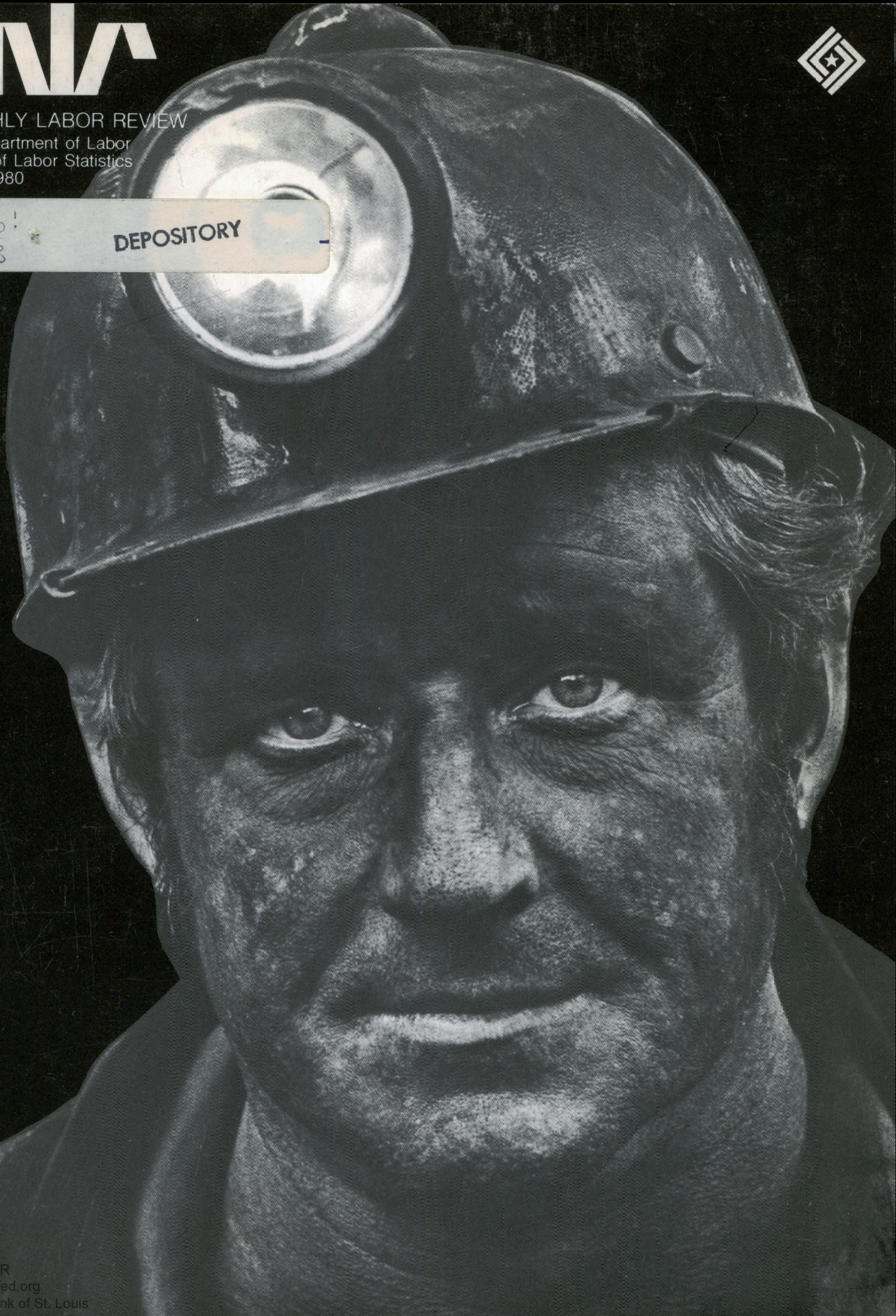




MONTHLY LABOR REVIEW  
U.S. Department of Labor  
Bureau of Labor Statistics  
March 1980

L 2.6:  
103/3

DEPOSITORY







**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.

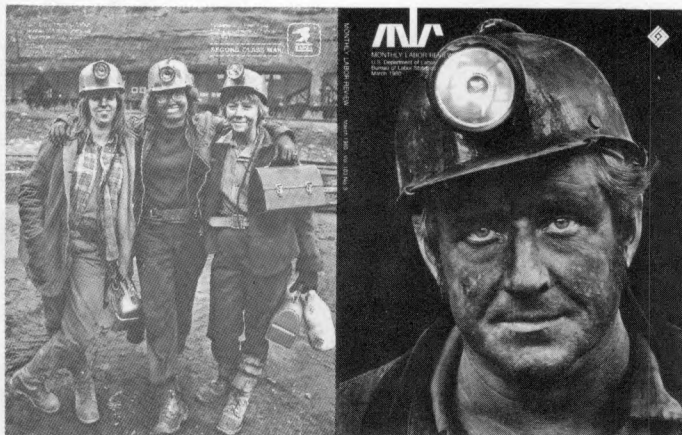
Subscription price per year —  
\$18 domestic; \$22.50 foreign.  
Single copy \$2.50.

Subscription prices and distribution policies for the Monthly Labor Review (ISSN 0098-0618) 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



**March covers:**

Photos by Earl Dotter, from *In Mine and Mill: A Photographic Portfolio of Coal Miners and Textile Workers*, 20 plates, 11" x 17", copyright by Earl Dotter, Pilgrim Press, 132 West 31st Street, New York, N.Y. 10001, \$15. Dotter's workplace photos, emphasizing both the dignity and the dehumanizing aspects of work, have been widely exhibited and have been compared to those of Lewis Hine. Most recently, the coal and textile photographs were selected for exhibition at Gallery 1199, New York City, and at the Venezia la Fotografia '79.

**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**

**MARCH 1980**  
**VOLUME 103, NUMBER 3**

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

REFERENCE DEPT.

APR 03 1980

Kalamazoo Public Library

- J. N. Hedges, D. E. Taylor    3    **Recent trends in worktime: hours edge downward**  
Changing composition of work and the work force, union contracts, and Federal laws contributed to reductions in weekly hours in 1968-79; vacations and holidays increased
- Philip L. Rones    12    **Moving to the sun: regional job growth, 1968 to 1978**  
In a decade, sunbelt economies grew fastest; favorable business climates, U.S. spending helped expand job opportunities that, with the environment, attracted Northern workers
- Richard Rosen    20    **Identifying States and areas prone to high and low unemployment**  
States and localities with heavy concentrations of manufacturing employment were likely to experience higher jobless rates during a recession, analysis of 1974-75 data confirms
- James D. York    25    **Folding paperboard box industry shows slow rise in productivity**  
More efficient equipment and production techniques contributed to an increase in output per hour in 1963-78 that was smaller than for manufacturing as a whole

**REPORTS**

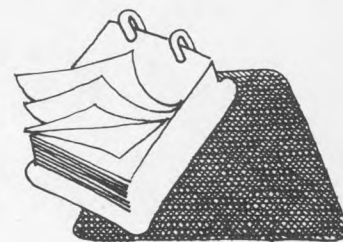
- Joseph H. Pleck and others    29    Conflicts between work and family life
- Julia E. Stone    32    Age Discrimination in Employment Act: a review of recent changes
- Dixie Sommers, Carin Cohen    36    New occupational rates of labor force separation
- Barbara Cottman Job    40    Employment and pay trends in the retail trade industry
- Anne McDougall Young    43    Work experience of the population in 1978
- Mary A. Andrews    48    Mine Workers' new president wins dues increase, right to name VP

**DEPARTMENTS**

- 2    Labor month in review
- 29    Research summaries
- 49    Conventions
- 51    Significant decisions in labor cases
- 53    Major agreements expiring next month
- 55    Developments in industrial relations
- 59    Book reviews
- 65    Current labor statistics



# Labor Month In Review



**MINORITIES REPORT.** The Bureau of Labor Statistics published the first in a new series of fact sheets on employment and unemployment of blacks and Hispanics.

Commissioner of Labor Statistics Janet L. Norwood explained that the new series, to be issued quarterly, "is part of the Bureau's continuing effort to increase public understanding and awareness of the special employment problems of blacks and Hispanics."

Forthcoming issues will deal with such topics as occupations of black and Hispanic workers, the earnings gap between minorities and whites, minority labor force participation trends, and the differences in employment status among Puerto Ricans, Cubans, Mexicans, and other Hispanics in the U.S. workforce.

Here are excerpts from the first issue of *Employment in Perspective: Minority Workers*:

**Minority unemployment.** Blacks and Hispanics—the Nation's two largest minorities—are much more likely than whites to be unemployed. In the fourth quarter of 1979, the jobless rates for blacks, 11.4 percent, and Hispanics, 8.6 percent, were both substantially higher than for white workers, 4.9 percent.

Age-sex breakdowns provide more insight into the high unemployment rates among minorities vis-a-vis whites. For teens, young adults, and men 25 years and over, black unemployment rates were more than double the comparable white rates, with the largest disparity occurring among workers under 25. Unemployment rates for Hispanics were also above those for whites, but lower than those for blacks. Hispanics 25 years and over, however, experienced higher unemployment rates relative to their white counterparts than those under 25.

Unemployment rate ratios for black and Hispanic workers by age relative to their white counterparts for the fourth quarter of 1979 are as follows:

	<i>Black/white ratio</i>	<i>Hispanic/white ratio</i>
Total, 16 years and over . . . . .	2.3	1.8
Men, 16 and over . . . . .	2.5	1.6
16-19 . . . . .	2.5	1.2
20-24 . . . . .	2.5	1.4
25 and over . . . . .	2.5	1.7
Women, 16 and over . . . . .	2.1	2.0
16-19 . . . . .	2.9	1.8
20-24 . . . . .	2.9	1.8
25 and over . . . . .	1.7	2.0

The incidence of joblessness varied substantially among the three main Hispanic ethnic groups. Both Puerto Ricans and Mexicans had unemployment rates (10.5 and 9.1 percent, respectively) above the overall Hispanic rate, while the Cuban rate (6.6 percent) was the lowest among workers of Hispanic descent. These variations reflect differences in age composition, educational level, and residential patterns of the three groups, as well as other factors. Thus, Cubans, who are, on the average, older and have completed more years of schooling than other Hispanics, generally had the lowest unemployment rates among the specific minority age-sex groups.

**Reason for unemployment.** The distribution of unemployment according to reason (status at the time a person became unemployed) differed substantially, between the minority groups. A greater proportion of unemployed

blacks than Hispanics were new entrants or reentrants into the labor force. On the other hand, Hispanics were much more likely than blacks to be job losers. Among the Hispanic subgroups, about half of the unemployed Puerto Ricans and Mexicans were job losers. In contrast, the proportion of unemployed Cubans who were job losers was essentially the same as for blacks.

**Duration of unemployment.** Differences between blacks and Hispanics are also evident in their duration of unemployment (the length of a current spell of unemployment). As shown in the following tabulation for the fourth quarter of 1979, blacks were considerably more likely to experience long-term unemployment (over 15 weeks) than were Hispanics, and more than half of the unemployed Hispanics were jobless for less than 5 weeks.

	<i>Black and other</i>	<i>Hispanic</i>	<i>White</i>
Total (percent) . . . . .	100.0	100.0	100.0
Less than 5 weeks . . . . .	42.0	52.4	50.0
5-14 . . . . .	34.3	33.6	32.4
15 or more . . . . .	23.7	14.0	17.6
15-26 . . . . .	11.8	10.6	10.4
27 or more . . . . .	11.8	3.2	7.2
Median (in weeks) . . . . .	7.1	4.8	5.0

*Employment in Perspective: Minority Workers* is available without charge from the Office of Publications, Bureau of Labor Statistics, Washington, D.C. 20212, and from the Bureau's regional offices.



# Recent trends in worktime: hours edge downward

*Changing composition of work and the work force, union contracts, and Federal laws all contributed to reductions in weekly hours from 1968 to 1979; time off for vacations and holidays increased*

JANICE NEIPERT HEDGES AND DANIEL E. TAYLOR

Weekly hours of full-time workers averaged about one-half hour less per week in May 1979 than 11 years earlier. For both men and women, workweeks of 35 to 39 hours were a little more prevalent and those of 41 to 48 hours less prevalent than in 1968. And, when part-time workers are included in the average, the workweek declined slightly more. These modest reductions reflect a variety of factors, including changes in the labor force, shorter work schedules, and the growth of paid leave.

The average number of vacation days taken by workers increased only marginally during this period. Because vacation leave generally is based on length of service, the influx of women and youth—groups with less than average job tenure—as well as the earlier retirement of senior workers postponed the full effect of liberalized benefits.

This article examines movements in worktime from 1968 to 1979 for answers to these questions: Are average weekly hours for U.S. workers static or changing? Are trends the same for men and women, young and old, white and black? What do comparisons among occupations and industries show? What are the trends in scheduled hours, overtime or extra hours, and in paid leave? What are the average hours of work per year?

Unless noted, data are from the Current Population Survey, a national survey of households which collects information monthly on the labor force.<sup>1</sup> Included in the data on hours at work are hours on second jobs, with

total hours credited to the principal job. (Workers absent from their jobs for the entire survey week are excluded from the computation of averages or distributions of hours worked.) The data refer to nonagricultural wage and salary workers, except where specified.

## Work-leisure tradeoff

A brief look at the economic theory generally used to examine hours of work may help to put changes in worktime in perspective. The basic theory rests on the premise that gains in productivity are available for distribution to workers in the form of higher earnings or fewer hours, or in some combination of the two. The concept of a tradeoff that workers make between work and leisure as wages rise was formalized by Lionel Robbins in 1930 and developed by H. G. Lewis and others.<sup>2</sup>

According to this theory, a rise in the real wage rate has two effects on the number of hours that workers supply, effects that pull in opposite directions. One effect is for workers to use the additional money to “purchase” more leisure time, along with other goods and services—the income effect. The other is for workers to seek to increase their worktime, because time off costs more in earnings forgone—the substitution effect.

Dividing time solely into market time and leisure time, however, ignores other categories, such as time spent on household duties and child care. Gary Becker and others have integrated this category (“time spent producing goods and services in the household for household consumption”) into the basic theory.<sup>3</sup> This concept sheds light on the work-hours decisions of

Janice Neipert Hedges and Daniel E. Taylor are economists in the Office of Current Employment Analysis, Bureau of Labor Statistics.



women, who continue to spend more time on household production than men,<sup>4</sup> and helps to explain the relationship between the hours worked by various members of a household:

Members who are relatively more efficient at market activities would use less of their time at consumption activities than would other members. Moreover, an increase in the relative market efficiency of any member would effect a reallocation of the time of all other members toward consumption activities in order to permit the former to spend more time at market activities.<sup>5</sup>

... most Americans live in family units where some pooling of income and sharing of home tasks occurs, and where decision-making on labor supply involves some degree of joint consultation.<sup>6</sup>

Although estimates of the relative impact of the income and substitution effects vary, Lewis observed a general agreement that among married men, a 1-percent increase in the wage rate would result in the long run in about a 0.15-percent decrease in hours. That is, this group has tended to purchase additional time off with about 15 percent of a potential pay increase.<sup>7</sup> In contrast, women devote additional time to market work when wages rise, drawing from both leisure and household worktime.<sup>8</sup>

The income and substitution effects vary in response to changes in family formation and size, value systems and tastes, occupation and industry structure, and other factors. Since 1968, full-time employees have reduced their workyear by about 39 hours, or one-sixth of the reduction made possible by productivity gains.<sup>9</sup> A recent national survey on the preferences of workers for higher earnings versus fewer hours indicated that the majority expressed greater interest in additional leisure time than in a 10-percent gain in earnings.<sup>10</sup>

The complex interplay between wages and hours of work is described by Sherwin Rosen:

... working hours become part of the nonpecuniary aspects of employment that affect its net attractiveness in the market ... there must be a different hourly wage struck for each possible work schedule. That is, there is not a single labor market at all ... but rather a spectrum of closely interconnected markets geared to different work schedules ... one market for long hours, one for full-time jobs, one for short hour jobs, one for part-year jobs, and so on.<sup>11</sup>

The flexibility of schedules is an important aspect of employment for many employees:

... rigid schedules mean that workers are supplying more time or at least a distribution of time that imposes more costs upon them than would hours freely chosen by themselves.<sup>12</sup>

The demand for hours of work is affected by the cost of labor in relation to the cost of other inputs, such as machines and materials. The length of work schedules is

affected by technological requirements of the job and the need for hours convenient to customers. Also, public laws and collective bargaining agreements that call for premium pay over a maximum number of hours per day or per week or for late-shift or weekend work have an impact on work schedules.

*Historical experience.* From 1900 to 1946, the average workweek shrank from about 53 to 44 hours. Productivity growth and declining agricultural employment underlay this trend, which was rapid in some periods and arrested, or even reversed, in others. For example, the average workweek declined substantially during the Great Depression, as work-sharing efforts led to Federal legislation which set the standard workweek and workday (beyond which premium pay was required) below the pre-Depression level. During World War II, average weekly hours lengthened, but government controls on wages coupled with competition for workers resulted in substantial gains in paid vacations.<sup>13</sup>

Since the 1940's, worktime has been further reduced by the growth of service industries and the continued decline of agriculture and the increased employment of women and youth. Rising expectations and inflation probably have exerted counter pressures. On balance, hours reductions have proceeded slowly. Some analysts, considering only the hours of men have concluded that little or no change in weekly hours has occurred in the United States in the post-World War II era.<sup>14</sup>

### Recent trends

The average workweek for nonagricultural wage and salary employees who usually work full time declined from 43.0 to 42.6 hours, or nearly half an hour between May 1968 and May 1979. The decline reflected a decrease of almost 3 percentage points in the proportion of persons at work 41 to 48 hours, with a commensurate increase in the proportion at work from 35 to 39 hours.

The increased prevalence of women and youth in the work force and the growth of industries with shorter than average workweeks contributed to the reduction in weekly hours. Other factors included changes in the Fair Labor Standards Act (FLSA) and in collective bargaining agreements and an increase in unemployment.<sup>15</sup>

Average weekly hours reported by all nonagricultural wage and salary workers (including part-time workers) declined from 39.1 to 38.5 hours, or a little more than half an hour. This reduction reflected the shorter hours for workers on full-time schedules and the more rapid growth of part-time than of full-time workers.

Both men and women were more likely to work part time in 1979 than in 1968. The largest group of part-time employees—those who usually work part time by

choice—increased from 13.0 to 13.8 percent of all workers. The other groups of part-timers, those who usually work full time but fell into the part-time category during the reference week because of time off and those who worked part time for economic reasons (such as slack work or material shortages), also grew faster than full-time workers. All part-timers increased from 19.4 to 22.2 percent of all employees. Partially offsetting the relative growth in part-time work was an increase (from 17.5 to 18.9 hours per week) in the average hours of those who usually work part time, a pattern which was similar for men and women.

The downward trend in hours worked reported by the household survey is corroborated by other data series. For example, payroll data for the same period showed a decline from 37.7 to 35.5 in hours paid all production and nonsupervisory workers in private industry. Wage survey data on the average length of majority schedules in establishments in metropolitan areas showed a decline from 40.5 to 40.1 hours for plantworkers and from 38.9 to 38.7 hours for office-workers from 1968 to 1976.

Although economic systems and labor force statistics vary by country, available information on workweeks in Canada and Western Europe also shows hours reductions in the past decade. For example, manufacturing workers in Canada averaged 38.9 hours of work per week in May 1979, down from 40.6 hours in May 1968. The workweek in manufacturing industries declined from 41.8 to 40.0 hours in Great Britain during this period; in Germany, the workweek in manufacturing averaged 32.8 hours in 1978, down from 36.4 hours in 1970. Average weekly hours of all nonagricultural wage and salary workers in Sweden decreased from 39.0 hours in 1968 to 35.4 hours in 1978. And in France, scheduled weekly hours for full-time workers in private nonagricultural industries declined from about 45 hours in 1970 to 41 hours in 1978.<sup>16</sup> At the same time, European workers have maintained their traditional advantage over U.S. workers in regard to holidays and vacations. For example, a minimum 1 month of annual vacation for all workers is required by law in France and Germany.

*Men and women, by age.* Among full-time U.S. workers, both men and women in most age groups worked slightly shorter workweeks in 1979 than their counterparts in 1968. Men 25 to 34 years of age reported larger declines of more than one-half hour per week. (See table 1.) Because this group represented almost one-fifth of all full-time employees in May 1979, their hours reduction figured importantly in the reduced overall average.

Men in their early 20's who worked full time in 1979 reported about the same weekly hours as their counterparts in 1968. A decline in the hours of this group may

have been averted by the declining proportion enrolled in school (from 19.3 to 16.0 percent), because nonenrollees are almost 3 times more likely than enrollees to work more than 40 hours per week.

When part-time workers are included, the average workweek of all men 25 to 34 declined even more, by nearly 1 hour. However, all men in the 20 to 24 and 16 to 19 age brackets experienced increases of 0.4 and 2.1 hours, again probably due to decreased school enrollments. An increase of a little less than a half hour in the workweek of women ages 25 to 34 (who account for more than one-fourth of all women workers) was offset by decreases among women ages 20 to 24 and those over 45.

Changes in the sex and age composition of workers also impacted on hours. The growth in the employment of women and the entry into employment of exceptionally large numbers of youth—as the population born in the decade following World War II came of age—both contributed to the decline in the length of both full-time workweeks and all workweeks. During the period, women increased their labor force participation rate from 41.6 to 50.1 percent, and the median age for all workers declined from 39.5 to 35.4 years.

*... and marital status.* Among married workers on full-time schedules (including the self-employed), weekly hours were down by nearly one-half hour for men and a little more than that for women. The increasing prevalence of working couples, with their higher family incomes, may have contributed to the decline in hours for husbands. Married and single (never-married) women also worked slightly shorter weeks in 1979 than in 1968, while no trend was apparent in the hours of single men.

The trends are similar when all workweeks are considered, except for an increase of more than 2 hours in the workweek of single men, a group mostly consisting of young men. Again, declining school enrollment for this group may largely account for their additional hours. Following are average weekly hours of married and never-married men and women in May 1968 and 1979:

	Men		Women	
	Never married	Married	Never married	Married
Full-time schedules:				
1968 . . . . .	42.5	45.5	40.8	40.8
1979 . . . . .	42.6	45.1	40.3	40.2
All schedules:				
1968 . . . . .	33.5	44.5	32.9	34.9
1979 . . . . .	35.9	43.8	32.6	34.4

*Race.* Black workers who were employed full time



worked almost 1 hour less per week on average in May 1979 than 11 years earlier, compared with a decline of little more than one-quarter hour for their white counterparts.<sup>17</sup> The increased share of jobs held by women was a factor in shorter hours for full-time workers of either race. Nonetheless, the workweek declined substantially for both black men and women.

The relatively large, although declining, representation of black workers in the service occupations, in which average weekly hours declined more than in any other occupation, was a factor in the hours reductions for the race. However, an increased proportion of black employees in professional and managerial positions, occupations having higher than average workweeks, partially countered this effect.

When all schedules are considered, the average workweeks of white men and women decreased only slightly. Workweeks for black men were reduced by nearly 1 hour. The lengthened workweeks of black women may be partially explained by the 1970-78 in-

crease of nearly two-thirds in the number heading families.

*Occupation and industry.* Service employees at work full time reported a decline of about 2 hours in their workweek from 1968 to 1979. In May 1968, they worked about one-half hour more per week than all full-time workers; 11 years later they worked 1 hour less. (See table 2.)

The workweek of full- and part-time service employees combined also declined. In 1968, the average workweek for all service workers was about 5.6 hours shorter than the all-occupation average; in 1979, the gap was 6.5 hours.

Amendments to the FLSA in 1974 and 1977 which brought about 7 million additional workers,<sup>18</sup> many of them service employees, under the overtime provisions of the act, contributed to shorter hours for this occupational group. The 1977 amendments also lowered certain overtime exemptions for employees of hotels,

**Table 1. Average hours worked by wage and salary workers except agriculture, by sex, age, and race, May of 1968, 1973, 1978, and 1979**

[Numbers in thousands]

Characteristic	All schedules					Full-time schedules				
	Number of workers, 1979	Average weekly hours				Number of workers, 1979	Average weekly hours			
		1968	1973	1978	1979		1968	1973	1978	1979
<b>ALL WORKERS</b>										
Total, 16 years and over ...	82,207	39.1	38.8	38.4	38.5	63,260	43.0	42.9	42.6	42.6
16 to 19 .....	6,899	24.7	25.9	25.9	26.0	2,453	40.5	40.3	40.2	40.0
20 to 24 .....	12,543	38.1	38.0	37.6	38.1	9,633	41.9	41.9	41.5	41.9
25 to 34 .....	22,405	41.6	41.0	40.4	40.4	18,593	43.7	43.4	42.9	42.8
35 to 44 .....	15,886	41.4	41.0	40.8	40.8	13,172	43.8	43.7	43.5	43.4
45 to 54 .....	13,414	40.9	40.8	40.5	40.5	11,214	42.9	43.0	42.8	42.8
55 to 64 .....	9,110	39.7	39.5	39.1	39.3	7,392	42.4	42.3	42.2	42.3
65 and over .....	1,949	32.4	30.4	28.1	28.4	803	43.6	42.8	42.2	41.4
<b>MEN</b>										
Total, 16 years and over ...	46,867	41.9	41.7	41.4	41.6	39,751	44.4	44.3	44.0	44.1
16 to 19 .....	3,596	25.1	27.4	27.5	27.2	1,384	41.6	41.0	41.4	41.0
20 to 24 .....	6,671	39.8	39.8	39.4	40.2	5,400	43.4	43.1	42.7	43.1
25 to 34 .....	13,131	44.4	43.9	43.5	43.5	11,880	45.1	44.9	44.5	44.4
35 to 44 .....	9,085	44.8	44.8	44.6	44.7	8,409	45.3	45.4	45.2	45.2
45 to 54 .....	7,894	43.7	43.9	43.6	43.7	7,310	44.2	44.5	44.1	44.3
55 to 64 .....	5,397	42.2	42.1	42.0	42.2	4,849	43.1	43.2	43.2	43.6
65 and over .....	1,092	33.7	31.0	29.2	30.3	519	43.3	41.6	41.7	42.2
<b>WOMEN</b>										
Total, 16 years and over ...	35,340	34.6	34.3	34.3	34.5	23,511	40.4	40.3	40.2	40.1
16 to 19 .....	3,303	24.1	24.2	24.3	24.6	1,069	39.4	39.2	38.7	38.7
20 to 24 .....	5,872	36.1	35.8	35.4	35.6	4,234	40.2	40.2	40.0	40.2
25 to 34 .....	9,274	35.7	35.7	36.0	36.1	6,712	40.1	40.2	40.2	40.1
35 to 44 .....	6,801	35.4	35.0	35.4	35.7	4,765	40.3	40.1	40.4	40.3
45 to 54 .....	5,520	36.3	36.1	35.9	35.8	3,905	40.4	40.4	40.4	40.1
55 to 64 .....	3,713	35.9	35.5	35.0	35.0	2,542	41.0	40.5	40.3	39.8
65 and over .....	857	30.5	29.5	26.8	25.9	283	44.1	43.0	43.1	40.1
<b>RACE</b>										
White, total .....	72,588	39.4	39.0	38.5	38.7	55,844	43.2	43.1	42.9	42.9
Men .....	41,834	42.2	42.1	41.7	41.9	35,611	44.6	44.6	44.3	44.4
Women .....	30,754	34.7	34.2	34.2	34.4	20,233	40.4	40.4	40.3	40.2
Black and other races, total	9,619	37.5	37.2	37.0	37.2	7,416	41.5	40.8	40.6	40.6
Men .....	5,033	39.8	38.9	38.9	39.0	4,138	42.2	41.6	41.5	41.8
Women .....	4,586	34.4	34.9	35.0	35.1	3,278	40.4	39.6	39.6	39.1

NOTE: Detail may not add to totals due to rounding.

motels, and restaurants from 46 to 44 hours per week, effective January 1, 1978, and to the general 40-hour standard, effective January 1, 1979.<sup>19</sup> Collective bargaining agreements were another factor in shorter hours, especially in reducing the very long workweeks for protective service workers, such as police and firefighters.<sup>20</sup> The particularly rapid growth of food service jobs, in which shorter weeks are the norm, also played a part in reducing average hours for the service group.

