	9.5	9.0	8.3	9.2	9.9	9.3	9.7	9.6
Lost workdays	175.9	171.8	158.4	153.3	163.5	172.0	171.4	177.2	176.5
Furniture and fixtures:									
Total cases	17.6	16.0	15.1	13.9	14.1	15.3	15.0	15.2	15.4
Lost workday cases	7.1	6.6	6.2	5.5	5.7	6.4	6.3	6.3	6.7
Lost workdays	99.6	97.6	91.9	85.6	83.0	101.5	100.4	103.0	103.6
Stone, clay, and glass products:									
Total cases	16.8	15.0	14.1	13.0	13.1	13.6	13.9	13.6	14.9
Lost workday cases	8.0	7.1	6.9	6.1	6.0	6.6	6.7	6.5	7.1
Lost workdays	133.7	128.1	122.2	112.2	112.0	120.8	127.8	126.0	135.8
Primary metal industries:									
Total cases	17.3	15.2	14.4	12.4	12.4	13.3	12.6	13.6	17.0
Lost workday cases	8.1	7.1	6.7	5.4	5.4	6.1	5.7	6.1	7.4
Lost workdays	134.7	128.3	121.3	101.6	103.4	115.3	113.8	125.5	145.8
Fabricated metal products:									
Total cases	19.9	18.5	17.5	15.3	15.1	16.1	16.3	16.0	17.0
Lost workday cases	8.7	8.0	7.5	6.4	6.1	6.7	6.9	6.8	7.2
Lost workdays	124.2	118.4	109.9	102.5	96.5	104.9	110.1	115.5	121.9
Machinery, except electrical:									
Total cases	14.7	13.7	12.9	10.7	9.8	10.7	10.8	10.7	11.3
Lost workday cases	5.9	5.5	5.1	4.2	3.6	4.1	4.2	4.2	4.4
Lost workdays	83.6	81.3	74.9	66.0	58.1	65.8	69.3	72.0	72.7
Electric and electronic equipment:									
Total cases	8.6	8.0	7.4	6.5	6.3	6.8	6.4	6.4	7.2
Lost workday cases	3.4	3.3	3.1	2.7	2.6	2.8	2.7	2.7	3.1
Lost workdays	51.9	51.8	48.4	42.2	41.4	45.0	45.7	49.8	55.9
Transportation equipment:									
Total cases	11.6	10.6	9.8	9.2	8.4	9.3	9.0	9.6	13.5
Lost workday cases	5.5	4.9	4.6	4.0	3.6	4.2	3.9	4.1	5.7
Lost workdays	85.9	82.4	78.1	72.2	64.5	68.8	71.6	79.1	105.7
Instruments and related products:									
Total cases	7.2	6.8	6.5	5.6	5.2	5.4	5.2	5.3	5.8
Lost workday cases	2.8	2.7	2.7	2.3	2.1	2.2	2.2	2.3	2.4
Lost workdays	40.0	41.8	39.2	37.0	35.6	37.5	37.9	42.2	43.9
Miscellaneous manufacturing industries:									
Total cases	11.7	10.9	10.7	9.9	9.9	10.5	9.7	10.2	10.7
Lost workday cases	4.7	4.4	4.4	4.1	4.0	4.3	4.2	4.3	4.6
Lost workdays	67.7	67.9	68.3	69.9	66.3	70.2	73.2	70.9	81.5

See footnotes at end of table.

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

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

[1] Total cases include fatalities.

[2] The incidence rate represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:

$$(N/EH) \times 200{,}000$$

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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Productivity and costs:							
Nonfarm business and manufacturing	August 3	2nd quarter					2; 42–44
Nonfinancial corporations			September 6	2nd quarter			2; 42–44
Employment situation	August 4	July	September 1	August	October 6	September	1; 4–21
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