MONTHLY LABOR REVIEW
U.S. Department of Labor
Bureau of Labor Statistics
September 1980

In this issue:

Job-related injuries and illnesses of women
Worker perceptions of occupational hazards
Geographic wage indexing for CETA and Medicare

U.S. DEPARTMENT OF LABOR
Ray Marshall, *Secretary*

BUREAU OF LABOR STATISTICS
Janet L. Norwood, *Commissioner*

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, D.C. 20212.
Phone: (202) 523-1327.

Subscription price per year—
$18 domestic; $22.50 foreign.
Single copy $2.50.
Subscription prices and distribution policies for the Monthly Labor Review (ISSN 0098-0818) 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, D.C. 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. Use of funds for printing this periodical has been approved by the Director of the Office of Management and Budget through October 31, 1982. Second-class postage paid at Riverdale, MD., and at additional mailing offices.

Library of Congress Catalog
Card Number 15-26485

September cover:

Workers in trimming department of the J.B. Stetson Co.

Photograph courtesy of Archives of Labor History and Urban Affairs, Wayne State University

Regional Commissioners for Bureau of Labor Statistics

Region I—Boston: *Wendell D. Macdonald*
1603 JFK Federal Building, Government Center,
Boston, Mass. 02203
Phone: (617) 223-6761
Connecticut
Maine
Massachusetts
New Hampshire
Rhode Island
Vermont

Region II—New York: *Samuel M. Ehrenhalt*
1515 Broadway, Suite 3400, New York, N.Y. 10036
Phone: (212) 944-3121
New Jersey
New York
Puerto Rico
Virgin Islands

Region III—Philadelphia: *Alvin I. Margulis*
3535 Market Street
P.O. Box 13309, Philadelphia, Pa. 19101
Phone: (215) 596-1154
Delaware
District of Columbia
Maryland
Pennsylvania
Virginia
West Virginia

Region IV—Atlanta: *Donald M. Cruse*
1371 Peachtree Street, N.E., Atlanta, Ga. 30309
Phone: (404) 881-4418
Alabama
Florida
Georgia
Kentucky
Mississippi
North Carolina
South Carolina
Tennessee

Region V—Chicago: *William E. Rice*
9th Floor, Federal Office Building, 230 S. Dearborn Street,
Chicago, Ill. 60604
Phone: (312) 353-1880
Illinois
Indiana
Michigan
Minnesota
Ohio
Wisconsin

Region VI—Dallas: *Bryan Richey*
Second Floor, 555 Griffin Square Building, Dallas, Tex. 75202
Phone: (214) 767-6971
Arkansas
Louisiana
New Mexico
Oklahoma
Texas

Regions VII and VIII—Kansas City: *Elliott A. Browar*
911 Walnut Street, Kansas City, Mo. 64106
Phone: (816) 374-2481
VII
Iowa
Kansas
Missouri
Nebraska
VIII
Colorado
Montana
North Dakota
South Dakota
Utah
Wyoming

Regions IX and X—San Francisco: *D. Bruce Hanchett*
450 Golden Gate Avenue, Box 36017,
San Francisco, Calif. 94102
Phone: (415) 556-4678
IX
American Samoa
Arizona
California
Guam
Hawaii
Nevada
Trust Territory of the Pacific Islands
X
Alaska
Idaho
Oregon
Washington

MONTHLY LABOR REVIEW

SEPTEMBER 1980
VOLUME 103, NUMBER 9

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

Labor Month In Review

STATE AND LOCAL PAY. The Bureau of Labor Statistics issued the first of a new series of releases on wages and benefits of State and local government employees in collective bargaining units of 5,000 workers or more. About one-fourth of all workers covered by collective bargaining agreements in State and local government were in such units in 1979. The release includes data on both first-year changes and annual rates of change over the life of multiyear settlements negotiated in 1979.

Wages and benefits. First-year wage and benefit adjustments averaged 7 percent under 1979 settlements covering 5,000 or more State and local government workers. Major settlements in the private economy brought wage and benefit changes of 9 percent in 1979, but were not entirely comparable because they included pensions and other benefits not subject to collective bargaining in the public sector.

Contracts which offered the prospect of additional adjustments under automatic cost-of-living escalator (COLA) clauses provided smaller (6.5 percent) first-year settlements than contracts without such clauses (7.2 percent). First-year changes were slightly higher (7.0 percent) for State government workers than for workers in local government (6.8 percent).

Over the life of multiyear contracts, wage and benefit adjustments averaged 6.3 percent a year for both State and local government workers. Contracts with COLA clauses provided wage and benefit changes of 5.1 percent, while those without such clauses averaged 7.0 percent.

Wages only. Data on wage settlements alone show average first-year changes of 6.8 percent for workers in large State and local government units, with local government workers holding a slight edge (7.0 percent) over State government employees (6.7 percent). Similarly, over the life of multiyear contracts, local government workers won slightly higher settlements (6.5 percent) than State government employees (6.2 percent).

Groups covered. Agreements reached in 1979 affected 568,000 workers in 45 State and local government bargaining units of 5,000 or more employees. Teacher units accounted for about 25 percent of the workers covered, with general government or administrative units accounting for another 20 percent. The rest were in clerical, blue-collar, health, and other units.

About 48 percent were in the Northeast region, 22 percent in the North Central States, 21 percent in the West, and 9 percent in the South.

Two-year agreements covered about 43 percent of the workers under the 1979 agreements. About 23 percent were under 1-year pacts and 34 percent under 3-year agreements.

Escalator provisions. Nine of the 1979 settlements included COLA provisions. Eight other COLA clauses were in effect from bargaining in prior years. A total of 309,000 workers were covered by escalator provisions in 1979. Mainly because 1979 agreements deferred escalator reviews until 1980 or later, cost-of-living clauses triggered permanent wage-rate adjustments in only seven agreements, covering 76,000 workers. Of these, 71,000 were employed by local governments, largely as transit workers(43,000).

Effective changes. In addition to reporting on 1979 settlements, the new BLS release also reports on the wage increases actually paid during the year to State and local government workers in units of 5,000 or more. A total of 884,000 workers in 69 public sector collective bargaining units collected increases averaging 6.2 percent. About 73,000 workers in 10 bargaining units received no increases. When prorated over all 957,000 workers in major bargaining units, the effective wage adjustment averaged 5.8 percent in 1979, with 4.0 percent coming from new settlements, 1.2 percent from deferred increases paid under agreements negotiated in prior years, and 0.5 percent from COLA clauses.

More complete data. Information in the new BLS release is based on preliminary data. A revised report, based on more complete data, will appear in a forthcoming issue of *Current Wage Developments,* a monthly periodical published by BLS.

Meanwhile, single copies of the release, USDL: 80-501, are available from the Inquiries and Correspondence Section, BLS, Washington, D.C. 20212. □

Are women safer workers? a new look at the data

The overall better record of women may reflect the fact that relatively few are in hazardous jobs; data from 26 States suggest that men and women doing the same kind of work incur similar injuries with about the same frequency

NORMAN ROOT AND JUDY R. DALEY

Women have a relatively better work injury record than do men, much of which may be attributed to the kinds of work in which women are engaged. They are underrepresented in the crafts and kindred occupations, in which very large numbers of injuries occur. A large proportion of on-the-job injuries among women occurs in traditionally female-dominated occupations—teaching, nursing, clerical jobs, assembling, and retail sales, for example.

The characteristics of occupational injuries and illnesses are similar for women and men. There are a few noteworthy exceptions: women suffer relatively more "falls on the same level" than do men, which may be the result of wearing shoes with higher heels; women also appear to experience relatively more illnesses related to occupations, particularly inflammation of joints, tendons, and muscles.

This article provides the first comprehensive look at female work-related injuries and illnesses by occupation, industry, and by specific characteristic of the injury (for example, nature of the injury or illness, part of body affected, source of the injury, and type of accident or exposure causing the injury). In this analysis, the term "injury" includes both injuries and illnesses.

The data are from reports made to State workers compensation agencies. The Bureau of Labor Statistics developed the Supplementary Data System to assist States in uniformly classifying and coding data obtained in connection with administration of State workers' compensation laws. The State agencies, in turn, provide the Bureau with information about the industrial classification of the establishment in which the injured was employed, occupation, age, and sex of the injured employee, nature of injury, part of body affected, source of the injury, and type of accident or exposure which produced the injury.[1] Although classification and processing are uniform, the injury data are subject to a number of limitations because reporting and coverage requirements for workers' compensation differ among States.[2]

This report compares the proportionate values of injuries and employment within a given universe (for example, female workers, manufacturing). Employment

Norman Root is a division chief and Judy R. Daley a research analyst in the Office of Occupational Safety and Health Statistics, Bureau of Labor Statistics.

data for industry and occupation are from *Employment and Earnings,* a monthly publication of the Bureau of Labor Statistics.[3] Data limitations do not permit computation of rates. The 26 States, whose data are used in this analysis, accounted for about 40 percent of wage and salary employment and are considered representative of the industrial activity in the Nation. These States provided information on cases that either occurred or were reported to workers' compensation agencies in 1977.

Young workers susceptible

About 1.5 million injuries,[4] or 21 percent of all occupational injuries, occur to women. The proportion of work-related injuries ranged from 10 percent of all such injuries in Wyoming to 25 percent in Minnesota. Employment of women in these States ranged from 37 percent to 45 percent of all employed workers.[5] (See table 1.) Wyoming, Alaska, New Mexico, and Utah had noticeably low percentages of injuries, probably because of the industrial mix of jobs in these States. They have large numbers of traditionally male-dominated hazardous jobs, such as mining, ranching, construction, and oil-well drilling.

The largest percentage of female injury cases was accounted for by younger workers. The injury-to-employment ratio for women was relatively consistent for all age groups. However, compared with men, younger women (16 to 34 years) had lower injury-to-employment ratios and older women (35 to 64 years), higher ratios. For men, the injury-to-employment ratio was higher for those age 16–34 and lower for the succeeding age groups.

Because a high proportion (about 40 percent) of all occupational injuries are sustained during a worker's first year on the job, the relatively high injury-to-employment ratio experienced by younger men can be expected.[6] The consistent injury to employment ratio of women, therefore, could indicate that they, perhaps, are "safer" workers in the sense that their injury experience remains proportionate to their exposure; that, perhaps, women are experiencing more turnover in employment, (that is, continue to enter and leave the work force throughout their working years); or that the low level of upward mobility in the "female jobs" (such as charwomen, nursing aides, and assemblers) keeps women exposed to the same hazards of the work environment throughout their working years.

Table 1. Employment and work-related injuries and illnesses among women, selected States, 1977

State	Female employment as percent of total employment[1]	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40.6	1,250,284	21.1
Alaska	41.8	8,841	14.9
California	41.1	327,868	22.5
Colorado	40.4	33,954	19.9
Connecticut	42.2	[2] 11,441	17.4
Hawaii	44.5	36,603	22.5
Idaho	39.0	38,290	17.9
Indiana	40.2	38,398	21.8
Iowa	40.0	18,510	19.8
Kentucky	39.8	51,015	18.9
Maine	40.5	43,828	21.0
Maryland	40.8	30,551	20.7
Michigan	38.6	70,537	23.0
Minnesota	39.9	50,802	25.0
Missouri	42.4	128,590	20.4
Montana	36.8	32,281	18.0
Nebraska	41.4	35,249	20.6
New Jersey	40.7	84,753	21.8
New Mexico	40.9	4,046	15.4
Oregon	39.9	43,777	21.0
South Dakota	39.4	17,397	21.4
Tennessee	41.6	25,649	19.9
Utah	38.6	20,491	16.6
Vermont	40.3	17,952	21.6
Virgin Islands	[3]	1,531	18.0
Wisconsin	40.5	60,626	21.5
Wyoming	37.6	17,304	10.3

[1] *State Profile of Employment and Unemployment, 1977,* Report 539 (Bureau of Labor Statistics, October 1978). The total is for the 25 States for which data were available.
[2] In 1977, Connecticut provided injury and illness information only for manufacturing industries, excluding boat building and repair.
[3] Not available.

Injuries more frequent in manufacturing

Despite some changes in their employment patterns, women remain concentrated in the same industry groups as in previous years.[7] And, significant numbers of injuries continued to occur in those industries. Manufacturing industries accounted for 30 percent of all injuries to female workers, followed by 24 percent in services, 19 percent in retail trade, and 17 percent in the public sector. The following tabulation shows the distribution of female work injuries by industry, 1977:

	Percent
Private sector	82.9
Agriculture, forestry, and fishing	1.3
Mining	.2
Construction	.6
Manufacturing	30.0
Transportation and public utilities	2.5
Wholesale trade	2.9
Retail trade	19.4
Finance, insurance and real estate	2.3
Services	23.7
Public sector	17.1
State government	5.5
Local government	11.6

Among manufacturing industries with significant numbers of female work-related injuries, food and kindred products accounted for the most, followed by electric and electronic equipment, fabricated metals products, transportation equipment, apparel and other textile products, rubber and miscellaneous plastics products, and machinery (except electrical) products. About two-thirds of the female work-related injuries in the private sector of the services industry occurred in hospitals and health care facilities. In retail trade, the largest components of female work-related injuries occurred in eating

Table 2. Employment and work-related injuries and illnesses among women in selected industries, 1977

Industry	Female employment as percent of total employment	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40	1,250,284	21.1
Private sector—all industries	39	1,085,223	20.2
Agriculture, forestry, and fishing	(1)	29,403	11.5
Mining	8	27,266	1.6
Construction	7	117,474	1.3
Manufacturing	30	429,075	18.4
Durable goods	23	271,467	15.5
Lumber and wood products	13	47,046	9.1
Millwork, plywood structural members	15	10,668	14.7
Furniture and fixtures	28	12,449	19.9
Household furniture	31	7,970	22.0
Stone, clay, and glass products	18	19,065	11.3
Primary metals industries	9	26,906	6.6
Fabricated metal products	20	47,921	14.6
Metal forgings and stampings	21	8,012	19.1
Machinery, except electrical	17	43,980	11.6
Electric and electronic equipment	42	22,831	38.0
Electronic components and accessories	53	4,554	51.6
Transportation equipment	13	38,091	14.2
Motor vehicles and equipment	12	24,033	14.6
Instruments and related products	40	6,239	43.5
Miscellaneous manufacturing industries	46	6,939	35.2
Nondurable goods	40	157,608	23.5
Food and kindred products	28	69,238	18.2
Meat products	31	22,501	15.7
Preserved fruits and vegetables	43	11,231	34.2
Miscellaneous foods and kindred products	28	4,900	30.0
Tobacco manufacturers	38	661	38.6
Textile mill products	47	6,208	29.1
Apparel and other textile products	81	8,716	64.1
Men's and boys' furnishings	84	2,867	71.9
Paper and allied products	21	17,653	16.8
Miscellaneous converted paper products	33	5,479	24.9
Printing and publishing	36	11,564	21.9
Chemical and allied products	22	14,254	16.6
Petroleum and coal products	11	2,379	5.0
Rubber and miscellaneous plastics products	34	19,645	28.8
Miscellaneous plastics products	41	11,999	35.5
Leather and leather products	60	7,287	42.8
Footwear, except rubber	66	4,360	54.7
Transportation and public utilities	23	80,942	8.1
Local and interurban passenger transit	20	4,617	15.5
Trucking and warehousing	11	45,260	3.0
Trucking, local and long distance	10	42,512	2.7
Water transportation	11	1,017	2.5
Air transportation	30	8,774	26.0
Certificated and noncertificated air transportation	31	8,134	27.6
Pipelines, except natural gas	9	98	(1)
Transportation services	30	1,323	11.4
Communication	45	5,951	25.1
Electric, gas, and sanitary services	17	13,799	4.0
Wholesale trade	25	80,080	9.5
Retail trade	47	171,561	29.9
Building materials and garden supplies	20	12,675	5.9
General merchandise stores	67	25,510	47.0
Department stores	67	21,541	45.8
Variety stores	75	3,156	56.9
Food stores	40	36,925	25.6
Grocery stores	(1)	34,230	24.9
Automotive dealers and service stations	15	29,265	4.5
Apparel and accessory stores	67	2,653	58.8
Furniture and home furnishings stores	30	6,149	10.5
Eating and drinking places	57	47,084	46.8
Miscellaneous retail	47	11,300	31.4
Finance, insurance, and real estate	56	15,897	38.8
Banking	68	3,058	67.2
Credit agencies other than banks	63	1,494	41.2
Security, commodity brokers and services	36	169	37.9
Insurance carriers	56	2,595	50.7
Insurance agents, brokers and service	58	837	46.0
Real estate	36	7,222	20.5
Combined real estate, insurance, etc.	52	512	49.4
Services	56	131,635	47.6
Hotels and other lodging places	(1)	14,693	46.8
Personal services	63	4,528	39.8
Business services	38	19,013	24.0
Auto repair, services and garages	(1)	10,110	5.3
Miscellaneous repair services	18	4,864	4.7
Motion pictures	37	1,690	16.4
Health service	81	48,587	78.9
Hospitals	80	28,561	74.2
Legal services	65	520	59.2
Educational services	52	5,548	40.7
Miscellaneous services	29	3,035	18.6
Public sector	49	165,031	27.4
State government	45	37,819	38.5
Local government	50	127,212	24.0

[1] Data are not available.

and drinking places, general merchandise stores, and food stores. In the public sector, local government accounted for two-thirds of the work-related injuries sustained by women, many of whom were in education.

Relative to their employment, work-related injuries among women varied widely by industries. (See table 2.) In manufacturing industries, their relative injury experience was greater than or close to their relative employment in these industries: lumber and wood products, primary metals, metal forgings and stampings, electric and electronic equipment, transportation equipment, instruments and related products, miscellaneous foods and kindred products, and tobacco manufacturing. In air transportation, banking, and health services, similar relative positions occurred. The work-related injury rates for women in these industries would be at least comparable to those of men.

In contrast, the following industries with a significantly large number of cases show a much higher proportion of employment than of injuries incurred by women: miscellaneous manufacturing, food and kindred products, textile mill products, apparel and other textile products, printing and publishing, leather and leather products, transportation and public utilities generally, wholesale and retail trade generally, real estate, services generally and local government.

Service workers—most cases

Two occupational groups—service workers and operatives, except transport—accounted for slightly more than 50 percent of total injuries to women. Clerical occupations made up 12 percent of the cases, followed by laborers (except farm) and professional, technical and kindred workers with 9 and 8 percent. Following are

Table 3. Employment and work-related injuries and illnesses among women in selected occupations, 1977

Occupation	Female employment as percent of total employment	Injuries and illnesses	
		Total cases	Percent incurred by women
Total	40.5	1,250,284	21.1
Professional, technical and kindred workers	42.6	43,738	49.3
Registered nurses	96.7	6,564	94.8
Teachers, excluding college and university	70.9	10,216	62.3
Elementary school teachers	84.2	3,804	76.3
Secondary school teachers	51.2	3,558	45.7
Teachers, nec	75.2	2,346	60.7
Managers and administrators, except farm	22.3	33,915	22.3
Restaurant, bar managers	34.7	3,416	41.8
Sales managers and department heads, retail trade	36.2	5,242	26.2
Salesworkers	43.3	22,430	42.3
Salesworkers, nec	45.0	17,020	42.7
Sales clerks, retail trade	70.4	2,516	60.0
Clerical and kindred workers	78.9	56,474	55.3
Bookkeepers	90.0	2,133	85.9
Cashiers	87.0	5,393	77.7
Secretaries, nec	99.1	3,721	96.3
Stock clerks, storekeepers	30.8	8,748	20.9
Teacher aides	93.4	2,257	87.0
Typists	96.3	1,964	94.1
Miscellaneous clerical workers	(1)	6,692	73.7
Not specified clerical	(1)	2,079	74.3
Crafts and kindred workers	5.0	230,306	3.0
Operatives, except transport	39.6	255,123	22.5
Assemblers	50.3	31,312	37.9
Checkers, examiners, inspectors, manufacturing	(1)	4,912	45.1
Meatcutters, butchers, manufacturing	35.2	9,007	15.5
Packers, wrappers, except retail	63.6	10,322	54.9
Sewers and stitchers	95.2	4,412	90.6
Machine operatives, miscellaneous	(1)	11,420	23.4
Not specified operatives	(1)	6,709	16.8
Transport equipment operatives	6.8	87,328	4.7
Bus drivers	42.2	5,366	34.6
Laborers, except farm	9.4	237,161	9.6
Freight, material handlers	7.9	26,253	8.0
Stock handlers	22.7	17,852	19.2
Miscellaneous laborers	(1)	83,644	13.7
Not specified laborers	(1)	26,683	10.0
Farmers and farm managers	6.4	517	2.5
Farm laborers and foremen	29.4	20,838	11.9
Farm laborers, wage workers	17.0	19,800	12.4
Service workers, except private household	58.3	175,556	46.0
Chambermaids and maids	(1)	3,807	89.6
Cleaners and charwomen	96.1	7,412	41.5
Janitors and sextons	15.4	26,064	15.5
Cooks	56.3	17,815	44.3
Food counter and fountain workers	85.7	3,449	78.3
Waiters and waitresses	90.4	10,704	90.3
Food service workers, nec	74.3	18,804	61.9
Health aides, except nursing	84.5	2,984	65.6
Nursing aides, orderlies and attendants	86.3	24,536	84.7
Practical nurses	96.8	4,891	93.3
Airline stewardesses	(1)	1,743	90.1
Housekeepers	64.6	2,517	73.4
Private household workers	97.0	469	86.6

[1] Data not available.

NOTE: nec = Not elsewhere classified.

the occupational distribution of female work-related injuries, 1977:

	Percent
Professional, technical and kindred workers	8.2
Managers and administrators, except farm	2.9
Salesworkers	3.6
Clerical and kindred workers	11.8
Crafts and kindred workers	2.6
Operatives, except transport	21.8
Transport equipment operatives	1.6
Laborers except farm	8.6
Farm laborers and foremen	.9
Service workers, except private household	30.6
Private household workers	.2

The occupational distribution of work-related injuries indicates one reason for the relatively low numbers of injuries to women. Men accounted for 95 percent of employment and experienced 97 percent of the work injuries in the crafts and kindred workers group. The injuries in this occupational group accounted for 22 percent of all work injuries to men. For women, on-the-job injuries in this occupational group made up only 3 percent of all work injuries. (See table 3.) Thus, women had very little exposure to one of the most hazardous occupations.

Work-related injuries among women generally reflected their concentrations of employment. In the following occupations, women made up 60 percent or more of employment and injuries: nursing and other health related occupations, teaching, retail sales, bookkeeping, clerical jobs, sewing and stitching, and several food-related occupations. Women employed as managers and administrators, sales workers, operatives (such as assemblers, and packers and wrappers), and laborers experienced significant percentages of injuries relative to their employment.

Profile of occupational injuries

The characteristics of the work-related injuries that occurred to women were generally similar to those affecting men. For example, sprains and strains were the most frequently occurring injuries for both groups; the back and fingers were the body parts affected more than one-third of the time; and overexertion resulted in about 1 of 5 injuries. However, the sources of the injuries varied markedly for the two groups, reflecting the different work environments and, therefore, different potentials for producing injuries. Working surfaces caused 19 percent of all female work-related injuries, but only 12 percent of the male injuries. Conversely, metal items were responsible for 15 percent of male injuries, but only 5 percent of injuries to women. A person as a source of injury (primarily the lifting and handling of them) was responsible for 9 percent of the female injuries, but for only 2 percent of the men's.

As noted, sprains and strains accounted for more than one-third of the injuries occurring to women, followed by contusions and bruises, cuts, lacerations,

and punctures, fractures, and burns. Other frequent injuries included scratches and abrasions and inflammation of joints, tendons, and muscles. (See table 4.)

About 30 percent of the injuries involved the upper extremities and about half of the time included the fingers. An additional 30 percent of injuries involved the trunk, largely the back. (See table 5.) The lower extremities frequently involving the toes, accounted for 19 percent of the injuries; the head and multiple body parts each accounted for about 8 percent; and injuries to the eyes accounted for 3 percent.

Data on the sources of work injuries generally reflect the work environment more closely than any other classification because many of the individual categories are peculiar to specific industries, each with special machines, equipment, or exposures. Thus, the source classification has many more categories than other classifications. (See table 6.) Two categories—working surfaces and boxes, barrels and containers—common to all industries, accounted for nearly one-third of all the injuries occurring to women, and for 22 percent of injuries occurring to men. Three other categories combined made up nearly 1 of 4 female work-related injuries—person, bodily motion, and machines. Again, these sources reflect the fact that women are heavily employed as nurses, teachers, wrappers and packers, assemblers, and health and food service workers.

A look at accidents which cause injuries on the job can provide clues for targeting safety programs.[8] Among women, the most frequent accidents were struck against or struck by, overexertion, and fall on the same level. (See table 7.) Nearly 1 of 5 injuries were caused by the combined accidents, bodily reaction, caught in-under-between, and fall from elevation. Similar types of accidents caused injuries to women and men. The only significant differences were for fall from the same level, which accounted for 1 of 6 injuries to female workers, compared with 1 of 13 for men, and for struck against or struck by which accounted for one-fourth of the injuries incurred by women and one-third of those incurred by men.

Table 4. Nature of work-related injury

Nature	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Amputation or enucleation	1,337	.5	8,227	.8
Burns:				
Heat	8,520	3.2	26,315	2.7
Chemical	1,548	.6	8,778	.9
Infective or parasitic disease	1,259	.5	1,256	.1
Contusion, crushing, bruise	42,277	16.0	134,306	13.6
Cut, laceration, puncture	38,014	14.4	180,069	18.3
Dermatitis	4,322	1.6	9,191	.9
Dislocation	2,498	1.0	11,936	1.2
Fracture	16,632	6.3	79,718	8.1
Hernia	866	.3	15,581	1.6
Inflammation or irritation of joints, tendons, or muscles	4,550	1.7	8,478	.9
Systemic poisoning	2,630	1.0	8,656	.9
Scratches, abrasions	5,543	2.1	40,825	4.1
Sprains, strains	99,523	37.7	326,746	33.1
Multiple injuries	3,508	1.3	13,940	1.4
All other	31,109	11.8	112,125	11.4

Table 5. Selected parts of body affected by work-related injury

Part of body affected	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Head	19,957	7.6	111,957	11.4
Eyes	7,332	2.8	65,275	6.6
Face	4,896	1.9	22,516	2.3
Neck	3,652	1.4	11,133	1.1
Upper extremities	81,759	31.0	285,567	29.0
Arms	14,494	5.5	47,667	4.8
Elbow	3,671	1.4	14,440	1.5
Wrist	10,174	3.9	25,073	2.5
Hand	14,995	5.7	58,418	5.9
Finger(s)	38,687	14.7	145,558	14.8
Trunk	78,318	29.7	292,509	29.7
Abdomen	2,987	1.1	21,648	2.2
Back	56,051	21.2	195,449	19.8
Chest	4,444	1.7	22,123	2.2
Hips	4,263	1.6	14,727	1.5
Shoulders	6,778	2.6	26,959	2.7
Lower extremities	48,864	18.5	200,937	20.4
Legs	19,702	7.5	87,092	8.8
Knee	10,921	4.1	48,164	4.9
Ankle	13,127	5.0	40,951	4.2
Foot	9,773	3.7	45,614	4.6
Toes	4,013	1.5	20,707	2.1
Multiple parts	21,653	8.2	52,623	5.3
Body system	5,897	2.2	19,528	2.0

Table 6. Selected sources of work-related injury

Source	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Animals, insects, etc.	2,045	.8	7,880	.8
Bodily motion	21,306	8.1	63,894	6.5
Boxes, barrels, containers	31,637	12.0	98,767	10.0
Buildings and structures	7,154	2.7	20,733	2.1
Doors and gates	4,233	1.6	8,979	.9
Chemicals, chemical compounds	4,615	1.8	17,151	1.7
Food products	4,000	1.5	7,593	.8
Furniture, fixtures, etc.	13,893	5.3	22,631	2.3
Glass items, nec	2,996	1.1	10,164	1.0
Hand tools, not powered	11,341	4.3	59,589	6.0
Knife	6,021	2.3	21,220	2.2
Hand tools, powered	1,888	.7	19,185	2.0
Liquids, nec	3,205	1.2	5,813	.6
Machines	19,703	7.5	62,908	6.4
Shears, slitters, slicers	3,921	1.5	6,369	.7
Metal items	14,361	5.4	148,837	15.1
Vehicles	11,585	4.4	78,674	8.0
Highway vehicles, powered	5,463	2.1	43,457	4.4
Plant or industrial vehicles	4,679	1.8	26,691	2.7
Nonpowered vehicles	3,907	1.5	12,507	1.3
Powered carriers	659	.3	11,166	1.1
Wood items	5,125	1.9	46,684	4.7
Working surfaces	50,503	19.1	118,939	12.1
Floor	26,189	9.9	40,222	4.1
Ground	5,338	2.0	32,901	3.3
Stairs, steps	5,343	2.0	7,394	.8
Person	22,519	8.5	15,591	1.6
Person, other than injuried	19,645	7.4	10,564	1.1

NOTE: nec = Not elsewhere classified.

Table 7. Selected types of accident or exposure resulting in work-related injury

Accident or exposure	Women		Men	
	Number	Percent	Number	Percent
Total cases	264,136	100.0	986,147	100.0
Struck against	27,203	10.3	107,745	10.9
Struck by	41,637	15.8	217,720	22.1
Fall from elevation	12,580	4.8	65,385	6.6
Fall on stairs	6,805	2.6	10,116	1.0
Fall on same level	44,271	16.8	77,728	7.9
Caught in, under, between	17,402	6.6	75,364	7.6
Rubbed or abraded	8,126	3.1	48,180	4.9
Bodily reaction	21,012	8.0	65,473	6.6
Overexertion	59,162	22.4	211,653	21.5
Lifting objects	36,268	13.7	124,171	12.6
Contact with temperature extremes	8,674	3.3	26,570	2.7
Contact with radiation, caustics, etc.	10,115	3.8	32,989	3.4
By absorption	5,966	2.3	19,309	2.0
Motor vehicle accidents	3,478	1.3	21,925	2.2

Illness a greater problem. Illnesses peculiar to one's occupation were a relatively greater problem for women than men. Occupational illnesses accounted for nearly 7 percent of all injuries and illnesses of women, but less than 5 percent of the men's.[9]

Three categories made up two-thirds of the occupational illnesses of women—inflammation or irritation of joints, tendons, and muscles, dermatitis, and systemic poisoning. (See table 8.) These accounted for 59 percent of the illnesses occurring to men. Other significant categories of female occupational illnesses were infective or parasitic diseases, mental disorders, and effects of changes in atmospheric pressure (limited almost exclusively to stewardesses in the air transportation industry).

The frequency and types of illnesses reflect employment and exposures (as indicated, for example, by the experience of airline stewardesses). Nearly a third of all female work-related illnesses occurred in manufacturing industries; 62 percent of the illnesses involved inflammation of joints, tendons, and muscles; 53 percent, dermatitis, and 39 percent, systemic poisoning. Five industries combined—food, fabricated metals, machinery (electric and nonelectric) and transportation equipment—had more than 50 percent of each of these illnesses. Inflammation of joints, tendons and muscles were particularly associated with the repetitive movements of assembly-type activities, and women appeared to be more prone to this illness than men. Services accounted for 24 percent of all female occupational illnesses, with a large concentration in health services, reflecting among other things, exposures to infective and parasitic diseases. Retail trade, especially eating and drinking places, accounted for 19 percent of female occupational diseases. The public sector accounted for 17 percent of female occupational illnesses and included high proportions of infective and parasitic diseases, mental disorders, and circulatory conditions. Many of these conditions are associated with occupations in health, education, and social services provided by State and local governments.

Are women safer workers than men?

Given the same job will women suffer the same injuries as do men? Comparisons of the relative frequency and kinds of injuries occurring to both women and men in the same occupations and industries indicate that work activity, not the worker, is a more important determinant of injuries. The data show that women in traditionally male-dominated jobs will suffer the same kinds of injuries and generally with the same relative frequency as their male counterparts. Also men in traditionally female-dominated occupations will suffer injuries common to their female counterparts and with the same frequency.

Table 9 presents some injuries and illnesses frequently occurring in selected occupations. The similarities of characteristic clusters which reflect exposures to the work environment are the main features of the data. For example, if the category "strains and sprains" among female nursing aides is larger than the national average for women, it is also larger than the average for men; or if a "person" as a source of injury among female laborers is smaller than the national average for women, it is also markedly smaller for men. Other significant clusters which reflect the exposures of the working environment include: dermatitis and inflammation of joints, tendons, and muscles among assemblers; bodily

Table 8. Frequency of occupational illness

Illness	All workers		Women		Men	
	Number	Percent	Number	Percent	Number	Percent
All occupational illnesses	62,366	100.0	17,455	100.0	44,911	100.0
Infective or parasitic disease	2,515	4.0	1,259	7.2	1,256	2.8
Dermatitis	13,513	21.7	4,322	24.8	9,191	20.5
Effects of exposure to low temperature	773	1.2	133	.8	640	1.4
Effects of environmental heat	790	1.3	109	.6	681	1.5
Inflammation of joints, tendons, or muscles	13,028	20.9	4,550	26.1	8,478	18.9
Poisoning, systemic	11,286	18.1	2,630	15.1	8,656	19.3
Pneumoconiosis	822	1.3	24	.1	798	1.8
Radiation effects	4,292	6.9	116	.7	4,176	9.3
Hemorrhoids	334	.5	28	.2	306	.7
Effects of changes in atmospheric pressure	431	.7	351	2.0	80	.2
Conditions of circulatory system	1,121	1.8	339	1.9	782	1.7
Complications peculiar to medical care	351	.6	213	1.2	138	.3
Diseases of the eye	274	.4	52	.3	222	.5
Mental disorders	1,171	1.9	594	3.4	577	1.3
Neoplasm, tumor	243	.4	79	.5	164	.4
Conditions of nervous system	821	1.3	286	1.6	535	1.2
Conditions of respiratory system	1,223	2.0	275	1.6	948	2.1
Symptoms and ill-defined conditions	3,578	5.7	1,188	6.8	2,390	5.3
Occupational disease, nec	1,716	2.8	585	3.4	1,131	2.5
Heart conditions (includes heart attack)	4,084	6.5	322	1.8	3,762	8.4

NOTE: nec = Not elsewhere classified.

Table 9. Characteristics of injuries and illnesses and proportion occurring in selected occupations, 1977

Selected characteristics of the injury or illness	All industries [1]		Food and kindred products				Fabricated metals		Electrical machinery					
			Laborers		Operatives except transport		Machine operatives		Machine operatives		Laborers		Assemblers	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Nature of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amputations	.5	.8	.7	.7	1.0	.9	2.1	2.0	.9	2.2	.8	1.0	.1	.7
Burns	3.8	3.6	3.2	4.4	2.0	4.4	1.9	3.7	6.1	5.6	2.9	3.6	5.7	3.1
Contusions, crushing, bruise	16.0	13.6	19.5	16.5	17.5	13.2	16.3	15.9	15.4	12.7	16.9	15.1	13.5	12.0
Cut, laceration, puncture	14.4	18.3	14.8	18.1	18.6	29.0	19.9	22.5	13.8	18.8	13.2	16.1	14.4	19.8
Dermatitis	1.6	.9	4.0	1.4	3.6	1.5	1.9	1.0	4.3	2.4	7.4	1.7	4.0	1.7
Fractures	6.3	8.1	5.1	5.5	4.7	4.3	6.4	7.6	6.4	7.3	4.8	6.1	5.0	5.3
Inflammation or irritation of joints, tendons, or muscles	1.7	.9	4.8	1.8	4.2	1.8	2.3	.6	3.4	1.0	2.0	1.8	3.8	1.7
Scratches, abrasions	2.1	4.1	1.8	2.0	2.1	2.8	3.6	4.9	4.9	4.7	1.3	1.6	4.6	4.8
Sprains, strains	37.7	33.1	33.3	36.7	34.1	30.7	33.2	29.6	29.9	30.6	32.0	37.4	32.8	37.0
Source of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bodily motion	8.1	6.5	10.0	7.1	10.5	6.3	6.4	5.2	7.3	5.3	7.5	4.6	9.2	5.8
Boxes, barrels, containers	12.0	10.0	15.8	19.7	15.2	14.3	13.8	9.8	10.9	11.2	16.8	19.3	9.9	11.3
Chemicals, chemical compounds	1.8	1.7	2.3	2.3	1.7	1.9	2.1	2.2	9.9	5.2	7.8	5.1	8.7	4.5
Furniture, fixtures, etc.	5.3	2.3	1.7	1.0	2.0	1.0	1.5	1.2	2.4	1.7	1.8	2.5	3.8	4.1
Hand tools, not powered	4.3	6.0	6.8	7.7	9.6	18.1	4.0	4.6	3.6	3.5	3.6	3.1	5.7	4.7
Machines	7.5	6.4	7.9	4.9	11.3	8.1	23.0	17.0	17.2	14.9	8.7	6.4	9.2	9.1
Metal items	5.4	15.1	4.7	7.5	3.6	6.1	21.8	33.2	13.2	24.5	13.8	17.0	13.8	20.8
Vehicles	4.4	8.0	3.2	7.0	2.0	3.3	1.2	2.3	1.3	3.3	2.5	8.0	1.8	2.7
Working surfaces	19.1	12.1	17.6	11.4	16.2	9.4	7.4	5.3	10.1	5.2	7.0	7.7	11.3	5.3
Person	8.5	1.6	.3	.2	.4	.2	.3	.3	.5	.5	.2	.1	.6	.7
Type of accident or exposure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Struck by or against	25.8	33.0	25.0	31.6	28.0	38.2	29.6	36.8	22.5	31.7	28.0	31.9	23.8	33.4
Fall from elevation	4.8	6.6	3.9	4.7	4.1	3.7	1.8	2.0	1.5	1.2	1.3	3.1	1.7	1.7
Fall on same level	16.8	7.9	16.1	9.5	14.1	7.7	8.0	4.9	10.1	5.8	8.1	6.2	11.2	5.3
Caught in, under, between	6.6	7.6	9.6	9.3	10.1	9.1	17.8	14.3	14.0	14.2	9.2	10.1	8.2	8.4
Bodily reaction	8.0	6.6	8.7	7.4	9.7	6.2	6.1	5.3	6.7	5.3	6.7	4.5	8.0	6.2
Overexertion	22.4	21.5	18.9	23.8	19.7	20.9	23.9	22.0	19.8	23.6	22.6	29.5	20.8	28.7
Contact with radiations, caustics, etc.	3.8	3.4	6.2	3.8	5.7	3.6	3.7	3.8	12.2	6.7	9.4	4.8	10.8	4.8
Motor vehicle accidents	1.3	2.2	.1	.2	.1	.1	.0	.0	.1	.0	.1	.3	.1	.1

Selected characteristics of the injury or illness	Retail trade				Medical services				Local government			
	Sales workers		Clerical workers		Registered nurses		Nursing aides, orderlies, etc.		Teachers		Police and fire protection	
	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women	Men
Nature of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Amputations	.1	.2	.2	.3	.0	.0	.1	.2	.2	.4	.0	.0
Burns	1.2	.8	1.5	.8	1.8	1.4	1.5	1.2	.8	1.4	.5	2.6
Contusions, crushing, bruise	17.7	11.7	17.2	14.2	12.6	9.1	13.6	13.3	18.9	10.6	15.0	12.2
Cut, laceration, puncture	18.7	22.1	15.8	25.1	12.1	13.5	5.5	7.8	7.0	10.3	6.1	9.8
Dermatitis	.4	.2	.3	.4	1.1	.0	.8	1.0	.3	.3	.6	.9
Fractures	6.2	6.2	6.7	5.9	3.8	2.0	2.3	2.4	11.4	8.4	8.7	6.1
Inflammation or irritation of joints, tendons, or muscles	.9	.4	1.1	.5	.7	1.0	.7	.6	.4	.9	1.1	.5
Scratches, abrasions	2.1	2.9	1.9	2.2	2.2	2.0	1.7	1.7	1.6	2.3	1.4	3.0
Sprains, strains	36.8	38.6	38.1	36.9	49.4	53.5	60.5	56.8	35.8	41.9	41.2	39.9
Source of injury or illness	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bodily motion	8.4	7.7	7.6	5.0	8.2	6.1	6.3	6.5	13.3	19.5	14.3	13.2
Boxes, barrels, containers	20.8	16.7	25.4	25.2	2.8	2.0	2.3	4.2	4.0	4.2	1.7	1.7
Chemicals, chemical compounds	.7	.4	.5	.6	.9	.7	.5	.6	.4	1.2	.9	1.6
Furniture, fixtures, etc.	8.5	7.5	6.5	5.3	6.0	3.4	6.1	6.2	6.5	5.7	2.5	1.5
Hand tools, not powered	5.1	7.2	6.0	9.8	5.1	4.7	1.3	1.2	1.7	1.7	.7	3.0
Machines	6.9	6.0	4.8	3.2	.8	1.4	.4	.8	1.3	3.0	.2	.4
Metal items	4.5	6.7	4.5	8.8	3.3	2.0	1.7	1.6	1.3	4.3	1.1	4.0
Vehicles	2.8	9.9	4.0	7.7	3.3	3.4	2.7	3.2	2.2	2.6	14.7	14.3
Working surfaces	20.8	12.0	20.5	11.1	14.9	12.5	14.2	10.9	33.6	18.3	28.3	16.2
Person	1.0	2.1	1.5	1.0	35.1	45.8	48.9	44.5	11.7	14.1	15.1	14.8
Type of accident or exposure	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Struck by or against	34.3	34.2	30.7	38.7	21.1	21.6	18.6	25.6	28.2	31.1	18.8	24.0
Fall from elevation	8.3	5.9	5.8	5.1	1.5	2.4	1.5	1.6	8.2	5.1	7.5	6.3
Fall on same level	15.3	8.6	17.5	7.8	15.0	11.5	14.4	10.0	26.7	14.7	21.8	10.7
Caught in, under, between	3.5	4.4	5.2	6.3	2.9	1.0	2.9	3.0	2.3	1.8	2.5	2.4
Bodily reaction	8.4	7.7	7.8	5.2	8.0	6.1	6.5	7.0	13.4	19.4	14.4	13.3
Overexertion	22.2	28.1	24.3	28.6	35.2	42.4	47.9	43.6	11.8	15.9	14.0	15.3
Contact with radiations, caustics, etc.	1.3	1.0	1.1	1.3	5.5	7.1	2.6	3.7	3.0	2.4	3.7	6.1
Motor vehicle accidents	.6	3.3	.7	1.0	1.4	.7	.3	.3	.7	1.2	7.0	8.1

[1] Includes occupations other than those shown separately.

motion and working surfaces as sources of injuries among teachers in local government; boxes and containers as sources of injuries among laborers and clerical workers; metal items as a source of injury among machine operatives and laborers and assemblers; person as a source among nurses and nurses aides, and teachers, and in police and fire departments in local government; struck by or against among clerical workers; caught in-under, between and fall from elevation among operatives. □

FOOTNOTES

[1] The industry codes are based on the Office of Management and Budget's *Standard Industrial Classification Manual, 1972,* occupation codes are based on the *Bureau of the Census Occupational Classification Manual, 1970;* and the nature, part, source, and type codes are based on the American National Standards Institute's *American National Standard Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries,* ANSI Z16.2–1962.

[2] See Norman Root and David McCaffrey, "Providing more information on work injury and illness," *Monthly Labor Review,* April 1978, pp. 16–21.

[3] The industry and occupational employment series are not comparable but are the most reliable data available on national employment by sex. The occupational employment series also contains significant numbers of workers not covered by State workers' compensation (for example, self-employed and unpaid family workers) and to this extent, relative employment ratios are overstated. The major factors which have a differential effect on the two series are detailed in *Employment and Earnings,* March 1978, pp. 139–59.

[4] The estimate was derived by applying the percentage of female work injuries in the Supplementary Data System data base to the 1977 national total of injuries and illnesses—approximately 5.5 million—obtained through the Bureau's annual survey of occupational injuries and illnesses. Because the annual survey does not include public sector employment injuries, the estimate includes an upward adjustment to account for such injuries. Public sector injuries accounted for 17 percent of all injuries in the Supplementary Data System; of these, women accounted for 27 percent.

[5] See *State Profile of Employment and Unemployment, 1977,* Report 539 (Bureau of Labor Statistics, October 1978).

[6] Norman Root and Michael Hoefer, "The first work-injury data available from new BLS study," *Monthly Labor Review,* January 1979, pp. 3–8.

[7] Elizabeth Waldman and Beverly McEaddy, "Where women work—an analysis by industry and occupation," *Monthly Labor Review,* May 1974, pp. 3–13.

[8] For details on this subject, see Norman Root and David McCaffrey, "Targeting worker safety programs: weighing incidence against expense," *Monthly Labor Review,* January 1980, pp. 16–21.

[9] It should be noted that occupational illnesses among all workers are reputed to be understated because of difficulties in diagnosis and in associating an illness with the workplace. To this extent, occupational illnesses as a proportion of all injury and illness cases may be larger than that identified.

Occupational disease—difficult diagnosis

The primary difficulty in identifying diseases as occupational in origin occurs when the cause of disease is not known, as in mental illness. In 1970 over 800,000 persons had their activities limited to some degree due to mental and nervous conditions. Even though psychological, chemical, physical injuries, heredity, or other causes of some mental disorders may be identified, we have no idea how the bulk of such illnesses originate. Because the cause of many such disturbances is not known, the contributing role of the workplace cannot readily be evaluated. Due to the large number of potential cases involved, however, the handling of such conditions would substantially affect the number of occupational disease cases estimated. The problem involves more than simply the absence of medical certainty about cause. Even if it were known that the stresses of life can cause such illnesses, what contributive role do job-related pressures play in the development of the disorder? If job loss began the process that led to an emotional disturbance, could this be termed an occupational disease? If so, one probably should also consider as an occupational disease an illness resulting from the frustration of an unsuccessful job search even if the individual in question had never previously been employed.

If stress-induced emotional disabilities can be considered occupational diseases, so can similarly caused cardiovascular illnesses and alcoholism. Workers' compensation practitioners are aware that some heart disease cases are currently being compensated as job related, but few if any cases of alcoholism are being seen by the system.

—PETER S. BARTH WITH H. ALLAN HUNT
Workers' Compensation and Work-Related Illnesses and Diseases
(Cambridge, Mass., The MIT Press, 1980),
pp. 11–12.

Occupational safety and health: a report on worker perceptions

Hazardous working conditions erode job satisfaction, say increasing numbers of workers; especially threatened is the inexperienced employee, who is the most likely to be injured on the job but least willing to bring potential dangers to the attention of management

RICHARD L. FRENKEL, W. CURTISS PRIEST, AND NICHOLAS A. ASHFORD

In 1969, 1972, and most recently in 1977, the Institute for Social Research at the University of Michigan conducted opinion surveys of production workers, under U.S. Department of Labor sponsorship. These studies, known as the "Quality of Employment Surveys," gather data on numerous characteristics of the worker and his job, and perhaps most importantly, on the worker's subjective assessment of his worklife.[1] For the analyst, the surveys provide information about worker opinions and job satisfaction not readily available elsewhere. And, because many of the questions asked remain essentially unchanged from one survey to the next, the data may be used to chart major changes in attitudes toward various aspects of work over time.

Certain questions relate to job safety and health, or to workers' evaluation of safety as a job attribute. Under contract to the Department of Labor, the Center for Policy Alternatives at the Massachusetts Institute of Technology has examined data pertaining to a number of these safety- and health-related questions.[2] This article summarizes some salient results of that study.

Time trends in injury rates

Over the 8 years spanned by the Quality of Employment Surveys, work-injury rates reported by the Bureau of Labor Statistics have fallen.[3] Similarly, results from the Quality of Employment Surveys also indicate that the number of injuries clearly related to job activities, such as fractures and cuts, has declined. It is surprising then, that when asked generally about "work-related" injuries, survey respondents note a slight increase between 1969 and 1977.[4] A detailed breakdown of the types of injuries reported by the workers suggests the cause of this apparent paradox: health problems of various kinds are increasingly perceived as due to workplace exposures. Because of the difficulty in proving the work-relatedness of many of these health problems, such "injuries" are not reflected in government statistics.

It is likely that the increase in perceived injuries results from greater worker sensitivity to a variety of occupational hazards. In 1977, 78 percent of those surveyed noted one or more safety and health hazards in the workplace, compared with only 38 percent in 1969. Respondents in the most recent study were asked to be more specific about the types of dangers they encountered on the job. Seventy-two percent of the men reported exposure to "fumes, dust, or other air pollution," as did 52 percent of the women. Similarly, 45 percent of the men and 21 percent of the women felt themselves exposed to "dangerous chemicals." Other significant workplace hazards, and the percentage of workers reporting each are shown below:

Richard L. Frenkel is a research specialist, W. Curtiss Priest, the project director, and Nicholas A. Ashford, a principal investigator at the Center for Policy Alternatives, Massachusetts Institute of Technology.

Hazard	*Men*	*Women*
Exposure to dangerous chemicals	45	21
Fire or electric shock	52	30
Fumes, dust or air pollution	72	52
Weather (outdoor)	52	10
Extremes of indoor temperature or humidity	35	47
Badly maintained or dirty workplace	37	26
Dangerously stored or misplaced items	24	13
Noise	45	54
Dangerous tools or equipment	55	37
Disease (contagious)	19	15
Traffic	38	13
Personal violence	21	11
Dangerous work methods	30	19
Other hazards	3	2

Another trend evident in the data is the increase in work-related injuries reported by women. Female production workers averaged over twice as many injuries in 1977 as in either 1972 or 1969, perhaps because by making inroads into traditionally male occupations, women are sharing the greater risks of these jobs as well.[5]

Job satisfaction and risk

In the 1977 Quality of Employment Survey, workers were also asked questions about their level of job satisfaction. Workers who reported exposure to a greater number of hazards, or who felt these hazards were more severe than average, were significantly less satisfied with their jobs.[6] However, while it is tempting to infer that hazard exposure leads to lower job satisfaction, it is also possible that workers who were generally dissatisfied with their jobs for other reasons noted a greater number of hazards.[7]

Worker preference for safety and health

In 1977, respondents were asked to decide whether they would prefer a 10-percent pay raise or various other job improvements. Among these other improvements was "a little safer or healthier working conditions." By this "revealed preference" method, it was determined that nearly a third of all production workers would be willing to trade the pay increase for more safety and health at work. Other compensating benefits, and the fraction of production workers willing to trade a pay raise for each one:

Benefit	*Percent of workers*
Increased retirement benefits	65.9
More medical insurance	58.1
More paid vacation	57.5
Shorter workweek	42.4
Greater chance for promotion	40.6
Greater job security	33.7
A little more safety and health	33.1
Greater comfort at work	28.7
More interesting work	27.5
Greater freedom to decide work	18.2

While retirement benefits and medical insurance are universal concerns, occupational safety and health is likely to be important chiefly to those significantly at risk. Consequently, the figures above may underrepresent the willingness of hazard-exposed workers to forgo pay increases for safety improvements. For example, the 1977 data show that previously injured workers are more concerned about safety and health improvements than other groups. The same is true of union members, perhaps reflecting the greater unionization of risky jobs. And, workers who note workplace hazards, or who have specific health symptoms, are also generally more willing to sacrifice increased pay for a little more safety and health.

Working conditions and injury rates

A number of possible working conditions were introduced in the 1977 Quality of Employment Survey questionnaire. Workers were asked to decide which of these conditions were characteristic of their jobs. Thus, a worker could describe his job as being repetitious or interesting, or as requiring a high level of skill, or much physical effort.

Workers who noted "negative" working conditions also reported, on average, a greater number of job-related injuries. In particular, "fast" or "hard" work, and work requiring "considerable physical effort," were frequently associated with injuries. Workers who felt that they did not have enough authority, information, or assistance to do their jobs properly also had higher injury rates than other workers.

Many of these job characteristics were likewise related to the number of health symptoms reported by workers. These symptoms include such problems as "trouble breathing" or "back pains," and do not have to be work related. A larger number of symptoms seems to be associated with generally "negative" job qualities, while fewer symptoms are associated with "positive" job qualities:

"Negative" job qualities	*"Positive" job qualities*
Fast work pace	Need to learn new things fast
Work hard	Job allows freedom
Repetitious work	Job requires high skill level
Not enough help	Job has variety of work
Not enough authority	
Not enough facts and information	
Not enough tools and equipment	
Not enough time to do the job right	

These results suggest a causal relationship between work characteristics and health problems. Again, however, subjective bias may influence the results, as workers who are "generally dissatisfied" may tend to report

both more negative job characteristics and a greater number of health problems.

Tenure and perceived hazards

Other studies have found a significant relationship between a worker's tenure and the probability that he will have an accident.[8] The survey data illustrate this relationship dramatically: workers employed between 1 and 3 months report 3 times as many injuries as workers with from 1 to 3 years on the job, and 8 times as many as those employed for more than 20 years.[9]

Perceived hazard exposure is also related to tenure. Workers who note badly maintained or dirty workplaces, or dangerously stored items, stay significantly shorter periods than other workers. Only perceived noise exposure does not seem to bear much relationship to tenure; workers who report exposure to noise do not have shorter average tenures than others.[10]

While workers who have been on the job for a relatively short time often note exposure to a greater number of hazards than other workers, they do not generally feel endangered. On the other hand, workers with longer tenures cite fewer hazards, but are more apt to judge them as "severe." It would seem from these results, and the data on injuries, that workers relatively new to the job may in fact be exposed to a greater number of hazards, but that they may underestimate the danger from these hazards.

Reporting of hazards by workers

When workers noted a hazard they felt to be "great" or "sizable," they were asked if they had "reported" it to anyone. The rate at which workers reported such dangers is influenced by a number of factors, the most important of which is tenure: fewer than 30 percent of employees with less than 3 months' tenure reported a severe hazard, compared with nearly 70 percent of those with between 5 and 10 years on the job. Union membership, age, and education were not significantly related to the hazard report rate. However, women, and employees who felt that their employers would not keep them fully informed about potential dangers were more likely than others to report a severe hazard.

When workers did report a hazardous condition to someone, 8 out of 10 did so to an immediate supervisor or other management personnel. Reports to a Government agency at any level constituted about 7 percent of all complaints, and reports to union representatives, less than 6 percent.[11]

Priorities of union members

The 1977 Quality of Employment Survey provides considerable information about worker-perceived union performance in various areas of concern, including job safety and health. The following tabulation lists a number of possible areas of union activity, in the order in which workers feel effort should be expended. Thus, "handling grievances" is the area in which union workers want their unions to expend most effort, while "increasing worker input in business decisions" is the area in which they feel the least effort is needed:

Area of union concern	*Effort ranking*
Handling grievances	1
Keeping membership informed of union action	2
Improving fringe benefits	3
Increasing membership input in union direction	4
Increasing job security	5
Increasing wages	6
Increasing occupational safety and health	7
Increasing worker "say" in how the job is performed	8
Increasing job interest	9
Increasing worker input in business decisions	10

By and large, workers feel that their unions do pursue these goals in the correct order.[12] The greatest shortfalls between "desired effort" and "perceived performance" are in the areas of increasing membership input in union direction and handling of grievances. Monitoring of health and safety ranks seventh in shortfall of perceived union effort. However, it is noteworthy that union workers want almost as much effort spent on improving safety and health conditions as on increasing wages.

OSHA fines and survey data compared

The Occupational Safety and Health Administration (OSHA) collects data on inspection activity and fines as part of the Management Information System.[13] By combining these data with those from the Quality of Employment Survey, it was possible to explore the relationship of worker-perceived hazards to the level of OSHA fines in any industry. Dollars of proposed penalty per hour of inspection time was chosen as a measure of the severity of safety violations noted by OSHA inspectors. This measure was assumed to be fairly independent of total industry employment.

OSHA's proposed penalty per hour of inspection time was higher in industries in which workers themselves noted the hazards of "noise," "dangerous work methods," "fire or shock," or "dangerous equipment." Worker perception of these dangers would thus seem to agree with the findings of OSHA inspectors.

OSHA fines did not vary significantly with the mean age of surveyed workers in an industry, or with their sex, race, income, or willingness to pay for health and safety. On the other hand, proposed penalties were highest for industries represented predominantly by

very small firms (those with under 10 employees) or very large firms (those with over 2,000 employees) on the Quality of Employment Surveys. While these differences are not large, they are unexpected, because medium-size firms have the highest reported injury rates.[14]

Conclusions

Information gathered in the Quality of Employment Surveys permits investigation of the relationship between various aspects of work, and worker satisfaction. The results of this study reveal that job safety and health are important concerns for most workers, and that such concerns are on the increase. While this conclusion should be encouraging to policymakers, certain problem areas in safety and health regulation were also identified.

The first of these involves the long recognized relationship between job tenure and injury probability. Stated simply, workers who are new on their jobs have several times the probability of injury of more experienced workers. At the same time, they are the least willing to report even severe perceived hazards to anyone, probably because hazard reports must usually be directed to management. Finally, union handling of safety-related grievances is often felt to be inadequate by union members, and, consequently, few reports of dangerous conditions are directed through union channels. Mechanisms are needed to encourage new workers to report what they feel are severe hazards, and to provide all workers with alternatives when appeals to management fail.

The results of this study have implications for employers as well. Unpleasant working conditions generally, and injury-causing hazards in particular seem to go hand in hand. It is likely that a concerned management acts to alleviate unpleasant working conditions, including hazards. On the other hand, it is possible that workers who report hazards tend to note unpleasant work conditions because of their general job dissatisfaction. Further investigations are needed to help pinpoint the relationship between inadequate job safety and health and individual firm management styles. Such studies could also clarify the role of hazard abatement in improving employee morale. □

FOOTNOTES

Data are based on personal interviews with members of a national household probability sample of employed persons 16 years or older who worked for pay 20 hours a week or more. Thus, the term "workers" is defined to include adults substantially engaged in remunerative employment.

The 1969 survey included all eligible respondents in each of the sample households. During the 1973 and 1977 surveys, only one worker per household was interviewed, but responses were appropriately weighted to compensate for the underrepresentation of workers in multiple-worker families.

[2] U.S. Department of Labor, Contract J-9-F-8-0131, funded by the Office of the Assistant Secretary for Policy, Evaluation and Research. See Richard L. Frenkel and W. Curtiss Priest, *Health, Safety, and the Worker: An In-Depth Consideration of Hazards and Effects as Revealed in Survey Data* (Massachusetts Institute of Technology, Center for Policy Alternatives, September 1979) for a detailed full report on the study.

[3] The following injury and illness rates for manufacturing have been computed by the Bureau of Labor Statistics:

1969, 14.8; 1970, 15.2; 1972, 15.6; 1973, 15.3; 1974, 14.6; 1975, 13.0; 1976, 13.2.

Rates for 1969 and 1970 are frequency rates, and are not strictly comparable with figures for later years, which are incidence rates. Although these data indicate a modest decline in work-related illness and injury, it should also be noted that the lost workday case rate rose steadily over the same period.

[4] Frenkel and Priest, *Health, Safety and the Worker,* p. 81. The following injury rates for production workers were computed:

Male	1969—.2177	1972—.2628	1977—.2882
Female	1969—.1212	1972—.1139	1977—.3179

These rates represent the total number of injuries experienced by workers in the 3 previous years, divided by the total number of workers. Thus, the annual injury rate equivalent may be computed by dividing by 3.

[5] In 1969, the 100 female production workers reported 12 injuries, and in 1972, there were 13 injuries for 115 women. But in 1977, the 101 female production workers reported 32 injuries.

[6] Significant at the 10 percent or better level.

[7] Others have noted the problem of subjective bias. See Daniel Hamermesh, "Economic Aspects of Job Satisfaction," *Essays in Labor Market Analysis,* Orley Ashenfelter and Wallace Oates, eds., (New York, John Wiley & Sons, 1978).

[8] See Nicholas A. Ashford, *Crisis in the Workplace: Occupational Disease and Injury* (Cambridge, Mass., The MIT Press, 1976), pp. 107–13, for a discussion of accident causation studies.

[9] The rate for low-tenured workers is biased upwards because they may have changed jobs subsequent to, and because of, injury.

[10] Corrected for age.

[11] The figure is approximately 5.6 percent when limited to union workers, and lower, of course, when all workers are considered.

[12] See also "On Trial: A Union's Fairness," *Business Week,* Aug. 13, 1979, p. 76.

[13] We wish to express our appreciation to the Office of Management Data Systems of the Occupational Safety and Health Administration for providing these data in machine readable form.

[14] The Quality of Employment Survey provided a convenient, but not very suitable, vehicle for investigating this relationship. The question is better suited to aggregate firm data. However, these results do contrast with the intent of the Schweiker Amendment to exempt establishments of 10 or fewer employees in selected SIC coded industries. The presumption in that amendment is that SIC coded industries with low injury rates should be exempted because their injury rates are low. However, this presumption ignores the possibility that although injury rates may be lower in some industries than others, the opportunity for improvement in reducing injuries and fatalities may be greater in some of the lower injury rate industries, especially if these industries are dominated by smaller firms.

Geographic wage indexing for CETA and Medicare

The tailoring of grants-in-aid to wage levels in the localities which receive them enjoys growing popularity among Federal policymakers; two ongoing programs illustrate the flexibility of this technique

RICHARD GREENE

During the 1970's, a goal of Federal domestic policy was the direction of aid packages to specific geographic areas and groups of people. Federal grants-in-aid to State and local governments rose from $10.9 billion in 1965 to an estimated $88.9 billion during fiscal 1980. This new approach to managing the economy considerably altered the relationship between the Federal government and State and local governments and created a strong demand for accurate and timely information on the economic conditions in States and smaller areas.

Local statistical indicators are vital to effective policy formulation and evaluation and, in a narrower sense, are the primary requisite for identifying and directing assistance to economically distressed areas. In fiscal 1979, more than $19 billion in Federal aid was allocated on the basis of the BLS program Local Area Unemployment Statistics, and an additional $20 billion was distributed through programs based on the Bureau of Economic Analysis' State and substate data on personal and per capita income. And, growing numbers of multiestablishment employers—both private and public—are using area wage determinations to establish appropriate pay structures for employees in diverse locations.

Recent congressional action on the Comprehensive Employment and Training Act reauthorization and the jobs component of welfare reform, regulations issued or under study by various Federal agencies, and the Administration push to tie Federal pay scales to local wage levels indicate acceptance of the concept of geographic wage indexing by national policymakers. Use of the procedure in Federal grant programs is largely the result of congressional interest in finetuning grant-in-aid allocation formulas. At the same time, the expansion and refinement of an important administrative record system—the ES–202 program—has made a body of data available to support index development.

Obviously, the amount of financial assistance needed to operate a given program varies by locality. The goal of geographic wage indexing is to produce a more efficient funds allocation system by accounting for differences in local labor-market conditions. According to the 1978 CETA reauthorization, wage indexing is a tool to "provide the maximum number of employment and training opportunities under this Act."