Smaller changes were reported for factory and other operatives, professional and technical workers, and salesworkers. For these groups, average full-time workweeks declined from one-half to one hour from 1968 to 1979. Hours for all employees, including part time, trended down in clerical and craft occupations.

The most accurate national data on trends in the workweek by industry are provided by the payroll survey. As noted earlier, data from this survey show that production and nonsupervisory workers in private industry averaged 35.5 paid hours in May 1979, down 2.2 hours since May 1968. See table 3.) The sharpest re-

ductions occurred in trade and in services, down 3.3 and 2.0 hours. Hours paid in manufacturing declined by .8 hour.

Scheduled hours, as distinguished from paid hours, declined substantially in trade and services for nonoffice, but not for office workers in metropolitan areas. In most industries, however, the length of scheduled workweeks edged down. The following wage survey data show scheduled weekly hours for selected industries:

	Office			Nonoffice		
	1967-68	1972-73	1976	1967-68	1972-73	1976
All industries	38.9	38.7	38.7	40.5	40.1	40.1
Manufacturing . .	39.4	39.3	39.3	40.4	40.2	40.3
Wholesale trade .	39.1	39.1	39.1	40.8	40.5	40.4
Retail trade . . . .	39.3	39.3	39.2	40.5	39.9	39.7
Services . . . . .	38.5	38.3	38.3	40.6	40.2	39.6

### Extra hours

Overtime work or multiple jobholding extends the workweek for some employees. Management initiates

**Table 2. Average hours worked by wage and salary workers, except farm, by sex and occupation, May of 1968, 1973, 1978, and 1979**

[Numbers in thousands]

Sex and occupation	All schedules					Full-time schedules				
	Number of workers, 1979	Average weekly hours				Number of workers, 1979	Average weekly hours			
		1968	1973	1978	1979		1968	1973	1978	1979
<b>ALL WORKERS</b>										
White collar, total . . . . .	42,980	39.6	39.3	39.1	39.3	34,112	43.1	43.1	42.9	42.9
Professional, technical and kindred workers . . . . .	13,527	40.8	40.6	40.5	40.5	11,253	44.0	43.4	43.6	43.3
Managers and administrators . . . . .	8,340	46.0	46.0	45.2	45.5	7,702	46.9	47.0	46.2	46.6
Sales workers . . . . .	4,851	36.5	38.8	36.2	36.9	3,331	44.5	44.4	43.8	43.9
Clerical workers . . . . .	16,262	37.4	35.9	35.8	35.7	11,825	40.1	40.1	40.0	39.9
Blue collar, total . . . . .	28,296	40.5	40.3	39.9	40.0	23,226	42.8	42.7	42.5	42.4
Craft and kindred workers . . . . .	10,884	42.3	42.0	41.7	41.6	9,553	43.2	43.1	42.9	43.0
Operatives . . . . .	13,087	40.8	40.5	40.3	40.2	10,819	42.8	42.8	42.7	42.4
Nonfarm laborers . . . . .	4,326	35.0	35.5	34.6	34.9	2,854	41.4	41.4	40.9	40.8
Service workers . . . . .	11,342	33.5	33.0	31.9	32.2	6,214	43.6	42.6	41.7	41.7
<b>MEN</b>										
White collar, total . . . . .	19,748	43.4	43.6	43.4	43.7	17,666	45.3	45.5	45.3	45.4
Professional, technical and kindred workers . . . . .	7,511	43.0	43.2	43.5	43.4	6,771	44.8	44.7	45.0	44.7
Managers and administrators . . . . .	6,294	47.1	47.1	46.6	47.1	5,976	47.7	47.8	47.2	47.7
Sales workers . . . . .	2,746	42.5	42.5	41.7	42.5	2,328	46.2	46.1	45.4	45.6
Clerical workers . . . . .	3,197	39.8	39.6	39.2	38.8	2,591	42.3	42.3	42.3	41.9
Blue collar, total . . . . .	23,000	41.2	41.0	40.6	40.7	19,274	43.4	43.3	43.0	43.0
Craft and kindred workers . . . . .	10,248	42.4	42.1	41.9	41.8	9,045	43.3	43.2	42.9	43.1
Operatives . . . . .	8,903	42.2	42.0	41.9	41.8	7,649	44.1	44.1	43.9	43.7
Nonfarm laborers . . . . .	3,850	35.0	35.6	34.6	35.1	2,579	41.4	41.5	40.8	41.1
Service workers . . . . .	4,417	39.2	37.5	36.3	36.7	3,030	45.7	44.2	43.4	43.8
<b>WOMEN</b>										
White collar, total . . . . .	23,232	35.5	35.0	35.3	35.5	16,446	40.3	40.2	40.2	40.3
Professional, technical and kindred workers . . . . .	6,017	37.4	37.0	36.8	36.9	4,482	42.4	41.5	41.5	41.3
Managers and administrators . . . . .	2,045	39.7	41.1	40.3	40.6	1,727	42.2	43.3	42.4	42.9
Sales workers . . . . .	2,105	29.8	28.4	29.2	29.7	1,003	40.0	39.8	40.0	40.0
Clerical workers . . . . .	13,065	35.3	34.7	34.8	34.9	9,235	39.2	39.3	39.3	39.3
Blue collar, total . . . . .	5,296	37.4	37.1	37.0	36.7	3,952	39.7	39.7	40.2	39.7
Craft and kindred workers . . . . .	636	38.7	38.7	38.5	38.5	508	40.3	41.2	41.6	41.3
Operatives . . . . .	4,184	37.3	37.3	37.1	37.0	3,171	39.6	39.6	39.9	39.5
Nonfarm laborers . . . . .	476	35.4	33.1	34.1	32.6	274	40.5	40.2	41.2	39.0
Service workers . . . . .	6,925	30.4	30.2	29.2	29.3	3,184	41.9	41.2	40.2	39.8

NOTE: Detail may not add to totals due to rounding.



overtime work, although the right of workers to refuse overtime has been the subject of collective bargaining, as has their right to a fair share of overtime.<sup>21</sup> Management may order overtime to meet temporary or sporadic demands for products or services, but the decision often is based on the cost of premium pay versus the cost of hiring, training, and providing fringe benefits to additional employees.

Data from the household survey show that of the almost 19 million full-time wage and salary workers who worked 41 hours or more a week in May 1979, about 8 million were on overtime for which they received premium pay. Workweeks in excess of the standard were more prevalent than in 1975 or 1976 but below 1973 levels, the first year for which comparable data are available.<sup>22</sup> Overtime hours in manufacturing, from the payroll series, averaged 3.6 hours per worker in 1978, the same as in 1968.<sup>23</sup>

About 4.3 million nonagricultural wage and salary employees in May 1979 extended their workweek by moonlighting.<sup>24</sup> Some worked only part time on both jobs; however, about three-fourths worked 35 hours or more on their primary jobs and about 8 percent worked full time on both jobs. For all moonlighters, median hours on a second job were 13 a week and hours on both jobs, about 51.

The proportion of nonagricultural wage and salary workers holding more than one job was 4.9 percent in May 1979, about the same as in May 1969. There was no change in hours on the second job, but average worktime for multiple jobholders on all jobs declined by about 2 hours. The decrease is explained by the higher proportion of multiple jobholders who were women, as well as decreases in hours of moonlighting men.

The stability in multiple jobholding rates over the period masks some striking changes in the characteristics

of the group. In 1979, women accounted for 30 percent of multiple jobholders, up from 17 percent in 1969. This change was the result of a rise in women's multiple jobholding rate (from 2.3 to 3.6 percent) and a decline in the rate for men (from 7.2 to 5.8 percent). Rates were up for women irrespective of their marital status but declined for men, except those who were single. (Particularly rapid declines in multiple jobholding for men 25 to 34 years and for black men contributed to the shorter weekly hours for these groups.)

### Time off

On the other side of the ledger, hours are affected by absences of various types, including sick and personal leave, holidays, and vacations. Although not all absences are paid, paid leave hours accounted for 7.6 percent of all paid hours in 1977, up from 6.2 percent in 1968.<sup>25</sup>

Among full-time wage and salary workers, absences for illnesses and injuries amounted to the loss of 2.3 percent of usual hours in May 1978. Part-week absences accounted for 0.8 percent; full-week absences for 1.5 percent. Both figures were about the same as 5 years earlier, when data on hours lost as a result of illnesses and injuries were first available. Workers in the goods-producing sector reported a greater proportion of time lost than those in the service-producing sector, women lost a greater proportion than men, and older workers, more than youth.<sup>26</sup>

Other personal reasons accounted for additional absences and lost worktime. These include illnesses and injuries of family members, maternity leave, funerals, and leave for jury duty, court witness, or military service. In May 1978, absences for such reasons were about 1.2 percent of aggregate usual hours, with the loss distributed equally between part- and full-week absences.<sup>27</sup>

Time lost because of illnesses and injuries and personal reasons combined appears to fluctuate with the economic cycle and the seasons.<sup>28</sup> Part-week absences declined during the 1974-75 recession and have since resumed their prerecession level. Monthly data on the incidence of absences show a seasonal pattern, with absences most prevalent in January and least in September.

Payment for absence from work because of illnesses or injuries was available to 8 of 10 plantworkers and officeworkers in 1976, about the same as in 1968, according to the wage survey. Paid personal leave also is available to many workers: of 1,570 major collective bargaining agreements in 1976, two-thirds provided funeral leave, and the same proportion provided leave for jury duty. The agreement negotiated by the United Auto Workers and the automobile industry in 1979 provided for 26 personal days off, spread over 3 years.<sup>29</sup>

**Table 3. Average hours paid production and nonsupervisory workers in the private nonagricultural economy, by industry, May of 1968, 1978, and 1979**

Industry	Number of workers (in thousands)			Average weekly hours		
	1968	1978	1979	1968	1978	1979
All industries .....	46,057	57,942	60,371	37.7	35.7	35.5
Mining .....	468	669	708	42.7	43.4	42.8
Construction .....	2,803	3,370	3,737	37.6	36.7	37.2
Manufacturing .....	14,379	14,630	15,061	40.9	40.4	40.1
Durable goods .....	8,432	8,743	9,129	41.7	41.1	40.8
Nondurable goods .....	5,948	5,887	5,932	39.8	39.3	39.1
Transportation and public utilities ..	3,682	4,138	4,293	40.6	39.9	39.6
Trade .....	12,386	17,104	17,682	35.7	32.7	32.4
Wholesale .....	3,094	4,060	4,228	39.9	38.6	38.9
Retail .....	9,292	13,044	13,454	34.3	30.9	30.4
Finance, insurance, and real estate ..	2,622	3,566	3,756	37.0	36.2	36.1
Services .....	9,717	14,465	15,134	34.5	32.7	32.5

SOURCE: Current Employment Survey of establishments.

NOTE: Detail may not add to totals due to rounding.

Paid holidays also have increased in recent years. According to data from the wage survey, average holidays provided office and other workers in metropolitan areas increased by 1.3 days from 1968 to 1976, bringing paid holidays to 9.4 days for officeworkers and 8.9 days for other workers. Manufacturing employees experienced the largest gains, with an increase from 7.9 to 9.6 days for plantworkers and from 8.2 to 10.0 days for officeworkers.<sup>30</sup>

*Vacations lengthen.* By 1968, virtually all plantworkers and officeworkers in metropolitan areas worked in establishments that provided paid vacations. The major development since then has been the liberalization of vacation provisions. In 1976, 35 percent of the plantworkers were eligible for a vacation of 2 weeks or more after 1 year of service, up from 25 percent in 1968, according to data from the wage survey. Among officeworkers, the proportion eligible for 2 weeks or more vacation after that length of service increased from 78 to 82 percent.<sup>31</sup>

According to the household data, the average length of vacations received by workers in the United States in 1979 was slightly higher than in 1968, increasing from 1.9 to 2.0 weeks.<sup>32</sup> Length of service—the basis for vacation eligibility in the United States—declined from 3.8 years in 1968 to 3.6 years in 1978 as a result of the flow of youth and women into the labor force, together with a trend toward earlier retirement.<sup>33</sup> In 1978, the proportion of the employed with 1 year or less on the job was 27 percent, up from 25 percent in 1968.

The growth in annual vacation benefits apparently has not kept pace with workers' desires for vacation time. From 1968 to 1979, full-week vacations taken without pay rose as a percent of all full-week vacations from about 14 to 20 percent for men and from 34 to 39 percent for women, based on household data. The seasonal distribution of vacations has shifted in recent years. June, July, and August accounted for about 60 percent of all vacations in 1979, down from 70 percent a decade earlier. The number of vacations still tapered off toward winter, reaching the lowest point in January, then gradually increasing in the spring. (See table 4.)

Extended vacations, usually from 10 to 13 weeks taken at regular intervals (for example, every 5 years), supplement annual vacations for some long-service employees. Such vacations or "sabbaticals" were first used in higher education. About 5 percent of all major collective bargaining agreements in 1976 included provisions for extended vacations, with most of the covered workers employed in primary metals industries.<sup>34</sup>

### The workyear

The growth in time off for vacations, holidays, personal and other types of leave may eventually require

**Table 4. Number of vacation weeks, by seasonal distribution, 1968 and 1979**

Item	1968	1979
Number of weeks, in millions .....	106.6	147.8
Average weeks of vacation per full-time worker .....	1.9	2.0
Percent distribution .....	100	100
January .....	2	3
February .....	2	4
March .....	2	4
April .....	3	4
May .....	4	4
June .....	13	13
July .....	30	26
August .....	27	23
September .....	7	6
October .....	4	5
November .....	3	4
December .....	3	3

NOTE: Detail may not add to totals due to rounding.

that worktime be measured in hours per year. Furthermore, average weekly hours are increasingly difficult to interpret as work schedules that vary in length from week to week without affecting total hours over a longer period become more prevalent. Flexitime systems that permit workers to bank extra hours in one week for use in another are but one new element in a mix of workweeks that already included full-time schedules, part-time schedules of several types, and part-year schedules.

Limited data on annual hours are available. A Bureau of Labor Statistics survey of establishments, conducted to obtain data on work-related injuries and illnesses, indicates that annual worktime in 1977 for all workers averaged 1,735 hours in private nonagricultural industries and 1,914 hours in manufacturing.<sup>35</sup> Annual hours for those wage and salary employees who work full time, year round can be roughly estimated from household data, using usual weekly hours adjusted for vacations, holidays, and sick and personal leave, together with the number of weeks worked per year.<sup>36</sup> The result suggests that in 1977 the average full-time, year-round employee worked about 2,060 hours. Estimates for men averaged nearly 200 more hours than for women. However, male-female differences varied by age, increasing for consecutive age groups through the late thirties and early forties, then diminishing as the workweek remained constant for women and decreased for men. The United Auto Workers reports that scheduled hours per year for full-year workers in unionized automobile factories averaged 1,752 hours in 1979, a decrease of more than 6 percent from 1967 figures.<sup>37</sup>

Time worked can be viewed in an even broader perspective, that of years of work over the life span. In 1970, the estimated length of worklife, based on labor force participation rates by age, was about 40 years for men and a little more than half that for women. Estimated worklife a decade earlier, using the same method-



ology, was 1 year longer for men and 3 years shorter for women.

WORKTIME SINCE 1968 for wage and salary employees in the United States has declined slightly, because of shorter weekly schedules and more time off. Among the groups with larger than average reductions in weekly

hours were men age 25 to 34 years, black men, and workers employed in service occupations, and in the retail trade and service industries. Changes in industry and occupational structure, in the composition of the labor force, as well as in Federal laws and collective bargaining agreements contributed to the gradual decline in worktime over the period. □

— FOOTNOTES —

ACKNOWLEDGMENT: Shirley Smith of the Office of Current Employment Analysis, Bureau of Labor Statistics provided tabulations from her research on the worklife of men and women, which the authors adjusted to obtain estimated annual work hours for year-round, full-time workers. Rosanna P. Sockwell and Bernadine F. Finstad provided statistical assistance.

<sup>1</sup> The Current Population Survey is conducted by the Bureau of the Census for the Bureau of Labor Statistics, using a national sample of households, numbering about 56,000 in 1979. The primary question on hours worked is:

How many hours did . . . work LAST WEEK at all jobs?

Household data on hours at work are supplemented with data from other surveys conducted by the Bureau of Labor Statistics. The best known of these is the Current Employment Survey (or the payroll series), a monthly survey of business firms conducted in cooperation with State Employment Security agencies. This survey's coverage in terms of hours is limited to production and nonsupervisory workers on private nonfarm payrolls. (For a detailed discussion of the differences between the household survey and the payroll series, see Richard M. Devens, Jr., "The average workweek: two surveys compared," *Monthly Labor Review*, July 1978, pp. 3-8.) Another source for data on workhours is the Area Wage Survey, which provides data on the average scheduled workweek in metropolitan areas. The scope and methods of this survey are described in *Area Wage Survey, Metropolitan Areas, United States and Regional Summaries, 1976*, Bulletin 1900-82 (Bureau of Labor Statistics, 1979), pp. 110-14. Although the level of hours reported from these several sources varies because of differences in concepts, coverage, and other details, the trends have been similar.

<sup>2</sup> Lionel Robbins, "On the Elasticity of Demand for Income in Terms of Effort," *Economica*, June 1930, pp. 123-29; H. G. Lewis, "Hours of Work and Hours of Leisure," *Proceedings of the Ninth Annual Meeting of the Industrial Relations Research Association*, 1956, pp. 196-206; and Franklee Gilbert and Ralph W. Pfouts, "A Theory of the Responsiveness of Hours of Work to Changes in the Wage Rate," *Review of Economics and Statistics*, May 1958, pp. 116-21.

<sup>3</sup> See Gary S. Becker, "A Theory of the Allocation of Time," *The Economic Journal*, September 1965, pp. 493-517, and Jacob Mincer, "Labor Force Participation of Married Women: A Study of Labor Supply," *Aspects of Labor Economics* (Princeton, N.J., Princeton University Press, 1962), pp. 63-97. For a discussion of schooling and hours worked, see Robert W. Bednarzik, *A Micro Model of Labor Supply for Part-time Workers Using Matched CPS Data*, Staff Paper 10 (Bureau of Labor Statistics, 1979), pp. 15-18, and Glen G. Cain and Howard W. Watts, "Toward a Summary and Synthesis of the Evidence," in Glen G. Cain and Howard W. Watts, eds., *Income Maintenance and Labor Supply* (Chicago, Rand McNally College Publishing Co., 1973), pp. 328-67.

<sup>4</sup> See John P. Robinson, *Changes in Americans' Use of Time: 1965-1975, A Progress Report* (Cleveland, Ohio, Communication Research Center, Cleveland State University, 1977).

<sup>5</sup> Becker, "A Theory of the Allocation," p. 512.

<sup>6</sup> Edward Kalacheck, "Workers and the Hours Decision," *Work Time and Employment*, Special Report 28 (National Commission for Manpower Policy, 1978), p. 178.

<sup>7</sup> H. G. Lewis, "Economics of Time and Labor Supply," *American Economic Review*, May 1975, p. 29.

<sup>8</sup> Reuben Gronau, "Leisure, Home Production, and Work—The Theory of the Allocation of Time Revisited," *Journal of Political Economy*, 1977, pp. 1099-1123.

<sup>9</sup> This estimate is based on a methodology similar to that used by Peter Henle in "Recent Growth of Paid Leisure for U.S. Workers," *Monthly Labor Review*, March 1962, pp. 249-57 and by Geoffrey Moore and Janice Hedges in, "Trends in labor and leisure," *Monthly Labor Review*, February 1971, pp. 3-11. Essentially, the increase in output per hour over the period is translated into a potential reduction of annual hours, holding total output levels the same in each year. The 39 hours decrease in annual hours since 1968 is distributed as follows:

shorter workweek . . . . .	25 hours
additional vacation . . . . .	4 hours
additional holidays . . . . .	10 hours

Henle suggested an alternative methodology, comparing the actual output in the last year of a period with the output that would have been produced given the productivity level in the first year in the period. This method involves comparing average annual hours in both years. He noted that either methodology resulted in essentially the same outcome for the period he was concerned with, 1940 to 1960. However, the changing labor force composition in the 1960's and 1970's has meant a reduction in average hours resulting not only from additional leisure but also from the increase in the relative importance of the part-time work force. For instance, women entering the labor force often obtain jobs which require shorter schedules than those of men.

<sup>10</sup> Fred Best, *Exchanging Earnings for Leisure: Findings of an Exploratory National Survey on Work Time Preferences* (Washington, National Commission for Employment Policy, 1978). The national sample consisted of 1,560 persons, representative of all workers age 17 years and older in the civilian population.

<sup>11</sup> Sherwin Rosen, "The Supply of Work Schedules and Employment," *Work Time and Employment*, Special Report 28 (Washington, National Commission for Manpower Policy, 1978), p. 171.

<sup>12</sup> John D. Owen, *Working Hours* (Lexington, Mass., D.C. Heath and Company, 1978), p. 48.

<sup>13</sup> For a discussion of these trends, see John D. Owen, *Price of Leisure* (Montreal, McGill-Queens' University Press, 1970), pp. 69-71.

<sup>14</sup> See John D. Owen, "Workweeks and leisure: an analysis of trends, 1948-75," *Monthly Labor Review*, August 1976, pp. 3-7, and Thomas J. Kniesner, "The Full-Time Workweek in the United States, 1900-1970," *Industrial and Labor Relations Review*, October 1976, pp. 3-15.

<sup>15</sup> The rise in the unemployment rate from 3.8 percent in May 1968 to 5.8 percent in May 1979 shows a general decline in the equilibrium of labor demand and supply. The relationship between unemployment and hours can be made clearer by considering those working part time for economic reasons. See, for example, Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12-18. Involuntary part-time workers have increased from 2.1 percent of all wage and salary workers in May 1968 to 3.3 percent in May 1979.

<sup>16</sup> Canadian data are from *Employment, Earnings and Hours, July 1979 and Man-Hours and Hourly Earnings, May 1968*, published by Statistics Canada. Data for Europe were prepared for this article by

the Office of Productivity and Technology, Bureau of Labor Statistics. They are not comparable among countries.

<sup>17</sup> In this report, the term black refers to blacks and others who identified themselves in the enumeration process as other than white. At the time of the 1970 Census of Population, 89 percent of the group were black; the remainder included American Indians, Alaskan natives, and Asian and Pacific Islanders.

<sup>18</sup> *Minimum Wage and Maximum Hours Standards Under the Fair Labor Standards Act*, an economic effects study submitted to the U.S. Congress (U.S. Department of Labor, Employment Standards Administration, 1978), pp. 55–56.

<sup>19</sup> *The Fair Labor Standards Act of 1938, as Amended* (U.S. Department of Labor, Employment Standards Administration, Wage and Hour Division), WH Publication 1318, revised August 1978, p. 18.

<sup>20</sup> *Collective Bargaining Agreements for Police and Firefighters*, Bulletin 1885 (Bureau of Labor Statistics, 1976), pp. 37–38.

<sup>21</sup> See *Characteristics of Major Collective Bargaining Agreements, July 1, 1976*, Bulletin 2013 (Bureau of Labor Statistics, 1979), table 4.

<sup>22</sup> Forthcoming Bureau of Labor Statistics study on long hours and premium pay in May 1979.

<sup>23</sup> *Employment and Earnings* (Bureau of Labor Statistics, March issues, 1968 to 1979), table C–2.

<sup>24</sup> Forthcoming Bureau of Labor Statistics study on multiple jobholding in May 1979.

<sup>25</sup> *Employee Compensation in the Private Nonfarm Economy, 1968*, Bulletin 1722 (Bureau of Labor Statistics, 1971), p. 40. Unpublished data for 1977.

<sup>26</sup> Daniel E. Taylor, "Absent workers and lost work hours, May 1978," *Monthly Labor Review*, August 1979, pp. 49–53.

<sup>27</sup> Taylor, "Absent workers . . ."

<sup>28</sup> See for example, Steve Allen, *Absenteeism and the Labor Market*, prepared under a grant from the U.S. Department of Labor, Employment and Training Administration, pp. 16–31.

<sup>29</sup> United Auto Workers publication, *Report on the UAW-General Motors 1979 Tentative Settlements*, Sept. 18, 1979.

<sup>30</sup> *Area Wage Survey*, pp. 100–01.

<sup>31</sup> *Area Wage Survey*, pp. 102–03.

<sup>32</sup> These estimates were calculated for full-time workers who responded to the following questions by stating they were on vacation:

What is the reason . . . worked less than 35 hours LAST WEEK?  
Why was . . . absent from work LAST WEEK?

<sup>33</sup> Edward S. Sekscenski, "Job tenure declines as work force changes," *Monthly Labor Review*, December 1979, pp. 48–50.

<sup>34</sup> *Characteristics of Major Collective Bargaining Agreements, July 1, 1976*, table 5.5.

<sup>35</sup> Unpublished data. Annual hours paid per job in nonagricultural industries were reported as 1,903 in 1977, down from 1,981 in 1968. See Norman C. Saunders, "The U.S. economy to 1990: two projections for growth," *Monthly Labor Review*, December 1978, p. 36–46.

<sup>36</sup> The calculations of annual hours were based on tabulations prepared in conjunction with Bureau of Labor Statistics research on the work life of men and women. These data were adjusted to exclude estimated hours on vacation, holiday or other leave. Two weeks vacation, 7 holidays, and an absence rate of 2.3 percent of usual hours for illnesses and injuries and 1.2 percent for miscellaneous personal reasons were assumed per worker.

<sup>37</sup> Howard Young, "Jobs, Technology, and Hours of Labor: the Future of Work in the U.S.," a paper presented at hearings of the Joint Economic Committee's Special Study on Economic Change, June 14, 1978. Unpublished UAW data for 1979.

### Better working conditions bring on shorter hours?

A number of explanations can be and have been offered for the leveling off in hours of work. Some argue simply that the achievement of an 8-hour day has so reduced the marginal gain from additional leisure as to make future reductions in hours unlikely. This view has some merit in a discussion of daily hours, but does not afford an explanation of the present interest in reducing hours by obtaining more days off per year.