Proper construction is especially important for a geographic index used to distribute Federal funds. The chief problem in developing such an index arises from the fact that people travel to work across political boundaries; that is, labor markets do not conform to political boundaries. Consequently, for many jurisdictions, a place-of-residence index will differ substantially from a place-of-work index. Other major variables involved in index design are summarized as follows:

Richard Greene is a labor economist in the Office of Employment Structure and Trends, Bureau of Labor Statistics.

Variable	*Examples*
Geographic area	Region, State, Standard Metropolitan Statistical Area, city, county, and prime sponsor
Type of worker	All employees, nongovernment, service producing, medical services, hospital
Type of data	Annual average wage, average weekly wage, average hourly earnings
Type of index	Place of work, place of residence
Reference period	Year, quarter, month, week

This article describes the procedures currently used to index the Federal CETA and Medicare programs, and their data source, the ES–202 system. The indexing techniques for both programs are very straightforward; each index is simply the ratio of a specific locality's wage level for a particular segment of the labor force to that segment's national wage average and is based on a place-of-work concept. An index value greater than 1 indicates that area wages generally exceed the national average, and the Federal program's disbursement level is adjusted accordingly.

The data source

The ES–202 program compiles information on the employment of, and total wage payments to, workers covered by unemployment insurance (UI). Each calendar quarter, all UI-covered employers submit mandatory reports of employment and wage data to the appropriate State Employment Security Agency. These reports are edited, summarized by county, State, and detailed industry, and forwarded to the Bureau of Labor Statistics, which computes national totals. Among the final products of the system are monthly employment and total quarterly wages by county, State, detailed industry, type of employer (Federal, State and local government or private sector), and (for the first quarter) employment size of establishment.

In 1978, UI coverage was extended to employees of State and local governments. Thus, the ES–202 program now provides a virtual quarterly census of the employment and wages of all nonagricultural sectors of the economy. (A significant portion of agriculture was also covered for the first time beginning in 1978.) Because of their broad scope, UI data provide a means to evaluate overall labor-market trends and industry developments for the Nation as a whole and for individual States, Standard Metropolitan Statistical Areas, and counties. The data are used in the construction of major statistical series, including the U.S. Department of Commerce's national income accounts and personal income estimates by State and county, and to benchmark employment information for Federal and State government surveys. The employer listings maintained by this system also serve as a sampling frame for most establishment studies conducted by BLS.

CETA wage adjustment index

The 1978 Comprehensive Employment and Training Act (CETA) Amendments require the calculation of an area wage adjustment index, showing the relationship between the local and national average wage rates. Specifically, this index is used to determine: (1) the average annual federally supported wage rate which must be maintained in each CETA prime sponsor area[1]; and, (2) the maximum wage payable to any Public Service Employee (PSE) from CETA funds.

Each year, BLS prepares the CETA wage adjustment index, in accordance with the requirements of the Employment and Training Administration. The index for fiscal 1980 was published in the *Federal Register* on September 28, 1979.

Index calculation. The first step in calculating the CETA wage adjustment index is computation of the average annual wage for each county. This is defined as the ratio of total wages paid during the previous calendar year to average monthly employment for that year. Approximately 6 percent of CETA prime sponsors represent combinations of counties or of portions of counties. In such cases, the sponsor's annual average wage is the mean of the component counties' annual wages after the latter have been weighted by the proportion of the sponsor's employment which they represent. In those instances in which more than one prime sponsor is contained entirely within a county (Los Angeles County, for example, wholly contains 5 prime sponsors), each prime sponsor is assigned the annual wage for the coun-

Exhibit 1. CETA index calculation[1] for Cleveland City prime sponsor (Cuyahoga county)

Annual average county employment (Emp) = 762,766

Total annual county wages (TW) = $10,846,322,430

County average annual wage = TW/Emp = $14,220

$$\text{CETA Index} = \frac{\text{Average annual wage}_{\text{county}}}{\text{Average annual wage}_{\text{United States}}}$$

$$= \frac{\$14,220}{\$12,144} = 1.171$$

[1] See table 1, footnote 1.

ty as a whole. The CETA index is then determined by comparing the prime sponsor's annual wage to the national average, which was $12,144 in 1978. Exhibit 1 illustrates the CETA index calculation for the Cleveland City prime sponsor, which is wholly contained in Cuyahoga county.

Index values are similarly computed for each prime sponsor, Standard Metropolitan Statistical Area (SMSA), and county with more than 50,000 inhabitants. Prime sponsors may use the index of a component SMSA or county, if higher than their overall index, for that portion of their jurisdiction which is in the higher index locality.

Application. The wage index is used to compute average and maximum wages payable to CETA employees by a prime sponsor. (The most recent index values are based on 1978 data, and are used for wage adjustments made during fiscal 1980.) The construction of a sponsor's average wage takes into account the 1978 legislated national average wage of $7,200, the over-the-year mean percentage change in wages nationwide, and the local area's current-year wage index. For the Cleveland City prime sponsor, the fiscal 1980 average wage would be computed as follows:

- Update the national average wage "base" by adjusting for the over-the-year wage change. The increase in annual wages nationwide averaged 6.3 percent during 1978.

$$\text{Revised base} = (\$7{,}200)\,(1.063) = \$7{,}654$$

- Determine the Cleveland City prime sponsor's average wage by adjusting the revised national base by Cleveland's current-year index. (The minimum average annual wage for any sponsor must be at least 10 percent above the annualized Federal minimum wage.)

$$\text{Cleveland average wage} = (\text{Revised national base})\,(\text{Current-year index})$$
$$\$8{,}963 = (\$7{,}654)\,(1.171)$$

The prime sponsor's maximum wage is similarly constructed, except that the national base is $10,000, rather than $7,200. Thus, the maximum wage for Cleveland City was:

$$\text{Cleveland maximum wage} = (\$10{,}000)\,(\text{Current-year index})$$
$$\$11{,}710 = (\$10{,}000)\,(1.171)$$

The maximum wage for local areas has a ceiling of $12,000, except for prime sponsors whose average wages are at least 50 percent greater than the national mean—a situation occurring only in Alaska. This upper limit was established to ensure that CETA wages are compatible with the skill levels of the disadvantaged population which Congress intended the program to serve.

According to the current regulations, a prime sponsor's average wage is adjusted each year for overall wage level changes, but its maximum wage is left unadjusted. In the future, this anomaly could result in prime sponsor average wages which exceed corresponding maximum levels. Currently, the average CETA wage is approximately 63 percent of the average annual wage for all workers in an area; the mean potential maximum wage is about 88 percent of the all-worker figure.

Table 1. Average annual wage and CETA index levels,[1] selected SMSA's

SMSA	Average wage	Index
10 highest wage SMSA's:		
Anchorage	$20,363	1.677
Flint	16,917	1.393
Detroit	15,964	1.315
Saginaw	15,715	1.294
Gary-Hammond	15,254	1.256
Peoria	15,149	1.247
Steubenville-Weirton, Ohio	15,058	1.240
Ann Arbor	14,810	1.219
Kokomo	14,754	1.219
Richland-Kennewick, Wash.	14,736	1.213
10 largest SMSA's:		
New York	$14,511	1.195
Chicago	14,217	1.171
Los Angeles	13,604	1.120
Philadelphia	12,739	1.049
Detroit	15,964	1.315
San Francisco	14,135	1.164
Washington, D.C.	14,262	1.174
Boston	12,191	1.004
Nassau-Suffolk	12,134	.999
Dallas-Fort Worth	12,361	1.018

[1] The index determination, based on 1978 data, is used to adjust CETA wage levels during fiscal 1980.

An analysis of the variation among locality indexes is important, because these data directly determine CETA wages. Table 1 presents index levels for the 10 largest and 10 "highest average annual wage" SMSA's. Detroit is the only area appearing on both lists. All of the largest SMSA's are at or above the average annual wage for the United States, and six exceed the national mean by 12 percent or more. Eight of the highest wage SMSA's are located in areas dominated by high-paying steel and automobile manufacturing industries; four of these are located in Michigan.

As the following tabulation indicates, there is a

Table 2. Percent distribution of SMSA's by region and CETA index level[1]

Region	Total	Index value			
		Under .90	.90 to .99	1.00 to 1.09	1.10 and above
United States	100	34	32	20	15
Northeast	100	28	40	21	12
South	100	53	30	13	5
Midwest	100	16	26	29	30
West	100	26	40	19	14

[1] See table 1, footnote 1.
NOTE: Due to rounding, sums of individual items may not equal 100.

strong positive correlation between SMSA population and CETA index value:

SMSA population	*Average index value*
Under 250,000	.930
250,000 to 1,000,000	.974
Greater than 1,000,000	1.065

Larger cities generally have higher overall relative wages because of favorable industry and occupational mix, location factors, labor force composition, and other traditionally cited reasons for area wage differentials. Although only 35 percent of the SMSA's had index values greater than 1, these areas accounted for over 63 percent of the total population in SMSA's nationwide.

Table 2 presents the distribution of SMSA's by wage index and region. Note that in the Midwest a majority of the SMSA's had wages above the national mean. In contrast, averages for more than two-thirds of those in both the Northeast and South fell below the U.S. average.

Medicare

In 1974, the Health Care Financing Administration (HCFA) of the Department of Health, Education and Welfare established a schedule of limits on the hospital inpatient general routine operating costs which may be reimbursed by the Federal Government under Medicare. This procedure limits reimbursable costs to those recognized as reasonable for the efficient delivery of needed health services. Authority to set these reimbursement limits was established by the 1972 Social Security Amendments.

According to estimates of health care expenditures, wages and salaries account for about 60 percent of total inpatient general routine operating costs.[2] In recognition of the interarea differences in hospital labor costs, the Health Care Financing Administration developed a wage index from the ES–202 data to adjust the labor component of the reimbursement limit. In this way, the limit for an individual hospital will reflect the wage levels appropriate to the area in which the hospital is located. The most recent index, based on 1978 data, will be used to adjust limits for hospitals whose cost reporting periods begin on or after July 1, 1980.

As in the CETA program, the hospital wage index is used to adjust an established reimbursement level to the wage structure of the local labor market. But the CETA index is used to adjust the legislated $7,200 national average wage, while the hospital wage index is applied to a reimbursable schedule according to such factors as the location (urban or nonurban) and size of the hospital.

Calculation of the hospital labor cost index. The following discussion summarizes the Hospital Care Financing Administration's procedures described in the April 1, 1980 *Federal Register.* Because the level of reimbursement depends in part upon hospital location, separate indexes are calculated for urban and nonurban areas. Exhibit 2 shows the wage index calculation for a hospital in the Cleveland SMSA.

There is a major difference between the CETA and health program procedures used to compute the national average wage. The CETA national average is weighted according to the employment size of the component areas, while the hospital wage mean is unweighted. This implies that a large city will have a greater proportional influence on the CETA national wage, but will have the same impact as a smaller-sized city on the health program index.

Exhibit 2. Hospital wage index calculation[1] for the Cleveland SMSA

• Calculate the average hospital wage for Cleveland (W_c):

$$W_c = \frac{\text{Total hospital wages}_{\text{Cleveland}}}{\text{Average annual hospital employment}_{\text{Cleveland}}} = \$11{,}612$$

• Calculate the national average hospital wage for urban areas (UW_{nat}):

$$UW_{nat} = \frac{\Sigma \text{ (average annual hospital wage for each SMSA)}}{\text{Total number of SMSA's}} = \$9{,}912$$

• Calculate the hospital wage index for Cleveland (I_c):

$$I_c = \frac{W_c}{UW_{nat}} = 1.1715$$

[1] See table 3, footnote 1.

Exhibit 3. Cost reimbursement procedure for a 500–bed Cleveland hospital

• Determine the labor and nonlabor reimbursement limits: From the schedules appearing in the April 1, 1980 *Federal Register,* the labor and nonlabor reimbursement limits for a 500–bed urban hospital are $94.49 and $26.47 per day, respectively, or $120.76, combined.

• Compute the adjusted labor component:

Adjusted labor component =
(Labor reimbursement limit) (Cleveland wage index)
$110.46 = ($94.29) (1.1715)

• Compute new reimbursement limit:

New limit =
(Adjusted labor component) +
(Nonlabor component)
$136.93 = 110.46 + 26.47

Application. Once determined, the hospital labor cost index is applied to the reimbursement limits for individual hospitals. Exhibit 3 illustrates the calculation of the adjusted limit for a 500–bed hospital in Cleveland. Hospitals are also permitted to make other adjustments to their reimbursable limits which do not involve the wage index.

An analysis of the variation among the area indexes reveals some similarities to and differences from CETA patterns. Table 3 presents index data for the 10 largest and 10 highest hospital labor cost indexed SMSA's. An index value greater than 1 indicates that the SMSA has higher hospital wages than the unweighted average hospital wage for all SMSA's. The high-index SMSA's include four of the largest SMSA's in the country, and are dominated by California areas.

The same positive population-to-wage-index correlation observed in CETA determinations occurs with the hospital wage data. Only 45 percent of the SMSA's had labor cost indexes greater than 1, but they accounted for over 71 percent of the total U.S. population in SMSA's. The following tabulation illustrates this tendency of larger cities to have higher hospital unit labor costs.

SMSA population	*Average HCFA index*
Under 250,000	.966
250,000 to 1,000,000	1.021
Greater than 1,000,000	1.119

The regional distribution of SMSA's by labor cost index level (table 4) shows that in both the Northeast and West, approximately two-thirds of the SMSA's have hospital wages greater than the national average, while the South is dominated by low-wage SMSA's. Thus, a comparison of the hospital labor cost and CETA indexes reveals that wage adjustments resulting from the former will tend to be larger in the West and Northeast while the latter will yield larger adjustments in the Midwest.

Table 3. Hospital labor cost index levels,[1] selected SMSA's

SMSA	HCFA index
10 highest index SMSA's:	
Vallejo, Calif	1.54
Anchorage	1.52
New York	1.45
Oxnard, Calif	1.41
San Francisco	1.38
San Jose	1.38
Santa Rosa, Calif	1.32
Nassau-Suffolk	1.31
Stockton, Calif	1.30
Los Angeles	1.29
10 largest SMSA's:	
New York	1.45
Chicago	1.22
Los Angeles	1.29
Philadelphia	1.16
Detroit	1.18
San Francisco	1.38
Washington, D.C	1.28
Boston	1.14
Nassau-Suffolk	1.31
Dallas-Fort Worth	.94

[1] The index determination, based on 1978 data, is used to adjust reimbursement levels for hospitals whose cost reporting periods begin on or after July 1, 1980.

Table 4. Percent distribution of SMSA's by region and hospital labor cost index level[1]

Region	Total	Index			
		Under .90	.90 to .99	1.00 to 1.09	1.10 and above
United States	100	16	29	39	16
Northeast	100	10	24	38	29
South	100	38	34	16	12
Midwest	100	22	35	25	18
West	100	23	9	23	45

[1] See table 3, footnote 1.
NOTE: Due to rounding, sums of individual items may not equal 100.

Summary

The practice of adjusting Federal compensation according to an area's relative pay level is rapidly gaining acceptance among designers of Federal grant programs. Although similar in concept, the mechanics underlying the calculations of the two wage indexes described in this article vary according to the goals and limitations of the authorizing legislation. For example, the hospital wage index is based only on data for hospital employees because studies indicate that the wages of other groups, particularly the "total service" sector, do not properly reflect pay levels in hospitals.[3] The CETA index, however, is based on the wages of all non-CETA employees, because there are no restrictions on the types of industries in which CETA workers may be employed. (Traditionally, however, most CETA workers have been hired by State and local governments.)

The other major difference between these indexes is in the calculation of the national average wage, the base to which the area pay levels are compared. In order to maintain the $7,200 average wage (in fiscal 1979 dollars) nationwide established by the 1978 CETA Amendments, the program's national average is weighted by the employment of the component counties, and thus largely reflects the average wages of larger cities. But because the intent of the Health Care Financing Administration is merely to effect a labor-cost adjustment, independent of area employment size, that agency relies on an unweighted national average which treats each area's average hospital wage equally, regardless of total area employment. □

FOOTNOTES

[1] CETA programs function principally through prime sponsors—the States, cities and counties of 100,000 inhabitants or more, and combinations of such areas. There were 473 sponsors in fiscal 1980.

[2] *Federal Register,* June 1, 1979, p. 31806.

[3] *Federal Register,* June 1, 1979, p. 31807.

Industrial relations research: an agenda for the 1980's

An organized effort is needed to fill critical gaps in our understanding of the collective bargaining process, and this calls for renewed academic interest in the study of industrial relations

THOMAS A. KOCHAN

Is industrial relations today attuned to the needs of the 1980's? Because a good deal of evidence says "no," a group of practitioners has designed a research effort to reverse the perceived decline. This article casts these proposals into an agenda for industrial relations research for the next decade.

The nature of the decline

In recent years, two central criticisms of industrial relations research have been offered by a variety of researchers: (1) linkages among researchers, policymakers, and practitioners were more common previously, but have eroded in recent years, and, (2) research on labor-management relations has not kept pace with general theoretical and methodological developments in the social sciences. As a result, research is not adequately meeting the demand for informed policy analysis.[1]

Four interrelated causes of these developments have frequently been cited. First, the number of researchers in the field has declined since the time of the National War Labor Board. Most of the labor economists trained in the 1960's and 1970's specialized in labor market economics, human resource policy, or other areas in which abundant funding was available, and which allowed more direct use of economic theories and econometric techniques. Similarly, persons with stronger interest in the behavioral sciences entered the expanding fields of organizational behavior and development, and generally abandoned the study of collective bargaining and labor-management relations.

Secondly, since 1960, public labor policy has drifted toward more direct governmental regulation of the terms and conditions of employment, with little regard for the role of collective bargaining. Direct regulation appeared necessary to achieve some labor policy objectives, because neither collective bargaining nor the competitive market had produced the results desired by society in such areas as equal employment opportunity, occupational safety and health, pension security, and wage and price stability. However, there is a growing recognition of the limits of direct regulation, and the problems that gave rise to such laws will continue to be of critical concern to labor, management, and the public during the next decade. Thus, the 1980's should be a time to test the ability of unions and employers to address public objectives through collective bargaining relationships.

Thirdly, the U.S. Department of Labor has shifted priorities to its growing regulatory responsibilities and expanding employment and training programs at the expense of labor-management relations research, policy development, and services. Less than 7 percent of the budget of the Labor Management Services Administration, the organization with primary labor relations responsibilities, and less than 1 percent of the Labor Department's total budget, is currently allocated to activities designed to improve labor-management relations.

Finally, relations between labor and management in

Thomas A. Kochan is a professor of industrial relations at the Massachusetts Institute of Technology.

the private sector have polarized in recent years. During the 1970's, many employers devoted more resources to opposing union organizing efforts than to improving their collective bargaining relationships. Over the same period, union membership in the private sector declined, and labor became defensive of its status in society and industry. This polarization limited the bilateral development of new approaches for dealing with common problems at the workplace.

One result of the deterioration of labor-management relations was the political stalemate between business and labor, which impeded congressional passage of labor legislation, whether backed by labor or business. Policy development on labor issues, therefore, is currently at a standstill.

General directions for research

In order to redirect and revitalize the study of industrial relations, a research agenda for the 1980's was developed by the Department of Labor and a number of scholars in the field. Four points drawn from recent research critiques formed the basis of the agenda:

- A richer blending of institutional and quantitative methods should be achieved.
- More attention should be paid to the organizational behavior and functioning of micro institutions —firms and union locals—and to their implications for macro performance.
- Research should measure the actual impacts of practices, laws, and bargaining agreements on the goals of the parties, rather than limiting itself to description of the anticipated results.
- Research findings should be disseminated more effectively to interested professionals in the field.

The specific research topics included in this agenda reflect the labor policy issues likely to be most critical in the 1980's.[2]

The outcomes and effects of bargaining

Two types of research on bargaining outcomes are needed. The first would investigate the current effects of collective bargaining on the terms and conditions of employment, and on public policy objectives. The second would evaluate the costs and benefits of specific experiments (or demonstration projects) designed to improve the performance of bargaining. In short, we need to describe all pertinent aspects of the industrial relations scene, and then measure the effect that change in any one aspect would have on the collective bargaining process.

Determination of wages and economic benefits

Wage determination. Over the past two decades, most wage research has taken one of two forms: (1) aggregate wage adjustment models, or (2) analysis of union-nonunion differentials for individuals, occupational groups, or industries. However, a well-conceived and tested model of the wage determination process at the level of the bargaining unit has yet to be developed. This is unfortunate, because effective public policy must be based on such a theoretically sound and empirically verified model.

For example, most incomes policies make certain assumptions about the effects of pattern bargaining across major bargaining units, industries, and geographic areas. (Pattern bargaining is the determination of the terms of union contracts according to the precedent set by an agreement previously negotiated by another union local or firm, or in another locality.) Some analysts believe pattern bargaining exerts a very strong effect, while others discount its importance in wage determination. An assessment of its true impact requires analysis of specific wage and fringe benefit changes in identifiable firms or bargaining units.

Pattern bargaining is only one key variable chosen here to illustrate the need to study the ways in which characteristics of a particular bargaining relationship and its external environment determine the results of the negotiating process. Other factors, such as the formal bargaining structure, strikes, and union and employer expectations and wage targets, should also be included in models which attempt to explain variations in the outcomes of negotiation at the bargaining unit level.

Fringe benefits. Difficult choices face unions and employers in the area of fringe benefit bargaining. For example, as the ratio of retired persons to the work force increases over the next 20 years, the costs of funding pension plans will grow considerably. And, if inflation continues, conflicts concerning the adequacy and funding of private pension plans will be even more intense. Questions regarding the control and use of pension funds, the relationship between private funds and the social security system, and the vesting and portability of pensions, require cautious examination by researchers skilled in demographic and financial analysis. Demand for professionals with expertise in financial management, funding of fringe benefits, and the simulation of costs and advantages of alternative benefit packages is likely to increase considerably as a result. Clearly, the area of compensation management should take on added importance in the training of industrial relations professionals.

Nonmonetary bargaining

A number of recent studies have examined the determinants of nonmonetary provisions of bargaining agreements. In the future, similar efforts should probe the re-

lationship between monetary and nonmonetary outcomes, and identify reasons for and the effects of the spread of various nonmonetary provisions among firms and industries. This type of research permits assessment of the ability of the private bargaining system to address public policy or regulatory concerns.

Safety and health. Following passage of the Occupational Safety and Health Act in 1970, contract safety and health provisions proliferated. However, there has been no systematic study of the relationship of these provisions to the safety and health conditions in the firms involved, or to the injury and illness experience of covered workers.

Such studies are essential groundwork for any experiments which seek to use collective bargaining to address safety and health problems. For example, more than 40 percent of all agreements covering 1,000 workers or more currently provide for a union-management safety and health committee. A starting point for this type of research might be a study of the effectiveness of these committees. The job safety issue offers an important opportunity to test the ability of the collective bargaining system to achieve labor policy objectives.

Job security and dislocation. As with safety and health, the central policy questions regarding job and income security provisions in union contracts are twofold: (1) what factors influence the spread or the comprehensiveness of such provisions, and, (2) how do these provisions affect the goals of workers, employers, and the public?

The job security issue has not been seriously addressed since the controversies surrounding automation and technological change during the 1960's. However, recent plant shutdowns, and international trade policy shifts, as well as industry deregulations and other government actions, are reviving discussion. There are currently a number of *ad hoc* public programs dealing with economic dislocation effects, including those established by the 1978 Redwoods National Park Act Amendments, the Regional Rail Reorganization Act (1973), and the Trade Adjustment Assistance Amendments (1974). Research in the 1980's must quantify the problems of economic dislocation, and evaluate alternative solutions, based on an appropriate balance of public and private efforts.

Productivity. The effect of collective bargaining on productivity has been a longstanding concern in industrial relations, but has generally defied rigorous research. The sluggish growth in productivity experienced over the past decade has once again alerted government officials to the importance of this issue. The Federal Government lacks a successful strategy for encouraging productivity improvement through union-management relations; results of attempts to link productivity to wage guidelines have been ambiguous. Similarly, "productivity bargaining" (agreements that buy out outmoded work rules) and various profit sharing programs are employed from time to time by unions and management, but the outcomes of such efforts have not been systematically evaluated.

The recent work of James L. Medoff, Charles Brown, Richard B. Freeman, and their colleagues suggests that the nature of the labor-management relationship itself has a significant effect on productivity.[3] Their findings lend empirical support to what has traditionally been labeled the "shock effect" hypothesis; that is, that the presence of a union (or a negotiated increase in wages or other components of labor costs) provides an incentive for management to become more efficient. What is not yet well known, however, is the nature of the managerial adjustments, and the characteristics of the labor-management relationship, which influence productivity. Thus, we need to examine more closely the determinants of successful productivity increase.

Quality of worklife. Because the quality of worklife was the subject of heated debates in the early 1970's, several experiments with new forms of work organization were implemented. As a result, behavioral scientists were introduced to the collective bargaining system, bringing with them strategies to change organizational practices within union-management relationships. This is an encouraging sign that the knowledge gaps among behavioral scientists, industrial relations researchers, and practitioners are being narrowed. The experience gained in these experiments taught important lessons about the obstacles that must be overcome if change is to be successfully introduced into union-management relations via jointly planned programs that supplement the formal collective bargaining process. Attempts to extend the application of behavioral strategies should build on the lessons from these programs. During the 1980's, similar efforts in unionized settings may increase the responsiveness of our collective bargaining system to the needs of individual workers and employers.

Improving labor-management relations

Research in the field of industrial relations failed to keep abreast of changing characteristics and policies of unions and employers during the 1970's. Research in the 1980's, therefore, should seek to update our knowledge of the structures, policies, practices, and internal dynamics of union and management organizations. Specific union and management characteristics and behaviors must then be evaluated for their impact on the process of bargaining, its outcomes, and the goals of all concerned, including society as a whole.

Management organizations. In 1960, a comprehensive study of the collective bargaining policies and practices of management was published by Sumner Slichter, James J. Healy, and E. Robert Livernash, under the auspices of the Brookings Institution.[4] In subsequent years, however, management researchers turned their attention to the growing fields of organizational behavior and human resource management, and away from union-management topics. As a result, few personnel and organizational behavior researchers currently are experienced in collective bargaining issues.

A start has already been made in closing the gap in our understanding of current management structures, practices, and policies. The Conference Board recently conducted a broad ranging survey of the labor relations structures, goals, and priorities of a sample of the largest unionized companies in the private sector.[5] Data from this survey provide a basis for further studies relating these (and other) management characteristics to industrial relations and economic performance.

American management has a history of strong opposition to the unionization of its employees. The Conference Board survey clearly documented that this is still the dominant labor relations objective of nonunion firms. Preventing the growth of unions was also found to be a high priority of firms with a minority of their employees currently organized. Anti-unionism receives a low priority among highly organized companies. What are the long-run costs and benefits of strong management resistance to unionization? How does it affect the climate of labor-management relations, the economic performance of the firm, and the welfare of individual workers? We need to address the controversial and extremely important issue of the effects of alternative management policies toward unions and collective bargaining on the economic interests of firms, individual workers, unions, and the public.

Union organization. The study of unions as complex organizations is also beginning to reemerge after more than a decade of decline.[6] Recently, a number of studies have appeared on such subjects as union democracy, effectiveness in bargaining, member participation, attitudes of workers towards unions, propensity of workers to join unions, and the organizational structure of unions. Future research should yield a basic understanding of the representational and administrative functions of modern unions, the criteria by which members evaluate the performance of their leadership, and the way in which the internal structure of individual bargaining units affects negotiation.

Unions face a number of critical organizational challenges in the 1980's, the most obvious of which is reversal of the decline in organization of the labor force. Clearly, a study of the causes of change in union penetration demands an important place in our research agenda. Careful historical analysis of the labor movement will help to explain recent trends, and predict future developments.

An equally important challenge to labor lies in maintaining the responsiveness of local and national union officials to the interests of rank-and-file members. While data from the 1977 Quality of Employment Survey showed that unions are generally attuned to the priorities of their members, the respondents also indicated that they would like to see improvement in the administrative performance of the local union (that is, better handling of grievances, more feedback on local union affairs, and more member involvement in union decisions).[7] These preferences, coupled with increased government regulation of the terms and conditions of employment, and the growing complexity of union contracts, suggest that the administrative functions of local unions will take on added significance in the coming years. This will be especially true if there is to be more experimentation with union-management committees or other mechanisms for introducing public policy changes to the workplace. Study of the administrative functions and performance of local unions should therefore be an important priority for research in the next decade. Special care should be taken to ensure that this research is translated into labor education and training programs, so that it may have a direct effect on practice.

Strikes and dispute resolution. Research on the role of strikes, lockouts, other forms of economic pressure, and alternative procedures for resolving interest disputes is vital to an understanding of the collective bargaining process. Analysis of the alternatives for dealing with strikes which threaten national health and safety featured prominently in industrial relations research in the 1950's and 1960's, but interest in this issue waned considerably in the 1970's. Apparently most researchers believe that society benefits most from very limited use of emergency dispute procedures. The question of the appropriate policy for the Federal Government in dealing with strikes that affect the national interest deserves an important place in our research agenda, regardless of its immediate political significance.

Experimentation with a wide variety of third party procedures for resolving labor-management disputes blossomed in the 1970's. Most of the attention was directed toward studies of mediation, fact-finding, and arbitration in the public sector, but a number of private sector experiments, most notably the Experimental Negotiation Agreement in the steel industry, also stimulated interest in the subject. Furthermore, third parties are assuming such additional roles as expert consultants to, or coordinators of, labor-management committees. We need to learn more about the nature and effectiveness of

third party roles, and to find ways to implement both well-established and newer forms of conflict resolution and problem solving within the context of a complex modern society.

Grievance procedures and arbitration

Grievance arbitration has been cited as one of the most successful innovations that the American system of collective bargaining has contributed to the conduct of industrial relations.[8] Grievance procedures ending in arbitration became common in union contracts because both labor and management saw them as efficient and equitable means for interpreting and enforcing the collective bargaining agreement. However, the apparent fairness of grievance and arbitration has discouraged research on the actual performance of the system. Furthermore, pressures caused by delays, excessive costs, and legal technicalities raise profound questions about the future viability of the formal grievance procedure and arbitration as it is now practiced. Conventional views on grievance arbitration therefore merit careful evaluation, supported by empirical research.

Beyond proposing changes in current practices, research on grievance procedures should ask fundamental questions about the real impact of this institution. So much emphasis has been placed on the arbitration process itself that we have failed to adequately assess the effects of the decisions on the parties. For example, how do arbitration awards affect the subsequent behavior of the employers, individuals, and unions involved? What happens to workers reinstated in their jobs? And, do arbitration decisions result in more than a temporary modification of the behavior that brought about the grievance? We should no longer be satisfied to leave the study of arbitration at the point at which the decision is rendered.

Another basic assumption about grievance procedures is that they are the cornerstone of the contract administration process—the means by which workers enforce their contractual rights. Yet, we have very little data on just how individual workers perceive the operations and results of the formal grievance procedure. The need for empirical evidence on the performance of grievance procedures and arbitration is especially important if these provisions for adjudicating disputes are extended beyond rights provided by the bargaining agreement to include rights derived from public laws.

Public sector labor-management relations

Many of the theoretical and methodological advances in industrial relations research in the 1970's arose from public sector studies.[9] These studies were generally limited to description and intensive analysis of the effects of specific public policies within particular States and areas. The next step in research will be the application of methodologies and theories developed in the single area studies to interarea variations in policies. This type of data and analysis is needed by policymakers at every level who must evaluate existing laws or consider the enactment of new legislation.

Public sector bargaining offers the largest arena for observing the long-run consequences of bargaining systems that place varying priorities on avoiding work stoppages. An understanding of the positive and negative consequences of these alternative systems should therefore be a basic component of our approach to industrial relations in the 1980's.[10]

Policy formulation and administration

The signing of the National Accord in 1979 rekindled interest in group participation and consultation in the formulation of labor and economic policies. The same question is confronted periodically at the State level, most notably when pressures arise for changes in the bargaining rights of State and local government employees. Today, this issue has added importance because of the apparent political stalemate over labor policy afflicting the Federal Government. Thus, the policy formulation process is an important topic for research in the 1980's. Such research might focus on the "political economy"—the relationships among the major actors and interests in society as they affect political and economic activity. A more action-oriented approach would be the establishment of multilateral study commissions on key policy issues to test the effectiveness of cooperative policy development.

Furthermore, there is a need for the experimental use of arbitration or other procedures to reduce the backlog of cases in administrative agencies such as the Occupational Safety and Health Administration, the Equal Employment Opportunity Commission, and the National Labor Relations Board. More intensive study to assess the performance of these agencies could identify the nature of the problems they are experiencing, and provide innovative strategies for overcoming them.

Comparative research: the broader picture

Researchers should not lose sight of the broad political, philosophical, and normative ideas underlying our economic system. One way to ensure that these concepts receive adequate attention is to maintain a strong international and comparative component to industrial relations research.

Some questions suitable for study:

- When is employee ownership a viable form of industrial organization? Should it be promoted as an alternative to plant shutdowns? Should it be promoted in other situations as well?
- Can European style formal systems of worker par-

ticipation in, and control over, firm decisions work effectively in the United States?

- What is the appropriate role for the U.S. Government in the International Labor Organization and similar international bodies?
- What are the implications of adopting a more formal "social contract" system for formulating labor and economic policies in the United States?
- Is the pluralistic model of society upon which the U.S. industrial relations system is based still a valid normative model for guiding policy, research, and practice?
- What is the effect of multinational corporations on industrial relations in the United States, and conversely, what are the economic and social effects of American multinationals in their host countries?
- What are the implications of the increased activities of international union secretariats? Will transnational bargaining become a reality in the 1980's?

Studies of industrial relations developments, public policies, and private practices in other countries may provide alternatives for dealing with many of the issues discussed in earlier sections of this article.

BETTER RESEARCH cannot ensure that the 1980's will be a decade of resurgence, experimentation, and improved performance in our industrial relations system. Yet, it is a necessary and important component of the larger strategy that must be undertaken if labor-management relations policies and practices are to make significant contributions to the economic and social challenges that face our Nation in this decade. □

FOOTNOTES

[1] See, for example, John T. Dunlop, "Policy Decisions and Research in Economics and Industrial Relations," *Industrial and Labor Relations Review,* April 1977, pp. 275–82; Thomas A. Kochan, "Theory, Policy Evaluation, and Methodology in Collective Bargaining Research," *1976 Proceedings of the Industrial Relations Research Association,* pp. 236–48; Clark Kerr, "Industrial Relations Research: A Personal Retrospective," *Industrial Relations,* May 1978, pp. 131–42; George Strauss and Peter Feuille, "IR Research: A Critical Analysis," *Industrial Relations,* October 1978, pp. 258–77; and David Lewin, "Why Labor Policy is Out of Date," *Business Week,* Jan. 15, 1979, p. 18.

[2] For a more complete discussion of the assumptions underlying this agenda, see Thomas A. Kochan, "Labor Management Research Priorities for the 1980's," final report to the Secretary of Labor (U.S. Department of Labor, 1980). The final report, from which this article is excerpted, was prepared by the author pursuant to the Secretary's January 1979 request, and represents the collected contributions of industrial relations academics, labor leaders, and management professionals.

[3] For a summary of the results of these studies see Richard B. Freeman and James L. Medoff, "The Two Faces of Unionism," *The Public Interest,* Fall 1979, pp. 69–93.

[4] Sumner Slichter, James J. Healy, and E. Robert Livernash, *The Impact of Collective Bargaining on Management,* (Washington, The Brookings Institution, 1960).

[5] The results of the survey are reported in Audrey Freedman, *Managing Labor Relations,* (New York, The Conference Board, 1979), and in Thomas A. Kochan, *Collective Bargaining and Industrial Relations: From Theory to Policy and Practice* (Homewood, Ill., Richard D. Irwin, 1980).

[6] For a recent collection of articles on union organizational research see *Industrial Relations,* May 1977.

[7] Thomas A. Kochan, "How American workers view labor unions," *Monthly Labor Review,* April 1979, pp. 23–31.

[8] A discussion of all of the issues raised in this section may be found in Benjamin Aaron and others, *The Future of Labor Arbitration in America* (New York, The American Arbitration Association, 1976).

[9] For a recent review of public sector collective bargaining research, see Benjamin Aaron, Joseph R. Grodin, and James L. Stern, *Public-Sector Bargaining* (Washington, The Bureau of National Affairs, 1979).

[10] A longstanding problem in the public sector has been the lack of adequate data on wages, benefits, and contract provisions covering State and local government employees, and on the financial conditions of their employers. Most State statutes require factfinders and arbitrators to take comparability and ability to pay into account in rendering their recommendations and awards. A study of the data needs in public sector bargaining, under the title of "Data Probe 80," is currently being conducted under the direction of Robert D. Helsby and Ronald A. Leahy of the Public Employment Relations Service, Albany, N.Y.

Communications

Do uncertain cost/benefit estimates prolong public-sector disputes?

PAUL F. GERHART AND JOHN E. DROTNING

During 1978–79, we conducted a study to investigate the relative effectiveness of impasse procedures (statutory and de facto) in six States—Iowa, Michigan, New York, Ohio, Pennsylvania and Wisconsin.[1] The States were selected, in part, on the basis of the types of procedures used and the experience of the parties with the procedures. In-depth interviews were conducted in 111 bargaining units of 54 municipal and school employers. Interviews included a discussion of the most recent round of negotiations and the factors contributing to whether or not the parties came to an impasse or utilized any impasse procedures.

The study did not rely on extensive statistical data or random selection to draw statistical inferences. Rather, cases were selected purposefully. In each State, bargaining units which had frequently relied on impasse procedures were compared with units where little or no use had been made of such procedures. Interviews with union and management negotiators as well as neutrals who may have been involved allowed an in-depth exploration of the reasons for the observed bargaining relationship between the parties.

Contrary to a traditionally accepted hypothesis,[2] it appears that the parties in public-sector bargaining are more likely to push disputes on to the terminal step of an impasse procedure—whether compulsory arbitration or a strike—the greater their uncertainty about future costs and benefits of continued bargaining.

Uncertainty is behind the general phenomenon that impasses appear to increase and subside soon after a public-sector bargaining law is passed.[3] This may be because inexperienced negotiators are not able to anticipate opponent reactions nor properly assess what lies ahead if settlement is not reached. Alternatively, the rise in impasses immediately following a bargaining law may be related to the added "power" the public unions gain through the statute. If a new law increases union bargaining power, then bargaining outcomes will vary substantially from the mean as the parties search for a new equilibrium point that reflects the new power balance.

Paul F. Gerhart is associate professor of industrial relations and John E. Drotning is professor of industrial relations and Head, Division of Industrial Relations, Case Western Reserve University.

Economics of continued disagreement

An effective impasse procedure raises the cost to at least one of the parties of continuing to disagree and, perhaps, at the same time, lowers the cost to the other party of agreeing voluntarily. Under the traditional view, additional uncertainty about the future would increase the parties' costs of continued disagreement. Therefore, it is necessary to consider these costs before discussing how the expected cost is changed by the enactment of impasse procedures. However, both costs and benefits flow from continued disagreement:[4] the process cost to each party and the incremental improvement in outcome benefit to each party.

Process cost. For the union, this includes the cost of lost wages, strike benefits, and other similar monetary costs. Where the strike is prohibited and mandatory arbitration is part of the procedure, the process cost of continuing to disagree includes the cost of the neutrals and advocates used. Even before the parties reach the terminal step of the negotiation process—strike or binding arbitration[5]—there is a cost of continuing to disagree involved in negotiator time. In many cases, this is a cost to the union in terms of forgone leisure or lost earnings for union negotiators which is not insignificant where the union is too small to afford a full-time staff. Earnings may be lost from the public-sector job, but more often they become a factor where "moonlight" jobs are affected. For firefighters this is highly significant. We have found that management engages in a strategy of "wearing down" union negotiators, clearly recognizing that such a tactic is a feasible way to win settlement short of the terminal step in the impasse procedure. Delay has thus become a significant factor in a union's decision to "agree now and avoid delay" in receiving wage and benefit improvements.

Thus the process cost of continuing to disagree is nearly always a "net cost" for unions; on rare occasions, a strategy of continued disagreement may represent a net gain for unions.[6]

For management, process costs might be calculated by the ability to bear the political cost of strikes. In every strike situation we studied, management gave careful consideration to public reaction to the strike. Public employers also incur the cost of outside negotiators, and delays mean larger fees for the "hired gun." However, the cost of outside experts relative to the agreement costs may be small. Thus, public employers usually overlook or ignore these costs in deciding whether to continue to disagree.[7] But the absolute costs of outside help are not insignificant. We found several employers who spent in excess of $50,000 on outside negotiators in one round of negotiations. Even in a moderately large city or school district, this could make possible a fringe benefit or an increase in the wage rate.

Management, more often than the union, may achieve a net gain by dragging out the negotiating process. As long as a strike does not occur, management continues to function without any increase in costs resulting from a new bargaining agreement. Moreover, the agreement ultimately reached may not include retroactivity so that the settlement actually becomes much cheaper for management because of its delay. Even where retroactivity is included, the delay in reaching an agreement is a gain for management because of the time value of money—which includes more than risk-free interest in the public sector. Delaying a tax increase may mean the difference between winning or losing an election. Furthermore, there may be political gains for management negotiators who "hang tough" at the bargaining table. In no instance can a public negotiator afford to give his constituency the impression that he has "caved in" to the union too quickly.

Outcome benefit. This is the incremental improvement between the final outcome of negotiations following a strike or binding arbitration and the best real offer by the opponent prior to the final outcome. We use the phrase "real offer" to distinguish it from public or formal offers at the bargaining table.

Where disputes went to the terminal step, only rarely did we find that such public offers represented the best offer a party was willing to make.[8] Ordinarily, parties which push a dispute on into the terminal step of an impasse procedure expect the incremental benefit to be positive. Incremental benefits can be, and usually are, positive for both parties simultaneously, for an arbitrator usually issues a binding award which lies between the best real positions of the parties.

We also observed two instances where the incremental benefit was negative for one of the parties; that is, the final outcome was worse than the best real offer of the opponent. Both of these cases involved the use of arbitration rather than the strike; one occurred in Pennsylvania under conventional arbitration and one in Michigan with last-offer-by-issue arbitration. A negative incremental benefit is possible because the parties almost universally employ the "pull back" tactic. That is, the stated position before an arbitrator is not as favorable to the opponent as the best real offer.[9] Management typically makes a wage offer before an arbitrator below what it was willing to offer, and perhaps did offer privately, prior to the arbitration hearing. The union, typically, does the opposite. Either party will raise issues on which it had previously made concessions and even reached agreement.[10]

Where final-offer-by-package arbitration is used (Wisconsin), the use of the pull back tactic guarantees that one party will suffer negative incremental benefits. The arbitrator cannot engage in issue or package splitting so one party's position on every issue must be adopted. Interestingly, we observed no instances of the "pull back" in Wisconsin.

Finally, it is possible that incremental benefits might be negative for both parties simultaneously. This is possible where an arbitrator, faced with multiple issues, awards outcomes in such a way that both parties perceive the final outcome as worse than what the other had offered in negotiations.[11] Interestingly, package last-offer arbitration prevents both sides from losing simultaneously.

We found no instance where both sides became worse off simultaneously, even though it is popular for neutrals to threaten the parties that this might happen. Arbitrators seek to write acceptable awards. At a minimum, this is one in which both sides reap a nonnegative incremental benefit. Thus, it would require greater misjudgment than even the least skilled arbitrator possesses to achieve an outcome where both parties suffer negative incremental gains.

Sources of uncertainty

As noted earlier, when the components of the process cost and the incremental benefit of agreeing were unknown and largely unpredictable, parties most frequently preferred to continue to disagree. Some sources of the uncertainty that appears to generate such a response are the role of the judiciary in handling strikes, the developing nature of various compulsory arbitration procedures, and the public reaction to strikes.

The judicial response to strikes. The most general legislated response to strikes in the public sector is one where the strike is illegal but the penalties are unclear. Next most common is legislation mandating penalties, as in New York and Ohio. Finally, Pennsylvania, among the six States in our study, permits strikes only under certain conditions. Regardless of the legal status of strikes, we found that the treatment of them by the courts varied substantially within some jurisdictions.

Only after considerable experience in Michigan and Pennsylvania do the parties now have the ability to predict judicial responses. In Ohio, such a prediction is still not possible.[12] In New York, Wisconsin, and Iowa, however, the courts acted swiftly and with uniformity (within each of the jurisdictions) concerning strikes, so that the parties were able to predict that element of the process cost of continuing to disagree.

A more common uncertainty concerning judicial reaction concerns whether a judge will enjoin a strike. Judges throughout the six States, but particularly in Pennsylvania, Ohio, and Michigan, were found to be notorious for their attempts to mediate disputes in chambers after an employer had sought an injunction. (Although strikes are legal in Pennsylvania, provided all procedures are followed, they can nonetheless be enjoined where a judge finds a threat to the public health, safety, or welfare.)[13] In one Scranton, Pa. school strike, a three-judge panel heard a request by the school board for an injunction, ordered a settlement, and set the terms.[14] If such a pattern of judicial involvement had persisted in Pennsylvania, the uncertainty concerning judicial action would have remained quite high. What has happened, however, is that judges have tended to show much greater restraint; a consistent pattern has developed.

Compulsory arbitration. The case for uncertainty generated by arbitration may be more difficult to make, particularly in a room filled with arbitrators. Fortunately, we are not attempting to make the case that arbitrators have any uncertainty, only the parties.

The "new toy" hypothesis is one for which we found some support in nearly every jurisdiction we visited. The natural inquisitiveness of the parties, particularly the union, leads them to want to try out a new tool such as arbitration, "just to see what we can get." A more serious characterization of a union's reaction to new legislation is the "new weapon" hypothesis. The result is the same, though. The union will push more disputes into arbitration even if management is responding with "reasonable" offers.[15] However, after some experience with a new law and a determination of process costs and incremental benefits, union aggressiveness typically dropped off sharply.

Uncertainty in the arbitration process also can surround the criteria for arbitrators' decisions. Every statute in our study, except Pennsylvania's, contained an explicit list of criteria to guide arbitrators. In every case where arbitration had been used by the parties, though, both sides indicated a great deal of uncertainty in their initial resort to arbitration about what the arbitrator would use for the basis of his decision. Even if the criteria are clear, the weight attached to them is not specified. In every statute there is an open-ended approach to the criteria, as well. In Iowa, for instance, the section of the law outlining the criteria begins as follows: "The panel of arbitrators shall consider, in addition to any other relevant factors, the following factors. . . ."[16] In several jurisdictions, the parties reported that since the initiation of arbitration both sides had begun to agree on the "relevant" criteria (as a result of several arbitration decisions relying on those same criteria), so that the outcome was much more predictable now than it had been initially. Among the most important criteria is which cities or school districts are "comparable." Once this has been established, the determination of economic benefits and many other terms and conditions of employment becomes similar to the "prevailing rate" formula approach long familiar in the government contract area.

There is reason to expect that as criteria for decisionmaking by arbitrators become more certain, disputes subject to arbitration will be resolved short of the actual arbitration hearing.

Last-offer arbitration introduces constraints on the arbitrator which, on a first analysis, would appear to prevent the reduction of uncertainty. The arbitrator is prevented from taking a middle ground between the parties' final offers so that the variance of the expected outcome or incremental benefit is quite wide. But this first analysis does not take account of each party's strategy for reducing the risk of loss: both will attempt to reduce such risk by taking a more reasonable position than the opponent, hence moving toward some middle ground just as a conventional arbitrator might. The uncertainty premise, in fact, does not predict whether last-offer or conventional arbitration will be more successful in promoting voluntary settlement. The key element of uncertainty in both is what position the arbitrator is likely to view as most reasonable. In conventional arbitration, the arbitrator selects that as the outcome for the dispute. In last-offer arbitration, the arbitrator selects the position of the party closest to the most reasonable position. In either instance, the more precisely the parties can predict the arbitrator's judgment of reasonableness, the more likely they are to be able to settle their dispute voluntarily at that point. Where their estimates of arbitrator judgment are uncertain, the parties are most likely to resist concession for fear that it might be unnecessary.

Some empirical data are available from Iowa's experience with last-offer arbitration. There, as in every other State we studied, the parties are permitted to develop alternatives to the State-mandated procedure. In Iowa, the Public Employee Relations Act procedure provides for mediation, factfinding, and final-offer arbitration by issue, where one of the three final offers the arbitrator may select is the recommendation of the factfinder. The parties, where they have modified the process, have

tended to drop the factfinding step. Board data reported in *IPERB*, a publication of the University of Iowa's Industrial Relations Institute, show ". . . that when arbitration was preceded by factfinding, the number of issues at impasse tended to be less than when arbitration immediately followed mediation."[17] Why? Because the parties are conditioned to know that arbitrators will tend to adopt the factfinders' recommendations. The incremental benefit uncertainty is reduced.

Data from Michigan show that the majority of all arbitration cases are resolved voluntarily, after an arbitrator is appointed but before the arbitrator issues an award. Our own experience as well as our discussions with Michigan arbitrators and the parties suggests that arbitrators, in the course of conducting a hearing, will nearly always caucus with the parties privately and give them clues, sometimes subtle and sometimes not so subtle, concerning what the arbitrators are likely to consider the "more reasonable" position. With such input, the parties "might as well settle." (Whether such settlements should be considered voluntary is another question.)

A hypothesis we are presently considering but have not yet tested relates to arbitrator turnover on the various State panels. In Michigan, a number of union and management representatives expressed the concern that there was no "new blood" among the arbitrator ranks. In fact, they were complaining that arbitrators working in Michigan had settled on the appropriate criteria for most issues in arbitration and that the complaining party was not satisfied with those criteria for at least some issues. The only way the complainer saw the possibility of winning on these issues was by the introduction of "new blood" with a new set of criteria or weights for the old criteria. In New York, there is considerable turnover among arbitrators because the New York Public Employee Relations Board ad hoc panel is limited to charging a comparatively low rate for its services. As soon as a person establishes himself or herself as a neutral, other, more lucrative opportunities become available. Under these circumstances, one would anticipate greater uncertainty toward neutrals and hence a greater resort to arbitration. A preliminary review of the data appears to mildly support the hypothesis. A higher proportion of agreements subject to arbitration are reached at that step than in most of the other States in our study.

Public reaction to strikes. Perhaps the best illustration of how uncertainty contributes to impasses involves the public reaction to strikes and the parties' inability to estimate it accurately. For example, management may perceive a public which is resistant to "excessive" union demands—a public which will reward, politically, a tough stance by management even to the point of taking a strike. The union, however, may perceive a much more sensitive public which will not tolerate an interruption of its public services. With such perceptions, continuation of the impasse to the point of a strike is likely. However, where both parties have accurate information on the public reaction to a strike—where uncertainty approaches zero—a strike is, *ceteris paribus,* less likely to occur. This appears to be true regardless of what that reaction is predicted to be—tolerant or intolerant. If tolerant, the union bargaining position is strengthened and the outcome will be higher settlement costs; if intolerant, the settlement will be lower. The point is that the parties do not have to go through the exercise (of striking or other impasse procedure) to eliminate the uncertainty. They have the answer before they begin.

Our examples illustrate several subtle but important points. First, uncertainty must be considered collectively across both parties. Simply because one party accurately assesses process costs and incremental benefits, a dispute will not necessarily be resolved short of the terminal step of an impasse procedure. As a consequence, an accurate assessment is not as critical as a shared assessment of the costs and benefits. Even if wrong, when both parties predict each other's as well as their own costs and benefits identically, a settlement is highly likely. Examples alone do not adequately treat these issues, but they should be considered in the development of a general model of impasse behavior.

WE HAVE DEALT completely on the point that uncertainty precipitates and contributes to the continuation of impasses. Perhaps we have overstated our case. Even in this brief discussion, the point was made that, theoretically, both parties could be left worse off than the opponent's "best real offer." If an arbitrator's (or judge's) skill is viewed by the parties as likely to lead to such an outcome, the uncertainty will perhaps induce a voluntary settlement. Sufficient anecdotal evidence exists to suggest that parties have been "frightened into a settlement."

Nonetheless, we believe that our analysis as well as the examples from our research support a conclusion that uncertainty contributes more to creating impasses than resolving them. To be more specific, uncertainty with respect to the future costs and benefits of continued disagreement decreases the likelihood of early settlement. This conclusion runs counter to the conventional wisdom which the authors shared before conducting the interviews. The response of the various participants forced us to reconsider the role of uncertainty and while a definite conclusion must await a more detailed review of our data, it appears that our hypothesis, if true, could and should play a role in the evolution of public-sector labor legislation. □

——*FOOTNOTES*——

[1] Our work was sponsored by the U.S. Department of Labor, Employment Standards Administration.

[2] Some State laws, such as in Massachusetts, enacted following World War II to deal with a rash of public and private sector strikes left a range of dispute resolution methods open to the State executive. This approach was based on the hypothesis that uncertainty as to eventual outcome would encourage the parties to voluntary settle their dispute. For a discussion of the merits of this approach as experienced in Massachusetts, see George P. Shultz, "The Massachusetts Choice-of-Procedures Approach to Emergency Disputes," *Industrial and Labor Relations Review,* April 1957, p. 361.

[3] This pattern is examined in other reports based on this project which are not yet published.

[4] If the net cost of continuing to disagree is negative (that is, there is a net benefit), the parties will continue to disagree. An impasse procedure should work to increase the costs or lower the benefits, or both, of continued disagreement so that the net cost of continuing to disagree becomes positive (that is, there is a net loss). Then the parties will agree.

[5] It is our conclusion that there are, *de facto,* two terminal impasse steps in public-sector bargaining in those States we have surveyed. Where arbitration is not available, the unions have demonstrated a willingness to strike regardless of statutory prohibitions. While it is not inconceivable, our research revealed no instance of a strike where a dispute was submitted to binding arbitration. This issue is addressed elsewhere in project reports.

[6] For example, a union seeking additional members might attempt to portray an image of militance and aggressiveness by forcing a strike. Or, a union might sell itself by saying that if it does not get its demands, it will go to arbitration. In our study, we found no examples of strikes designed to enhance the image of the union and only one clear case in which the union sold itself to the membership on the basis of a promise to arbitrate.

[7] Paul F. Gerhart and Richard Krolikowski, "Bargaining Costs and Outcomes in Municipal Labor Relations," *Journal of Collective Negotiations in the Public Sector,* forthcoming.

[8] We have found that an important part of the public sector bargaining process is the development of mechanisms to convey real offers. Experienced mediators, trusted by the parties, facilitate the development of such mechanisms.

[9] Some negotiators feel such a tactic represents a failure to bargain in good faith, and is therefore an unfair labor practice (which is illegal). Where the negotiator makes any offer contingent upon acceptance of the whole package, however, it clearly is not. Arbitration hearings tend to become quite heated, however, when one party attempts to introduce evidence concerning what the other had offered privately.

[10] In one instance, the parties indicated that for the first several times arbitration was used, they engaged in the "pull back." However, in each instance, it appeared useless because the arbitrator quickly cut through their respective facades and dealt with the key issues as though there had been no pull back. They also realized the potentially counterproductive nature of this tactic and reached a mutual understanding to submit only those issues not truly agreed upon to arbitration in the future. Both were more satisfied with the process. Such a development represents extraordinary maturity and, perhaps, special circumstances. It is not likely to be adopted universally.

[11] For example, consider a case where a union attaches great importance to binding grievance arbitration and less importance to a large wage increase, while management, just the opposite, attaches great importance to a low-wage settlement and less to arbitration. The best real offer of the union prior to arbitration was 6 percent in wages plus binding arbitration. Management's best real offer was 4 percent in wages plus binding arbitration. In the arbitration proceeding, however, both sides "pull back" from their best real offers for tactical reasons. The union, hoping to provide the arbitrator with something to "give to management" increases its wage demand to 10 percent while staying firm on the demand for arbitration. Management, using the same tactic, withdraws its offer of binding arbitration and drops its wage offer to 2 percent. The arbitrator, misjudging the priorities of the parties, awards a 10-percent wage increase without binding arbitration of grievances. The benefit to the union is negative because the additional 6 percent in wages over management's best real offer is not as valuable as a grievance arbitration. Management loses because the additional 4 percent in wages over the best real union offer is more costly than the value "saved" by avoiding grievance arbitration.

[12] The most extreme case of uncertainty with respect to judicial response is Ohio. In spite of the existence of the severe penalties of the Ferguson Act (or perhaps because of them), public employers did not invoke the act in any of the nine bargaining units we studied where strikes had occurred. These cases included sanitation, fire, police, and teacher strikes in medium to large cities (50,000 to 700,000 population). Due process under the act requires individual hearings, which (in larger cities, at least) add considerably to employers' process cost without any assurance that a judge will not subsequently dismiss the action on various technical grounds. The Ferguson Act has been invoked effectively, however, so that the threat (uncertainty) remains for unions and management, particularly in smaller jurisdictions where individual hearings could be conducted. The Ferguson Act, itself, merely requires individual notice, not a hearing. Civil service law requires hearing prior to dismissal of any certified employee.

[13] Public Employee Relations Act (1970), Section 1003.

[14] 600 *Government Employee Relations Report,* p. B16, Apr. 7, 1975.

[15] The phenomenon was observed in Pennsylvania, for example, where one police union attorney reported that virtually all police organizations he represented shortly after Act 111 was passed told him to take the case to arbitration. The process cost in Pennsylvania for the union is mitigated by the fact that the neutral's expenses and fees are borne entirely by the employer. Over time, however, the attorney noticed a distinct loss of aggressiveness among his clients. It became clearer (more certain) to them just what they could get from arbitration (the incremental benefit) and how much his attorney's fees (process costs) would be.

[16] Iowa Public Employment Relations Act (Senate File 531), Section 22, para. 9.

[17] *IPERB,* Winter 1977, p. 4.

Customized 'final-offer': New Jersey's arbitration law

DAVID E. BLOOM

The New Jersey Fire and Police Arbitration Act took effect in November 1977, adding New Jersey's name to the growing list of States that currently utilize final-offer arbitration in the resolution of labor disputes in the public sector.[1] The final-offer procedures in New Jersey differ, however, from the procedures adopted in other States, and this report describes the uniqueness of the New Jersey mechanism and the philosophy in which it is grounded.

In 1968, the New Jersey Legislature passed the Employer-Employee Relations Act, granting New Jersey's public sector employees the right to organize and to ne-

David Bloom is a graduate student in the Department of Economics at Princeton University.

gotiate collectively the terms and conditions of their employment.[2] The act did not grant the right to strike, but it did establish the New Jersey Public Employment Relations Commission to help resolve bargaining impasses through mediation and factfinding. Unfortunately, neither mediation nor factfinding guaranteed finality in the resolution of labor disputes, and long drawn-out negotiations were quite common. In recognition of this situation, the New Jersey Legislature established the Public Employment Relations Study Commission in 1974 to make recommendations on alternative methods of dispute resolution. The implementation of final-offer arbitration in New Jersey is essentially an outgrowth of the commission's report.[3]

The report recommended that final-offer arbitration be the compulsory last step in the resolution of bargaining impasses in the public sector. This recommendation rested on three major premises: 1) because of the essential nature of public services, the interests and welfare of the public would be well-served by guaranteeing finality in the resolution of public-sector labor disputes;[4] 2) while guaranteeing finality in negotiations, final-offer would also foster the voluntary negotiation of a settlement because it tends to induce concessions by the parties; and 3) a final-offer mechanism could be designed which would allow the parties a wide scope for determining the conditions under which they could settle their dispute, so that the bargaining relationship would be undamaged. The first two arguments are standard and need not be discussed here. The third argument, which is somewhat novel, accounts for the variety of options available to the parties under New Jersey's arbitration law. In fact, this is precisely the feature of the New Jersey law which most differentiates it from the final-offer arbitration laws operating in other States.

Resolution mechanisms

Under the New Jersey law, the rules for implementing compulsory interest arbitration in labor disputes involving public safety employees are established by the Public Employment Relations Commission.[5] According to those rules, covered employees and employers must begin their contract negotiations at least 120 days before the employer's budget submission date.[6] If an impasse develops, the commission may assign mediators to aid in the resolution of the impasse at the request of either party or on its own initiative. In the event mediation fails, factfinders may be assigned at the request of either party to study the dispute and recommend a settlement. The costs of mediation are borne by the commission; the costs of factfinding are shared equally by the parties.

If negotiations are still at impasse 60 days before the employer's required budget submission date, then regardless of the use of mediation or factfinding, the parties must file a "60-Day Notification." This informs the commission of whether the parties have at least agreed upon a terminal procedure for settling the issues in dispute and, if so, it enables the commission to review and to approve or disapprove of the proposed procedure. In the event that the parties fail to agree on a terminal procedure within 50 days of the employer's budget submission date, they must each notify the commission of the unresolved issues.[7] Under these circumstances, the parties are compelled to have their dispute resolved by final-offer arbitration—with all economic issues as a single package and noneconomic issues on an issue-by-issue basis.[8]

There are basically five terminal procedures which the parties may request as an alternative to the compulsory procedure specified in the law. First, the parties may have conventional arbitration of all unsettled items. Second, the parties may require the arbitrator to choose between the final offers of the parties on all issues as a single package. Third, the parties may require the arbitrator to choose between the final offers of the parties on each issue separately. Finally, when there is a factfinder's report, the arbitrator may be requested to confine his or her choice to the parties' final offers and the factfinder's recommendations on either an issue-by-issue or a total package basis. The law explicitly does not limit terminal procedures to the five listed here, although it does require the parties to petition the commission for approval of any other variations.

Regarding the factors arbitrators consider in reaching their decisions, the law directs that arbitrators consider the overall compensation presently received by the employees, the comparability of wages, hours, and working conditions to those available in similar public and private employment, the cost of living, the lawful authority of the employer, the financial impact of the settlement on the governing unit and its residents and taxpayers, and the interests and welfare of the public. In addition, the New Jersey courts have held that arbitrators must also consider the constraints imposed by a 1977 State law, generally limiting annual increases in municipal budget expenditures to 5 percent.[9]

Arbitrators are appointed by the Director of Conciliation and Arbitration in recognition of the parties' preferences after the circulation among the parties of a list of seven members of the Public Employment Relations Commission's special panel of arbitrators. The costs of arbitration are borne entirely by the parties (subject to a fee schedule approved by the commission). Once the arbitrator is appointed, the parties are required to submit their final offers to the arbitrator in a form that is consistent with the terminal procedure in effect. At that point, the arbitration proceeding is completely under the control of the arbitrator. Existing wages and terms and conditions of employment cannot be changed by

one party without the consent of the other during the pendency of an arbitration proceeding. Following the close of the arbitration hearings, arbitrators are expected to reach their decision and to convey it in writing to the parties as soon as possible. All changes called for in the arbitration award take place retroactive to the date of implementation prescribed in the award. Arbitrators cannot render an award involving pensions or benefits in the New Jersey State Health Benefits Program.[10]

From this discussion, it should be apparent that the basic orientation of the New Jersey arbitration law is toward encouraging the voluntary settlement of labor disputes at all stages of negotiation. Clearly, the variety of terminal procedures available to the parties is consistent with this view. In this same spirit, the law explicitly permits, and even seems to encourage, arbitrators to mediate disputes at all stages in the arbitration proceeding. The law also allows the parties substantial opportunity to modify or amend an award, even though awards are binding and enforceable. Finally, the law has even been interpreted to permit the parties to modify their final offers during an arbitration proceeding.[11]

Early experience

The law establishing compulsory interest arbitration in New Jersey took effect on November 1, 1977. Between that time and the end of the fiscal year on June 30, 1978, 259 public employers and public employee organizations filed requests for mediation, factfinding, or interest arbitration.[12] Of course, some units filed for more than one form of impasse resolution, but each is counted only once in this number. A breakdown of these cases according to whether mediators, factfinders, and arbitrators were actually appointed is given in table 1. The small number of mediator and factfinder appointments relative to arbitrator appointments stands out. It also stands out in statistics on cases initiated during the second fiscal year under the law.[13] As noted earlier, however, arbitrators are permitted to, and, as shown below, often do, mediate settlements so that the use of mediation may actually remain unaffected by the 1977 law.

Looking more closely at the breakdown of arbitrator appointments, table 2 presents the distribution of these appointments by employer type and by union type. The majority of public employers requesting arbitration are municipal governments. This is not surprising because about 95 percent of the public employers in New Jersey are municipal governments. Also, few of the unions involved in arbitration proceedings are firefighter unions. This is not surprising either because fire departments are local organizations operated by volunteers in approximately 85 percent of New Jersey's 567 municipalities.

As described in the previous section, one of the central features of the New Jersey arbitration statute is the wide scope it grants the parties to devise their own terminal procedures. However, during its first 8 months of operation, the parties relied on the law's example terminal procedure (final-offer on economic issues as a package and on noneconomic issues on an issue-by-issue basis) in 72 percent of the cases that were ultimately resolved by arbitration. Conventional arbitration was the next most frequently chosen alternative (16 percent), followed by issue-by-issue final-offer arbitration (5 percent), and one-package final-offer arbitration (1 percent); other commission-approved terminal procedures were used in 6 percent of the cases. Perhaps more experimentation with alternative terminal procedures can be expected as the parties gain experience under the new law, although, on the basis of awards rendered in cases initiated during the second fiscal year under the law, such a pattern has not yet emerged.

It was implied in the description of the law that there are a variety of stages at which a labor dispute involving public safety employees can end. Ordered from the least to the most extensive form of third-party intervention, these stages of settlement are as follows: 1) in direct negotiations with no appointments at all; 2) with the appointment of a mediator; 3) with the issuance of a factfinder's report with recommendations for settlement; 4) with the appointment of an arbitrator but before arbitration hearings have begun; 5) with the appointment of an arbitrator who mediates the dispute during the arbitration proceedings and who may issue a 'consent award' consisting of the terms of the dispute on which the parties have voluntarily settled; and 6) with the appointment of an arbitrator who issues a binding and enforceable award under conventional arbitration, final-offer, or any other terminal procedure devised by the parties and approved by the commission. Table 3 provides a breakdown of cases according to these six stages. Arbitration awards were clearly the most prevalent method for resolving disputes, with 79 of the 95 awards being final-offer in nature (the rest were conventional arbitration awards). At the other end of the spectrum, factfinding, which has rarely been used, led to no settlements; in fact, the commission received no requests for factfinding in cases involving public safety employees during the fiscal year ending June 30, 1979. It is also interesting to observe that arbitrators acted as mediators in a large proportion of cases. Combined with other mediated settlements, the use of mediation by a third party was nearly as important as the issuance of final-offer awards in the settlement of disputes. Thus, it is possible to regard mediation and arbitration as a joint mechanism for resolving labor disputes under the New Jersey law, rather than simply as disjoint procedures.[14] □

FOOTNOTES

[1] Other States which also utilize some form of final-offer arbitration to resolve labor disputes involving public safety employees are Wisconsin (1972), Michigan (1972), Massachusetts (1973), Iowa (1974), and Connecticut (1979). In Wisconsin and Massachusetts, the arbitrator is limited to choose among the parties' final offers on all issues as a single package. In Michigan, Iowa, and Connecticut, the arbitrator may choose among the parties' final offers on an issue-by-issue basis. The Michigan procedure is limited, however, to the resolution of economic issues.

[2] The New Jersey Fire and Police Arbitration Act, approved May 10, 1977 (P.L. 1977, Chapter 85, 1977 Senate No. 482), amendment to the New Jersey Employer-Employee Relations Act, approved April 30, 1941 (P.L. 1941, Chapter 100; Chapter 34: 13A–1 et. seq.).

[3] Report to the Governor and the Legislature by the Public Employer-Employee Relations Study Commission pursuant to P.L. 1974, c. 124, State of New Jersey, February 2, 1976.

[4] Conventional arbitration schemes also guarantee finality, but it has been argued that they do so in a way which reduces the likelihood of a voluntary settlement. This is the so-called 'chilling effect' of conventional arbitration. (However, see Craig A. Olsen, "Does 'final offer' allow the bargaining that conventional arbitration chills?" *Monthly Labor Review,* May 1979, pp. 38–39.) Another criticism of conventional arbitration mechanisms is that when these mechanisms are operative, the parties tend to rely on the judgment of arbitrators regarding acceptable agreements and therefore do not bargain as seriously as they otherwise would. This is referred to as the 'narcotic effect' of conventional arbitration.

[5] Although the Study Commission's Report to the Governor recommended that final-offer arbitration procedures apply to all public sector employees, this was not acceptable to teachers, school boards, and several other major groups in New Jersey. Consequently, the law was written so that it applied only to public safety employees.

[6] The law is broadly construed to cover employees in all firefighting, police, and other corrections units on the municipal, county, and State levels of government. The required budget submission date refers to the first budget which implements the new labor agreement.

[7] It is worthwhile to note that, according to the rules, the failure of any party to file any notification, petition, or other statement will not preclude the implementation of compulsory interest arbitration.

[8] In the event the parties disagree over the classification of an item as economic or noneconomic or over the negotiability of an issue as required, permissive, or illegal, the parties must petition the Public Employment Relations Commission, which makes the final determination.

[9] The Cap Law was enacted by the New Jersey Legislature in 1977. This law places a 5-percent ceiling on increases in municipal budget expenditures, although municipalities may file for specific exemptions. Undoubtedly, this law has restricted the bargaining range in public sector negotiations. At the very least, it would certainly seem to account for the prevalence of public employers to choose 5-percent increases for their final salary offers. The existence of this law has also heightened the controversy surrounding the use of final-offer arbitration in New Jersey because arbitrated awards are, by definition, binding on the public employer and are not limited to 5-percent increases.

[10] N.J.S.A. 34: 13–A18.

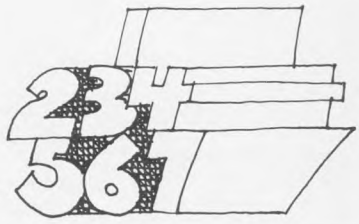
[11] See *Newark Fireman's Union of New Jersey v. City of Newark,* Superior Court of New Jersey, Chancery Division, Essex County, Docket No. C-347–78, 1978.

[12] There were also several cases in the Public Employment Relations Commission files in which nonpublic safety organizations requested arbitration. These cases are not analyzed here.

[13] Because a large number of cases initiated during the second fiscal year under the New Jersey law are not yet closed, statistics on those cases are not presented in this report.

[14] For an analysis of first-year salary settlements under the law, see David E. Bloom, "The Effect of Final Offer Arbitration on the Salaries of Municipal Police Officers in New Jersey," Working Paper No. 129, Industrial Relations Section, Princeton University, 1979.

The Anatomy of Price Change



Slowdown in energy prices eases second-quarter inflation

WILLIAM THOMAS, ANDREW CLEM, AND EDDIE LAMB

After a sudden acceleration in the opening months of 1980, the pace of inflation slowed somewhat during the second quarter. From March to June, the Consumer Price Index for All Urban Consumers (CPI-U) moved up at a seasonally adjusted annual rate of 11.6 percent, following an 18.1-percent rate in the previous 3 months and a 13.3-percent increase from December 1978 to December 1979. Most of the slowdown was due to energy prices, which dropped from a 64.8-percent rate of increase in the first quarter to a rate of 8.1 percent in the second. Retail price advances for commodities other than food and energy also decelerated, but much more modestly. In contrast, charges for consumer services other than energy rose sharply for the second consecutive quarter. Food prices continued to rise moderately. (See table 1.)

The slowdown in the CPI would have been more pronounced except for the continued sharp increase in the home financing component, which reflected steep increases in interest rates during the opening months of the year. Excluding mortgage interest costs, the rate of advance in the CPI decelerated from 14.8 percent in the first quarter to 7.5 percent in the second.

The easing of inflation in the second quarter was considerably greater at the primary market level. The Producer Price Index (PPI) for Finished Goods rose at a seasonally adjusted annual rate of 6.3 percent, only one-third of the 18.9-percent rate registered in the preceding 3 months and half as fast as the 12.6-percent climb in 1979. As in the CPI, the most dramatic slowdown occurred for energy goods, which had skyrocketed at a rate of more than 100 percent in the first quarter before slowing to a rate of 17.1 percent in the second. Price rises for consumer goods other than foods and energy also decelerated markedly. Further signals of an inflation slowdown were evident in prices for intermediate and crude materials.

The relative slowdown of inflation during the second

Table 1. Changes in selected components of the Consumer and the Producer Price Indexes, 1979–80

Index	Compound annual rate, seasonally adjusted except as noted, for 3 months ended—				
	1979			1980	
	June	Sept.	Dec.	Mar.	June
Consumer Price Index for All Urban Consumers (CPI-U)[1]					
All items	12.8	13.8	13.7	18.1	11.6
Food and beverages	6.4	6.5	11.9	4.3	5.8
Housing	15.1	15.9	17.4	19.5	20.6
Apparel and upkeep	1.0	7.7	5.1	15.3	.5
Transportation	23.4	20.6	14.3	35.2	2.5
Medical care	6.7	10.7	12.0	15.9	7.3
Entertainment	6.4	7.7	5.3	15.0	8.4
Other goods and services	5.3	12.2	5.1	10.6	8.9
Food	6.4	6.5	12.1	3.8	5.6
Commodities less food	15.6	16.4	12.7	22.1	4.7
Services	13.2	14.3	15.8	20.9	21.6
Energy	59.2	49.9	19.2	64.8	8.1
Fuel oil, coal and bottled gas	76.3	93.9	24.9	65.4	3.9
Gas and electricity	28.7	16.6	1.0	21.0	39.8
Gasoline, motor oil, coolants, etc.[2]	83.2	62.2	28.3	105.2	−5.7
All items less energy	9.0	10.6	13.5	12.9	12.3
All items less food and energy[2]	10.1	10.9	13.9	15.7	13.5
Producer Price Index (PPI) by stage of processing[1]					
Finished goods	7.9	16.1	13.3	18.9	6.3
Finished energy goods	75.2	106.2	45.7	109.2	17.1
Consumer foods	−9.2	15.3	8.6	−1.2	−7.8
Finished goods less food	14.2	16.4	15.0	25.7	11.0
Finished goods less food and energy	8.5	7.6	11.0	15.2	9.9
Finished consumer goods less food	17.2	23.4	17.9	34.2	10.6
Finished consumer goods less food and energy	7.9	9.1	11.5	17.4	8.3
Capital equipment	9.4	5.9	10.0	12.7	11.7
Intermediate materials, supplies, and components	14.7	19.7	16.0	21.9	5.5
Intermediate energy goods	52.8	71.1	37.1	62.2	6.4
Intermediate foods and feeds	2.8	24.8	1.2	−1.7	13.9
Intermediate materials less foods and feeds	15.4	19.4	17.0	23.1	5.2
Intermediate materials less food and energy	11.0	13.4	13.9	17.2	5.1
Crude materials for further processing	6.3	20.0	14.9	−1.3	−7.2
Crude energy materials[2]	35.4	50.7	32.5	30.4	20.6
Crude foodstuffs and feedstuffs	−4.5	16.4	5.7	−16.7	−10.5
Crude nonfood materials	23.1	25.1	27.8	21.4	−3.5
Crude nonfood materials less energy	7.6	−7.1	20.1	6.6	−37.5

[1] See "Definitions" and "Notes" preceding tables 22–30 Current Labor Statistics in this *Review*.

[2] Not seasonally adjusted.

NOTE: Monthly data for Producer Price Indexes have been revised through February 1980 to reflect the availability of late reports and corrections by respondents. For this reason, some of the figures shown above and elsewhere in this report differ from those previously published.

William Thomas, Andrew Clem, and Eddie Lamb are economists in the Office of Prices and Living Conditions, Bureau of Labor Statistics. They were assisted by Craig Howell and Mary Burns, economists in the same office.

quarter reflected, among other things, the completion of most of the direct and indirect pass-through of the latest round of steep crude oil price boosts and of the impact of the recession. The National Bureau of Economic Research designated January 1980 as the beginning of the business cycle downturn. The recession first affected the residential construction and automobile markets and then spread through much of the rest of the economy. The collapse of a speculative boom in prices of a broad variety of basic materials, particularly precious metals and other nonferrous metals, also contributed to the general easing of inflation.

Energy

The rate of increase for energy prices slowed in the second quarter. (See table 2.) Substantially weakened demand worldwide for petroleum resulted in inventories that were more abundant than at any time since 1978. The crude petroleum market calmed in the early months of 1980, and prices set by the Organization of Petroleum Exporting Countries temporarily stabilized.

In late 1979, panic buying of crude oil again broke out among the oil-consuming nations, partly as a result of fears concerning the security of oil supplies during the crises in Iran and Afghanistan. This enabled some OPEC members to put through another round of price hikes. Saudi Arabia raised its benchmark oil price in December and again in January in an effort to achieve a unified price structure for OPEC. However, this action only led to further increases by other OPEC members.

Between February and May, on the other hand, contract prices for OPEC crude oil changed very little as a consequence of slack demand associated with a recessionary trend in many Western Nations. During this time, the volume of spot market transactions fell, and spot prices for crude oil dropped from an average of about $40 per barrel in December to $32 in June. At the end of the second quarter official OPEC contract prices ranged between $28 for Saudi light crude to $37 for top quality African crudes.

Stocks of crude petroleum in the United States were increased to record levels during the second quarter, reflecting the reduction in both output and consumption of refined products. Primary stocks[1] of refined petroleum products were substantially above those of a year ago, as demand fell in response to the sharp price increases registered during 1979 and early 1980, and declining economic activity. Lower demand and slower rises in crude oil prices led to more moderate price increases by petroleum refiners.

In the second quarter, price increases slowed dramatically for most energy items sold to consumers. Retail energy prices rose at an 8.1-percent rate, after climbing at a 64.8-percent rate in the first quarter and advancing 37.4 percent during 1979. Producer prices for finished energy goods also slowed, from a 109.2-percent annual rate of increase during the first quarter to a 17.1-percent rate in the second; these prices had advanced more than

Table 2. Changes in retail and producer prices for energy-related items, 1979–80

Item	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended —				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Finished items							
Energy items, (gas, electricity, fuel oil, coal, gasoline, motor oil)	CPI	100.0	59.2	49.9	19.2	64.8	8.1
Finished energy goods	PPI	100.0	75.2	106.2	45.7	109.2	17.1
Gasoline, motor oil, coolants, etc.	CPI	55.3	83.2	62.2	28.3	105.2	−5.7
Gasoline[1]	CPI	54.5	84.5	63.1	29.1	105.7	−6.2
	PPI	64.1	61.7	89.4	58.7	136.6	14.7
Household fuels	CPI	44.7	38.1	31.7	7.0	31.5	28.9
Fuel oil[1]	CPI	10.3	88.5	99.7	22.2	68.4	3.7
	PPI	24.0	109.4	141.5	22.0	78.7	17.6
Gas (piped)[2]	CPI	13.4	23.7	22.5	20.4	14.3	29.3
Electricity	CPI	19.5	24.9	9.7	2.3	20.3	39.4
Intermediate materials							
Intermediate energy goods	PPI	100.0	52.8	71.1	37.1	62.2	6.4
Diesel fuel[1]	PPI	10.3	115.8	157.0	26.1	86.8	10.9
Commercial jet fuel[1,2]	PPI	8.4	107.6	157.5	60.6	97.6	24.9
Residual fuel[1]	PPI	14.6	109.8	111.2	23.2	71.8	−39.9
Liquefied petroleum gas[2]	PPI	7.1	75.9	204.4	95.7	75.1	1.9
Electric power[3]	PPI	35.7	15.9	14.8	24.7	20.1	15.7
Crude materials							
Crude energy materials[2]	PPI	100.0	35.4	50.7	32.5	30.4	20.6
Natural gas[1,2]	PPI	43.9	43.7	45.5	27.4	25.4	26.2
Crude petroleum[2]	PPI	38.1	46.0	96.7	54.8	52.1	21.6
Coal	PPI	17.8	−1.2	2.1	6.8	6.4	−1.9

[1] Prices for these items are lagged 1 month in the PPI.
[2] Not seasonally adjusted.
[3] Includes commercial and industrial power, but not residential power.

60 percent in 1979. Retail gasoline prices turned down slightly for the first time in two years, responding to sagging demand. These prices had risen 68.1 percent during the year ended March 1980, as consumption declined about 8 percent.[2] In contrast to the retail price drop, prices received by gasoline refiners continued to rise, although at a much slower pace than in the previous year and a half. Prices for home heating oil continued to rise in the second quarter at both the retail and producer levels, but at a substantially slower rate than in the first quarter. Primary stocks of middle distillates (fuel oil and diesel fuel) were more than 50 percent above the level of a year earlier, when these products were in short supply. At the urging of the Carter Administration, oil companies had increased their stocks of fuel oil during the summer and fall of 1979. However, because the winter weather was milder than in recent years in most parts of the country, demand was lighter than expected.

In contrast to moderating petroleum prices, retail prices for piped gas rose considerably more than in the first quarter, as higher prices for imported and domestic natural gas were passed on to the consumer. Most of the increase in the CPI for piped gas was accounted for by cities in the Western region. Household electricity rates also increased more than in the first quarter because of earlier price increases for power-generating fuels.

Producer prices for intermediate energy goods (those sold to business establishments) increased at a 6.4-percent annual rate, far less than the 62.2-percent rate of the previous quarter. Residual fuel prices fell sharply, after advancing 62.8 percent during 1979, and continuing this upward trend in the first quarter of 1980. The decrease was due to plentiful supplies and the substitution of other fuels by some industrial users. Demand was further weakened by the recession-induced drop in production levels in certain industries. The rate of increase in prices for diesel fuel and commercial jet fuel slowed considerably.

Liquefied petroleum gas prices were virtually unchanged following very rapid advances during 1979 and early 1980; demand for butane by gasoline refiners and for propane and ethane by petrochemical producers had been strong but weakened when the recession began. Electric power rates for industrial and commercial consumers rose at a 15.7-percent rate in the second quarter, somewhat faster than during 1979, but not as fast as in the first quarter. Fuel cost adjustments accounted for part of the increase, and some utilities incurred extra investment costs by switching from petroleum fuels to coal, natural gas, or nuclear power.

Prices for crude energy materials increased much less than in any of the preceding four quarters. The crude petroleum index (which only includes domestic production) slowed to a 21.6-percent rate, following a 61.3-percent advance in the 12 months ended in March. The deceleration was partly due to the fact that prices for the 24-percent share of U.S. crude oil production which was not controlled changed very little during the spring, reflecting the flat prices on the world market. Natural gas prices continued to rise rapidly, primarily because of sharp advances in prices for natural gas imported from Canada.

Finished goods except foods and energy

Consumer goods. In the CPI, prices for commodities except food and energy advanced at a seasonally adjusted annual rate of 7.3 percent, less than the rate posted in the first quarter and somewhat below the 8.8-percent rise for 1979. (See table 3.) At the producer level, the slowdown was more pronounced. The PPI for finished consumer goods less foods and energy rose at an 8.3-percent rate after rising at a 17.4-percent rate in the first quarter and 9.6 percent in 1979. The slowdown resulted partly from a decline in economic activity which began in January.

Home purchase prices increased at a 14.9-percent annual rate from March to June, much faster than in the first quarter but not as fast as in 1979. (The CPI for home purchase is derived from Federal Housing Administration data.) When home purchases are excluded, the CPI for commodities except food and energy increased at an annual rate of 4.5-percent, compared with an 11.1-percent rate in the first quarter, and a rise of 6.0 percent in 1979.

Jewelry prices moved up at a much slower pace at both the retail and manufacturing levels. Prices for precious metals, which had soared at the beginning of the year, declined significantly and then rebounded somewhat in June.

Used car prices fell for the second consecutive quarter, as dealers lowered prices on the larger, less fuel efficient models in the face of rapidly rising gasoline prices. Price increases for new cars continued to rise, in spite of a major sales slump; rebates for some models were more than offset by price advances resulting from earlier cost increases, particularly among metals. In addition, price increases for imports reflected strong consumer demand for smaller models. Prices for tires rose much less than in the first quarter, a result of the reduced demand for autos.

Among the capital goods increasing steeply early in the quarter but more slowly afterwards were motor trucks, construction machinery, machine tools, plastic and rubber industry machinery, oilfield machinery, and aircraft. Demand for most kinds of capital goods other than motor vehicles remained strong during the second quarter, and most producers were able to continue to pass through higher costs for metals and other inputs.

However, after advancing at a rate of nearly 15 percent in the preceding quarter, commercial furniture prices rose only one-third as rapidly from March to June.

Services less energy

The CPI for services other than energy rose at a 20-percent annual rate, nearly as much as in the first quarter, and considerably more than the 13.6-percent advance in 1979. (See table 4.) Much of the second quarter increase occurred because of sharp advances in the contracted mortgage interest cost index, which reflected interest rate hikes that occurred earlier in the year. Transportation service charges continued to move up rapidly, but charges for most other services rose considerably less than in the previous quarter.

The index for mortgage interest rates advanced at an annual rate of about 40 percent for the second consecutive quarter, after rising 16.1 percent in 1979. The sharp boost during the spring reflected the credit-tightening actions by the Federal Reserve Board in the previous quarter. Conventional mortgage interest rates are represented in the CPI by actual contract mortgage loan transactions and not by current commitment rates for future mortgages. Property insurance premiums, which reflect both insurance rate changes and changes in the insured values of constant quality housing, rose at a 16.7-percent rate, about as much as in the first quarter, but faster than during 1979. On the other hand, property taxes turned down. Charges for home maintenance and repair moved up at a much slower rate than in any of the previous 4 quarters.

Prices for transportation services rose at a higher rate than in the preceding quarter. Because of jet fuel costs, airline fares continued to increase sharply, although not as much as during the second half of 1979. The large advances for intercity train fares and taxi fares also were due to fuel costs. Automobile finance charge increases reflected earlier rises in market interest rates.

The rate of increase slowed for the other service categories. Medical care services rose at a rate much less than in the 3 preceding quarters; this slowdown was evident in both professional and hospital related services. Similarly, the indexes for entertainment and personal care services registered much smaller advances than in the first quarter.

Foods and related products

Consumer prices for foods rose at a 5.6-percent annual rate from March to June, more than the 3.8-percent rate in the first quarter, but considerably less than the 12.1-percent annual rate in the fourth quarter of 1979. Retail food increases in the second quarter were greatly influenced by advances in distribution costs, which resulted in large part from earlier rises in energy prices.

Table 3. Changes in retail and producer prices for consumer goods other than food and energy, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended—				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Commodities less food and energy [1]	CPI	100.0	7.5	8.3	10.4	9.7	7.3
	PPI	100.0	7.9	9.1	11.5	17.4	8.3
Apparel, excluding footwear [2]	CPI	10.9	−2.3	7.3	3.0	16.3	−2.4
	PPI	13.8	4.4	4.8	2.5	13.9	8.6
Footwear	CPI	1.9	11.9	7.7	9.2	7.4	3.5
	PPI	3.0	22.7	12.1	4.3	3.7	0
Textile housefurnishings [2]	CPI	1.5	8.7	.5	7.8	18.3	7.3
	PPI	2.1	7.0	8.7	8.1	5.6	5.9
Soap and detergents [3]	CPI	.9	−.2	9.7	11.8	21.2	4.9
	PPI	1.7	4.7	22.4	8.4	11.6	3.1
Cleansing and toilet tissue, paper towels and napkins [3,4]	CPI	.7	5.7	−1.0	14.9	11.8	19.0
	PPI	2.7	4.2	21.7	8.6	31.0	12.5
Tires [5,6]	CPI	1.3	8.8	7.8	18.3	16.9	10.8
	PPI	1.9	11.7	24.6	17.3	20.9	9.6
Furniture [2]	CPI	3.5	4.4	4.4	9.3	17.0	6.0
	PPI	4.3	7.5	8.0	11.7	6.1	10.3
Appliances, including radio and TV	CPI	4.4	2.4	1.8	3.9	3.8	4.1
	PPI	6.3	2.8	2.5	5.0	7.6	10.0
New cars	CPI	9.6	11.3	7.1	0	12.3	10.5
	PPI	15.4	10.2	1.8	7.5	8.5	11.4
Sporting goods and equipment [5]	CPI	1.8	10.5	7.5	3.3	19.1	4.9
	PPI	1.3	8.3	19.7	4.5	16.2	10.0
Tobacco products [2]	CPI	3.1	1.3	10.0	2.5	13.8	10.5
	PPI	3.9	.7	14.7	8.7	19.9	14.2
Gold jewelry [7]	CPI	1.2	5.2	16.4	28.6	60.7	10.8
	PPI	2.9	37.7	62.2	147.8	155.2	9.6
Home purchase [8]	CPI	30.1	16.3	17.1	18.8	7.0	14.9
Used cars [8]	CPI	7.5	−2.5	−4.9	10.5	−2.5	−16.8

[1] Commodities less food and energy account for 34.5 percent of the CPI–U and 51.7 percent of the PPI for finished consumer goods.
[2] Not seasonally adjusted in the PPI.
[3] Not seasonally adjusted in the CPI or the PPI.
[4] "Sanitary papers and health products" in the PPI.
[5] Not seasonally adjusted in the CPI.
[6] "Tires and tubes" in the PPI.
[7] "Jewelry and luggage" in the CPI; not seasonally adjusted in the CPI or the PPI.
[8] Not included in the PPI.

At the primary market level, processor prices for foods fell even more sharply (7.8-percent annual rate) than in the first quarter (1.2-percent annual rate). In both the CPI and PPI, prices for meats fell sharply, while prices for sugar and sweets continued to soar. (See table 5.)

Prices for beef and veal, pork, and poultry declined substantially at both the retail and processor levels reflecting abundant supplies for pork, increased poultry production, and competitive price reductions for beef and veal. At the farm level, prices for cattle, hogs, and live poultry fell at an annual rate of more than 30 percent, the second consecutive quarterly decline. Heavy hog slaughter resulted in lower prices for both hogs and cattle. Live poultry prices fell primarily in response to more than ample broiler and fryer supplies.

Abundant supplies of soybeans caused prices to decline in world markets. As a result, the index for fats and oils moved down, led by lower prices for margarine and shortening. The index for grains declined for the second consecutive quarter, mostly as a result of lower prices for wheat. Favorable growing conditions in areas producing winter wheat raised expectations for an excellent harvest. On the other hand, corn prices averaged higher over the quarter, as extremely dry weather in growing areas resulted in concern about a smaller harvest due to planting delays and inadequate moisture.

Retail prices for sugar and sweets rose at an annual rate of more than 40 percent for the second consecutive quarter, after rising 7.4 percent in 1979. Producer prices for refined sugar for consumers soared nearly as much as in the first quarter; in June, prices were double the year-ago level. Raw sugar prices rose from 18 to 29 cents per pound from December to June. The pattern of price movement in the first and second quarters was similar; unusually sharp increases in February and May were followed by downward adjustments, as speculative purchases contributed to price instability.

Table 4. Changes in consumer service prices, 1979–80

Item	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended—				
		1979			1980	
		June	Sept.	Dec.	Mar.	June
Services	100.0	13.2	14.3	15.8	20.9	21.6
Services less energy	91.7	11.7	14.2	17.1	21.0	20.0
Rent, residential	12.9	8.2	10.2	9.0	8.3	10.0
Household less rent[1]	53.0	17.7	17.3	21.2	28.5	30.8
Home financing, taxes, and insurance	26.6	22.0	25.3	38.1	43.9	44.5
Mortgage interest rates	....	11.5	12.2	24.2	42.8	39.2
Home maintenance and repairs	6.8	11.5	9.7	11.8	20.0	6.7
Gas (piped) and electricity	8.3	28.7	16.6	1.0	21.0	39.8
Housekeeping services	4.9	8.7	9.0	7.6	8.8	8.6
Transportation services	13.9	10.1	12.7	12.7	16.3	18.5
Auto maintenance and repairs	3.6	11.3	9.6	9.5	11.0	11.9
Other private transportation services	7.7	11.2	10.5	6.2	18.7	21.3
Public transportation	2.6	5.3	25.2	39.5	17.3	18.6
Medical care services	9.8	6.7	11.2	12.6	16.9	6.4
Entertainment services	3.7	9.0	5.0	1.9	12.9	9.2
Personal care services[2]	2.2	8.5	9.0	7.2	11.3	7.4
Apparel services[2]	1.6	10.0	11.0	12.7	18.3	14.3
Personal and educational services	2.9	7.5	17.7	5.2	9.8	7.9

[1] Includes items not listed.
[2] Not seasonally adjusted.

Intermediate materials less foods and energy

The index for intermediate materials less foods and energy slowed to a 5.1-percent annual rate in the second quarter, after accelerating to a 17.2-percent rate from December to March. The first quarter advance was the largest since the third quarter of 1974, while the second quarter rise was the smallest since the final quarter of 1977. This dramatic slowdown was principally the result of the sharp drop in precious metals prices, as well as the steep decline in business activity in early spring. In response to low sales levels and high interest costs, manufacturers tried to reduce their stocks of materials and supplies in the second quarter; this led to weaker demand for many items whose prices had risen sharply earlier in the year.

One factor which tended to magnify inflation in the first quarter was widespread commodity speculation, particularly among precious metals. Extremely sharp increases in January brought gold prices to a level more than triple that of January 1979, while silver prices were more than seven times what they were a year prior to then. Partly because of tightened credit markets, gold prices fell about 30 percent over the next 3 months, and prices for silver plummeted about 70 percent through May. Gold and silver prices then rebounded somewhat in June. If the categories for precious metals and photographic film (which contains substantial proportions of silver) were removed from the index for intermediate materials less foods and energy, the first and second quarter annual rates of increase would have been 13.8 percent and 7.2 percent.

The sharp declines in precious metals prices contributed to the downturn in the durable manufacturing materials category, which fell at a 4.4-percent annual rate, after increasing at a 16.1-percent rate in the first quarter and moving up 16.8 percent in 1979. In addition, prices were lower for several other primary nonferrous metals. Copper prices fell because of weakened industrial, construction, and speculative demand and lead prices continued to drop, as production of automobile batteries remained at low levels. In contrast, the index for primary aluminum rose sharply despite weaker domestic demand. The increase reflected higher energy costs, which have a larger impact on aluminum prices than on prices of other metals. Prices for finished steel mill products were raised an average of 3 percent in April, with the largest increases for flat rolled sheet and strip. The increase was attributed to higher labor and energy costs, but there was some discounting by the end of June, in response to slack demand from the automotive industry and others.

Table 5. Changes in retail and producer prices for consumer foods, 1979–80

Commodity	Index	Relative importance December 1979	Compound annual rate, seasonally adjusted except as noted, for 3 months ended				
			1979			1980	
			June	Sept.	Dec.	Mar.	June
Consumer foods[1]	CPI	100.0	6.4	6.5	12.1	3.8	5.6
	PPI	100.0	−9.2	15.3	8.6	−1.2	−7.8
Beef and veal[2]	CPI	10.3	25.6	−17.7	13.2	10.9	−7.6
	PPI	14.6	−20.9	32.0	7.9	−4.3	−22.9
Pork	CPI	4.7	−26.3	−23.5	14.8	−12.4	−23.3
	PPI	6.7	−48.2	1.4	4.4	−21.1	−35.7
Poultry	CPI	2.2	−14.6	−21.6	27.5	−3.9	−15.2
	PPI	3.3	−48.5	−5.0	100.6	−49.0	−25.5
Cereal and bakery products	CPI	8.6	8.3	15.1	11.1	12.6	12.8
	PPI	12.7	21.4	22.8	3.3	15.8	11.0
Dairy products	CPI	9.3	9.2	12.2	7.4	8.4	14.5
	PPI	15.1	11.8	15.2	−.2	9.7	17.5
Fresh fruits and vegetables	CPI	5.0	4.8	31.8	−.2	−28.2	38.1
	PPI	3.8	−12.0	−7.3	15.0	−21.5	35.0
Processed fruits and vegetables	CPI	4.6	9.2	10.1	−1.7	9.0	11.7
	PPI	6.7	4.2	5.1	−8.6	7.3	7.7
Eggs	CPI	1.3	19.7	−35.7	12.8	−21.8	22.7
	PPI	2.1	7.4	−38.8	10.3	−.5	−18.6
Sugar and sweets[3,4]	CPI	2.4	8.0	6.8	3.7	47.2	41.6
	PPI	4.2	5.3	12.1	35.6	59.9	130.2
Coffee, roasted	CPI	1.0	−1.1	126.2	14.6	−2.8	−4.7
	PPI	4.4	22.7	96.9	21.0	−17.8	−7.1
Fats and oil products[5]	CPI	2.0	5.1	9.0	4.2	13.2	−1.5
	PPI	1.9	6.8	14.3	9.8	1.9	−8.4

[1] Includes items not listed. The CPI includes prices of food away from home, which account for about 31 percent of the food index. The PPI for finished consumer foods does not reflect restaurant prices.
[2] Not seasonally adjusted in the CPI.
[3] "Sugar and confectionery" in the PPI.
[4] Not seasonally adjusted in the PPI.
[5] "Vegetable oil end products" in the PPI.

Hardwood lumber prices declined even more than in the first quarter, reflecting weakened demand for household furniture. The indexes for plastic components and laminated plastic film registered very little change after advancing sharply in the previous quarter. The recession restricted the ability of plastic producers to continue passing through petrochemical feedstock price hikes.

The construction materials index slowed to a 3.8-percent annual rate of increase, the smallest quarterly advance in more than 3 years. The annual rate of private housing starts was about 1 million units in the second quarter, less than half the average rate during 1978. Softwood lumber prices fell sharply for the third consecutive quarter, and millwork prices turned down after rising in the first quarter. However, plywood prices turned up sharply in May and June as producers cut their output levels in response to the 13.2-percent decline in prices in the 12 months ending in April. The slowdown in housing construction also led to sharp declines in prices for copper wire and cable, gypsum products, and clay tile. In addition, price increases slowed for several other items such as heating equipment and brass fittings.

The nondurable manufacturing materials index rose at a 13.4-percent annual rate, somewhat less than in any of the five previous quarters. The surge in crude oil prices in early 1980 led to substantial increases in April in the indexes for industrial chemicals, plastic resins and materials, and synthetic rubber. However, decreased demand resulted in moderating prices by June. Among textile products, synthetic fibers prices continued to move up about as much as in the first quarter, mainly because of higher petrochemical feedstock costs. Price increases slowed, however, for processed yarns and threads and finished fabrics, as apparel manufacturers reduced their orders in response to the recession.

Woodpulp prices rose sharply in April, largely because the decreased output of lumber curtailed supplies of wood chips. Higher woodpulp prices, in turn, contributed to accelerating price increases for paper and paperboard. Prices continued to decline for leather and inedible fats and oils, as world supplies exceeded demand.

The manufacturing components index moved up only half as much as in the previous quarter. Weakened industrial demand was the primary factor behind the slowing rates in the indexes for electronic components and accessories, internal combustion engines, motor vehicle parts, electric motors, and switchgear and switchboards.

Price moderation was also evident in other intermediate products. Wooden pallet prices turned down at the beginning of 1980 and continued to decrease through June because of weaker demand, which reflected the lower levels of manufacturers' shipments. Photographic supply prices fell after climbing steeply in February, in response to similar fluctuations in prices for silver, which is heavily used in making camera film. Price increases for mixed fertilizers slowed significantly, following rapid advances during the first quarter of 1980 and much of

of 1979. Fertilizer demand was slow because of poor prospects for crop earnings and high interest costs.

Crude nonfood materials less energy

The index for crude nonfood materials less energy turned down sharply at a 37.5-percent annual rate following an increase at a 6.6-percent rate in the first quarter of 1980. From December 1978 to December 1979, this index rose 13.1 percent. Prices for ferrous scrap fell at an even sharper rate in the second quarter (64.1 percent) than in the first (21.2 percent). Domestic production of steel was far below the levels experienced in 1979; foreign demand for ferrous scrap was also low. Prices for aluminum base scrap declined at a 90.4-percent annual rate after skyrocketing in the previous 2 quarters. The index for copper base scrap registered declines over both the first and second quarters; prices fell sharply in March and April in response to a weakening world market.

Prices for hides and skins and cotton declined as a result of weak export and domestic demand. Prices for wastepaper declined because of poor demand from paperboard mills and the building materials industry. Natural rubber prices turned down as speculators liquidated holdings because of reduced demand from tire manufacturers and other industrial users. In contrast, higher prices were registered for iron ore, in response to increased labor costs, and for sand and gravel, because of higher energy costs.

FOOTNOTES

[1] "Primary stocks" refer to petroleum products stored at the refinery or at bulk terminals, and exclude inventories of retailers, jobbers, etc.

[2] American Petroleum Institute figures show a decrease in gasoline deliveries from primary storage of about 8 percent from April 1979 to April 1980.

Cost-of-living indexes for Americans living abroad

The U.S. Department of State has prepared new indexes of living costs abroad for Americans in Canberra, Ottawa, Madrid, and Caracas. The new indexes are 3 percent higher for Madrid, 1 percent higher for Ottawa, and about 2 percent lower for Canberra and Caracas than previous indexes. (See table 1.) The periods between survey dates were 8 months for Canberra and about 1 year for the other cities.

The new indexes reflect changes in the exchange rates used to calculate the indexes, as well as changes in the prices of goods and services (excluding housing and children's education) between survey dates. Also, the new indexes were computed by the Bureau of Labor Statistics, using new expenditure weights derived from 1972–73 Consumer Expenditure Survey data for Washington, D.C. The new weights are being used to compute all indexes based on retail price surveys conducted after July 1979.

The higher index of living costs for Americans in Madrid reflects the depreciation of the U.S. dollar relative to the peseta, and the lower index for Canberra reflects a small improvement in the exchange rate value of the U.S. dollar versus the Australian dollar. For Americans in Ottawa and Caracas, the exchange rates were essentially unchanged, but the new surveys showed average prices paid in national currency were up by 2 percent in Ottawa, but were 2 percent less in Caracas, compared with prices in Washington, D.C.

Because exchange rates are subject to sudden shifts, it is advisable to check the prevailing rates whenever using the indexes of living costs abroad.

The indexes for all 162 reporting cities are published in quarterly reports entitled *U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances.* The entire list is published in April of each year. The reports are available upon on request from the Office of Publications, Bureau of Labor Statistics.

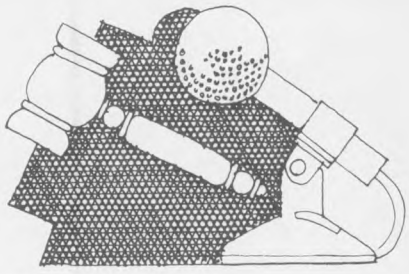
The methods of compilation and use of the indexes are described in *U.S. Department of State Indexes of Living Costs Abroad and Quarters Allowances: A Technical Description* (BLS Report 568, April 1980), also available from the Office of Publications, Bureau of Labor Statistics. □

Table 1. Indexes of living costs abroad, excluding housing and education, May 1980

[Washington, D.C.=100]

Country and city	Survey date	Monetary unit	Rate of exchange per US $1	Local index
Argentina: Buenos Aires	Oct. 1979	Peso	1483	142
Australia: Canberra	Dec. 1979	Dollar	0.8917	118
Belgium: Brussels	Mar. 1979	Franc	30.0	158
Brazil: Sao Paulo	Apr. 1979	Cruzeiro	23.0	115
Canada: Ottawa	Nov. 1979	Dollar	1.18	100
France: Paris	Mar. 1979	Franc	4.32	166
Germany: Frankfurt	Mar. 1979	Mark	1.87	164
Hong Kong: Hong Kong	May 1979	Dollar	5.08	112
India: New Delhi	July 1979	Rupee	8.11	93
Italy: Rome	Oct. 1978	Lira	840	114
Japan: Tokyo	Mar. 1979	Yen	212	183
Mexico: Mexico, D.F	Feb. 1977	Peso	22.0	78
Netherlands: The Hague	Feb. 1979	Guilder	2.06	154
Philippines: Manila	Jan. 1979	Peso	7.38	89
South Africa: Johannesburg	Dec. 1977	Rand	0.8697	91
Spain: Madrid	Dec. 1979	Peseta	66.0	124
Sweden: Stockholm	June 1979	Krona	4.24	173
Switzerland: Geneva	May 1979	Franc	1.65	184
United Kingdom: London	July 1979	Pound	0.4757	130
Venezuela: Caracas	Oct. 1979	Bolivar	4.28	137

SOURCE: U.S. Department of State, Allowances Staff.



Conventions

Auto Workers seek Government aid for laid-off workers, ailing industry

LARRY T. ADAMS

Amid the most severe downturn in automobile production since 1963, the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW-Ind.) held its 26th constitutional convention in Anaheim, Calif. In his keynote speech, President Douglas Fraser reminded the 3,000 delegates that 235,000 auto workers were on layoff, foreign auto and truck imports were taking an ever increasing share of a shrinking U.S. domestic market and, summing up the outlook for the industry, that "if you see a light at the end of the tunnel, it is probably an oncoming freight train."

The triennial convention was held June 1–6 during a sharp slump in automobile demand. For the most part the problems in the industry are due to the recession and high interest rates and the related encroachment of imports into the U.S. domestic market. With the high cost of gasoline, as well as concern about its continued availability, demand for autos has shifted from large and mid-size cars to more efficient compact and subcompact models. Foreign carmakers have captured a growing share of the market; imports rose from 18 percent of auto sales in 1978 to 28 percent in early 1980. A similar trend has occurred in the U.S. truck market with foreign models accounting for 9 percent of sales in 1978, 15 percent in 1979 and 23 percent in early 1980.[1]

As the U.S. car and truck makers close plants, some permanently and others for retooling to manufacture smaller, more efficient vehicles, record numbers of autoworkers have been placed on temporary or permanent layoff. Nearly 325,000 are now on layoff, with more furloughs anticipated in the future, in contrast to the downturn experienced during 1973–75 when 213,000 UAW members were out of work.[2]

Government help sought

Historically, the UAW has pursued the goals of economic security for its members through creative collective bargaining strategies. However, faced with a deepening nationwide recession and severe competition from imports, the union is now turning to the government for measures which will secure the long-term survival of the industry.

Trade barriers. In a dramatic break with the UAW's free trade position, the delegates were told that the union has begun legal steps to secure temporary import protection until U.S. automakers increase small car capacity to obtain a competitive marketing position.

Claiming that "Japanese auto manufacturers—especially Toyota and Nissan—are unfairly exploiting the U.S. companies' past neglect of small car production," the UAW has filed for import relief under the Trade Act of 1974.[3] As domestic automakers move toward a mix of vehicles consistent with current market demand, the Auto Workers seek temporary trade barriers to protect the shrinking U.S. share of the domestic auto market. Confronted with forecasts that 60 percent of auto sales by 1985 will be foreign made vehicles, Fraser noted that "as penetration increases you're going to find it more difficult to turn back that penetration and get your market back. And there is a very simple reason for that. When the American consumer goes into the market and buys a big ticket item, like an automobile, and that automobile is well designed, a quality product on which they get good service and durability—when they go back in the market three or four or five years after that first purchase, they're apt to buy the same product."

The petition requests relief from import competition by all countries, except Canada, for 5 years (to be phased down after 3 years). The UAW asked the International Trade Commission to recommend to the President (1) that the duty on new passenger vehicles be increased from 2.9 percent to 20 percent; (2) that quotas be imposed on imports based on 1975 or 1976 import levels; and (3) that imports assembled principally from U.S. or Canadian labor, components, or material be excluded from the tariffs and quotas.

Assistance to workers on layoff. The delegates adopted a number of resolutions aimed at maximizing the economic assistance available to workers on layoff. The mainstay of the Auto Workers economic aid package is the Supplemental Unemployment Benefits Plan (SUB), pio-

Larry T. Adams is an economist in the Division of Industrial Relations, Bureau of Labor Statistics.

neered by the UAW in 1955. Under this program, participating employers contribute a specified amount per hour worked to the SUB fund. The benefits disbursed from the fund, when added to the unemployment compensation or other transfer payment due the worker, provide compensation equal to a specified percent of the employees' pre-layoff earnings. However, during prolonged periods of high unemployment in the auto industry funds have been depleted, with workers furloughed late in the layoff period receiving little or no compensation from the fund. Any increase in transfer payments (unemployment insurance benefits, Federal-State extended unemployment benefits and Trade Readjustment Assistance benefits) to affected workers increases the fund's ability to assist a greater number of workers over a longer period of time.

Unemployment insurance. The delegates called for the enactment of a single Federal unemployment insurance program to supplant State laws currently in force. The proposal commits the UAW to seek an unemployment insurance program that would insure payment equal to at least two-thirds of the employee's average weekly earnings; provide medical and hospital benefits for the duration of the eligibility period; protect pension and social security credits; and increase the basic eligibility period to 52 weeks.

To provide additional economic assistance to laid-off workers and protect the solvency of the SUB funds, the UAW and the AFL-CIO joined in filing suit against the U.S. Department of Labor on the issue of extended unemployment insurance payments authorized under the Federal-State Extended Unemployment Compensation Act 1970. This legislation provides an additional period of unemployment insurance eligibility when the national rate of insured unemployment reaches 4.5 percent for a period of 13 weeks. At issue in the suit is the method of calculating the 4.5-percent trigger rate. During previous economic downturns, the trigger percentage was calculated using both the number of currently eligible unemployment insurance recipients as well as those having exhausted their benefits. Under regulations now issued by the Department of Labor, only the currently insured unemployed are used to calculate the trigger, thereby forestalling or precluding extended Federal-State unemployment benefits during the current recession.

Trade Act coverage. Extensive use has been made of the benefits provided workers under the Trade Act of 1974. The Act provides that workers laid off substantially as a result of imports are eligible for a Trade Readjustment Assistance allowance of up to 70 percent of their average weekly earnings for up to 52 weeks (with the SUB fund augmenting that amount up to a fixed percentage). Between April of 1975 and September of 1979, $168 million in assistance was paid to 94,300 UAW members. Since October 1, of last year, $150 million has been paid to 50,000 workers on layoff from Chrysler and 200,000 more auto industry workers have been certified as eligible to receive benefits.

The delegates lauded the Trade Readjustment Assistance as a great help in adjusting to the economic dislocations currently rocking the industry, but many felt that the act unfairly discriminates against many thousands of employees on layoff from independent parts suppliers. Parts employees are deemed eligible for assistance only if the manufactured part is imported as a separate item, not as a part of an assembled vehicle. Under the present act, few, if any, of the parts workers will receive benefits during the current downturn. A resolution was passed to seek benefits for these workers.

Plant closings. While there was much concern about the thousands of workers on temporary layoff, the most fervently debated resolution dealt with a cause of permanent job loss—plant closings. Although conceding the inevitability of economic change in a free economy, the resolution, detailing the personal and social costs of economic dislocations, called for the passage of the National Employment Priorities Act now before Congress.

The pending legislation would require advance notice of plant closings and investigatory hearings by the Department of Labor to determine the economic necessity for the closing, the anticipated economic and social loss to the employees and the local government, and alternatives to mitigate the adverse impact of the plant closing.

In addition to providing financial assistance to the employer to aid in averting a plant closing, the proposed act would provide an affected employee with transfer rights, relocation expenses, income and fringe benefit protection, job search assistance and special protections for older workers. To aid the affected local communities, the act stipulates payment by the corporation to the local government to compensate for the loss of tax revenue and a similar payment to the Federal Government if the plant closing involves moving operations out of the United States.

Changes in leadership

Four officers who worked with Walter Reuther in shaping the UAW announced their retirement: Emil Mazey, Pat Greathouse, Irving Bluestone, and Ken Bannon. The turnover of leadership will be complete with Fraser's retirement in 1983, but the liberal and innovative outlook of the union is not expected to change.

President Fraser, three incumbent vice presidents and the four new international officers ran unopposed and were elected by acclamation. Ray Majerus was elected to the office of secretary-treasurer. Owen Beiber, Don

Ephlin, and Stephan Yokich were elected to replace the three retiring vice-presidents.

In announcing the responsibilities of the four new officers, Fraser cautioned against using the distribution of duties for speculation on his successor. Ray Majerus will handle negotiations with the American Motors Corp. and the union's aerospace employers; Yokich will direct the agricultural implement department, a function performed primarily by Greathouse before his retirement. Don Ephlin will succeed Ken Bannon as director of the Ford Motor Corp. department; and Owen Bieber will assume responsibility for the General Motors Corp. department.

Other issues

Constitutional changes. In action to amend the constitution, the delegates raised the salaries of the international officers and changed the dues levy on members receiving SUB payments from a fixed $5 per month to one hours' pay (before layoff) per month. The convention also ratified an amendment diverting one-half of the interest earned on strike-fund investments to a special account, under the control of the International Executive Board, for organizing, education, and communication.

Presidential endorsement. Fraser stressed the need for the UAW to play an active part in the upcoming national elections. He further stated, however, that "the politics of our nation are in disarray" and that "the international executive board and the [delegates] . . . are never of one mind" on the matter of a presidential endorsement. Therefore, the union will poll the delegates at a later date to determine the will of the membership prior to making an endorsement.

Codetermination. While Fraser has drawn criticism from management, academicians and other union leaders for his election to the board of directors of the Chrysler Corp., similar feelings were not common among the delegates. Fraser won a seat on Chrysler's board as a concession for the union's role in aiding the ailing auto maker. He acknowledges that his dual role might pose a conflict but considers it necessary for a voice to be heard within the boardroom before irrevocable decisions are made. He declared to the delegates and the shareholders of Chrysler that the principle which will guide him in the role of board member "is that the workers of this country, whether it [sic] be [at] Chrysler or Ford or anyplace else are entitled to a voice in their own destiny and their own future." □

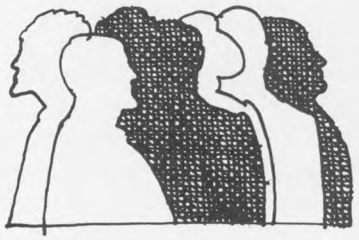
FOOTNOTES

[1] *UAW Resolutions Committee Report Number 3,* 26th Constitutional Convention, 1980, p. 85.

[2] See Clyde W. Farnsworth, "Carter Gets Car-Industry Aid Study," *The New York Times,* July 3, 1980, p. D–1.

[3] A companion petition has been filed by the Coalition of Auto Component and Supply Workers, an alliance of 11 auto industry unions. (See p. 60, this issue.)

Special Labor Force Reports—Summaries



School and work among youth during the 1970's

ANNE MCDOUGALL YOUNG

The employment situation for 16-to-24-year-old youths enrolled in school was about the same in October 1979 as a year earlier. Among out-of-school youths, unemployment had risen for the first time since the 1974–75 recession.

The number of youths not enrolled in school who were in the labor force was about 200,000 higher in October 1979 than in October 1978,[1] mostly because of an increase in unemployment (table 1). Surprisingly, however, this rise in unemployment did not occur among the groups usually most susceptible to joblessness. Rather than affecting school dropouts, the increased burden fell primarily on high school graduates who had not gone on to college; their unemployment rate rose from 8.7 to 9.8 percent. Thus, while the proportion of workers with some college education was increasing in all occupational groups, the youths with no more than a high school diploma were apparently at some disadvantage during the uncertain economic conditions of autumn 1979.

There was little change over the year in the already high unemployment rate for high school dropouts, which remained at about 19 percent in October 1979. However, the number of employed youths with less than a high school education increased, particularly among those 20 to 24 years old. This may reflect, in part, the entry into the youth labor force of recent immigrants from less developed countries, many of whom have only a few years of formal schooling. (Data from the U.S. Immigration and Naturalization Service for fiscal year 1978 indicate that nearly 30 percent of the 601,000 legal immigrants were 20 to 29 years old.)[2]

Approximately 7.3 million youths, half of all students, were combining school and work in October 1979. Young women were about as likely as young men to be working or looking for work. Among younger students with jobs, most worked part time (less than 35 hours per week); among the older students, those 22 to 24 years old, about half worked full time (35 hours or more per week).

Black youths enrolled in school were much less likely than white youths to be in the labor market. Their labor force participation rate was almost 25 percentage points below that for white students at the high school level and over 10 points lower among those enrolled in college. These lower rates reflect, in part, the limited employment opportunities in the inner city, where blacks are concentrated, and the isolation of many black colleges in rural areas where the chances of employment are also slim. High unemployment rates among black students—triple those of white students—were also apt to discourage job seeking.

Recent high school graduates and dropouts

The high school graduating class of 1979 was the same size as in 1978—about 3.2 million. As in 1978, approximately half of these high school graduates had enrolled in college by October (table 2). The probability of going on to college after graduation from high school was nearly the same for women as for men and differed little between whites and blacks, these differences having gradually disappeared since 1970. However, even though the proportion of graduates entering college was about the same for all sex and minority groups, the proportion of 18-and-19-year-olds who were eligible for college was much lower among minority groups than among whites. Just 57 percent of the blacks and 54 percent of the Hispanics, compared with 75 percent of the whites in that age group, had completed high school. Overall, the proportion of young people enrolling in college immediately after high school graduation has been inching downward in recent years—from 51 percent in 1977 to 49 percent in 1979.

Labor force participation rates in October 1979 for recent high school graduates continued close to the peak levels reached in 1977—42 percent among those in college and 87 percent among those not in college. As might be expected, youth enrolled full time in college had a relatively low labor force rate of 39 percent, but the rate for part-time college students (84 percent) almost matched that of recent high school graduates no

Anne McDougall Young is an economist in the Office of Current Employment Analysis, Bureau of Labor Statistics.

longer in school. Unemployment edged upward among all recent graduates, whether or not enrolled in school.

Both the labor force participation rate and the unemployment rate for the approximately 800,000 youths who had dropped out of elementary or high school over the course of the year were about the same in October 1979 as in October 1978, at 66 and 26 percent, respectively. School dropouts were not nearly as likely to be in the labor force as youths of the same age who had graduated from high school. Also, the unemployment rate for dropouts was more than one and a half times that of graduates.

Changes over the decade

The 1970's have witnessed a sharp increase in the size of the youth labor force, not only because of population growth but also because of a substantial rise in the labor force participation rates of various youth groups. For example, in October 1970 there were about 18 million 16-to-24-year-olds in the labor force, or 59 percent of the group's population (table 3). As the decade was drawing to a close, the rapid growth of the youth population, fueled by the baby boom which followed World War II, was also coming to an end. Reflecting the rapid decrease in births which began in the early 1960's, the

Table 1. Employment status of persons 16 to 24 years old, by school enrollment status, educational attainment, sex and race, October 1978 and October 1979

(Numbers in thousands)

Characteristic	Civilian noninstitutional population		Civilian labor force									
			Number		Percent of population		Employed		Unemployed			
									Number		Unemployment rate	
	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979	1978	1979
Total, 16 to 24 years old	35,931	36,131	24,278	24,340	67.6	67.4	21,654	21,556	2,621	2,785	10.8	11.5
Enrolled in school	15,329	15,262	7,475	7,341	48.8	48.1	6,539	6,392	936	949	12.5	12.9
16 to 19 years	11,084	10,972	5,066	4,883	45.7	44.5	4,289	4,143	775	739	15.3	15.1
20 to 24 years	4,245	4,290	2,409	2,458	56.7	57.3	2,250	2,249	161	210	6.7	8.5
Men	7,948	7,861	3,937	3,802	49.5	48.4	3,431	3,295	506	506	12.9	13.3
Women	7,381	7,402	3,538	3,539	47.9	47.8	3,106	3,093	430	445	12.2	12.6
White	12,920	12,921	6,707	6,594	51.9	51.0	5,990	5,868	716	726	10.7	11.0
Black	2,024	2,006	600	622	29.6	31.0	411	409	188	213	31.3	34.2
Elementary and high school	8,061	7,971	3,699	3,628	45.9	45.6	3,069	3,021	626	607	16.9	16.7
Men	4,220	4,233	2,023	1,985	47.9	47.0	1,671	1,668	350	317	17.3	16.0
Women	3,841	3,738	1,676	1,643	43.6	44.0	1,398	1,353	276	290	16.5	17.7
White	6,616	6,556	3,318	3,268	50.2	49.8	2,825	2,811	493	458	14.9	14.0
Black	1,291	1,266	323	319	25.0	25.1	207	177	117	143	36.2	44.8
Hispanic origin	490	483	181	143	36.9	29.6	141	107	39	37	21.5	25.8
College	7,269	7,291	3,778	3,711	52.0	50.9	3,467	3,368	314	345	8.3	9.3
Men	3,730	3,628	1,917	1,816	51.4	50.1	1,759	1,629	157	189	8.2	10.4
Women	3,539	3,663	1,861	1,895	52.6	51.7	1,708	1,739	157	156	8.4	8.2
Full-time students	6,043	6,079	2,674	2,608	44.2	42.9	2,411	2,315	260	293	9.7	11.2
Part-time students	1,225	1,213	1,106	1,103	90.3	90.9	1,054	1,053	54	50	4.9	4.5
White	6,305	6,365	3,391	3,327	53.8	52.3	3,162	3,057	225	269	6.6	8.1
Black	733	741	276	302	37.7	40.8	207	234	70	68	25.4	22.5
Hispanic origin	269	311	174	150	64.7	48.2	168	134	10	17	5.7	11.3
Not enrolled in school	20,602	20,869	16,803	16,999	81.6	81.5	15,115	15,164	1,685	1,836	10.0	10.8
School dropouts	5,113	5,263	3,412	3,512	66.8	66.7	2,777	2,845	634	667	18.6	19.0
Men	2,572	2,650	2,225	2,248	86.5	84.8	1,851	1,892	373	356	16.8	15.8
Women	2,541	2,614	1,187	1,264	46.7	48.4	926	953	261	311	22.0	24.6
16 to 19 years	2,087	2,085	1,381	1,344	66.2	64.5	1,052	1,036	329	308	23.8	22.9
20 to 24 years	3,027	3,178	2,030	2,168	67.1	68.2	1,725	1,809	305	359	15.0	16.6
White	4,101	4,167	2,811	2,873	68.5	68.9	2,350	2,402	461	471	16.4	16.4
Black	939	988	558	565	59.4	57.2	392	386	166	179	29.7	31.7
Hispanic origin	726	758	499	521	68.7	68.7	419	437	80	84	16.0	16.1
High school graduates	15,489	15,604	13,391	13,488	86.5	86.4	12,341	12,322	1,050	1,166	7.8	8.6
Men	7,062	7,197	6,747	6,863	95.5	95.4	6,297	6,359	450	504	6.7	7.3
Women	8,427	8,407	6,644	6,625	78.8	78.8	6,044	5,962	600	663	9.0	10.0
White	13,602	13,653	11,865	11,940	87.2	87.5	11,109	11,050	757	890	6.4	7.6
Black	1,664	1,675	1,338	1,325	80.4	79.1	1,066	1,068	272	257	20.3	19.4
Hispanic origin	697	691	564	573	80.9	82.9	510	512	54	61	9.6	10.6
High school, no college	11,063	11,094	9,383	9,382	84.8	84.6	8,569	8,460	814	922	8.7	9.8
College, 1 to 3 years	3,018	3,017	2,652	2,683	87.9	88.9	2,502	2,509	150	174	5.7	6.4
College graduates	1,408	1,493	1,355	1,423	96.2	95.2	1,269	1,352	86	71	6.3	5.0

Table 2. School enrollment and labor force status of 1979 high school graduates and 1978–79 school dropouts,[1] by sex and race, October 1979

Characteristic	Civilian noninstitutional population	Civilian labor force				
		Number	Labor force participation rate	Employed	Unemployed	
					Number	Unemployment rate
Total, 1979 high school graduates	3,160	2,048	64.8	1,741	307	15.0
Men	1,474	974	60.1	846	128	13.1
Women	1,686	1,074	63.7	895	179	16.7
White	2,773	1,848	66.6	1,607	241	13.0
Black	317	156	49.2	100	56	35.9
Hispanic origin	154	104	67.5	86	18	17.3
Enrolled in college	1,559	660	42.3	582	78	11.9
Men	743	302	40.6	267	35	11.6
Women	816	358	43.9	315	43	12.0
Full-time students	1,431	553	38.6	478	75	13.6
Part-time students	128	107	83.6	52	2	1.9
White	1,376	613	44.5	545	68	11.1
Black	147	33	22.4	25	8	(2)
Hispanic origin	69	35	(2)	28	7	(2)
Not enrolled in college	1,601	1,388	86.7	1,159	229	16.5
Men	731	672	91.9	579	93	13.8
Women	870	716	82.3	580	136	19.0
White	1,397	1,235	88.4	1,062	173	14.0
Black	170	123	72.4	75	48	39.0
Hispanic origin	85	69	81.1	58	11	(2)
Total, 1978–79 school dropouts[3]	794	523	65.9	387	136	26.0
Men	394	310	78.6	252	58	18.7
Women	400	213	53.3	135	78	36.6
White	622	426	68.5	328	98	23.0
Black	154	82	53.2	46	36	43.9
Hispanic origin	71	47	(2)	38	9	(2)

[1] 16 to 24 years old.
[2] Percent not shown where base is less than 75,000.
[3] Persons who dropped out of school between October 1978 and October 1979. In addition, 94,000 persons 14 and 15 years old dropped out of school.

number of youths under 20 years of age had already begun to decline. However, the youth labor force had continued to grow, having reached 24.3 million by October 1979, while the labor force participation rate for 16-to-24-year-olds had risen to 67 percent.

Whether because of inflation, peer pressure, desire for work experience, or other reasons, the proportion of students participating in the labor force rose about 6 percentage points for men and 10 percentage points for women during the 1970's. This growth largely reflects the recent enrollment increase in 2-year colleges. These students are much more likely to be in the work force while attending school than are students enrolled in 4-year colleges and universities.

Among whites, the increase in student labor force activity over the 1970's was evident both among young men and women. Among blacks, however, labor force participation increased only among women, but overall population growth for blacks was faster than for whites. As a result, blacks constituted about the same proportion of the student labor force in 1979 as in 1970.