Others believe that while the number of hours worked has shown little change, there has been a reduction in the intensity of work and an improvement in working conditions, reducing the demand for further cuts in hours scheduled. It is extremely difficult to make meaningful com-

parisons over time of the intensity of work, partly because the necessary data are not collected, partly because the nature of work demands has itself been influenced by technological change, so that less emphasis is now placed on the intensity of physical effort and more on responsible, dependable behavior. On the other hand, there is little doubt that there has been an improvement in working conditions, and that this has been an additional factor influencing the level of working hours.

—JOHN D. OWEN

*Working Hours: An Economic Analysis*,  
(Lexington, Mass., D. C. Heath and Company, 1979), pp. 26–27



# Moving to the sun: regional job growth, 1968 to 1978

*In a decade, sunbelt economies grew fastest: favorable business climates and increased Federal contract dollars helped expand job opportunities that, along with environmental factors, created a large migration from the North*

PHILIP L. RONES

Interregional migration has been one of the dominant forces associated with economic progress in the United States. At the heart of the great interregional migrations in this country has always been the search for economic advantage. This was true whether the search was made by the family moving to Ohio to farm in the 1800's, the entrepreneur leaving New York to drill for oil in Texas in 1900, or the children of poor blacks who left the South to work in northern factories during the 1940's.

The most recent major population shift also has had the search for financial reward as its principal catalyst and sustainer. But the causes and repercussions of the movement towards the sun—from the “industrial heartland” of the North to the South and West—go beyond economics. Many have moved for reasons that traditional human capital theory does not explain: for “quality of life” reasons. And the growth and development of the sunbelt States has both created and been nurtured by a shift in regional political power.<sup>1</sup> The net result of these factors—economic, sociological, and political—has been a population and employment boom in the South and West, largely at the expense of the North Central and Northeast regions.

This article has two main objectives. The first is to present data from the Current Population Survey (CPS) on industry employment growth by region over the past decade. These data, in conjunction with those from other sources, will be utilized to demonstrate both the change in industrial makeup of the national economy during this period and the regional patterns of industrial growth and decline. The second objective is to briefly examine the factors which have led to the industrial ex-

pansion of both the South and West and the relative decline in the North, including those factors which affect the location of business firms, individuals, and families.

## Tracking the flows

The CPS is a sample survey conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics, consisting of approximately 56,000<sup>2</sup> households nationwide. In 1978, these households represented 614 areas in 1,113 counties and independent cities, with coverage in all 50 States and the District of Columbia. One advantage of using CPS data is that coverage is not restricted to certain industries or types of employees. Labor force data are collected for all persons age 16 and over, and each employed person is counted only once—in the principal job. The CPS data are adjusted to take account of birth, death, and migration estimates each year and are benchmarked to census data.

The years chosen for this analysis, 1968 and 1978, were at or near the peak of their respective business cycles. These years were selected in order to reduce, as much as possible, the effect of cyclical fluctuations on industry employment patterns, as well as to emphasize a relatively short period of time. Also, 1968 closely corresponds to the start of net immigration to the South.

*Industry employment.* Trends in industry employment for the Nation as a whole have been fairly well documented. Table 1 shows the proportion of total employment attributable to each major industry group in 1968 and 1978. Not unexpectedly, the big losers were agriculture, where almost half a million jobs were lost, and manufacturing, which added only 700,000 during a period when employment grew by almost 20 million. Indus-

Philip L. Rones is an economist in the Office of Current Employment Analysis, Bureau of Labor Statistics.

**Table 1. Distribution of employment by major industry, 1968 and 1978 annual averages**

Employment	1968	1978
Total (in thousands)	75,926	94,373
Percent	100.0	100.0
Agriculture	5.0	3.5
Nonagricultural wage and salary	87.6	89.3
Private household	2.5	1.4
Government	15.3	16.2
Other private	69.8	71.6
Mining	.7	.9
Construction	4.4	4.6
Manufacturing	26.8	22.3
Durable goods	15.8	13.0
Nondurable goods	11.0	9.0
Transportation and public utilities	5.6	5.4
Trade	16.1	18.2
Wholesale	3.1	3.6
Retail	13.0	14.6
Finance, insurance, and real estate	4.3	5.2
Services	11.9	15.1
Self-employed	6.7	6.7

tries with the fastest rates of growth were all outside of the goods-producing sector. Services experienced by far the most impressive rate of growth—from 12 percent of total employment to 15 percent. Medical and hospital services led the performance of this industry group, almost doubling its proportion of total employment. Other service industries also posted very strong gains, most notably “other” professional, business and repair, and entertainment and recreational services. Wholesale and retail trade, finance, insurance and real estate, and government all posted relative employment gains, with the last concentrated in State and local jurisdictions.

*Regional movements.* Table 2 shows the states that make up the four major census regions and their divisions. All regions experienced absolute employment gains over the decade. But, as shown in table 3, the Northeast region experienced a large decline in its share of total employment, from 25 to 22 percent, reflecting relative reductions in virtually all of the major industry groups. The North Central region also experienced relative job losses; the South and West posted strong gains in overall employment as well as in most industries.

In the two regions where the employment share fell, the largest loss occurred in areas most dependent on manufacturing—the Middle Atlantic and the East North Central divisions. (See table 4.) Employment in New England, which is only about a fourth of the Northeast total, also declined relative to the rest of the Nation, but at a much slower rate than in the Middle Atlantic area; the less densely populated West North Central division showed a relative rise in employment.

The West exhibited a similar pattern, as the sparsely populated Mountain States had employment gains almost twice those of the Pacific States. In the South, the big gainer was the West South Central division, which includes Texas, Oklahoma, Arkansas, and Louisiana.

Thus, when interpreting data for the four major re-

gions, it should be recognized that the experience of some subregions (divisions) was often much better or much worse than regional totals indicated. Despite this limitation, regional totals are used because they provide a more statistically reliable measure of significant industry employment trends.

*Growth factors.* Regional employment growth for each industry can be divided into several components. One approach sometimes used in regional analysis is the shift and share technique, which evaluates regional growth based on three factors—national share, industry mix, and regional share.<sup>3</sup> National share indicates an industry’s expected regional growth based on its national growth rate. The industry mix component shows the amount of regional employment growth attributable to an above or below average proportion of fast growth industries. Regional share indicates whether an industry in a particular region is growing at a faster or slower rate than the industry nationwide, thus indicating some comparative regional advantage or disadvantage in that industry. The industry mix and regional share components can reinforce each other, when a region benefits from both a positive industry mix—higher than average representation of fast-growing industries—and faster than average industry growth. However, these factors

**Table 2. Regions and geographic divisions of the United States**

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



can also counteract each other, such as when a region has a growing share of an industry with a below average growth rate. Discussion of interregional employment changes in this article involves primarily the regional share component—that is, the effects of a competitive advantage of one region over another.

CPS data can be used to examine regional shifts in the major industry groups. Manufacturing may be the best industry to examine, not because its regional shifts were the most dramatic (indeed, growth rates of several other industry groups in the South and West were more so), but because manufacturing is most often associated with the shift in economic growth from the North to the South.

Nationwide, manufacturing employment grew by less than 700,000 from 1968 to 1978. To put that number in perspective, had manufacturing employment grown at the same rate as all other private, nonagricultural wage and salary employment during that period, the gain would have been almost 5 million. Although factory employment increased in the South and West by more than 900,000 and 300,000, respectively, it declined in the Northeast by almost 800,000. A gain of 200,000 in the North Central region reflected growth in the historically less industrialized States west of the Mississippi River.

One important difference among the four regions is the nature of manufacturing employment. The West, for example, had twice as many workers in durable goods as it had in nondurable goods industries; durables also had a 70-percent employment edge in the North Central region. The South, conversely, had slightly more workers in nondurable goods industries.

*Employment Structure.* Factory employment in the South has been dominated by low-wage, relatively labor

**Table 4. Total employment by census region and division, annual averages 1968 and 1978**

Region	1968 employment	1978 employment	Percent change
Total .....	75,976	94,373	24.3
Northeast:	8,943	20,961	10.7
New England .....	4,802	5,589	16.4
Middle Atlantic .....	14,141	15,372	8.7
North Central:	21,926	26,044	18.8
East North Central ...	15,750	18,175	15.4
West North Central ...	6,176	7,869	27.4
South:	22,547	29,892	32.6
South Atlantic .....	11,349	14,942	31.7
East South Central ...	4,581	5,671	23.8
West South Central ...	6,616	9,278	40.2
West:	12,510	17,476	39.7
Mountain .....	2,789	4,403	57.9
Pacific .....	9,721	13,073	34.5

intensive industries. Data from the BLS establishment survey indicate that although 34 percent of factory employment in the South in 1978 was in industries with hourly earnings below the national average for all production or nonsupervisory workers on nonfarm payrolls (\$5.69), only 21 percent of the factory workers in the rest of the Nation were in these industries.<sup>4</sup> Correspondingly, 51 percent of manufacturing employees nationwide were in industries with average wages above \$6.50 an hour, but only 32 percent of those in the South were so employed. In durable goods, the South had the smallest percentage of industry employment in those industries which have the highest average hourly wage—primary metals, transportation equipment, machinery, and fabricated metals. Those durable goods industries with high employment concentrations in the South—lumber and furniture, for example—are relatively low-paying industries. (However, the South was well represented in several high-paying nondurable goods industries—the chemical industry and relatively small petroleum industries.)

**Table 3. Distribution of industry employment by region, 1968 and 1978 annual averages**

[In percent]

Employment	Northeast		North Central		South		West	
	1968	1978	1968	1978	1968	1978	1968	1978
Total .....	24.9	22.2	28.9	27.6	29.7	31.7	16.5	18.5
Agriculture .....	7.7	8.6	39.7	37.2	36.9	34.8	15.6	19.4
Nonagricultural wage and salary .....	26.2	22.7	28.5	27.2	29.0	31.6	16.3	18.5
Private household .....	16.5	18.0	23.6	25.1	44.1	40.0	15.7	16.9
Government .....	23.0	21.6	24.2	25.0	32.8	34.2	20.1	19.7
Other private .....	27.2	23.4	29.6	28.2	27.7	30.6	15.5	17.8
Mining .....	12.6	10.1	16.7	15.3	51.6	55.6	19.1	18.9
Construction .....	22.1	16.1	26.8	25.3	35.3	38.7	15.8	20.0
Manufacturing .....	29.8	25.1	32.4	32.3	25.1	28.8	12.7	13.8
Durable goods .....	28.7	25.3	37.4	36.6	19.2	22.8	14.7	15.3
Nondurable goods .....	31.3	24.8	25.2	26.1	33.6	37.5	9.8	11.6
Transportation and public utilities .....	26.1	23.3	28.4	25.6	28.5	31.8	17.0	19.3
Trade .....	24.0	21.2	29.2	28.1	29.5	31.2	17.3	19.5
Wholesale .....	24.3	21.0	28.3	28.3	30.3	32.2	17.1	18.5
Retail .....	23.9	21.2	29.5	28.1	29.3	31.0	17.3	19.7
Finance, insurance, and real estate .....	31.0	26.4	25.5	24.0	25.9	29.6	17.5	20.6
Services .....	27.7	25.5	27.4	26.2	27.1	28.9	17.8	19.4
Self-employed .....	22.5	19.6	26.2	24.3	32.2	33.3	19.1	22.8

More than two-fifths of all nondurables employment in the South was in two industries—textiles and apparel—compared with only about 1 in 8 in those industries in the rest of the country. Textiles and apparel are traditionally low-paying industries; the combined average wage in 1978 was only slightly more than \$4 an hour, compared with more than \$5.70 for all other nondurables.

### Climates for growth

*Response of firms.* The movement of firms from the industrial North to the sunbelt has been less important to regional employment growth than widely thought. Several studies have shown that, in the South, creation of new firms and expansion of existing firms tend to be the dominant causes of employment growth.<sup>5</sup> In the North, the closure of existing firms tends to be of primary importance.

Certainly many factors are considered in the decision to start, expand, or to relocate a firm in a particular region. In 1975, the Fantus Company, a locational consulting firm, assessed the business climate of the 48 contiguous States on the basis of 15 criteria. States with low taxes, low levels of public assistance, restrictive labor legislation, and a low level of government debt had low scores indicating more favorable environments.<sup>6</sup> The firm's lists of 12 "best" and "worst" States are provided below, along with a numerical score:

<i>The Best</i>	<i>Score</i>	<i>The Worst</i>	<i>Score</i>
Texas	192	New York	628
Alabama	210	California	581
Virginia	214	Massachusetts	547
South Dakota	230	Michigan	532
South Carolina	236	Delaware	520
North Carolina	239.5	Connecticut	516.5
Florida	244	Pennsylvania	506
Arkansas	248	Minnesota	505.5
Indiana	251	Oregon	499
Utah	279	Washington	495
North Dakota	286	Vermont	489
Mississippi	287	New Jersey	483

To test the Fantus criteria as a measure of business climate, Weinstein and Firestine compared the Fantus rankings with the change in manufacturing employment from 1970 to 1977.<sup>7</sup> This comparison supported the State rankings, with some exceptions. For instance, Indiana experienced a factory job decline despite a high ranking, and California and Oregon experienced strong gains despite allegedly unfavorable business climates.

The inclusion of the corporate tax components in the Fantus study is interesting. Although State and local governments use tax incentives as their primary inducement to attract industry, researchers have almost unanimously found corporate tax programs to have no significant impact on industrial location. Weinstein and

Firestine, for instance, conclude that Southern States probably pay (in lost tax revenues) for relocations that would have occurred anyway.<sup>8</sup> Of much greater importance than special tax benefits are the supply and productivity of labor, proximity to markets, wage levels, and access to raw materials or transportation.<sup>9</sup> It should be kept in mind that these factors were not included in the Fantus study.

*The Federal role.* The allocation of Federal funds has been one of the most important factors contributing to economic development in both the South and West. Most notably, defense spending patterns over the last several decades have intensified the shift of both population and manufacturing out of the Northeast and North Central regions and into the South and West.<sup>10</sup> This can be seen most dramatically from data on military prime contract awards. From 1951 to 1976, the South increased its share of these awards from 11 to 25 percent of the national total; the West's increase was just as dramatic, from 16 to 31 percent. Allowing for population shifts, the percentage change in prime military contracts per capita for each region was as follows: Northeast (-29.5), North Central (-45.8), South (109.0), and West (32.1).<sup>11</sup>

These data reflect, to a large extent, changing defense requirements. Aerospace and other high technology industries have developed largely in California and in several areas of the South. The growing dependence on high technology industries for defense needs has led to the channeling of funds to these areas. Similarly, funds for the space program have gone largely to both the South and West: with program headquarters in Houston; the launching station in Cape Canaveral; the rocket center in Huntsville, Alabama; and the research arm in California. Research and development supported by defense and space program funds have led to many technological advances that have become commercially successful. Thus, the areas and firms that benefited from such Federal funds have become the manufacturing centers for products such as computers, calculators, semiconductors, scientific instruments, and many others.

*Varied effect on industries.* Considerable publicity has been focused on the transfer of manufacturing jobs out of the older industrial areas of the North and into the South and West. But if manufacturing employment were held constant, the relative job growth of the four regions would be affected only slightly. In general, manufacturing has been losing its dominance as an employer. Hence, although its relative demise is a key to the slow growth rate in the Northeast, manufacturing employment can only be seen as a relatively small part of the economic expansion of the South and West.

The activities of the service-producing sector are pri-



marily concerned with local consumption. The rise of the trade and service industries in the South and West for instance, is largely the result of population shifts to these areas; changes in employment in retail trade, as one might expect, closely matches the regional shift in total employment. This relationship is shown in table 3.

Although construction is not a service, it, too, is an industry where demand is largely dependent on population pressures. It is, in fact, the industry that had the greatest relative decline in the Northeast and growth in the West; construction employment shifted less dramatically out of the North Central region and into the South. In both the South and West, expansion of the construction work force has resulted from rapid urban and suburban development, construction of interstate highways, as well as the need for industrial structures that accompanied growth in manufacturing.<sup>12</sup>

The concentration of finance, insurance, and real estate employment also shifted towards the growth regions at a faster rate than did total employment. The Northeast still had the largest concentration of major insurance companies in 1978. However, there was a substantial expansion of financial institutions in the developing areas during 1968–78 (as the demand for these services grew), and real estate, primarily a local activity, grew most where population and employment increased. Transportation and public utilities followed the same pattern. Employment in transportation depends on the need to move people and goods and, hence, responded immediately to the regional shifts in population and business activity; jobholding in public utilities had a similar predictable reaction to commercial and residential growth.

### The response of workers

The factors that lead to an individual's decision to move to a new region certainly overlap with those that cause a business to either relocate or to expand in one area instead of another. Lower personal income taxes or good weather, for instance, might influence the decisions of both individuals and businesses to relocate. In fact, the two decisions are partly a function of each other; businesses may move to utilize a growing labor pool, and people may move to take advantage of new business opportunities. However, it may be useful to look at the relative employment growth in the South and West from the individual's (or family's) perspective, separate from the firm's perspective. The following discussion should be viewed as a summary only, borrowing from the extensive literature on interregional migration patterns.

As the rate of increase in total population (the excess of births over deaths) declined in recent years, interregional migration accounted for an increasing share of population change, particularly in the South. In fact,

during 1970–75, net migration accounted for about half of the population gain in both the South and West. In the previous 5-year period, migration accounted for only about 12 percent of the population rise in the South; the West, on the other hand, experienced a strong immigration throughout the postwar period.<sup>13</sup> During 1968–78, the four major regions experienced the following net migration:<sup>14</sup> Northeast (–2,384,000); North Central (–2,034,000); South (2,655,000); and West (1,763,000).

The South was a net loser of more than 230,000 persons during the first year (March 1968 to March 1969). By the following year, the region posted a slight net gain and has posted strong migration gains ever since. (These data relate only to persons moving from one region to another. Immigration from other countries, which has been particularly important in the South and West, is not included in this analysis.)

*Characteristics of migrants.* On average, regional migrants (and migrants in general) tend to be better educated than the nonmigrants at both the place of origin and destination. Several hypotheses have been proposed to explain the relationship between migration and education:<sup>15</sup> persons in professional occupations respond to a geographically broader job market than do those in blue-collar and service occupations; educated persons are better at obtaining and processing job market information and, thus, are better able to deal with economic disequilibria; the effects of distance tend to decline with higher levels of education; and investment in occupation-specific training often precludes occupational mobility as a method of increasing income, making geographic mobility more attractive.

Using CPS data for men over age 25, Larry Long found a strong positive relationship between the level of education and migration rates for all age groups.<sup>16</sup> However, he also observed that migration rates tended to be higher at the lowest education levels (0–7 years) than in the middle levels (8–12 years), although not nearly as high as in those groups that included persons with at least some college. Although Long was reporting on interstate rather than interregional migrants, others have found a similar relationship for interregional migrants. Moreover, higher education appears correlated with a greater average distance of migration.<sup>17</sup>

The propensity of highly educated persons to migrate has most likely aided the fairly recent development of the high technology industries in the South and West. The ability to attract an adequate supply of skilled labor is often cited as the most important factor in the locational decision of a firm.

Age is another determinant of the propensity to move between States or regions. The highest rate of migration occurs at age 23, with rates steadily declining as per-

sons age.<sup>18</sup> (The propensity to migrate appears *not* to increase among the oldest age groups, despite the increased mobility often associated with retirement.) When migration is seen solely as an economic decision, the relationship between age and migration becomes clearer. A younger person has more time to maximize the benefits of migration. The costs of moving (actual moving expenses, loss of seniority or pension coverage, and so on) become more difficult to recoup the older the person becomes. And, certainly, the younger person faces less cost in moving to begin with—he or she is less likely to have a family, accumulated possessions, and, of course, job-related costs. It is not coincidental, then, that the peak migration age corresponds closely to the usual age of graduation from college. The migration of the young, which often follows an investment in human capital, is generally governed by the search for employment and is constrained by the fewest number of costs, both economic and personal.

It is interesting to note that although educational attainment and age have been almost universally cited as critical determinants of migration, Julie DaVanzo, using person and family data from the University of Michigan's Study of Income Dynamics, found no correlation between these factors and migration when other factors (many of which vary with age and education) were held constant.<sup>19</sup> One possible explanation for this result might be that the data set included only persons who were married in both survey years, 1971 and 1972. The author pointed out that typically reported migration tendencies may reflect, in large part, persons who are not yet married.

*Economics—the primary factor.* Economic factors are the most critical to the migration decision. Certainly the differences in propensity to migrate based on age and education are strongly linked to economic considerations. Long and Kristen Hansen, using results from the 1974, 1975, and 1976 Annual Housing Surveys, found that 59 percent of all interstate migrants cited job-related factors as their major reason for moving, when only their major reason could be reported.<sup>20</sup> These job-related factors included job transfer, new job, looking for work, entering or leaving Armed Forces, and others. Although these results emphasize the importance of employment factors in the decision to move, they also demonstrate, as the authors note, that economic reasons fail to account for the movements of a sizable proportion of the population.<sup>21</sup> Table 5 shows the reasons given by persons moving to and from each of the four major regions. The link between migration for job reasons and net interregional migration (derived from top line) can easily be seen.

Data for the South show the clearest link between economic opportunity and migration during the past

decade. One way to view economic development in the South, and, hence, the region's attractiveness to potential migrants, is by looking at changes in per capita income. In 1950, per capita income in the South was only three-fourths the national average. This differential reflected, more than any other factor, the relatively undeveloped nature of the South's economy in 1950, particularly its heavy emphasis on agriculture. In the last 3 decades, increased development resulted in an industry mix that is quite similar to that of the Nation as a whole. As a result, by 1975, per capita income in the South slightly exceeded the national average, although only Delaware, Maryland, and the District of Columbia had per capita incomes above the national average. (But these areas have had economies quite different than what has existed in the rest of the South.) Most Southern States had per capita incomes 50 to 70 percent of the national average in 1950, reaching 80 to 90 percent by 1975.<sup>22</sup> Moreover, regional differences in the cost of living (generally lower in the South) tend to equalize discrepancies in *real* per capita income.

Although regional income data serve as evidence of the narrowing gap in economic opportunity between the South and the Nation as a whole, the individual responds less to average income in a region or State than to specific job-market opportunities. DaVanzo found that families with heads who are looking for work were more likely to move than other families, supporting Long and Hansen's findings that job search factors are a key determinant of migration.<sup>23</sup> Of those looking for work, the unemployed were more likely to move than those who were employed. In fact, unemployment status was found to be the single largest determinant of migration (including interregional migration). Among those who moved, persons looking for work were more

**Table 5. Persons moving to and from each region, 1973-76, according to reason for moving**

Reasons for moving	Northeast		North Central		South		West	
	To	From	To	From	To	From	To	From
Number of migrants (in thousands) . . . . .	1,058	1,829	1,935	2,400	3,254	2,407	2,106	1,718
Percent distribution . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job transfer . . . . .	31.0	25.6	26.4	23.8	25.6	30.2	27.9	28.5
New job or looking for work . . . . .	23.7	20.0	26.5	24.4	20.8	22.1	20.3	22.6
Other employment reason . . . . .	2.1	1.9	3.0	3.1	3.8	2.6	2.0	4.5
Enter or leave Armed Forces . . . . .	7.8	4.4	7.3	4.6	5.1	6.9	5.2	8.2
Attend school . . . . .	3.8	4.7	5.6	2.1	2.1	4.9	4.4	3.1
Wanted change of climate . . . . .	2.6	11.0	1.3	9.9	8.5	3.4	10.6	1.9
Retirement . . . . .	2.5	3.9	1.9	4.4	4.1	3.1	4.4	2.3
To be closer to relatives . . . . .	6.8	6.2	8.2	9.4	9.3	8.8	7.3	8.0
Other family reason . . . . .	7.3	6.9	8.0	6.0	7.9	6.9	5.0	8.8
All other reasons . . . . .	9.0	13.7	10.2	11.0	11.5	9.3	11.6	9.8
Not reported . . . . .	3.5	1.9	1.7	1.2	1.4	1.7	1.5	2.2

SOURCE: Larry H. Long and Kristen A. Hansen, *Reasons for Interstate Migration, Current Population Reports, Special Studies, Series P-23, No. 81* (U.S. Bureau of the Census, March 1979), p. 24.

<sup>1</sup> Data represent all three 12-month periods preceding the 1974, 1975, and 1976 Annual Housing Surveys.



likely to move greater distances than those not looking.

DaVanzo also attempted to assess the effects of unemployment rates at the place of origin and at the destination. Families with employed heads were found to be insensitive to the unemployment rate at the place of origin. When the family head was unemployed, then the unemployment rate at the place of origin and at the possible destinations influence the occurrence and destination of a move. Also, high levels of nonwage income tend to induce persons to stay, particularly the unemployed. Persons who migrated and were unable to find acceptable work tend to move again, often returning to their place of origin.

Various methods have been used to attempt to measure the financial returns to migration, including matching the migrants to persons with similar characteristics at the place of origin (if the person's origin wage rate or income is unknown) and at the destination. Greenwood warns, however, that financial returns attributable to migration can easily be overstated.<sup>24</sup> First, migration often involves a change in occupation. Thus, to attribute the increase in earnings to migration itself may be unreasonable. Also, migration frequently follows an investment in human capital; as indicated earlier, migrants tend to be relatively young and well educated. Thus, the measured income or wage differences may be attributable more to the investment in education than to migration. But the importance of financial considerations should not be minimized: three-fifths of migrants identify job factors as their main reason for moving, and some unidentified proportion of the rest are influenced, at least partly, by economic factors.<sup>25</sup>

*Noneconomic factors.* If almost 60 percent of interstate migrants cited job-related factors as their major reason for moving, then, of course, 2 out of 5 persons moved principally for noneconomic reasons. Note from table 6 that the Northeast was a net loser among family heads who moved because they were attending school, were retiring, wanted to be closer to relatives or for other family-related reasons, and because they wanted a change of climate.

Family considerations appear to be important to a sizable group of interregional migrants. Almost 2 out of 5 women who head households cited family factors as their primary reason for moving. Also, of interstate movers age 55 and over, one-third cited family reasons; 15 percent or less of the younger groups did so. Those moving for family reasons (whether females or males) were often return migrants. The South, which had a net outmigration until the late 1960's, most likely has received the largest share. In fact, it was the only region to have a net inflow of persons who cited family factors as their main reason for moving.

Climate is also an important noneconomic factor in

**Table 6. Proportion of persons desiring to live elsewhere with interregional migrants excluded, by census areas**

Area	Percent indicating desire to live elsewhere
Middle Atlantic .....	30.8
East North Central .....	30.2
West North Central .....	29.2
New England .....	20.9
East South Central .....	17.1
West South Central .....	17.1
South Atlantic .....	14.0
Mountain .....	13.0
Pacific .....	12.8

NOTE: Data include all those wishing to live in another State.

SOURCE: David J. Morgan, *Patterns of Population Distribution: A Residential Preference Model and Its Dynamics*. (Chicago, University of Chicago, Department of Geography, 1976, p. 22.)

the migration decision. Table 6 shows the results from a national sample survey conducted in 1973-74 by David Morgan and the National Opinion Research Center at the University of Chicago. These indicate that a much higher proportion of persons in the Northeast and North Central areas wanted to change their area of residence than those in the West and South.<sup>26</sup> And, as previously shown in table 5, the South and West have been net gainers among persons who move primarily because of a desire to change climate. Interestingly, in absolute numbers, more young persons (age 20-34) move for reasons of climate than do those age 55 and older.

Long and Hansen propose that people are becoming increasingly able to assign a high priority to environmental quality in deciding where they live.<sup>27</sup> Some of the causal factors include smaller families and more single-person households and households comprising unrelated persons (large families and the presence of school-age children tend to impede migration).<sup>28</sup> Also, in some cases, wives who work outside the home—whose numbers are growing rapidly—may give their husbands greater flexibility to choose their place of residence according to criteria other than maximization of his income (although, certainly, a wife's career may impede other families from moving).

Summarizing the factors that influence the migration decision, it has been shown that:

1. Age and education (or, at least, factors associated with age and education) are critical determinants of the propensity to migrate;
2. The individual's employment status is of primary importance, and the job market conditions at the place of origin and at the destination may serve to "push" or "pull" persons, particularly the unemployed, into migrating;
3. The decision to migrate is a family decision, dependent on the current and potential income of both wife and husband; and
4. Individuals and families have become increasingly able to base their migration decisions on noneconomic factors—particularly, the search for a better living environment (of which climate is only a part).

Increasing economic opportunity in the sunbelt States, coupled with the perception that many of these areas can provide a better quality of life has resulted in a somewhat dramatic migration of both people and jobs from the North (particularly the most industrialized areas) to the South and West. BLS data document rapid employment growth among a broad range of industries in the sunbelt States during 1968–78, reflecting the diversity of both the firms and jobseekers attracted to these areas, as well as the variety of resources and other natural advantages that contribute to economic growth.

### Changing patterns: altered policies

Regional growth and decline occur not only because of changes in comparative advantage between regions but also as a result of public policy, of which defense expenditures, mentioned earlier, are a primary example. Much of the regional impact of Federal policy, for example, results from programs and policies that are largely unrelated to regional development. Defense poli-

cies probably did more for recent economic growth in the West than did any other factor. Science and research policies also have resulted in providing economic advantage to selected regions. Federal welfare policy, energy policy, transportation and water resources policy, and virtually all Federal programs have definite regional impacts.

Thus, the migration of population and employment is much more than a demographic curiosity. With recent migration have come changes in the locus of both economic and political power, and a shift of concern from the future of the South to that of the North. The problem of urban decline in the northern industrial areas in the 1970's is just as compelling an issue as were the problems of poverty and economic backwardness in the rural South which have been a national concern throughout much of this century. To address adequately the regional imbalances in growth and development, policymakers must understand not only the economic, but also the personal or sociological factors that have resulted in this imbalance. □

#### FOOTNOTES

<sup>1</sup> For an in-depth study of the shift in political and economic power towards the sunbelt, see Kirkpatrick Sales, *Power Shift* (New York, Random House, 1975).

<sup>2</sup> The CPS sample in 1968 comprised only about 50,000 households.

<sup>3</sup> For an application of shift-share analysis, see M. F. Petrusis, *Regional Manufacturing Employment Growth Patterns*, U.S. Department of Agriculture, Rural Development Research Report No. 13, June 1979.

<sup>4</sup> Wage data are from the BLS survey of business establishments. National data are published regularly in *Employment and Earnings*.

<sup>5</sup> See C. L. Jusenius and L. C. Ledebur, *A Myth in the Making: Southern Economic Challenge and Northern Economic Decline*, Economic Development Administration, U.S. Department of Commerce, November 1976; and Peter Allaman and David L. Birch, "Components of Employment Change for States by Industry Group, 1970–72," Harvard University-Massachusetts Institute of Technology Joint Center for Urban Studies, Working Paper No. 5, Cambridge, Mass., September 1975.

<sup>6</sup> Illinois Manufacturers Association, *Comparative Business Climate Study* (Chicago, November 1975).

<sup>7</sup> Bernard L. Weinstein and Robert E. Firestine, *Regional Growth and Decline in the United States* (New York, Praeger Publishers, 1978), p. 137.

<sup>8</sup> *Ibid.*, p. 139.

<sup>9</sup> Factors affecting firms location decision are in F. F. Foltman, *Business Climate in New York State: Perception of Labor and Management Officials* (Ithaca, N.Y., New York State School of Industrial and Labor Relations, March 1976). Responses were received from 318 firms (goods and service-producing) in New York State. Results from this study are also shown in Weinstein and Firestine, p. 138.

<sup>10</sup> For a discussion of the impact of defense spending on regional development and population movements, see: Sale, *Power Shift*, ch. 1., and Maureen McBreen, "Regional Trends in Federal Defense Expenditures: 1950–76," in *Patterns of Regional Change—The Changes, The Federal Role, and the Federal Response: Selected Essays* (Washington, D.C., Congressional Research Service, October 1977).

<sup>11</sup> McBreen, "Regional Trends," p. 515.

<sup>12</sup> William H. Miernyk, *The Changing Structure of the Southern*

*Economy* (Research Triangle Park, N.C., Southern Growth Policies Board, January 1977), p. 10.

<sup>13</sup> *Population Estimates and Projections, Current Population Reports, Series P-25, No. 640*, Bureau of the Census, November 1976, p. 1.

<sup>14</sup> Migration data from the Bureau of the Census from 1975–78 include persons age 3 and older; 1970–75, age 5 and older; 1968–70, age 1 and older: *Current Population Reports, Series P-20, Nos. 188, 193, 285, 331*.

<sup>15</sup> Michael J. Greenwood, "Research on Internal Migration in the United States: A Survey," *Journal of Economic Literature*, June 1975, p. 406.

<sup>16</sup> Larry H. Long, "Migration Differentials by Education and Occupation: Trends and Variations," *Demography*, May 1973, p. 245.

<sup>17</sup> *Ibid.*

<sup>18</sup> Larry H. Long, "New Estimates of Migration Expectancy in the United States," *Journal of the American Statistical Association*, March 1973, pp. 37–43.

<sup>19</sup> Julie DaVanzo, *Why Families Move*, R & D Monograph 48, Employment and Training Administration, U.S. Department of Labor, 1977, pp. 76–79.

<sup>20</sup> Larry H. Long and Kristen A. Hansen, "Reasons for Interstate Migration," *Current Population Reports, Special Studies, Series P-23, No. 81*, Bureau of the Census, March 1979, pp. 5–6.

<sup>21</sup> *Ibid.*, p. 5.

<sup>22</sup> DaVanzo, *Why Families Move*, pp. 39–45.

<sup>23</sup> Barbara O. Maffei, "Regional and State Trends in Per Capita Income, 1970–75," *Patterns of Regional Change—The Changes, The Federal Role, and The Federal Response: Selected Essays* (Washington, D.C., Congressional Research Service, October 1977), pp. 215–25.

<sup>24</sup> Greenwood, "Research on Internal Migration," p. 402.

<sup>25</sup> Long and Hansen, "Interstate Migration," p. 6.

<sup>26</sup> David P. Morgan, *Patterns of Population Distribution: A Residential Preference Model and its Dynamic* (Chicago, University of Chicago Press, 1976), p. 22.

<sup>27</sup> Long and Hansen, "Interstate Migration," p. 28.

<sup>28</sup> Larry H. Long, "The Influence of Number and Ages of Children on Residential Mobility," *Demography*, August 1972, pp. 371–82.



# Identifying States and areas prone to high and low unemployment

*An analysis of employment and unemployment changes during the 1974–75 recession confirms that States and areas with heavy concentrations of manufacturing employment were more likely to have higher jobless rates; construction employment was also a factor*

RICHARD ROSEN

Analysis of unemployment trends in specific States and metropolitan areas over the last business cycle confirms the generally acknowledged fact that the goods-producing sector—especially manufacturing and construction—are more adversely affected during a recession than the service-producing sector. Northeast and North Central industrial areas were hardest hit by the 1974–75 recession. Vacation and resort areas were also adversely affected by the economic slowdown, not only because of the decrease in construction activities, but because of changes in consumers' spending on discretionary items such as leisure. Smaller more agricultural States in the Western North Central region were affected to a much lesser extent, as were the Western States.

Researchers and analysts are debating whether the Nation is headed toward or is already in a recession. Their discussions focus on the movements of various key economic indicators, including the unemployment rate. While it is not possible to forecast which parts of the country would be hardest hit by an economic slowdown, a look at changes in unemployment rates during the last recession provides some insight about which States or areas could be affected most by rising unemployment.

This article examines monthly over-the-year changes in the unemployment rates of the 50 States from the first half of 1974 to the first half of 1975—the period with the largest increase in unemployment nationally in the last recession. It also looks at unemployment rates in some 200 metropolitan areas, representing about two-thirds of the Nation's labor force. Because the rates are not seasonally adjusted, over-the-year comparisons,

which minimize the effect of seasonal fluctuations, are used.

## National employment-unemployment changes

In the 1973–75 recession, the national unemployment rate peaked during the first half of 1975—averaging about 8.9 percent. From the first half of 1974 to the first half of 1975, it increased more than 3.5 percentage points, and total payroll employment declined by about 1.7 million. Virtually all the decrease in employment occurred in the goods-producing industries—primarily manufacturing and construction. The number of jobs in construction was lower by 610,000, and manufacturing employment dropped by more than 2 million. In contrast, the service-producing industries had a net gain of more than 850,000 jobs, as decreases in transportation, public utilities, and wholesale trade were more than offset by continued growth in retail trade, the finance, insurance, and real estate group, services, and in government.

Sharp declines in manufacturing employment have characterized almost all postwar recessions. Declines in construction also have occurred during most of the earlier slowdowns but generally were not as large as in 1974–75. The high interest rate structure which prevailed in the last recession was primarily responsible for this unusually sharp decline.<sup>1</sup> The 1974–75 downturn was the most severe in terms of employment losses since 1948, except for the 1957–58 decline. Although the 1957–58 drop in manufacturing was not as great as in the 1974–75 recession, service sector employment declined by 78,000 during 1958 while increasing by 874,000 in 1975. As a result, the net total employment loss was larger in the earlier recession than in 1974–75.

Total annual average payroll employment has declined 5 times in the postwar period—1949, 1954, 1958,

Richard Rosen is an economist in the Office of Employment Structure and Trends, Bureau of Labor Statistics.

1961, and 1975. An employment drop in durable goods manufacturing preceded the 1949 overall slowdown; reductions in nondurable goods occurred prior to the 1958 and 1975 recessions; and a drop in construction employment preceded the 1954, 1958, 1961, and 1975 recessions. Service employment growth has generally slowed during years when overall employment declined, but has declined only once during the 1948-78 period. Employment in the mining industry displayed a downward trend from 1948 to 1971 until the energy crisis of

the 1970's spurred a turnaround.

The impact of the recession is, of course, felt differently across the Nation. Because of the large role of manufacturing in previous recessions, areas with a relatively large share of manufacturing employment are more likely to experience higher unemployment rates than areas with relatively large service economies. Areas with substantial construction employment—often rapidly growing areas—may also experience more severe economic downturns. However, because construction employment generally accounts for less than 7.5 percent of State or area employment, major declines are necessary to substantially affect total employment. In contrast, manufacturing employment accounts for more than one-fourth of total employment in a majority of the States. During the 1974-75 recession, employment declines in manufacturing, along with construction in some areas, were major factors in the economic downturn, and States and areas with relatively large proportions of employment in manufacturing generally experienced the largest increases in unemployment rates.

### 'Unemployment-prone' States

The national unemployment rate increased by an average of 3.7 percentage points from the first half of 1974 to the first half of 1975. The following changes in the unadjusted unemployment rates occurred during this period:

	<i>Unemployment rate</i>		<i>Percentage point change</i>
	1974	1975	
January	5.6	9.0	+3.4
February	5.7	9.1	+3.4
March	5.3	9.1	+3.8
April	4.8	8.6	+3.8
May	4.6	8.3	+3.7
June	5.8	9.1	+3.3

States with increases above the national average may be classified as "cyclically high unemployment prone" and States with increases below the national average can be classified as "cyclically low unemployment prone."<sup>2</sup> (See table 1.)

Only 17 States had above-average over-the-year unemployment rate increases, including 6 of the 10 largest States with over 5 million inhabitants—Florida, Massachusetts, Michigan, New Jersey, Ohio, and Pennsylvania. However, the two largest States—California and New York—had increases of 3.1 and 3.0 percentage points, somewhat below the national change. The primary reason so few States had above-average increases is that the changes are clustered in the largest States, which have the heaviest weight in the national average. In contrast, 15 States had increases of less than 2.0 percentage points, and only six States had increases of 5.5

**Table 1. Characteristics of States prone to high and low unemployment, 1974-75**

State	Average over-the-year change in unemployment rate, January - June 1974 to January - June 1975	Average unemployment rate, January - June 1975	Percent of 1974 nonagricultural employment in -	
			Construction	Manufacturing
United States	3.7	8.9	5.1	25.7
High unemployment-prone States:				
Arizona	5.7	12.1	7.8	15.1
Arkansas	5.7	10.6	5.6	31.8
Florida	5.6	10.7	9.6	13.1
Georgia	4.4	9.0	6.0	26.5
Indiana	4.0	9.5	4.4	36.3
Maine	4.8	11.3	5.3	29.1
Massachusetts	4.3	11.4	4.1	26.8
Michigan	7.1	13.9	3.8	34.0
Mississippi	4.5	8.8	6.2	31.0
New Hampshire	5.0	10.2	5.2	31.3
New Jersey	5.2	11.2	4.2	29.7
North Carolina	6.6	10.4	6.0	38.6
Ohio	4.8	9.5	4.1	34.0
Pennsylvania	3.9	8.7	4.4	32.4
Rhode Island	6.9	12.3	3.6	34.3
South Carolina	4.7	9.7	7.5	37.0
Tennessee	4.9	9.0	5.6	32.9
Low unemployment-prone States:				
Alabama	2.8	8.0	6.3	30.2
Alaska	-2.2	7.8	10.3	7.7
California	3.1	10.1	4.3	21.7
Colorado	3.0	7.0	6.4	14.3
Connecticut	2.7	8.8	4.3	34.1
Delaware	3.6	10.2	7.3	30.4
District of Columbia	1.2	7.1	3.8	2.9
Hawaii	-0.4	7.6	8.3	6.8
Idaho	1.4	7.1	6.0	18.0
Illinois	3.6	7.6	4.0	29.5
Iowa	2.0	4.4	4.8	24.9
Kansas	1.1	4.6	4.9	21.4
Kentucky	3.1	7.5	5.1	27.2
Louisiana	0.4	7.6	7.8	15.8
Maryland	2.5	7.0	7.1	17.0
Minnesota	1.6	6.4	4.4	23.0
Missouri	2.6	7.1	4.1	25.1
Montana	1.3	7.0	5.8	10.5
Nebraska	1.6	4.2	5.3	16.6
Nevada	2.9	10.4	6.1	4.8
New Mexico	2.6	10.7	7.2	8.2
New York	3.0	9.1	3.7	22.2
North Dakota	-0.4	4.3	6.6	7.6
Oklahoma	2.7	6.8	5.6	17.7
Oregon	3.6	11.3	4.7	23.5
South Dakota	1.3	4.2	5.4	10.1
Texas	1.7	5.6	6.9	19.1
Utah	1.8	6.8	5.6	16.2
Vermont	2.9	9.7	5.3	26.3
Virginia	3.2	7.1	7.4	22.3
Washington	1.8	9.5	4.8	21.2
West Virginia	2.4	9.1	5.5	23.1
Wisconsin	2.9	7.6	3.9	32.1
Wyoming	1.2	4.9	10.3	6.2



percentage points or more. Of the 15 States with relatively small increases, eight had fewer than 1 million inhabitants; Texas was the only large State.

States where unemployment rose most sharply were concentrated in Northeastern and North Central industrial areas and in the South; Arizona was the only Western State with a substantial rise in unemployment. Fifteen of the 17 States with above-average rate increases also had an above-average proportion of jobs in manufacturing, compared with only 6 of the 34 States with below-average rate increases.

The proportion of total employment in the construction industry in each State varied much less than the share in manufacturing—between 3.8 and 10.3 percent, compared with 2.8 to 38.6 percent in manufacturing. In only seven States (Alaska, Louisiana, Wyoming, Arizona, Florida, North Carolina, and Hawaii) was construction more than 7.5 percent of total employment. Changes in construction activity in these States was a major factor in determining whether it was a high or low

unemployment-prone State during the 1974–75 period.

High levels of construction activity aided the economies of Alaska, Louisiana, and Wyoming, bolstered by increased activities related to energy-construction of the oil pipeline in Alaska, mining in Wyoming, and oil and gas extraction in Louisiana. Major declines in construction employment adversely affected Arizona, Florida, and North Carolina. Construction in Arizona and Florida was primarily for vacation and retirement residences, activity especially sensitive to cyclical fluctuations and money market conditions. The first three States were classified as “low unemployment prone” during the period, while the latter three were classified as “high unemployment prone.” Hawaii had a relatively modest drop in construction (6 percent) and was classified as low unemployment prone.

### ... and metropolitan areas

Although State unemployment rates may be useful in identifying broad regions of the Nation which are af-

**Table 2. Characteristics of metropolitan areas prone to high unemployment, 1974–75**

Area	Change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—		Area	Change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—	
			Construction	Manufacturing				Construction	Manufacturing
United States .....	3.7	8.9	5.1	25.7	Lansing-E. Lansing, Mich. ....	5.8	13.0	3.5	22.9
Akron, Ohio .....	5.4	9.8	3.2	36.4	Little Rock-N. Little Rock, Ark. ....	4.6	7.6	6.6	20.4
Allentown-Bethlehem-Easton, Pa. ...	4.8	7.9	4.7	45.0	Long Branch-Asbury Park, N.J. ....	4.6	10.4	5.1	17.1
Altoona, Pa. ....	4.7	10.2	4.6	28.9	Los Angeles-Long Beach, Calif. ....	3.7	10.1	3.4	26.8
Anderson, Ind. ....	5.7	12.7	2.1	50.1	Lowell, Mass. ....	5.1	12.4	4.4	36.3
Ann Arbor, Mich. ....	8.4	14.1	2.9	30.6	Miami, Fla. ....	6.2	12.5	7.1	15.1
Asheville, N.C. ....	8.3	11.2	5.6	37.5	Muncie, Ind. ....	5.6	11.3	3.7	35.2
Atlanta, Ga. ....	4.7	9.1	6.2	16.4	Muskegon-Norton Shores- Muskegon Heights, Mich. ....	7.8	15.2	3.8	41.3
Atlantic City, N.J. ....	5.7	14.0	5.2	15.2	New Bedford, Mass. ....	7.7	15.0	3.1	42.1
Battle Creek, Mich. ....	6.7	13.0	2.7	40.7	New Britain, Conn. ....	4.6	10.9	3.8	51.6
Bay City, Mich. ....	7.5	15.3	3.7	30.2	New Brunswick-Perth Amboy- Sayreville, N.J. ....	5.4	10.5	4.0	37.2
Brockton, Mass. ....	4.2	11.5	3.8	25.7	Newark, N.J. ....	5.1	11.1	3.9	29.5
Buffalo, N.Y. ....	3.7	10.3	3.7	31.1	Northeast-Pennsylvania, Pa. ....	5.6	11.5	5.2	34.4
Canton, Ohio ....	5.2	9.6	3.7	40.9	Orlando, Fla. ....	6.3	11.4	10.7	12.6
Charlotte-Gastonia, N.C. ....	6.9	9.3	6.6	30.3	Owensboro, Ky. ....	4.1	9.2	(?)	(?)
Chattanooga, Tenn. ....	3.8	8.0	4.4	37.9	Patterson-Cifton-Passaic, N.J. ....	6.2	13.9	3.7	38.0
Cleveland, Ohio ....	3.8	7.9	3.7	32.7	Philadelphia, Pa. ....	4.1	9.5	4.7	27.2
Columbus, Ohio ....	3.7	7.7	4.7	22.8	Phoenix, Ariz. ....	7.2	13.5	7.5	19.0
Dayton, Ohio ....	3.8	8.9	4.0	33.8	Providence, R.I. ....	7.0	12.3	3.7	37.6
Detroit, Mich. ....	6.7	13.0	3.5	35.1	Reading, Pa. ....	4.3	7.5	4.1	40.7
Erie, Pa. ....	4.0	8.5	3.5	43.2	Saginaw, Mich. ....	5.9	13.0	3.2	40.5
Eugene-Springfield, Oreg. ....	4.3	12.7	4.7	25.0	Santa Rosa, Calif. ....	4.6	13.8	6.3	14.9
Fall River, Mass. ....	5.2	12.7	2.9	41.0	Springfield-Chicopee-Holyoke, Mass. ....	5.1	11.6	3.5	30.9
Fayetteville-Springdale, Ark. ....	4.6	9.6	5.2	34.0	Syracuse, N.Y. ....	3.7	8.5	5.1	25.5
Flint, Mich. ....	5.4	18.0	2.8	42.7	Tampa-St. Petersburg, Fla. ....	6.6	9.7	9.8	14.6
Ft. Lauderdale, Fla. ....	8.4	13.3	13.6	11.1	Toledo, Ohio ....	5.4	11.0	4.7	31.4
Ft. Smith, Ark. ....	6.9	11.6	4.7	38.2	Trenton, N.J. ....	3.8	9.0	2.2	26.5
Ft. Wayne, Ind. ....	6.9	10.9	4.3	38.3	Tucson, Ariz. ....	3.9	6.5	8.3	8.7
Grand Rapids, Mich. ....	6.5	12.5	4.7	35.9	Vineland-Milville-Bridgeton, N.J. ....	8.6	16.8	3.6	38.4
Greensboro-Winston-Salem- High Point, N.C. ....	5.4	8.5	5.2	41.7	Waterbury, Conn. ....	4.5	10.7	3.5	44.1
Greenville-Spartanburg, S.C. ....	5.3	8.9	7.7	43.6	West Palm Beach-Boca Raton, Fla. ....	6.5	12.0	11.9	13.7
Harrisburg, Pa. ....	4.2	6.9	5.4	20.3	Williamsport, Pa. ....	5.7	10.8	4.1	41.7
Jackson, Mich. ....	6.8	11.7	3.3	35.1	Wilmington, Del. ....	3.7	10.6	7.7	32.1
Jersey City, N.J. ....	6.3	14.5	1.9	35.7	Worcester, Mass. ....	4.9	11.2	3.5	32.3
Kalamazoo-Portage, Mich. ....	6.1	11.4	4.4	36.1	York, Pa. ....	5.5	8.8	5.4	43.7
Lancaster, Pa. ....	4.0	7.2	5.7	42.2	Youngstown-Warren, Ohio ....	6.2	11.7	3.5	43.1

<sup>1</sup> Data are for 1975.

<sup>2</sup> Data not available.

NOTE: Data for metropolitan areas in four States—Illinois, Wisconsin, West Virginia, and New Hampshire—are not available.

ected by rising unemployment, a look at changes in unemployment at the area level can pinpoint, more directly, places where unemployment is most severe. Almost all metropolitan areas had over-the-year increases in unemployment during the first half of 1975; fewer than 5 percent experienced declines. (See table 2.) Data for metropolitan areas in four States, Illinois, Wisconsin, West Virginia and New Hampshire, are not available.<sup>3</sup>

About 1 of every 3 metropolitan areas for which data are available had over-the-year increases in their unemployment rate in excess of the national increase during the first half of 1975. Areas with the largest increases (5.0 percentage points or more) included the 11 metropolitan areas in Michigan, where auto production predominates; older industrial areas such as Lowell, Fall River, and New Bedford, Massachusetts, Providence, Rhode Island, York and the Northeast Pennsylvania area—where the recession may have accelerated an already declining economy—and resort and retirement areas such as Ft. Lauderdale, Miami, Orlando, and West Palm Beach, Florida, and Phoenix, Arizona.

The majority of the areas with large increases in unemployment had a heavy concentration of manufacturing employment. In many instances, employment declines occurred primarily in durable goods manufacturing industries such as motor vehicles, primary metals, and fabricated metals. These industries predominate in North Central metropolitan areas. In other cyclically high unemployment-prone areas, nondurable goods manufacturing suffered most, particularly textiles and apparel. This was the primary cause of higher unemployment in metropolitan areas of North Carolina and Pennsylvania and in Providence, Rhode Island.

Although many resort areas in Florida were severely affected by the recession, actual declines in service-related employment were slight. However, most of these areas had experienced large employment gains in service industries in the years prior to the recession, so that the relatively modest changes indicate a significant break in trend. Much greater declines occurred in construction employment, as many of these areas had experienced construction booms resulting from the purchases of retirement and vacation residences. Phoenix was also in this category. Declines in manufacturing, particularly in durable goods, also were a contributing factor in employment losses in both Miami and Orlando.

Forty-nine metropolitan areas had unemployment rate increases of 2.0 percentage points or less from the first half of 1974 to the first half of 1975—a relatively modest increase compared with the national average. (See table 3.) These cyclically low unemployment-prone areas were scattered among 21 States. All of the metropolitan areas in Washington and Louisiana were relatively less affected by the recession, as were 10 of the 12

areas in Texas. Virginia had three such areas, and Connecticut, California, Alabama, South Carolina, Nebraska, Kansas, and Montana had two areas each.<sup>4</sup>

These less unemployment-prone areas had a relatively low proportion of employment in manufacturing. Only 7 of the 49 areas had more than one-fourth of employment in manufacturing in 1974, the national average proportion. (In contrast, almost three-fourths of the high unemployment-prone areas had manufacturing employment above the national average.)