Despite the increases in participation among students, it should be noted that 7 out of 10 of the 16-to-24-year-olds in the labor force were not enrolled in school either in 1970 or 1979. The labor force participation rates of the nonstudent youths, already relatively high in 1970, edged up slightly for men, from 92 to 93 percent, and increased sharply for women, from 60 to 72 percent. Delayed marriage and childbearing have contributed to the rise in labor force activity among these young women.[3]

Although high relative to the rates for other segments of the population, the unemployment rates for youths in and out of school were about the same or slightly lower in October 1979 than in October 1970, as shown below:

Characteristic	*1970*	*1979*
Enrolled		
Total	13.2	12.9
White	12.1	11.0
Black and other races	26.0	34.2
Not enrolled		
Total	10.9	10.8
White	9.7	9.2
Black and other races	18.8	23.1

The major exception was the situation among black youths; the unemployment rate of black students (34.2 percent in October 1979) had increased by about 9 percentage points over the decade, and the rate for those not enrolled (23.1 percent) was 4 percentage points higher than in 1970.

A striking feature of youth employment problems during the 1970's was that, unlike the previous decade, half of all unemployed teenagers were enrolled in school—mainly high school. For example, 42 percent of the unemployed black youths were in high school in October 1979—up from 34 percent 9 years earlier—as were 40 percent of the whites. The importance of determining the school enrollment status of unemployed youths in terms of public policy has been reemphasized by the National Commission on Employment and Unemployment Statistics. The Commission has recently recommended that youth enrollment status be determined each month in the Current Population Survey, rather than annually in October.[4] More frequent enumeration of the unemployed by school enrollment status would provide improved estimates of the number and type of jobs needed to relieve teenage unemployment. Certainly the unemployment problems of students, many of whom are seeking only part-time work, require very different poli-

Table 3. Population and labor force participation rates of persons 16 to 24 years old, by school enrollment status, sex, race, and age, October 1970 and October 1979

Characteristic	All persons				White				Black and other races[1]			
	1970		1979		1970		1979		1970		1979	
	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate	Population	Labor force participation rate
ENROLLED												
Men												
16 to 24 years	7,420	42.9	7,861	48.4	6,612	44.5	6,679	51.4	808	29.2	1,182	31.0
16 and 17 years	3,537	38.9	3,758	45.9	3,086	41.1	3,141	50.4	451	23.9	617	22.9
18 and 19 years	1,822	41.2	1,874	42.3	1,625	42.3	1,587	45.1	197	31.5	287	27.2
20 and 21 years	1,130	43.3	1,239	50.8	1,030	44.5	1,088	52.2	100	31.0	150	40.7
22 to 24 years	931	60.9	990	66.4	871	61.1	863	66.2	60	([2])	128	67.2
Women												
16 to 24 years	6,187	38.0	7,401	47.8	5,375	40.0	6,243	50.6	811	25.3	1,158	32.9
16 and 17 years	3,389	33.5	3,521	43.5	2,922	35.5	2,951	47.1	466	20.4	570	25.1
18 and 19 years	1,502	37.7	1,819	45.9	1,301	39.4	1,519	49.1	201	26.9	300	29.7
20 and 21 years	817	44.8	1,208	51.3	719	46.9	1,063	50.9	98	29.6	145	54.5
22 to 24 years	479	60.1	853	64.7	433	60.3	710	67.9	46	([2])	143	49.0
NOT ENROLLED												
Men												
16 to 24 years	6,840	91.9	9,847	92.5	5,790	93.2	8,522	93.6	1,050	84.9	1,325	85.4
16 and 17 years	338	75.7	379	71.0	264	79.9	339	72.6	74	([2])	40	([2])
18 and 19 years	1,527	86.7	2,149	89.9	1,276	88.9	1,858	91.3	251	75.7	291	81.1
20 and 21 years	1,522	92.6	2,679	93.0	1,263	93.7	2,294	95.0	258	87.2	386	81.1
22 to 24 years	3,453	95.5	4,640	95.2	2,987	96.0	4,031	95.7	467	92.3	608	91.9
Women												
16 to 24 years	9,804	60.0	11,022	71.6	8,463	60.3	9,296	73.5	1,340	57.9	1,726	61.0
16 and 17 years	435	41.1	499	53.5	361	43.5	414	55.8	74	([2])	85	42.4
18 and 19 years	2,107	63.7	2,372	73.9	1,808	65.0	2,016	77.0	299	55.9	356	56.2
20 and 21 years	2,651	62.8	2,974	70.6	2,272	63.6	2,474	73.4	378	58.2	500	56.6
22 to 24 years	4,611	58.4	5,177	72.8	4,022	57.9	4,392	73.7	589	62.3	785	68.0

[1] Data are for black and other races, whereas data in other tables in this report are for blacks only.
[2] Percent not shown where base is less than 75,000.

cy approaches than do those of youths who have dropped out of school before high school graduation or who are graduates just starting their careers. □

FOOTNOTES

[1] This report is based primarily on supplementary questions in the October 1979 Current Population Survey, conducted and tabulated for the Bureau of Labor Statistics by the Bureau of the Census. Most data relate to persons 16 to 24 years of age in the civilian noninstitutional population in the calendar week ending Oct. 13, 1979.

Sampling variability may be relatively large in cases where the numbers are small. Small estimates, or small differences between estimates, should be interpreted with caution.

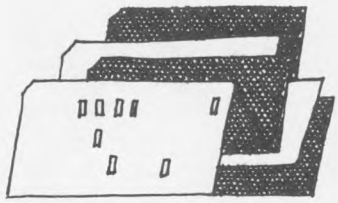
The most recent report in this series was published in the *Monthly Labor Review,* October 1979, pp. 34–38, and printed with additional tabular data and explanatory notes as Special Labor Force Report 223.

[2] *U.S. Immigration and Naturalization Service, Annual Report, Fiscal 1978,* table 10.

[3] Beverly L. Johnson, "Changes in marital and family characteristics of workers, 1970 to 1978," *Monthly Labor Review,* April 1979, pp. 49–52, reprinted as Special Labor Force Report 219.

[4] National Commission on Employment and Unemployment Statistics, *Counting the Labor Force,* Sept. 2, 1979, p. 90.

Research Summaries



How the disabled fare in the labor market

BARBARA L. WOLFE

Increasing attention is being paid to the disabled. Legislation has been passed requiring easier access to buildings; income maintenance plans now exist for those with reduced earnings capacity; there are training programs to improve the productivity of some of the disabled. Yet, little is known about the disabled. Who are they? Do they work, and where? Are they married? Are they as educated as the nondisabled? What is their economic position?

This report provides a description and some analysis of noninstitutionalized disabled persons ages 20 to 64. Emphasis is on labor force behavior, including amounts of work, occupational distribution, and wage rates.

The problem is widespread. Some 12 to 15 percent of the population in this age range is disabled. (The spread reflects differences in the definition.) This represents some 15 million prime-age adults. According to the 1972 Survey of the Disabled, musculoskeletal disorders (36 percent), followed by cardiovascular problems (21 percent), account for much disability. Considerably smaller amounts are accounted for by mental, respiratory, and digestive disorders. For some purposes, it would clearly be more interesting to study individually, each medically classified group. But, to get an overall, current view of the disabled, and to compare them to the nondisabled, in terms of socioeconomic well-being, a choice was made to use data that do not contain such medical information, but instead, focus on the overall socioeconomic picture.

The first part of this report presents the methods used to define the disabled. The second details who the disabled are.

Defining disability

One major difficulty in all research in this area is how to define the disabled. Some recent studies have used self-reported health status,[1] which emphasizes work limitation or self-assessed capacity for work.[2] This is tied to current program definitions that emphasize the long-run or chronic nature of the disability.

In this study the Current Population Survey (CPS) was selected because a recent data source is desirable. Also, the base should be one that is nationwide, representive, and contains both labor force and demographic information. These reasons made the most recent CPS most attractive for studying the disabled.

The CPS does not include as much information on disability as is available in alternative data sources. For example, there is no information regarding limitations in housekeeping. But there is information about whether the amount of work the disabled person can do is limited. In addition, the information on program participation makes it possible to identify some other members of the disabled population. Thus, it seems that the most recent CPS (1977) was perhaps the best suited data source.

The goal is to define all those who are disabled in a long-term sense—not just those who are working part-time or who are being served by a program for the disabled. The targeted group was restricted to the noninstitutionalized population ages 20 to 64 because younger persons are generally dependents or students, while those older are eligible for a wide variety of programs because of their age. Using the 1977 CPS, the disabled are defined by three basic categories: program participation, work limitation, and low wage and participation in a sheltered workshop occupation.

By program participation. There are a number of programs designed specifically for the disabled. Included here are those that provide income: disability benefits under social security; supplemental security income (SSI), an income-tested program; railroad disability annuities; workers' compensation; and disabled veterans' benefits.[3]

Seven percent of the population is defined as disabled, according to program participation (table 1). This includes 9.1 percent of men and 5.04 percent of women; 6.7 percent of white persons and 8.3 percent of nonwhite; and 4.5 percent of those ages 20 to 34, 5.6 percent of those 35 to 44, 8.6 percent of those 45 to 54, and 12.9 percent of the oldest age group, 55 to 64.

By work limitation. The individuals included here either do not work or are limited in the amount of work they

Barbara L. Wolfe is an assistant professor of economics and preventive medicine at the University of Wisconsin, Madison.

can perform.[4] This approach should include those who are unable to work or who are ill for substantial periods of time, while excluding those who missed work because of short-term, acute illnesses. By this definition, 6.9 percent of the population is disabled. This includes 7.5 percent of men and 6.3 percent of women; 6.3 percent of white persons and 11.1 percent of nonwhite; and 3.5 percent of those 20–34, 5.7 percent of those 35–44, 9.2 percent of those 45–54, and 14.1 percent of those 55–64.

The highest percentages of persons are designated "unable to work" on the basis of not working at all the previous year; the second highest percentages represent those who worked some last year. Unfortunately, the study directed no questions specifically toward limitations in housework, and the resulting low percentages of disabled women are probably largely the result of this.

By special work program. It is also desirable to include individuals who are in work programs designed especially for the disabled. Because many individuals may not respond to inquiries directed at work limitations, an additional definition is used; individuals whose wage rate is positive but less than $1 are included as disabled if their occupations are in sheltered workshops. This includes nonprivate housecleaning, food, health and personnel, certain laborers, some operatives, and certain sales and clerical workers. A total of 1.46 percent of individuals ages 20–64 are disabled by this definition.[5]

Using all of these definitions, 12.3 percent of the population ages 20–64 is disabled, or about 14.3 million individuals, slightly below the 14.6 percent (15.5 million) in the 1972 Survey of the Disabled (SDA). Most of the differences lie in the count of women: in the survey, 15.2 percent of women were classified as disabled, while here only 11.2 percent are classified as disabled. The comparative percentages for males are 14.0 percent for the SDA and 13.5 percent for W-CPS. The larger difference for women is probably related to the lack of information concerning housewives.

In other respects, the two surveys show similar disability patterns: more of the disabled in the South than in the other major regions, fewer white persons than nonwhite, and a greater percentage among older age groups.

Table 1. Government program and labor force participation rates for the disabled

Category	Disabled as percent of population aged 20–64		
	Men	Women	Total
Total[1]	13.5	11.2	12.3
Programs			
Total	9.1	5.0	7.0
Supplementary Security Income	0.9	1.4	1.2
Social Security	3.0	3.4	3.2
Veterans Compensation	4.7	—	2.1
Workmen's Compensation	3.0	0.6	1.3
Reductions in labor force participation			
Total	7.5	6.3	6.9
Did not work: ill last year	4.2	3.6	3.9
Unable to work: last week	2.3	0.8	1.5
Worked some last year: ill	3.1	2.4	2.7
Worked some last week: ill	0.2	0.4	0.3
Low wage: Sheltered workshop occupation	1.0	1.9	1.5

[1] Nonadditive: many defined to be disabled by more than one definition.

Characteristics of the disabled

The disabled population tends to be older, has a higher proportion of nonwhite persons, is less likely to work, and if working, less likely full time. The disabled are also less likely to be married, and tend to have less education than the nondisabled, and lower wages, even allowing for educational differences.

General characteristics. For both sexes, the probability of being disabled increases with age, the only exception being the close percentage of the two younger age-groups of men. (See table 2.)

The disabled have significantly lower educational levels (table 3), although the modes are the same for both (12 years). Some of the biggest differences occur at the very lowest levels of education—eight years and less; much higher percentages of the disabled are in this category. A comparison to the SDA is possible by including the educational distribution for this sample. It tends to show the same overall educational differences but does emphasize that the educational distribution has been increasing overall—the surveys are 1972 and 1977, and this holds for the disabled as well as nondisabled.

Marital status distributions (table 4) show lower current marriage rates among the disabled. This is emphasized by the large difference in the "being married-spouse present" category in the two populations—57.7 percent versus 72.3 percent.

The regional distribution shows that the proportion of the disabled population living in the South is greater than that of the nondisabled population, while it is less in other regions.

Labor force characteristics. If we broadly define labor force participants to include all those who, during 1976, worked or looked for work, or said they were unable to find work, 59 percent of the disabled were in the labor force. This compares with 80 percent of the nondisabled, or 78 percent overall. Among women, 53 percent of the disabled and 66 percent of the nondisabled were in the labor force. Among men, 65 percent of the disabled and 97 percent of the nondisabled were in the labor force.

Table 2. Percentage of population disabled, by age and sex

Age categories	Men	Women
Total	13.5	11.2
20–34	10.3	7.1
35–44	10.1	10.3
45–54	15.5	13.7
55–64	23.4	19.2

Except for white women ages 20–34, the nondisabled are more likely to be in the labor force. This suggests the difficulty in defining the disabled among women; many list their occupation as "housewife" and there is no way to discern who may be disabled.

The percentages in the labor force are large. It includes all those who worked in 1976, even briefly, or said they were unable to find work. About 1.05 percent of men and 1.13 percent of women were unable to find work. Among the disabled, the percentages are lower: men .98 percent and women .56 percent. But there is a difficulty—those unable to work. Adding the two percentages shows that 32.1 percent of disabled men and 32.4 percent of disabled women did not work either because they are unable or could not find work. This compares to 1.03 percent of nondisabled men and 1.2 percent of nondisabled women. By age, the percentages of these disabled individuals are:

	Men	*Women*
20–34	14.7	16.0
35–44	30.5	25.8
45–54	38.2	35.0
55–64	47.9	48.9

Thus, large percentages of the disabled population do not work because of their disability or lack of opportunities, and the percentage increases with age, for both sexes.

Full or part time. A detailed look at the amount of time spent working shows further differences between the disabled and nondisabled populations. Many more of the disabled do not work (36 percent of men and 47 percent of women, compared to 4 percent of nondisabled men and 36 percent of nondisabled women). A far lower percentage of the disabled work full time (30 percent of men and 11 percent of women, compared to 74 percent of nondisabled men and 33 percent of nondisabled women. These large differences suggest that transfer payments are important for the disabled.

Do the differences reflect handicaps that make it difficult to work, or lack of opportunity, or discrimination? They may also reflect that those with low opportunity costs, older persons with less education, for example, may be more likely to regard some physical or mental limitation as a disability, and to seek transfer payments.

One way of gaining some insight into this is to look at the wage rate of the disabled versus nondisabled population. The average wage rate is lower among the disabled. Of more interest, however, is wage rates according to educational level:

Years of education	*Disabled*	*Nondisabled*
Total	$2.57	$4.27
Less than 8	1.08	2.85
8	1.79	3.18
9–11	1.87	3.24
12	2.93	3.86
13–15	3.64	4.43
16 or more	5.07	6.73

Wage rates

Educational level. For every educational level, the average wage rate of the disabled population is below that of the nondisabled population. For all groups with less than 12 years of education, the average wage rate of the disabled is below the minimum wage. This may be partly because of individuals in sheltered workshops. However, even among those who have attended college, the differences are large. The jump in wage rates from 9 to 11 years of education to 12 years is much greater for the disabled, possibly suggesting a high return to education for the disabled; the disabled may have lower opportunity costs.

Part of the difference may reflect hours worked. On an average, the disabled who are employed work fewer hours, although the difference is small—all are close to 40 hours per week. Average number of workweeks show somewhat larger differences, especially for white persons, among whom the disabled work 40 weeks per year, and the nondisabled, 47. Thus the major participation decision seems to be whether to work rather

Table 3. Educational distribution for the disabled and nondisabled

[In percent]

Education	Disabled	Nondisabled	All
Current Population Survey, 1977			
Less than 8	15.7	5.2	6.5
8	10.1	5.2	5.8
9–11	19.7	14.1	14.8
12	33.9	40.9	40.0
13–15	13.4	17.6	17.1
16 or more	7.3	17.0	15.8
Survey of the Disabled, 1972			
Less than 8	21.9	6.1	8.4
8	12.3	6.7	7.5
9–11	21.2	15.5	16.3
12	29.6	41.7	39.9
13–15	7.8	15.5	14.4
16 or more	6.4	13.6	12.6

than the number of hours.

Another way of getting a better picture of wage rate differentials is to look at wage rates for full-time workers only, by educational groups. (See table 5.)

Among men who are full-time, full-year workers, the disabled earn, in general, less than 90 percent of what the nondisabled earn. The biggest difference is among the lowest educational group, where the disabled earn less than 80 percent of what the nondisabled earn. Similarly, among women who work full time, year round, the largest difference is also among the lowest educational group, where the disabled earn approximately half of what the nondisabled earn. In other educational groups, disabled women also do more poorly (relative to men) compared to their nondisabled peers, earning between 62 percent and 79 percent of what the nondisabled earn.

Table 5. Average wage rates for disabled and nondisabled workers,[1] by education and race

Education	Disabled			Nondisabled		
	White	Nonwhite	All	White	Nonwhite	All
Men						
Total	5.77	4.22	5.62	6.72	5.16	6.58
Less than 8	$3.54	$2.26	$3.35	$4.46	$3.91	$4.32
8	4.95	2.52	4.67	5.20	4.77	5.16
9–11	5.04	3.13	4.74	5.53	4.61	5.39
12	5.42	4.33	5.33	6.18	5.01	6.08
13–15	5.98	5.41	5.91	6.72	5.73	6.65
16 or more	7.76	6.96	7.74	8.95	7.17	8.85
Women						
Total	2.60	2.85	2.63	4.12	3.98	4.10
Less than 8	1.57	1.23	1.45	2.82	2.64	2.77
8	2.35	2.06	2.29	3.04	2.77	2.99
9–11	1.94	2.66	2.06	3.36	3.08	3.31
12	2.52	2.81	2.55	3.88	3.78	3.87
13–15	2.90	4.83	3.19	4.26	4.41	4.28
16 or more	4.20	5.47	4.32	5.45	5.70	5.48

[1] Individuals working full-time, full-year.
SOURCE: 1977 CPS tape.

Racial differences. The average wage rate differences are substantial among the disabled and nondisabled men's groups when race is considered. Among the disabled, there are very large differences between white and nonwhite persons in the lower educational groups; for full-time workers, earnings of nonwhite persons are between 50 percent and 65 percent of earnings of white persons.

Among the nondisabled, there is a generally lower educational level among the nonwhite but no particular employment pattern according to education. Among women, there is a quite different pattern: within the disabled population, nonwhite women with 8 or fewer years of education earn less than white women with similar education, but they earn more with 1 to 3 years of high school through the highest educational levels. The pattern is similar among nondisabled women; nonwhite women earn less at lower educational levels than their white peers but more (though only slightly so) at higher levels of education.

Thus, among full-time, full-year workers there is evidence within each sex, educational, and racial group that the disabled earn less. It appears that individuals with more than one disadvantage are worst off—disabled nonwhite persons with low education—and perhaps women, for their wages are lower than those for men in every education category. In fact, except for the two lowest categories of nonwhite women compared to nonwhite men, nondisabled women have lower average earnings than disabled men.

Wage rates within occupational categories may understate differences between the disabled and nondisabled because discrimination, and physical and mental disabilities may limit choice of occupation. Differences may also reflect less experience and levels of labor force participation.

By occupation. Table 6 shows average wage rates and occupational distribution by broad occupational groups, among men. Overall, the nondisabled have higher wage rates in all occupations, but the differences range from nearly the same rates, 2 percent to 50 percent greater than the wage rate in the disabled men's category.

Among white men, the wage rate of the nondisabled is higher in most occupations. The exception is service workers. Among nonwhite men, wages of the nondisabled are also higher in all but one occupational category: managers and proprietors.

Turning to the occupational distribution, one again notes the much higher percentages of disabled who do not work: 36.2 percent of all disabled men, 48.2 percent of nonwhite disabled men. Beyond this, the disabled men are less likely to be in prestigious occupations, such as professional or managerial, than the nondisabled. Note again the compounding effects of race and disability on the low probability of being in such an occupation.

Table 4. Marital status of the disabled and nondisabled according to Current Population Survey, 1977

[In percent]

Marital status	Disabled	Nondisabled	All
Married, spouse present	57.7	72.3	70.5
Married, spouse absent	1.1	0.8	0.8
Widowed	10.7	2.3	3.3
Divorced	9.2	5.9	6.3
Separated	4.9	2.6	2.9
Never married	16.4	16.2	16.2

Disability and deprivation

Thus, from the perspective of comparing the socioeconomic status of the disabled to nondisabled, a consistent picture emerges. The disabled are much worse off in terms of education, probability of working, occupation, and wage rates, despite controlling for many characteristics important in explaining differential

Table 6. Average hourly wage rates and occupational percent distribution of disabled and nondisabled men[1]

Occupation	All men				White men				Nonwhite men			
	Disabled		Nondisabled		Disabled		Nondisabled		Disabled		Nondisabled	
	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent	Wages	Percent
Professional, technical and kindred workers	$6.44	6.1	$7.25	15.0	$7.53	6.7	$8.43	15.8	$6.80	2.4	$7.70	8.7
Managers and proprietors	6.87	5.9	7.04	14.5	7.56	6.5	7.93	15.5	6.27	2.2	5.81	6.3
Sales workers	3.61	3.3	5.44	5.5	4.04	3.9	6.99	6.0	. . .	0.2	5.36	2.0
Clerical workers	3.80	4.3	4.29	6.0	5.50	4.5	6.15	5.9	4.38	3.2	5.01	6.5
Craftsmen and kindred workers	6.12	15.6	6.37	20.4	6.42	16.8	6.60	21.1	5.00	8.4	5.77	14.0
Operatives, except transport	5.33	13.7	4.72	17.5	5.37	13.8	5.46	16.6	4.12	13.4	4.83	24.3
Nonfarm laborers	3.68	5.7	4.80	6.2	4.04	5.0	5.15	5.5	3.27	9.7	4.33	12.1
Service workers, except private household	2.70	7.1	3.72	7.2	4.88	6.6	4.71	6.3	3.04	10.3	4.05	14.7
Farm workers	2.74	1.1	3.15	2.1	3.01	6.6	3.32	2.3	. . .	.6	1.90	0.5
No current job	. . .	36.2	. . . .	4.1	. . . .	34.1	. . .	3.6	. . .	48.2	. . .	8.3

[1] There may be bias in measuring disability among women; the definition depends partly on labor force participation. Thus, a comparison of disabled and nondisabled women might also be biased.

SOURCE: 1977 CPS tape.

wage rates. Adding race to the analysis suggests a compounding effect; the nonwhite disabled fare more poorly than their white counterparts. Thus, there is some evidence of labor market imperfections that negatively impact this large part of our population.

What we have then is a picture of a group far worse off than the nondisabled. And, this does not take account of pain and suffering—possible greater needs based on the disability—including medical care, help meeting day-to-day limitations on activities, psychological stress, and other hardships.

The incentives to qualify for a number of programs are clearly present for a number of disabled; they do have lower opportunity costs. Yet, a substantial number work full time and experience less success than their nondisabled counterparts. Perhaps help other than transfer payments needs to be stressed for this group. Laws on physical access, laws on discrimination, and training programs may be worth further investigation for the disabled. Others will continue to need income transfer policies. But perhaps most of all we should be aware that disability may interact with other labor market disadvantages—educational for example. Policies will be better designed if they are aware of these effects. □

FOOTNOTES

[1] See, for example, H. S. Luft, "The Impact of Poor Health on Earnings," *Review of Economics and Statistics*, 57:1, who used the 1967 Survey of Economic Opportunity Data.

[2] This is the basis for the 1972 Survey of the Disabled.

[3] Except for payments under social security and railroad retirement, individuals who receive any dollar benefits from one or more of these programs are generally designated as disabled. The exceptions include those receiving veterans' benefits, where only those who are veterans and nonstudents are designated as disabled. Among social security recipients ages 20–64, distinctions are made to designate the disabled: individuals 19–61 who are not students, students 23–61, and widows and individuals 19–59 who have no dependent children under 18. Of those receiving railroad benefits, those under 62 are classified as disabled if they are not retired. These distinctions are based on program eligibility. The 1977 CPS enables far better identification of recipients for many of these programs than earlier CPS surveys. For example, veterans' pensions and other payments are separated. The source for the definitions under social security and veterans' benefits is the U.S. Department of Health, Education, and Welfare *Social Security Handbook, 1974*, 5th ed.

[4] Individuals who do not work are so designated for one of two reasons: they did not work last year because they were ill or disabled (variable P133=1, 1977 CPS tape), or they are classified as unable to work on the employment status recode (variable P12=6). The latter variable is the one generally used by the Bureau of Labor Statistics.

Individuals are designated as "limited in amount of work" if personal illness is the reason they usually work less than 35 hours. This is done for two groups: one that worked some last week but less than 35 hours, and another that did not work last week (variable P18=2 and P19–20=10, or P23=2 and P21=1). Alternatively, they are designated as disabled if they work less than 50 weeks and most of the remaining weeks they were ill or disabled (P145=1). In a sense, this attempt to define an eligible disabled population is similar to that used by Projector and Murray in "Eligibility for Welfare and Participation Rates" (HEW 78–11776), Social Security Administration, who attempt to define those eligible for welfare by using the 1971 CPS. Their procedure for defining the eligible disabled population is by using persons who worked less than 50–52 weeks in 1970 because of illness.

[5] See Barbara L. Wolfe, "Impacts of Disability, and Some Policy Implications," Institute for Research on Poverty, Discussion Paper 539–79, unpublished.

Significant Decisions In Labor Cases

OSHA standards: the burden of proof

Although much of the controversy surrounding the Supreme Court's decision in the "benzene case" (*Industrial Union Dept., AFL–CIO v. American Petroleum Institute*[1]) has passed, the ambiguities of the result continue. The main opinion of the Court plurality, written by Justice John Paul Stevens, stated that the Occupational Safety and Health Administration had exceeded its statutory authority by reducing permissible exposure limits to benzene at industrial work sites without making a "threshold determination" that a significant risk was present at the original level. The result might place a greater burden of proof on a regulatory agency to justify its actions, but leaves unchanged (at least facially) an agency's ability to promulgate and enforce regulatory policy once the need for it has been demonstrated. Some feel that the narrow factual circumstances of the case should preclude any sweeping effects on other regulatory agencies. But, for OSHA, the additional time and effort required to justify standards could severely strain limited resources and may seriously diminish the agency's effectiveness in many areas.

Benzene, a colorless gas used in the manufacture of motor fuels, detergents, and pesticides, is highly toxic, producing an immediate effect on the central nervous system when inhaled. Benzene has long been considered carcinogenic. As early as 1928, industrial health experts were exploring the possibility of a link between benzene and leukemia; by the mid 1970's, a connection was clearly established. In 1977, OSHA issued an emergency standard lowering the benzene exposure limit from 10 parts per million of air to 1 part per million, stating that benzene had been shown to cause leukemia at levels below 25 parts per million and that reports had shown the lower level feasible for industry compliance.

Although no evidence indicated that leukemia occurred at the 10 parts per million exposure level, the agency's standard policy on carcinogens required the lowest feasible exposure in the absence of proof of a risk-free level of exposure. Equally, the industries involved had failed to prove to OSHA's satisfaction that there is a safe level of exposure to benzene below which no excess leukemia cases would occur.

The agency claimed authority for reducing exposure levels under Section 6 (b) (5) of the 1970 Occupational Safety and Health Act, which it felt authorized the Secretary of Labor to set the most protective standard "feasible" to ensure employee safety. The affected industries brought suit, and the Fifth Circuit enjoined operation of the lower exposure limit, ruling it was not supported by appropriate findings.

The Supreme Court's resolution of the case hinged on the relationship between the act's definition of an occupational safety and health standard and its provisions authorizing OSHA to regulate toxic substances. The act requires that any standard be "reasonably necessary and appropriate to provide safe or healthful employment and places of employment."[2] For toxic substances, however, the law appeared to require maximum protection for individual workers:

> The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard which most adequately assures, to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health or functional capacity even if the employee has regular exposure to the hazard dealt with by such standard for the period of his working life. Development of standards under this subsection shall be based upon research demonstrations, experiments and other such information as may be appropriate . . . other considerations shall be the latest available scientific data in the field . . . [and] the feasibility of the standards . . .[3]

In the opinion written by Stevens and joined by Chief Justice Warren Burger and Justices Potter Stewart and Lewis Powell, OSHA's authority to regulate toxic substances was declared constrained by the law's general requirement that all standards be "reasonably necessary or appropriate to remedy a significant risk of material health impairment." Only after such a threshold determination is made can the Secretary select "the most protective" standard "consistent with economic and technological feasibility." The standard should be geared to eliminate "significant risk of harm," Stevens wrote, but the statute was not designed to provide absolutely risk-free workplaces. In the absence of an explicit mandate, he concluded, Congress "requires the Secretary to undertake some cost-benefit analysis before he promulgates any standard."

"Significant Decisions in Labor Cases" is written by Gregory J. Mounts of the *Monthly Labor Review* staff. Kate Farrell of the University of Notre Dame, an intern with the *Review*, wrote the summary of *Industrial Union Dept., AFL–CIO v. American Petroleum Institute.*

Having defined the Secretary's power to promulgate regulations, Stevens turned to the question of proving "significant risk" when scientific knowledge is imperfect and risk unquantifiable. He found the burden of proof to be on OSHA "to show on the basis of substantial evidence, that it is at least more likely than not that long-term exposure to 10 parts per million of benzene presents a significant risk of material health impairment." In this case, Stevens wrote, "OSHA did not even attempt to carry its burden of proof." (OSHA's policy for carcinogens was to impose the burden of proof of "safe" exposure levels on industry.)

Both Stevens and Powell, in his separate concurring opinion, were careful to emphasize the discretionary power of the agency to set safety policy. Stevens wrote that the agency must determine what a "significant risk" is, but such a determination "will be based largely on policy considerations." Powell, stressing the necessity of intelligent cost-benefit analysis, conceded that "the decision that costs justify benefits is largely a policy judgment delegated to OSHA by Congress." Stevens, concluded that "so long as they are supported by a body of reputable scientific thought, the agency is free to use conservative assumptions in interpreting the data with respect to carcinogens . . ."

Justice William Rehnquist, whose concurring opinion was the decisive fifth vote in the 5–4 judgment, posed a more fundamental challenge to the regulatory powers of OSHA. Rehnquist held that in view of the seriousness of the issue in question—the trade-off between possible future deaths and present economic costs—Congress is best suited to make the choice; instead, it had improperly delegated its responsibility to the Secretary of Labor. Congress must delegate authority in areas where it has no expertise, he acknowledged, but it should "lay down the general policy and standards that animate the law, leaving the agency to refine those standards." Labeling the feasibility requirement for all OSHA standards a "legislative mirage," Rehnquist called for the invalidation of the law's provision concerning toxic substance regulation and the reassumption by Congress of the responsibility for critical policy decisions.

Justice Thurgood Marshall authored the dissent; joining him were Justices William Brennan, Byron White and Harry Blackmun. Charging that the plurality ignored the "plain meaning" of the 1970 act, Marshall identified the issue in question to be scientific uncertainty rather than the statutory authority of the Secretary. In the face of such uncertainty, the dissenting justices felt Congress had intended the Secretary to have the broad powers implied by the law for regulating toxic substances. Also disputed was the plurality's contention that OSHA had not carried its burden of proof; the dissenters pointed to the 50 volumes of data collected and the 2 weeks of hearings on the proposed regulation as evidence of OSHA's attempt to justify the 1 part per million regulation.

In addition to its impact on health standards, the Court's judgment could limit the scope of OSHA's job-safety regulations. Stevens' declaration that the Secretary "make a threshold finding that a place of employment is unsafe" before setting standards is fairly straightforward when the regulation is a generic health standard, such as acceptable atmospheric levels of benzene gas. But safety policies are considerably more complex, particularly in the more comprehensive programs designed to regulate specific workplaces (for example, the regulations for dock safety currently being developed by OSHA). If the Court's decision were strictly applied, OSHA might have to make a threshold determination for each standard within the overall program. Depending in the range of the program, this could involve prohibitive costs.

Constitutional quotas

In its continuing effort to clarify the constitutionality of racial quotas, the Supreme Court recently upheld the authority of Congress to remedy prior discrimination by imposing racial and ethnic quotas in allocating Federal money. As in prior rulings on racial quotas, the Court failed to achieve a majority verdict. Nonetheless, the three opinions among the six justices who voted to uphold Congress on this sensitive issue agreed, at least, that Congress may assign benefits based on racial and ethnic (and, perhaps, other) criteria whenever it makes a finding of past discrimination and tailors a preference scheme to correct that discrimination. (*Fullilove v. Klutznick.*[4])

The opinion of Chief Justice Warren Burger announced the Court's ruling, upholding the constitutionality of a 1977 law that set aside 10 percent of Federal public works contract funds (totaling more than $4 billion) for minority business enterprises—businesses controlled by "citizens of the United States who are Negroes, Spanish-speaking, Orientals, Indians, Eskimos, and Aleuts." The law required that the States, as recipients of grants under the law, assure the Secretary of Commerce that at least 10 percent of the amount of each grant would be expended for bona fide minority business enterprises. Administrative regulations were adopted under the law that permitted waiver of the quota requirement when enough minority firms were not available in an area or when such firms requested an "unreasonably" high price. White contractors challenged the set-aside provision as a violation of the equal protection guarantees of the Fourteenth Amendment to the Constitution.

Burger, joined by Justices Byron White and Lewis Powell, offered a lengthy explanation of Congress' power under the Constitution to spend money. Because

Congress has the power to regulate commerce and, thus, could have regulated the practices of private contractors to remedy past discrimination, Burger wrote, Federal lawmakers can pursue the same objective by inducing voluntary cooperation through spending policies. Congress also has the power to involve State and local governments in such remedial efforts under its mandate to enforce the Fourteenth Amendment by "appropriate legislation," he reasoned. Thus, Burger concluded that the remedial *objective* of the minority business enterprise provision was a legitimate application of Congress' Fourteenth Amendment authority to ensure that minorities were not denied equal protection of the laws.

Burger then turned to the question of whether the *means*—racial and ethnic quotas—employed by Congress to achieve such a legitimate objective passed constitutional muster. He cited earlier cases where judicial remedies for racial discrimination incorporated racial criteria; this has been permitted when either constitutional or statutory violations were found. Thus, Burger reasoned that, because Congress has the most comprehensive remedial power and because Congress had found evidence that the effects of racial discrimination existed in the award of Federal procurement contracts, Congress may act to alter the status quo when it seeks to fulfill a legitimate objective—such as the elimination of racial discrimination:

> Here we deal . . . not with the limited remedial powers of a Federal court . . . but with the broad remedial powers of Congress. It is fundamental that in no organ of government, State or Federal, does there repose a more comprehensive remedial power than in the Congress, expressly charged by the Constitution with competence and authority to enforce equal protection guarantees. Congress not only may induce voluntary action to assure compliance with existing Federal statutory or constitutional antidiscrimination provisions, but also, where Congress has authority to declare certain conduct unlawful, it may, as here, authorize and induce State action to avoid such action.

Burger also reasoned that other challenged aspects of racial and ethnic quotas were permissible under the Constitution—at least in this case. For example, he found that the reduction in benefits available to white contractors innocent of any prior discrimination was simply a "relatively light" burden that they must share. Congress had the power to assume that such firms "may have reaped competitive benefit over the years" because of the "virtual exclusion" of minority firms from similar contracting opportunities. Whether the remedy Congress fashioned was too broad or too narrow in its application to victims of prior discrimination could not be answered by this case, Burger declared. He felt that such challenges could only be decided based on the inclusion or exclusion of specific persons. But he did reason that the administrative framework based on the law provided adequate assurance that participation of minority firms in the program would not deviate from the remedial purpose of the law. Specifically, he cited the requirement that minority firms be "bona fide" (at least 50-percent owned or controlled by minorities), that this requirement was enforced partly through a complaint procedure, and that waiver of the quota was possible when minority contractors were unavailable or charged excessive prices.

Although Burger specifically avoided an examination of the quotas under the tests established by the Court's *Bakke* decision,[5] he concluded that the set-aside provision would "survive judicial review" in such an analysis. Justice Powell, in a separate concurring opinion, applied the *Bakke* analysis he had agreed to and found that Congress' race-conscious remedy was an appropriate and justifiable response because of a compelling governmental interest in curing the effects of prior racial discrimination.

Justice Thurgood Marshall, who was joined in a concurring opinion by Justices William Brennan and Harry Blackmun, agreed only with the result of Burger's opinion because he felt that the constitutionality of racial classifications should be reviewed on the basis of his concurring opinion in *Bakke*. There, he wrote that, if a racial classification designed to further remedial purposes serves legitimate government objectives and if the classification is substantially related to the achievement of those objectives, it is constitutionally permissible. Thus, Marshall would go substantially further than the Burger opinion by reasoning that racial classifications are not *per se* violations of constitutional equal protection guarantees and that race-conscious remedies are within the authority of Congress to correct social imbalances.

The significance of Marshall's opinion may be measured by the outcome of lower court decisions interpreting *Bakke*. In the past 2 years, lower courts have adopted whichever one of the three *Bakke* opinions that comes closest to their own views.[6] Thus, as with the quota issue involving school admissions, lower courts are free to adopt Marshall's more permissive constitutional analysis in future cases involving minority preference schemes used by Federal, State, or local governments in areas such as housing, employment, or education.

In dissent, Justice Potter Stewart (joined by Justice William Rehnquist) argued that the Constitution's requirement of equal protection means what it says—all racial classifications are intolerable. He wrote that Congress has no greater authority under the Constitution to impose detriments based on race than does the judiciary—and the latter is limited to remedying specific effects of illegal racial discrimination. Congress intended to compensate the "disadvantaged," but this does not permit an unconstitutional racial classification, Stewart concluded.

Justice John Paul Stevens, in a separate dissent, argued that the lack of precision regarding who had been disadvantaged made the application of a remedy to all minority business unconstitutional. He reasoned that there was no basis to the assumption that the minorities who owned or controlled contracting firms had been discriminated against.

> At best, the statutory preference is a somewhat perverse form of reparation for the members of the injured classes. For those who are the most disadvantaged within each class are the least likely to receive any benefit from the special privilege even though they are the persons most likely still to be suffering the consequences of the past wrong.

Pension liability despite disclaimers

Settling an issue of limited proportions under the Employee Retirement Income Security Act of 1974, the Supreme Court recently ruled that employers who terminated pension plans under the law prior to January 1, 1976 (when it became fully effective) can be held liable for employee benefits paid through ERISA insurance despite provisions in the terminated plan protecting the employer from such liability. (*Nachman Corp. v. Pension Benefit Guaranty Corp.*[7])

Writing for the narrow 5–4 majority, Justice John Paul Stevens found that disclaimers of employer liability in pension plans protect against any direct claims made by employees, but that even during the phase-in period of benefit insurance Congress intended employers to be liable for up to 30 percent of their net assets to compensate the ERISA insurance fund for benefits paid. Of the 136 pension plan terminations during the initial phases of the law (September 2, 1974 to December 31, 1975), 78 plans contained provisions disclaiming employer liability in the event of asset shortfalls.

The 1974 act established the Pension Benefit Guaranty Corp. within the Department of Labor to insure employees' "nonforfeitable" benefits against the possibility of insufficient plan assets in the event of termination. The Nachman Corp., which terminated its pension plan on December 31, 1975, argued that a plan provision limiting employee benefits to the assets of the plan (and disclaiming Nachman's liability for any additional amounts) made such benefits "forfeitable" and, thus, not insured under the law.

Stevens found that Congress had used the word "nonforfeitable" to describe benefits that were vested under the conditions of the specific plan. (Since January 1, 1976, the law has specified minimum vesting requirements for all plans.) He reasoned that an employee's claim to such benefits remained "unconditional" and "legally enforceable" against the plan regardless of an employer's protection against direct liability. "Nonforfeitable" describes the quality of an employee's right to the benefit, Stevens concluded, and a disclaimer of employer liability imposes no condition on rights created through vesting.

Stevens, who was joined by Chief Justice Warren Burger and Justices William Brennan, Thurgood Marshall, and Harry Blackmun, also pointed out that when Congress passed the pension insurance law it was aware that most plans contained disclaimers of employer liability. If such provisions prevented insurance coverage, he reasoned, ERISA protection would apply only to the few plans without such disclaimers and to those terminating because of employer insolvency. But because Congress included a reimbursement provision (creating employer liability for up to 30 percent of a firm's net assets) beginning on the first day of the law's operation, it clearly intended to insure benefits in plans where the employer had disclaimed liability, Stevens concluded.

In dissent, Justice Potter Stewart argued that the specific language in the Nachman plan disclaimed liability for the *plan* itself in addition to the disclaimer of employer liability. The lack of liability for the plan under contract law, he reasoned, should make vested benefits forfeitable under the initial phases of ERISA (and, therefore, uninsured) because such benefits are conditional and legally unenforceable. □

FOOTNOTES

[1] *Industrial Union Dept., AFL–CIO v. American Petroleum Institute,* 48 U.S.L.W. 5022 (U.S., July 2, 1980).

[2] 29 U.S.C. Sec. 652 (8).

[3] 29 U.S.C. Sec. 655 (b) (5).

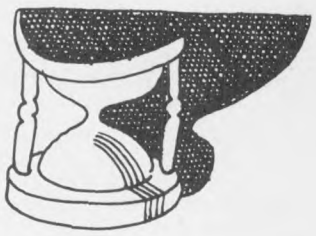
[4] *Fullilove v. Klutznick,* 48 U.S.L.W. 4979 (U.S., July 2, 1980).

[5] *University of California Regents v. Bakke,* 438 U.S. 265 (1978).

[6] See Peter Elkind, "Bakke Aftermath," *The Washington Post,* July 3, 1980, p. A13.

[7] *Nachman Corp. v. Pension Benefit Guaranty Corp.,* 48 U.S.L.W. 4524 (U.S., May 12, 1980).

Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in October is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union[1]	Number of workers
American Can Co. (Naheola, Ala.)	Paper	Paperworkers	1,600
American Chain & Cable Co., Inc. (Bridgeport, Conn.)	Fabricated metal products	Steelworkers	1,000
American Steel Foundries (Ohio, Illinois, and Indiana)	Primary metals	Steelworkers	3,800
Bendix Corp. Electrical Components Division (Sidney, N.Y.)	Electrical products	Machinists	1,950
Boeing Co. (Interstate)	Transportation equipment	Machinists	30,000
Boeing Co., Boeing Vertol Co. Division (Delaware and Pennsylvania)	Transportation equipment	Auto Workers (Ind.)	2,500
Commercial Shearing, Inc. (Ohio, Illinois, and Utah)	Fabricated metal products	Steelworkers	1,250
Consolidated Gas Supply Corp. (Interstate)	Utilities	Service Employees	1,450
Cyclops Corp., Empire-Detroit Steel Division (Mansfield, Ohio)	Primary metals	Steelworkers	1,150
Duval Corp. (Arizona)	Mining	Steelworkers; Operating Engineers; Laborers; and Teamsters (Ind.)	1,700
First National Stores, Inc. (New York and New Jersey)	Retail trade	Food and Commercial Workers	1,400
General Dynamics Corp., Quincy Shipbuilding Division (Quincy, Mass.)	Transportation equipment	Marine and Shipbuilding Workers	2,000
Great Atlantic & Pacific Tea Co., Inc., Indianapolis-Louisville Division (Indiana and Kentucky)	Retail trade	Food and Commercial Workers	1,800
Greyhound Lines, Inc. (Interstate)	Transit	Amalgamated Transit Union	13,000
Hershey Foods Corp. (Hershey, Pa.)	Food products	Bakery and Confectionery Workers	2,300
Hughes Tool Co. (Houston, Tex.)	Machinery	Steelworkers	3,700
Ingersoll-Rand Co. (New Jersey and Pennsylvania)	Machinery	Steelworkers	1,950
Koppers Co., Inc., Metal Products Division (Baltimore, Md.)	Machinery	Machinists	1,500
Libby-Owens-Ford Co. (Interstate)	Stone, clay, and glass products	Glass and Ceramic Workers	7,500
Lincoln Telephone and Telegraph Co. (Nebraska)	Communication	Communications Workers	1,500
Lockheed Aircraft Corp., LMSC Division (California and Florida)	Ordnance	Machinists	5,650
Lockheed Aircraft Corp., Lockheed Georgia Co. Division (Interstate)	Transportation equipment	Machinists	5,550
Lone Star Steel Co. (Dallas, Tex.)	Primary metals	Steelworkers	5,000
McDonnell Douglas Corp., Douglas Aircraft Co. subsidiary (California and Florida)	Transportation equipment	Machinists	5,100
McDonnell Douglas Corp., Douglas Aircraft Co. subsidiary (Long Beach, Calif.)	Transportation equipment	Auto Workers (Ind.)	9,900
McLouth Steel Corp. (Trenton, Mich.)	Primary metals	Steelworkers	3,700
Midland-Ross Corp., National Castings Division (Sharon, Pa.)	Primary metals	Steelworkers	1,050
National Standard Co. (Interstate)	Primary metals	Steelworkers	1,200
Ohio Ferro-Alloys Corp. (Ohio and Alabama)	Primary metals	Steelworkers	1,000
Olin Corp. (Pisgah Forest, N.C.)	Paper	Paperworkers	1,850
Outboard Marine Corp., Johnson Outboard Division (Waukegan, Ill.)	Machinery	Independent Marine and Machinists Association	3,400
Owens-Illinois, Inc. (Vineland, N.J.)	Stone, clay, and glass products	Flint Glass Workers	1,100
Revere Copper and Brass, Inc., Rome Division (Rome, N.Y.)	Primary metals	Mechanics Educational Society	1,400
Southern California Shoe Manufacturers Association, Inc. (California)	Leather	United Shoe Workers	1,100
Star Supermarkets, Inc. (Rochester, N.Y.)	Retail trade	Food and Commercial Workers	1,650
Titanium Metals Corp. of America, Standard Steel Division (Burnham, Penn.)	Primary metals	Steelworkers	1,650
Walt Disney World Co. (Orlando, Fla.)	Amusements	Service Trades Council Union	4,650

See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union[1]	Number of workers
White Consolidated Industries, Franklin Manufacturing Co. Division (St. Cloud, Minn.)	Electrical products	Machinists	11,600
Youngstown Steel Door Co. (Youngstown, Ohio)	Transportation equipment	Steelworkers	1,400
	Government activity	Employee organization[1]	
Tennessee: Memphis Board of Education	Education	American Federation of State, County and Municipal Employees	1,800
Washington: Seattle Metropolitan Transit Division	Transit	Amalgamated Transit Union	1,800
Wisconsin: Madison Board of Education	Education	National Education Association (Ind.)	1,800

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

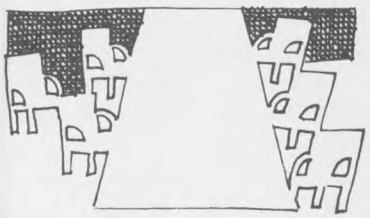
Klein Award contributions

The Trustees of the Lawrence R. Klein Award Fund recently made their 19th award to an author of a *Monthly Labor Review* article. The awards are presented annually for articles which (1) exhibit originality of ideas or method of analysis, (2) adhere to principles of scientific inquiry and (3) are well written. Initially $100 each, the awards now carry a $200 stipend.

The award fund was established by Lawrence R. Klein, who was Editor in Chief of the *Review* for 22 years until his retirement in 1968. Instead of accepting a retirement gift, he donated it and matched the amount collected to initiate the fund. Since then, he has contributed regularly, as have others. Among the latest to donate their retirement gifts have been John H. Chandler, former chief of the Bureau of Labor Statistics' Division of Foreign Labor and Trade, and Edgar Weinberg, former Deputy Assistant Commissioner of the Bureau of Labor Statistics' Office of Productivity and Technology.

Contributions to the fund are tax deductible and may be sent to Ben Burdetsky, Secretary-Treasurer of the Lawrence R. Klein Fund, c/o School of Government and Business Administration, The George Washington University, Washington, D.C. 20052.

Developments in Industrial Relations



Actions taken to aid auto industry

Moves to aid the automobile industry included a plan announced by President Carter to counter declining sales and increasing unemployment; approval of Chrysler's loan guarantee followed by renewed doubts about the company's viability; formation of an 11-union coalition to attempt to curtail imports; and further announcements of cost reduction measures by domestic manufacturers.

President Carter described the proposal to aid the auto industry as "a first step" in a "permanent partnership" between Washington and Detroit. The plan was outlined in a meeting with the heads of five automobile companies and Auto Workers President Douglas A. Fraser and drew a mixed reaction. The industry officials favored most aspects of the plan, particularly the idea of establishing a permanent Automobile Industry Committee of management, labor, and government representatives to study further steps to aid the industry. (This committee is similar to a tripartite committee established in the steel industry in 1978.) Fraser termed "very significant" the President's announcement that he would ask the U.S. International Trade Commission to expedite its decision on the UAW's June petition for a ruling on whether the increasing level of imports is harming the domestic industry and, if so, whether import restrictions should be imposed.

Other parts of the plan would

- Ease a requirement that all 1984 cars meet exhaust requirements for high altitude operation.
- Change standards of the Occupational Safety and Health Administration to permit companies to counter the dangers of exposure to lead and arsenic by having employees wear individual protective equipment, rather than by removing the hazard.
- Ease Environmental Protection Agency rules to reduce the number of cars that must be tested prior to the start of full-scale production and, in some cases, to allow production to begin without prototype vehicles first being made.
- Establish a program under which the Small Business Administration will guarantee working capital loans for 95 percent of the Nation's automobile dealers.
- Allocate $100 million of Economic Development Administration funds during fiscal 1981 to aid communities severely harmed by industrial dislocations, with at least half of the amount to be reserved for communities hurt by the transitions in the automobile industry.

The first result of the $1.5 billion Federal loan guarantee for Chrysler Corp. came when the company borrowed $500 million from a group of banks. The loan was made after the Government's Chrysler Loan Guarantee Board, which had earlier approved the overall guarantee plan, gave its required approval to the loan. A few weeks later, the board approved an additional guarantee of $300 million, as Chrysler reported a loss of $1.017 billion for the first half of the year, reportedly the largest loss ever suffered by an American corporation for a half year. The $300 million guarantee included $50 million to be available only if Chrysler obtained a matching $50 million of nonguaranteed loans. Treasury Secretary G. William Miller, who heads the board, released a study by the board's staff which forecast that the company will have to borrow a total of $1 billion in 1980, instead of the $800 million originally forecast, and $200 million in 1981, instead of $300 million.

In another area, Chrysler's board of directors formed a five-member committee "charged with insuring that every possible action is taken to alleviate the impact on the workers, the community in which the plant is located, and the government units involved" in any future plant closings. The action was proposed by Auto Workers President Fraser, now a Chrysler board member.

The company and the union announced plans to set up joint "quality action teams" to help resolve any quality problems at the two plants producing the company's new line of compact cars. The quality committees at the Newark, Del., and Jefferson Street (Detroit) plants are similar to more general cooperative programs established in recent years at Ford Motor Co. and General Motors Corp.

There were announcements of further employment cutbacks in the industry. Ford announced that by yearend an unspecified number of its salaried employees would join the 6,100 already on layoff. Prior to that reduction, Ford had about 88,000 salaried employees.

American Motors Corp. announced that it would reduce its white-collar staff by 10 percent, or about 700

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.

employees, by the end of summer.

Checker Motors Corp. said it had cut the salaries of its 200 nonunion employees by approximately 10 to 15 percent. The taxicab manufacturer reported that total employment at its Kalamazoo, Mich., plant had been reduced to 500 workers, from a normal 1,000.

The Auto Workers campaign to restrict automobile imports was strengthened when 11 unions of the Industrial Union Department of the AFL–CIO formed the Coalition of Auto Components and Supply Workers. According to Elmer Chatak, secretary-treasurer of the IUD and a chief spokesman for the coalition, about 650,000 workers in the automobile components and supply industry have lost their jobs—about twice the number of workers who have lost jobs at the automobile assembly companies. Chatak also said that the slump in domestic car production may be part of a permanent structural change in the industry, rather than a temporary slump, "unless President Carter takes immediate action to curb imports."

The coalition called on the President to impose a 5-year quota on auto and truck imports limiting the number to the 1975–76 levels of 1.7 million units a year. According to the IUD, 2.4 million vehicles are entering the country each year, amounting to 28.4 percent of all sales in the United States.

Uniroyal workers accept pay cut

There were several adverse developments in the tire industry, resulting from the slump in domestic car sales, reduction in driving attributable to increased fuel costs, and the switch to longer wearing radial tires. At Uniroyal, Inc., workers represented by the Rubber Workers agreed to a 12- to 13-percent cut in wages and benefits after the company had imposed the same reduction on its nonunion employees. (A combined total of 37,000 workers was affected.) Uniroyal said the action was designed to "pare costs to combat the effects of the recession." The company, which lost $120 million in 1979, also announced the closing of its bias-tire plant in Chicopee, Mass., which employs 1,600 people. Talks were under way between the company and a prospective buyer. Production workers at the facility reportedly were willing to accept a cut in pay to assure continued operation.

Firestone Tire & Rubber Co. announced that it would end quarterly cost-of-living adjustments for its 20,000 nonunion salaried employees. The employees would continue to receive the $350-a-month in adjustments that accumulated since Firestone started the quarterly adjustments in April 1977. Jack Miller, Firestone coordinator for the Rubber Workers, said that the company had not asked for a concession from the union but he did not rule out the possibility.

Anti-inflation plan pay standard changed

The Council on Wage and Price Stability announced a revision in the Carter Administration's voluntary anti-inflation plan. The revision permits union-represented employees to receive a wage and benefit increase of up to 10.5 percent in any contract year, if the average annual rate of increase over the entire contract term falls within the existing 7.5- to 9.5-percent standard. Previously, the 7.5- to 9.5-percent guideline applied to each year.

The change, retroactive to October 1, 1979, was backed by the Pay Advisory Committee, which contended that contract bargainers needed the additional flexibility in arranging their contract packages.

Southern textile workers get pay raise

Several major textile companies in the South announced wage increases for their employees. The size of the increase was not disclosed, but Burlington Industries, Inc., said that the raise for its 46,000 employees varied "to some degree" among its various divisions "since they are different types of operations." One firm, Chatham Manufacturing Co. of Elkin, N.C., announced that its increase was 10 percent. The last round of increases in the industry was in July 1979.

Among the other companies granting increases were Cone Mills, Inc., Spring Mills, Inc., and West Point Pepperell.

The Amalgamated Clothing and Textile Workers Union, which represents about 10 percent of the 280,000 textile workers in the south, settled with Fieldcrest Mills, Inc., on a 10-percent wage increase for more than 7,000 workers in North Carolina, Virginia, Georgia, and Alabama. The increase was negotiated under a wage-reopening provision of a contract scheduled to expire in 1981. The union also settled with Cone Mills, Inc. on a 9.5-percent general wage increase, an additional amount equal to 1 percent of payroll to be used to reduce or eliminate wage inequities among jobs, and an increase in company financing of pensions.

Firestone accused of 'affirmative action' failure

The Department of Labor barred Firestone Tire & Rubber Co. from doing business with the Federal Government, contending that the company had failed to implement an acceptable affirmative action plan to increase the number of minorities and women employed at the Firestone Petrochemical Center in Orange, Tex. Department officials said that the order ended some $40 million a year of company sales to the Government, making it the largest purchase cutoff under authority of Executive Order 11246, which bars discrimination by

Government contractors. The record had been held by Uniroyal, Inc., which settled its discrimination dispute in 1979. (See *Monthly Labor Review,* February 1980, p. 17.)

Firestone officials said the ruling would be appealed in the Federal courts, and that the action was based on "an unreasonable interpretation of a technicality in the law, and not on any pattern of discrimination as such." They claimed that the company has had an affirmative action plan at the facility for more than 10 years and that about 25 percent of its 650 employees were women or minorities.

Another Federal discrimination case ended when Philadelphia agreed to hire women for 30 percent of the next 2,670 vacancies in its police patrol ranks and to promote women to the next 16 detective openings and the next 17 sergeant vacancies. The consent decree, signed by the city and the Department of Justice, ended a discrimination suit filed in February 1974. The city also is required to pay $700,000 to 96 female police officers who were victims of alleged discrimination in promotions. Some of the women will receive as much as $22,488.

The city, which now has 186 female police officers, had been permanently enjoined against discriminating against women in the police department after a 1979 trial in U.S. District Court in Philadelphia.

President of seafarers union dies

Paul Hall, who was one of the original members of the Seafarers and rose to become president of the union, died at the age of 65. Hall also was the senior member of the AFL–CIO's Executive Council and president of its Maritime Trades Department.

AFL–CIO President Lane Kirkland and Secretary-Treasurer Thomas R. Donahue said that Hall's imprint could be found on many of the programs and policies of the Federation, citing his contributions to the growth and vitality of the Maritime Trades Department and to the improvement of labor-management relations in the industry.

Vice President Frank Drozak, who has been acting head of the union since Hall was hospitalized in November, will continue in that capacity until an election is held later this year.

Two railroad and airline unions merge

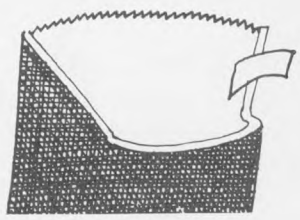
The 8,000 member Railway and Airway Supervisors union is now a division of the Railway, Airline and Steamship Clerks. Railway and Airline Supervisors President Frank J. Ferlin, who heads the new division, said that "given all the changes in today's industry, including a trend towards consolidation of railroads and airlines, we believe the interests of our members can better be served by joining forces with a larger organization." The Railway, Airline and Steamship Clerks, headed by Fred J. Kroll, had 200,000 members prior to the merger.

Boycott called off against southern chain

The Food and Commercial Workers union called off its 3-year boycott campaign against Winn-Dixie, Inc., after the parties agreed to rules governing some aspects of the union's efforts to organize the supermarket chain. According to the company, both parties agreed to conduct future representational or organizational campaigns in accordance with National Labor Relations Board rules and Federal law and to engage in informal discussions before exercising legal rights to contest any elections certified by the Board. However, company president Bert L. Thomas said that "we will continue to oppose with every proper and legal means any efforts by unions to organize Winn-Dixie employees." Jack Jones, the chain's director of industrial relations, commented, "the boycott hasn't affected us."

During the boycott campaign, the various participating unions charged that Winn-Dixie has an anti-union policy dating back to the 1950's and had repeatedly ignored rulings by the NLRB and Federal courts.

The Food and Commercial Workers officials said that since the start of the boycott the union has won representation elections at Winn-Dixie facilities in Asheville, N.C., Jacksonville, Fla., and Atlanta, Ga. Winn-Dixie's 1,300 stores and 52,000 employees are concentrated in the South.



Book Reviews

Evolution in medical science

Medicine and the Reign of Technology. By Stanley Joel Reiser. New York, Cambridge University Press, 1978. 317 pp. $15.95.

This book, by Stanley Joel Reiser, traces the evolution of medical instruments, the clinical laboratory, and the hospital and the profound changes in diagnostic methods this evolution has wrought. Yet, the author offers more than a history. The very title of the book implies the critical theme that pervades it. The author is concerned not only with the possibilities of medical technology, but also with its limitations and degenerative potential.

At first, medical instruments merely enlarged the physician's perceptual faculties. His judgment derived from his observations and experience. Increasingly, medical instruments became measuring devices. Chemical analysis, routinized with the development of clinical laboratories, became an indispensable part of the diagnostic effort. Radiology permitted the nonintrusive study of anatomy and morphology. The computer appeared to make diagnostic syntheses possible, which conventional medical records, with their large lacunae, preclude. Thus, the physician's judgment came to be more and more shaped by objective tests and data. Diagnostic methods became increasingly complex, fostering specialization, and the general practitioner declined in relative importance. This development resulted in an ever more tenuous relationship between physician and patient—an estrangement which, in turn, threatens the very reliability of the diagnostic methods the evolution of medical technology had been expected to enhance. This is the major theme of the work.

Reiser devotes but a brief chapter to the techniques of patient examination used in earlier centuries. His story really begins with the 19th century, when effective diagnostic instruments were first invented. Of course, knowledge of anatomy and physiology antedated these inventions. Dissection was performed and pathologies classified as early as the 16th century. But no consensus emerged regarding the relation between pathological examinations of cadavers and the symptoms of the living patient. The practicing physician of the 17th and 18th centuries typically analyzed his patient's description of his illness and observed his patient's symptoms, but he did not examine him physically. He eschewed manual methods as being "beneath his dignity"; it would place him on a par with the surgeon, who usually lacked academic credentials and background in medical theory.

The principle of physical examination as the keystone of diagnosis encountered great resistance, and was debated for decades, before it came to be firmly established around 1850—and then mainly as a result of the proliferation of instruments which revealed the relation between symptom and disease. For example, the diagnostic value of sounds generated by the heart or by breathing was now explored by the stethoscope, the findings of which were eventually confirmed by autopsies. According to Reiser, the stethoscope, invented in 1819, represented the first major step towards basing medical practice on scientific findings. While medicine had indeed evolved as a distinct science since the days of Fernel, Vesalius, and Harvey in the 16th and 17th centuries, the gap between medical theory and medical practice began to be closed only in the early 19th century.

The stethoscope also initiated the breakdown of the doctor-patient relationship. The patient's own account of his symptoms and experience with illness began to diminish in importance. The stethoscope and the instruments that succeeded it generated a "model of disease" which often differed from the patient's explanations. Nevertheless, acoustical and visual methods of examination (for example, the ophthalmoscope, the laryngoscope, X-rays) might still be considered as belonging, as it were, to the handicraft stage of medical practice—they were tools applied by the physician, not testing devices. They altered his view of the causes and location of disease, but did not give the precision to his findings which subsequent inventions would. Furthermore, the focus of medical diagnosis was still gross anatomy—the diseased part rather than the disturbed function, the visible tissue rather than tissue cells invisible to the naked eye.

The single most important instrument underlying the transformation of diagnosis was the microscope. The microscope had been invented in the 17th century, but the microstructures and microlife it revealed were not linked to disease by its inventors or by its students until the mid-19th century. Only then, after severe problems of distorted images had been overcome, did some physicians urge its use in tissue analysis. Only then was dis-

ruption of the function of the cell—which had been discovered long before—recognized (by Rudolf Virchow) as the basis of disease. The discovery by Rudolf Koch and Louis Pasteur that micro-organisms could cause disease and the development of bacteriology as a science was a result of the microscope.