### Changes during 1979

Compared with the first 6 months of 1978, the national unadjusted unemployment rate declined by 0.5

**Table 3. Characteristics of metropolitan areas prone to low unemployment, 1974–75**

Area	Change in unemployment rate, January–June 1974 to January–June 1975	Average unemployment rate, January–June 1975	Percent of 1974 nonagricultural employment in—	
			Construction	Manufacturing
Alexandria, La. ....	1.8	10.2	6.7	14.0
Amarillo, Tex. ....	0.4	3.6	7.0	11.1
Austin, Tex. ....	1.2	4.1	6.9	9.2
Baton Rouge, La. ....	0.0	6.5	12.3	14.8
Beaumont-Port Arthur-Orange, Tex. ....	0.8	6.7	8.7	32.6
Billings, Mont. ....	1.2	5.8	6.1	10.5
Birmingham, Ala. ....	1.5	6.4	6.6	23.7
Boise City, Idaho ....	0.7	5.6	7.7	10.1
Charleston-N. Charleston, S.C. ....	1.2	7.4	7.6	13.8
Columbia, S.C. ....	0.8	3.7	7.1	17.0
Corpus Christi, Tex. ....	1.0	6.3	9.0	12.3
Des Moines, Iowa ....	1.9	4.2	5.1	17.7
El Paso, Tex. ....	1.9	8.7	6.9	22.8
Galveston, Tex. ....	0.5	5.2	6.5	18.9
Great Falls, Mont. ....	0.9	6.8	5.6	6.4
Hartford, Conn. ....	1.7	7.2	4.0	26.5
Honolulu, Hawaii ....	-0.4	7.3	8.4	6.0
Houston, Tex. ....	0.7	4.0	10.0	18.0
Johnstown, Pa. ....	2.0	7.7	3.1	29.5
Lafayette, La. ....	-0.9	4.7	8.4	6.0
Lake Charles, La. ....	-1.3	8.0	10.7	22.2
Lexington-Fayette, Ky. ....	1.8	4.4	5.9	24.3
Lincoln, Nebr. ....	1.3	3.3	5.5	15.5
Lubbock, Tex. ....	1.1	4.2	5.8	15.3
Minneapolis-St. Paul, Minn. ....	1.8	5.5	4.2	24.7
Mobile, Ala. ....	1.0	6.4	7.7	21.8
Monroe, La. ....	1.7	8.7	9.1	16.7
New Orleans, La. ....	0.1	7.6	6.6	12.8
Norfolk-Virginia Beach-Portsmouth, Va. ....	2.0	6.6	8.0	11.7
Omaha, Nebr. ....	2.2	5.7	5.1	16.3
Oxnard-Simi Valley-Ventura, Calif. ....	2.0	9.1	3.9	15.5
Petersburgh-Colonial Heights-Hopewell, Va. ....	1.7	6.0	4.9	32.2
Poughkeepsie, N.Y. ....	1.9	5.0	3.9	34.4
Richmond, Va. ....	1.5	4.6	6.9	18.9
St. Joseph, Mo. ....	1.6	5.9	5.2	26.9
Salem, Ore. ....	1.6	10.7	5.2	18.7
Salt Lake City-Ogden, Utah ....	1.9	6.7	5.5	15.2
San Antonio, Tex. ....	2.0	7.0	7.2	12.5
Seattle-Everett, Wash. ....	2.0	8.8	4.1	23.0
Shreveport, La. ....	1.3	7.6	6.8	20.5
Sioux Falls, S.D. ....	1.7	4.1	5.1	16.2
Spokane, Wash. ....	0.8	9.9	5.2	13.7
Stamford, Conn. ....	0.9	6.3	3.9	32.5
Tacoma, Wash. ....	1.9	9.7	5.0	18.0
Topeka, Kans. ....	1.2	5.5	4.0	14.5
Vallejo-Fairfield-Napa, Calif. ....	1.3	7.4	4.2	10.0
Washington, D.C. ....	0.7	4.9	6.7	3.8
Wichita, Kans. ....	1.1	5.1	5.4	31.2
Wichita Falls, Tex. ....	1.1	4.4	5.9	15.7



**Table 4. Metropolitan areas with over-the-year increases in unemployment rates, January–June 1978 to January–June 1979**

Area	Change, January–June 1978 to January–June 1979	Change during previous recession <sup>1</sup>	Major industry group affected
Akron, Ohio	0.4	High	Nondurable, durable
Albuquerque, N.M.	0.1	Medium	Nondurable
Altoona, Pa.	1.1	High	Construction, nondurable, and public utilities
Anderson, Ind.	0.2	High	Nondurable, durable, construction
Ann Arbor, Mich.	0.2	High	( <sup>2</sup> )
Ashville, N.C.	0.1	High	Construction, nondurable
Bay City, Mich.	0.7	High	Nondurable, construction
Birmingham, Ala.	0.6	Low	Nondurable, construction
Boise City, Idaho	1.5	Low	Nondurable, construction, services
Cincinnati, Ohio	0.1	Medium	No declines
Columbus, Ga.	0.7	Medium	Nondurable
Columbus, Ohio	0.2	High	No declines
Dayton, Ohio	1.1	High	Durable
Detroit, Mich.	0.9	High	( <sup>2</sup> )
Erie, Pa.	0.6	High	Services
Eugene-Springfield, Ore.	1.3	High	Nondurable, durable
Evansville, Ind.	0.5	Medium	Durable, construction
Fargo-Moorhead, N.D.	0.2	Medium	No declines
Flint, Mich.	0.6	High	( <sup>2</sup> )
Ft. Smith, Ark.	1.3	High	Durable
Grand Rapids, Mich.	0.6	High	( <sup>2</sup> )
Huntsville, Ala.	0.8	High	No declines
Jackson, Mich.	1.1	High	Construction
Kalamazoo-Portage, Mich.	0.4	High	( <sup>2</sup> )
Lafayette-West Lafayette, Ind.	0.3	Medium	Durable
Lansing-East Lansing, Mich.	0.1	High	( <sup>2</sup> )
Las Vegas, Nev.	0.2	High	No declines
Lewiston-Auburn, Maine	1.0	Medium	Nondurable
Long Branch-Asbury Park, N.J.	0.2	High	Nondurable
Mobile, Ala.	0.5	Low	Manufacturing <sup>3</sup>
Montgomery, Ala.	0.5	Medium	Nondurable
Muskegon-Norton Shores-Muskegon Heights, Mich.	0.9	High	Nondurable
Northeast Pennsylvania, Pa.	0.2	High	Construction, nondurable
Owensboro, Ky.	0.5	High	Nondurable
Parkersburg-Marietta, W.Va.	0.1	Medium	No declines
Patterson-Cliton, Passaic, N.J.	0.1	High	Wholesale and retail trade
Pensacola, Fla.	0.5	Medium	Nondurable
Portland, Maine	0.2	Medium	No declines
Portland, Ore.	1.2	Medium	Nondurable
Saginaw, Mich.	1.2	High	( <sup>2</sup> )
Salem, Ore.	0.8	Low	Durable, construction
Savannah, Ga.	0.2	Medium	Durable, construction, services
Sioux City, Iowa	1.3	Medium	Durable, construction, wholesale and retail trade
Sioux Falls, S.D.	0.3	Low	Wholesale and retail trade
South Bend, Ind.	0.1	Medium	No declines
Spokane, Wash.	0.7	Low	Construction
Toledo, Ohio	0.6	High	No declines
Topeka, Kans.	0.4	Low	No declines
Trenton, N.J.	0.2	High	Nondurable, durable
Williamsport, Pa.	0.5	High	No declines

<sup>1</sup> High denotes rate change in excess of the national increase (3.7 percentage points); medium denotes rate change between 2.1 and 3.7 points; low denotes a change of 2.0 points or less.

<sup>2</sup> Data not available since March 1979.

<sup>3</sup> Data are not available separately for durable and nondurable goods.

percentage points, from a 6.4- to 5.9-percent average for the first half of 1979. However, during this period, 50 metropolitan areas had over-the-year increases in unemployment rates. (See table 4.) More than one-half of these were cyclically high unemployment-prone areas

during the last recession, while only about one-seventh were cyclically low unemployment-prone areas.

Nearly all of the areas experienced over-the-year employment declines in one or more industry sectors.<sup>5</sup> Reductions were about evenly divided between construction, durable goods, and nondurable goods.

The most prominent declines were in the industrial metropolitan areas of Michigan, Indiana, and Ohio, generally high unemployment-prone areas in the 1974–75 recession. Four areas in Pennsylvania and three in New Jersey also experienced increases in unemployment in 1979. These also were high unemployment-prone areas during 1974–75.

Areas less prone to increases in unemployment during the 1974–75 period but whose rate increased in 1979 include Birmingham and Mobile, Alabama; Boise City, Idaho; Salem, Oregon; Sioux Falls, South Dakota; Spokane, Washington; and Topeka, Kansas. In most of these areas, employment declined in nondurable goods and, in a few instances, in durable goods manufacturing; Salem also experienced construction declines.

Thus, changes in construction and manufacturing employment continue to influence the economies of many States and metropolitan areas. As the concentration of employment shifts geographically, States and areas which gain employment in cyclically-sensitive industries may increase their incidence of unemployment, while States and areas with broadening service economies may decrease their incidence of cyclical unemployment. □

— FOOTNOTES —

<sup>1</sup> The average yield of new FHA mortgages rose from 8.62 percent in the second half of 1973 to 8.92 percent in the first 6 months of 1974 and to 9.82 percent in the second half of 1974, before easing to 9.04 percent during the first half of 1975. *Economic Report of the President, 1976*, p. 239.

<sup>2</sup> Percentage point changes are used in this analysis because they are believed to be most comparable to the national average. If the percent change in the rate of unemployment were used, one State (Massachusetts) would be shifted from the high to low recession-prone category, and four States (Colorado, Illinois, Iowa, and Kentucky), would be shifted from the low to high recession-prone category.

<sup>3</sup> Nationally, the unemployment rate increased 2.9 percentage points on an annual basis from 1974 to 1975. The increase in Illinois was the same as the national increase; while the rise in New Hampshire was above average (3.6 percentage points), but the increases were below average in Wisconsin (2.4 percentage points) and in West Virginia (1.6 percentage points). It is, therefore, likely that many of the eight large metropolitan areas in Illinois, Manchester, New Hampshire, and some of the seven areas in Wisconsin experienced above-average increases in the rate of unemployment.

<sup>4</sup> The Washington, D.C. metropolitan area, which includes the Northern Virginia suburbs, also had a relatively small increase in unemployment.

<sup>5</sup> Industry employment data are not available for Michigan metropolitan areas since March 1979. However, the rise in unemployment rates in most of the Michigan area is clearly automobile-related.

# Folding paperboard box industry shows slow rise in productivity

*More efficient equipment and production techniques contributed to an increase in output per hour and a decline in work hours in 1963-78; the advance was smaller than for manufacturing as a whole*

JAMES D. YORK

Productivity in the folding paperboard boxes industry has risen at nearly the same rate as for manufacturing generally. A major contributor was the introduction of more efficient equipment and production methods.

As measured by output per employee-hour, productivity in the industry increased at an average annual rate of 2.0 percent during 1963-78, compared with 2.2 percent for all manufacturing industries.<sup>1</sup> In this period, output rose at an average annual rate of 0.3 percent and employee-hours declined at an average annual rate of 1.7 percent. (See table 1.) Productivity gains have been boosted by advances in printing technology, widespread adoption of power equipment for finishing operations, and faster gluing machinery.

Long-term growth in the industry's productivity has not been steady and declined slightly during 1973-78. From 1963-69, output per employee-hour increased at an average annual rate of 2.1 percent. This period was characterized by rising output, and stable employment and work hours. Output increased at a rate of 2.1 percent while employee-hours showed no overall change. Declines in productivity occurred in 1965 and 1969. The decline of 5.2 percent in 1965 was offset by increased growth during the next two years. The productivity decline of 2.8 percent in 1969 was the result of a 6.2-percent increase in output, outpaced by a 9.3-percent increase in employee-hours. The largest increase in

productivity occurred in 1967, when output fell 0.9 percent, but employee-hours fell 9.5 percent. The resulting increase in productivity was 9.5 percent. During 1969-76, productivity increased at a rate of 3.5 percent. The period was characterized by a slight dip in output and a rapid decline in hours. Output decreased at an average annual rate of 0.4 percent, while hours decreased at a rate of 3.8 percent. Competition from substitute packaging materials adversely affected the industry's market and encouraged efforts to achieve greater efficiency. Improved equipment, such as faster printing presses, permitted the industry's producers to maintain output, while reducing employment and work hours. Productivity increased in five years of this 7-year period. The 1970 decline of 7.2 percent was more than offset by the large gains of 9.2 and 8.4 percent that occurred during the next two years. A 0.4-percent decline occurred in 1975 (a recession year) when output fell 10.9 percent and work hours, 10.6 percent.

In 1977, productivity fell 5.1 percent; employee-hours had increased 6.9 percent but output rose only 1.4 percent. In an effort to work off a backlog of orders from the preceding year, and to ensure meeting customer demand, more employees were added during 1977. Anticipated demand did not materialize, however. Frequent changes in production runs, associated with order backlogs, led to reduced efficiency. In 1978, productivity continued to decline as an increase in employee-hours, 7.7 percent, outpaced the increase in output, 3.9 percent.

James D. York is an economist in the Division of Industry Productivity Studies, Bureau of Labor Statistics.



## Industry serves a broad market

Folding paperboard boxes are used to package a variety of consumer products, including beverages, cosmetics, and detergents. Because the range of products is great, the industry's market is strongly influenced by the entire economy, rather than by the sales of only a few products.

Competition from substitute packaging materials, such as plastic, has limited the growth of the markets for various types of folding paperboard boxes, contributing to the lack of long term growth over the 15-year period covered by the study.

The largest use of paperboard boxes is in packaging dry foods.<sup>2</sup> More box tonnage is used for this than for any other item. Dry food's share of the market for paperboard boxes has increased slightly, from 25 percent of tonnage shipped during 1963 to over 27 percent during 1978. Of the various dry foods packaged in paperboard boxes, cereals and pet foods have shown the most growth in recent years.

Beverage carriers and soap containers are two other important uses. Output of beverage carriers increased rapidly during 1963-68. During 1968-72, however, output declined. It began to increase again in 1973, and by 1978 the output of beverage carriers passed the peak reached 10 years earlier. Substitute packaging was probably a factor in the decline of 1968-72, as sales of malt beverages, and bottled and canned soft drinks increased rapidly. Shipments of soap cartons showed no discernible trend over the 1963-78 period.

Changing market conditions have dampened the demand for retail boxes during recent years. Many fast-food chains have introduced substitute packaging mate-

rials, such as styrofoam, which have cut into the container market.<sup>3</sup> Available data indicate that shipments of retail boxes (including laundry boxes) increased by 33 percent during 1971-74, after fluctuating somewhat in preceding years. Since 1974, however, shipments have resumed the irregular movements of earlier years.

The production of paperboard box containers for textile and candy products increased during 1963-68, but has been declining since. In contrast, the production of boxes for medicinal products nearly doubled over the 1963-78 period.

## Employment declines

Total employment in the folding paperboard box industry declined 8.4 percent between 1963 and 1978, an average of 1.5 percent per year. In 1963, there were 51,300 employees, but by 1978 there were only 47,000. Industry employment, however, did not decline steadily. During 1963-69, total employment fluctuated, but there was no downward trend. The two largest movements were a 9.2-percent decrease in 1968 and a 10-percent increase in 1969. During 1969-78 there was a significant downward trend. Employment declined 12.1 percent, equivalent to an average annual rate of 1.8 percent. The two largest decreases occurred in 1970 and 1975, periods of strong cyclical contraction. The 1970 decline was nearly 9 percent, and in 1975, more than 11 percent. Conversely, employment rose in 1972 and 1976 as a result of increased economic activity. Employment continued to grow during 1977 and 1978.

The number of production workers fell more rapidly from 1963-78 than did the number of nonproduction workers. The average annual rate of decline for production workers was 1.6 percent, compared to a rate of 1.1 percent for nonproduction workers. The many technological advances in production equipment appear to have contributed to the more rapid decline in the number of production workers.

Average hourly earnings have risen steadily since 1972, the first year for which such data are available. From 1972 to 1978, average hourly earnings rose 65 percent, from \$3.70 to \$6.09. In terms of both absolute levels and trends, the average hourly earnings for the period closely paralleled those for all manufacturing.

## Improvements in technology

The traditional method of producing folding paperboard boxes consists of several stages. Paperboard, in the form of a roll, is fed to a sheeter which cuts the roll into discrete sheets. These sheets are fed through a press which performs the desired printing. After printing, the paperboard passes to the cutter and creaser, which cuts out the carton blanks and puts creases at points where the carton is to be folded. The cut and creased cartons, which are still held in the paperboard

**Table 1. Productivity and related indexes for the folding paperboard boxes industry, 1963-78**

[1967=100]

Year	Output per employee-hour			Output	Employee-hours		
	All employees	Production workers	Non-production workers		All employees	Production workers	Non-production workers
1963 ..	93.6	93.0	96.8	96.8	103.4	104.1	100.0
1964 ..	95.7	94.9	99.3	97.1	101.5	102.3	97.8
1965 ..	90.7	90.1	93.4	95.5	105.3	106.0	102.2
1966 ..	91.3	90.7	94.2	100.9	110.5	111.2	107.1
1967 ..	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1968 ..	105.9	104.7	111.5	104.1	98.3	99.4	93.4
1969 ..	103.0	101.7	109.4	110.6	107.4	108.8	101.1
1970 ..	95.5	95.3	96.3	91.6	95.9	96.1	95.1
1971 ..	104.3	104.9	101.7	92.2	88.4	87.9	90.7
1972 ..	113.1	113.1	113.0	101.9	90.1	90.1	90.2
1973 ..	114.1	114.0	114.5	102.0	89.4	89.5	89.1
1974 ..	120.4	121.8	114.8	102.3	85.0	84.0	89.1
1975 ..	119.9	122.8	108.2	91.1	76.0	74.2	84.2
1976 ..	124.4	126.1	117.6	101.5	81.6	80.5	86.3
1977 ..	118.0	119.0	114.1	102.9	87.2	86.5	90.2
1978 ..	113.8	113.8	113.7	106.9	93.9	93.9	94.0
Average annual rates of change (in percent)							
1963-78	2.0	2.2	1.4	0.3	-1.7	-1.9	-1.1
1973-78	-1	-1	.1	1.0	1.1	1.2	.9

sheets by small connections left by the cutting blades, proceed to the finishing operation. At this stage, the scrap is removed by a process known as stripping. This is the last step in producing many types of folding cartons, which are then ready for delivery to the user. Other types are glued together before being shipped.

Improvements have been made in all stages of the production process. For longer production runs, many plants now bypass the sheeter altogether and feed the paperboard sheet directly to the printing press, speeding production. This means increased efficiency for long production runs, when setup time is unimportant. In shorter runs, however, setup time is an important consideration because these operations require more frequent changes in the production line. Consequently, sheeters continue to be used for runs of shorter length; their brief setup time requirements more than offset their lack of production speed.

Significant changes have taken place in printing. The offset lithography process has supplanted the older, letterpress process throughout much of the industry. Lithography is based on the principle that oil and water do not mix. Image and non-image areas on lithographic plates are separated by chemical means, rather than by a height differential, as in the letterpress method. In addition, the letterpress plates make direct contact with the paperboard, often requiring an exacting preparation to compensate for height irregularities in the image carriers. Much less preparation is needed for lithographic plates, however, because they lack significant height differentials, and make contact with a resilient rubber blanket rather than the actual paperboard.<sup>4</sup>

Another change in printing is the greater use of presses which apply many colors in a single pass, eliminating the need for multiple passes.

Faster drying inks and ink-drying equipment have become available, eliminating the long production delays associated with older, slower drying inks.<sup>5</sup> Newly developed ultraviolet inks, for example, dry almost instantly when exposed to ultraviolet light, permitting the paperboard to pass quickly to the cutting and creasing process.<sup>6</sup> With conventional inks, the printed paperboard often had to be held for hours or days before being cut and creased.

Some manufacturers are now purchasing inks in pre-mixed form, eliminating the hours otherwise required to mix the inks at the plant.

Part of the problem in maintaining color uniformity in production runs stems from the need to control the thickness of the ink layer, which is applied to the carton. In an effort to insure effective control of the applied ink layer, some manufacturers have adopted computerized color control systems, which enable the ink application specifications for a certain production run to be dialed at a central control console.<sup>7</sup> The ink

fountains on the press are then automatically adjusted to apply the ink layer at the proper thickness. By re-entering the same specifications at the console, reprints can be easily produced. This system greatly reduces the amount of adjustment work required to control the thickness of the ink.

After printing, the paperboard is cut and creased. Platen cutters are now available which perform this operation faster than cylinder cutters. Afterward, the scrap must be removed from the cartons. Platen cutters remove some and reduce the amount of finishing required. Some new platen cutters can remove all of the scrap on certain jobs, eliminating the need for a separate finishing operation. Power hammers have greatly improved the efficiency of the stripping process, when used in separate finishing operations, after cutting and creasing is complete.

Many of these operations can be performed in a continuous process, rather than in separate stages. Gravure presses make such continuous processing possible. Although not economical for short-runs, gravure equipment provides great economies in very large-scale production. The gravure press is web fed, and the entire carton-making process, printing, cutting, creasing, and stripping is carried out in one continuous, on-line operation.

As the length of production runs increases to meet the needs of large customers, many producers have adopted the gravure presses, for greater efficiency. Large runs are required to justify their adoption, however, because of the time and expense involved with the setup work.

After the scrap has been stripped away, many types of cartons are ready for shipment, but others must first pass through a gluing operation. There have been many improvements in glues and gluing equipment. Some new glues dry quicker. Greater drying speed and faster gluing equipment have resulted in speedier production.<sup>8</sup> Mechanical feeders have been adopted which increase the rate at which the glue machines can be fed. Their benefits have been largely confined to long runs, however, due to the setup time they require. The adoption of automatic quality control equipment for use on the gluing line has also contributed to increased production speed. The equipment can inspect cartons and reject the faulty ones much more quickly than can human inspectors.

The final step in the production operation involves putting the finished cartons into containers for shipment. Many producers have adopted automatic machinery for this task, resulting in greater speed and reduced labor time. Once packed in shipping containers, the boxes are transferred to storage or shipping areas. Various types of materials handling equipment have facilitated this task. Automatic conveyor systems can



transfer the packed containers to the warehouse in predetermined group sizes for easier palletizing.<sup>9</sup> Fork trucks then handle the palletized containers.

### Continued gains likely

Productivity should continue to increase as improved production equipment is adopted by more manufacturers. The trend toward faster printing presses is likely to continue. Ultraviolet ink printing, which eliminates the lag in drying time, can be expected to become more popular as the technology is improved and more producers find it affordable.

Faster equipment for cutting and creasing, and gluing operations has increased productivity and should contribute to future improvements. Further improvements in quality control equipment may speed production. A number of manufacturers with long production runs have found it economical to adopt the more efficient gravure presses, continued adoption of which appears likely and should add to overall efficiency in the industry.

Computer technology will also contribute to future gains in productivity. Computerized control of ink application has already been adopted by some manufacturers and will likely spread. Computers can also be applied to the process of making dies for the cutting and creasing process. New applications for computers should, in time, aid further advances in productivity.<sup>10</sup>

Another operation which may become more efficient in the future is warehousing. The technology for automated warehousing already exists but represents an expensive investment. However, the gains which might be realized could induce producers to use it.

Continued competition from substitute packaging materials should be an incentive for producers to reduce costs, resulting in widespread adoption of the best available technologies, and the development of improved

production equipment.

### Measurement techniques and limitations

The productivity indexes in this study measure the change over time in industry output per unit of labor input. These indexes do not measure the specific contribution of labor, but reflect the influence of many factors, such as changes in technology, capital investment, capacity utilization, and the skill and effort of the work force.

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

The annual output index for the folding paperboard box industry is based on quantity data published by the Paperboard Packaging Council in the annual issues of the *Marketing Guide*. Because unit labor weights are not available at the detailed product level, substitute unit value weights, assumed to be proportional to unit employee-hour weights, have been used to combine the products. The annual output indexes have been adjusted to levels based on data reported in the *Census of Manufacturers*. The most current adjustments presented in this study reflect data from the 1972 economic census.

Employment and employee-hour indexes were derived from data published by the Bureau of the Census. Employees and employee-hours are each considered homogeneous and additive, and thus, do not reflect changes in the qualitative aspects of labor, such as skill and experience. A technical note describing the methods used to develop the indexes is available from the Division of Industry Productivity Studies, Bureau of Labor Statistics. □

### — FOOTNOTES —

<sup>1</sup> The folding paperboard box industry is composed of establishments primarily engaged in manufacturing folding paperboard boxes from purchased paperboard. It is designated as industry 2651 in the 1972 Standard Industrial Classification (SIC) Manual. All average annual rates of change are based on the linear least squares trend of the logarithms of the index numbers. Extension of the indexes will appear in the annual BLS Bulletin, *Productivity Indexes for Selected Industries*.

<sup>2</sup> Based on data from the Paperboard Packaging Council.

<sup>3</sup> *Marketing Guide*, Paperboard Packaging Council, 1976, p. 2.

<sup>4</sup> See *The Folding Carton*, Paperboard Packaging Council, 1975, pp. 30-31.

<sup>5</sup> See "Prospects for Radiation Cured Inks are Best in Paperboard Packaging," *Paperboard Packaging*, May 1974, pp. 20-26. Also, see

"First U.S. Installation of Dutch Infrared System Speeds Printing of High-Quality Drug Cartons," *Paperboard Packaging*, February 1978, pp. 66, 67.

<sup>6</sup> *The Folding Carton*, p. 33.

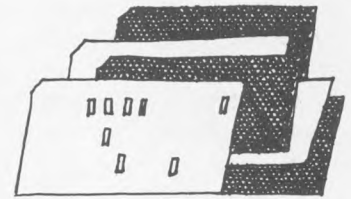
<sup>7</sup> *Ibid.*, p. 34.

<sup>8</sup> See "Tripling of Speed, Increase in Design Versatility Made Possible with Straight-Line Gluer," *Paperboard Packaging*, February 1978, pp. 62-65.

<sup>9</sup> See "Production Rolling at Container's Newest, Biggest Carton Plant," *Paperboard Packaging*, January 1964, p. 58.

<sup>10</sup> See "Computer-Aided Package Design Yields Major Savings in Distribution Costs," *Paperboard Packaging*, September 1978, pp. 85-87.

# Research Summaries



## Conflicts between work and family life

JOSEPH H. PLECK, GRAHAM L. STAINES,  
AND LINDA LANG

How prevalent is the conflict between work and family life in the general population of workers? What forms does it take? What working conditions exacerbate it? For the first time, the Quality of Employment Survey, conducted for the U.S. Department of Labor by the Survey Research Center at the University of Michigan, provides some data on the extent to which work interferes with family life.<sup>1</sup>

The survey results suggest that a substantial minority of workers living in families experienced conflict between work and family life. These conflicts most often concerned excessive work time, schedules, and fatigue and irritability caused by work. Parents reported more conflict than other couples, but, surprisingly, women did not report more conflict than men although the kinds of conflicts reported by the two sexes differed. Specific working conditions, such as excessive hours at work, scheduling, and physically or psychologically demanding work were associated with experiencing work-family conflict, which, in turn, was related to diminished job satisfaction, and contentment with life in general.

### Prevalence and types of interferences

Workers in the survey<sup>2</sup> who were currently married or living with a child under 18 were asked: "How much do your job and your family life interfere with each other—a lot, somewhat, not too much, or not at all?" Table 1 shows the responses of various groups of workers. More than 10 percent of the entire sample said that work-family conflict occurred "a lot" (severe conflict) and another quarter indicated that it occurred "somewhat" (moderate conflict). Altogether, more than a third of all workers living in families experienced ei-

ther moderate or severe work-family conflicts.

As expected, parents experienced conflict significantly more often than other workers. Being a parent increased the incidence of moderate or severe conflict by about 7 percentage points among husbands in two-earner families, 14 points among breadwinning husbands, and 13 percent among wives of employed husbands. Working parents of preschool children also reported more conflict than did parents of school-age children.

However, several expected differences were not confirmed by the data: the employment status of the spouse was unrelated to work-family conflict and employed women did not, on average, report work-family conflict significantly more often than did employed men. Among all employed women (including wives and those heading single-parent families), about 35 percent reported moderate or severe conflict, compared with 34 percent for employed husbands. The margin was somewhat greater if employed wives were compared with employed husbands—37 versus 34 percent—but still was not significant. Employed women who headed one-parent families actually reported work-family conflict somewhat less often than did men.

Thus, work-family conflict is evident among a substantial minority of workers. It appears heightened among parents, compared with other couples; but not among women, compared with men. Employed women and men experienced work-family conflicts to a similar degree. It is possible that these data underestimate sex differences. For example, employed women may be less willing than men to acknowledge conflicts, because they feel others will use these conflicts as evidence that they should not be working. Also, employed women with severe work-family conflict may have more freedom than employed men to leave the labor force. Nonetheless, the data suggest that working men encounter work-family conflicts to an extent more similar to women than is usually thought.

Workers who reported "somewhat" or "a lot" of interference between their work and family life were asked how these roles interfered with each other. The three most common responses were "excessive work time," "schedule conflicts," and "fatigue and irritability."<sup>3</sup> The frequencies of these conflicts are shown in table 2. Half the sample with moderate or severe interference reported excessive time spent at work as a specific problem,

Joseph H. Pleck is program director, Wellesley College Center for Research on Women; Graham L. Staines is study director at the Survey Research Center, University of Michigan; and Linda Lang is a graduate student at the University of Massachusetts—Amherst.



and slightly more than a quarter reported incompatibility between their work and family schedules (sometimes resulting from other family members' work schedules). Nearly 15 percent reported negative physical or psychological consequences from work, such as fatigue and irritability.

When these specific types of work-family interference problems were examined, sex differences became evident. Employed men were significantly more likely than women to report excessive work time as a problem, while employed women were more likely than men to report schedule incompatibilities and fatigue and irritability (resulting from their work) as impinging on their family life.

Thus, while men and women reported to the same degree all forms of work-family conflict combined, they experienced this conflict in different ways. Men more often reported excessive work time, at least in part because they worked more hours than women. Women more often reported schedule conflicts, presumably because women more often have to see that family responsibilities are met and have to arrange their work schedule accordingly. Women's greater family responsibilities may also be the reason for their more frequent reports that physical and psychological consequences of work caused family problems. Fatigue and irritability brought home from work may make it more difficult for a woman to perform her family tasks, and thus, may cause a problem for her family. These same feelings may not have this effect for the husband because he generally has fewer home tasks to perform.

**Contributing job characteristics**

What job characteristics seem to cause work-family conflict? Other information in the survey makes it possible to analyze several working conditions as potential

**Table 2. Frequency of common types of work-family conflicts**

[In percent]

Group	Excessive work time	Schedule incompatibility	Fatigue and irritability
Total sample	50.0	28.0	14.8
Employed husbands	59.1	20.4	8.8
Wife employed	62.8	22.4	10.9
No children	52.8	31.4	15.1
Youngest 0-5 years	65.8	42.1	10.5
Youngest 6-17 years	69.2	12.3	7.7
Wife not employed	55.8	18.6	7.0
No children	57.5	22.5	5.0
Youngest 0-5 years	53.1	19.8	7.4
Youngest 6-17 years	58.8	13.7	7.8
Employed wives, husband employed	38.7	38.7	27.4
No children	36.4	31.8	43.2
Youngest 0-5 years	26.4	41.5	26.4
Youngest 6-17 years	49.3	40.8	18.3
Employed female single parents	10.0	50.0	15.0

NOTE: The total sample size is 372; percentages are based on weighted sample among those experiencing moderate or severe conflict.

sources of these conflicts. The specific job characteristics<sup>4</sup> are shown in table 3.

The characteristics most strongly and significantly associated with all work-family conflict were number of hours worked; frequent overtime; the work schedule, particularly the afternoon shift; and physically or psychologically demanding work. Having to work with an irregular starting time, having low control over whether one works overtime, and having little flexibility to change one's work schedule or take time off from work for personal or family matters were also significantly associated with work-family conflict, though to a lesser degree. This pattern of correlates of work-family conflict is intuitively plausible. Interestingly, being self-employed, holding a second job, and time spent or problems experienced in commuting to work were unrelated to conflict.

The three types of work-family conflict also had an expected pattern of correlates. Reporting that excessive work time interfered with one's job and family life was related to excessive hours spent working, as well as to the frequency of overtime and number of hours worked. Schedule incompatibilities between work and family demands were uniquely related to afternoon, evening, and irregular work shifts. Reporting that fatigue and irritability generated at work interfered with family life was associated with describing one's work as physically or psychologically demanding.

The analysis of specific types of conflict reveals certain unexpected correlates as well. The various job characteristics concerning overtime were not associated with reporting schedule conflicts between work and family, although they were associated with perceiving excessive time at work as causing problems for the family. It may be that workers subject to overtime, particularly men, perceive its effects on their families less in terms of

**Table 1. Frequency of work-family conflict**

[In percent]

Group	Not at all	Not too much	Somewhat	A lot
Total sample	24.3	41.3	24.0	10.4
Employed husbands	25.9	40.4	23.6	10.1
Wife employed	26.7	41.8	21.0	10.5
No children	35.1	37.1	20.3	7.4
Youngest 0-5 years	22.9	41.3	22.9	12.8
Youngest 6-17 years	20.0	46.8	20.7	12.3
Wife not employed	25.0	38.7	26.6	9.7
No children	35.0	38.7	20.0	6.3
Youngest 0-5 years	20.4	32.8	37.1	9.7
Youngest 6-17 years	20.3	45.6	20.9	13.3
Employed wives	22.5	40.5	26.5	10.5
Husband employed	22.9	39.1	27.7	10.4
No children	37.1	33.7	18.5	10.7
Youngest 0-5 years	11.8	40.3	36.1	11.8
Youngest 6-17 years	16.3	43.5	31.0	9.2
Husband not employed	18.6	55.8	14.0	11.6
Employed women in one-parent families	17.0	58.0	13.6	11.4
Youngest 0-5 years	18.6	55.8	9.3	16.3
Youngest 6-17 years	15.6	60.0	17.8	6.7

NOTE: The total sample size is 1,084; percentages are based on weighted sample.

disrupting their families' schedules and more in terms of simply taking time away from their families.

Holding a job which makes high physical or mental demands was associated not only with perceiving work-generated fatigue and irritability as causing problems for the family, but also with reports of excessive time spent at work. In these workers' descriptions of their work-family problems, it may be that the boundary between saying that their job makes them tired and that they work too much is a subtle one: having a demanding job can produce either.

Surprisingly, inability to alter one's schedule or to take time off was unrelated to workers' reporting schedule conflicts between work and family life, though it is related to the two other conflicts. Other evidence indicated that the majority of workers in the survey felt their work schedule suited them.<sup>5</sup> Having a schedule that cannot be easily changed caused problems only if the schedule was unsuitable to begin with. When such a schedule did cause problems for the family, workers perceived these problems as their working too much or their job leaving them too tired, rather than in terms of conflicts with the schedules of other family members.

### Correlation with overall satisfaction

When work-family conflict occurs, does it have any consequences? One kind of evidence on this point concerns the relationship between reports of conflict and measures of workers' satisfaction with their jobs and family life, and their satisfaction with life in general. Table 3 shows the correlation coefficients between these measures<sup>6</sup> and work-family conflict. Workers who said their job and family lives interfered with each other reported significantly lower satisfaction with both their jobs and their family life. They also reported significantly lower contentment with life in general.

The three specific types of work-family conflict had the same correlates, with one important exception: perceiving one's work time as excessive and interfering with family life was not associated with diminished family satisfaction. To reduce workers' satisfaction with their family life, time at work has to do more than simply take the worker away from the family; it has to conflict with others' schedules or leave the worker tired.

MINIMIZING CONFLICTS between work and family life can be only one of many goals in the design of work schedules. Just as working conditions which may be desirable for employers or workers may reduce family well-being, working conditions that reduce work-family conflicts may be costly in other ways. The survey results do not suggest that working conditions be changed in any particular way to benefit the family; rather, they show that the scheduling and demands of work do affect workers' lives, and imply that these ef-

**Table 3. Correlation coefficients between work-family conflicts and job characteristics and satisfaction**

Job characteristics and satisfaction	Work-family conflicts			
	All conflicts	Excessive work time	Schedule conflict	Fatigue and irritability
Job characteristics:				
Main job hours <sup>1</sup> . . . . .	<sup>2</sup> 0.24	<sup>2</sup> 0.27	-0.02	0.01
Total job hours <sup>1</sup> . . . . .	<sup>2</sup> .25	<sup>2</sup> .30	-.02	.03
Day shift <sup>3</sup> . . . . .	<sup>2</sup> -.19	<sup>4</sup> -.07	<sup>2</sup> -.21	.03
Afternoon shift <sup>5</sup> . . . . .	<sup>2</sup> .13	.02	<sup>2</sup> .22	-.01
Night shift <sup>6</sup> . . . . .	.05	.00	<sup>2</sup> .09	-.02
Irregular shift . . . . .	4.07	.01	<sup>2</sup> .11	.03
Overtime frequency <sup>7</sup> . . . . .	<sup>2</sup> .13	<sup>2</sup> .11	.03	.04
Overtime hours <sup>2</sup> . . . . .	.10	<sup>2</sup> .18	.01	-.05
Low overtime control <sup>8</sup> . . . . .	4.09	.07	.10	-.04
Schedule inflexibility <sup>9</sup> . . . . .	<sup>2</sup> .12	<sup>2</sup> .09	.03	4.07
Work demands <sup>10</sup> . . . . .	<sup>2</sup> .25	<sup>2</sup> .19	.03	<sup>2</sup> .15
Self-employed . . . . .	.00	-.04	-.04	<sup>4</sup> -.08
Second job . . . . .	.01	.07	.01	.02
Commuting time . . . . .	-.04	-.05	-.02	-.02
Commuting problems . . . . .	.05	.00	.00	.06
Satisfaction:				
Job satisfaction . . . . .	<sup>2</sup> -.19	<sup>11</sup> -.08	<sup>11</sup> -.09	<sup>2</sup> -.11
Family satisfaction . . . . .	<sup>2</sup> -.15	-.02	<sup>2</sup> -.10	<sup>11</sup> -.08
Life satisfaction . . . . .	<sup>2</sup> -.18	<sup>2</sup> -.10	<sup>2</sup> -.10	<sup>11</sup> -.09

<sup>1</sup> Per week.

<sup>2</sup> Significant at 0.001.

<sup>3</sup> Jobs with regular starting times between 3:30 and 11:59 a.m. (90 percent of which had starting times between 6 and 10 a.m.).

<sup>4</sup> Significant at 0.05.

<sup>5</sup> Jobs with starting times between noon and 5:59 p.m.

<sup>6</sup> Jobs with starting times between 6 p.m. and 1:30 a.m.

<sup>7</sup> Overtime frequency was classified by workers as occurring "never," "sometimes but less than weekly," or "weekly or more often," and assigned values of 1, 2, and 3.

<sup>8</sup> Low overtime control was assessed by an index of items concerning whether the worker or employer decided whether the worker put in overtime hours, and whether the worker could refuse overtime without penalty.

<sup>9</sup> The schedule inflexibility index is constructed from items concerning difficulty in changing work days, in changing work hours, and in taking time off from work for personal or family matters.

<sup>10</sup> The work demands index was based on the physical effort required by one's job; whether the job required one to work fast, and whether the job required one to work hard.

<sup>11</sup> Significant at 0.01.

NOTE: The sample size varies from 942 to 1084. Correlations are Pearson's *r* or point-biserial correlations.

facts should be examined, together with other factors, when policies about working conditions are considered. □

### FOOTNOTES

<sup>1</sup> This report is condensed from one submitted to the Assistant Secretary of Labor for Policy, Evaluation, and Research under contract No. J-9-M-7-0119. For a general summary of the survey's results, see Graham L. Staines and Robert P. Quinn, "American workers evaluate the quality of their jobs," *Monthly Labor Review*, January 1979, pp. 3-12.

<sup>2</sup> Information on the sample drawn for this survey appears in Robert P. Quinn and Graham L. Staines, *The 1977 Quality of Employment Survey* (Ann Arbor, Mich., Survey Research Center, 1978), Ch. 2.

<sup>3</sup> The other 4 general categories were time (not further specified); schedule uncertainty; work travel; and vacation-related problems. The category "time" was reported by 14 percent of workers with moderate or severe conflict; the other categories were evident in fewer than 5 percent each.

<sup>4</sup> Further details are in Joseph H. Pleck, Graham L. Staines, and Linda Lang, *Work and Family Life: First Reports on Work-Family Interference and Workers' Formal Childcare Arrangements, from the 1977 Quality of Employment Survey* (Wellesley, Mass., Wellesley College Center for Research on Women, 1978).



<sup>5</sup> Quinn and Staines, *The 1977 Quality of Employment Survey*, pp. 82–86.

<sup>6</sup> Job satisfaction is based on items concerning satisfaction with both general and specific features of one's job. The family satisfaction index is based on items concerning how happy one's marriage is, how satisfied individuals are with their marriage, and how satisfied they are with their family life. Life satisfaction is based on the items "Taking all things together, how would you say things are these days? Would you say you're very happy, pretty happy, or not too happy these days?" "In general, how satisfying do you find the ways you're spending your time these days? Would you call it completely satisfying, pretty satisfying, or not very satisfying?" and 8 other items assessing specific feelings or words that can characterize a person's life (for example, full versus empty, and hopeful versus discouraging). Details on job and life satisfaction are in Robert P. Quinn and Linda J. Shepard, *The 1972–73 Quality of Employment Survey* (Ann Arbor, Mich., Survey Research Center, 1974), pp. 47–69. For family satisfaction, see Pleck, Staines, and Lang, *Work and Family Life*, pp. 15–16.

## Age Discrimination in Employment Act: a review of recent changes

JULIA E. STONE

As originally enacted, Title VII of the Civil Rights Act of 1964 required the Secretary of Labor to conduct a study of age discrimination in employment. The study led, 3 years later, to enactment of the Age Discrimination in Employment Act of 1967 (ADEA) to prohibit employment discrimination against persons age 40 to 65. These age limits were chosen to focus coverage on workers especially likely to experience job discrimination because of their age. The "upper age limit" was set at 65 because it was a common retirement age in U.S. industry. In 1978, the act was amended to extend protection beyond age 65—without any upper age limit in the Federal sector and until age 70 for most other workers in the United States.

The law prohibits discrimination on the basis of age in such matters as hiring, job retention, compensation and other terms, conditions, and privileges of employment. Employers, employment agencies, and labor organizations are covered by the act.<sup>1</sup> They are prohibited from using employment-related advertisements that indicate any preference, limitation, specification, or discrimination based on age. Employment agencies and labor organizations may not use age as a basis for classifying or referring persons for employment.

There are certain exceptions to the application of the act's prohibitions. An employer may discharge or otherwise discipline an individual for good cause. The law's prohibitions also do not apply where age is a bona fide occupational qualification reasonably necessary to the normal operation of a particular business, or where dif-

ferentiation is based on reasonable factors other than age. Also, employers are allowed to make some age distinctions in providing fringe benefits to facilitate the employment of older workers.

### Mandatory retirement age

The major issue addressed by the Age Discrimination in Employment Act Amendments of 1978 was mandatory retirement. Data from a 1973 Employment Practices Survey conducted by the Bureau of Labor Statistics indicated that approximately half of the private nonagricultural work force was subject to mandatory retirement provisions.<sup>2</sup> Most of the provisions set the mandatory retirement age at 65, some used a higher age, and a very few stipulated a lower age.

In the Congressional deliberations which led to enactment of the 1978 ADEA amendments,<sup>3</sup> the following themes were advanced in support of action to restrict mandatory retirement. Individual ability to perform a job, rather than arbitrary age distinctions, should be the basis for continued employment. Public opinion, as evidenced in a 1974 Harris survey, is opposed to forced retirement based on age. As Americans experience greater longevity and the number of older persons grows, those who are capable of working beyond age 65 should be permitted to do so. Because of widespread retirement before age 65, a relatively small portion of the work force has actually been forced to retire between age 65 and 70; and the availability of fully accrued pension and social security benefits at age 65 should continue to facilitate voluntary retirement at age 65. Medical evidence has indicated that mandatory retirement can have a detrimental effect on a person's physical, emotional, and psychological health, and even on his or her life span. Following retirement, many people experience financial difficulties because of various factors. These include considerable decreases in income which often accompany retirement, difficulty in finding reemployment, longer life spans over which to stretch savings, erosion of fixed pensions by inflation, and—especially for women who have entered the labor force after raising a family or being widowed or divorced—restricted accrual of eligibility for significant retirement benefits as a result of mandatory retirement. It was also suggested that forced retirement of capable older workers results in unnecessary demands on governmental programs, such as the social security system and various assistance programs at State and local levels, as well as the Federal level.

Concerns regarding possible adverse effects of eliminating mandatory retirement were also discussed during the legislative process. Three major areas of concern were identified: (1) the possibility of an adverse impact on employment opportunities for young people and on promotional opportunities for midlevel employees—including minorities and women; (2) uncertainty regard-

Julia E. Stone is a labor economist in the Division of Legislative Analysis, Employment Standards Administration.

ing workers' productivity beyond age 65 and potential administrative burdens in evaluating employees' performance; and (3) possible implications for pension arrangements.

### **New coverage and limited exemptions**

Rather than entirely remove the act's upper age limit, Congress agreed to extend age discrimination protection without an upper age limit for almost all Federal employment (effective September 30, 1978) and until age 70 for most private and nonfederal public employment (effective January 1, 1979).

The extension of coverage to age 70 for private sector and State and local government employment was accomplished by raising the law's upper age limit from 65 to 70. Also, new language was added to Section 4(f)(2) of the law to clearly prevent mandatory retirement of covered workers under employee benefit plans such as retirement, pension, or insurance plans.<sup>4</sup> On April 6, 1978, this protection against mandatory retirement took effect for employees under age 65. On January 1, 1979, it took effect for workers up to age 70—along with the new age-70 limit on coverage. However, for workers employed under collective bargaining agreements, the protection against mandatory retirement under Section 4(f)(2) was phased in and became generally applicable on January 1, 1980. Mandatory retirement at ages 65 through 69 was also allowed to continue for tenured faculty in institutions of higher education until July 1, 1982, and indefinitely for certain high-level executives and policymakers.

The deferred application of the newly stated restriction of mandatory retirement under employee benefit plans affected employees working under collective bargaining agreements in effect on September 1, 1977. Mandatory retirement of such employees at ages 65 through 69 was allowed to continue until termination of their agreement or January 1, 1980, whichever came first.<sup>5</sup> The delay was provided to give maximum deference to collective bargaining agreements negotiated between labor and management, because the contracts had been negotiated in good faith with reciprocal agreements and concessions made on various issues, including mandatory retirement. This avoided undue disturbances in labor-management relations while pension plan agreements were clarified. A provision in the Equal Pay Act of 1963, allowing a similar delay where there were collective bargaining agreements in effect, was cited as a precedent for this temporary exemption.

The 1978 amendments also included an exemption allowing mandatory retirement of tenured employees in institutions of higher education at ages 65 through 69 until July 1, 1982,<sup>6</sup> in response to concern regarding declining enrollments and faculty reductions resulting from demographic trends. Advocates of the exemption

asserted that the prohibition against mandatory retirement until age 70 could result in the faculty reductions having a disproportionate impact on recently hired, untenured faculty—particularly women and minorities. There was also some concern that current financial difficulties of colleges and universities could be exacerbated by requiring retention of highly paid senior faculty beyond age 65 without allowing for budgetary planning. In addition, concern was expressed that the nature of tenure agreements, designed to protect the academic freedom of faculty, would be compromised without the exemption.

The exemption allowing the mandatory retirement of high-level executives and policymakers at ages 65 through 69 applies only when the individual has been employed in "a bona fide executive or a high policymaking position" for the 2 years prior to mandatory retirement *and* is entitled to an immediate nonforfeitable annual retirement benefit provided by the employer equivalent to a straight-life annuity of at least \$27,000.<sup>7</sup> This amount excludes retirement benefits attributable to contributions of prior employers or to employee contributions. It also excludes retirement income from social security. The definition of "bona fide executive" set forth in regulations under the Fair Labor Standards Act<sup>8</sup> should be met for an individual to come within the scope of the exemption as an executive. Employees in high policymaking positions were placed in the exemption to encompass high-level personnel whose positions and responsibilities give them a significant role in the development and implementation of corporate policies though they may have little or no line authority.<sup>9</sup> The reasons cited for this exemption were the need to assure promotional opportunities—especially for midlevel employees and for achieving affirmative action goals—and the difficulty involved in evaluating the performance of top executive personnel.

### **Federal workers**

In extending age discrimination protection for Federal workers, coordination of the 1978 amendments with provisions under various other statutes governing employment in the Federal sector was a significant concern. Thus, effective September 30, 1978, along with providing for application of the ADEA to Federal employment without any upper age limit, the 1978 amendments also repealed a statutory civil service provision that required the mandatory retirement of Federal workers when they reached age 70 and had 15 years of Federal service. A prohibition against Federal hiring of workers age 70 or older on a permanent basis was also repealed. The amendments did not repeal mandatory retirement provisions applicable to Federal employees in certain specific occupations—air traffic controllers, law enforcement officers, firefighters, employees of the Alaska Railroad, the



Panama Canal Company, the Canal Zone Government, the Foreign Service, and the Central Intelligence Agency.<sup>10</sup> However, Congressional committees which have jurisdiction over such employment in the Federal Government agreed to review the remaining mandatory retirement provisions to determine if they should be continued.

The 1978 amendments also clearly specified that the Federal sector is only subject to the age-40 coverage limit and the provisions contained in Section 15 of the Age Discrimination in Employment Act. Section 15 was added to the act in 1974 to extend coverage to Federal employment. The 1978 language makes clear, for example, that the Federal sector coverage is not affected by the exemptions allowing continued mandatory retirement of certain employees under collective bargaining agreements, in institutions of higher education, or in executive and high-level policymaking positions.

### Procedural amendments

Two amendments modified the procedural requirements involved in private individuals' lawsuits and governmental enforcement of the act. These amendments were a response to concern about frequent dismissal of lawsuits by the courts on procedural grounds, without consideration of the substance of the age discrimination complaints involved. A third procedural amendment concerned the right of aggrieved individuals to a jury trial. All three went into effect on April 6, 1978.

*Filing of charges.* Before going to court with a private lawsuit, an individual who believes that he or she has suffered discrimination in violation of the ADEA is required to notify the Federal enforcement agency<sup>11</sup> of the alleged violation within 180 days of its occurrence (or within 300 days if the alleged violation occurs in a State which has an agency empowered to grant or seek relief from age discrimination).<sup>12</sup> The notification required by the 1978 amendments is in the form of a "charge alleging unlawful discrimination." This charge may be filed in the form of a written statement which identifies the potential defendant and describes the action believed to be discriminatory. This replaced a requirement that a "notification of intent to sue" be filed within the 180- (or 300-) day period.<sup>13</sup> The new language parallels the 180-day charge language under Title VII of the 1964 Civil Rights Act.

In many instances, age discrimination is not discovered by the victim until some time after the alleged unlawful practice has occurred. In some instances, a potential plaintiff may take time to attempt to resolve an issue directly with the employer or may take time to obtain an informed legal opinion as to the likelihood of a successful lawsuit. In the past, courts that interpreted the "notice of intent to sue" as a jurisdictional require-

ment observed the 180- or 300-day time limits rigidly. Congressional conferees on the 1978 amendments explained that the "charge" requirement should not be construed as a jurisdictional prerequisite to judicial consideration, and therefore, equitable modification would be possible. Thus, if a court concludes that a plaintiff had a legitimate excuse for failing to give notice within the 180- or 300-day period, the lawsuit need not be dismissed.<sup>14</sup>

*Tolling the statute of limitations.* Before instituting court action to enforce the act, the Federal enforcement agency is required to attempt to eliminate alleged discriminatory practices and gain voluntary compliance through "informal methods of conciliation, conference, and persuasion." The 1978 amendments provide that the statute of limitations—2 years for nonwillful violations and 3 years for willful violations—may be tolled for up to a year while informal conciliation is being attempted under this provision.

The purpose of providing for tolling of the statute of limitations during the conciliation process was to assure that, especially in large and complex cases, the enforcement agency should not be forced to go to court simply to protect the right to action without having first had adequate time to complete the conciliation process. This amendment was also designed to prevent those who may have violated the law from delaying or postponing the conciliation process with the possibility of avoiding backpay liabilities because of the statute of limitations. The rationale for placing a time limitation on the tolling provision was to avoid placing an inequitable burden of potential liabilities on employers through prolonged conciliation during which claimants' rights would also go unsatisfied. As indicated during the legislative process, an enforcement agency need not complete conciliation prior to going to court; the courts may stay lawsuits pending before them to permit completion of the conciliation process.

*Right to a jury trial.* The 1978 amendments clearly provide that the option of a jury trial is available to individuals in cases where there are factual issues regarding alleged discrimination involving potential monetary liabilities, such as backpay.<sup>15</sup> As indicated during legislative consideration of this amendment, the liquidated damages remedy available under the act is in the nature of legal, rather than punitive relief, and is therefore within the scope of the provision.

### Study requirements

The 1978 amendments required that the effects of the new coverage provisions be studied. A Department of Labor study of involuntary retirement must include an examination of the effects of raising the upper age limit to 70 and a determination as to the feasibility of further

extending or eliminating the age-70 limit on coverage for private sector and nonfederal public employment. The report must also examine the effects of the exemptions allowing age 65 through 69 mandatory retirement of tenured teaching personnel in institutions of higher education and of certain executives and high-level policymakers. A final report is required by January 1, 1982, preceded by an interim report by January 1, 1981.<sup>16</sup>

A report on the effects in the Federal sector by the Office of Personnel Management was required by January 1, 1980.

### Administration of the act

In 1979, the Equal Employment Opportunity Commission assumed administrative responsibility for enforcement of the Age Discrimination in Employment Act. On January 1, 1979, this commission took charge of Federal sector enforcement activities for which the Civil Service Commission had been responsible; on July 1, 1979, it assumed ADEA enforcement responsibilities for private sector and State and local government employment, previously carried out by the Department of Labor.<sup>17</sup> Thus, the Equal Employment Opportunity Commission has become generally responsible for enforcing antidiscrimination protection for older workers covered under this law, as well as the protection, under Title VII of the 1964 Civil Rights Act, against discrimination in employment on the basis of race, color, religion, national origin, and sex.

The transfer of ADEA enforcement responsibility to the Equal Employment Opportunity Commission and the important changes made in the act by the 1978 amendments mark an important juncture in the evolution of the Nation's efforts to deal with discrimination in employment as it affects older workers. The experience of workers, employers, and others affected by the 1978 amendments, the required studies of the impact of the new amendments, EEOC experience in enforcing the law, and continuing public attention to the employment needs of older Americans can be expected to contribute valuable information and insights as to whether further modifications of the law may be appropriate in the future. □

#### FOOTNOTES

<sup>1</sup> The ADEA applies to private employers of 20 or more persons, to State and local government agencies, to public and private employment agencies servicing such employers, and to labor organizations if they have 25 or more members or represent the employees of covered employers or refer persons to covered employers for employment.