The microscope, like other diagnostic instruments, was at first still associated with anatomical concepts. Yet, many physicians urged that changes in natural functions, such as breathing, blood circulation, and temperature also be read as indicators of pathology. This view was promoted by the invention of measuring and graphing devices, such as the sphygmometer and the sphygmograph between 1836 and 1860 (these devices measure the pulse rate). The sphygmograph "transformed the subjective character of pulse feeling into an objective, visual, graphic representation that was a permanent record of a transient event, amenable to study and criticism alone or by a group of physicians." Such devices—and here they also include the thermometer, the electrocardiograph, the microscope, and later the X-ray tube—were no longer mere tools or aides to the physician's perceptions. They were akin to machines, with outputs no longer directly dependent upon the skills of their operator but with skills built into them. Furthermore, they engendered some of the consequences associated with machines; in time, they gave rise to the norming of such "output" variables as blood pressure, body heat, and pulse rate. Being complex apparatus, they required specialization, thus encouraging the practice of delegating medical tasks to health specialists other than physicians (in 1900, of 200,000 such workers, 60 percent were physicians; in 1969, of 1.7 million, 20 percent were physicians); in addition, they contributed to the centralization of medical care in urban hospitals. Equally, they radically eroded the relationship between physician and patient.

These developments were promoted by the rise of chemical analysis of bodily fluids and tissues. Unlike the diagnostic instruments discussed by Reiser, chemical analysis evolved in a distinct institutional context, the laboratory, "the organized workshop of science where investigators analyzed the objects of their interest firsthand," which was largely a creation of the 19th century (being essentially conceived by Justus Liebig, the great German chemist). Reiser devotes but a few pages to the laboratory, and does not fully explore its significance. The laboratory created a new environment, unimpeded by tradition and convention, for research, which must have contributed to its productivity in terms of the basic knowledge it produced. The laboratory not only accentuated the trend toward separation of patient and physician, but also began to sever medical knowledge from medical practice.

The specialization and professionalization of medical practice that arose from the evolution of medical technology and knowledge created an ever more refined division of labor among health workers. The hospital and group practice institutionalized this division of labor. "(By) the 1930's, a number of leaders in medicine looked to hospitals, and the cooperative model of practice, as the key to reorganizing the practice of medicine . . . The . . . Committee on the Costs of Medical Care . . . proposed turning hospitals into comprehensive centers that would be the focus of all medical activities." The hospital proved to be a far more potent centralizing agent than group practice. In 1929, 8 out of 10 physicians were affiliated with a hospital; 1 out of 25 maintained offices or hours there. By 1975, virtually all practicing physicians were affiliated, and 1 out of 4 practiced full-time there. The professional necessity of such affiliation is indisputable, but affiliation surely helped congeal the corporate interests of physicians.

In the final third of the book, Reiser offers a searching critique of what he regards as excessive reliance upon medical technology, and the consequences for medical practice and practitioners. He cites the enormous increase in the use of laboratory tests, X-rays, and other diagnostic procedures in the face of their often doubtful utility; the steep resulting rise in costs and, most important to him, the tendency to substitute such tests for the physician's own perceptions and judgment. The patient's subjective symptoms and comments have, as a result, been ignored, history-taking has declined in importance and, hence, medical thought has lost coherence; medical practice has been "decerebrated."

The author did not perhaps fully appreciate the depth of the gap between the two parts of his work. The history of the technological and medical developments presented in the first part does not prepare the reader for the disturbing critique advanced in the second. The creation of a scientific, objective basis of medical diagnosis, made possible in large part by an evolving medical technology, could not but change the relationship between physician and patient, voiding it of some of its human concerns. But why should medical technology have come to dominate medical practice, rather than serve it? Why should it have engendered "an attitude in which the patient (is) less than a person and more of an object"? Reiser does not explicitly address these questions. He mentions such factors as preoccupation with scientific apparatus as supposedly embodying the "spirit of science," the emphasis on laboratory techniques and biology in physicians' training, broader insurance coverage, and the threat of malpractice suits. But these are conditioning, rather than casual factors.

One of the fascinating aspects of the book is that the author does not simply describe the progress of medical technology and diagnosis, but that he also carefully details the professional resistance to it, as well as the fre-

quent unreliability of early generations of instruments—all of which hindered the ready adoption of given technologies and diagnostic concepts. There is, thus, at least a hint of a corporate interest on the part of the medical profession in then existing modes of diagnosis. The rise of the hospital as a central and centralizing institution of medical practice undoubtedly accentuated the corporate interest of the medical profession. The huge investment in complex equipment and lengthy specialized study further solidified this interest, also imparting to it a large economic dimension. It is certainly true that changing conditions eventually compel a redefinition of interest, but they must then match the stakes involved, and these are very great now.

After the end of World War II, some physicians reflected on the one-third rejection rate of men called to service, because of neuropsychiatric disorders. They began to consider disease "as a maladaptation to biological, familial, and environmental circumstances—as disturbances of thoughts, feelings and social relationships as well as disturbances of tissues and bodily fluids . . . " Nevertheless, "the view of man as primarily a physico-chemical organism has remained the dominant view of postwar medicine . . . " That view of course remains anchored in existing health care institutions. The reign of medical technology, of which Reiser gives such a superb account and which so deeply troubles him, seems destined to institutionalize the physico-chemical approach to diagnosis for decades to come. For, judging by Reiser's own testimony, medical technology is in large measure conceptually based upon that approach, and in turn it generates professional and corporate interests that are hard to dislodge.

—HORST BRAND
Office of Productivity and Technology
Bureau of Labor Statistics

Myth-making and myth-breaking

The Economics of Sex Differentials. By Cynthia B. Lloyd and Beth T. Niemi. New York, Columbia University Press, 1979. 355 pp. $16.50.

During the past quarter century, changes in social attitudes, life styles, marital and family patterns, and a host of other developments have contributed to a dramatic increase in the labor force participation of women. Since 1950, the proportion of women engaged in or seeking market work has climbed from about one-third to more than one-half. During the most recent decade, the increase has been concentrated among young women—those under 35 years of age—and the traditional separation of market work and home production has become less sharp for young wives and mothers. Prior to the midsixties, the bulk of the growth in female labor force participation had occurred among those 45 to 59 years of age, a group that had largely completed the time-consuming portion of their child-rearing responsibilities. The return of these middle-aged women to the paid-work force had required fewer adjustments by their families, the social structure, and their employers, since, on average, this group was less career oriented than the younger women who followed them into the job market.

It is against this backdrop of social, economic, and political developments that this book, by Cynthia B. Lloyd and Beth T. Niemi, was written. It takes its place among a raft of articles, speeches, and books that have been written on the subject.

Unfortunately, the large quantity has not always been of the highest quality, so it is with much appreciation that this work by two well-qualified economists ought to be received. Unlike much of the literature in this area, this work is even-handed in tone, neither strident with political overtones nor so overloaded with details that it can be read only by specialists in the field. The first chapter, in particular, should be required reading for every person interested in the subject. Academics, journalists, policymakers, and the public at large can all benefit from this careful discussion of the myths and reality of the current situation.

Among the subjects discussed in this chapter are various misinterpretations of statistical data including: the drawing of conclusions about individual behavior based upon group averages, the expectation that cross-sectional data can be used as a proxy for developments over time, and the attribution of too much weight to anecdotal evidence. When employers or policymakers fall prey to these misinterpretations, they may well perpetuate the problems that they perceive.

In regard to the use of statistical averages, the authors point out the fallacy of drawing conclusions about individuals based upon group norms by illustrating the amount of dispersion around the averages. They then discuss the "statistical discrimination" which occurs when an employer chooses not to hire a particular woman, because he has read that women, on average, have higher turnover than men. The specific man that is hired may or may not stay at the job longer than the woman who was avoided; she was never given the opportunity to begin her tenure. Actually, the data show that women's rates of turnover are not greatly unlike men's if one controls for age and occupation.

Another common misunderstanding results from a confusion between cross-sectional and time-series data. As the authors put it:

> The dramatic increase in labor force participation rates among women of all ages, but particularly among younger

women, in the last 10 years have meant that for the young cohorts of women (that is, women born in the same year), labor force participation rates appear to be rising almost continuously over the life cycle. This presents a sharp contrast to the cross-sectional picture, which implies that women are dropping out in their child-bearing years. The deception arises because the labor force behavior of different women of varying ages is being used to simulate the life cycle of a hypothetical woman. However, because of dramatic changes in behavior among younger women, it is not accurate to look at older women today and assume that that is where younger women will be a certain number of years down the road.

A related misconception occurs when someone believes that a rate for a particular group at a particular time can be used as a proxy for the overall behavior of a "typical" member of that group. For example, a labor force participation rate of 50 percent means that half of the relevant group is currently in the labor force, not that a typical member of the group spends half of her lifetime in the labor force. The authors cite an actual longitudinal study which suggests that one-third of all women work just about continuously, one-third intermittently, and one-third never work outside the home.

Misunderstandings of the nature of change sometimes result from the use of anecdotal evidence. These examples, which are often used in popular press, may overstate the amount of change that has actually occurred. For example, female carpenters, crane operators, and mineworkers are interviewed and some observers conclude that such occupational choices have become commonplace. While it is true that there have been some women who have been able to move into traditionally male occupations, most women remain in those fields that are predominately female. Six out of every 10 women are in retail trade, clerical, or service occupations. Specific occupations that are at least 90 percent female include secretaries, bank tellers, cashiers, and nurses; occupations that are less than 10 percent female include mechanics, carpenters, dentists, and engineers.

It is important to correct misconceptions concerning women in the work force for several reasons. First, accuracy in understanding the world around us enables individuals to better plan their lives. Second, the behavior of individuals is dependent on their beliefs concerning the facts, and their misunderstandings may serve to be self-fulfilling. An employer may be reluctant to invest in training for a female employee if he believes her likely to leave; without training to improve her skills, she may have little incentive to stay. Lastly, policy decisions based on traditional assumptions tend to foster and perpetuate a situation that might otherwise change. Often cited examples relate to tax policies and the structure of social security benefits.

The remaining chapters of the book are amplifications of the foundation chapter, providing theory, data, and analysis. Among the topics covered are: labor attachment, educational investment, job training, earnings, unemployment, evidence of discrimination, government policies and programs. One could certainly quarrel with the policy conclusions of the authors, since these are clearly dependent on philosophical attitudes. More importantly, their research is thorough, based on careful and proper use of data and a broad knowledge of sources and research in their area.

—DEBORAH PISETZNER KLEIN
Office of Current Employment Analysis
Bureau of Labor Statistics

Publications received

Agriculture and natural resources

Brown, William M. and Herman Kahn, "Why OPEC Is Vulnerable," *Fortune,* July 14, 1980, pp. 66–69.

Busch, Lawrence, "Structure and Negotiation in the Agricultural Sciences," *Rural Sociology,* Spring 1980, pp. 26–48.

Economic and social statistics

"Data Coverage of the Functionally Limited Elderly: Report of the Interagency Statistical Committee on Long-Term Care for the Elderly," *Statistical Reporter,* July 1980, pp. 281–316.

Phelps, Michael G., "Laments, Ancient and Modern: Keynes on Mathematical and Econometric Methodology," *Journal of Post Keynesian Economics,* Summer 1980, pp. 482–93.

Education

Fox, William F., *Relationships Between Size of Schools and School Districts and the Cost of Education.* Washington, U.S. Department of Agriculture, Economics, Statistics, and Cooperatives Service, 1980, 25 pp. (Technical Bulletin, 1621.)

Keppel, Francis, "Education in the Eighties," *Harvard Educational Review,* May 1980, pp. 149–53.

"New Directions in International Education," *The Annals,* The American Academy of Political and Social Science, May 1980, pp. 1–164.

Health and safety

Allen, Robert F., "The Corporate Health-Buying Spree: Boon or Boondoggle?" *S.A.M. Advance Management Journal,* Spring 1980, pp. 4–22.

Robertson, James McD. and Theodore H. Ingalls, "A Mortality Study of Carbon Black Workers in the United States from 1935 to 1974," *Archives of Environmental Health,* May–June 1980, pp. 181–86.

U.S. Bureau of Labor Statistics, *Accidents Involving Face Injuries, Washington,* 1980, 20 pp. (Report 604.)

U.S. Occupational Safety and Health Administration, *All About OSHA.* Washington, U.S. Department of Labor, Occupational Safety and Health Administration, 1980, 47 pp. (OSHA 2056.) Single copy free.

Industrial relations

Blackburn, John D. and Kathryn P. Sheehan, "Recent Developments in Religious Discrimination: The EEOC's Proposed Guidelines," *Labor Law Journal,* June 1980, pp. 335–39.

Brody, Michael, "Congress, the President, and Federal Equal Employment Policymaking: A Problem in Separation of Powers," *Boston University Law Review,* March 1980, pp. 239–305.

Clarke, Jack, "Substantial Evidence and Labor Arbitration in the Federal Sector," *Labor Law Journal,* June 1980, pp. 368–74.

Douglas, Joel M., "The Labor Injunction: Enjoining Public Sector Strikes in New York," *Labor Law Journal,* June 1980, pp. 340–52.

Henkel, Jan W., "Collective Bargaining in Higher Education: State Legislatures Still Hold the Purse Strings," *Labor Law Journal,* June 1980, pp. 353–67.

Industrial Relations Research Association, *Proceedings of the 32d Annual Meeting, Atlanta, Ga., Dec. 28–30, 1979.* Edited by Barbara D. Dennis. Madison, Wis., Industrial Relations Research Association, 1980, 413 pp. $10.

Krupman, William A. and Roger S. Kaplan, "The Stock Purchaser After *Burns:* Must He Buy the Union Contract?" *Labor Law Journal,* June 1980, pp. 328–34.

Leap, Terry and Irving Kovarsky, "What Is the Impact of *Weber* on Collective Bargaining?" *Labor Law Journal,* June 1980, pp. 323–27.

Lewin, Leif, *Governing Trade Unions in Sweden.* Cambridge, Mass., Harvard University Press, 1980, 180 pp. $20.

National Right to Work Committee, *The National Right to Work Committee Annual Report, 1980.* Springfield, Va., 1980, 28 pp.

U.S. Bureau of Labor Statistics, *BLS File of State, County, and Municipal Collective Bargaining Agreements, Fall 1979.* Washington, 1980, 65 pp. (Report 598.)

———*Collective Bargaining in the Basic Steel Industry.* Washington, 1980, 11 pp. (Report 603.)

———*Collective Bargaining in the Telephone Industry.* Washington, 1980, 11 pp. (Report 607.)

Industry and government organization

Dunlop, John T., ed., *Business and Public Policy.* Boston, Harvard University, Graduate School of Business Administration, Division of Research, 1980, 118 pp. $6.95, Harvard University Press, Cambridge, Mass.

McQuaid, Kim, "Big Business and Public Policy in Contemporary United States," *Quarterly Review of Economics and Business,* Summer 1980, pp. 57–68.

Matto, Edward A., *A Manager's Guide to the Antitrust Laws.* New York, AMACOM, A division of American Management Associations, 1980, 195 pp. $14.95.

Shanklin, William L., "Don't Plan on Business as Usual," *Business,* May–June 1980, pp. 30–33.

The White House, Office of the Special Assistant for Consumer Affairs, *Consumer's Resource Handbook: A What-to-Do, Where-to-Go Manual for Resolving Consumer Problems.* Washington, The White House, Office of the Special Assistant for Consumer Affairs, 1979, 76 pp. Single copies available from the Consumer Information Center, Dept. 532 G, Pueblo, Colo. 81009.

International economics

Bowen, William, "Closing the Trade Gap Could Take Ten Years," *Fortune,* July 14, 1980, pp. 128–37.

Hemphill, William L., "Estimation of the Timing Asymmetry in International Trade," *International Monetary Fund Staff Papers,* March 1980, pp. 135–60.

Johnson, Omotunde and Joanne Salop, "Distributional Aspects of Stabilization Programs in Developing Countries," *International Monetary Fund Staff Papers,* March 1980, pp. 1–23.

Lipschitz, Leslie and V. Sundararajan, "The Optimal Basket in a World of Generalized Floating," *International Monetary Fund Staff Papers,* March 1980, pp. 80–100.

"Migrant Workers in the Current Economic Context," *The OECD Observer,* May 1980, pp. 24–25.

Organization for Economic Cooperation and Development, *Interfutures: Facing the Future—Mastering the Probable and Managing the Unpredictable.* Paris, 1979, 425 pp. $20.50. Available in the United States from OECD Publications and Information Center, Washington.

Sachs, Jeffrey, "Wages, Flexible Exchange Rates, and Macroeconomic Policy," *The Quarterly Journal of Economics,* June 1980, pp. 731–47.

Labor and economic history

Cahn, William, *Lawrence 1912: The Bread and Roses Strike.* New York, The Pilgrim Press, 1980, 238 pp. $6.95, paper.

Stieber, Jack, "Labor's Walkout from the Korean Wage Stabilization Board," *Labor History,* Spring 1980, pp. 239–60.

Straw, Richard, "An Act of Faith: Southeastern Ohio Miners in the Coal Strike of 1927," *Labor History,* Spring 1980, pp. 221–38.

Labor force

Barad, Cary B., "Flexitime Under Scrutiny: Research on Work Adjustment and Organizational Performance," *Personnel Administrator,* May 1980, pp. 69–74.

Duggan, James E., "The Empirical Relation of Labor Force to Employment and Unemployment," *Quarterly Review of Economics and Business,* Summer 1980, pp. 69–81.

Greene, Judith A., "Youth Unemployment Worse Than Thought But Not Insoluble," *Jobs Watch,* March–April 1980, beginning on p. 1.

Sum, Andrew M., Edward Meehan, Jack Drago, *Trends in the Labor Force Status of Youth in New England: Implications for Targeting Youth Employment and Training Resources.* Boston, Mass., Northeastern University, Center for Labor Market Studies, Department of Economics, 1980, 76 pp.

Suzawa, Gilbert, "Gold, Recession and Jewelry Manufacturing Employment, Pt. I," *American Jewelry Manufacturer,* May 1980, pp. 72–77.

U.S. Bureau of Labor Statistics, *Employment Projections for the 1980's.* Washington, 1979, 106 pp. (Bulletin 2030.)

Stock No. 029–001–02312–0. $4.25, Superintendent of Documents, Washington, 20402.

———*Perspectives on Working Women.* Washington, 1980, 5 pp.

"Women in the Labour Market: A Conference at OECD," *The OECD Observer,* May 1980, pp. 3–15.

Management and organization theory

Brush, Donald H. and Lyle F. Schoenfeldt, "Identifying Managerial Potential: An Alternative to Assessment Centers," *Personnel,* May–June 1980, pp. 68–76.

Cooper, Cary L., "Humanizing the Work Place in Europe: An Overview of Six Countries," *Personnel Journal,* June 1980, pp. 488–91.

Cox, Keith K., "Marketing in the 1980's—Back to Basics," *Business,* May–June 1980, pp. 19–23.

Ford, Robert N., *Why Jobs Die and What to Do About It: Job Redesign and Future Productivity.* New York, AMACOM, A division of American Management Associations, 1979, 220 pp. $14.95.

Gordon, Paul C., "Magnetic Management: The Real Role of Personnel," *Personnel Journal,* June 1980, beginning on p. 485.

Greenberg, Paul D. and Edward M. Glaser, *Some Issues in Joint Union-Management: Quality of Worklife Improvement Efforts.* Kalamazoo, Mich., W. E. Upjohn Institute for Employment Research, 1980, 85 pp. $4.

Hecht, Maurice R., *What Happens in Management: Principles and Practices.* New York, AMACOM, A division of American Management Associations, 1980, 212 pp. $15.95.

Heisel, W. D., "A Non-Bureaucratic View of Management Development," *Public Personnel Management,* March–April 1980, pp. 94–98.

Hively, Janet M. and William S. Howell, "The Male–Female Management Team: A Dance of Death?" *Management Review,* June 1980, pp. 44–50.

Kovach, Kenneth A., "Why Motivational Theories Don't Work," *S.A.M. Advanced Management Journal,* Spring 1980, pp. 54–59.

Lebell, Don, "Managing Professionals: The Quiet Conflict," *Personnel Journal,* July 1980, beginning on p. 566.

Lubben, Gary L., Duane E. Thompson, Charles R. Klasson, "Performance Appraisal: The Legal Implications of Title VII," *Personnel,* May–June 1980, pp. 11–21.

Lynch, Edith M., "How Women Can Get Out of Dead-End Jobs," *S.A.M. Advanced Management Journal,* Spring, 1980, pp. 60–63.

Mayer, Richard J., "Keys to Effective Appraisal," *Management Review,* June 1980, pp. 60–62.

Millett, John D., *Management, Governance and Leadership: A Guide for College and University Administrators.* New York, AMACOM, A division of American Management Associations, 1980, 208 pp. $15.95.

Olivas, Louis, "Using Assessment Centers for Individual and Organizational Development," *Personnel,* May–June 1980, pp. 63–67.

Penley, Larry E. and Brian L. Hawkins, "Communicating for Improved Motivation and Performance," *S.A.M. Advanced Management Journal,* Spring 1980, pp. 39–44.

Perry, Robert A., "Public Sector Selection Specialist: A Survey of State and Local Government Utilization and Training Needs," *Public Personnel Management,* March–April 1980, pp. 86–93.

Peters, Thomas J., "Putting Excellence into Management," *Business Week,* July 21, 1980, beginning on p. 196.

Powell, Gary N., "Career Development and the Woman Manager—A Social Perspective," *Personnel,* May–June 1980, pp. 22–32.

Rimler, George W. and Neil I. Humphreys, *Small Business: Developing the Winning Management Team.* New York, AMACOM, A division of American Management Associations, 1980, 180 pp. $13.95.

Shapek, Raymond A., "The Intergovernmental Personnel Act Program and Management Capacity Development," *Public Personnel Management,* March–April 1980, pp. 75–85.

Siegel, Jerome, *Personnel Testing Under EEO.* New York, AMACOM, A division of American Management Associations, 1980, 92 pp. $7.50, AMA members; $10, nonmembers.

"Sixty Years of Hiring Practices," *Personnel Journal,* June 1980, beginning on p. 462.

Sloma, Richard S., *How to Measure Managerial Performance.* New York, Macmillan Publishing Co., Inc., 1980, 257 pp. $10.95.

Walker, Alfred J., "Arriving Soon: The Paperless Personnel Office," *Personnel Journal,* July 1980, beginning on p. 559.

Witkin, Arthur A., "Commonly Overlooked Dimensions of Employee Selection," *Personnel Journal,* July 1980, beginning on p. 573.

Monetary and fiscal policy

Aaron, Henry J. and Michael J. Boskin, eds., *The Economics of Taxation.* Washington, The Brookings Institution, 1980, 418 pp. $17.95, cloth; $6.95, paper.

Bryce, Herrington J., ed., *Managing Fiscal Retrenchment in Cities.* Columbus, Ohio, Academy for Contemporary Problems, 1980, 33 pp. Single copy free.

Liebling, Herman I., *U.S. Corporate Profitability and Capital Formation: Are Rates of Return Sufficient?* New York, Pergamon Press, 1980, 146 pp., bibliography. (Pergamon Policy Studies on U.S. and International Business, 47.) $14.

Rao, Dileep, *Handbook of Business, Finance and Capital Sources, 1979 Edition.* New York, AMACOM, A division of American Management Associations, 1979, 460 pp.

Touhey, John C., *Stock Market Forecasting for Alert Investors.* New York, AMACOM, A division of American Management Associations, 1980, 184 pp. $11.95.

Weintraub, Sidney, "Money, Supply and Demand Interdependence," *Journal of Post Keynesian Economics,* Summer 1980, pp. 566–75.

Productivity and technological change

Bays, Carson W., "Utility Productivity and Regulatory Incentives," *Quarterly Review of Economics and Business,* Summer 1980, pp. 51–56.

Militzer, K. H., "Macro vs. Micro: Input/Output Ratios," *Management Review,* June 1980, pp. 8–15.

Salomon, Jean-Jacques, "Technical Change and Economic Policy," *The OECD Observer,* May 1980, pp. 16–22.

Wise, Joseph, "Setting Up a Company Productivity Program," *Management Review,* June 1980, pp. 15–18.

Wages and compensation

Brinks, James T., "Is There Merit in Merit Increases?" *Personnel Administrator,* May 1980, pp. 59–64.

Miller, John J., "Trends and Practices in Employee Benefits," *Personnel Administrator,* May 1980, beginning on p. 48.

Moynahan, John K., *Designing an Effective Sales Compensation Program.* New York, AMACOM, A division of American Management Associations, 1980, 214 pp. $16.95.

Welfare programs and social insurance

Kopits, George and Padma Gotur, "The Influence of Social Security on Household Savings: A Cross-Country Investigation," *International Monetary Fund Staff Papers,* March 1980, pp. 161–90.

U.S. Department of Health, Education, and Welfare, *Employment and Training Issues in Social Work with the Elderly.* Washington, U.S. Department of Health, Education, and Welfare, National Clearinghouse on Aging, Administration of Aging, Office of Human Development Services, 1979, 20 pp. (AoA Occasional Papers in Gerontology, 4.) (DHEW Publication No. (OHDS) 79–20090.) Stock No. 017–062–00117–1. $1.75, Superintendent of Documents, Washington 20402.

Worker training and development

Consultant News, *Directory of Executive Recruiters.* Fitzwilliam, N.H., Consultants News, 1980, 216 pp. $12, prepaid.

Ginzberg, Eli, ed., *Employing the Unemployed.* New York, Basic Books, Inc., Publishers, 1980, 209 pp. $15.

Hallman, Howard W., *Community-Based Employment Programs.* Baltimore, The Johns Hopkins University Press, 1980, 177 pp. (Policy Studies in Employment and Welfare, 36.) $8.95.

National Institute for Work and Learning, *Calling the Tune: Communication Technology for Working, Learning, and Living* (by Ted Carpenter, 80 pp., $12); *Patterns of Adult Participation in Learning Activities* (by Ivan Charner, 68 ppl, $10); *The Source of Adult Learning, Education, and Training Opportunity in the United States* (by Bryna Shore Fraser, 75 pp., $10); *Education and Training for Middle-Aged and Older Workers; Policy Issues and Options* (by Julia R. French, 48 pp., $8); *Training and Education by Industry* (by Harold Goldstein, 70 pp., $12.50); *Worker Education and Training Policies Project: Alternative Work Patterns—Implications for Worklife Education and Training* (by Jane Shore, 46 pp., $8); *Worklife Education and Training and the Ordeal of Change* (by Charles D. Stewart, 69 pp., $10); *Issues in Education and Training for Working Women* (by Denise Wilder, 138 pp., $15). Washington, National Institute for Work and Learning, 1980.

Northeastern University, *Current Issues in Employment and Training Policy, Planning, and Evaluation.* (Papers presented at the New England Business and Economics Conference, Nov. 1–2, 1979.) Boston, Mass., Northeastern University, Department of Economics, Center for Labor Market Studies, 1979, 509 pp.

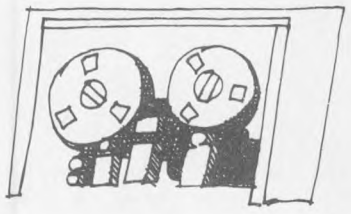
Radin, Beryl A., "Leadership Training for Women in State and Local Government," *Public Personnel Management,* March–April 1980, pp. 52–60.

U.S. Bureau of Labor Statistics, *Exploring Careers: The World of Work and You* (Bulletin 2001–1, 28 pp., $2); *Industrial Production Occupations* (Bulletin 2001–2, 48 pp., $2); *Office Occupations* (Bulletin 2001–3, 32 pp., $2); *Service Occupations* (Bulletin 2001–4, 50 pp., $2); *Education Occupations* (Bulletin 2001–5, 36 pp., $2); *Sales Occupations* (Bulletin 2001–6, 32 pp., $2); *Construction Occupations* (Bulletin 2001–7, 38 pp., $2); *Transportation Occupations* (Bulletin 2001–8, 34 pp., $2); *Scientific and Technical Occupations* (Bulletin 2001–9, 34 pp., $2); *Mechanics and Repairers* (Bulletin 2001–10, 28 pp., $2); *Health Occupations* (Bulletin 2001–11, 50 pp., $2); *Social Scientists* (Bulletin 2001–12, 28 pp., $2); *Social Service Occupations* (Bulletin 2001–13, 28 pp., $2); *Performing Arts, Design, and Communications Occupations* (Bulletin 2001–14, 44 pp., $2); *Agriculture, Forestry, and Fishery Occupations* (Bulletin 2001–15, 37 pp., $2). Washington, 1979. Available from the Superintendent of Documents, Washington 20402.

U.S. Department of Labor Library, *Apprenticeship: Selected References, 1974–1979.* Washington, U.S. Department of Labor, Office of the Assistant Secretary for Administration and Management, 1979, 53 pp. $2.50, Superintendent of Documents, Washington 20402.

Walker, Michael J., "Guide for Occupational Exploration," *Occupational Outlook Quarterly,* Spring 1980, pp. 26–28.

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. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review.* Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "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. For a technical discussion of the method used to make seasonal adjustments, see *X-11 Variant of the Census Method II Seasonal Adjustment Program,* Technical Paper No. 15 (Bureau of the Census, 1967).

Seasonally adjusted labor force data in tables 2–7 were last revised in the February 1980 issue of the *Review* to reflect the preceding year's experience. Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. 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, September 1979). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

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

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. The *Handbook of Labor Statistics 1978,* Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review.* More information from the household and establishment surveys is provided in *Employment and Earnings,* a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas.* More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments.* More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes.*

Symbols

p = preliminary. To improve the timeliness of some series, preliminary figures are issued based on representative but incomplete returns.
r = revised. Generally this revision reflects the availability of later data but may also reflect other adjustments.
n.e.c. = not elsewhere classified.

Schedule of release dates for major BLS statistical series

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	September 5	August	October 3	September	1–11
Producer Price Index	September 5	August	October 3	September	26–30
Consumer Price Index	September 23	August	October 24	September	22–25
Real earnings	September 23	August	October 24	September	14–20
Work stoppages	September 29	August	October 28	September	37
Labor turnover in manufacturing	September 30	August	October 30	September	12–13
Productivity and costs (quarterly):					
Nonfarm business and manufacturing	....	....	October 27	3rd quarter	31–34
Major collective bargaining settlements (quarterly)	....	....	October 27	1st 9 months	35–36

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

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 65,000 households beginning in January 1980, 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 are (1) those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

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

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. Persons **not in the labor force** are those not classified as employed or unemployed; this group includes persons retired, those engaged in their own housework, those not working while attending school, those unable to work because of longterm 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.

Full-time workers are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings.*

Data in tables 2–7 are seasonally adjusted, based on the seasonal experience through December 1979.

1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–79

[Numbers in thousands]

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagri-cultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	83,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623

2. Employment status by sex, age, and race, seasonally adjusted

[Numbers in thousands]

Employment status	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
TOTAL															
Total noninstitutional population[1]	161,058	163,620	163,685	163,891	164,106	164,468	164,682	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,391
Total labor force	102,537	104,996	105,475	105,218	105,586	105,688	105,744	106,088	106,310	106,346	106,184	106,511	107,230	106,634	107,302
Civilian noninstitutional population[1]	158,941	161,532	161,604	161,801	162,013	162,375	162,589	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293
Civilian labor force	100,420	102,908	103,093	103,128	103,494	103,595	103,652	103,999	104,229	104,260	104,094	104,419	105,142	104,542	105,203
Employed	94,373	96,945	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996
Agriculture	3,342	3,297	3,267	3,315	3,364	3,294	3,385	3,359	3,270	3,326	3,358	3,242	3,379	3,191	3,257
Nonagricultural industries	91,031	93,648	93,917	93,689	94,140	94,180	94,223	94,553	94,534	94,626	94,298	93,912	93,609	93,346	93,739
Unemployed	6,047	5,963	5,909	6,124	5,990	6,121	6,044	6,087	6,425	6,307	6,438	7,265	8,154	8,006	8,207
Unemployment rate	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
Not in labor force	58,521	58,623	58,511	58,673	58,519	58,780	58,937	58,810	58,791	58,951	59,322	59,182	58,657	59,471	59,091
Men, 20 years and over															
Civilian noninstitutional population[1]	67,006	68,293	68,319	68,417	68,522	68,697	68,804	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664
Civilian labor force	53,464	54,486	54,579	54,597	54,735	54,760	54,709	54,781	54,855	55,038	54,996	55,114	55,467	55,220	55,398
Employed	51,212	52,264	52,325	52,311	52,453	52,443	52,374	52,478	52,279	52,531	52,300	51,868	51,796	51,510	51,668
Agriculture	2,361	2,350	2,327	2,375	2,377	2,371	2,438	2,427	2,387	2,435	2,394	2,320	2,384	2,270	2,292
Nonagricultural industries	48,852	49,913	49,998	49,936	50,076	50,072	49,936	50,051	49,892	50,096	49,906	49,548	49,412	49,240	49,376
Unemployed	2,252	2,223	2,254	2,286	2,282	2,317	2,335	2,303	2,577	2,507	2,696	3,246	3,671	3,710	3,730
Unemployment rate	4.2	4.1	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7
Not in labor force	13,541	13,807	13,740	13,820	13,787	13,937	14,095	14,159	14,192	14,102	14,242	14,215	13,961	14,312	14,266
Women, 20 years and over															
Civilian noninstitutional population[1]	75,489	76,860	76,897	77,006	77,124	77,308	77,426	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360
Civilian labor force	37,416	38,910	39,033	39,304	39,239	39,362	39,445	39,659	39,878	39,857	39,751	40,137	40,246	40,125	40,471
Employed	35,180	36,698	36,873	37,000	37,075	37,112	37,248	37,402	37,574	37,604	37,496	37,602	37,576	37,530	37,769
Agriculture	586	591	585	600	628	572	612	582	540	567	582	552	616	541	565
Nonagricultural industries	34,593	36,107	36,288	36,400	36,447	36,540	36,636	36,820	37,034	37,037	36,914	37,051	36,960	36,989	37,204
Unemployed	2,236	2,213	2,160	2,304	2,164	2,250	2,197	2,257	2,304	2,254	2,255	2,534	2,670	2,596	2,702
Unemployment rate	6.0	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7
Not in labor force	38,073	37,949	37,864	37,702	37,885	37,946	37,981	37,883	37,778	37,909	38,125	37,844	37,844	38,086	37,889
Both sexes, 16–19 years															
Civilian noninstitutional population[1]	16,447	16,379	16,387	16,377	16,367	16,370	16,360	16,326	16,317	16,305	16,302	16,291	16,281	16,271	16,268
Civilian labor force	9,540	9,512	9,481	9,227	9,520	9,473	9,498	9,559	9,497	9,365	9,346	9,168	9,429	9,197	9,334
Employed	7,981	7,984	7,986	7,693	7,976	7,919	7,986	8,032	7,952	7,818	7,859	7,683	7,616	7,497	7,560
Agriculture	395	356	355	340	359	351	335	350	344	325	381	370	379	380	401
Nonagricultural industries	7,586	7,628	7,631	7,353	7,617	7,568	7,651	7,682	7,608	7,493	7,478	7,313	7,237	7,117	7,159
Unemployed	1,559	1,528	1,495	1,534	1,544	1,554	1,512	1,527	1,545	1,547	1,487	1,485	1,813	1,700	1,774
Unemployment rate	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
Not in labor force	6,907	6,867	6,906	7,150	6,847	6,897	6,862	6,767	6,820	6,940	6,956	7,123	6,852	7,074	6,934
White															
Civilian noninstitutional population[1]	139,580	141,614	141,661	141,822	141,981	142,296	142,461	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770
Civilian labor force	88,456	90,602	90,659	90,759	91,082	91,147	91,242	91,579	91,852	91,977	91,821	92,083	92,535	92,096	92,456
Employed	83,836	86,025	86,120	85,976	86,425	86,454	86,571	86,894	86,895	87,081	86,822	86,385	86,148	85,792	86,063
Unemployed	4,620	4,577	4,539	4,783	4,657	4,693	4,671	4,685	4,957	4,896	4,999	5,698	6,386	6,303	6,392
Unemployment rate	5.2	5.1	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9
Not in labor force	51,124	51,011	51,107	51,161	50,900	51,149	51,219	51,066	50,954	50,975	51,294	51,171	50,868	51,469	51,314
Black and other															
Civilian noninstitutional population[1]	19,361	19,918	19,943	19,979	20,032	20,079	20,128	20,163	20,214	20,261	20,301	20,346	20,395	20,448	20,523
Civilian labor force	11,964	12,306	12,386	12,343	12,404	12,512	12,391	12,432	12,453	12,362	12,266	12,319	12,559	12,446	12,739
Employed	10,537	10,920	11,023	10,982	11,063	11,076	11,044	11,024	10,979	10,937	10,823	10,771	10,813	10,751	10,932
Unemployed	1,427	1,386	1,363	1,361	1,341	1,436	1,347	1,408	1,474	1,424	1,443	1,549	1,746	1,695	1,807
Unemployment rate	11.9	11.3	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2
Not in labor force	7,397	7,612	7,579	7,639	7,264	7,567	7,737	7,731	7,761	7,899	8,035	8,027	7,836	8,002	7,784

[1] As in table 1, population figures are not seasonally adjusted.

c = corrected.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May [c]	June	July
CHARACTERISTIC															
Total employed, 16 years and over	94,373	96,945	97,184	97,004	97,504	97,474	97,608	97,912	97,804	97,953	97,656	97,154	96,988	96,537	96,996
Men	55,491	56,499	56,570	56,408	56,714	56,629	56,580	56,734	56,486	56,732	56,601	55,998	55,823	55,457	55,629
Women	38,882	40,446	40,614	40,596	40,790	40,845	41,028	41,178	41,318	41,221	41,051	41,156	41,165	41,079	41,367
Married men, spouse present	38,688	39,090	39,176	39,180	39,198	39,124	38,845	38,924	38,749	38,955	38,745	38,342	38,147	38,193	37,999
Married women, spouse present	21,881	22,724	22,908	22,869	22,937	22,919	22,940	23,027	23,111	23,178	23,202	23,080	23,155	23,144	23,097
OCCUPATION															
White-collar workers	47,205	49,342	49,536	49,663	49,816	49,738	49,912	49,911	50,313	50,448	50,302	50,405	50,606	50,861	51,114
Professional and technical	14,245	15,050	15,057	15,068	15,141	15,057	15,131	15,272	15,337	15,444	15,397	15,542	15,551	15,712	15,741
Managers and administrators, except farm	10,105	10,516	10,612	10,698	10,659	10,639	10,617	10,535	10,608	10,971	10,755	10,745	10,882	10,911	11,046
Salesworkers	5,951	6,163	6,163	6,145	6,181	6,261	6,362	6,346	6,452	6,185	6,113	5,988	6,022	5,981	6,128
Clerical workers	16,904	17,613	17,704	17,752	17,835	17,781	17,802	17,758	17,915	17,848	18,037	18,129	18,152	18,256	18,199
Blue-collar workers	31,531	32,066	32,051	31,849	32,209	32,205	32,110	32,302	31,882	31,754	31,670	31,127	30,681	30,243	30,149
Craft and kindred workers	12,386	12,880	12,876	12,761	12,993	13,001	12,925	13,041	12,814	12,728	12,767	12,773	12,523	12,301	12,382
Operatives, except transport	10,875	10,909	10,884	10,909	10,964	10,967	10,963	11,042	10,678	10,661	10,579	10,408	10,336	10,131	10,134
Transport equipment operatives	3,541	3,612	3,627	3,604	3,617	3,593	3,628	3,635	3,616	3,571	3,558	3,483	3,421	3,395	3,335
Nonfarm laborers	4,729	4,665	4,664	4,575	4,635	4,644	4,594	4,584	4,774	4,795	4,767	4,463	4,402	4,416	4,299
Service workers	12,839	12,834	12,766	12,621	12,859	12,937	12,899	12,970	12,979	13,080	12,981	13,034	13,932	12,930	13,045
Farmworkers	2,798	2,703	2,678	2,707	2,722	2,695	2,718	2,694	2,660	2,764	2,733	2,658	2,745	2,606	2,689
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,419	1,413	1,419	1,384	1,399	1,381	1,475	1,451	1,428	1,417	1,449	1,370	1,405	1,365	1,352
Self-employed workers	1,607	1,580	1,558	1,614	1,642	1,602	1,622	1,596	1,554	1,648	1,600	1,591	1,662	1,590	1,631
Unpaid family workers	316	304	291	310	325	313	310	310	293	283	300	281	289	269	292
Nonagricultural industries:															
Wage and salary workers	84,253	86,540	86,454	86,421	86,912	86,982	87,020	87,384	87,578	87,419	87,221	86,741	86,631	86,257	86,407
Government	15,289	15,369	15,393	15,279	15,407	15,423	15,358	15,397	15,414	15,540	15,622	15,668	15,799	15,891	15,760
Private industries	68,966	71,171	71,061	71,142	71,505	71,559	71,662	71,987	72,163	71,879	71,599	71,072	70,832	70,365	70,647
Private households	1,363	1,240	1,219	1,211	1,313	1,261	1,211	1,228	1,132	1,178	1,115	1,123	1,206	1,219	1,245
Other industries	67,603	69,931	69,842	69,931	70,192	70,298	70,451	70,759	71,031	70,702	70,484	69,949	69,625	69,147	69,402
Self-employed workers	6,305	6,652	6,752	6,689	6,731	6,812	6,781	6,737	6,752	6,899	6,825	6,813	6,648	6,666	6,765
Unpaid family workers	472	455	519	450	449	430	417	409	379	397	376	363	411	445	441
PERSONS AT WORK [1]															
Nonagricultural industries	85,693	88,133	88,769	88,855	88,723	88,638	88,617	89,180	89,454	88,985	88,585	87,660	87,680	87,910	87,454
Full-time schedules	70,543	72,647	72,915	73,053	73,159	73,204	72,997	73,137	73,223	73,110	72,749	71,807	71,224	71,206	70,649
Part time for economic reasons	3,216	3,281	3,274	3,298	3,167	3,315	3,392	3,519	3,513	3,406	3,418	3,816	4,349	3,999	4,113
Usually work full time	1,249	1,325	1,334	1,401	1,273	1,354	1,413	1,491	1,549	1,380	1,463	1,709	2,064	1,781	1,847
Usually work part time	1,967	1,956	1,940	1,897	1,894	1,961	1,979	2,028	1,964	2,026	1,955	2,107	2,285	2,217	2,266
Part time for noneconomic reasons	11,934	12,205	12,580	12,504	12,397	12,119	12,228	12,524	12,718	12,469	12,418	12,037	12,106	12,706	12,692

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

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.
c = corrected.

4. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
CHARACTERISTIC															
Total, 16 years and over	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
Men, 20 years and over	4.2	4.1	4.1	4.2	4.2	4.2	4.3	4.2	4.7	4.6	4.9	5.9	6.6	6.7	6.7
Women, 20 years and over	6.0	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8	5.7	5.7	6.3	6.6	6.5	6.7
Both sexes, 16–19 years	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
White, total	5.2	5.1	5.0	5.3	5.1	5.1	5.1	5.1	5.4	5.3	5.4	6.2	6.9	6.8	6.9
Men, 20 years and over	3.7	3.6	3.6	3.7	3.7	3.7	3.7	3.7	4.1	4.0	4.4	5.3	5.9	6.0	6.0
Women, 20 years and over	5.2	5.0	4.8	5.2	4.8	5.0	4.9	5.0	5.1	5.2	4.9	5.5	5.8	5.8	5.9
Both sexes, 16–19 years	13.9	13.9	13.8	14.8	14.3	14.1	13.9	13.9	14.0	13.8	13.8	14.6	17.4	16.4	16.7
Black and other, total	11.9	11.3	11.0	11.0	10.8	11.5	10.9	11.3	11.8	11.5	11.8	12.6	13.9	13.6	14.2
Men, 20 years and over	8.6	8.4	8.4	8.1	8.0	8.6	8.4	8.6	9.6	9.2	9.3	10.9	12.0	12.6	12.7
Women, 20 years and over	10.6	10.1	10.0	10.3	9.8	10.2	9.5	10.0	10.0	9.0	10.5	11.4	11.9	10.9	11.5
Both sexes, 16–19 years	36.3	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6	37.9	33.0	29.8	35.2	34.4	36.6
Married men, spouse present	2.8	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4	3.1	3.4	4.1	4.7	4.9	5.1
Married women, spouse present	5.5	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2	5.4	5.3	5.7	6.3	6.1	6.2
Women who head families	8.5	8.3	8.1	7.9	7.7	8.4	8.4	8.4	9.2	8.5	8.7	9.3	8.3	8.4	8.9
Full-time workers	5.5	5.3	5.3	5.4	5.3	5.4	5.4	5.4	5.7	5.6	5.8	6.6	7.5	7.4	7.6
Part-time workers	9.0	8.7	8.3	8.8	8.4	8.9	8.3	8.5	8.7	8.9	8.3	8.9	9.3	8.8	8.7
Unemployed 15 weeks and over	1.4	1.2	1.0	1.1	1.1	1.2	1.1	1.2	1.3	1.2	1.3	1.6	1.6	1.7	1.8
Labor force time lost[1]	6.5	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7	6.6	6.8	7.5	8.8	8.3	8.5
OCCUPATION															
White-collar workers	3.5	3.3	3.3	3.5	3.3	3.4	3.2	3.3	3.4	3.4	3.3	3.7	3.9	3.7	3.7
Professional and technical	2.6	2.4	2.5	2.5	2.4	2.7	2.4	2.3	2.2	2.3	2.3	2.4	2.7	2.6	2.4
Managers and administrators, except farm	2.1	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9	2.2	2.4	2.6	2.7	2.4	2.5
Salesworkers	4.1	3.9	3.5	4.0	3.8	3.8	3.7	3.8	4.4	4.5	4.0	4.7	4.5	4.4	4.2
Clerical workers	4.9	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8	4.7	4.5	5.1	5.4	5.3	5.4
Blue-collar workers	6.9	6.9	6.8	7.3	7.1	7.2	7.5	7.2	8.0	7.7	8.0	9.7	11.3	11.5	11.5
Craft and kindred workers	4.6	4.5	4.4	4.7	4.3	4.6	4.9	4.4	4.9	4.8	5.4	6.7	8.1	8.0	7.4
Operatives, except transport	8.1	8.4	8.3	8.9	9.0	9.1	9.0	9.0	9.9	9.2	9.3	11.6	14.0	13.8	14.6
Transport equipment operatives	5.2	5.4	5.1	6.2	6.1	5.6	5.2	5.0	6.9	6.7	6.6	8.9	9.0	10.5	10.5
Nonfarm laborers	10.7	10.8	11.0	11.3	11.0	10.7	12.2	12.2	12.3	12.0	13.0	14.1	15.4	16.2	16.1
Service workers	7.4	7.1	7.1	7.1	6.7	6.8	6.6	6.6	6.9	6.9	7.1	8.0	8.5	8.1	8.4
Farmworkers	3.8	3.8	4.2	3.9	4.1	4.3	4.5	4.3	4.4	3.9	4.0	5.0	4.8	4.2	4.8
INDUSTRY															
Nonagricultural private wage and salary workers[2]	5.9	5.7	5.7	6.0	5.8	5.9	5.8	5.8	6.2	6.0	6.2	7.1	8.2	8.3	8.2
Construction	10.6	10.2	10.0	10.1	9.6	9.9	10.2	10.3	10.8	10.5	13.0	15.1	17.5	16.5	16.1
Manufacturing	5.5	5.5	5.7	5.9	6.0	6.0	5.9	5.9	6.7	6.4	6.5	7.9	9.9	9.9	10.3
Durable goods	4.9	5.0	5.4	5.4	5.3	5.5	5.6	5.5	6.7	6.3	6.4	8.3	10.5	11.2	11.2
Nondurable goods	6.3	6.4	6.2	6.8	7.1	6.8	6.3	6.4	6.8	6.7	6.7	7.4	8.8	8.0	8.8
Transportation and public utilities	3.7	3.7	3.8	3.7	4.0	3.8	4.2	4.1	4.4	4.4	3.8	4.6	5.1	5.2	5.8
Wholesale and retail trade	6.9	6.5	6.3	6.5	6.4	6.4	6.5	6.4	6.6	6.4	6.3	7.0	7.6	8.0	7.5
Finance and service industries	5.1	4.9	4.9	5.2	4.7	4.9	4.6	4.7	4.6	4.6	4.9	5.1	5.7	5.7	5.7
Government workers	3.9	3.7	3.6	3.7	3.3	4.0	3.6	3.6	3.8	4.0	4.2	4.4	4.2	3.5	4.1
Agricultural wage and salary workers	8.8	9.1	9.7	9.9	10.0	9.9	10.1	9.4	10.3	9.2	10.2	11.9	11.7	9.7	10.8

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

[2] Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1979.

c = corrected.

5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
Total, 16 years and over	6.0	5.8	5.7	5.9	5.8	5.9	5.8	5.9	6.2	6.0	6.2	7.0	7.8	7.7	7.8
16 to 19 years	16.3	16.1	15.8	16.6	16.2	16.4	15.9	16.0	16.3	16.5	15.9	16.2	19.2	18.5	19.0
16 to 17 years	19.3	18.1	17.3	18.5	16.9	18.4	17.3	18.0	19.0	18.7	17.4	18.7	21.7	19.8	20.9
18 to 19 years	14.2	14.6	14.5	15.4	15.6	15.0	14.7	14.5	14.0	15.1	14.7	14.4	17.7	18.0	17.7
20 to 24 years	9.5	9.0	9.1	9.3	9.2	9.6	8.8	9.8	10.1	9.5	9.7	11.4	12.7	12.4	12.3
25 years and over	4.0	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2	4.1	4.4	5.0	5.5	5.5	5.7
25 to 54 years	4.2	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4	4.5	4.7	5.4	5.9	6.0	6.1
55 years and over	3.2	3.0	3.2	3.1	2.9	3.0	2.7	2.7	3.5	2.8	2.8	3.4	3.6	3.4	3.5
Men, 16 years and over	5.2	5.1	5.1	5.2	5.2	5.2	5.2	5.2	5.7	5.5	5.7	6.7	7.7	7.8	7.8
16 to 19 years	15.7	15.8	15.4	16.3	16.1	15.7	15.8	15.6	16.2	15.6	14.8	16.1	19.7	19.5	19.7
16 to 17 years	19.2	17.9	16.1	18.0	16.7	17.1	17.8	17.9	19.0	18.0	15.9	18.3	22.0	21.8	20.8
18 to 19 years	13.2	14.2	14.8	15.1	15.3	14.4	14.0	13.6	13.9	14.1	14.0	14.2	17.9	19.3	18.7
20 to 24 years	9.1	8.6	8.8	8.8	8.8	9.5	8.4	9.4	10.4	9.9	10.4	12.3	13.7	13.8	13.4
25 years and over	3.3	3.3	3.3	3.4	3.3	3.4	3.5	3.2	3.7	3.6	3.9	4.7	5.3	5.5	5.6
25 to 54 years	3.4	3.4	3.4	3.5	3.6	3.5	3.8	3.4	3.8	3.8	4.2	5.0	5.7	5.8	6.1
55 years and over	3.1	2.9	3.3	3.1	2.8	2.8	2.6	2.6	3.5	2.6	2.7	3.4	3.5	3.8	3.9
Women, 16 years and over	7.2	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8	6.8	6.8	7.3	7.8	7.5	7.8
16 to 19 years	17.0	16.4	16.2	17.0	16.4	17.2	16.1	16.4	16.3	17.6	17.3	16.3	18.7	17.3	18.2
16 to 17 years	19.5	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1	19.5	19.2	19.1	21.4	17.6	20.9
18 to 19 years	15.3	15.0	14.2	15.7	15.9	15.6	15.5	15.5	14.2	16.2	15.6	14.6	17.5	16.6	16.6
20 to 24 years	10.1	9.6	9.4	9.8	9.6	9.7	9.3	10.2	9.8	9.1	9.0	10.2	11.6	10.8	11.1
25 years and over	5.1	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9	4.9	5.0	5.5	5.7	5.6	5.7
25 to 54 years	5.4	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2	5.4	5.5	6.0	6.1	6.1	6.2
55 years and over	3.3	3.2	3.1	3.2	2.9	3.4	2.9	2.9	3.4	3.0	2.9	3.4	3.6	2.8	3.0

6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
NUMBER OF UNEMPLOYED													
Lost last job	2,526	2,680	2,632	2,731	2,729	2,728	2,988	2,907	3,047	3,611	4,301	4,625	4,558
On layoff	797	915	855	929	987	944	1,019	1,031	1,129	1,424	1,944	2,117	1,975
Other job losers	1,729	1,765	1,777	1,802	1,742	1,784	1,969	1,876	1,918	2,188	2,357	2,508	2,583
Left last job	846	875	825	835	845	800	779	813	788	926	992	898	857
Reentered labor force	1,762	1,788	1,760	1,762	1,698	1,771	1,797	1,784	1,803	1,967	2,015	1,822	1,868
Seeking first job	726	745	801	804	736	858	811	827	805	743	884	863	930
PERCENT DISTRIBUTION													
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	43.1	44.0	43.7	44.5	45.4	44.3	46.9	45.9	47.3	49.8	52.5	56.3	55.5
On layoff	13.6	15.0	14.2	15.2	16.4	15.3	16.0	16.3	17.5	19.6	23.7	25.8	24.0
Other job losers	29.5	29.0	29.5	29.4	29.0	29.0	30.9	29.6	29.8	30.2	28.8	30.6	31.5
Job leavers	14.4	14.4	13.7	13.6	14.1	13.0	12.2	12.8	12.2	12.8	12.1	10.9	10.4
Reentrants	30.1	29.4	29.2	28.7	28.3	28.8	28.2	28.2	28.0	27.1	24.6	22.2	22.7
New entrants	12.4	12.2	13.3	13.1	12.3	13.9	12.7	13.1	12.5	10.3	10.8	10.5	11.3
UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE													
Job losers	2.5	2.6	2.5	2.6	2.6	2.6	2.9	2.8	2.9	3.5	4.1	4.4	4.3
Job leavers	.8	.8	.8	.8	.8	.8	.7	.8	.8	.9	.9	.9	.8
Reentrants	1.7	1.7	1.7	1.7	1.6	1.7	1.7	1.7	1.7	1.9	1.9	1.7	1.8
New entrants	.7	.7	.8	.8	.7	.8	.8	.8	.8	.7	.8	.8	.9

7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May[c]	June	July
Less than 5 weeks	2,793	2,869	2,820	3,168	2,778	2,955	2,919	2,916	3,184	2,995	2,995	3,309	3,872	3,333	3,363
5 to 14 weeks	1,875	1,892	1,934	1,738	2,035	1,963	1,869	1,966	1,907	2,081	2,169	2,391	2,697	2,922	2,700
15 weeks and over	1,379	1,202	1,067	1,185	1,152	1,195	1,191	1,230	1,334	1,286	1,363	1,629	1,722	1,766	1,915
15 to 26 weeks	746	684	615	658	644	678	660	711	795	790	776	953	1,014	1,027	1,057
27 weeks and over	633	518	452	527	508	517	531	519	539	496	587	676	709	739	858
Average (mean) duration, in weeks	11.9	10.8	10.1	10.7	10.7	10.5	10.6	10.5	10.5	10.7	11.0	11.3	10.5	11.7	11.6

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1979.
c = corrected.

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

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 166,000 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.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

Definitions

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

Production workers in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 14–20 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities, in wholesale and retail trade, in finance, insurance, and real estate, and in services industries. 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 eliminate the effects of price change. The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

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

Labor turnover is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of June 1980 data, published in the August 1980 issue of the *Review.* Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78,* BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review.* For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings,* December 1977, pp. 10–19.

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. See also *BLS Handbook of Methods for Surveys and Studies,* Bulletin 1910 (Bureau of Labor Statistics, 1976).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings,* March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

8. Employment by industry, 1950–79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959[1]	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

[1]Data include Alaska and Hawaii beginning in 1959.