<sup>2</sup> The Employer Policies and Practices Survey was conducted in September of 1973 by the Bureau of Labor Statistics for the Employment Standards Administration of the Department of Labor. Results of this survey were reported in: Department of Labor, Employment Standards Administration, *Age Discrimination in Employment Act of 1967, A Report Covering Activities Under the Act During 1976*, Submitted to

Congress in 1977 in Accordance with Section 13 of the Act, pp. 72-73 and pp. 34-37.

<sup>3</sup> House of Representatives Report No. 95-527, July 25, 1977; Senate Report No. 95-493, Oct. 12, 1977; House of Representatives Report No. 95-950, *Conference Report*, Mar. 14, 1978; and *Congressional Record*, September 13 and 23, and October 19, 1977, and Mar. 21 and 23, 1978.

<sup>4</sup> The 4(f)(2) exception, as amended in 1978, stipulates that while it is not unlawful for an employer, employment agency, or labor organization

"to observe the terms of a bona fide seniority system or any bona fide employee benefit plan such as a retirement, pension or insurance plan, . . . no such seniority system or employee benefit plan shall require or permit the involuntary retirement of any individual [within the Act's age group coverage] because of the age of such individual."

The clarification of the 4(f)(2) provision in effect overruled the Supreme Court's decision in *United Air Lines, Inc. v. McMann*, 434 U.S. 192 (1977), which permitted application of a mandatory retirement requirement (before age 65) in observance of the terms of an employee benefit plan that predated the original enactment of the law. For a discussion of the case, see *Monthly Labor Review*, February 1978, p. 57.

<sup>5</sup> As the extended grace period does not apply to mandatory retirement under nonunion employee benefit plans, mandatory retirement of employees at ages 65 through 69 under nonunion pension plans has been prohibited under section 4(f)(2) of the ADEA since Jan. 1, 1979, when the age 70 upper age limit on coverage took effect.

<sup>6</sup> The language of the exemption, contained in Section 12(d) of the act, is as follows:

"Nothing in this Act shall be construed to prohibit compulsory retirement of any employee who has attained 65 years of age but not 70 years of age, and who is serving under a contract of unlimited tenure (or similar arrangement providing for unlimited tenure) at an institution of higher education . . ."

<sup>7</sup> The language of the exemption, contained in Section 12(c) of the Act, is as follows:

"Nothing in this Act shall be construed to prohibit compulsory retirement of any employee who has attained 65 years of age but not 70 years of age, and who, for the 2-year period immediately before retirement, is employed in a bona fide executive or a high policymaking position, if such employee is entitled to an immediate nonforfeitable annual retirement benefit from a pension, profitsharing, savings, or deferred compensation plan, or any combination of such plans, of the employer of such employee, which equals, in the aggregate, at least \$27,000.

"In applying the retirement benefit test, . . . if any such retirement benefit is in a form other than a straight-life annuity (with no ancillary benefits), or if employees contribute to any such plan or make rollover contributions, such benefit shall be adjusted in accordance with regulations prescribed by the Secretary, after consultation with the Secretary of the Treasury, so that the benefit is the equivalent of a straight-life annuity (with no ancillary benefits) under a plan to which employees do not contribute and under which no rollover contributions are made."

<sup>8</sup> See 29 Code of Federal Regulations, Part 541, Section 541.1.

<sup>9</sup> A detailed discussion of the intended scope of the exemption is contained in House of Representatives Report No. 95-950, *Conference Report*, Mar. 14, 1978, pp. 9-10.

<sup>10</sup> Maximum age requirements for entry into Federal employment in certain occupations—for law enforcement officers, firefighters and traffic controllers—were also left unchanged. It should be noted, as well, that under section 15(b) of the ADEA, reasonable exemptions may be established in the Federal sector where it is determined that age is a bona fide occupational qualification necessary to performance of a job.

<sup>11</sup> The U.S. Department of Labor was the agency responsible for enforcement activities under the ADEA until July 1, 1979, when, under



Reorganization Plan No. 1 of 1978, this authority was transferred to the U.S. Equal Employment Opportunity Commission.

<sup>12</sup> In *Oscar Meyer & Co. v. Evans*, 99 S. Ct. 2066 (May 21, 1979), the Supreme Court ruled that workers who seek relief from alleged discrimination under the ADEA must first resort to available State remedies before bringing suit in Federal court. See *Monthly Labor Review*, Sept. 1979, p. 59.

<sup>13</sup> A parallel requirement applicable to Federal employment was not modified by the 1978 amendments to the ADEA and continues to require filing of a notice of intent to sue within the 180-day period.

<sup>14</sup> A 2-year—or in the case of a willful violation, a 3-year—statute of limitations on the recovery of back wages continues to be applicable under section 7(e)(1) of the ADEA.

<sup>15</sup> In *Lorillard v. Pons*, 434 U.S. 575 (1978), the Supreme Court ruled that a jury trial was available under the original language of the ADEA, based on its similarity to the Fair Labor Standards Act, which permits jury trials. See *Monthly Labor Review*, April 1978, p. 51.

<sup>16</sup> Section 5 of the ADEA, as enacted in 1967, stipulated—without a time limit—that: “The Secretary of Labor is directed to undertake an appropriate study of institutional and other arrangements giving rise to involuntary retirement, and report his findings and any appropriate legislative recommendations to the President and to the Congress.”

<sup>17</sup> Under Reorganization Plan No. 1 of 1978, which authorized these transfers, the Department continues to be responsible for research (including studying the effects of the 1978 amendments) and for educational and informational activities relating to the expansion of the employment opportunities for older persons.

## New occupational rates of labor force separation

DIXIE SOMMERS AND CARIN COHEN

The Bureau of Labor Statistics has recently revised its estimates of labor force separation rates by occupation. These rates represent the net annual rates at which people withdraw from the labor force to retire or because of disability, family responsibility, or death. They, therefore, account for a significant proportion of total job openings in specific occupations.

Because data that differentiate separation rates for specific occupations and States are not available, the Bureau develops proxy rates by applying national age- and sex-specific separation data to the age and sex distribution of employment in specific occupations for the Nation and by State. The newly revised estimates are for 1970, 1980, and 1985. They update those published by the Bureau in 1974.<sup>1</sup>

Table 1 displays the new occupational rates. In almost every occupation, the new 1970 rates are lower than the earlier estimates. Changes in the 1985 rates vary, however, depending on whether more men or more women are expected to be in an occupation. The predominantly male occupations show rate increases, while the predom-

inantly female occupations show declines.

The new occupational rates reflect changes in the age- and sex-specific rates upon which the Bureau bases its occupational estimates. The new 1970 age-specific separation rates for men differ slightly from the previous estimates, reflecting more comprehensive 1970 mortality and labor force participation data. The new 1985 male rates show similar change at ages less than 55 years but increase markedly at 55 years and over because of the significant downward shift in labor force participation. Rates for all but older women, however, *decreased* markedly from earlier rates, reflecting the declining likelihood of female labor force separation because of children and a decline in female mortality rates between 1960 and 1970. Separation rates for older women were higher than the previous estimates, as generally higher labor force participation for younger women has resulted in more labor force separation among women approaching retirement age.

### Projecting job availability

Separation rates are used primarily to estimate the number of job openings expected as a result of workers leaving the labor force. Of course, these replacement needs are only one source of future job openings in an occupation; other sources include growth in employment and the need to replace workers who transfer to other occupations or who move to other areas.

State separation rates by occupation are used in the Bureau's State and area projections activities which are part of its Occupational Employment Statistics (OES) program. The State and area projections effort provides information on current and projected employment by industry and occupation, projected job openings resulting from employment growth, and projected openings resulting from labor force separations. This information is developed for States and labor market areas using methods and data from the two other parts of the OES program: the National/State Industry-Occupation Matrix system and the Occupational Employment Statistics survey. State employment security agencies use these data to develop State and area occupational employment estimates and projections.

Current and projected occupational employment and estimates of future job openings are used at the national, State, and local levels for a variety of activities. Projections are used in vocational guidance and employment counseling. Current occupational employment data are used in job development activities and for analysis of current labor market conditions. Current employment and projections are also used extensively, particularly at the State and local levels, in planning occupational training activities, including vocational education programs and training programs sponsored under the Comprehensive Employment and Training Act.

Dixie Sommers is an economist, formerly in the Division of Occupational Outlook, Bureau of Labor Statistics. Carin Cohen is an economist in the division.

**Table 1. Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985**

[Separations per 1,000 persons]

Occupation	1970	1980	1985	Occupation	1970	1980	1985
Professional, technical, kindred:				Painters and sculptors	25.1	30.6	31.6
Engineers, aero-astronautic	10.9	13.0	13.6	Photographers	20.5	26.6	27.5
Engineers, chemical	12.2	15.0	15.7	Public relations specialists	25.9	32.9	34.0
Engineers, civil	20.2	27.6	28.7	Radio, TV announcers	9.5	11.3	11.6
Engineers, electrical	12.2	15.0	15.6	Writers, artists, entertainers, n.e.c.	22.7	28.7	29.6
Engineers, industrial	15.0	18.7	19.5	Accountants	25.6	32.4	33.5
Engineers, mechanical	15.5	20.1	20.9	Architects	22.0	31.5	32.6
Engineers, metallurgical	14.7	18.3	19.1	Archivists and curators	37.2	45.8	46.8
Engineers, mining	24.2	34.9	36.2	Clergy	31.9	47.7	49.3
Engineers, petroleum	12.9	16.2	16.9	Religious, except clergy	52.0	55.8	56.4
Engineers, sales	17.4	23.5	24.4	Farm management advisors	18.6	22.4	23.3
Engineers, other	16.5	22.3	23.2	Foresters, conservationists	19.5	25.5	26.6
Agricultural scientists	23.1	30.9	32.0	Home management advisors	35.2	37.2	38.4
Atmospheric, space scientists	17.8	20.9	21.7	Judges	65.3	2.4	5.6
Biological scientists	17.7	21.3	22.1	Lawyers	32.1	48.2	49.7
Chemists	15.6	19.7	20.5	Librarians	42.2	42.3	43.0
Geologists	15.6	20.5	21.2	Operations, systems research	12.9	15.2	15.8
Marine scientists	15.4	20.1	20.8	Personnel, labor relations	21.4	24.9	25.8
Physicists and astronomers	10.6	13.1	13.6	Research workers, n.e.c.	16.6	20.0	20.8
Life, physical scientists, not elsewhere classified (n.e.c.)	15.3	17.9	18.7	Recreation workers	23.6	27.5	28.4
Actuaries	18.8	24.0	25.0	Social workers	30.0	32.7	33.6
Mathematicians	13.1	14.9	15.5	Vocational, education counselors	25.0	27.5	28.3
Statisticians	26.6	30.2	31.2	Managers, officials, proprietors:			
Agriculture, biological technicians, except health	21.0	24.8	25.8	Bank, financial managers	23.4	30.5	31.6
Chemical technicians	13.4	15.9	16.6	Credit managers	24.4	29.3	30.3
Drafters	12.0	15.1	15.7	Buyers, shippers, farm products	34.4	50.7	52.5
Electrical, electronic technicians	9.6	11.2	11.7	Buyers, wholesale, retail	32.2	39.7	40.9
Industrial engineering technicians	14.7	17.3	18.1	Purchasing agents, buyers, n.e.c.	22.9	28.3	29.5
Mathematical technicians	9.4	10.4	10.8	Sales managers, retail trade	20.9	24.7	25.5
Mechanical engineering technicians	14.1	16.7	17.4	Sales managers, except retail trade	17.3	22.0	22.9
Surveyors	13.6	18.2	18.9	Assessors, controllers, local public administration	57.2	76.7	78.6
Engineering, science technicians, n.e.c.	14.1	16.7	17.4	Construction inspectors, public administration	38.5	55.2	57.4
Chiropractors	42.7	63.1	64.6	Health administrators	38.3	41.9	42.8
Dentists	11.5	18.1	18.6	Inspectors, except construction, public administration	25.8	34.1	35.5
Dietitians	42.0	41.8	42.5	Officials, administrators, public administration	32.4	42.2	43.6
Optometrists	31.9	48.0	49.4	Postmasters and mail superintendents	46.2	52.4	53.8
Pharmacists	35.4	51.8	53.5	School administrators, college	26.4	31.9	33.0
Physicians, MD osteopaths	9.2	13.5	13.9	School administrators, elementary, secondary	28.8	32.3	33.3
Podiatrists	38.2	52.5	54.4	Funeral directors	34.4	48.2	49.8
Registered nurses	37.0	37.5	38.4	Managers, superintendants, building	62.2	75.9	77.3
Therapists	26.2	29.3	30.4	Office managers, n.e.c.	28.5	32.9	33.9
Veterinarians	17.4	24.4	25.2	Ship officers, pilots, pursers	22.5	29.7	31.0
Other medical and health practitioners, n.e.c.	44.3	51.7	52.4	Officials of lodges, unions	32.1	41.9	43.4
Clinical laboratory technologists, technicians	23.8	26.9	28.1	Railroad conductors	29.9	38.9	40.8
Dental hygienists	30.8	34.8	36.3	Restaurant, cafe, bar managers	31.2	36.7	37.8
Health record technologists, technicians	44.8	43.7	44.4	Other managers, administrators	29.0	38.3	39.6
Radiologic technologists, technicians	24.5	28.2	29.5	Salesworkers:			
Therapy assistants	27.6	30.4	31.4	Advertising agents, salesworkers	24.6	33.5	34.6
Other health technologists, technicians	22.4	26.1	27.1	Auctioneers	35.4	52.2	53.9
Airplane pilots	8.8	10.3	10.6	Demonstrators	29.8	31.7	32.7
Air traffic controllers	10.4	12.0	12.5	Hucksters and peddlers	37.4	41.1	41.9
Embalmers	20.3	29.8	30.8	Insurance agents, brokers, etc	23.9	32.4	33.4
Flight engineers	10.6	12.7	13.1	Newspaper carriers and vendors	17.2	23.5	24.1
Radio operators	25.8	33.7	34.9	Real estate agents, brokers	45.9	61.7	63.3
Tool programmers, numerical	9.6	11.2	11.7	Stock and bond sales agents	27.4	40.1	41.3
Other technicians, except health	16.4	19.3	20.1	Sales and salesworkers, n.e.c.	29.5	39.7	40.7
Computer programmers	9.2	10.6	11.1	Clerical workers:			
Computer systems analysts	8.8	10.0	10.4	Secretaries, legal	36.0	38.0	39.2
Other computer specialists	9.1	10.4	10.8	Secretaries, medical	33.2	35.4	36.6
Economists	16.8	21.9	22.7	Secretaries, other	33.6	36.0	37.3
Political scientists	19.6	25.7	26.6	Stenographers	36.9	38.8	40.0
Psychologists	19.0	21.2	21.8	Typists	33.0	35.7	36.9
Sociologists	19.6	25.8	26.7	Bookkeeping, billing operators	29.2	32.0	33.3
Urban and regional planners	13.0	16.5	17.1	Calculating machine operators	39.3	39.7	40.6
Other social scientists	32.4	39.2	40.1	Computer, peripheral equipment operators	11.2	12.6	13.1
Adult education teachers	26.7	29.8	30.6	Duplicating machine operators	27.7	31.6	32.6
College and university teachers	20.7	24.6	25.4	Keypunch operators	25.1	29.0	30.4
Elementary school teachers	37.7	38.4	39.2	Tabulating machine operators	18.5	20.7	21.5
Preschool, kindergarten teachers	32.7	33.5	34.4	Other office machine operators	31.3	34.8	35.8
Secondary school teachers	23.8	26.1	26.9	Bank tellers	26.4	29.8	31.1
Teachers, except college and university, n.e.c.	47.3	47.6	48.0	Billing clerks	31.5	34.7	35.8
Actors	22.7	27.3	28.2	Bookkeepers	36.9	39.6	40.5
Athletes and kindred workers	19.0	24.4	25.3	Cashiers	31.0	33.9	34.9
Authors	29.7	36.7	37.5	Clerical assistants, social welfare	35.1	39.3	40.3
Dancers	27.0	32.1	33.8	Clerical supervisors, n.e.c.	26.5	29.8	30.8
Designers	20.3	24.8	25.6	Collectors, bill and account	28.7	36.5	37.6
Editors and reporters	28.5	34.0	35.0	Counter clerks, except food	35.9	41.4	42.5
Musicians and composers	27.0	30.6	31.2	Dispatchers, starter, vehicle	22.9	28.8	30.0



**Table 1. Continued—Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985**

[Separations per 1,000 persons]

Occupation	1970	1980	1985	Occupation	1970	1980	1985
<b>Clerical workers:—continued</b>				<b>Power station operators</b> . . . . .			
Enumerators and interviewers . . . . .	29.9	34.0	34.9	Telephone installers, repairers . . . . .	8.7	10.0	10.4
Estimators, investigators, n.e.c. . . . .	26.4	32.2	33.3	Telephone line installers, splicers . . . . .	6.7	7.7	8.0
Expeditors, product controllers . . . . .	19.0	22.4	23.4	Bankers . . . . .	31.6	37.3	38.4
File clerks . . . . .	33.5	36.6	37.7	Cabinetmakers . . . . .	28.8	41.3	42.8
Insurance adjusters, examiners . . . . .	18.3	22.4	23.3	Carpet installers . . . . .	9.6	12.0	12.4
Library attendants, assistants . . . . .	34.2	35.6	36.5	Crane, derrick, and hoist operators . . . . .	18.1	22.5	23.5
Mail carriers, post office . . . . .	17.0	21.3	22.1	Decorators, window dressers . . . . .	34.8	37.5	38.3
Mail handlers, except post office . . . . .	30.6	37.1	38.3	Dental laboratory technicians . . . . .	22.5	29.6	30.8
Messengers and office helpers . . . . .	40.2	63.6	65.4	Furniture and wood finishers . . . . .	30.5	42.1	43.7
Meter readers, utilities . . . . .	15.1	19.8	20.6	Furriers . . . . .	62.2	87.0	89.4
Payroll, timekeeping clerks . . . . .	31.2	34.9	36.0	Glaziers . . . . .	15.4	20.5	21.3
Postal clerks . . . . .	22.6	26.0	27.0	Inspectors, log and lumber . . . . .	25.8	34.7	36.2
Proofreaders . . . . .	43.7	48.3	49.5	Inspectors, other . . . . .	26.5	34.2	35.7
Real estate appraisers . . . . .	35.0	53.5	55.3	Jewelers and watchmakers . . . . .	38.3	56.3	58.3
Receptionists . . . . .	37.3	39.3	40.5	Millers, grain, flour, feed . . . . .	26.3	35.2	36.7
Shipping, receiving clerks . . . . .	20.0	25.2	26.3	Motion picture projectionists . . . . .	44.5	71.8	74.0
Statistical clerks . . . . .	31.3	35.2	36.3	Opticians, lens grinders, polishers . . . . .	22.3	29.0	30.1
Stock clerks, storekeepers . . . . .	21.8	26.9	27.9	Piano, organ tuners, repairers . . . . .	47.3	75.8	78.1
Teachers aides, except monitors . . . . .	22.0	24.2	25.1	Shipfitters . . . . .	18.1	22.8	23.9
Telegraph messengers . . . . .	17.3	21.6	22.4	Shoe repairers . . . . .	52.3	79.4	81.7
Telegraph operators . . . . .	28.7	34.3	35.5	Sign painters and letterers . . . . .	34.6	50.0	51.8
Telephone operators . . . . .	36.0	37.9	39.0	Stationary engineers . . . . .	28.4	38.3	40.0
Ticket station, express agents . . . . .	20.6	24.8	25.8	Stone cutters, stone carvers . . . . .	24.5	33.7	35.0
Weighers . . . . .	25.9	32.6	33.9	Tailors . . . . .	45.2	59.8	61.3
Miscellaneous clerical workers, n.e.c. . . . .	30.6	34.6	35.7	Upholsterers . . . . .	27.4	36.8	38.1
<b>Crafts and kindred workers:</b>				<b>Crafts, kindred workers, n.e.c.</b> . . . . .			
Carpenters and apprentices . . . . .	24.8	34.6	36.0		13.1	25.4	26.4
Brick and stonemasons and apprentices . . . . .	16.8	21.9	22.9	<b>Operatives:</b>			
Bulldozer operators . . . . .	17.0	21.7	22.7	Drill press operatives . . . . .	20.7	25.1	26.1
Cement and concrete finishers . . . . .	16.4	21.6	22.5	Furnace tenders, smelters, pourers . . . . .	17.7	22.0	23.0
Electricians and apprentices . . . . .	17.9	23.2	24.3	Grinding machine operatives . . . . .	19.5	24.9	26.0
Excavating, grading, machine operators . . . . .	18.0	23.0	24.0	Heaters, metal . . . . .	24.1	29.7	31.2
Floor layers, except tilesetter . . . . .	16.8	22.5	23.4	Lathe, milling machine operatives . . . . .	18.3	23.4	24.4
Painters and apprentices . . . . .	27.4	38.1	39.7	Metalplaters . . . . .	16.6	20.9	21.8
Paperhangers . . . . .	42.7	59.5	61.5	Other precision machine operators . . . . .	18.0	22.3	23.2
Plasterers and apprentices . . . . .	23.5	32.2	33.6	Punch stamping press operatives . . . . .	19.6	22.7	23.6
Plumbers, pipefitters and apprentices . . . . .	20.7	27.6	28.8	Solderers . . . . .	26.3	28.6	29.6
Roofers and slaters . . . . .	13.4	17.6	18.3	Welders and flame cutters . . . . .	15.7	19.4	20.3
Structural metal craft workers . . . . .	16.0	20.3	21.2	Carding, lapping, combing operators . . . . .	26.9	32.5	33.8
Tilesetters . . . . .	14.9	19.6	20.4	Knitters, loopers, and toppers . . . . .	28.0	30.6	31.5
Blue-collar worker supervisors, n.e.c. . . . .	20.9	25.9	27.0	Spinners, twistors, and winders . . . . .	27.8	29.8	30.7
Blacksmiths . . . . .	42.0	64.8	67.0	Weavers . . . . .	29.0	32.5	33.5
Boilermakers . . . . .	23.9	31.0	32.4	Other textile operatives . . . . .	24.7	28.2	29.2
Heat treaters, annealers, and so forth . . . . .	22.1	27.1	28.5	Checkers, examiners, and so forth, manufacturing . . . . .	24.9	27.7	28.7
Forge and hammer operators . . . . .	17.7	22.0	23.0	Graders and sorters, manufacturing . . . . .	31.5	34.4	35.3
Job and die setters, metal . . . . .	17.3	21.4	22.4	Meat wrappers, retail trade . . . . .	25.0	26.5	27.3
Machinists and apprentices . . . . .	20.3	26.3	27.5	Packers, wrappers, except meat, produce . . . . .	26.1	28.8	29.7
Millwrights . . . . .	20.7	25.7	27.0	Producers, graders, packers, except factory, farm . . . . .	35.8	39.0	40.0
Metal molders and apprentices . . . . .	16.1	19.7	20.6	Asbestos, insulation workers . . . . .	13.1	16.1	16.8
Pattern and model makers . . . . .	23.2	30.6	31.9	Assemblers . . . . .	21.1	23.9	24.8
Rollers and finishers, metal . . . . .	21.0	25.2	26.5	Blasters . . . . .	19.4	24.4	25.5
Sheetmetal workers and apprentices . . . . .	16.2	20.8	21.6	Bottling, canning operatives . . . . .	25.5	28.7	29.8
Tool and diemakers and apprentices . . . . .	20.1	26.3	27.4	Surveyor helpers . . . . .	11.7	15.3	15.9
Air conditioner, heating, refrigerator mechanics . . . . .	17.0	22.6	23.5	Clothing ironers and pressers . . . . .	36.3	38.6	39.6
Aircraft mechanics . . . . .	13.8	16.6	17.4	Cutting operatives, n.e.c. . . . .	23.4	27.9	28.9
Auto accessories installers . . . . .	12.5	16.6	17.3	Dressmakers, except factory . . . . .	79.5	71.6	71.2
Auto body repairers . . . . .	12.8	16.5	17.1	Drillers, earth . . . . .	17.5	22.6	23.6
Auto mechanics and apprentices . . . . .	16.3	21.4	22.3	Dry wall installers, lathers . . . . .	8.6	10.6	11.0
Data processing machine repairers . . . . .	5.5	6.0	6.2	Dyers . . . . .	17.5	22.2	23.2
Farm implement mechanics . . . . .	22.4	31.4	32.6	Filers, polishers, sanders, and buffers . . . . .	22.7	28.7	29.9
Heavy equipment mechanics, including diesel . . . . .	18.9	24.3	25.4	Garage workers, gas station attendants . . . . .	14.2	20.3	21.0
Household appliance mechanics . . . . .	18.3	24.2	25.2	Laundry, dry cleaning operators, n.e.c. . . . .	40.5	44.0	44.9
Loom fixers . . . . .	22.3	28.2	29.6	Meat cutters, butchers, except manufacturing . . . . .	23.9	33.1	34.3
Office machine repairers . . . . .	11.5	15.1	15.6	Meat cutters, butchers . . . . .	20.7	24.8	25.8
Radio, television repairers . . . . .	15.9	20.8	21.6	Milliners . . . . .	76.4	68.0	67.7
Railroad, car shop repairers . . . . .	25.9	33.1	34.8	Mine operatives, n.e.c. . . . .	15.6	19.4	20.3
Other mechanics and apprentices . . . . .	20.0	27.5	28.6	Mixing operatives . . . . .	16.3	20.4	21.3
Bookbinders . . . . .	31.7	35.0	35.9	Oilers, greasers, except automobile . . . . .	22.2	28.0	29.3
Compositors and typesetters . . . . .	25.2	33.5	34.7	Painters, manufacturing articles . . . . .	17.1	20.9	21.8
Electrotypers, stereotypers . . . . .	30.1	41.6	43.3	Photographic process workers . . . . .	23.7	27.2	28.2
Engravers, except photoengravers . . . . .	24.9	32.5	33.6	Riveters and fasteners . . . . .	21.0	23.6	24.5
Photoengravers, lithographers . . . . .	18.3	23.7	24.7	Sailors and deckhands . . . . .	17.0	21.5	22.5
Printing press operators and apprentices . . . . .	16.4	21.1	21.9	Sawyers . . . . .	22.7	29.7	31.0
Electric power line installers, repairers . . . . .	10.6	12.5	13.0	Sewers and stitchers . . . . .	38.8	39.4	40.3
Locomotive engineers . . . . .	34.3	46.2	48.3	Shoemaking machine operatives . . . . .	30.7	34.1	35.1
Locomotive engineer helpers . . . . .	16.7	21.8	22.7	Furnace tenders, stokers, except metal . . . . .	29.0	39.0	40.7
				Winding operatives, n.e.c. . . . .	22.3	24.9	25.8
				Miscellaneous machine operatives . . . . .	20.5	24.0	25.0