9. Employment by State

[Nonagricultural payroll data, in thousands]

State	June 1979	May 1980	June 1980[p]	State	June 1979	May 1980	June 1980[p]
Alabama	1,366.6	1,360.0	1,344.8	Montana	294.2	286.6	291.0
Alaska	.....	.....	.....	Nebraska	641.2	634.4	634.2
Arizona	954.1	1,003.4	979.9	Nevada	384.5	397.6	399.8
Arkansas	755.1	751.4	747.6	New Hampshire	382.2	381.7	385.8
California	9,707.0	9,803.8	9,820.5	New Jersey	3,087.5	3,046.9	3,096.6
Colorado	1,229.5	1,251.8	1,259.7	New Mexico	466.5	477.3	477.7
Connecticut	1,419.4	1,415.0	1,417.8	New York	7,269.4	7,199.3	7,240.3
Delaware	261.0	260.7	258.8	North Carolina	2,399.5	2,423.9	2,429.9
District of Columbia	621.2	619.5	622.1	North Dakota	250.6	250.7	250.6
Florida	3,380.3	3,534.3	3,519.2	Ohio	4,562.9	4,432.5	4,450.7
Georgia	2,119.3	2,134.2	2,124.5	Oklahoma	1,095.8	1,134.0	1,137.9
Hawaii	395.9	409.5	410.5	Oregon	1,074.0	1,036.2	1,041.2
Idaho	342.7	328.6	329.5	Pennsylvania	4,911.3	4,834.4	4,831.1
Illinois[r]	4,920.0	4,836.7	4,846.6	Rhode Island	404.5	392.3	395.0
Indiana	2,285.2	2,230.2	2,217.9	South Carolina	1,193.7	1,200.7	1,194.1
Iowa	1,141.9	1,125.3	1,107.0	South Dakota	249.0	243.9	247.1
Kansas	957.6	955.5	953.7	Tennessee	1,805.9	1,787.6	1,765.9
Kentucky	1,259.8	1,221.1	1,207.9	Texas	5,621.3	5,761.4	5,779.6
Louisiana	1,494.1	1,521.1	1,530.9	Utah	550.9	567.5	568.7
Maine	426.8	415.9	425.2	Vermont	197.9	197.2	198.6
Maryland	1,652.0	1,642.9	1,639.1	Virginia	2,122.5	2,119.9	2,130.7
Massachusetts	2,617.0	2,667.9	2,689.8	Washington	1,602.8	1,634.4	1,640.3
Michigan	3,684.7	3,423.2	3,439.1	West Virginia	639.8	636.4	634.3
Minnesota	1,800.6	1,798.2	1,814.6	Wisconsin	1,991.8	1,975.8	1,995.0
Mississippi	850.1	830.3	820.2	Wyoming	208.1	216.7	219.7
Missouri	2,027.0	1,994.9	1,986.4				
				Virgin Islands	35.8	36.8	36.7

10. Employment by industry division and major manufacturing group

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June P	July P
TOTAL	86,697	89,886	90,018	90,093	90,629	91,062	91,288	91,394	89,630	89,781	90,316	90,761	90,849	90,975	89,682
MINING	851	960	979	989	983	984	986	985	982	987	996	1,006	1,024	1,046	1,030
CONSTRUCTION	4,229	4,483	4,813	4,863	4,801	4,792	4,698	4,536	4,194	4,109	4,150	4,311	4,471	4,603	4,631
MANUFACTURING	20,505	21,062	21,054	21,096	21,295	21,193	21,055	20,987	20,777	20,730	20,793	20,533	20,250	20,187	19,663
Production workers	14,734	15,085	15,026	15,048	15,265	15,170	15,034	14,964	14,738	14,678	14,727	14,466	14,172	14,080	13,617
Durable goods	12,274	12,772	12,797	12,683	12,891	12,824	12,744	12,733	12,600	12,599	12,647	12,414	12,150	12,050	11,723
Production workers	8,805	9,120	9,105	8,979	9,190	9,131	9,054	9,040	8,885	8,869	8,909	8,672	8,409	8,293	8,005
Lumber and wood products	754.7	766.1	785.4	788.2	785.0	780.0	757.2	737.4	717.4	718.9	716.9	678.4	654.8	669.2	668.2
Furniture and fixtures	494.1	499.3	486.5	497.1	499.6	502.5	503.1	501.8	498.0	494.6	494.1	488.7	469.1	458.8	432.7
Stone, clay, and glass products	698.2	709.7	726.0	726.5	721.6	718.6	710.3	697.4	678.2	674.7	679.0	675.5	668.1	666.0	659.7
Primary metal industries	1,214.9	1,250.2	1,267.4	1,250.6	1,250.6	1,231.4	1,222.6	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,149.8	1,112.8	1,046.6
Fabricated metal products	1,672.6	1,723.7	1,711.8	1,711.7	1,731.4	1,733.8	1,733.3	1,725.2	1,696.8	1,699.4	1,703.8	1,671.4	1,619.8	1,593.1	1,515.7
Machinery, except electrical	2,325.5	2,481.6	2,504.9	2,489.7	2,513.8	2,465.1	2,458.7	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,509.3	2,487.2	2,446.3
Electric and electronic equipment	2,006.1	2,124.3	2,127.6	2,105.7	2,152.8	2,162.0	2,164.0	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,098.1	2,058.1
Transportation equipment	2,002.8	2,082.8	2,063.0	1,965.5	2,087.4	2,076.5	2,044.2	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,843.4	1,802.7
Instruments and related products	653.1	688.9	691.2	693.7	691.6	694.6	694.9	698.8	697.7	700.5	703.6	702.2	699.4	702.8	693.8
Miscellaneous manufacturing	451.5	445.6	433.2	454.5	457.1	459.7	455.5	439.4	427.7	428.8	432.9	433.0	424.6	418.9	399.6
Nondurable goods	8,231	8,290	8,257	8,413	8,404	8,369	8,311	8,254	8,177	8,131	8,146	8,119	8,100	8,137	7.940
Production workers	5,929	5,965	5,921	6,069	6,075	6,039	5,980	5,924	5,853	5,809	5,818	5,794	5,763	5,787	5,612
Food and kindred products	1,724.1	1,728.1	1,749.5	1,828.8	1,834.5	1,781.8	1,736.3	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,677.3	1,682.9
Tobacco manufactures	70.6	69.9	65.0	73.8	77.5	77.4	68.6	70.8	69.1	67.1	64.4	62.9	62.7	64.8	62.5
Textile mill products	899.1	888.5	872.3	886.8	885.0	886.1	890.4	889.7	884.0	884.6	886.9	882.1	870.6	852.4	812.9
Apparel and other textile products	1,332.3	1,312.5	1,276.0	1,308.1	1,308.8	1,317.3	1,305.8	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,299.0	1,314.2	1,229.6
Paper and allied products	698.7	706.7	711.8	715.6	710.5	709.3	707.8	705.9	703.5	701.9	701.8	698.8	692.4	694.6	676.8
Printing and publishing	1,192.0	1,239.5	1,242.3	1,242.5	1,243.0	1,251.4	1,262.0	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.4	1,264.6
Chemicals and allied products	1,095.5	1,110.7	1,120.9	1,119.0	1,112.7	1,113.7	1,113.9	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.5	1,121.5	1,107.6
Petroleum and coal products	207.7	210.0	213.9	214.1	213.7	213.5	212.6	210.6	208.6	155.9	153.1	173.6	203.4	206.4	208.3
Rubber and miscellaneous plastics products	754.5	775.6	776.0	774.1	770.2	770.8	765.9	755.6	750.3	746.3	746.5	737.2	702.4	688.5	667.7
Leather and leather products	256.8	248.0	228.8	250.4	247.9	247.9	247.6	245.2	240.3	242.6	243.4	243.3	243.2	245.5	227.5
TRANSPORTATION AND PUBLIC UTILITIES	4,923	5,141	5,187	5,197	5,229	5,233	5,243	5,240	5,136	5,130	5,143	5,147	5,167	5,185	5,152
WHOLESALE AND RETAIL TRADE	19,542	20,269	20,254	20,296	20,425	20,474	20,756	21,114	20,325	20,155	20,226	20,373	20,497	20,540	20,496
WHOLESALE TRADE	4,969	5,204	5,243	5,243	5,239	5,266	5,282	5,264	5,241	5,250	5,269	5,265	5,263	5,283	5,275
RETAIL TRADE	14,573	15,066	15,011	15,053	15,186	15,208	15,474	15,850	15,084	14,905	14,957	15,108	15,234	15,257	15,221
FINANCE, INSURANCE, AND REAL ESTATE	4,724	4,974	5,048	5,068	5,015	5,025	5,039	5,047	5,052	5,061	5,085	5,104	5,137	5,201	5,220
SERVICES	16,252	17,078	17,324	17,315	17,238	17,297	17,284	17,271	17,135	17,317	17,478	17,636	17,747	17,825	17,929
GOVERNMENT	15,672	15,920	15,359	15,269	15,643	16,064	16,227	16,214	16,029	16,292	16,445	16,651	16,556	16,388	15,561
Federal	2,753	2,773	2,838	2,844	2,751	2,756	2,760	2,770	2,763	2,803	2,869	3,103	2,963	2,994	2,918
State and local	12,919	13,147	12,521	12,425	12,892	13,308	13,467	13,444	13,266	13,489	13,576	13,548	13,593	13,394	12,643

11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June p	July p
TOTAL	90,054	90,222	90,283	90,441	90,552	90,678	91,031	91,186	91,144	90,951	90,468	89,973	89,735
MINING	963	974	976	982	985	992	999	1,007	1,009	1,012	1,023	1,026	1,013
CONSTRUCTION	4,491	4,499	4,507	4,529	4,553	4,615	4,745	4,659	4,529	4,467	4,436	4,371	4,320
MANUFACTURING	21,128	21,055	21,071	21,043	20,966	20,983	20,971	20,957	20,938	20,642	20,286	19,999	19,742
Production workers	15,140	15,046	15,058	15,025	14,948	14,956	14,911	14,871	14,850	14,550	14,186	13,919	13,722
Durable goods	12,841	12,782	12,822	12,764	12,693	12,706	12,681	12,715	12,707	12,442	12,140	11,933	11,772
Production workers	9,173	9,103	9,129	9,069	9,001	9,009	8,953	8,967	8,961	8,686	8,386	8,191	8,064
Lumber and wood products	766	764	767	768	757	746	743	745	737	689	654	649	651
Furniture and fixtures	499	499	497	498	498	497	497	495	494	491	472	459	443
Stone, clay, and glass products	709	710	708	709	704	704	705	705	700	680	663	647	644
Primary metal industries	1,260	1,250	1,242	1,236	1,230	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,040
Fabricated metal products	1,726	1,713	1,723	1,723	1,722	1,718	1,707	1,711	1,711	1,678	1,620	1,579	1,528
Machinery, except electrical	2,513	2,509	2,518	2,478	2,460	2,459	2,532	2,529	2,530	2,518	2,517	2,477	2,454
Electric and electronic equipment	2,140	2,109	2,140	2,149	2,150	2,163	2,169	2,168	2,176	2,167	2,127	2,090	2,071
Transportation equipment	2,092	2,089	2,090	2,063	2,033	2,057	1,970	2,006	2,006	1,885	1,819	1,827	1,837
Instruments and related products	691	693	693	696	695	698	699	702	705	703	700	696	693
Miscellaneous manufacturing	445	446	444	444	444	445	444	440	439	438	424	413	411
Nondurable goods	8,287	8,273	8,249	8,279	8,273	8,277	8,290	8,242	8,231	8,200	8,146	8,066	7,970
Production workers	5,967	5,943	5,929	5,956	5,947	5,947	5,958	5,904	5,889	5,864	5,800	5,728	5,658
Food and kindred products	1,722	1,722	1,712	1,723	1,725	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,656
Tobacco manufactures	71	70	70	70	64	66	67	68	68	69	70	71	68
Textile mill products	886	883	881	885	887	889	888	888	888	884	869	842	825
Apparel and other textile products	1,316	1,305	1,298	1,302	1,294	1,296	1,305	1,313	1,316	1,302	1,291	1,291	1,269
Paper and allied products	709	708	708	709	708	708	710	709	708	702	692	684	674
Printing and publishing	1,243	1,244	1,245	1,251	1,259	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,266
Chemicals and allied products	1,112	1,110	1,110	1,114	1,116	1,118	1,121	1,121	1,123	1,123	1,120	1,111	1,099
Petroleum and coal products	208	209	211	212	212	213	214	161	157	175	203	202	203
Rubber and miscellaneous plastics products	781	774	767	766	762	756	755	751	749	740	703	681	672
Leather and leather products	239	248	247	247	246	246	245	245	244	243	239	238	238
TRANSPORTATION AND PUBLIC UTILITIES	5,156	5,182	5,185	5,203	5,216	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,121
WHOLESALE AND RETAIL TRADE	20,254	20,301	20,352	20,414	20,479	20,448	20,529	20,637	20,610	20,531	20,487	20,437	20,496
WHOLESALE TRADE	5,214	5,222	5,228	5,246	5,269	5,251	5,278	5,302	5,301	5,286	5,268	5,241	5,244
RETAIL TRADE	15,040	15,079	15,124	15,168	15,210	15,197	15,251	15,335	15,309	15,245	15,219	15,196	15,252
FINANCE, INSURANCE, AND REAL ESTATE	4,989	5,019	5,017	5,033	5,049	5,064	5,091	5,101	5,115	5,119	5,137	5,150	5,158
SERVICES	17,114	17,152	17,192	17,264	17,308	17,362	17,462	17,540	17,580	17,618	17,659	17,631	17,716
GOVERNMENT	15,959	16,040	15,983	15,973	15,996	16,002	16,032	16,087	16,161	16,384	16,273	16,225	16,169
Federal	2,784	2,811	2,762	2,769	2,773	2,773	2,791	2,826	2,886	3,115	2,960	2,950	2,861
State and local	13,175	13,229	13,221	13,204	13,223	13,229	13,241	13,261	13,275	13,269	13,313	13,275	13,308

12. Labor turnover rates in manufacturing, 1977 to date

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Total accessions												
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	3.4	P3.9	...	...	...	...	...	...
	New hires												
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	P2.4	...	...	...	...	...	...
	Recalls												
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	P1.2	...	...	...	...	...	...
	Total separations												
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	P4.2	...	...	...	...	...	...
	Quits												
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	P1.4	...	...	...	...	...	...
	Layoffs												
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	P2.0	...	...	...	...	...	...

13. Labor turnover rates in manufacturing, by major industry group

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	June 1979	May 1980	June 1980 P	June 1979	May 1980	June 1980 P	June 1979	May 1980	June 1980 P	June 1979	May 1980	June 1980 P	June 1979	May 1980	June 1980 P	June 1979	May 1980	June 1980 P
MANUFACTURING	4.8	3.4	3.9	3.8	2.1	2.4	0.7	1.0	1.2	3.9	4.8	4.2	2.1	1.5	1.4	0.9	2.5	2.0
Seasonally adjusted	4.0	3.0	3.3	3.0	1.8	1.8	...	...	...	4.1	5.7	4.8	2.0	1.4	1.4	1.2	3.5	2.6
Durable goods	4.3	2.8	3.5	3.5	1.6	1.9	.5	.8	1.2	3.5	5.0	4.3	1.8	1.2	1.1	.7	2.9	2.4
Lumber and wood products	7.3	5.5	6.8	6.1	2.4	3.1	1.1	2.9	3.5	5.8	6.5	4.8	3.7	2.1	2.1	.8	3.4	1.8
Furniture and fixtures	4.9	3.1	3.2	4.3	2.2	2.0	.5	.7	1.1	4.9	5.8	4.7	3.0	2.2	1.6	.6	2.5	2.3
Stone, clay, and glass products	5.2	3.9	4.1	4.2	1.8	2.2	.7	1.8	1.5	3.7	5.1	4.4	2.1	1.3	1.2	.6	2.9	2.3
Primary metal industries	3.1	2.0	2.7	2.4	.8	.8	.4	.9	1.6	2.2	6.4	5.7	1.0	.6	.5	.4	5.1	4.4
Fabricated metal products	4.8	3.2	3.8	3.9	1.9	2.1	.6	1.1	1.4	3.9	5.8	4.9	2.2	1.3	1.2	.8	3.5	2.8
Machinery, except electrical	3.7	2.2	2.5	3.2	1.5	1.8	.3	.4	.5	2.8	3.8	3.4	1.5	1.0	.9	.4	2.0	1.7
Electric and electronic equipment	4.0	2.5	2.8	3.2	1.7	1.9	.4	.4	.5	3.3	4.2	3.9	1.8	1.2	1.1	.5	2.1	1.9
Transportation equipment	3.5	2.6	...	2.5	1.1	...	.6	.8	...	3.5	5.6	...	1.2	.8	...	1.4	4.0	...
Instruments and related products	4.2	2.6	3.4	3.7	2.2	2.9	.2	.2	.3	2.5	2.8	2.8	1.6	1.2	1.2	.3	.9	.9
Miscellaneous manufacturing	6.4	3.9	5.3	5.2	2.6	3.0	1.0	1.2	2.1	5.3	6.0	5.1	2.9	1.9	1.7	1.2	3.1	2.4
Nondurable goods	5.5	4.2	4.5	4.3	2.9	3.1	1.0	1.1	1.2	4.6	4.6	4.1	2.6	2.0	1.8	1.1	1.8	1.5
Food and kindred products	9.0	6.6	7.9	6.5	3.9	5.0	2.3	2.3	2.7	6.5	5.6	4.9	3.3	2.4	2.3	2.2	2.4	1.8
Tobacco manufacturers	3.7	3.8	...	1.6	.9	...	.7	1.1	...	2.3	1.9	...	.6	.3	...	.8	.7	...
Textile mill products	5.0	3.8	3.5	4.2	3.0	2.7	.4	.5	.5	4.8	4.8	4.1	3.1	2.4	2.1	.6	1.3	1.0
Apparel and other products	5.7	5.6	4.9	4.1	3.5	3.2	1.4	1.8	1.4	5.8	6.1	5.0	3.3	3.0	2.5	1.6	2.3	1.7
Paper and allied products	3.9	2.7	3.0	3.2	1.7	1.8	.5	.8	.9	2.7	3.0	3.3	1.4	.9	.8	.5	1.4	1.7
Printing and publishing	4.3	3.2	3.5	3.7	2.6	2.8	.5	.5	.6	3.4	3.4	3.3	2.3	1.9	1.8	.5	.8	.9
Chemicals and allied products	2.8	2.0	2.2	2.3	1.5	1.7	.3	.3	.3	1.8	2.0	2.0	.9	.7	.6	.3	.8	.8
Petroleum and coal products	3.1	3.3	3.7	2.6	2.6	2.9	.3	.5	.7	2.0	2.3	1.8	1.0	.6	.6	.5	1.1	.8
Rubber and miscellaneous plastics products	6.0	3.3	4.0	5.1	2.0	2.1	.5	.9	1.5	5.3	6.7	6.0	3.1	1.8	1.7	.9	4.0	3.3
Leather and leather products	6.9	7.0	5.7	5.5	5.4	4.3	1.1	1.4	1.0	7.8	7.2	6.1	4.3	3.5	2.8	2.4	2.7	2.3

14. Hours and earnings, by industry division, 1949–79

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Total private			Mining			Construction			Manufacturing		
1949	$50.24	39.4	$1.275	$62.33	36.3	$1.717	$67.56	37.7	$1.792	$53.88	39.1	$1.378
1950	53.13	39.8	1.335	67.16	37.9	1.772	69.68	37.4	1.863	58.32	40.5	1.440
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959[1]	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949	.....	.....	.....	$42.93	40.5	$1.060	$47.63	37.8	$1.260	.....	.....	.....
1950	.....	.....	.....	44.55	40.5	1.100	50.52	37.7	1.340	.....	.....	.....
1951	.....	.....	.....	47.79	40.5	1.18	54.67	37.7	1.45	.....	.....	.....
1952	.....	.....	.....	49.20	40.0	1.23	57.08	37.8	1.51	.....	.....	.....
1953	.....	.....	.....	51.35	39.5	1.30	59.57	37.7	1.58	.....	.....	.....
1954	.....	.....	.....	53.33	39.5	1.35	62.04	37.6	1.65	.....	.....	.....
1955	.....	.....	.....	55.16	39.4	1.40	63.92	37.6	1.70	.....	.....	.....
1956	.....	.....	.....	57.48	39.1	1.47	65.68	36.9	1.78	.....	.....	.....
1957	.....	.....	.....	59.60	38.7	1.54	67.53	36.7	1.84	.....	.....	.....
1958	.....	.....	.....	61.76	38.6	1.60	70.12	37.1	1.89	.....	.....	.....
1959[1]	.....	.....	.....	64.41	38.8	1.66	72.74	37.3	1.95	.....	.....	.....
1960	.....	.....	.....	66.01	38.6	1.71	75.14	37.2	2.02	.....	.....	.....
1961	.....	.....	.....	67.41	38.3	1.76	77.12	36.9	2.09	.....	.....	.....
1962	.....	.....	.....	69.91	38.2	1.83	80.94	37.3	2.17	.....	.....	.....
1963	.....	.....	.....	72.01	38.1	1.89	84.38	37.5	2.25	.....	.....	.....
1964	$118.78	41.1	$2.89	74.66	37.9	1.97	85.79	37.3	2.30	$70.03	36.1	$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

[1] Data include Alaska and Hawaii beginning in 1959.

15. Weekly hours, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL PRIVATE	35.8	35.6	36.0	36.0	35.8	35.7	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.4	35.3
MINING	43.4	43.0	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.3	42.4
CONSTRUCTION	36.8	37.0	37.8	38.1	38.0	37.7	36.6	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.6
MANUFACTURING	40.4	40.2	39.9	40.0	40.3	40.2	40.3	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.9
Overtime hours	3.6	3.3	3.2	3.3	3.6	3.4	3.4	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4
Durable goods	41.1	40.8	40.4	40.4	40.8	40.8	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.2
Overtime hours	3.8	3.5	3.4	3.4	3.6	3.5	3.4	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3
Lumber and wood products	39.8	39.4	39.4	39.9	40.1	39.8	38.8	39.2	38.1	38.5	38.3	37.1	37.6	38.6	38.1
Furniture and fixtures	39.3	38.7	38.1	38.8	39.0	39.3	39.3	39.9	38.4	38.4	38.5	37.9	37.3	37.5	37.2
Stone, clay, and glass products	41.6	41.5	41.5	41.8	41.7	41.7	41.7	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.6
Primary metal industries	41.8	41.4	41.3	40.8	41.3	40.9	40.7	40.9	40.7	40.7	40.7	40.6	39.3	39.2	38.3
Fabricated metal products	41.0	40.7	40.3	40.5	40.8	40.9	41.0	41.9	40.6	40.4	40.6	40.2	39.9	40.2	39.4
Machinery except electrical	42.1	41.8	41.2	41.2	41.8	41.5	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8	40.0
Electric and electronic equipment	40.3	40.3	39.6	39.7	40.5	40.3	40.8	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.5
Transportation equipment	42.2	41.1	40.9	40.5	40.7	41.3	40.8	42.7	40.0	40.4	40.4	39.8	39.9	39.9	39.6
Instruments and related products	40.9	40.8	40.3	40.4	40.7	40.8	41.4	41.7	41.0	40.8	40.6	40.4	40.3	40.6	39.6
Miscellaneous manufacturing	38.8	38.8	38.5	38.8	39.2	39.1	39.4	39.5	38.8	38.6	38.8	38.4	38.2	38.3	38.1
Nondurable goods	39.4	39.3	39.2	39.4	39.6	39.4	39.6	39.9	39.0	38.9	38.9	38.7	38.7	38.7	38.6
Overtime hours	3.2	3.1	3.0	3.2	3.5	3.2	3.3	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6
Food and kindred products	39.7	39.9	40.1	40.3	40.6	40.0	40.2	40.4	39.5	39.1	39.0	38.9	39.7	39.5	39.6
Tobacco manufactures	38.1	38.0	36.1	37.6	39.2	38.9	38.8	39.4	37.3	36.9	37.7	38.2	38.7	38.5	35.3
Textile mill products	40.4	40.4	39.9	40.3	40.8	40.8	41.3	41.5	40.9	40.8	40.9	39.9	39.8	39.5	38.8
Apparel and other textile products	35.6	35.3	35.5	35.6	35.3	35.5	35.6	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.2
Paper and allied products	42.9	42.6	42.5	42.6	42.7	42.7	42.9	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.7
Printing and publishing	37.6	37.5	37.4	37.9	37.9	37.5	37.9	38.1	37.2	37.0	37.2	36.8	36.9	36.8	36.8
Chemicals and allied products	41.9	41.9	41.7	41.8	41.8	41.7	42.2	42.2	41.7	41.6	41.7	41.6	41.3	41.1	40.9
Petroleum and coal products	43.6	43.8	44.1	43.6	44.7	44.1	44.8	43.5	36.2	39.7	39.4	41.1	42.3	42.3	43.8
Rubber and miscellaneous plastics products	40.9	40.5	40.2	40.0	40.5	40.5	40.3	40.7	40.3	39.9	40.0	39.7	39.0	39.3	38.9
Leather and leather products	37.1	36.5	36.9	36.6	36.8	36.5	36.8	37.3	36.7	36.8	36.4	36.7	37.0	37.3	36.7
TRANSPORTATION AND PUBLIC UTILITIES	40.0	39.9	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.8
WHOLESALE AND RETAIL TRADE	32.9	32.6	33.3	33.2	32.6	32.4	32.4	32.9	31.9	31.9	32.0	31.8	31.9	32.4	32.6
WHOLESALE TRADE	38.8	38.8	39.0	39.0	38.8	38.9	38.9	39.1	38.5	38.4	38.4	38.4	38.5	38.6	38.5
RETAIL TRADE	31.0	30.6	31.5	31.4	30.6	30.4	30.4	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7
FINANCE, INSURANCE, AND REAL ESTATE	36.4	36.2	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.5	36.4
SERVICES	32.8	32.7	33.3	33.2	32.7	32.6	32.6	32.8	32.5	32.5	32.5	32.4	32.3	32.8	33.1

16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	1979						1980						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL PRIVATE	35.6	35.7	35.6	35.6	35.6	35.7	35.6	35.5	35.4	35.3	35.1	35.1	35.0
MINING	41.7	43.1	43.4	43.7	43.6	43.9	43.4	43.2	43.4	42.8	42.7	43.3	42.4
CONSTRUCTION	36.9	37.3	37.5	36.8	37.0	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.7
MANUFACTURING	40.1	40.1	40.1	40.1	40.1	40.2	40.3	40.1	39.8	39.8	39.3	39.1	39.1
Overtime hours	3.3	3.3	3.2	3.2	3.3	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5
Durable goods	40.7	40.7	40.7	40.7	40.6	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.5
Overtime hours	3.5	3.4	3.3	3.3	3.3	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4
Lumber and wood products	39.3	39.6	39.6	39.2	38.9	39.0	39.4	39.1	38.7	37.3	37.5	37.8	38.0
Furniture and fixtures	38.5	38.6	38.7	38.8	38.9	38.9	39.2	39.0	38.5	38.5	37.6	37.2	37.6
Stone, clay, and glass products	41.4	41.4	41.5	41.3	41.4	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.5
Primary metal industries	41.3	41.0	41.1	41.1	40.8	40.7	40.8	40.8	40.7	40.6	39.2	38.9	38.3
Fabricated metal products	40.7	40.6	40.7	40.8	40.7	40.9	40.9	40.8	40.7	40.8	39.9	39.8	39.8
Machinery, except electrical	41.8	41.6	41.7	41.5	41.5	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6
Electric and electronic equipment	40.2	39.9	40.3	40.3	40.4	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.0
Transportation equipment	41.0	41.5	40.6	41.0	40.5	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.7
Instruments and related products	40.8	40.6	40.7	40.7	41.0	41.0	41.4	40.9	40.4	40.7	40.3	40.5	40.1
Miscellaneous manufacturing	39.0	38.9	39.0	38.9	38.9	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.6
Nondurable goods	39.2	39.3	39.3	39.3	39.4	39.4	39.5	39.4	39.0	39.1	38.9	38.5	38.6
Overtime hours	3.0	3.1	3.1	3.1	3.2	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6
Food and kindred products	39.8	39.8	40.0	39.9	39.9	39.9	39.8	39.7	39.3	39.6	39.9	39.5	39.4
Tobacco manufactures	38.1	38.1	38.4	38.3	37.8	38.5	38.5	37.9	37.7	38.2	38.2	37.5	37.3
Textile mill products	40.3	40.3	40.7	40.8	41.0	41.0	41.5	41.1	40.8	40.3	39.7	39.0	39.2
Apparel and other textile products	35.3	35.3	35.2	35.4	35.3	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.0
Paper and allied products	42.5	42.6	42.5	42.6	42.7	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.7
Printing and publishing	37.5	37.8	37.5	37.4	37.5	37.4	37.8	37.4	37.2	37.2	37.1	36.9	36.9
Chemicals and allied products	41.8	41.9	41.8	41.7	42.0	41.8	42.0	41.9	41.8	41.5	41.3	41.0	41.0
Petroleum and coal products	43.6	43.6	44.0	43.5	44.4	43.4	36.9	40.7	39.7	41.1	42.5	42.3	43.3
Rubber and miscellaneous plastics products	40.6	40.2	40.3	40.2	40.0	40.0	40.7	40.0	39.9	40.1	39.3	39.2	39.3
Leather and leather products	36.6	36.5	36.8	36.5	36.6	37.0	37.2	37.2	36.9	37.3	36.7	36.6	36.4
TRANSPORTATION AND PUBLIC UTILITIES	40.0	40.3	39.9	40.0	40.2	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.8
WHOLESALE AND RETAIL TRADE	32.6	32.6	32.6	32.6	32.6	32.6	32.6	32.4	32.3	32.0	32.1	32.0	31.8
WHOLESALE TRADE	38.8	38.8	38.8	38.8	38.9	38.9	38.9	38.8	38.5	38.5	38.6	38.4	38.3
RETAIL TRADE	30.6	30.6	30.6	30.6	30.6	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8
FINANCE, INSURANCE, AND REAL ESTATE	36.2	36.1	36.1	36.2	36.3	36.4	36.2	36.3	36.3	36.2	36.1	36.5	36.4
SERVICES	32.8	32.7	32.7	32.6	32.7	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.6

17. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June [P]	July [P]
TOTAL PRIVATE	$5.69	$6.16	$6.16	$6.18	$6.30	$6.31	$6.34	$6.38	$6.42	$6.46	$6.51	$6.53	$6.57	$6.61	$6.62
MINING	7.67	8.50	8.54	8.50	8.59	8.59	8.73	8.75	8.88	8.90	8.95	9.10	9.08	9.11	9.08
CONSTRUCTION	8.66	9.27	9.26	9.34	9.52	9.50	9.52	9.58	9.49	9.61	9.68	9.69	9.77	9.81	9.92
MANUFACTURING	6.17	6.69	6.72	6.70	6.80	6.82	6.87	6.97	6.96	7.00	7.06	7.09	7.13	7.20	7.28
Durable goods	6.58	7.13	7.15	7.13	7.24	7.25	7.29	7.42	7.39	7.46	7.54	7.56	7.60	7.69	7.74
Lumber and wood products	5.60	6.08	6.22	6.22	6.30	6.23	6.22	6.24	6.21	6.33	6.35	6.28	6.40	6.57	6.69
Furniture and fixtures	4.68	5.06	5.04	5.09	5.18	5.19	5.21	5.26	5.27	5.32	5.37	5.39	5.42	5.47	5.49
Stone, clay, and glass products	6.33	6.85	6.90	6.90	6.99	7.01	7.08	7.11	7.06	7.14	7.27	7.34	7.45	7.52	7.54
Primary metal industries	8.20	8.97	9.04	9.10	9.16	9.11	9.26	9.28	9.30	9.44	9.45	9.53	9.61	9.68	9.87
Fabricated metal products	6.35	6.84	6.83	6.85	6.95	6.98	7.01	7.14	7.09	7.14	7.24	7.27	7.32	7.40	7.38
Machinery, except electrical	6.78	7.32	7.34	7.35	7.48	7.44	7.50	7.63	7.66	7.69	7.76	7.81	7.91	7.98	8.03
Electric and electronic equipment	5.82	6.32	6.28	6.37	6.47	6.49	6.52	6.64	6.67	6.71	6.78	6.79	6.78	6.86	6.89
Transportation equipment	7.91	8.54	8.56	8.45	8.59	8.70	8.72	8.93	8.81	8.86	9.04	9.04	9.06	9.25	9.29
Instruments and related products	5.71	6.17	6.17	6.15	6.21	6.32	6.39	6.50	6.57	6.59	6.63	6.63	6.72	6.78	6.82
Miscellaneous manufacturing	4.69	5.03	5.01	5.02	5.06	5.10	5.13	5.20	5.28	5.30	5.34	5.37	5.40	5.44	5.49
Nondurable goods	5.53	6.00	6.03	6.04	6.11	6.14	6.21	6.26	6.28	6.27	6.30	6.36	6.42	6.48	6.61
Food and kindred products	5.80	6.27	6.28	6.28	6.32	6.35	6.50	6.55	6.61	6.64	6.68	6.75	6.82	6.85	6.95
Tobacco manufactures	6.13	6.65	6.83	6.51	6.43	6.33	6.97	6.98	7.08	7.36	7.57	7.79	7.64	8.07	8.27
Textile mill products	4.30	4.66	4.65	4.77	4.82	4.83	4.86	4.87	4.90	4.90	4.92	4.91	4.90	4.93	4.99
Apparel and other textile products	3.94	4.23	4.23	4.21	4.27	4.31	4.32	4.38	4.44	4.45	4.49	4.46	4.45	4.51	4.45
Paper and allied products	6.52	7.13	7.18	7.24	7.33	7.36	7.43	7.50	7.49	7.52	7.55	7.63	7.65	7.77	8.00
Printing and publishing	6.51	6.95	6.94	6.98	7.08	7.10	7.13	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.58
Chemicals and allied products	7.02	7.60	7.61	7.66	7.74	7.83	7.88	7.92	7.97	8.01	8.05	8.12	8.17	8.22	8.35
Petroleum and coal products	8.63	9.36	9.38	9.34	9.50	9.48	9.56	9.48	9.46	9.37	9.29	9.83	10.07	10.30	10.42
Rubber and miscellaneous plastics products	5.52	5.96	5.95	5.94	6.03	6.12	6.14	6.21	6.25	6.25	6.27	6.30	6.34	6.42	6.53
Leather and leather products	3.89	4.22	4.18	4.21	4.29	4.31	4.33	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.57
TRANSPORTATION AND PUBLIC UTILITIES	7.57	8.17	8.19	8.31	8.44	8.43	8.51	8.54	8.55	8.58	8.62	8.71	8.72	8.77	8.81
WHOLESALE AND RETAIL TRADE	4.67	5.06	5.05	5.06	5.13	5.15	5.18	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.45
WHOLESALE TRADE	5.88	6.39	6.40	6.42	6.52	6.52	6.58	6.69	6.72	6.77	6.83	6.87	6.89	6.94	6.98
RETAIL TRADE	4.20	4.53	4.51	4.52	4.57	4.59	4.62	4.61	4.78	4.78	4.81	4.80	4.82	4.82	4.85
FINANCE, INSURANCE, AND REAL ESTATE	4.89	5.27	5.28	5.28	5.37	5.35	5.41	5.48	5.53	5.60	5.68	5.68	5.70	5.75	5.72
SERVICES	4.99	5.36	5.29	5.31	5.45	5.48	5.55	5.61	5.65	5.70	5.75	5.75	5.79	5.82	5.79

18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division

[Seasonally adjusted data: 1967=100]

Industry	1979							1980							June 1980 to July 1980	July 1979 to July 1980
	June [1]	July [1]	Aug. [1]	Sept. [1]	Oct. [1]	Nov. [1]	Dec. [1]	Jan. [1]	Feb. [1]	Mar. [1]	Apr.	May [P]	June [P]	July [P]		
TOTAL PRIVATE (in current dollars)	229.2	230.8	232.3	234.3	235.0	237.3	239.4	240.3	242.4	245.2	246.2	248.3	250.7	251.3	0.2	8.9
Mining	263.4	265.0	264.7	265.6	267.7	272.0	274.6	277.0	278.5	280.9	283.7	284.2	285.1	284.5	−.2	7.4
Construction	220.4	222.1	223.2	224.5	224.7	226.5	228.1	225.8	229.8	232.2	233.0	234.2	235.4	237.0	.7	6.7
Manufacturing	234.1	235.5	337.0	238.6	239.9	241.9	244.1	245.2	247.8	250.2	252.4	255.0	258.2	260.2	.8	10.5
Transportation and public utilities	247.1	249.9	252.4	255.1	255.8	258.7	260.1	260.8	262.4	265.9	267.2	268.7	271.0	270.2	−.3	8.1
Wholesale and retail trade	222.8	223.9	225.5	227.2	227.6	229.7	231.4	234.2	235.2	237.8	238.0	239.8	241.3	242.4	.5	8.3
Finance, insurance, and real estate	208.4	210.1	211.4	214.0	212.9	215.7	217.9	218.4	221.1	225.7	224.9	226.3	229.3	227.0	−1.0	8.0
Services	225.9	227.5	228.7	231.6	232.3	234.9	237.8	237.7	239.7	242.7	243.0	245.7	248.5	247.7	−.3	8.9
TOTAL PRIVATE (in constant dollars)	105.9	105.5	105.2	104.9	104.2	104.1	103.8	102.7	102.2	102.0	101.4	101.4	101.5	([2])	([2])	([2])

[1] Includes corrections for data listed in August issue.

[2] Not available.

19. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1979						1980						
	1978	1979	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June[p]	July[p]
TOTAL PRIVATE	$203.70	$219.30	$221.76	$222.48	$225.54	$225.27	$225.70	$229.04	$225.34	$226.75	$229.15	$228.55	$229.95	$233.99	$233.69
MINING	332.88	365.50	356.12	366.35	372.81	375.38	380.63	384.13	385.39	384.48	388.43	389.48	387.72	394.46	384.99
CONSTRUCTION	318.69	342.99	350.03	355.85	361.76	358.15	348.43	356.38	335.00	343.08	350.42	355.62	360.51	371.80	372.99
MANUFACTURING	249.27	268.94	268.13	268.00	274.04	274.16	276.86	285.07	277.01	278.60	280.99	279.35	280.21	283.68	283.19
Durable goods	270.44	290.90	288.86	288.05	295.39	295.80	297.43	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.41
Lumber and wood products	222.88	239.55	245.07	248.18	252.63	247.95	241.34	244.61	236.60	243.71	243.21	232.99	240.64	253.60	254.89
Furniture and fixtures	183.92	195.82	192.02	197.49	202.02	203.97	204.75	209.87	202.37	204.29	206.75	204.28	202.17	205.13	204.23
Stone, clay, and glass products	263.33	284.28	286.35	288.42	291.48	292.32	295.24	297.20	283.11	286.31	295.89	296.54	302.47	308.32	306.12
Primary metal industries	342.76	371.36	373.35	371.28	378.31	372.60	376.88	379.55	378.51	384.21	384.62	386.92	377.67	379.46	378.02
Fabricated metal products	260.35	278.39	275.25	277.43	283.56	285.48	287.41	299.17	287.85	288.46	293.94	292.25	292.07	297.48	290.77
Machinery except electrical	285.44	305.98	302.41	302.82	312.66	308.76	313.50	325.80	317.89	319.14	322.04	320.21	322.73	325.58	321.20
Electric and electronic equipment	234.55	254.70	248.69	252.89	262.04	261.55	266.02	274.23	268.13	269.74	271.20	268.88	266.45	270.28	265.27
Transportation equipment	333.80	350.99	350.10	342.23	349.61	359.31	355.78	381.31	352.40	357.94	365.22	359.79	361.49	369.08	367.88
Instruments and related products	233.54	251.74	248.65	248.46	252.75	257.86	264.55	271.05	269.37	268.87	269.18	267.85	270.82	275.27	270.07
Miscellaneous manufacturing	181.97	195.16	192.89	194.78	198.35	199.41	202.12	205.40	204.86	204.58	207.19	206.21	206.28	208.35	209.17
Nondurable goods	217.88	235.80	236.38	237.98	241.96	241.92	245.92	249.77	244.92	243.90	245.07	246.13	248.45	250.78	255.15
Food and kindred products	230.26	250.17	251.83	253.08	256.59	254.00	261.30	264.62	261.10	259.62	260.52	262.58	270.75	270.58	275.22
Tobacco manufactures	233.55	252.70	246.56	244.78	252.06	246.24	270.44	275.01	264.08	271.58	285.39	297.58	295.67	310.70	291.93
Textile mill products	173.72	188.26	185.54	192.23	196.66	197.06	200.72	202.11	200.41	199.92	201.23	195.91	195.02	194.74	193.61
Apparel and other textile products	140.26	149.32	150.17	149.88	150.73	153.01	153.79	157.24	156.29	157.53	158.95	157.44	157.09	160.56	156.64
Paper and allied products	279.71	303.74	305.15	308.42	312.99	314.27	318.75	326.25	319.82	318.85	320.12	321.99	318.24	324.01	333.60
Printing and publishing	244.78	260.63	259.56	264.54	268.33	266.25	270.23	274.70	269.33	269.73	273.05	270.11	274.54	274.53	278.94
Chemicals and allied products	294.14	318.44	317.34	320.19	323.53	326.51	332.54	334.22	332.35	333.22	335.69	337.79	337.42	337.84	341.52
Petroleum and coal products	376.27	409.97	413.66	407.22	424.65	418.07	428.29	412.38	342.45	371.99	366.03	404.01	425.96	435.69	456.40
Rubber and miscellaneous plastics products	225.77	241.38	239.19	237.60	244.22	247.86	247.44	252.75	251.88	249.38	250.80	250.11	247.26	252.31	254.02
Leather and leather products	144.32	154.03	154.24	154.09	157.87	157.32	159.34	162.26	163.32	164.50	164.16	165.88	167.61	169.34	167.72
TRANSPORTATION AND PUBLIC UTILITIES	302.80	325.98	327.60	334.89	336.76	337.20	342.10	341.60	337.73	338.05	340.49	344.05	342.70	347.29	350.64
WHOLESALE AND RETAIL TRADE	153.64	164.96	168.17	167.99	167.24	166.86	167.83	170.42	170.35	170.98	172.80	171.72	172.90	175.93	177.67
WHOLESALE TRADE	228.14	247.93	249.60	250.38	252.98	253.63	255.96	261.58	258.72	259.97	262.27	263.81	265.27	267.88	268.73
RETAIL TRADE	130.20	138.62	142.07	141.93	139.84	139.54	140.45	142.91	142.44	142.44	143.82	142.56	144.12	146.53	148.90
FINANCE, INSURANCE, AND REAL ESTATE	178.00	190.77	191.14	[c]190.61	193.86	193.67	196.38	199.47	200.19	203.28	206.18	205.62	205.77	209.88	208.21
SERVICES	163.67	175.27	176.16	176.29	178.22	178.65	180.93	184.01	183.63	185.25	186.88	186.30	187.02	190.90	191.65

c=corrected.

20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	$80.67	$90.95	$65.59	$73.95	$72.96	$82.25	$89.72	$101.15	$72.57	$81.82	$80.11	$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: July	221.76	101.08	179.35	81.75	196.26	89.45	268.13	122.21	211.88	96.57	231.46	105.50
August	222.48	100.44	179.87	81.21	196.83	88.86	268.00	120.99	211.79	95.62	231.36	104.45
September	225.54	100.82	182.10	81.40	199.15	89.03	274.04	122.50	215.89	96.51	235.94	105.47
October	225.27	99.85	181.90	80.63	198.94	88.18	274.16	121.52	215.97	95.73	236.04	104.63
November	225.70	99.17	182.22	80.06	199.27	87.55	276.86	121.64	217.80	95.69	238.08	104.60
December	229.04	99.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.95	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.08	89.79	240.63	98.18
June[p]	233.99	94.43	188.05	75.89	205.56	82.95	283.68	114.48	222.43	89.76	243.26	98.17
July[p]	233.69	(1)	187.84	(1)	205.33	(1)	283.19	(1)	222.10	(1)	242.89	(1)

[1]Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation," **Employment and Earnings and Monthly Report on the Labor Force,** February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," **Employment and Earnings,** March 1980, pp. 10-11.

UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about one-third of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

21. Unemployment Insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979							1980					
	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
All programs:													
Insured unemployment	2,119	2,429	2,377	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,627	r3,680	3,790
State unemployment insurance program:[1]													
Initial claims[2]	1,400	1,978	1,545	1,219	1,641	1,827	2,263	2,837	1,818	1,705	2,192	.....	.....
Insured unemployment (average weekly volume)	1,991	2,300	2,245	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	r3,343	3,456
Rate of insured unemployment	2.5	2.8	2.7	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0
Weeks of unemployment compensated	7,197	7,889	8,830	6,993	7,638	8,107	9,171	13,792	r12,801	13,170	12,689	.....	.....
Average weekly benefit amount for total unemployment	$87.25	$86.40	$88.56	$89.07	$90.59	$92.39	$94.54	$96.41	r$98.39	$99.15	$99.52	.....	.....
Total benefits paid	$610,269	$665,687	$767,025	$606,095	$673,965	$728,370	$843,869	$1,283,946	$1,229,877	$1,218,231	$1,232,173	$1,196,836	.....
Unemployment compensation for ex-servicemen:[3]													
Initial claims[1]	24	28	28	23	26	24	24	25	21	21	21	.....	.....
Insured unemployment (average weekly volume)	45	51	52	52	52	54	56	60	58	63	52	50	45
Weeks of unemployment compensated	193	216	234	211	236	232	233	299	255	249	246	.....	.....
Total benefits paid	$18,623	$20,965	$23,861	$19,634	$23,325	$23,093	$23,093	$29,635	r$25,308	$24,928	$24,518	$22,025	.....
Unemployment compensation for Federal civilian employees:[4]													
Initial claims	13	16	13	13	18	15	15	19	11	12	11	.....	.....
Insured unemployment (average weekly volume)	23	2.5	25	25	28	29	31	34	32	30	25	22	20
Weeks of unemployment compensated	91	96	107	91	109	118	118	150	129	123	108	.....	.....
Total benefits paid	$8,341	$8,802	$9,829	$8,453	$10,093	$11,063	$11,047	$14,118	r$12,226	$11,901	$10,323	$8,280	.....
Railroad unemployment insurance:													
Applications	9	15	8	13	11	10	11	22	7	5	4	6	24
Insured unemployment (average weekly volume)	8	11	12	21	18	20	19	40	39	30	27	23	27 55
Number of payments	19	20	26	32	51	36	41	80	71	68	62	54	
Average amount of benefit payment	$183.13	$190.10	$195.61	$189.08	$189.61	$183.38	$197.22	$199.01	$208.73	$210.79	$201.87	$193.44	$199.06
Total benefits paid	$3,314	$3,699	$3,767	$5,747	$8,003	$6,462	$8,085	$14,967	$14,573	$13,884	$13,002	$9,953	$10,140
Employment service:[5]													
New applications and renewals	11,907	13,186	14,479	15,525	1,855	3,183	4,378	.....	7,285	r8,708	10,021	.....	.....
Nonfarm placements	3,051	3,482	3,935	4,349	458	768	1,044	.....	1,561	r1,853	2,143	.....	.....

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1 – September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

r = revised.

PRICE DATA

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

Definitions

The **Consumer Price Index** is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, in addition to wage earners and clerical workers, 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, doctor's and dentist's fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972–73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 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 universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure 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.

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Beginning with the May 1978 issue of the *Review,* regional CPI's cross classified by population size, were introduced. These indexes will enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index,* a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years.* Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977,* Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122–133. Additional data and analysis on price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes,* both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies,* Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13–15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review,* April 1978, pp. 7–15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review,* August 1965, pp. 974–82.

22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–79

[1967=100]

Year	All items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	6.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2

23. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
All items	216.6	233.2	236.4	239.8	242.5	244.9	247.6	216.9	233.3	236.5	239.9	242.6	245.1	247.8
Food and beverages	229.3	237.5	238.6	241.0	242.8	244.1	245.7	229.3	237.8	239.0	241.2	243.2	244.7	246.4
Housing	225.5	247.3	250.5	254.5	257.9	261.7	266.7	225.5	247.3	250.5	254.4	257.8	261.7	266.9
Apparel and upkeep	165.7	171.0	171.9	176.0	177.3	177.5	177.2	165.3	169.8	171.5	175.1	176.1	176.8	176.0
Transportation	212.6	233.5	239.6	243.7	246.8	249.0	249.7	213.7	234.1	240.2	244.3	247.7	249.9	250.6
Medical care	237.7	253.9	257.9	260.2	262.0	263.4	264.7	238.2	254.9	258.7	260.9	263.1	264.9	265.9
Entertainment	188.2	195.3	197.8	200.6	202.5	204.0	205.3	187.5	193.9	196.2	199.5	201.3	202.4	204.0
Other goods and services	187.9	206.3	208.1	208.9	209.8	211.2	212.5	194.3	206.0	207.7	208.3	209.2	210.6	212.1
Commodities	208.4	222.4	225.2	228.0	229.9	231.4	232.8	208.7	222.3	225.3	228.1	230.1	231.7	233.0
Commodities less food and beverages	196.0	212.0	215.5	218.4	220.4	222.0	223.2	196.3	212.0	215.7	218.7	220.6	222.3	223.4
Nondurables less food and beverages	200.5	224.6	231.8	237.5	239.5	240.3	241.1	201.6	226.3	234.1	239.8	241.7	242.6	243.2
Durables	191.1	201.3	202.1	203.0	204.9	207.1	208.6	190.8	199.6	200.3	201.2	203.3	205.4	206.8
Services	232.1	253.1	256.8	261.3	265.3	269.2	274.2	232.3	253.6	257.3	261.7	265.8	269.9	275.1
Rent, residential	174.7	184.1	185.6	186.6	187.0	188.9	191.1	174.7	183.9	185.5	186.4	186.9	188.7	190.8
Household services less rent	264.5	295.1	300.2	307.3	313.4	319.6	328.8	265.6	297.2	302.4	309.6	315.8	322.2	331.9
Transportation services	210.9	226.8	229.6	233.4	238.1	241.5	242.6	211.6	226.6	229.3	232.7	238.0	241.5	242.7
Medical care services	255.9	274.4	279.0	281.5	283.4	284.7	285.9	256.1	275.6	279.8	282.2	284.5	286.3	287.3
Other services	198.4	209.0	211.1	212.9	214.5	215.9	216.9	198.7	209.3	211.4	213.5	214.6	216.5	217.9
Special indexes:														
All items less food	211.8	229.9	233.5	237.1	239.9	242.6	245.5	212.0	230.0	233.7	237.3	240.2	242.9	245.7
All items less mortgage interest costs	211.0	224.3	227.1	229.8	231.8	233.7	235.4	211.5	224.7	227.6	230.2	232.4	234.2	235.7
Commodities less food	194.7	210.4	213.8	216.7	218.6	220.2	221.4	194.9	210.3	214.0	216.9	218.9	220.5	221.6
Nondurables less food	197.6	220.5	227.3	232.6	234.6	235.5	236.3	198.6	222.1	229.4	234.8	236.7	237.7	238.3
Nondurables less food and apparel	217.0	248.6	258.2	264.1	266.5	267.9	269.3	218.0	250.2	260.1	266.3	268.7	270.0	271.4
Nondurables	215.7	232.0	236.3	240.3	242.2	243.2	244.5	216.3	232.9	237.4	241.4	243.3	244.6	245.7
Services less rent	242.6	266.1	270.2	275.4	280.0	284.4	290.0	243.0	266.7	270.8	275.9	280.8	285.4	291.2
Services less medical care	228.0	249.2	252.7	257.4	261.5	265.7	271.0	228.2	249.5	253.1	257.7	261.9	266.3	271.8
Domestically produced farm foods	224.9	229.2	229.1	231.2	232.7	233.6	234.8	224.6	229.0	229.2	231.0	232.4	233.4	234.7
Selected beef cuts	268.3	265.7	267.2	270.2	268.0	265.6	264.8	269.9	268.1	270.3	272.3	269.5	267.5	267.1
Energy	275.4	327.9	344.6	355.0	358.8	363.2	367.8	277.3	331.5	348.7	359.6	363.3	367.3	371.8
All items less energy	212.2	225.9	228.0	230.8	233.4	235.7	238.3	212.3	225.3	227.3	230.0	232.7	235.1	237.6
All items less food and energy	205.8	220.6	222.8	225.7	228.5	231.0	233.7	205.5	219.6	221.8	224.6	227.5	230.0	232.7
Commodities less food and energy	184.8	193.7	194.9	196.5	198.2	199.9	201.2	184.5	192.4	193.5	195.1	196.9	198.6	199.8
Energy commodities	284.9	361.5	385.0	398.5	402.3	403.0	404.1	286.2	362.8	386.4	400.3	404.0	404.7	405.6
Services less energy	229.9	251.6	255.2	259.6	263.5	267.0	271.5	230.1	252.2	255.7	260.0	264.2	267.8	272.5
Purchasing power of the consumer dollar, 1967 = $1	$0.462	$0.429	$0.423	$0.417	$0.412	$0.408	$0.404	$0.461	$0.429	$0.423	$0.417	$0.412	$0.408	$0.404

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
FOOD AND BEVERAGES	229.3	237.5	238.6	241.0	242.8	244.1	245.7	229.3	237.8	239.0	241.2	243.2	244.7	246.4
Food	235.4	243.8	244.9	247.3	249.1	250.4	252.0	235.4	244.0	245.2	247.5	249.5	251.0	252.7
Food at home	234.2	240.6	241.3	243.6	245.3	246.5	248.0	233.6	240.1	241.1	243.1	245.0	246.1	247.7
Cereals and bakery products	217.8	234.2	236.8	238.6	242.0	244.5	245.9	218.2	234.7	237.4	239.3	242.2	244.4	245.7
Cereals and cereal products (12/77 = 100)	115.5	125.0	125.8	126.6	129.4	131.5	133.1	115.4	126.1	127.2	127.7	130.1	132.4	133.9
Flour and prepared flour mixes (12/77 = 100)	117.8	125.7	125.7	126.6	127.8	129.0	131.1	118.4	126.9	127.3	127.5	128.9	129.9	131.4
Cereal (12/77 = 100)	115.8	123.7	124.9	126.0	129.4	131.5	133.0	116.0	124.2	125.5	126.6	129.7	132.0	133.3
Rice, pasta, and cornmeal (12/77 = 100)	112.8	126.4	127.4	127.6	130.8	133.8	135.2	111.8	127.9	129.2	129.4	131.9	135.2	137.0
Bakery products (12/77 = 100)	115.2	123.5	125.1	126.1	127.6	128.7	129.1	115.5	123.6	125.1	126.2	127.5	128.3	128.8
White bread	190.3	208.6	210.7	212.0	215.1	216.7	216.9	189.5	207.4	209.7	212.1	215.1	216.0	215.4
Other breads (12/77 = 100)	115.3	123.8	124.6	125.6	127.0	128.3	128.1	117.1	126.9	127.5	129.3	129.3	130.6	130.8
Fresh biscuits, rolls, and muffins (12/77 = 100)	115.8	124.8	126.2	127.0	126.9	127.8	129.5	115.4	123.1	124.3	124.9	125.3	126.4	127.9
Fresh cakes and cupcakes (12/77 = 100)	114.0	121.7	122.8	124.4	126.5	127.4	127.6	114.8	120.8	122.2	123.2	125.4	126.5	126.9
Cookies (12/77 = 100)	114.1	119.7	122.8	124.4	125.3	126.1	126.3	116.2	121.5	124.0	125.6	126.3	126.8	126.9
Crackers and bread and cracker products (12/77 = 100)	112.2	117.5	119.9	120.2	122.0	122.2	123.6	112.7	118.4	121.0	121.8	122.2	123.0	124.5
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	115.9	122.2	123.8	125.0	126.6	128.4	129.1	117.8	124.1	125.4	126.2	128.0	129.2	130.0
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	117.6	125.7	127.2	127.9	129.7	131.0	131.2	113.9	122.5	123.8	124.0	125.3	126.0	127.2
Meats, poultry, fish, and eggs	239.8	238.0	236.2	237.8	235.1	231.5	231.2	239.0	237.5	236.4	237.1	234.3	230.7	230.4
Meats, poultry, and fish	246.1	243.0	242.6	243.8	241.1	238.2	237.9	245.3	242.5	242.8	243.0	240.2	237.2	237.1
Meats	249.6	244.1	244.1	245.7	242.6	239.2	238.1	248.8	243.7	244.3	245.0	241.3	238.1	237.5
Beef and veal	266.9	264.6	266.2	269.1	267.0	264.8	263.8	268.2	266.7	268.9	270.8	268.2	266.3	265.6
Ground beef other than canned	278.7	271.4	273.3	275.3	272.9	269.4	266.9	278.8	272.7	276.2	278.7	274.7	270.6	269.0
Chuck roast	279.7	274.7	277.7	286.2	277.9	273.0	268.6	286.0	283.6	288.7	293.4	286.1	280.0	275.0
Round roast	236.8	241.9	244.5	244.2	242.7	243.4	240.9	240.0	245.1	245.8	244.5	242.1	245.5	243.8
Round steak	250.0	249.8	252.3	254.2	253.5	250.6	247.4	247.5	249.4	250.5	251.1	249.6	250.2	247.3
Sirloin steak	259.8	250.9	251.1	254.3	256.1	256.2	264.8	261.1	253.5	253.0	256.0	257.8	257.5	268.3
Other beef and veal (12/77 = 100)	151.3	151.8	152.2	153.8	153.3	152.4	152.5	151.6	151.9	152.8	153.7	153.1	152.2	152.4
Pork	217.2	206.4	202.8	202.6	197.1	191.8	190.4	217.2	206.8	204.1	203.0	196.7	191.8	190.5
Bacon	203.9	194.5	190.1	187.6	182.1	177.4	173.1	206.0	195.3	193.8	189.4	183.9	177.7	175.6
Pork chops	206.4	192.1	189.7	190.7	187.0	182.4	182.7	207.4	194.8	191.0	190.5	184.7	180.9	180.6
Ham other than canned (12/77 = 100)	99.5	99.1	95.7	95.8	90.6	87.4	87.8	97.0	96.5	95.2	94.7	88.7	85.4	86.1
Sausage	276.1	256.6	255.1	257.6	255.1	250.2	246.2	276.0	260.3	257.0	259.8	258.0	253.9	249.6
Canned ham	226.0	220.8	219.5	219.3	213.5	210.0	208.1	226.4	219.3	218.9	217.4	214.5	213.0	210.1
Other pork (12/77 = 100)	124.4	116.2	114.3	113.6	110.7	107.1	106.3	124.4	116.2	114.6	113.7	110.0	106.5	105.9
Other meats	248.9	243.2	244.7	245.8	243.9	240.2	239.4	245.2	239.3	240.9	241.5	239.0	235.6	235.9
Frankfurters	249.3	239.0	242.7	244.6	240.6	234.8	230.9	249.0	239.5	242.1	242.8	239.3	234.0	231.0
Bologna, liverwurst, and salami (12/77 = 100)	136.7	134.1	135.6	135.5	134.9	133.5	133.4	133.4	130.5	132.3	132.2	131.1	129.5	130.7
Other lunchmeats (12/77 = 100)	123.1	121.2	120.7	121.8	121.9	121.4	121.0	120.6	118.7	118.6	118.8	118.4	117.6	118.1
Lamb and organ meats (12/77 = 100)	143.9	141.6	142.4	142.3	140.1	136.3	137.6	145.9	142.5	143.4	144.3	141.3	138.4	139.3
Poultry	187.2	187.8	182.6	180.7	177.2	176.5	177.9	185.1	184.3	118.1	177.4	176.0	173.8	175.7
Fresh whole chicken	185.8	191.1	183.6	179.5	174.7	172.9	176.3	181.5	183.8	178.9	172.5	170.6	168.0	170.7
Fresh and frozen chicken parts (12/77 = 100)	120.3	120.7	116.8	116.8	114.5	114.4	115.7	120.1	118.7	117.0	116.3	114.7	112.7	115.6
Other poultry (12/77 = 100)	123.4	119.3	118.8	118.2	117.3	117.4	115.9	122.7	120.1	119.4	117.7	118.1	117.7	116.1
Fish and seafood	301.0	316.7	320.4	322.6	325.3	324.5	329.1	295.9	315.4	317.9	320.2	325.1	323.0	324.9
Canned fish and seafood (12/77 = 100)	110.3	118.5	120.3	120.4	122.9	125.4	127.3	109.2	118.4	119.7	119.5	121.8	124.0	125.7
Fresh and frozen fish and seafood (12/77 = 100)	117.2	121.9	123.0	124.3	124.5	122.5	124.2	114.9	121.2	122.0	123.5	125.1	122.4	122.6
Eggs	161.9	178.2	157.2	164.5	161.2	148.4	147.9	161.6	177.0	156.7	164.3	161.5	148.9	147.2
Dairy products	205.5	218.4	219.5	220.3	222.4	226.2	227.2	205.9	218.3	219.8	221.1	223.1	226.9	227.8
Fresh milk and cream (12/77 = 100)	115.7	123.2	123.7	124.1	124.7	127.0	127.1	116.0	123.2	123.6	124.2	124.9	127.2	127.4
Fresh whole milk	189.4	202.3	203.2	204.0	204.9	208.5	208.6	189.8	201.8	202.7	203.8	204.8	208.4	208.7
Other fresh milk and cream (12/77 = 100)	115.6	122.1	122.7	122.7	123.5	125.9	126.0	116.0	122.8	123.0	123.1	124.1	126.8	127.2
Processed dairy products (12/77 = 100)	116.8	123.8	124.5	125.1	127.0	129.1	130.4	117.0	124.5	125.1	126.2	128.0	129.9	130.7
Butter	199.9	216.9	213.3	218.3	219.9	222.2	225.0	202.0	219.8	220.9	220.9	222.7	225.3	227.2
Cheese (12/77 = 100)	116.9	123.5	124.2	124.9	126.2	127.8	128.8	116.3	123.6	124.4	125.5	126.8	128.5	129.0
Ice cream and related products (12/77 = 100)	116.9	124.0	124.6	125.1	128.6	131.9	133.7	117.8	125.6	125.6	127.2	130.4	132.9	133.8
Other dairy products (12/77 = 100)	114.5	119.8	120.9	121.6	124.0	126.1	127.3	114.6	120.4	121.3	121.9	123.6	125.7	127.4
Fruits and vegetables	233.8	229.8	228.3	232.4	240.9	246.6	250.1	231.5	227.2	225.9	230.1	239.8	245.5	250.2
Fresh fruits and vegetables	243.3	227.2	223.1	229.9	245.2	255.1	260.0	240.4	224.9	220.6	227.4	244.8	254.4	261.4
Fresh fruits	266.0	233.6	235.8	245.4	257.0	264.7	273.9	261.1	232.7	234.7	245.4	255.6	263.8	274.9
Apples	232.9	230.4	239.6	250.2	265.5	276.3	293.3	233.7	230.1	237.6	249.0	264.4	277.3	297.4
Bananas	225.3	221.9	238.5	243.9	242.8	249.7	242.6	221.7	219.5	234.6	240.8	243.5	244.5	237.7
Oranges	311.5	236.2	231.1	238.1	240.6	243.9	264.4	293.0	231.3	228.4	240.9	234.3	237.6	251.0
Other fresh fruits (12/77 = 100)	141.4	122.5	121.4	127.4	136.5	140.8	143.7	140.7	122.7	121.3	126.9	135.7	140.9	146.5
Fresh vegetables	222.0	221.2	211.2	215.5	234.2	246.2	247.0	221.8	217.9	207.9	211.3	235.2	246.0	249.4
Potatoes	221.5	203.8	203.3	203.3	201.7	210.1	246.3	224.3	200.9	199.8	200.3	198.2	205.6	244.4
Lettuce	193.1	197.6	198.7	208.3	271.9	279.9	238.8	186.0	193.2	191.7	203.8	281.9	288.6	241.7
Tomatoes	222.0	216.7	184.9	201.4	201.2	230.8	230.6	223.0	213.2	184.3	197.2	197.7	228.4	228.6
Other fresh vegetables (12/77 = 100)	128.1	132.0	125.1	125.4	134.6	140.1	140.2	128.7	130.5	123.9	123.0	135.3	139.7	143.4
Processed fruits and vegetables	225.4	234.7	236.2	237.2	238.4	239.4	241.4	223.5	231.8	233.9	235.0	236.2	237.6	239.7
Processed fruits (12/77 = 100)	117.6	122.9	123.4	123.9	125.0	125.4	126.4	117.0	122.4	123.6	123.9	124.9	125.7	126.7
Frozen fruit and fruit juices (12/77 = 100)	114.3	117.2	117.6	117.7	119.3	118.1	120.1	114.4	116.5	117.8	116.5	118.4	117.5	118.9
Fruit juices and other than frozen (12/77 = 100)	115.6	125.1	126.0	127.2	128.3	129.3	129.5	115.1	124.5	126.3	127.4	128.4	129.8	130.4
Canned and dried fruits (12/77 = 100)	122.5	125.3	125.5	125.5	126.3	127.5	128.3	121.2	124.8	125.3	125.9	126.4	127.8	128.9
Processed vegetables (12/77 = 100)	108.9	113.0	114.0	114.6	114.5	115.2	116.2	108.1	111.2	112.2	113.0	113.2	113.9	115.0
Frozen vegetables (12/77 = 100)	107.1	111.9	113.0	112.6	113.3	114.7	116.4	107.7	111.4	111.7	111.9	113.0	114.6	116.3

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
FOOD AND BEVERAGES—Continued														
Food—Continued														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	113.2	114.5	115.2	116.0	115.6	116.0	116.6	112.0	112.7	113.4	115.4	114.3	114.2	115.2
Other canned and dried vegetables (12/77=100)	107.7	112.9	113.9	114.8	114.7	115.1	115.9	106.3	110.4	111.9	112.3	112.7	113.3	114.2
Other foods at home	267.1	283.5	288.0	292.0	295.1	298.1	301.8	266.2	282.6	287.3	290.9	294.6	298.0	301.4
Sugar and sweets	277.4	289.8	297.5	313.5	319.5	326.8	342.0	276.6	289.6	297.1	314.1	320.8	328.0	342.9
Candy and chewing gum (12/77=100)	117.4	121.3	122.4	123.8	126.3	128.9	130.5	117.0	121.2	122.2	123.9	126.5	129.0	130.8
Sugar and artificial sweeteners (12/77=100)	115.4	122.2	131.5	153.0	156.9	161.4	180.3	115.3	122.7	131.6	153.8	158.6	163.3	180.7
Other sweets (12/77=100)	112.6	118.7	119.5	120.4	121.3	123.6	125.8	111.9	117.5	118.5	119.3	120.0	122.2	124.6
Fats and oils (12/77=100)	226.3	233.9	235.9	236.8	238.3	239.5	240.0	226.6	234.9	236.5	236.8	238.3	240.1	240.5
Margarine	239.1	248.3	247.9	248.8	247.9	246.1	249.0	238.4	248.8	247.9	248.3	248.3	248.4	249.4
Nondairy substitutes and peanut butter (12/77=100)	112.8	115.3	116.4	117.9	119.8	121.4	123.1	112.5	116.1	117.2	118.5	120.0	121.6	123.5
Other fats, oils, and salad dressings (12/77=100)	117.8	121.9	123.6	123.7	124.8	125.8	124.9	118.2	122.3	123.8	123.4	124.4	125.5	124.9
Nonalcoholic beverages	350.4	378.5	384.5	387.1	390.3	393.0	395.9	348.5	375.6	383.0	384.4	389.2	392.3	395.1
Cola drinks, excluding diet cola	237.9	249.5	255.9	259.3	261.7	265.4	267.8	234.7	246.5	253.6	255.4	260.1	263.2	267.1
Carbonated drinks, including diet cola (12/77=100)	115.3	119.9	122.3	123.5	125.6	126.2	128.3	112.5	116.4	120.2	121.1	123.4	124.8	125.2
Roasted coffee	347.3	443.2	439.6	437.6	434.0	433.5	432.4	347.3	440.1	436.8	432.3	430.4	430.0	429.2
Freeze dried and instant coffee	330.2	378.2	382.2	381.7	380.2	381.9	380.2	328.9	376.8	380.4	380.3	379.2	380.4	378.7
Other noncarbonated drinks (12/77=100)	113.4	116.8	118.3	118.6	120.7	120.7	121.8	112.3	116.2	117.5	118.1	119.6	120.0	120.8
Other prepared foods	207.8	218.8	221.8	224.1	226.6	229.1	230.9	207.9	219.1	221.7	224.0	226.6	229.6	230.8
Canned and packaged soup (12/77=100)	112.6	116.5	118.1	118.0	120.5	122.0	122.9	112.6	116.8	117.9	117.6	120.6	122.5	123.7
Frozen prepared foods (12/77=100)	119.2	126.0	126.6	128.2	130.4	131.3	132.0	118.6	125.1	125.5	127.1	128.8	131.0	130.8
Snacks (12/77=100)	113.3	121.8	123.4	124.1	124.8	126.1	127.2	113.7	122.8	124.7	125.3	126.0	127.3	127.9
Seasonings, olives, pickles, and relish (12/77=100)	114.4	121.4	123.6	124.9	125.2	125.4	127.5	114.0	121.1	123.1	124.0	124.5	125.5	127.3
Other condiments (12/77=100)	113.6	120.8	123.7	126.0	127.1	127.9	128.8	114.9	121.4	124.6	126.6	128.1	129.2	129.9
Miscellaneous prepared foods (12/77=100)	115.1	119.6	120.7	122.2	124.4	127.6	128.6	114.8	119.7	120.5	122.2	123.7	127.0	128.3
Other canned and packaged prepared foods (12/77=100)	115.6	119.4	121.2	122.2	123.1	124.6	125.2	115.3	119.5	120.3	122.0	123.3	124.3	124.1
Food away from home	242.7	256.1	258.3	260.9	263.0	264.6	266.6	244.4	258.0	260.1	262.7	265.3	267.6	269.9
Lunch (12/77=100)	118.5	124.6	125.9	127.0	127.9	128.5	129.3	119.6	125.7	126.7	127.6	128.9	129.9	130.7
Dinner (12/77=100)	117.7	124.8	125.8	127.0	127.9	128.7	129.5	118.2	125.6	126.8	128.1	129.1	130.5	131.0
Other meals and snacks (12/77=100)	116.6	122.5	123.2	124.9	126.4	127.4	129.0	117.4	123.7	124.4	126.2	127.7	128.6	131.1
Alcoholic beverages	172.1	179.3	180.4	181.7	183.9	185.4	186.4	172.4	179.7	181.1	182.8	185.0	186.9	188.0
Alcoholic beverages at home (12/77=100)	111.9	116.8	117.4	118.2	119.9	120.9	121.4	112.7	117.6	118.3	119.3	120.8	122.0	122.7
Beer and ale	170.0	179.0	179.9	182.0	185.9	187.7	188.2	169.8	178.8	179.9	181.7	185.1	187.5	188.8
Whiskey	126.8	131.6	132.6	132.8	133.4	133.9	134.7	128.2	132.9	133.8	134.4	134.6	135.1	135.4
Wine	193.2	201.6	202.5	204.1	206.6	208.5	211.5	196.2	203.8	206.1	208.4	209.8	212.0	213.7
Other alcoholic beverages (12/77=100)	105.2	107.1	107.3	107.4	108.2	109.0	108.7	104.9	106.4	106.7	107.2	107.8	108.7	108.9
Alcoholic beverages away from home (12/77=100)	113.9	118.0	119.2	120.0	120.5	121.5	122.3	111.7	115.9	117.6	119.1	120.5	121.7	122.5
HOUSING	225.5	247.3	250.5	254.5	257.9	261.7	266.7	225.5	247.3	250.5	254.4	257.8	261.7	266.9
Shelter	236.7	264.0	267.2	271.6	276.0	280.2	286.3	237.2	265.1	268.3	272.7	277.2	281.6	288.0
Rent, residential	174.7	184.1	185.6	186.6	187.0	188.9	191.1	174.7	183.9	185.5	186.4	186.9	188.7	190.8
Other rental costs	232.3	251.1	255.7	258.6	260.7	261.9	264.2	231.8	251.1	255.6	258.6	260.5	261.7	263.9
Lodging while out of town	244.3	267.0	272.8	276.8	279.3	279.9	282.1	243.1	266.1	271.6	275.7	278.0	278.6	280.8
Tenants' insurance (12/77=100)	108.0	116.2	117.8	118.6	119.9	121.2	122.6	108.2	116.8	118.5	119.3	120.1	121.4	122.7
Homeownership	258.8	292.5	296.3	302.0	307.7	312.9	320.4	259.9	294.6	298.4	304.0	310.0	315.4	323.4
Home purchase	220.9	242.1	243.0	244.0	246.5	249.7	252.6	220.8	242.3	243.0	243.8	246.5	249.8	253.0
Financing, taxes, and insurance	302.2	359.8	367.7	379.9	390.6	399.7	416.1	304.2	363.4	371.6	384.1	395.3	404.9	422.0
Property insurance	310.6	327.7	333.7	335.7	338.9	344.9	351.8	310.1	328.8	335.2	337.4	340.4	346.4	352.7
Property taxes	181.3	186.7	188.2	188.2	188.4	187.6	187.7	182.8	188.2	189.9	189.9	190.1	189.3	189.4
Contracted mortgage interest cost	366.0	452.8	464.0	483.0	499.4	513.6	538.9	366.2	453.7	465.0	484.1	500.9	515.6	541.5
Mortgage interest rates	163.0	183.7	187.5	194.4	199.4	202.4	210.3	163.1	183.8	187.8	194.8	199.8	202.8	210.8
Maintenance and repairs	255.5	270.6	273.7	278.8	282.9	284.9	285.9	256.7	271.9	274.4	278.2	281.7	283.4	283.8
Maintenance and repair services	277.4	293.2	297.1	303.2	307.9	310.1	310.6	280.2	295.9	299.3	303.5	307.7	309.1	308.5
Maintenance and repair commodities	204.4	217.6	218.9	221.4	224.3	225.8	228.0	204.9	218.4	219.5	222.3	224.3	226.5	228.8
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	111.8	122.5	123.5	125.0	126.6	128.7	131.3	112.1	122.2	122.3	123.6	126.0	128.7	130.9
Lumber, awnings, glass, and masonry (12/77=100)	112.9	115.9	115.8	117.6	118.8	118.0	118.9	113.9	118.6	119.3	119.9	119.7	118.4	118.5
Plumbing, electrical, heating, and cooling supplies (12/77=100)	108.6	114.7	115.3	116.4	119.1	119.3	119.9	109.3	117.0	117.9	119.3	120.0	122.0	123.8
Miscellaneous supplies and equipment (12/77=100)	109.3	115.4	116.4	117.0	118.2	118.7	119.1	107.6	113.2	114.5	118.2	119.4	120.1	120.7
Fuel and other utilities	239.0	258.6	263.8	268.0	270.5	275.9	282.2	239.4	259.2	264.4	268.7	271.0	276.4	283.0
Fuels	286.2	318.0	327.1	333.9	337.8	346.4	355.8	286.1	318.1	327.0	333.9	337.6	346.0	355.8
Fuel oil, coal, and bottled gas	391.2	514.0	539.1	553.4	556.4	556.0	558.7	391.6	515.1	540.3	554.1	557.1	557.1	559.8
Fuel oil	405.9	534.4	561.9	577.9	580.7	580.4	583.2	406.1	534.9	562.5	577.9	580.7	580.5	583.3
Other fuels (6/78 = 100)	102.6	132.7	136.6	138.3	139.6	139.4	140.1	102.6	133.7	137.9	139.5	140.8	141.3	141.9
Gas (piped) and electricity	259.9	273.0	278.8	284.0	288.0	298.2	308.8	259.8	273.0	278.5	283.9	287.6	297.5	308.5
Electricity	223.7	226.6	233.8	237.9	241.5	248.1	261.9	224.3	226.8	233.9	238.1	241.5	248.0	262.3
Utility (piped) gas	301.8	335.1	336.8	343.9	347.9	364.6	366.7	300.1	333.8	335.4	342.6	346.4	362.3	364.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
HOUSING—Continued														
Fuel and other utilities—Continued														
Other utilities and public services	159.2	161.5	161.3	161.9	162.3	163.1	164.9	159.2	161.5	161.4	161.9	162.3	163.1	164.9
Telephone services	132.0	133.4	132.8	133.2	133.4	134.0	135.5	132.0	133.4	132.8	133.1	133.2	133.9	135.4
Local charges (12/77 = 100)	100.0	102.6	102.7	103.3	103.5	104.3	105.3	100.1	102.6	102.7	103.2	103.3	104.0	105.1
Interstate toll calls (12/77 = 100)	98.4	97.7	97.4	97.4	97.3	97.3	99.5	98.5	97.7	97.5	97.5	97.4	97.4	99.5
Intrastate toll calls (12/77 = 100)	102.0	100.8	98.8	98.7	99.0	99.4	99.6	101.1	100.6	98.7	98.6	98.9	99.3	99.5
Water and sewerage maintenance	243.1	250.0	252.3	253.9	255.2	256.5	259.3	243.3	250.5	253.0	254.7	256.2	257.6	260.5
Household furnishings and operations	190.1	196.9	199.0	201.3	203.0	204.2	205.5	188.8	194.9	196.8	199.2	200.7	201.9	202.9
Housefurnishings	163.1	167.6	169.3	171.5	172.7	173.4	174.6	162.8	166.5	167.9	170.4	171.5	172.2	172.9
Textile housefurnishings	174.9	176.7	182.9	187.2	188.2	187.3	189.4	174.0	175.3	181.2	185.3	186.3	186.1	189.6
Household linens (12/77 = 100)	106.8	105.4	110.1	113.9	114.8	114.4	116.0	105.1	106.0	109.8	113.2	113.8	113.4	116.2
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	111.4	115.1	118.2	119.7	119.9	119.3	120.1	112.3	113.2	116.6	118.2	118.9	119.0	120.5
Furniture and bedding	177.5	184.0	185.2	189.2	190.9	191.9	193.6	177.6	183.6	184.3	187.9	189.4	190.1	190.8
Bedroom furniture (12/77 = 100)	112.9	119.1	120.5	122.5	124.3	125.0	126.2	111.7	116.8	117.5	119.2	120.9	121.7	123.1
Sofas (12/77 = 100)	107.8	108.2	108.5	110.9	111.6	111.4	113.0	110.1	110.6	110.3	112.7	111.8	112.0	112.7
Living room chairs and tables (12/77 = 100)	103.5	108.9	110.0	110.8	110.9	110.8	110.6	105.4	109.4	111.2	111.9	112.6	112.6	111.7
Other furniture (12/77 = 100)	114.7	118.1	118.3	122.6	124.0	125.6	127.1	113.3	117.8	117.5	121.3	123.1	123.5	123.9
Appliances including TV and sound equipment	135.6	137.8	138.3	138.8	139.3	139.9	140.2	135.3	137.2	137.8	139.0	139.7	140.2	140.1
Television and sound equipment (12/77 = 100)	104.0	105.3	105.4	105.7	105.7	105.7	105.6	103.3	104.9	104.9	105.5	105.4	105.4	105.2
Television	102.7	103.7	103.7	104.0	104.0	104.1	104.2	102.0	102.2	102.3	102.9	102.8	102.8	103.1
Sound equipment (12/77 = 100)	106.3	107.8	108.1	108.3	108.3	108.3	107.9	105.5	108.2	108.2	108.7	108.6	108.7	108.0
Household appliances	155.4	158.5	159.4	160.2	161.4	162.6	163.4	155.6	157.7	158.8	160.7	162.3	163.4	163.6
Refrigerators and home freezer	151.9	156.7	156.5	157.9	160.6	162.7	163.2	156.0	159.4	159.7	161.4	163.5	166.0	166.8
Laundry equipment (12/77 = 100)	110.8	114.1	115.0	116.8	117.5	118.2	119.1	110.5	113.8	114.7	116.6	117.8	118.5	118.9
Other household appliances (12/77 = 100)	109.5	110.5	111.3	111.2	111.5	112.1	112.7	108.3	108.6	109.5	110.7	111.6	111.8	111.7
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.8	110.0	110.8	110.9	110.0	110.3	111.2	108.9	109.2	110.5	111.1	111.6	111.9	111.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	109.2	111.1	112.0	111.6	113.1	114.2	114.4	107.6	107.8	108.4	110.2	111.6	111.7	112.0
Other household equipment (12/77 = 100)	109.5	114.6	115.9	117.3	118.4	119.0	120.2	109.6	113.3	114.4	116.0	117.0	117.8	118.5
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	108.5	113.1	114.5	116.4	118.2	117.6	120.2	104.2	108.9	109.4	110.8	113.1	113.2	114.3
Clocks, lamps, and decor items (12/77 = 100)	105.9	111.6	112.7	114.9	115.6	117.6	118.8	106.3	109.4	109.8	112.3	112.6	114.4	115.9
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	113.2	119.9	121.4	122.6	123.4	124.1	125.4	112.9	117.3	118.9	120.8	121.4	121.7	122.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	107.9	110.6	111.7	112.2	113.5	114.0	113.7	110.6	113.0	114.2	115.0	115.9	117.4	117.6
Housekeeping supplies	221.5	231.1	235.0	238.0	240.7	243.6	245.4	219.9	228.8	232.8	235.5	238.1	241.2	243.0
Soaps and detergents	210.2	224.1	228.9	232.1	233.2	235.0	234.9	208.8	222.2	226.5	230.0	231.1	232.1	232.3
Other laundry and cleaning products (12/77 = 100)	110.7	116.1	117.2	117.0	117.6	119.8	121.1	110.8	115.6	117.1	116.9	118.1	119.5	120.8
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	116.7	120.6	121.2	123.9	126.2	128.6	129.4	117.2	121.8	123.4	125.8	128.1	130.8	131.5
Stationery, stationery supplies, and gift wrap (12/77 = 100)	108.2	111.6	112.7	113.8	115.6	116.3	116.9	107.0	109.0	112.3	113.6	114.9	116.0	116.5
Miscellaneous household products (12/77 = 100)	111.8	117.7	119.4	120.9	122.0	123.0	124.4	110.1	115.0	116.6	118.3	119.2	120.9	122.1
Lawn and garden supplies (12/77 = 100)	112.3	114.4	119.4	121.4	123.8	125.2	126.8	110.3	111.3	113.3	114.0	116.5	118.9	121.0
Housekeeping services	248.0	260.0	261.6	263.6	266.0	267.6	269.1	247.0	259.2	261.1	262.7	264.3	265.6	267.0
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.3	257.3	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	115.1	122.9	124.2	125.4	128.3	129.4	130.5	115.5	123.3	124.6	126.1	127.8	128.5	129.2
Appliance and furniture repair (12/77 = 100)	109.1	114.0	114.7	115.8	116.5	117.2	117.7	108.8	114.4	115.5	116.0	116.2	116.7	117.4
APPAREL AND UPKEEP	165.7	171.0	171.9	176.0	177.3	177.5	177.2	165.3	169.8	171.5	175.1	176.1	176.8	176.0
Apparel commodities	160.2	164.3	165.1	169.2	170.2	170.1	169.7	160.0	163.6	165.2	168.7	169.5	169.8	168.8
Apparel commodities less footwear	157.4	161.1	161.8	166.2	167.2	166.9	166.4	157.2	160.2	161.9	165.7	166.3	166.4	165.3
Men's and boys'	160.4	162.8	162.7	165.6	166.9	168.0	166.8	160.9	162.4	162.9	166.0	167.3	168.9	168.1
Men's (12/77 = 100)	101.1	102.6	102.3	104.3	105.0	105.7	104.8	101.6	102.3	102.4	104.4	105.2	106.3	105.5
Suits, sport coats, and jackets (12/77 = 100)	98.5	98.8	98.2	99.9	101.1	101.2	99.7	96.8	94.9	94.4	96.4	97.3	97.1	95.4
Coats and jackets (12/77 = 100)	94.5	95.5	93.6	96.9	96.5	97.3	96.3	97.8	95.6	92.2	96.9	97.0	97.2	97.1
Furnishings and special clothing (12/77 = 100)	108.1	112.2	112.7	115.0	116.6	117.9	118.2	106.2	109.3	111.1	113.2	114.2	116.4	115.4
Shirts (12/77 = 100)	103.5	108.6	109.3	111.9	111.5	112.2	110.8	104.5	108.3	109.4	112.0	111.7	113.7	112.9
Dungarees, jeans, and trousers (12/77 = 100)	99.9	98.2	97.7	98.7	99.4	100.2	99.5	101.7	102.2	102.2	102.7	104.2	105.2	105.0
Boys' (12/77 = 100)	103.5	105.6	106.3	107.5	108.9	109.7	109.5	103.1	104.7	105.9	107.5	108.7	109.6	109.8
Coats, jackets, sweaters, and shirts (12/77 = 100)	100.0	99.3	99.9	102.5	104.4	105.2	104.6	99.4	99.8	101.9	105.0	107.2	107.7	107.8
Furnishings (12/77 = 100)	108.3	111.5	110.9	112.0	113.3	114.3	114.6	107.8	109.7	109.5	110.7	111.6	112.7	113.3
Suits, trousers, sport coats, and jackets (12/77 = 100)	104.4	108.2	109.5	109.8	110.7	111.3	111.3	104.1	106.6	107.7	108.2	108.8	109.9	110.1
Women's and girls'	150.8	151.5	151.1	155.5	155.9	154.1	153.0	149.9	149.9	151.3	154.9	154.7	154.1	151.2
Women's (12/77 = 100)	100.8	100.8	100.8	103.8	103.9	102.4	101.7	100.6	100.1	101.4	103.7	103.3	103.0	100.8
Coats and jackets	162.4	166.4	163.1	167.6	168.3	162.0	158.1	166.9	165.0	162.4	167.0	167.8	162.4	155.2
Dresses	163.5	161.3	160.6	169.3	167.8	163.9	163.3	156.6	150.0	151.2	157.5	154.1	154.5	152.5
Separates and sportswear (12/77 = 100)	98.4	96.1	97.1	99.8	101.1	100.3	99.5	98.5	97.1	99.2	101.0	101.6	101.2	99.2
Underwear, nightwear, and hosiery (12/77 = 100)	105.6	108.6	110.2	111.0	111.5	111.8	112.1	106.5	109.1	110.6	111.5	111.7	112.2	112.3
Suits (12/77 = 100)	91.7	91.0	88.2	91.6	90.4	88.0	86.5	92.4	94.0	96.8	100.2	98.2	98.2	91.7
Girls (12/77 = 100)	98.0	100.5	98.9	101.8	102.6	102.7	102.1	95.9	97.9	97.3	100.1	101.1	100.5	99.6
Coats, jackets, dresses, and suits (12/77 = 100)	95.8	97.5	95.7	98.9	99.8	99.4	98.1	93.4	91.9	92.6	95.7	96.8	95.3	93.8
Separates and sportswear (12/77 = 100)	95.7	99.9	98.2	100.8	101.4	101.8	100.7	93.8	99.8	98.1	99.8	100.5	99.9	98.5
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	105.7	106.7	105.6	108.4	109.5	110.0	111.4	103.4	104.4	103.5	107.8	108.9	110.0	110.9

23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
APPAREL AND UPKEEP—Continued														
Apparel commodities—Continued														
Apparel commodities less footwear—Continued														
Infants' and toddlers'	220.9	224.9	226.6	231.4	234.3	237.4	240.9	223.9	229.1	232.7	237.3	241.1	242.8	246.8
Other apparel commodities	167.3	184.4	191.4	199.9	201.9	202.7	205.3	167.8	185.5	191.8	197.8	198.5	197.4	201.0
Sewing materials and notions (12/77 = 100)	101.0	103.2	106.3	107.1	107.9	109.1	110.2	95.7	101.2	105.7	107.2	106.9	108.6	110.9
Jewelry and luggage (12/77 = 100)	111.3	126.1	131.2	138.6	140.1	140.4	142.2	114.3	128.4	132.3	137.3	138.1	136.3	138.6
Footwear	176.7	183.7	184.6	187.0	188.3	189.3	189.0	176.0	183.3	183.9	186.3	188.1	189.3	188.9
Men's (12/77 = 100)	114.0	117.8	118.3	119.0	119.7	120.0	121.3	113.2	119.3	119.4	120.9	122.4	122.7	123.6
Boys' and girls' (12/77 = 100)	110.3	117.3	117.9	119.5	119.5	121.3	121.0	110.0	116.9	118.0	119.5	119.5	121.5	121.3
Womens' (12/77 = 100)	108.4	111.6	112.1	114.2	115.6	115.8	114.6	107.9	109.4	109.5	110.9	112.6	112.9	111.7
Apparel services	204.8	220.7	222.9	225.9	230.0	232.2	233.6	203.6	216.9	219.8	223.5	226.0	230.8	231.8
Laundry and drycleaning other than coin operated (12/77 = 100)	119.7	129.3	130.6	132.5	135.5	136.9	137.5	119.2	129.0	130.6	132.3	134.1	135.6	137.3
Other apparel services (12/77 = 100)	111.4	119.6	120.7	122.1	123.3	124.5	125.5	111.1	115.1	116.9	119.6	120.4	125.0	123.9
TRANSPORTATION	212.6	233.5	239.6	243.7	246.8	249.0	249.7	213.7	234.1	240.2	244.3	247.7	249.9	250.6
Private	213.3	233.5	239.8	244.0	247.0	249.2	249.7	214.1	234.1	240.4	244.6	248.0	250.1	250.8
New cars	166.3	173.9	175.3	175.0	177.0	178.9	178.5	165.9	174.1	175.4	175.4	177.7	179.6	179.4
Used cars	208.9	197.2	195.3	195.2	196.7	199.3	200.7	208.9	197.2	195.3	195.2	196.8	199.3	200.8
Gasoline	265.0	334.6	357.6	370.9	374.7	375.4	376.2	266.2	335.9	359.0	372.7	376.3	377.1	377.6
Automobile maintenance and repair	242.0	255.1	258.2	260.9	264.1	266.1	267.3	242.3	256.2	259.2	261.7	264.3	266.1	268.0
Body work (12/77 = 100)	116.0	125.0	126.5	127.3	129.1	130.6	131.4	116.0	124.3	126.1	127.2	128.4	129.7	130.8
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	115.8	121.8	123.2	124.1	126.1	126.6	127.5	116.7	123.6	124.8	126.1	127.4	127.8	128.8
Maintenance and servicing (12/77 = 100)	115.0	120.2	121.3	123.1	124.7	125.9	126.1	114.6	120.4	121.3	122.8	124.2	125.4	126.2
Power plant repair (12/77 = 100)	113.9	120.4	122.5	123.5	124.4	125.1	125.9	114.3	120.9	123.1	124.0	124.6	125.4	126.2
Other private transportation	197.3	209.8	212.6	216.5	221.3	224.5	225.0	197.7	210.6	213.6	217.1	223.1	226.7	227.3
Other private transportation commodities	171.8	188.4	191.2	192.7	194.1	195.3	195.5	172.6	188.0	191.7	193.2	195.8	196.7	196.8
Motor oil, coolant, and other products (12/77 = 100)	110.3	120.9	123.9	126.4	129.8	132.2	134.1	109.3	122.4	124.0	126.1	129.1	131.5	133.6
Automobile parts and equipment (12/77 = 100)	111.2	121.9	123.5	124.3	124.8	125.4	125.3	111.9	121.4	123.9	124.7	126.2	126.5	126.3
Tires	151.9	165.8	168.5	170.1	171.2	172.6	172.3	153.7	166.3	170.6	172.5	174.9	175.6	174.9
Other parts and equipment (12/77 = 100)	114.1	126.6	127.3	127.2	127.1	126.5	126.8	113.4	124.0	125.0	124.4	125.1	125.0	125.4
Other private transportation services	206.0	217.6	220.4	225.0	230.6	234.5	235.0	206.3	218.7	221.5	225.7	232.6	236.8	237.6
Automobile insurance	227.3	237.1	240.2	244.0	245.2	247.1	248.5	227.2	236.8	239.7	243.8	244.9	246.9	248.2
Automobile finance charges (12/77 = 100)	116.3	129.9	132.1	137.4	148.6	155.0	153.7	115.6	129.4	131.3	135.2	147.8	153.8	153.5
Automobile rental, registration, and other fees (12/77 = 100)	106.8	109.1	109.8	110.8	111.5	112.1	112.9	107.2	109.8	110.9	111.6	112.2	113.1	114.0
State registration	144.0	144.2	145.2	145.3	146.4	146.4	146.4	143.9	144.1	145.3	145.5	146.5	146.5	146.5
Drivers' license (12/77 = 100)	104.5	104.7	104.8	104.7	104.7	104.7	104.7	104.3	104.5	104.5	104.4	104.4	104.4	104.4
Vehicle inspection (12/77 = 100)	114.6	117.5	119.0	119.7	119.7	120.4	121.5	115.5	118.3	119.7	120.2	120.3	121.0	122.1
Other vehicle related fees (12/77 = 100)	113.6	118.8	119.6	122.0	122.7	124.0	126.1	116.6	123.8	125.4	127.0	127.8	130.0	132.7
Public	194.0	226.8	229.5	232.1	235.9	239.5	242.2	194.8	221.9	223.9	226.1	229.7	232.9	234.9
Airline fare	194.3	251.1	255.4	259.9	264.3	270.0	275.5	193.8	251.0	255.2	259.3	263.9	270.0	275.4
Intercity bus fare	253.9	284.7	288.5	290.7	291.5	293.6	293.8	253.2	284.8	288.2	290.2	291.0	293.4	293.6
Intracity mass transit	188.4	198.5	199.7	200.8	203.0	204.6	204.4	188.4	196.7	197.6	198.6	200.8	202.0	201.9
Taxi fare	217.2	243.1	244.0	245.6	256.4	259.9	262.0	223.3	248.9	249.3	251.2	261.6	265.7	267.6
Intercity train fare	205.3	237.2	237.2	237.2	237.3	250.0	255.2	205.2	237.1	237.0	237.1	237.2	251.1	255.5
MEDICAL CARE	237.7	253.9	257.9	260.2	262.0	263.4	264.7	238.2	254.9	258.7	260.9	263.1	264.9	265.9
Medical care commodities	153.3	160.5	162.1	163.5	164.9	166.4	167.9	154.5	161.0	162.7	164.4	166.0	167.2	168.5
Prescription drugs	141.3	147.9	149.8	150.9	152.2	153.5	154.8	142.4	148.8	150.7	152.0	153.5	154.6	155.8
Anti-infective drugs (12/77 = 100)	112.0	115.8	117.2	117.9	118.5	118.7	120.5	112.9	118.2	119.8	120.1	120.4	120.7	122.0
Tranquillizers and sedatives (12/77 = 100)	113.7	119.9	121.3	122.2	122.9	124.1	124.9	114.2	119.7	121.0	122.2	122.7	123.5	124.2
Circulatories and diuretics (12/77 = 100)	108.3	112.4	113.4	113.3	114.2	114.6	115.1	109.2	113.0	114.2	114.7	115.9	116.8	117.3
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100)	117.9	126.0	128.7	130.0	131.3	133.2	134.3	118.0	124.8	127.8	129.6	131.3	132.4	133.7
Pain and symptom control drugs (12/77 = 100)	112.1	118.8	119.7	120.5	121.4	122.9	124.2	113.4	119.0	120.1	121.3	122.6	124.2	125.5
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	109.4	112.6	113.7	115.5	117.1	118.2	118.6	110.9	114.2	115.2	116.5	118.5	119.5	120.2
Nonprescription drugs and medical supplies (12/77 = 100)	110.2	115.3	116.3	117.3	118.4	119.5	120.6	111.2	115.6	116.6	118.0	119.2	120.1	121.0
Eyeglasses (12/77 = 100)	107.4	111.5	112.9	114.1	115.0	116.5	118.2	107.7	111.4	112.6	114.5	115.3	116.3	117.3
Internal and respiratory over-the-counter drugs	170.3	179.1	180.4	182.2	184.4	186.0	187.3	172.0	179.0	180.8	183.0	185.4	186.9	188.4
Nonprescription medical equipment and supplies (12/77 = 100)	109.1	113.8	114.6	115.1	115.3	116.5	117.5	110.3	115.0	115.6	116.1	116.3	117.1	117.5
Medical care services	255.9	274.4	279.0	281.5	283.4	284.7	285.9	256.1	275.6	279.8	282.2	284.5	286.3	287.3
Professional services	225.7	238.9	242.9	245.3	248.2	250.3	251.8	227.3	241.7	245.5	247.8	251.2	253.5	255.1
Physicians' services	241.8	256.0	260.2	262.3	264.8	267.5	269.2	243.6	260.3	264.1	266.2	269.7	272.3	273.9
Dental services	214.3	227.4	231.5	234.1	237.2	238.8	240.3	216.5	229.5	233.4	235.7	238.9	241.2	243.1
Other professional services (12/77 = 100)	110.6	116.6	118.1	119.5	121.7	122.2	122.9	110.0	115.9	117.4	119.3	121.1	121.6	122.2
Other medical care services	292.5	317.4	322.7	325.3	325.8	326.3	327.2	291.2	317.3	322.1	324.4	325.3	326.5	326.5
Hospital and other medical services (12/77 = 100)	116.2	125.6	127.8	128.8	129.7	130.4	131.4	115.3	124.9	126.8	127.7	128.6	129.7	130.3
Hospital room	366.0	395.3	403.4	405.8	408.0	410.1	412.6	362.9	393.9	398.8	401.2	403.6	406.7	408.5
Other hospital and medical care services	115.2	124.7	126.5	127.8	128.8	129.5	130.6	114.3	123.8	125.9	126.9	128.0	129.1	129.7

23. Continued—Consumer Price Index—U.S. city average

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
ENTERTAINMENT	188.2	195.3	197.8	200.6	202.5	204.0	205.3	187.5	193.9	196.2	199.5	201.3	202.4	204.0
Entertainment commodities	188.7	197.6	200.4	203.4	205.7	207.0	208.3	187.4	194.2	196.9	200.3	202.8	203.4	204.5
Reading materials (12/77 = 100)	109.5	116.7	117.4	119.4	120.1	121.5	122.3	109.1	116.2	117.0	119.1	119.7	121.1	121.8
Newspapers	211.6	226.8	227.7	232.4	234.8	237.2	239.0	211.1	226.4	227.3	232.0	234.3	236.4	238.2
Magazines, periodicals, and books (12/77 = 100)	111.6	118.1	119.2	120.8	120.8	122.4	123.1	111.6	117.8	118.9	120.7	120.6	122.3	122.8
Sporting goods and equipment (12/77 = 100)	109.3	113.8	115.9	117.2	118.7	118.5	118.6	106.6	108.6	110.8	112.4	114.1	114.0	114.2
Sport vehicles (12/77 = 100)	110.3	....	117.4	118.7	120.6	119.9	119.8	107.0	....	109.1	110.8	113.0	112.5	112.6
Indoor and warm weather sport equipment (12/77 = 100)	106.1	107.6	108.3	109.5	111.3	112.0	111.1	103.3	106.4	107.8	109.3	110.5	110.3	110.2
Bicycles	160.1	170.5	174.5	177.2	178.6	179.7	180.6	160.0	170.5	174.9	177.8	179.8	180.9	181.4
Other sporting goods and equipment (12/77 = 100)	106.9	111.8	112.4	112.9	113.1	113.7	114.6	105.4	111.9	112.6	113.4	114.0	114.6	115.3
Toys, hobbies, and other entertainment (12/77 = 100)	108.9	113.2	115.1	116.9	118.4	119.4	120.6	109.0	112.6	114.3	116.4	118.0	118.1	119.0
Toys, hobbies, and music equipment (12/77 = 100)	109.2	112.1	114.1	115.7	117.3	118.5	119.6	109.0	110.9	112.3	114.9	116.5	115.8	117.0
Photographic supplies and equipment (12/77 = 100)	107.6	110.8	114.1	118.2	120.1	120.8	121.8	107.3	111.2	114.2	116.9	118.9	120.5	121.1
Pet supplies and expense (12/77 = 100)	109.2	116.8	117.6	118.2	119.2	120.1	121.7	110.0	116.7	117.9	119.0	120.0	120.9	121.4
Entertainment services	187.9	192.5	194.5	197.0	198.5	200.1	201.4	188.8	194.4	196.0	199.1	199.9	201.8	204.3
Fees for participant sports (12/77 = 100)	111.6	114.6	116.0	117.5	119.0	120.2	120.9	111.5	115.6	116.3	118.8	119.3	120.5	121.5
Admissions (12/77 = 100)	113.3	117.9	118.3	119.1	118.7	118.8	120.4	113.2	119.4	119.7	120.0	120.1	121.0	123.2
Other entertainment services (12/77 = 100)	109.0	109.1	111.4	113.2	114.8	116.4	116.6	111.0	109.3	111.8	113.9	115.1	116.5	118.2
OTHER GOODS AND SERVICES	194.5	206.3	208.1	208.9	209.8	211.2	212.5	194.3	206.0	207.7	208.3	209.2	210.6	212.1
Tobacco products	186.4	196.7	198.1	198.4	198.8	200.4	203.4	186.5	197.1	198.3	198.6	198.9	200.5	203.6
Cigarettes	188.8	199.7	200.9	201.2	201.4	202.9	206.0	189.0	200.3	201.3	201.6	201.6	203.2	206.4
Other tobacco products and smoking accessories (12/77 = 100)	110.3	113.9	115.6	116.3	117.6	119.0	120.2	109.8	113.4	114.8	115.7	117.2	118.5	119.5
Personal care	195.0	204.2	206.5	208.1	209.7	211.6	212.4	194.6	204.4	206.6	207.7	209.5	210.9	211.8
Toilet goods and personal care appliances	187.9	196.4	198.6	200.2	201.8	204.1	205.1	187.8	196.2	198.3	199.6	201.8	203.9	204.5
Products for the hair, hairpieces and wigs (12/77 = 100)	108.8	114.2	116.1	116.6	117.9	120.0	120.7	108.9	114.0	114.9	114.9	117.9	120.0	119.7
Dental and shaving products (12/77 = 100)	112.6	117.8	118.6	119.2	120.5	121.0	122.3	110.2	115.3	116.8	118.4	119.3	118.8	120.4
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	108.6	112.9	114.2	115.1	115.7	116.5	116.7	107.8	112.9	114.0	114.8	115.2	116.2	116.6
Other toilet goods and small personal care appliances (12/77 = 100)	106.9	112.1	112.9	114.7	115.4	117.4	117.6	109.8	114.0	115.6	116.6	117.2	119.0	119.1
Personal care services	202.0	211.6	214.2	215.7	217.2	218.8	219.6	201.4	212.7	215.0	215.8	217.2	218.1	219.1
Beauty parlor services for women	203.7	213.3	216.1	217.9	218.6	220.4	220.6	203.6	214.2	216.6	217.8	218.6	219.4	220.2
Haircuts and other barber shop services for men (12/77 = 100)	112.6	118.1	119.3	119.7	121.7	122.2	123.4	111.7	118.8	120.0	120.1	121.5	122.0	122.8
Personal and educational expenses	209.1	226.3	228.0	228.3	228.7	229.2	229.5	209.6	226.2	227.8	228.2	228.7	229.4	229.8
School books and supplies	191.6	206.0	206.5	206.9	207.1	207.1	207.1	194.2	209.8	210.4	210.7	210.9	210.9	210.9
Personal and educational services	213.6	231.4	233.3	233.6	234.0	234.7	235.0	213.7	230.6	232.5	232.9	233.4	234.2	234.8
Tuition and other school fees	108.8	118.3	118.5	118.6	118.6	118.6	118.6	108.7	118.4	118.6	118.7	118.7	118.7	118.7
College tuition (12/77 = 100)	109.1	117.6	117.8	117.9	117.9	117.9	117.9	109.1	117.6	117.8	117.9	117.9	117.9	117.9
Elementary and high school tuition (12/77 = 100)	107.5	120.9	120.9	120.9	120.9	120.9	120.9	107.4	120.7	120.7	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	112.6	120.1	124.4	125.0	126.1	127.8	128.7	112.6	117.7	121.4	122.1	123.3	125.1	126.4
Special indexes:														
Gasoline, motor oil, coolant, and other products	261.9	329.9	352.5	365.5	369.3	370.1	370.9	263.1	331.3	353.8	367.2	370.8	371.6	372.2
Insurance and finance	268.2	310.5	316.7	326.3	335.2	342.6	353.8	267.9	310.0	316.2	325.6	335.2	342.8	354.0
Utilities and public transportation	212.7	225.0	227.9	230.9	233.4	238.9	244.8	213.2	224.4	227.2	230.2	232.6	237.9	244.0
Housekeeping and home maintenance services	270.2	284.7	287.6	292.0	295.7	297.6	298.6	217.4	286.0	288.7	292.0	295.1	296.5	296.7

24. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000 - 1.250 million)			Size class C (75,000 - 385,000)			Size class D (75,000 or less)		
	1980			1980			1980			1980		
	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June	Feb.	Apr.	June
	Northeast											
EXPENDITURE CATEGORY												
All items	122.1	125.0	127.1	125.6	129.0	131.0	129.1	132.7	135.6	124.2	127.4	131.0
Food and beverages	122.1	124.5	126.2	124.3	127.1	128.6	126.0	128.8	130.5	123.4	125.2	127.6
Housing	122.9	126.1	129.6	126.7	130.0	133.1	135.5	140.2	144.9	124.8	127.9	133.5
Apparel and upkeep	109.5	112.5	111.5	107.1	111.1	111.3	107.3	112.7	113.2	106.8	113.0	115.0
Transportation	129.9	133.8	135.3	135.0	140.8	141.7	133.1	136.2	138.2	133.5	138.1	140.2
Medical care	120.6	122.4	123.0	121.6	122.4	123.2	121.3	122.5	123.5	121.4	122.7	124.4
Entertainment	114.4	116.7	117.7	115.7	117.9	120.2	112.2	115.7	116.5	118.9	121.5	123.8
Other goods and services	114.4	114.7	116.1	116.5	117.5	119.0	119.2	119.6	121.9	114.8	116.0	116.8
COMMODITY AND SERVICE GROUP												
Commodities	124.1	126.5	128.4	127.5	130.8	132.1	128.5	131.6	133.8	125.6	128.0	131.5
Commodities less food and beverages	125.3	127.8	129.7	129.1	132.5	133.8	129.7	132.9	135.4	126.6	129.3	133.3
Services	119.5	122.9	125.4	122.5	126.3	129.2	129.9	134.5	138.5	122.2	126.5	130.2
	North Central											
EXPENDITURE CATEGORY												
All items	129.6	133.2	136.7	127.2	130.9	134.4	126.4	128.9	131.9	125.8	128.7	131.9
Food and beverages	124.9	126.8	128.1	122.6	124.9	126.7	124.8	127.0	128.7	126.9	128.9	129.6
Housing	136.7	141.1	147.5	131.5	135.8	141.2	127.6	130.4	135.6	125.9	129.1	134.5
Apparel and upkeep	105.2	109.2	108.5	107.1	111.2	111.0	109.0	110.7	111.0	110.4	113.6	114.6
Transportation	133.5	138.1	140.1	133.4	137.6	140.7	135.8	139.3	140.4	132.6	137.4	139.8
Medical care	123.2	125.3	126.1	122.2	125.0	125.8	124.5	125.7	126.6	126.8	127.4	128.9
Entertainment	116.9	118.9	120.1	111.5	114.0	117.1	116.2	118.7	121.3	115.9	116.1	117.3
Other goods and services	115.4	116.2	117.9	119.4	121.5	123.2	115.5	116.7	117.5	119.1	119.8	121.6
COMMODITY AND SERVICE GROUP												
Commodities	128.1	130.9	132.9	124.5	127.9	129.9	125.9	128.1	129.7	124.3	126.0	128.0
Commodities less food and beverages	129.6	132.8	135.2	125.2	129.2	131.2	126.4	128.5	130.1	123.1	124.8	127.3
Services	131.8	136.6	142.3	131.6	135.6	141.7	127.1	130.3	135.5	128.2	132.9	138.1
	South											
EXPENDITURE CATEGORY												
All items	127.1	130.7	133.5	128.0	131.7	134.7	127.9	131.3	133.1	125.9	128.3	131.4
Food and beverages	125.0	126.4	128.5	124.4	127.0	127.9	126.0	127.8	129.1	124.0	126.2	128.1
Housing	129.1	133.9	138.5	131.9	136.7	141.4	131.8	136.6	138.9	127.7	129.7	134.0
Apparel and upkeep	112.5	116.4	116.4	109.6	112.9	112.6	105.5	108.2	107.3	100.9	104.7	107.2
Transportation	135.7	139.7	140.9	134.7	138.4	140.6	133.7	137.2	139.7	133.1	136.5	138.7
Medical care	119.7	121.9	124.1	121.6	123.3	125.8	124.8	126.4	127.5	129.0	131.2	133.9
Entertainment	114.5	115.7	116.3	115.4	119.8	122.5	115.9	118.3	120.3	121.6	124.4	128.0
Other goods and services	118.5	119.3	120.9	117.7	118.1	119.5	117.5	118.8	120.2	121.5	121.9	123.9
COMMODITY AND SERVICE GROUP												
Commodities	126.7	129.3	130.9	125.9	129.0	130.6	126.4	128.7	129.7	124.7	127.2	129.0
Commodities less food and beverages	127.5	130.6	132.0	126.6	129.8	131.7	126.5	129.1	130.0	125.0	127.7	129.3
Services	127.7	132.6	137.2	131.1	135.8	140.9	130.2	135.3	138.4	127.7	129.8	135.1
	West											
EXPENDITURE CATEGORY												
All items	129.6	132.8	136.1	130.6	134.1	136.0	128.1	131.4	133.6	127.1	130.4	134.3
Food and beverages	124.2	126.5	127.7	126.9	128.8	130.2	123.8	125.7	127.6	125.7	128.0	129.6
Housing	132.9	136.3	142.5	134.6	139.1	141.4	131.0	134.8	137.9	127.1	129.7	135.9
Apparel and upkeep	113.6	115.7	114.5	112.4	115.8	118.4	104.2	107.7	107.4	114.7	121.8	123.6
Transportation	137.4	141.2	141.1	135.8	139.2	140.7	137.1	141.2	142.1	134.8	139.6	141.7
Medical care	125.6	128.8	129.5	124.8	126.9	127.9	124.6	126.7	129.4	126.2	128.9	132.5
Entertainment	113.5	117.8	119.5	118.6	123.1	123.9	117.8	121.0	122.4	123.6	127.5	130.3
Other goods and services	119.2	121.2	121.7	120.3	121.5	124.3	116.3	117.7	119.0	119.7	122.5	124.4
COMMODITY AND SERVICE GROUP												
Commodities	127.0	129.5	130.4	128.8	131.5	132.5	126.7	129.0	130.1	126.7	129.8	131.7
Commodities less food and beverage	128.1	130.8	131.6	129.6	132.7	133.5	127.8	130.4	131.1	127.2	130.6	132.6
Services	133.2	137.2	143.6	133.0	137.7	140.8	130.0	134.8	138.5	127.6	131.2	138.2

25. Consumer Price Index—U.S. city average, and selected areas

[1967=100 unless otherwise specified]

Area[1]	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	June	Jan.	Feb.	Mar.	Apr.	May	June	June	Jan.	Feb.	Mar.	Apr.	May	June
U.S. city average[2]	216.6	233.2	236.4	239.8	242.5	244.9	247.6	216.9	233.3	236.5	239.9	242.6	245.1	247.8
Anchorage, Alaska (10/67=100)	...	218.2	...	223.5	...	226.5	...	...	215.9	...	220.2	...	223.1	...
Atlanta, Ga.	212.6	...	230.3	...	235.3	...	242.2	214.5	...	233.5	...	239.3	...	244.7
Baltimore, Md.	...	234.4	...	245.0	...	249.1	...	...	234.5	...	243.9	...	247.8	...
Boston, Mass.	...	227.3	...	234.2	...	236.9	...	...	226.9	...	234.2	...	236.8	...
Buffalo, N.Y.	209.3	...	227.9	...	233.7	...	235.4	209.7	...	227.9	...	233.3	...	234.6
Chicago, Ill.-Northwestern Ind.	213.5	230.3	232.7	235.5	240.1	243.1	248.2	213.2	229.9	232.5	235.2	239.8	243.0	248.0
Cincinnati, Ohio-Ky.-Ind.	...	239.5	...	247.8	...	251.6	...	...	241.0	...	249.7	...	252.9	...
Cleveland, Ohio	219.9	...	243.5	...	247.3	...	250.1	221.2	...	244.1	...	248.4	...	250.5
Dallas-Ft. Worth, Tex.	217.5	...	241.7	...	251.4	...	256.4	218.0	...	240.9	...	249.6	...	254.5
Denver-Boulder, Colo.	...	247.3	...	255.2	...	258.0	...	...	250.9	...	259.4	...	262.4	...
Detroit, Mich.	215.4	237.2	240.4	242.9	248.2	248.4	256.7	215.5	236.4	239.9	242.4	248.0	248.9	255.8
Honolulu, Hawaii	204.4	...	220.9	...	227.4	...	227.5	203.6	...	221.3	...	228.4	...	228.0
Houston, Tex.	235.5	...	255.9	...	260.8	...	266.5	234.5	...	251.9	...	257.3	...	262.8
Kansas City, Mo.-Kansas	219.5	...	238.7	...	243.8	...	247.8	218.4	...	236.6	...	242.2	...	246.3
Los Angeles-Long Beach, Anaheim, Calif.	212.9	232.6	237.6	241.3	244.6	249.1	250.1	214.5	235.0	240.0	243.9	247.8	252.6	253.4
Miami, Fla. (11/77=100)	...	123.3	...	127.7	...	129.7	...	...	124.9	...	128.8	...	130.9	...
Milwaukee, Wis.	...	236.4	...	242.7	...	250.3	...	...	240.8	...	247.8	...	255.2	...
Minneapolis-St. Paul, Minn.-Wis.	222.3	...	237.9	...	244.3	...	246.4	223.4	...	239.6	...	245.7	...	248.4
New York, N.Y.-Northeastern N.J.	212.5	226.1	228.0	231.2	233.1	234.5	237.2	212.2	225.5	227.7	230.8	232.4	234.1	236.7
Northeast, Pa. (Scranton)	...	224.4	...	229.0	...	232.5	...	...	225.8	...	231.3	...	235.8	...
Philadelphia, Pa.-N.J.	213.8	227.2	231.1	234.6	237.4	239.4	242.5	214.5	228.0	231.6	235.1	237.9	239.9	243.8
Pittsburgh, Pa.	214.5	...	235.5	...	240.9	...	246.1	215.0	...	235.9	...	242.2	...	246.8
Portland, Oreg.-Wash.	...	244.6	...	253.6	...	257.3	...	...	243.5	...	251.7	...	255.9	...
St. Louis, Mo.-Ill.	...	232.7	...	238.1	...	241.8	...	...	233.5	...	238.5	...	242.6	...
San Diego, Calif.	...	254.0	...	258.3	...	269.7	...	...	251.0	...	255.6	...	264.8	...
San Francisco-Oakland, Calif.	212.5	...	240.7	...	243.5	...	248.0	213.7	...	240.0	...	242.8	...	247.7
Seattle-Everett, Wash.	...	236.0	...	243.8	...	249.6	...	...	233.8	...	241.3	...	246.8	...
Washington, D.C.-Md.-Va.	...	231.9	...	238.8	...	241.2	...	...	233.0	...	239.2	...	242.0	...

[1] The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2] Average of 85 cities.

26. Producer Price Indexes, by stage of processing

[1967=100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb	Mar.[1]	Apr.	May	June	July
FINISHED GOODS														
Finished goods	216.1	216.2	217.3	220.7	224.2	226.3	228.1	232.4	235.7	238.5	240.0	241.0	242.6	246.6
Finished consumer goods	215.7	215.6	217.5	221.7	224.7	227.1	229.1	233.5	237.6	240.8	241.6	242.8	244.5	249.1
Finished consumer foods	226.3	224.9	223.5	228.1	226.7	230.5	232.1	231.4	231.6	233.1	228.7	230.0	231.0	239.5
Crude	231.4	224.9	231.7	214.0	215.5	228.1	227.9	226.0	220.1	230.9	222.2	227.7	223.4	230.7
Processed	223.8	222.8	220.7	227.0	225.5	228.6	230.3	229.7	230.4	231.1	227.1	228.1	229.4	238 0
Nondurable goods less foods	225.9	227.1	233.4	239.0	243.3	245.5	247.9	254.7	262.7	270.9	276.5	279.1	280.3	282.8
Durable goods	181.9	181.6	181.6	182.9	189.0	190.0	191.8	199.1	202.1	200.3	200.3	199.7	202.7	205.3
Capital equipment	216.7	217.2	216.5	217.8	222.8	223.9	225.3	229.3	230.5	232.2	235.8	236.0	237.5	240.2
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	242.8	244.6	247.5	251.0	255.0	256.3	258.7	265.9	271.6	273.7	274.5	275.8	277.7	280.3
Materials and components for manufacturing	234.1	236.0	238.0	240.7	244.3	245.5	247.8	255.5	259.8	259.5	259.7	261.8	263.9	264.7
Materials for food manufacturing	223.6	226.7	225.1	228.9	225.5	227.8	230.4	226.0	245.6	240.1	238.7	255.4	260.2	262.6
Materials for nondurable manufacturing	220.1	222.5	225.3	227.6	231.4	233.4	235.3	241.1	244.0	247.4	251.8	254.9	256.0	256.9
Materials for durable manufacturing	271.3	273.3	275.2	278.8	284.7	284.6	287.8	303.7	306.5	301.4	296.2	295.1	298.3	297.9
Components for manufacturing	206.8	207.7	209.3	211.3	213.2	214.8	216.3	219.2	223.2	225.3	227.4	228.0	229.6	231.2
Materials and components for construction	246.9	247.4	249.2	252.5	254.7	254.0	253.7	257.7	262.1	265.5	265.3	265.3	267.3	269.2
Processed fuels and lubricants	360.9	364.8	384.6	399.4	410.6	416.5	424.6	444.0	464.0	481.0	486.7	488.3	489.6	504.9
Manufacturing industries	298.9	304.0	311.2	317.2	322.5	325.2	332.2	340.5	351.4	356.6	358.4	363.6	368.2	378.4
Nonmanufacturing industries	422.9	425.5	458.8	483.0	500.6	510.0	519.1	550.3	579.9	609.5	619.5	617.0	614.7	635.3
Containers	235.3	235.4	237.6	237.9	242.6	243.8	247.1	250.9	251.6	253.8	262.5	263.7	265.3	267.1
Supplies	217.6	219.6	219.6	221.2	224.9	226.4	229.2	232.5	239.0	240.8	240.7	240.8	242.3	246.2
Manufacturing industries	204.4	204.2	208.6	209.4	212.2	213.7	216.3	220.9	222.5	223.7	226.8	228.4	230.2	232.3
Nonmanufacturing industries	224.7	227.8	225.4	227.5	231.7	233.3	236.1	238.7	247.8	249.8	248.1	247.5	248.8	253.6
Feeds	224.1	241.3	220.8	224.0	228.9	226.9	230.4	224.4	223.3	218.9	207.1	210.6	208.1	223.0
Other supplies	221.5	221.5	223.1	224.9	228.9	231.2	233.9	238.3	249.6	252.9	253.5	251.9	254.1	256.6
CRUDE MATERIALS														
Crude materials for further processing	282.2	287.1	281.7	288.3	289.5	290.8	296.2	296.8	308.4	303.5	296.9	300.7	299.5	316.3
Foodstuffs and feedstuffs	247.2	254.1	243.7	248.7	247.5	246.4	249.7	243.0	252.6	245.9	235.5	242.4	242.5	263.3
Nonfood materials	(2)	349.3	353.6	363.1	368.9	374.9	384.2	398.9	414.3	412.7	413.5	410.4	407.9	416.8
Nonfood materials except fuel	284.5	285.2	286.1	293.3	298.1	304.6	311.6	330.1	341.7	339.8	336.9	c329.2	c324.4	331.3
Manufacturing industries	293.3	294.0	294.9	302.8	307.8	314.9	322.5	342.1	354.9	352.5	349.0	340.2	334.6	342.3
Construction	207.0	207.2	208.6	209.9	212.6	214.8	216.6	226.0	228.7	229.9	232.4	232.9	234.2	235.3
Crude fuel	568.2	570.7	586.2	604.0	612.9	617.4	634.5	636.3	664.8	664.1	677.4	690.4	695.5	711.0
Manufacturing industries	607.6	610.4	629.2	651.8	662.5	667.8	688.3	690.3	725.7	724.5	740.8	756.7	762.6	781.9
Nonmanufacturing industries	548.3	550.7	563.6	577.8	585.5	589.3	603.9	605.7	628.8	628.8	639.8	650.6	655.1	667.8
SPECIAL GROUPINGS														
Finished goods excluding foods	(2)	211.4	213.2	216.2	221.3	222.8	224.6	230.5	234.6	237.8	241.2	242.0	243.8	246.4
Finished consumer goods excluding foods	208.2	208.4	212.3	216.3	220.6	223.1	225.3	232.3	238.3	242.3	245.5	246.8	248.8	251.4
Intermediate materials less foods and feeds	244.0	245.4	249.0	252.5	256.8	258.1	260.5	268.4	273.7	276.2	277.4	278.0	279.9	282.3
Intermediate foods and feeds	223.2	231.0	223.1	226.6	226.0	226.9	229.8	224.8	237.5	232.4	227.5	239.7	242.1	248.7
Crude materials less agricultural products	390.5	391.7	396.9	408.6	417.0	424.1	435.0	452.9	469.3	469.0	469.4	464.6	463.7	470.5

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

c = corrected.

27. Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	All commodities	235.6	236.9	238.3	242.0	245.6	247.2	249.7	254.9	260.2	261.9	262.3	263.7	265.2	269.8
	All commodities (1957-59 = 100)	250.0	251.4	252.8	256.7	260.6	262.3	267.3	r270.2	275.6	277.4	278.3	279.7	282.5	286.3
	Farm products and processed foods and feeds	229.8	232.2	227.5	231.8	230.6	232.3	234.6	231.9	237.0	234.9	229.2	233.9	234.2	246.1
	Industrial commodities	236.5	237.5	240.6	244.2	249.0	250.6	253.1	260.6	265.9	268.6	270.7	271.2	273.0	275.6
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	241.4	246.8	238.5	241.0	239.6	240.2	242.5	236.4	242.3	239.3	228.9	233.6	233.4	253.9
01-1	Fresh and dried fruits and vegetables	229.0	226.7	241.7	208.3	218.0	216.5	210.7	219.0	220.6	218.5	223.0	243.8	233.4	247.5
01-2	Grains	214.8	247.4	229.1	224.4	229.0	226.6	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8
01-3	Livestock	260.3	256.0	240.2	256.4	251.7	248.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5
01-4	Live poultry	194.3	183.8	171.9	173.5	162.0	195.5	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2
01-5	Plant and animal fibers	209.9	207.6	207.9	211.3	212.9	215.4	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0
01-6	Fluid milk	250.1	247.6	250.0	258.5	260.8	262.5	264.0	262.3	263.8	263.1	265.4	265.4	265.5	265.8
01-7	Eggs	176.5	167.6	166.8	175.4	155.9	178.7	198.4	165.6	150.4	184.2	153.3	145.7	146.8	159.3
01-8	Hay, hayseeds, and oilseeds	244.3	260.1	251.9	240.9	235.6	229.8	230.3	218.1	224.7	215.9	205.1	206.7	207.4	251.4
01-9	Other farm products	289.0	311.9	310.8	315.9	313.6	318.3	319.4	301.1	304.7	311.5	304.8	311.0	309.4	292.4
02	Processed foods and feeds	222.5	223.3	220.5	225.8	224.8	227.1	229.3	228.5	233.1	231.6	228.5	233.1	233.8	241.1
02-1	Cereal and bakery products	210.3	212.4	216.0	218.7	219.8	222.5	223.6	225.4	229.9	231.8	231.5	233.5	233.1	234.6
02-2	Meats, poultry, and fish	242.0	237.7	225.5	239.9	234.2	239.3	242.8	239.6	239.6	239.2	226.0	224.8	226.6	248.5
02-3	Dairy products	211.2	209.0	215.2	218.3	218.1	219.3	219.9	221.0	220.8	223.0	227.8	228.9	229.9	230.5
02-4	Processed fruits and vegetables	221.9	223.6	224.6	225.1	223.4	222.4	222.6	222.9	223.3	223.7	224.5	225.2	227.3	229.5
02-5	Sugar and confectionery	214.7	215.7	218.3	217.2	218.9	222.9	234.4	235.0	287.5	264.1	274.8	327.4	324.7	313.7
02-6	Beverages and beverage materials	210.7	214.1	216.5	217.9	218.9	221.2	221.6	224.0	224.8	225.9	227.9	231.4	233.6	234.4
02-7	Fats and oils	243.3	253.2	251.7	253.3	246.0	241.9	235.6	225.1	226.4	222.6	214.7	212.1	213.0	221.7
02-8	Miscellaneous processed foods	216.5	212.7	217.6	219.0	220.8	222.2	223.1	225.4	223.5	224.7	225.1	223.2	223.0	223.6
02-9	Manufactured animal feeds	219.4	234.9	216.2	219.2	224.0	222.4	224.9	219.7	219.8	216.6	205.4	207.3	205.4	220.6
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	168.7	169.3	170.5	171.3	172.0	172.8	173.1	175.2	176.5	179.3	180.6	181.5	182.4	184.3
03-1	Synthetic fibers (12/75 = 100)	119.0	119.5	120.6	123.6	124.7	124.2	124.7	127.0	127.2	129.1	130.7	133.5	134.8	136.3
03-2	Processed yarns and threads (12/75 = 100)	109.2	109.5	110.6	111.7	112.1	112.5	112.7	114.6	118.0	119.3	122.1	123.5	122.4	121.9
03-3	Gray fabrics (12/75 = 100)	127.1	128.3	128.7	128.7	129.7	130.7	132.3	132.7	132.3	136.8	136.1	135.3	133.7	134.8
03-4	Finished fabrics (12/75 = 100)	107.4	108.2	109.0	109.1	108.9	109.7	109.9	110.5	111.1	113.2	114.5	115.2	115.5	116.5
03-81	Apparel	160.4	160.3	161.4	161.6	162.2	163.1	162.6	165.5	166.8	168.0	169.1	169.7	172.0	174.1
03-82	Textile housefurnishings	190.4	189.9	190.5	193.9	196.3	196.5	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7
04	Hides, skins, leather, and related products	252.4	261.9	257.9	251.1	253.9	248.9	249.2	255.7	250.9	246.8	243.6	240.7	241.0	244.9
04-1	Hides and skins	535.4	566.5	511.9	465.3	478.8	447.6	443.9	468.8	404.8	348.7	328.6	289.7	315.7	356.6
04-2	Leather	356.7	385.2	365.9	330.0	343.6	319.8	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2
04-3	Footwear	218.0	221.8	225.4	226.9	227.5	227.9	227.9	229.1	228.0	231.8	231.9	231.9	232.1	232.9
04-4	Other leather and related products	205.0	212.1	210.9	210.1	209.7	208.4	208.0	213.1	214.8	217.8	216.3	217.5	216.0	216.3
05	Fuels and related products and power	408.1	411.8	432.8	454.8	468.5	476.9	487.9	508.0	532.7	553.5	566.3	571.9	574.8	585.4
05-1	Coal	450.9	452.5	454.2	452.5	454.6	455.1	458.6	459.3	459.6	461.7	463.3	464.8	466.9	467.8
05-2	Coke	429.2	430.6	430.6	430.6	431.2	431.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6
05-3	Gas fuels[2]	544.1	548.4	572.4	603.4	619.9	637.0	662.4	677.5	716.6	716.6	730.2	744.8	750.1	763.3
05-4	Electric power	270.2	274.8	278.8	280.5	283.5	281.9	287.0	290.5	299.3	305.5	310.4	316.4	320.5	331.4
05-61	Crude petroleum[3]	376.5	370.6	385.7	422.1	436.7	450.4	470.8	513.6	515.1	522.8	533.9	540.1	549.0	550.9
05-7	Petroleum products, refined[4]	444.8	449.8	482.8	513.7	533.7	545.4	555.2	583.3	620.4	659.0	677.3	680.6	681.1	693.3
06	Chemicals and allied products	222.3	225.0	228.5	230.8	234.2	236.0	238.2	246.0	248.7	252.8	258.1	261.1	261.7	262.7
06-1	Industrial chemicals[5]	264.0	270.4	277.1	280.0	285.7	288.4	292.3	302.9	307.9	313.3	316.8	324.8	c327.3	327.8
06-21	Prepared paint	204.4	205.3	205.3	206.0	206.7	209.4	210.7	223.3	223.3	228.7	231.5	236.8	236.8	236.8
06-22	Paint materials	241.2	246.7	247.9	252.0	253.6	256.6	256.8	259.9	263.4	267.5	271.1	272.9	274.0	277.0
06-3	Drugs and pharmaceuticals	159.4	159.2	159.6	161.0	162.8	163.0	164.4	166.5	167.6	168.9	172.8	171.8	173.0	175.4
06-4	Fats and oils, inedible	376.7	381.6	376.4	379.9	366.9	344.3	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0
06-5	Agricultural chemicals and chemical products	214.4	211.2	215.3	219.4	224.3	229.5	232.9	241.9	248.0	256.1	258.3	258.3	257.7	258.2
06-6	Plastic resins and materials	235.9	244.5	250.1	252.0	260.0	261.4	262.5	270.4	272.1	274.5	285.6	287.8	287.9	286.2
06-7	Other chemicals and allied products	191.8	191.8	194.4	195.8	197.0	198.8	201.4	209.4	211.3	215.0	223.3	225.0	226.3	228.0
07	Rubber and plastic products	194.3	195.5	198.8	200.7	203.0	204.9	205.9	207.8	210.7	212.7	214.6	215.1	217.1	218.3
07-1	Rubber and rubber products	209.2	209.5	214.6	217.1	220.3	223.7	224.3	226.1	231.5	231.5	234.6	235.3	237.6	239.4
07-11	Crude rubber	221.4	226.1	233.0	232.2	236.5	237.2	240.2	252.7	263.9	255.8	263.8	263.0	263.2	262.5
07-12	Tires and tubes	205.9	206.2	211.6	215.0	218.3	223.1	223.1	225.1	231.6	231.6	231.3	231.8	234.6	237.0
07-13	Miscellaneous rubber products	206.4	205.4	209.4	211.9	214.7	217.1	217.7	215.9	c217.8	220.6	225.9	227.5	229.7	231.8
07-2	Plastic products (6/78 = 100)	110.0	111.2	112.2	113.0	114.0	114.3	115.2	116.3	116.7	119.0	119.5	119.6	120.8	121.1
08	Lumber and wood products	300.4	300.1	304.7	309.7	308.8	298.9	290.1	290.0	294.7	294.9	275.2	271.6	279.8	288.9
08-1	Lumber	354.3	355.0	365.3	373.9	370.3	355.6	339.5	336.3	341.4	340.6	310.1	301.3	313.0	327.3
08-2	Millwork	254.3	252.5	249.6	250.9	255.6	252.3	250.3	254.1	258.0	262.2	256.6	250.9	253.0	255.9
08-3	Plywood	250.5	249.7	254.3	257.9	254.0	242.2	237.9	238.2	243.4	240.0	219.2	229.9	241.6	251.1
08-4	Other wood products	235.4	237.6	237.4	238.0	237.7	239.9	240.5	242.2	c243.4	243.1	241.7	240.7	238.7	236.9

See footnotes at end of table.

c = corrected.

27. Continued—Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	INDUSTRIAL COMMODITIES—Continued														
09	Pulp, paper, and allied products	219.0	218.3	222.2	223.0	227.5	229.5	231.7	237.4	239.2	242.6	246.5	248.9	251.3	252.4
09-1	Pulp, paper, and products, excluding building paper and board	220.7	219.6	223.6	224.3	229.0	231.1	233.4	239.2	240.8	244.1	248.0	250.3	252.7	253.7
09-11	Woodpulp	314.3	320.3	320.6	320.6	337.5	338.0	338.0	356.6	356.4	356.8	386.8	388.0	388.0	388.6
09-12	Wastepaper	206.6	207.9	206.6	206.7	206.7	220.0	221.2	222.9	223.4	224.9	242.5	226.1	206.6	194.0
09-13	Paper	229.6	228.2	229.5	230.3	238.7	241.8	242.7	245.5	247.2	250.3	253.6	256.5	258.3	258.5
09-14	Paperboard	202.1	201.7	206.4	209.6	211.3	212.8	215.4	221.8	223.7	227.4	230.2	239.2	242.7	237.5
09-15	Converted paper and paperboard products	209.9	209.0	214.4	214.6	217.3	219.0	221.9	227.7	229.5	233.0	234.6	236.1	239.3	242.4
09-2	Building paper and board	182.4	178.0	179.1	182.6	183.5	183.6	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8
10	Metals and metal products	259.3	260.8	261.8	263.7	269.6	271.1	273.6	284.6	288.9	286.8	284.6	281.9	282.4	281.5
10-1	Iron and steel	283.5	286.8	286.1	285.5	289.2	292.0	292.8	297.4	300.3	301.8	307.0	304.7	303.1	300.4
10-13	Steel mill products	280.4	284.6	284.7	284.8	288.3	288.8	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0
10-2	Nonferrous metals	261.7	262.3	263.1	269.3	283.1	284.1	291.9	326.3	337.7	321.4	298.9	289.8	290.6	289.0
10-3	Metal containers	269.2	267.2	268.4	268.7	279.9	280.9	280.9	283.3	284.4	288.5	301.1	302.7	302.7	303.0
10-4	Hardware	218.7	218.5	220.1	221.5	224.0	225.5	226.2	228.2	230.4	231.5	236.9	238.2	239.7	241.9
10-5	Plumbing fixtures and brass fittings	217.1	219.6	222.4	223.0	223.5	225.4	226.5	232.8	236.7	242.4	243.7	247.4	248.5	249.6
10-6	Heating equipment	187.1	186.0	188.1	191.3	192.2	193.1	195.6	199.5	202.6	202.6	204.2	204.0	205.1	206.1
10-7	Fabricated structural metal products	248.9	250.5	252.2	253.7	256.3	256.7	257.7	258.9	259.7	265.1	268.2	269.4	270.0	271.9
10-8	Miscellaneous metal products	231.4	231.8	235.6	236.7	238.5	238.6	239.1	240.6	241.6	244.2	247.1	247.7	251.4	251.8
11	Machinery and equipment	213.9	214.8	216.0	217.7	220.0	221.3	223.4	227.6	230.2	232.5	235.8	237.0	238.8	241.3
11-1	Agricultural machinery and equipment	232.1	231.2	233.3	237.4	240.0	243.4	244.2	248.4	249.9	252.0	252.8	254.9	255.7	257.3
11-2	Construction machinery and equipment	256.2	257.0	258.5	258.9	263.9	265.4	268.8	276.0	278.3	279.5	282.9	284.2	286.8	290.9
11-3	Metalworking machinery and equipment	241.3	241.4	243.5	246.4	249.6	252.2	254.6	258.9	261.8	264.1	269.9	272.6	275.4	278.0
11-4	General purpose machinery and equipment	236.4	237.1	238.3	240.2	242.8	244.2	247.6	251.0	253.3	256.7	260.0	262.3	264.3	265.8
11-6	Special industry machinery and equipment	247.0	249.8	251.0	251.2	253.8	254.9	256.1	260.6	263.2	265.5	271.9	273.1	274.5	277.2
11-7	Electrical machinery and equipment	178.9	179.9	181.2	182.5	184.3	184.9	186.6	190.6	194.3	196.5	198.7	199.2	201.2	203.5
11-9	Miscellaneous machinery	208.9	209.7	209.7	212.0	213.6	214.9	216.3	220.3	221.1	223.2	226.8	226.9	227.8	230.7
12	Furniture and household durables	171.3	170.7	171.5	172.7	175.1	176.4	177.9	183.4	185.6	185.7	183.1	184.1	185.3	186.7
12-1	Household furniture	186.3	185.8	186.2	188.5	190.1	193.0	194.8	197.4	198.5	198.9	198.9	200.3	202.0	204.3
12-2	Commercial furniture	221.8	222.7	222.7	222.7	223.3	223.3	225.1	226.9	231.4	232.8	233.5	233.8	235.5	237.1
12-3	Floor coverings	147.9	149.1	150.0	150.4	152.1	152.8	152.9	159.0	158.5	160.8	161.7	163.6	162.2	163.2
12-4	Household appliances	160.9	161.1	162.2	162.7	163.2	164.5	165.3	166.5	168.9	169.9	170.2	172.1	174.7	174.8
12-5	Home electronic equipment	91.3	90.2	90.2	90.3	90.3	90.3	90.5	91.0	91.2	91.3	88.9	89.1	89.3	89.3
12-6	Other household durable goods	228.2	223.7	226.6	231.0	245.6	248.2	254.4	287.4	295.3	288.3	266.8	265.2	266.1	271.1
13	Nonmetallic mineral products	248.6	249.5	249.9	254.6	256.2	257.4	259.6	268.4	274.0	276.5	282.8	282.9	283.2	284.0
13-11	Flat glass	183.9	184.1	184.1	184.5	184.7	185.4	186.4	191.0	191.0	191.4	191.4	191.4	193.6	194.3
13-2	Concrete ingredients	244.0	245.1	245.9	246.7	248.3	249.6	251.0	265.0	266.6	267.5	270.5	271.1	271.9	272.5
13-3	Concrete products	244.1	245.2	246.3	248.7	250.1	250.6	253.2	265.4	266.7	269.1	273.0	275.0	275.9	275.9
13-4	Structural clay products excluding refractories	217.9	220.3	222.3	223.7	221.1	221.8	226.7	229.6	231.0	231.4	234.4	229.5	230.2	230.2
13-5	Refractories	236.5	240.8	241.7	242.4	244.6	247.4	248.0	248.5	251.1	253.9	262.6	265.2	266.7	269.6
13-6	Asphalt roofing	325.3	328.4	325.9	333.0	337.5	347.4	346.5	356.6	372.5	388.8	404.7	398.2	400.7	412.0
13-7	Gypsum products	252.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1
13-8	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.6	294.6	294.6	294.6
13-9	Other nonmetallic minerals	313.7	310.5	309.9	336.0	341.2	342.2	342.2	351.8	381.7	387.0	399.5	399.5	394.5	396.1
14	Transportation equipment (12/68 = 100)	188.1	188.4	185.9	186.6	194.2	194.8	195.6	198.7	198.2	198.8	202.6	201.1	202.2	204.9
14-1	Motor vehicles and equipment	190.5	190.8	187.8	188.6	197.1	197.4	198.2	200.7	200.1	200.7	204.9	203.1	204.4	207.1
14-4	Railroad equipment	277.3	280.6	280.9	281.6	286.3	288.2	289.0	297.5	299.3	302.1	303.9	304.6	306.2	316.4
15	Miscellaneous products	208.7	207.0	208.9	213.1	218.9	221.4	227.4	242.9	262.9	256.1	252.2	250.9	257.4	261.3
15-1	Toys, sporting goods, small arms, ammunition	176.2	176.9	177.6	179.8	181.1	181.2	183.0	190.9	193.5	194.5	195.3	196.4	197.2	200.3
15-2	Tobacco products	217.8	214.8	221.3	221.9	222.1	222.2	226.6	236.6	237.2	237.3	237.6	244.6	245.1	247.6
15-3	Notions	191.8	192.0	191.9	191.9	195.7	195.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0	221.7
15-4	Photographic equipment and supplies	153.7	152.0	152.2	154.3	157.4	161.2	164.3	165.9	218.6	219.1	212.6	200.0	203.4	202.0
15-51	Mobile homes (12/74 = 100)	138.1	138.2	139.5	140.7	142.9	144.0	144.1	144.7	146.8	147.1	148.9	149.9	150.6	151.2
15-9	Other miscellaneous products	263.7	261.4	261.4	272.5	288.3	293.3	308.8	351.6	378.3	351.3	339.2	339.1	358.8	369.4

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Prices for natural gas are lagged 1 month.

[3] Includes only domestic production.

[4] Most prices for refined petroleum products are lagged 1 month.

[5] Some prices for industrial chemicals are lagged 1 month.

28. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. [1]	Apr.	May	June	July
All commodities—less farm products	234.4	235.4	237.5	241.4	245.3	247.0	249.5	255.7	260.9	262.9	264.3	265.4	267.0	270.3
All foods	226.4	225.4	224.7	228.5	226.9	230.0	232.2	231.2	235.8	234.8	231.7	237.4	237.7	245.4
Processed foods	227.2	226.4	224.8	230.8	228.9	231.8	234.2	233.3	238.6	236.9	234.0	239.0	239.9	247.1
Industrial commodities less fuels	218.3	219.0	220.3	222.0	225.9	226.9	228.5	234.7	238.0	238.9	239.9	239.9	241.6	243.3
Selected textile mill products (Dec. 1975 = 100)	113.9	114.0	115.1	115.8	116.4	117.0	117.2	118.9	119.3	121.3	122.1	123.1	123.5	125.4
Hosiery	112.6	114.1	113.0	112.7	113.3	114.6	115.3	119.2	119.4	120.3	120.7	121.5	122.2	123.1
Underwear and nightwear	168.9	168.5	170.8	170.8	171.2	171.6	172.9	175.3	177.4	182.1	182.0	182.8	187.4	188.5
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	215.0	218.6	220.9	224.3	226.3	228.7	236.3	239.2	243.2	248.4	251.6	252.8	253.8
Pharmaceutical preparations	152.0	151.7	152.0	153.6	155.6	155.4	156.9	159.2	160.3	161.7	165.9	164.7	166.1	167.8
Lumber and wood products, excluding millwork and other wood products	325.0	325.3	333.9	341.0	337.3	323.3	310.8	308.6	313.9	312.2	284.5	281.7	293.5	306.4
Special metals and metal products	234.6	235.5	234.9	236.4	243.4	244.5	246.3	253.7	256.0	255.1	255.6	253.4	254.2	254.9
Fabricated metal products	236.8	237.4	239.8	241.1	244.0	244.6	245.3	247.2	248.4	252.0	256.0	257.0	258.9	260.0
Copper and copper products	299.3	191.9	197.1	200.5	212.2	213.8	217.1	227.7	260.7	240.9	224.7	212.3	208.7	211.7
Machinery and motive products	207.0	207.7	207.2	208.5	213.4	214.3	215.9	219.7	220.9	222.5	226.1	226.1	227.7	230.2
Machinery and equipment, except electrical	234.2	235.1	236.2	238.2	240.8	242.5	244.8	249.1	251.1	253.5	257.5	259.0	260.8	263.2
Agricultural machinery, including tractors	237.4	235.8	238.4	243.6	246.3	250.8	251.5	256.1	257.2	260.0	259.7	261.7	262.5	264.1
Metalworking machinery	259.1	260.1	261.7	265.6	269.5	272.7	276.0	281.9	284.4	287.5	294.3	296.8	299.9	303.6
Numerically controlled machine tools (Dec. 1971 = 100)	199.8	202.2	204.2	206.5	208.5	208.8	211.2	213.1	215.4	216.7	223.9	227.0	228.7	228.7
Total tractors	251.6	251.2	253.8	256.0	261.2	262.5	266.2	273.0	275.1	276.6	278.4	280.0	281.8	286.1
Agricultural machinery and equipment less parts	232.7	231.4	233.7	238.4	241.0	244.9	245.8	250.0	251.5	254.1	254.2	256.1	256.8	258.9
Farm and garden tractors less parts	236.1	233.9	237.6	244.1	247.6	250.5	251.1	256.0	257.5	261.5	261.0	262.0	262.7	264.9
Agricultural machinery excluding tractors less parts	238.7	237.6	239.2	243.5	245.4	251.3	252.0	256.4	257.3	258.9	259.0	261.7	262.6	263.7
Industrial valves	256.0	257.0	258.2	260.1	261.8	263.1	266.1	271.0	273.5	280.0	283.5	286.6	288.6	289.5
Industrial fittings	261.7	260.8	262.3	264.3	272.6	276.8	276.8	276.8	280.4	282.8	289.9	291.5	295.9	295.9
Abrasive grinding wheels	226.2	222.8	224.6	224.6	239.0	239.0	239.0	239.0	244.0	244.0	258.4	261.3	261.3	261.3
Construction materials	251.4	252.3	254.3	256.6	258.5	256.7	255.4	259.3	262.6	265.1	262.1	261.4	264.1	266.5

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

29. Producer Price Indexes, by durability of product

[1967=100]

Commodity grouping	Annual average 1979	1979						1980						
		July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. [1]	Apr.	May	June	July
Total durable goods	226.9	227.6	228.0	230.1	234.6	235.3	237.0	243.8	247.1	247.0	247.2	246.4	248.3	250.3
Total nondurable goods	241.7	243.7	245.8	251.1	253.7	256.2	259.3	263.2	270.2	273.4	274.0	277.3	278.4	285.3
Total manufactures	228.8	229.8	231.7	235.2	239.0	240.6	242.6	248.4	253.2	255.2	256.5	257.8	259.4	262.5
Durable	226.1	226.6	227.2	229.4	234.0	234.6	236.2	242.9	245.7	245.6	246.2	245.9	248.2	250.1
Nondurable	231.1	232.5	235.9	241.0	244.0	246.6	249.0	253.9	260.8	265.2	267.3	270.3	271.3	275.6
Total raw or slightly processed goods	270.4	274.3	272.1	276.9	278.7	281.0	285.9	287.6	295.9	295.4	290.4	292.7	293.0	307.5
Durable	262.1	265.4	259.8	255.7	259.2	265.8	267.8	282.8	305.3	303.4	286.0	262.2	249.9	253.9
Nondurable	270.1	274.0	272.0	277.5	279.2	281.2	286.3	286.9	294.2	293.8	289.7	294.0	295.3	310.4

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

30. Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar. [1]	Apr.	May	June	July
	MINING														
1011	Iron ores (12/75 = 100)	134.8	136.0	138.8	138.1	140.2	140.2	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8
1092	Mercury ores (12/75 = 100)	234.4	270.8	245.8	252.1	275.0	252.1	300.0	308.3	335.4	330.0	337.5	337.5	332.9	331.2
1211	Bituminous coal and lignite	451.3	453.1	454.8	452.9	455.1	455.5	458.9	459.2	459.6	461.7	462.9	464.4	463.3	467.2
1311	Crude petroleum and natural gas	459.8	457.5	476.0	508.4	522.1	533.9	551.3	582.7	598.0	600.6	612.3	620.2	631.3	637.8
1442	Construction sand and gravel	217.6	219.3	220.1	221.0	224.0	224.7	225.6	238.8	243.2	243.9	248.4	249.4	250.1	249.6
1455	Kaolin and ball clay (6/76 = 100)	125.8	125.5	125.5	125.5	126.7	124.2	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6
	MANUFACTURING														
2011	Meat packing plants	247.4	243.8	229.3	247.2	238.9	241.5	243.9	240.8	240.1	238.9	225.6	227.4	229.9	249.1
2013	Sausages and other prepared meats	219.6	214.7	203.4	211.7	211.9	213.4	220.0	211.9	207.8	209.4	197.7	194.7	190.6	213.4
2016	Poultry dressing plants	187.1	178.4	169.6	171.2	163.1	188.3	188.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2
2021	Creamery butter	228.8	227.5	237.9	240.6	240.1	241.7	243.1	241.8	242.8	243.4	252.8	253.7	255.7	256.3

See footnote at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
	MANUFACTURING—Continued														
2022	Cheese natural and processed (12/72 = 100)	189.2	186.3	195.4	200.8	196.8	193.6	193.9	195.4	192.9	195.7	203.6	203.6	204.2	205.1
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	171.5	175.0	176.1	177.5	179.9	180.1	180.9	181.5	185.0	191.4	192.1	195.2	195.2
2033	Canned fruits and vegetables	208.6	209.9	210.5	212.0	212.9	212.2	212.2	213.4	213.6	214.7	216.3	217.4	220.1	222.6
2034	Dehydrated food products (12/73 = 100)	174.2	182.0	180.7	170.0	158.2	156.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3	157.7
2041	Flour mills (12/71 = 100)	173.1	190.9	176.9	183.5	184.2	184.4	184.1	181.7	183.6	181.6	175.9	183.3	181.8	189.6
2044	Rice milling	204.0	206.8	218.7	223.5	227.3	231.8	218.1	217.5	233.0	258.0	260.4	254.5	236.0	225.3
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	128.1	119.4	120.9	123.6	124.3	125.0	122.0	122.6	121.5	116.8	117.2	116.6	122.6
2061	Raw cane sugar	210.3	209.0	216.8	216.7	224.3	223.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4	381.8
2063	Beet sugar	202.6	202.0	199.4	200.0	204.7	210.6	223.2	224.6	293.2	305.7	295.4	338.0	343.9	343.5
2067	Chewing gum	245.8	242.9	242.9	242.9	242.9	262.3	262.3	262.3	262.3	281.9	281.9	282.0	282.0	282.4
2074	Cottonseed oil mills	207.4	224.5	214.1	217.9	214.9	204.7	205.6	182.4	184.4	170.4	154.8	150.5	155.1	190.1
2075	Soybean oil mills	245.0	262.8	250.0	248.6	244.7	242.4	241.9	235.1	230.4	222.3	212.6	212.5	209.1	224.6
2077	Animal and marine fats and oils	338.4	352.0	321.4	333.8	333.7	315.2	300.7	298.1	292.6	297.4	274.0	263.0	238.3	274.4
2083	Malt	203.7	201.4	201.4	214.9	214.9	228.2	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	113.6	115.7	117.1	117.1	118.1	118.1	118.6	118.7	118.7	118.7	118.9	118.9	118.9
2091	Canned and cured seafoods (12/73 = 100)	146.4	148.5	148.2	154.0	154.3	155.6	159.8	160.9	164.0	165.7	170.2	173.2	175.3	175.9
2092	Fresh or frozen packaged fish	381.6	403.7	391.5	389.2	400.1	391.4	388.4	389.7	385.5	391.6	371.5	361.6	362.8	365.2
2095	Roasted coffee (12/72 = 100)	254.5	271.0	279.2	279.2	280.0	287.5	287.5	281.3	273.9	274.0	273.9	273.9	283.1	274.5
2098	Macaroni and spaghetti	199.7	203.5	210.4	210.4	210.4	221.5	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5
2111	Cigarettes	225.0	221.5	228.9	229.1	229.2	229.2	234.3	245.8	245.9	246.0	246.1	254.2	254.3	257.2
2121	Cigars	147.3	149.8	150.1	150.1	149.8	150.4	150.4	151.2	154.2	154.4	152.7	152.7	157.1	157.2
2131	Chewing and smoking tobacco	248.4	246.4	246.4	255.8	260.4	260.8	260.8	260.9	265.1	267.3	274.3	274.6	274.7	274.7
2211	Weaving mills, cotton (12/72 = 100)	195.3	196.1	196.5	198.7	201.1	201.6	201.9	204.4	206.9	209.5	210.9	211.6	211.9	217.4
2221	Weaving mills, synthetic (12/77 = 100)	115.0	116.2	116.3	116.2	116.8	117.3	117.2	118.1	118.3	122.7	122.4	121.8	120.4	122.3
2251	Women's hosiery, except socks (12/75 = 100)	97.5	99.6	98.1	97.5	98.2	100.3	100.2	103.3	103.3	104.3	104.4	105.4	105.4	105.4
2254	Knit underwear mills	173.3	172.9	174.0	174.0	174.3	174.6	178.3	182.5	184.1	186.5	186.4	187.1	190.5	192.5
2257	Circular knit fabric mills (6/76 = 100)	95.2	96.1	96.4	96.2	96.9	98.4	98.6	99.3	100.4	103.4	103.6	104.1	104.7	105.1
2261	Finishing plants, cotton (6/76 = 100)	121.8	122.5	123.2	124.0	126.1	126.3	126.6	128.7	129.6	131.9	131.9	133.2	133.7	137.2
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	107.5	108.2	108.3	109.3	109.7	109.8	110.3	109.4	110.4	111.3	112.1	111.5	173.7
2272	Tufted carpets and rugs	128.0	127.6	128.6	129.0	129.8	130.1	130.1	134.7	134.5	137.0	135.9	138.7	137.5	137.6
2281	Yarn mills, except wool (12/71= 100)	176.7	177.5	177.4	179.4	181.2	183.0	183.7	188.0	197.8	199.5	203.8	204.5	202.9	203.0
2282	Throwing and winding mills (6/76 = 100)	107.4	108.5	109.7	111.2	110.4	109.6	109.2	110.1	110.6	112.0	114.8	116.3	114.8	113.4
2284	Thread mills (6/76 = 100)	123.7	120.5	128.1	128.1	128.4	128.4	128.6	128.7	129.2	130.0	133.9	142.2	142.1	143.0
2298	Cordage and twine (12/77 = 100)	107.0	105.4	113.5	115.1	114.9	114.9	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0
2311	Men's and boys' suits and coats	204.2	205.8	206.5	206.5	206.6	206.8	206.7	209.0	208.1	208.3	205.7	207.0	207.4	214.9
2321	Men's and boys' shirts and nightwear	194.0	194.7	195.9	196.0	196.1	196.6	196.3	197.7	196.2	199.3	202.9	203.5	204.9	205.4
2322	Men's and boys' underwear	188.9	188.7	190.0	190.0	190.0	190.0	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1
2323	Men's and boys' neckwear (12/75 = 100)	106.5	103.4	110.9	110.9	110.9	110.9	110.9	112.4	112.4	112.4	106.3	106.3	106.3	106.3
2327	Men's and boys' separate trousers	161.5	162.5	162.7	162.7	162.9	163.4	163.5	164.2	174.2	174.3	174.8	174.9	175.1	175.3
2328	Men's and boys' work clothing	208.6	208.9	210.7	210.9	213.4	219.1	219.6	225.1	233.6	235.4	240.9	241.7	242.5	244.8
2331	Women's and misses' blouses and waists (6/78 = 100)	102.0	102.6	102.7	102.8	103.0	105.9	106.8	107.1	106.6	106.7	107.6	107.7	107.8	111.4
2335	Women's and misses' dresses (12/77 = 100)	107.0	106.4	108.3	108.3	108.7	108.8	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0
2341	Women's and children's underwear (12/72 = 100)	144.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4	150.0	153.1	152.4	153.2	155.2	155.4
2342	Brassieres and allied garments (12/75 = 100)	116.9	117.5	117.8	117.8	117.8	117.8	118.8	119.7	122.9	124.9	125.4	125.4	127.0	128.2
2361	Children's dresses and blouses (12/77 = 100)	104.8	102.4	102.4	103.7	105.7	105.7	105.6	105.3	105.3	105.5	106.0	106.0	106.7	112.4
2381	Fabric dress and work gloves	241.4	245.4	245.4	245.4	245.4	246.9	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1
2394	Canvas and related products (12/77 = 100)	109.3	108.4	111.0	111.4	112.3	112.1	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3
2421	Sawmills and planing mills (12/71 = 100)	251.0	251.3	259.1	265.6	262.2	250.2	237.9	234.8	[c]239.5	239.1	215.7	209.3	218.1	228.8
2436	Softwood veneer and plywood (12/75 = 100)	152.3	148.1	153.4	156.0	153.1	142.9	138.9	138.5	143.7	139.8	121.4	129.6	140.5	148.7
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	150.0	149.9	150.8	158.2	158.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1	152.1
2448	Wood pallets and skids (12/75 = 100)	166.5	166.9	166.8	167.9	167.9	171.0	170.5	169.8	167.0	166.3	164.6	162.8	159.7	157.1
2451	Mobile homes (12/74 = 100)	138.2	138.2	139.6	140.7	143.0	144.0	144.1	144.8	146.9	147.2	149.0	150.0	150.6	151.2
2492	Particleboard (12/75 = 100)	139.1	134.3	134.7	138.5	139.5	136.8	134.5	136.9	150.7	158.9	161.9	167.3	171.7	168.7
2511	Wood household furniture (12/71 = 100)	165.5	164.5	164.6	168.0	169.3	172.3	174.5	177.5	178.2	178.9	179.7	180.8	182.4	183.8
2512	Upholstered household furniture (12/71 = 100)	150.0	150.0	150.2	151.6	151.8	153.8	155.7	155.9	158.7	158.7	158.7	158.9	160.3	163.3
2515	Mattresses and bedsprings	165.7	164.5	165.8	165.8	168.9	172.3	172.3	169.9	170.5	170.5	171.5	174.8	174.8	180.7
2521	Wood office furniture	215.3	216.8	216.8	216.8	217.6	217.6	221.9	226.2	233.8	233.8	233.9	233.9	233.9	236.1
2611	Pulp mills (12/73 = 100)	200.6	205.4	205.7	205.8	213.5	213.9	213.9	225.2	225.1	225.5	244.9	246.0	246.0	246.6
2621	Paper mills, except building (12/74 = 100)	130.2	130.2	131.0	131.4	135.1	136.5	136.8	139.0	139.8	142.5	145.1	146.1	146.6	146.7
2631	Paperboard mills (12/74 = 100)	119.8	119.7	121.9	123.4	125.4	126.3	127.6	131.3	132.3	134.6	137.0	141.5	143.1	140.4
2647	Sanitary paper products	277.7	276.4	285.9	285.4	286.3	288.4	290.9	295.8	303.9	311.7	312.2	318.1	321.1	328.4
2654	Sanitary food containers	188.7	189.6	189.6	191.8	195.8	198.2	199.9	202.6	204.8	208.9	212.9	216.7	218.3	219.4
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	136.6	136.6	136.6	138.5	138.5	142.3	143.2	143.2	143.3	145.7	147.8	150.6	155.2
2812	Alkalies and chlorine (12/73 = 100)	208.8	209.5	212.2	213.1	214.1	216.7	217.3	220.4	226.5	233.7	234.0	238.6	245.3	250.4
2821	Plastics materials and resins (6/76 = 100)	121.2	124.9	127.8	128.9	132.9	133.8	134.1	138.5	139.7	140.8	145.4	147.0	147.1	146.3
2822	Synthetic rubber	210.3	214.2	223.4	223.8	225.7	228.0	230.4	240.9	244.2	244.7	255.7	258.2	258.5	258.9
2824	Organic fiber, noncellulosic	117.6	118.6	119.8	123.5	123.6	123.2	122.6	124.1	124.7	126.9	128.8	131.9	133.0	133.6
2873	Nitrogenous fertilizers (12/75 = 100)	103.4	102.8	104.1	106.1	108.0	111.7	113.5	114.3	119.8	122.1	123.9	124.4	123.4	122.6
2874	Phosphatic fertilizers	193.8	188.9	199.4	204.3	213.2	221.6	223.4	229.2	233.2	235.0	237.3	236.4	236.8	234.9
2875	Fertilizers, mixing only	203.8	198.1	205.6	211.1	218.3	227.0	227.1	233.2	239.8	242.5	247.9	246.0	248.9	248.3
2892	Explosives	239.4	240.1	240.7	250.3	250.8	251.7	252.5	253.6	255.2	260.2	271.3	272.6	273.6	273.6
2911	Petroleum refining (6/76 = 100)	163.6	165.5	176.6	188.9	196.4	201.0	204.8	213.9	228.4	242.3	250.4	253.0	253.2	255.8
2951	Paving mixtures and blocks (12/75 = 100)	134.3	134.4	134.9	141.6	145.6	145.6	145.7	150.0	161.5	167.9	172.6	172.6	171.6	173.7
2952	Asphalt felts and coatings (12/75) = 100)	162.5	143.6	142.7	145.8	147.6	152.2	151.9	156.1	162.7	169.9	176.5	173.6	175.0	180.1
3011	Tires and inner tubes (12/73 = 100)	176.4	176.8	181.2	184.2	186.9	191.2	191.4	193.0	198.7	198.8	198.8	199.0	201.4	203.3

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979						1980						
			July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[1]	Apr.	May	June	July
3021	Rubber and plastic footwear (12/71 = 100)	171.1	171.0	173.4	173.4	173.5	173.5	173.5	173.5	173.6	173.6	173.8	173.8	173.9	181.9
3031	Reclaimed rubber (12/73 = 100)	170.0	169.2	169.2	177.7	178.8	179.2	179.5	179.7	180.0	184.9	183.7	184.3	184.3	184.4
3079	Miscellaneous plastic products (6/78 = 100)	109.9	111.4	112.3	113.1	114.3	114.6	115.6	116.6	117.0	119.1	120.1	120.3	121.6	121.9
3111	Leather tanning and finishing (12/77 = 100)	167.5	181.8	172.9	155.2	161.9	150.8	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7
3142	House slippers (12/75 = 100)	135.8	135.0	135.0	135.0	135.8	135.9	135.9	143.5	145.4	145.4	146.8	146.8	146.8	152.5
3143	Men's footwear, except athletic (12/75 = 100)	152.7	155.4	158.2	160.1	160.4	160.3	160.3	160.3	157.9	158.5	158.4	158.4	158.6	158.6
3144	Women's footwear, except athletic	194.5	198.7	201.5	201.6	202.3	204.0	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.3
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.8	131.8	131.8	131.8	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	151.9	151.9	152.3	152.6	153.3	153.9	157.6	157.6	157.9	157.9	157.9	158.9	159.5
3221	Glass containers	261.1	265.2	265.2	265.2	265.2	265.2	274.2	274.3	274.3	274.3	294.5	294.5	294.5	294.5
3241	Cement, hydraulic	283.1	285.4	285.4	285.4	285.4	285.5	286.2	305.7	305.9	306.3	309.8	310.7	310.8	310.5
3251	Brick and structural clay tile	258.6	261.0	263.3	265.9	261.3	261.3	262.7	268.3	270.4	271.9	276.4	278.5	278.5	278.5
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	120.2	120.2	120.2	120.2	120.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6
3255	Clay refractories	242.1	246.5	246.7	247.1	251.0	252.9	254.0	255.1	259.4	263.7	275.4	277.1	277.5	280.7
3259	Structural clay products, n.e.c.	189.2	188.2	192.1	192.1	192.8	192.3	196.5	196.3	198.1	196.4	200.6	201.6	204.9	205.1
3261	Vitreous plumbing fixtures	207.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2
3262	Vitreous china food utensils	295.2	297.5	297.5	298.0	298.0	305.4	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.2
3263	Fine earthenware food utensils	244.9	238.8	238.8	246.0	246.0	248.4	294.3	294.3	294.3	294.3	294.8	293.6	294.4	294.3
3269	Pottery products, n.e.c. (12/75 = 100)	132.5	131.0	131.0	133.3	133.3	135.5	150.1	150.1	150.1	150.1	151.3	151.4	152.6	152.6
3271	Concrete block and brick	233.0	232.7	235.7	237.8	240.0	240.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.4
3273	Ready-mixed concrete	248.2	249.6	250.5	252.4	254.0	254.6	257.0	270.8	272.6	275.5	278.9	281.6	282.5	282.5
3274	Lime (12/75 = 100)	141.0	141.8	142.9	144.2	144.6	144.3	144.6	149.5	153.5	155.6	156.7	156.9	157.4	159.6
3275	Gypsum products	252.8	252.3	252.8	255.4	255.9	256.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5
3291	Abrasive products (12/71 = 100)	187.8	187.7	188.6	190.4	195.1	195.3	196.5	199.4	203.3	203.9	210.1	211.9	213.5	215.2
3297	Nonclay refractories (12/74 = 100)	145.6	148.1	149.1	149.7	150.1	152.3	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8
3312	Blast furnaces and steel mills	288.8	292.8	293.0	293.2	296.4	297.1	297.7	302.4	302.9	304.1	311.9	313.2	313.4	308.5
3313	Electrometallurgical products (12/75 = 100)	111.9	116.5	116.5	116.0	116.2	117.5	117.6	117.8	117.8	118.0	118.7	118.5	118.7	117.0
3316	Cold finishing of steel shapes	265.5	270.6	270.8	270.9	271.7	273.4	273.9	274.1	277.1	277.2	285.9	288.1	288.2	282.2
3317	Steel pipes and tubes	268.6	271.9	271.3	271.3	272.7	273.1	273.2	280.5	281.0	283.2	286.9	286.9	290.5	292.5
3321	Gray iron foundries (12/68 = 100)	255.8	253.9	253.8	254.8	267.1	269.6	269.7	273.7	276.9	277.2	278.4	279.0	279.9	280.4
3333	Primary zinc	265.7	281.4	265.5	264.2	265.2	257.8	265.7	266.1	272.4	279.6	274.2	268.2	268.6	255.8
3334	Primary aluminum	243.1	244.9	247.4	248.2	256.0	263.2	266.6	267.0	267.0	267.8	276.0	287.0	288.6	293.3
3351	Copper rolling and drawing	213.2	211.2	213.6	216.7	226.3	222.6	225.0	231.0	253.1	238.6	230.1	222.9	220.4	223.3
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	149.6	149.8	150.0	150.7	151.3	151.7	153.2	153.5	155.5	158.0	157.6	157.7	158.2
3354	Aluminum extruded products (12/75 = 100)	149.3	150.3	151.9	151.9	155.2	157.4	158.0	158.8	158.9	160.9	167.6	167.7	167.7	168.3
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	132.7	133.1	133.5	136.9	139.9	140.5	140.7	141.0	141.1	143.8	145.2	146.5	147.2
3411	Metal cans	264.1	262.2	262.9	263.5	273.8	274.6	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6
3425	Hand saws and saw blades (12/72 = 100)	163.3	162.8	166.3	166.4	167.1	169.5	169.8	173.1	174.6	176.4	177.8	181.3	181.7	183.3
3431	Metal sanitary ware	224.8	226.4	228.9	229.2	230.1	231.7	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9
3465	Automotive stampings (12/75 = 100)	128.5	127.8	130.9	131.6	132.4	132.4	132.4	132.4	132.4	132.7	133.8	134.1	138.1	138.1
3482	Small arms ammunition (12/75 = 100)	132.2	134.0	134.0	134.0	133.2	133.6	143.2	143.2	143.2	142.6	146.3	147.1	150.2	149.8
3493	Steel springs, except wire	219.8	221.6	222.1	222.8	223.7	224.1	225.6	226.1	226.6	228.6	228.9	228.9	230.1	230.1
3494	Valves and pipe fittings (12/71 = 100)	204.8	205.3	206.2	207.5	210.4	212.5	214.3	216.9	219.6	223.1	227.3	229.1	231.2	231.8
3498	Fabricated pipe and fittings	289.2	294.8	294.8	294.9	297.3	297.4	297.4	301.7	301.8	303.5	306.8	306.9	313.8	317.2
3519	Internal combustion engines, n.e.c.	243.3	242.3	245.7	251.8	254.2	254.9	254.9	260.5	261.8	266.1	269.2	270.2	270.3	275.1
3531	Construction machinery (12/76 = 100)	125.1	125.6	126.3	126.5	128.9	129.4	130.9	134.6	135.7	136.3	138.0	138.7	140.0	141.5
3532	Mining machinery (12/72 = 100)	229.4	231.2	231.5	232.7	233.1	235.4	236.4	245.8	247.1	247.8	254.1	256.2	257.1	259.4
3533	Oilfield machinery and equipment	291.6	292.0	293.3	296.8	300.5	302.8	309.1	314.2	316.2	318.9	329.5	332.9	337.4	342.6
3534	Elevators and moving stairways	215.9	215.4	214.6	219.1	219.4	220.6	220.9	225.6	226.1	229.1	232.6	234.1	242.5	244.2
3542	Machine tools, metal forming types (12/71 = 100)	242.8	244.6	245.1	247.9	249.8	253.7	256.7	266.1	268.1	269.4	276.1	275.7	279.8	284.9
3546	Power driven hand tools (12/76 = 100)	119.3	119.2	120.2	120.4	122.0	122.8	124.4	126.3	126.6	127.4	128.6	130.4	130.6	133.5
3552	Textile machinery (12/69 = 100)	194.7	195.0	197.5	198.2	199.3	200.6	200.6	202.6	205.2	207.0	212.5	213.0	217.0	222.1
3553	Woodworking machinery (12/72 = 100)	185.4	185.9	187.7	190.0	192.6	192.7	192.9	201.2	201.6	205.1	212.7	212.5	214.0	216.3
3576	Scales and balances, excluding laboratory	194.2	194.8	195.4	195.4	195.7	199.5	201.0	204.2	205.8	206.6	205.1	208.2	208.6	208.8
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	139.2	139.6	140.7	142.8	145.1	145.3	147.5	147.8	148.6	152.5	152.8	153.2	158.3
3612	Transformers	168.1	167.9	167.6	168.4	171.2	170.4	171.6	172.9	176.6	177.5	180.0	181.7	183.2	186.2
3623	Welding apparatus, electric (12/72 = 100)	192.2	193.5	194.1	195.1	196.9	198.6	200.3	201.3	203.3	206.0	207.3	209.8	211.0	212.3
3631	Household cooking equipment (12/75 = 100)	122.2	122.0	123.4	124.3	124.4	125.9	126.3	128.7	129.3	129.4	129.6	132.5	133.4	134.7
3632	Household refrigerators, freezers (6/76 = 100)	113.6	113.6	114.3	115.1	115.1	115.7	116.3	117.0	118.5	118.6	119.0	119.0	121.5	121.7
3633	Household laundry equipment (12/73 = 100)	148.8	148.8	149.9	150.6	150.9	152.3	153.5	154.0	156.6	158.3	159.0	159.7	162.8	160.1
3635	Household vacuum cleaners	141.7	141.6	141.7	141.9	144.5	144.7	145.8	146.1	149.7	151.3	150.2	149.2	149.6	151.9
3636	Sewing machines (12/75 = 100)	121.4	121.8	122.2	122.2	122.6	122.6	122.6	122.6	129.2	129.2	128.6	128.6	128.6	129.4
3641	Electric lamps	235.2	240.8	244.3	242.7	244.8	238.7	240.8	248.5	252.4	251.8	252.4	252.3	260.0	266.4
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	203.3	207.7	209.1	210.5	211.9	215.0	212.9	215.2	215.3	219.7	220.3	222.5	222.3
3646	Commercial lighting fixtures (12/75 = 100)	126.5	127.9	127.9	130.5	131.4	131.6	131.9	133.4	134.3	136.2	138.4	138.9	139.6	139.6
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	127.6	128.2	128.5	129.6	129.8	130.5	133.0	133.2	134.6	138.6	139.4	140.4	140.5
3671	Electron tubes receiving type	220.3	226.5	226.6	227.2	227.2	227.4	227.7	229.1	229.4	229.7	253.9	254.3	254.8	255.1
3674	Semiconductors and related devices	84.8	84.2	84.3	84.7	85.1	85.6	86.4	86.8	88.5	89.3	89.7	90.7	91.0	91.6
3675	Electronic capacitors (12/75 = 100)	125.2	126.7	129.3	134.1	133.9	135.8	138.0	147.7	149.1	151.3	155.6	156.4	156.2	164.3
3676	Electronic resistors (12/75 = 100)	124.4	124.0	124.6	125.2	126.6	126.7	127.3	127.4	128.8	131.8	131.9	132.8	135.0	135.1
3678	Electronic connectors (12/75 = 100)	131.7	133.4	134.1	137.6	138.9	140.7	142.1	145.1	146.4	146.7	147.3	146.8	148.8	149.0
3692	Primary batteries, dry and wet	170.1	172.8	172.8	172.8	173.1	173.1	174.1	174.2	176.5	176.6	176.8	176.4	176.4	176.4
3711	Motor vehicles and car bodies (12/75 = 100)	125.1	125.1	122.1	122.5	130.2	130.1	130.4	132.7	131.6	131.8	135.0	133.2	134.1	136.8
3942	Dolls (12/75 = 100)	110.8	111.8	112.6	112.6	112.9	112.9	113.0	122.7	125.4	125.6	126.0	126.7	126.7	126.7
3944	Games, toys, and children's vehicles	182.7	183.5	184.4	185.1	186.2	186.3	186.6	198.7	203.8	204.0	202.6	203.5	204.0	204.4
3955	Carbon paper and inked ribbons (12/75 = 100)	118.6	117.1	118.3	118.7	123.1	125.2	125.2	126.2	128.2	128.3	131.5	133.3	136.4	136.4
3995	Burial caskets (6/76 = 100)	122.5	123.3	123.8	124.8	123.1	124.8	124.8	128.3	128.3	128.3	128.1	130.0	132.2	132.2
3996	Hard surface floor coverings (12/75 = 100)	126.3	128.3	128.3	128.3	131.0	134.1	134.1	138.6	138.7	138.7	143.2	143.3	143.3	146.1

[1] Data for March 1980 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

c = corrected.

PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

Definitions

Output is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input,** or labor productivity, measure the value of goods and services produced per hour of labor. **Compensation per hour** includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor cost measures the labor compensation cost required to produce one unit of output and is 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 the current dollar gross domestic product and dividing by output. In these tables, **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

The use of the term "man-hours" to identify the labor component of productivity and costs, in tables 31 through 34, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe labor productivity in nonfinancial corporations where there are no self-employed.

Notes on the data

In the private business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Economic Analysis and the Bureau of Labor Statistics.

Beginning with the September 1976 issue of the *Review,* tables 31–34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review,* October 1976, pages 40–42.

31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950–79

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
Private business sector:													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	r231.4	r253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	r118.4	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
Nonfarm business sector:													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	r116.9	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	r227.5	r247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	r116.4	r114.0
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
Nonfinancial corporations:													
Output per hour of all employees	(1)	(1)	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	r118.0	r117.5
Compensation per hour	(1)	(1)	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	r225.0	r244.9
Real compensation per hour	(1)	(1)	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	r115.2	r112.7
Unit labor cost	(1)	(1)	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	(1)	(1)	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	(1)	(1)	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
Manufacturing:													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	r128.2	r129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	r229.9	r250.8
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	r117.6	r115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.6	92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	r154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	r181.9

[1] Not available.

r = revised.

32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969–79

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
Private business sector:													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	−3.0	2.1	3.5	1.8	0.5	r −0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	r9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	−1.6	.8	2.8	1.4	0.8	−1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
Nonfarm business sector:													
Output per hour of all persons	−.2	.2	3.0	3.6	1.7	−3.1	2.0	3.5	1.5	.5	−1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	r9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	−1.6	.8	2.4	1.4	r.8	−2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
Nonfinancial corporations:													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	−3.7	3.2	3.2	1.1	r.9	−.4	(1)	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	r8.2	8.9	(1)	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	−1.3	.8	2.4	1.4	r.5	r −2.2	(1)	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	(1)	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	(1)	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	(1)	4.2
Manufacturing:													
Output per hour of all persons	1.3	−.1	5.2	4.8	2.8	−5.0	5.1	4.4	3.0	r.4	r0.9	r2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	r8.4	r8.1	r9.1	5.5	r6.4
Real compensation per hour	1.2	1.1	1.9	1.8	.9	−.5	2.6	2.4	1.9	r.4	r −2.0	2.1	r1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	r3.9
Unit nonlabor payments	−4.4	−3.2	9.2	2.3	−1.0	−.7	21.6	8.8	5.5	3.4	p1.3	r1.9	r2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	p6.3	2.6	r3.5

[1] Not available.

r = revised.

33. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1967=100]

Item	Annual average		Quarterly indexes										
			1977	1978				1979				1980	
	1978	1979	IV	I	II	III	IV	I	II	III	IV	I	IIp
Private business sector:													
Output per hour of all persons	119.3	118.3	119.0	118.5	119.1	r119.7	r119.8	r118.9	r118.3	r117.8	r117.7	r117.7	116.7
Compensation per hour	231.5	r253.1	218.8	r224.6	228.8	r233.7	r238.4	r244.8	r250.4	r255.7	r260.3	267.6	275.3
Real compensation per hour	r118.4	116.4	117.9	118.8	118.3	r118.2	r117.9	r117.9	r117.0	r115.8	r114.2	112.9	112.5
Unit labor cost	194.0	214.0	183.9	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	235.8
Unit nonlabor payments	174.3	184.4	168.5	164.8	173.9	177.0	r181.3	180.8	r183.7	r185.6	r188.3	r190.0	191.3
Implicit price deflator	187.2	203.8	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5	220.4
Nonfarm business sector:													
Output per hour of all persons	r116.9	115.7	116.4	r116.2	116.7	r117.4	r117.6	r116.6	r115.4	r115.0	r115.2	114.9	113.7
Compensation per hour	r227.5	r247.9	215.1	r221.0	r224.9	r229.5	r234.4	r240.2	r244.9	r254.9	r255.6	262.2	269.0
Real compensation per hour	r116.4	r114.0	115.9	116.9	116.3	r116.1	r115.9	r115.7	r114.4	r113.2	r112.1	110.6	109.9
Unit labor cost	194.6	214.4	184.8	190.2	192.8	195.6	r199.3	206.0	212.2	217.3	221.8	r228.2	236.6
Unit nonlabor payments	169.9	178.6	165.9	161.1	169.1	173.0	176.0	174.3	177.6	r180.5	182.5	r185.9	189.2
Implicit price deflator	186.1	202.1	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	r213.7	220.3
Nonfinancial corporations:													
Output per hour of all employees	r118.0	r117.5	116.9	116.9	r118.0	r118.5	r118.8	r118.1	r117.3	r117.2	r117.1	117.1	(1)
Compensation per hour	r225.0	r244.9	213.2	r219.0	r222.6	r226.9	r231.3	r237.3	r242.1	r247.1	r252.1	r258.8	(1)
Real compensation per hour	r115.2	r112.7	114.9	115.8	r115.1	r114.8	r114.4	r114.3	r113.1	r111.9	r110.6	109.2	(1)
Total unit costs	193.3	210.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	r224.3	(1)
Unit labor cost	190.6	208.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	(1)
Unit nonlabor costs	201.8	216.6	198.7	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	r234.4	(1)
Unit profits	127.2	127.8	122.2	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	r120.5	(1)
Implicit price deflator	183.5	198.1	176.8	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	r208.9	(1)
Manufacturing:													
Output per hour for all persons	r128.2	r129.2	128.3	126.3	r127.7	129.5	r128.3	r128.8	r129.6	r129.6	r129.1	r128.4	127.4
Compensation per hour	r229.9	r250.3	218.3	r223.9	r227.1	r231.7	r236.6	r242.3	r248.0	r252.7	r258.0	r264.6	273.8
Real compensation per hour	r117.6	r115.3	117.6	118.4	117.5	r117.2	r117.0	r116.7	r115.9	r114.4	r113.2	r111.6	111.9
Unit labor cost	179.4	194.1	170.1	177.2	177.9	179.1	182.7	189.0	192.6	195.0	199.8	r206.0	214.9

[1] Not available.

r = revised.

34. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

[1967=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980 p	I 1980 to II 1980 p	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980 p	II 1979 to II 1980 p
Private business sector:												
Output per hour of all persons	r −3.1	r −2.0	−1.4	−0.3	−0.3	−3.1	r 0.3	r −0.7	−1.6	−1.7	r −1.0	−1.3
Compensation per hour	r 11.0	r 9.5	r 8.7	r 7.5	11.7	12.0	r 9.0	r 9.4	9.4	9.2	r 9.3	10.0
Real compensation per hour	r −.2	r −2.9	r −4.1	−5.4	−4.5	−1.5	r −0.8	r −1.1	r −2.1	−3.2	r −4.2	−3.9
Unit labor cost	14.6	11.8	10.3	7.8	12.1	15.5	8.7	10.2	11.2	11.1	10.5	11.4
Unit nonlabor payments	−1.0	r 6.5	4.2	r 5.9	3.8	2.6	9.7	r 5.7	4.8	3.9	r 5.1	4.1
Implicit price deflator	9.3	10.1	8.3	7.2	9.4	11.5	9.0	8.7	9.1	8.7	r 8.8	9.1
Nonfarm business sector:												
Output per hour of all persons	r −3.3	r −3.9	r −1.5	r 0.8	r −1.1	−4.1	r .4	r −1.1	−2.0	−2.0	r −1.4	−1.5
Compensation per hour	r 10.2	r 8.1	8.5	r 9.5	r 10.7	10.8	r 8.7	r 8.9	8.9	r 9.1	r 9.2	9.8
Real compensation per hour	r −.9	r −4.2	r −4.4	r −3.6	r −5.3	−2.6	r −1.0	r −1.6	−2.5	−3.3	r −4.4	−4.0
Unit labor cost	14.0	12.5	10.1	8.6	r 12.0	15.6	8.3	10.1	11.1	11.3	r 10.8	11.5
Unit nonlabor payments	−3.9	7.7	6.6	4.6	r 7.5	7.3	8.2	5.0	4.3	3.7	r 6.6	6.5
Implicit price deflator	8.1	11.0	9.0	7.4	r 10.6	13.0	8.3	8.5	9.0	8.9	r 9.5	10.0
Nonfinancial corporations:												
Output per hour of all employees	r −2.3	r −2.7	r −0.3	r −0.4	r −0.1	(1)	r 1.0	r −.6	r −1.1	−1.4	r −0.9	(1)
Compensation per hour	r 10.8	r 8.3	r 8.5	r 8.4	r 11.0	(1)	r 8.4	r 8.7	8.9	9.0	r 9.0	(1)
Real compensation per hour	r −.4	r −4.1	r −4.3	r −4.5	r −5.1	(1)	r −1.3	r −1.8	r −2.6	−3.3	r −4.5	(1)
Total unit costs	11.7	11.8	10.2	9.3	r 12.2	(1)	6.1	8.6	9.9	10.8	r 10.9	(1)
Unit labor costs	13.4	11.2	8.8	8.9	11.1	(1)	7.3	9.4	10.1	10.6	10.0	(1)
Unit nonlabor costs	6.8	13.5	14.6	10.6	r 15.4	(1)	2.5	6.2	9.4	11.3	r 13.5	(1)
Unit profits	−22.1	−3.4	−5.3	r −10.4	r −10.9	(1)	21.7	0	−3.9	−10.6	r −7.6	(1)
Implicit price deflator	7.6	10.2	8.6	7.3	r 9.9	(1)	7.5	7.7	8.4	8.4	9.0	(1)
Manufacturing:												
Output per hour of all persons	r −3.8	r 1.7	r 2.5	r −1.4	r −2.2	−3.2	r 1.5	r .9	r 0.2	r −0.3	0.1	−1.1
Compensation per hour	10.1	r 9.6	r 7.8	r 8.8	r 10.5	14.7	r 8.2	r 9.2	r 9.1	r 9.1	r 9.2	10.4
Real compensation per hour	r −.9	r −2.8	r −4.9	r −4.2	r −5.5	0.9	r −1.5	r −1.3	r −2.4	r −3.3	r −4.4	−3.5
Unit labor cost	14.5	7.9	5.2	10.3	r 13.0	18.5	6.6	8.2	8.9	9.4	r 9.0	11.6

[1] Not available.

r = revised.

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments,* a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

Effective wage-rate adjustments going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

Work stoppages include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

35. Wage and benefit settlements in major collective bargaining units, 1975 to date
[In percent]

Sector and measure	Annual average					Quarterly average							
						1978		1979				1980 p	
	1975	1976	1977	1978	1979	III	IV	I	II	III	IV	I	II
Wage and benefit settlements, all industries:													
First-year settlements	11.4	8.5	9.6	8.3	9.0	7.2	6.1	2.8	10.5	9.0	8.5	8.6	10.1
Annual rate over life of contract	8.1	6.6	6.2	6.3	6.6	5.9	5.2	5.3	7.8	6.1	6.0	6.4	6.8
Wage rate settlements, all industries:													
First-year settlements	10.2	8.4	7.8	7.6	7.4	7.5	7.4	5.7	8.9	6.8	6.3	7.8	8.7
Annual rate over life of contract	7.8	6.4	5.8	6.4	6.0	6.4	5.9	6.6	7.2	5.1	5.3	6.3	6.8
Manufacturing:													
First-year settlements	9.8	8.9	8.4	8.3	6.9	8.4	9.5	8.7	9.7	6.3	5.6	7.0	6.6
Annual rate over life of contract	8.0	6.0	5.5	6.6	5.4	7.2	7.4	7.7	8.1	4.7	4.2	5.6	4.9
Nonmanufacturing (excluding construction):													
First-year settlements	11.9	8.6	8.0	8.0	7.6	7.4	6.4	3.2	8.5	9.4	7.8	9.1	10.4
Annual rate over life of contract	8.0	7.2	5.9	6.5	6.2	5.9	5.1	5.6	5.8	6.5	7.4	7.1	8.6
Construction:													
First-year settlements	8.0	6.1	6.3	6.5	8.8	7.0	8.4	9.7	8.7	9.7	7.5	9.6	12.7
Annual rate over life of contract	7.5	6.2	6.3	6.2	8.3	7.2	7.1	8.2	8.3	8.5	7.6	9.3	10.3

36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978			1979				1980 P	
						II	III	IV	I	II	III	IV	I	II
Total effective wage rate adjustment, all industries	8.7	8.1	8.0	8.2	9.1	2.6	2.7	1.4	1.4	2.6	3.3	1.6	1.4	2.6
Change resulting from—														
Current settlement	2.8	3.2	3.0	2.0	3.0	.6	.5	.4	.2	1.1	1.0	.5	.4	.7
Prior settlement	3.7	3.2	3.2	3.7	3.0	1.4	1.2	.5	.6	1.0	1.0	.4	.5	1.2
Escalator provision	2.2	1.6	1.7	2.4	3.1	.6	1.0	.5	.6	.5	1.2	.7	.6	.6
Manufacturing	8.5	8.5	8.4	8.6	9.6	2.2	2.9	1.9	1.5	2.3	3.2	2.4	1.7	2.9
Nonmanufacturing	8.9	7.7	7.6	7.9	8.8	2.9	2.5	1.1	1.4	2.8	3.4	1.0	1.2	2.2

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

37. Work stoppages, 1947 to date

Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947	3,693		2,170		34,600	.30
1948	3,419		1,960		34,100	.28
1949	3,606		3,030		50,500	.44
1950	4,843		2,410		38,800	.33
1951	4,737		2,220		22,900	.18
1952	5,117		3,540		59,100	.48
1953	5,091		2,400		28,300	.22
1954	3,468		1,530		22,600	.18
1955	4,320		2,650		28,200	.22
1956	3,825		1,900		33,100	.24
1957	3,673		1,390		16,500	.12
1958	3,694		2,060		23,900	.18
1959	3,708		1,880		69,000	.50
1960	3,333		1,320		19,100	.14
1961	3,367		1,450		16,300	.11
1962	3,614		1,230		18,600	.13
1963	3,362		941		16,100	.11
1964	3,655		1,640		22,900	.15
1965	3,963		1,550		23,300	.15
1966	4,405		1,960		25,400	.15
1967	4,595		2,870		42,100	.25
1968	5,045		2,649		49,018	.28
1969	5,700		2,481		42,869	.24
1970	5,716		3,305		66,414	.37
1971	5,138		3,280		47,589	.26
1972	5,010		1,714		27,066	.15
1973	5,353		2,251		27,948	.14
1974	6,074		2,778		47,991	.24
1975	5,031		1,746		31,237	.16
1976	5,648		2,420		37,859	.19
1977	5,506		2,040		35,822	.17
1978	4,230		1,623		36,922	.17
1979: June	536		137		2,989	.16
July	471		168		3,001	.16
August	463		119		3,152	.15
September	464		135		2,319	.13
October	443		230		2,968	.15
November	257		91		2,720	.15
December	134		42		1,976	.11
1980: January P	352	441	207	292	3,142	.16
February P	354	590	114	332	3,025	.17
March P	396	631	123	310	2,705	.14
April	425	663	116	231	2,786	.14
May	505	752	139	214	2,464	.13
June	435	714	164	201	2,553	.13

☆U.S. GOVERNMENT PRINTING OFFICE: 1980 O— 311-406/45

How to order BLS publications

PERIODICALS

Order from (and make checks payable to) Superintendent of Documents, Washington, D.C. 20402. For foreign subscriptions, add 25 percent.

Monthly Labor Review. The oldest and most authoritative government research journal in economics and the social sciences. Current statistics, analysis, developments in industrial relations, court decisions, book reviews. $18 a year, single copy, $2.50.

Employment and Earnings. A comprehensive monthly report on employment, hours, earnings, and labor turnover by industry, area, occupation, et cetera $22 a year, single copy $2.75.

Occupational Outlook Quarterly. A popular periodical designed to help high school students and guidance counselors assess career opportunities. $6 for four issues, single copy $1.75.

Current Wage Developments. A monthly report about collective bargaining settlements and unilateral management decisions about wages and benefits; statistical summaries. $12 a year, single copy $1.35.

Producer Prices and Price Indexes. A comprehensive monthly report on price movements of both farm and industrial commodities, by industry and stage of processing. $17 a year, single copy $2.25.

CPI Detailed Report. A monthly periodical featuring detailed data and charts on the Consumer Price Index. $15 a year, single copy $2.25.

PRESS RELEASES

The Bureau's statistical series are made available to news media through press releases issued in Washington. Many of the releases also are available to the public upon request. Write: Bureau of Labor Statistics, Washington, D.C. 20212.

Regional. Each of the Bureau's eight regional offices publishes reports and press releases dealing with regional data. Single copies available free from the issuing regional office.

BULLETINS AND HANDBOOKS

About 140 bulletins and handbooks published each year are for sale by regional offices of the Bureau of Labor Statistics (see inside front cover) and by the Superintendent of Documents. Washington, D.C. 20402. Make checks payable to the Superintendent of Documents. Among the bulletins and handbooks currently in print are these:

Occupational Outlook Handbook, 1980–81 Edition. Bulletin 2075. A useful resource supplying valuable assistance to all persons seeking satisfying and productive employment. $8, paperback; $11 cloth cover.

BLS Handbook of Labor Statistics 1978. Bulletin 2000. A 604-page volume of historical data on the major BLS statistical series. $9.50.

Handbook of Methods. Bulletin 1910. Brief technical account of each major statistical program of the Bureau of Labor Statistics. $3.50.

BLS Measures of Compensation. Bulletin 1941. An introduction to the various measures of employee compensation; describes each series, the manner in which it is developed, its uses and limitations. $2.75.

Occupational Projections and Training Data. Bulletin 2020. Presents both general and detailed information on the relationship between occupational requirements and training needs. (Updates Bulletin 1918 published in 1976.) $3.25.

Technological Change and its Labor Impact in Five Energy Industries. Bulletin 2005. A 64-page study appraising major technological change and discussing the impact of these changes on productivity and occupations over the next 5 to 10 years. $2.40.

BLS Publications, 1972–77. Bulletin 1990. A numerical listing and subject index of bulletins and reports issued by the Bureau from 1972 through 1977, supplementing Bulletin 1749, covering 1886–1971. $1.80.

International Comparisons of Unemployment. Bulletin 1979. Brings together all of the Bureau's work on international unemployment comparisons. Describes the methods of adjusting foreign unemployment rates in 8 countries to U.S. concepts. $3.50.

Productivity Indexes for Selected Industries, 1979 Edition. Bulletin 2054. A 190-page report of indexes of output, employment, and employee hours in selected industries from 1954 to 1978. This edition contains measures for three industries previously not covered, as well as components of previously published measures in 10 industries. $5.50.

Profiles of Occupational Pay: A Chartbook. Bulletin 2037. A graphic illustration of some of the factors that affect workers' earnings. This three-part presentation looks at wage variations among and within occupations and portrays characteristics of high- and low-paying urban areas and manufacturing industries. $3.50.

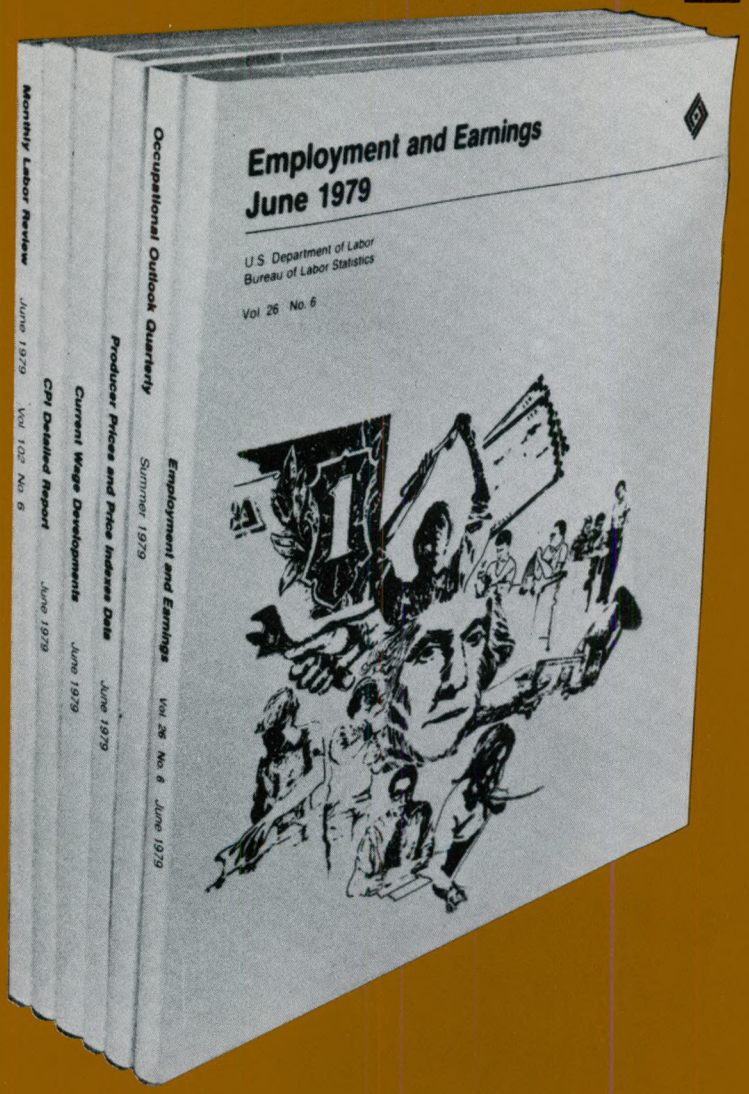
REPORTS AND PAMPHLETS

Single copies available free from the BLS regional offices or from the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

How the Government Measures Unemployment. Report 505. A concise report providing a background for appraising developments in the area of unemployment.

Directory of BLS Studies in Industrial Relations 1960–78. Report 550. A listing of studies prepared by the Division of Industrial Relations as part of the Bureau's regular program of data collection and analysis in the field of industrial relations.

Employment and Earnings



. . . .one of six periodicals published by the Bureau of Labor Statistics, U.S. Department of Labor, gives monthly figures on *those two topics* for the Nation as a whole, for individual States, and for more than 200 areas. Included are household and establishment data, seasonally and not seasonally adjusted. The data are collected by the Bureau of the Census (Department of Commerce), State Employment Security Agencies, and State Departments of Labor in cooperation with BLS.

Subscription Order Form:

Enter my Subscription to: *Employment and Earnings* $22; ($5.50 additional for foreign mailing).

☐Remittance is enclosed. ☐Charge to GPO deposit account no.☐☐☐☐☐☐-☐ Order No. _____

Credit Card Orders Only-Master Charge and Visa.

Total charges $_____

Credit Card No. ☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐☐ Expiration Date Month/Year ☐☐☐☐

VISA®

master charge THE INTERBANK CARD

Mail Order Form to:

Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. Make checks payable to Superintendent of Documents.

Name _____

Address _____

City, State, and Zip Code _____

U.S. Department of Labor
Bureau of Labor Statistics
Washington D.C. 20212

Official Business
Penalty for private use, $300
RETURN POSTAGE GUARANTEED

Postage and Fees Paid
U.S. Department of Labor
Lab-441

SECOND CLASS MAIL