**Table 1. Continued—Estimated and projected national labor force separation rates, by occupation, 1970, 1980, and 1985**

[Separations per 1,000 persons]

Occupation	1970	1980	1985	Occupation	1970	1980	1985
<b>Operatives:—continued</b>				Elevator operators . . . . .	54.5	77.1	79.4
Operatives, n.e.c. . . . .	21.7	25.7	26.6	Hairdressers, cosmetologists . . . . .	33.9	36.1	37.3
Boat operators . . . . .	23.8	33.2	34.5	Housekeepers, except private . . . . .	48.4	48.0	48.6
Bus drivers . . . . .	26.3	34.6	36.1	School monitors . . . . .	23.3	24.5	25.1
Conductors and operators, urban rail transit . . . . .	17.8	22.1	23.1	Ushers, recreation, amusement . . . . .	16.3	20.4	21.0
Delivery and route workers . . . . .	15.8	21.1	21.9	Welfare service aides . . . . .	35.2	36.7	37.4
Fork lift, tow motor operatives . . . . .	12.4	15.0	15.7	<b>Crossing guards, bridgetenders</b>			
Rail vehicle operators, n.e.c. . . . .	18.8	23.5	24.6	Firefighters . . . . .	11.8	14.3	14.9
Parking attendants . . . . .	35.3	57.9	59.5	Guards . . . . .	48.3	73.8	76.3
Railroad brake operators . . . . .	17.4	21.7	22.7	Marshals and constables . . . . .	44.0	69.5	71.6
Railroad switch operators . . . . .	17.9	22.3	23.4	Police and detectives . . . . .	12.2	15.8	16.4
Taxicab drivers, chauffeurs . . . . .	31.5	45.2	46.9	Sheriffs and bailiffs . . . . .	29.2	43.1	44.5
Truckdrivers . . . . .	15.4	19.6	20.4	Child care workers . . . . .	62.6	58.4	58.6
<b>Service workers:</b>				Cooks, private . . . . .	90.5	81.5	81.0
Lodging quarters cleaners, except private household . . . . .	47.6	46.5	47.1	Housekeepers, private . . . . .	82.6	74.6	74.2
Building interior cleaners, n.e.c. . . . .	46.0	50.9	51.8	Laundrerers, private household . . . . .	86.7	85.2	84.5
Janitors and sextons . . . . .	41.0	57.8	59.7	Private household cleaners, servants . . . . .	71.3	65.2	65.1
Bartenders . . . . .	31.7	43.5	45.0	<b>Laborers except farm:</b>			
Waiters' assistants . . . . .	8.9	10.6	10.9	Animal caretakers, except farm . . . . .	26.5	35.5	36.7
Cooks, except private . . . . .	38.0	39.3	40.0	Carpenters, helpers . . . . .	16.2	22.2	23.1
Dishwashers . . . . .	27.9	31.7	32.3	Construction laborers, except carpenters' helpers . . . . .	18.1	24.1	25.1
Food counter, fountain workers . . . . .	31.7	33.6	34.4	Fishers, hunters and trappers . . . . .	24.9	34.9	36.2
Waiters . . . . .	28.7	31.5	32.5	Freight, material handlers . . . . .	15.6	19.6	20.4
Food workers, except private household, n.e.c. . . . .	38.3	39.4	40.0	Garbage collectors . . . . .	18.0	24.8	25.8
<b>Dental assistants</b>				Gardeners, groundkeepers, except farm . . . . .	38.1	59.7	61.6
Dental assistants . . . . .	31.4	34.8	36.2	Longshore workers, stevedores . . . . .	21.9	28.2	29.5
<b>Health aides, except nursing</b>				Timbercutting, logging workers . . . . .	17.1	23.0	23.9
Health aides, except nursing . . . . .	32.6	34.7	35.8	Stock handlers . . . . .	13.1	15.9	16.3
<b>Health trainees</b>				Teamsters . . . . .	18.8	25.7	26.8
Health trainees . . . . .	32.3	37.9	39.8	Vehicle washers, equipment cleaners . . . . .	17.2	22.0	22.8
<b>Lay midwives</b>				Warehouse laborers, n.e.c. . . . .	16.4	21.0	21.9
Lay midwives . . . . .	40.8	40.4	41.1	Other laborers . . . . .	24.1	31.3	32.7
<b>Nurses aides, orderlies</b>				<b>Farmers and farmworkers:</b>			
Nurses aides, orderlies . . . . .	35.0	36.4	37.3	Farmers (owners and tenants) . . . . .	47.4	72.6	75.0
<b>Practical nurses</b>				Farm managers . . . . .	32.8	48.2	49.9
Practical nurses . . . . .	42.3	42.2	43.0	Farm labor supervisors . . . . .	28.9	40.0	41.5
<b>Flight attendants</b>				Farm laborers, wage workers . . . . .	28.3	40.7	42.0
Flight attendants . . . . .	32.0	38.5	40.7	Farm laborers, unpaid family workers . . . . .	28.2	35.7	36.4
<b>Attendants, recreation, amusement</b>				Farm laborers, self-employed . . . . .	31.3	42.8	44.3
Attendants, recreation, amusement . . . . .	25.8	37.3	38.4				
<b>Attendants, personal service, n.e.c.</b>							
Attendants, personal service, n.e.c. . . . .	50.9	59.6	60.7				
<b>Baggage porters and bellhops</b>							
Baggage porters and bellhops . . . . .	25.4	36.2	37.5				
<b>Barbers</b>							
Barbers . . . . .	39.6	62.0	64.0				
<b>Boarding, lodging housekeepers</b>							
Boarding, lodging housekeepers . . . . .	94.0	93.2	93.1				
<b>Bootblacks</b>							
Bootblacks . . . . .	55.7	56.0	56.2				
<b>Child care workers, except private household</b>							
Child care workers, except private household . . . . .	54.5	52.4	52.8				

**Rate construction**

The national age- and sex-specific data the Bureau uses to derive its labor force separation estimates are from the "working life" tables it constructs for the total U.S. population. The working life table is an actuarial device that summarizes the labor force activity and mortality experience of the population. It applies death and labor force participation rates to a hypothetical population for each year of age. Increases in the labor force with population age are interpreted as net labor force accessions, decreases as net labor force separations. Net labor force separations for each year of age are divided by the total population for that age to derive its net separation rate.

BLS constructs working life tables for each of several population groups known to have differing labor force participation patterns: all men and four marital and family-status groups for women (never married, married with no children, married and in the labor force after birth of last child, and divorced, widowed, or separated). Comparison of separation rates among marital status groups for women allows estimation of labor force separations resulting from marriage and birth of children.<sup>2</sup>

. . . and revision. There are two major data requirements for using the working life table to calculate separation rates—mortality rates and labor force participation rates. Separation rates are, therefore, revised periodically to reflect changes in death and labor force participation patterns. Working life tables are also projected for estimates of future rates of mortality and labor force participation by age and sex.

The revised separation rates now available are based on 1970 mortality rates published by the U.S. Public Health Service<sup>3</sup> and on labor force participation rates from the 1970 Census of Population, replacing the 1960 rates for women and preliminary 1970 rates for men used for earlier estimates. Projected working life tables for 1980 and 1985 are based on the same comprehensive 1970 data on mortality used for the 1970 tables but on projected labor force participation rates by age and sex, developed by the Bureau's Division of Special Labor Force Studies.<sup>4</sup>

*Limitations.* The working life table has a number of limitations when it is used to develop occupational separation rates. A major drawback is that the method assumes that mortality and labor force participation rates



do not vary by occupation for workers of the same age and sex. This is a limitation in calculating labor force separation for occupations having highly educated workers, because labor force attachment generally is stronger for the highly educated than for most workers. In the case of two occupations, physicians and dentists, the Bureau has developed more accurate, alternative rates from data sources other than the working life table.

OCCUPATIONAL SEPARATION RATES are useful in a number of applications in addition to preparing projections of job openings. Researchers may obtain the rates by contacting the Chief, Division of Occupational Outlook, Bureau of Labor Statistics, Washington, D.C. 20212. □

— FOOTNOTES —

<sup>1</sup> See *Tomorrow's Manpower Needs*, Supplement 4, "Estimating Occupational Separations from the Labor Force for States" (Bureau of Labor Statistics, 1974). The revised rates are available upon request from the Bureau of Labor Statistics.

The proxy national labor force separation rates by occupation (shown in table 1) are used in the Bureau's occupational outlook program to estimate the replacement needs published in the *Occupational Outlook Handbook, 1978-79*, Bulletin 1955 (Bureau of Labor Statistics, 1978), *Occupational Projections and Training Needs*, Bulletin 2020 (Bureau of Labor Statistics, 1979), and related publications.

<sup>2</sup> 1970 working life tables were published in Howard N Fullerton, Jr., and James J. Byrne, "Length of working life for men and women, 1970," *Monthly Labor Review*, February 1976, pp. 31-35.

<sup>3</sup> *Vital Statistics of the United States, 1970*, Volume II, Part A (U.S. Public Health Service, 1974), Section 5. These data update the 1970 death rates used in *Tomorrow's*, Supplement 4.

<sup>4</sup> Projected labor force participation rates are those used in preparing labor force projections published in Howard N Fullerton, Jr., and Paul O. Flaim, "New labor force projections to 1990," *Monthly Labor Review*, December 1976, pp. 3-13.

## Employment and pay trends in the retail trade industry

BARBARA COTTMAN JOB

As the demand for consumer goods and customer convenience has risen, so has employment in retail trade, advancing by 4 million workers between 1968 and 1978. Only service businesses and State and local governments have added a comparable number of workers over the same period. Who are the workers in the retail trade industry, what are their jobs, and under what

Barbara Cottman Job is an economist formerly with the Office of Current Employment Analysis, Bureau of Labor Statistics.

kinds of hour and pay arrangements do they work?

In 1978, the industry employed 15.6 million persons in a wide range of activities, such as selling clothing, furniture, fuels, food, and automobiles.<sup>1</sup> About one-third of the Gross National Product passes through the retail trade sector.<sup>2</sup> Sales often serve as a bellwether of the Nation's economic well-being. Retail trade provides the major outlet for personal consumption items and is the major provider of new jobs for young people and women. More than three-fifths of the 2.2-million growth in the number of teenage workers between 1968-78 was in retail trade. During the same period, the industry also accounted for nearly one-third of the growth in the number of working young adults age 20-24 years. Of the 11-million overall increase in women's employment, nearly one-fourth was in retail trade. (See table 1.) In 1968, about 27 percent of persons working in the industry were under 25 years of age, but by 1978, nearly 40 percent were under 25. Women increased their share of employment in the industry from about 45 percent in 1968, to 50 percent in 1978.

All of the employment growth in the industry was among wage and salary earners, their numbers increasing by nearly 40 percent during the decade, from 9.9 million to 13.9 million. About half of the growth was among part-time workers. The number of self-employed and unpaid family workers remained essentially unchanged at 1.7 million. Paid hours of wage and salary workers grew by only 26 percent.<sup>3</sup> By 1978, 35 percent of those employed in retail trade worked less than 35 hours per week, up from 29 percent in 1968 (only entertainment and recreation services used a comparable share of part-time workers in 1978). Further, a reduction in the average workweek of full-time employees was only partially offset by increases for part-time workers.<sup>4</sup> Thus, not only were more people in the industry working at part-time jobs, but even many full-time workers were on the job fewer hours. Accordingly, the average workweek in retail trade declined from 37.2 to

**Table 1. Total employment and retail trade employment, by age and sex, 1968 and 1978**

[Annual averages in thousands]

Age and sex	1968		1978		1968 to 1978 change:		Change in retail trade employment as percent of change in total employment
	Total	Retail trade	Total	Retail trade	Total	Retail trade	
Both sexes, 16 years and over . . . . .	75,920	11,585	94,373	15,636	18,453	4,051	22.0
16-19 years . . . . .	5,780	1,841	7,981	3,221	2,201	1,380	62.7
20-24 years . . . . .	8,762	1,287	13,498	2,772	4,736	1,485	31.4
25 years and over . . . . .	61,379	8,457	72,894	9,643	11,515	1,186	10.3
Men, 16 years and over . . . . .	48,114	6,409	55,491	7,772	7,377	1,363	18.5
Women, 16 years and over . . . . .	27,807	5,176	38,881	7,865	11,074	2,689	24.3

35.1 hours between 1968 and 1978.

Despite the decline in the average workweek, retail trade establishments have generally extended their hours of operation to include longer evening and Sunday service, through their heavy reliance upon part-time workers and flexible work schedules. One indication of the industry's flexibility in work scheduling is that it is a primary employer of "moonlighters" (multiple job-holders). In May 1978, of the 4.5 million persons working at two or more jobs, about 1 in 6 was in retail trade as a second job.<sup>5</sup> Only agriculture provided a similar share of secondary employment opportunities.

To some degree, the industry has extended both its operating hours and output without corresponding increases in per-employee hours. Labor-saving innovations, such as self service in gas stations, reduced the number of employee hours required per sale. In retail food stores, changes in equipment reduced the time spent in completing sales transactions, and affected the way employees use their time in preparing to serve customers' needs. For example, the introduction of electronic scales and cash registers substantially reduced the customer's checkout time. These machines are often part of computerized inventory control systems, which eliminate much of the manual work associated with ordering, monitoring, and maintaining stocks. Fast defrosting and self-defrosting refrigerators, centralized poultry processing plants and centralized warehouses, conveyor belts and overhead "railway" systems to load and unload in warehouses, and the increased use of pre-packaged meat and produce, have all helped reduce on-site employee-hours. Even the installation of special surfaces in meat departments has helped; the new floors require less time and effort to clean up.

In the area of labor-saving management practices, the move to simplify work processes has received a major impetus from the fast-food chains. Their refinement of the streamlined and standardized approach to managing a largely unskilled work force, subject to high turnover, is likely to set the pattern for continued productivity advances in the food service industry for many years to come. The chains will no doubt spur the increased use of off-premise food preparation, standardized (uniform and frozen portions) food products, limited menu choices, shortened food preparation time, self-service, and higher ratios of equipment to workers. All of these developments have tended to hold down the industry's demand for employee-hours. They shift certain work activities, such as food processing and preparation, from retail employees on-site, to employees either in related industries such as food processing, or to goods-producing industries such as small appliance manufacturing. Certain other work activities, such as cleaning tables, have been shifted to the unpaid labor of consumers. Moreover, these developments have not only reduced

the demand for labor time in retail trade, but probably have reduced the labor time needed for the final product.<sup>7</sup> Lastly, these innovations have tended to transform the type of work done in the retail trade industry. Some jobs which once required specialized skill or knowledge have been restructured to require little knowledge or training. This trend is widespread throughout retail trade, but especially in the food service industry. An example is fast-food restaurants, with their stocks of simple equipment, standardized menus, and heavy reliance upon self service. These innovations have reduced the need for qualified cooks and chefs, and for knowledgeable trained service personnel such as waiters, waitresses, and stewards. With the widespread introduction of advanced electronic computing machines and the growing standardization of consumer products, even the need for knowledgeable sales clerks, cashiers, and bookkeepers will decline accordingly. Equipment and products are being designed to be operated (or sold) by minimally trained, unskilled persons, of whom high turnover rates are expected.<sup>8</sup>

### Turnover and tenure

Frequent turnover is a characteristic feature of employment in retail trade. It seems that the industry relies heavily on intermittent, short-term workers.<sup>9</sup> Only about half of the persons who worked in retail trade during 1977 had year-round experience, either full time or part time. This proportion was among the lowest of all industry groups, and it differed markedly by sex.

About half of the work experience of women in retail trade during 1977 was part time, and little was year round. A comparable proportion of work experience for men was both full time and year-round. To some extent, the variations between men and women in the duration and type of experience reflect occupational differences. Retail employment for women tends to be concentrated in three occupational groups, clerical, service, and sales, which in 1978 accounted for nearly four-fifths of the retail jobs held by women. Men's employment, by contrast, tends to be more varied, encompassing most of the occupational spectrum. (See table 2.) Two of the occupations in which women are concentrated, service and sales, are characterized by very low rates of full-time, year-round employment. For example, only 20 percent of all food service workers and about 30 percent of retail trade sales workers were employed both year-round and full time during 1977. However, even in these two occupations, the proportion of women working year-round, full time tended to be lower than that for men.

Not only do workers in retail trade tend to work less than year-round, they also tend to work for shorter periods for any specific employer. As of January 1978, half of the women in the industry had worked for their



current employers for less than 1.5 years, about 1 year less than the median tenure for all women employees. Half of the men had worked less than 2.5 years, about 2 years less than the median tenure for all men employees. The comparatively short tenure for both men and women in retail trade reflects the use of many temporary workers.

### Earnings below average

The relative instability of retail trade employment may be associated with the industry's low earnings profile.<sup>10</sup> In May 1978, the median usual weekly earnings of workers in the industry were only 59 percent of those for all wage and salary workers.<sup>11</sup> (See table 3.) This ratio has changed little since 1967, the earliest year for which data are available. About three-fifths of the retail trade workers reported usual weekly earnings of less than \$150, while only 30 percent of workers in other industries reported earnings that low.<sup>12</sup> Three-fifths of persons working in other industries were in the \$150-400 per week range. Only one-third of wage and salary workers in retail trade reported such earnings.

The differences in earnings between retail trade workers and those in other industries reflect, in part, the industry's greater employment of young, relatively inexperienced persons and heavy reliance on part-time workers, occupational structure, and extent of unionization.<sup>13</sup> In 1978, about 1 in 5 retail trade workers was under 20 years of age. In all other industries combined, less than 1 in 20 was in that age group. Because young workers generally earn less regardless of industry, the concentration of the young in retail trade tends to result in lower than average wages. Although the industry employs many part-time workers, even among full-time workers a substantial difference in earnings persists. Earnings of full-time retail trade workers averaged about 73 percent of those for full-time workers in all industries. About 65 percent of retail trade employees were in relatively low-skilled, low-paying occupations, such as service, sales, unskilled labor, and clerical work.

**Table 2. Employment in nonfarm retail trade by occupation and sex, 1978 annual averages**

[Numbers in thousands]

Occupation	Men		Women	
	Number	Percent	Number	Percent
Total	7,772	100.0	7,865	100.0
Professional and technical	163	2.1	89	1.1
Managers and administrators	2,080	26.8	835	10.6
Sales	1,157	14.9	2,015	25.6
Clerical	370	4.8	2,220	28.2
Craft and kindred	991	12.8	160	2.0
Operatives, except transport equipment	622	8.0	200	2.5
Transport equipment operatives	338	4.3	22	.3
Laborers	797	10.3	133	1.7
Service	1,253	16.1	2,191	27.9

**Table 3. Median usual weekly earnings of wage and salary workers in all industries and retail trade, by sex, full- and part-time status, and union coverage, May 1978**

[Workers in thousands]

Category	All industries	Retail trade
Total wage and salary workers	84,968	13,765
Total reporting usual weekly earnings	66,246	10,773
Both sexes	\$195	\$116
Full-time	227	166
Part-time	61	57
Covered by a union contract	265	179
Not covered by a union contract	165	111
Men	255	167
Full-time	272	217
Part-time	58	57
Covered by a union contract	296	237
Not covered by a union contract	229	160
Women	138	95
Full-time	166	124
Part-time	62	58
Covered by a union contract	198	137
Not covered by a union contract	125	92

Only 37 percent of workers in other industries were in these occupations. Thus, given the occupational mix in retail trade, and assuming that service, sales, unskilled labor, and clerical jobs are generally low-paying regardless of industry, it is not unexpected that average earnings in retail trade are lower than in other industries. In both retail trade and all industries combined, workers covered by union contracts tended to earn substantially more than those who were not. However, a much smaller proportion of retail trade workers was covered by union contracts than in other industries. In May 1978, about 1 in 4 wage and salary workers reported that they were covered by a union contract. In retail trade the proportion was 1 in 9.

There were marked differences in the earnings of male and female workers, both full-time and part-time. The usual weekly earnings for women were about 57 percent of those for men. Women working part time tended to earn about the same as men working part time. Thus, the overall disparity in female-male earnings appears to stem primarily from differences in the earnings paid to full-time workers. As with the inter-industry earnings differential, one possible explanation is occupational differences. Whether they work full time or part-time, women tended to be employed in relatively low-paying sales, service, and clerical jobs. Nearly 80 percent of women working full time and about 85 percent of those working part time were in these three occupations. Men, however, not only engage in a wider array of occupations, but their employment also shows more occupational variation between full-time and part-time workers. For example, nearly 30 percent of full-time male workers were employed as craftworkers and operatives, relatively well-paying occupations, but only 15

percent of part-time male workers were in such occupations. About 37 percent of men were working full time in the low-paying occupations of sales, service, and unskilled labor. Half of the part-timers, however, were in those occupations. This greater proportion of men working full time in better paying occupations may have contributed to the greater difference in pay between men and women working full-time. □

#### FOOTNOTES

<sup>1</sup> The data in this article are based primarily on the Current Population Survey (CPS) and its supplements. The Bureau of Labor Statistics regularly publishes industry employment estimates based on the results of two separate surveys, the Current Employment Statistics (CES) program and the CPS. The CES program is generally recognized as the major source of information on employment by industry. CES statistics are derived from a sample survey of business establishments, scientifically selected to represent the industrial structure of the nonagricultural economy. However, CPS results are used in this article. CPS not only provides estimates of employment, hours, and earnings of workers, by industry, but unlike the CES, also yields data on full- and part-time status, occupation, and demographic characteristics of workers, by industry. The differing CPS and CES estimates of employment, hours, and earnings are due to differences in the concepts and coverage of the two surveys. For a comprehensive discussion of this, see Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20. For the period of this study 1968-78, employment growth in retail trade as measured by the CES was 4.2 million, comparable to the CPS at 4.1 million.

The retail trade industry includes establishments engaged in selling merchandise for personal or household consumption, and for rendering incidental services. In general, retail establishments are classified by type of business, according to the principal lines of commodities sold (groceries, hardware, etc.), or the usual trade designation (drug-store, cigar store, etc.). Gasoline service stations and eating and drinking places are included in this industry group. Although industries are not always classified in the CPS according to the Standard Industrial Classification (SIC) Manual, its designation of retail trade closely parallels what is included in SIC codes 52-59. See U.S. Bureau of the Census, 1970 Census of Population, *Classified Index of Industries and Occupations*.

<sup>2</sup> See *Survey of Current Business*, Bureau of Economic Analysis, April 1979, pp. 11 and S-12.

<sup>3</sup> The data on paid hours of wage and salary workers in the retail trade industry are based largely on the CES estimates of average weekly hours for production or nonsupervisory workers, and employment data for all employees. For the retail trade industry, these CES data are supplemented by other sources, including the Census, CPS, and the Internal Revenue Service. See *BLS Handbook of Methods for Surveys and Studies*, BLS Bulletin 1910-Chapter 31, Output per employee-hour measures: Industries and the Federal Government.

<sup>4</sup> Average workweeks as measured in the CPS.

<sup>5</sup> See *Multiple Jobholding, in May 1978*, Special Labor Force Report 221, (Bureau of Labor Statistics, 1979).

<sup>6</sup> Most of the information in this section was obtained from studies of trends in output per employee-hour, in various segments of the retail trade industry. See Brian L. Friedman and John L. Carey, "Productivity in gasoline stations, 1958-73," *Monthly Labor Review*, February 1975, pp. 32-37; John Duke, "New car dealers experience long-term gains in productivity," *Monthly Labor Review*, March 1977, pp. 29-33; John L. Carey and Phyllis Flohr Otto, "Output per unit of labor input in the retail food store industry," *Monthly Labor Review*, January 1977, pp. 42-47, and Richard B. Carnes and Horst Brand, "Productivity and new technology in eating and drinking places," *Monthly Labor Review*, September 1977, pp. 9-15.

<sup>7</sup> See Howard Young, "Jobs, Technology, and Hours of Labor: The Future of Work in the U.S.," presented at hearings of the Joint Eco-

nomics Committee, Special Study of Economic Change, Washington, D.C., June 14, 1978.

<sup>8</sup> See Carnes and Brand, "Eating and drinking places," p. 14, and Labor Information Network, *Employers' Views and Training: A Nonstatistical Approach to Data Gathering*. (New York, 1978).

<sup>9</sup> Work experience data are based on the March 1978 supplement to the CPS. Job tenure data are derived from the January 1978 supplement.

<sup>10</sup> See Carey and Otto, "Retail food stores," p. 44, for a study dealing with the food service industry.

<sup>11</sup> These earnings data for wage and salary workers are derived from the May 1978 supplement to the CPS; they may differ somewhat from the data derived from the CES for reasons noted in footnote 1. The term "usual" as applied to weekly earnings is vague. The reference period applied is not a specific calendar week; the CPS respondents determine the proper application period. It is vital to note that the data may not include earnings from tips. Because the subject is not systematically explored in the CPS interview, the decision whether to include tips is left to each respondent. To the extent that the data do not include earnings from tips, earnings of workers in retail trade, especially those of food service workers, are understated. For a fuller discussion of these earnings data, see Janice N. Hedges and Earl F. Mellor, "Weekly and hourly earnings of U.S. workers, 1967-78," *Monthly Labor Review*, August 1979, pp. 31-41.

<sup>12</sup> The distributions of earnings were computed only for persons who reported their earnings. In May 1978, about 22 percent of all wage and salary earners and a similar proportion of workers in retail trade, did not report their usual weekly earnings. Among workers paid by the hour, in industry as a whole and in retail trade in particular, about 14 percent did not report their earnings in May 1978.

<sup>13</sup> Other factors relating to demand for products and services, the structure of employer-employee relationships, profit margins and equipment usage, etc., contribute to the earnings differentials among industries. Most of these factors are beyond the scope of a research summary; they are mentioned only to round out the range of possible factors underlying the inter-industry gaps in earnings. Since no statistical analysis of these data was performed, no attempt is made to determine the relative contributions of various factors to the rather low earnings in the industry.

## Work experience of the population in 1978

ANNE MCDUGALL YOUNG

More than 110 million persons were employed at some time during 1978, 3.2 million more than in 1977, with women accounting for two-thirds of the increase. Among women who worked, the proportion who worked all year at full-time jobs rose to a record 44 percent (table 1). The proportion of men who worked year round, full time also rose in 1978, returning to the level prevailing before the 1974-75 recession.

As in previous years, millions of Americans continued to move into and out of the labor force during 1978. Many persons were employed only for short periods to fit school or household schedules or seasonal demands. Others entered or left military service, and there

---

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



was the normal replacement resulting from death, retirement, and disability.<sup>1</sup> The work force also included a total of 17.7 million persons who encountered some unemployment during 1978, about 1.8 million fewer than in 1977. Most of these persons worked during part of the year.

As in earlier years, the proportion of white and Hispanic men who worked during 1978 (82 and 83 percent) was larger than that for black men (73 percent). Hispanic men were the least likely to have worked year round, full time. Among women, the proportion who

worked during the year differed little by race or Hispanic origin—averaging about 55 to 57 percent. Black women were more likely than white and Hispanic women to have worked all year at full-time jobs.

### Trends in year-round employment

Since 1968, about two-thirds of the increase in the number of women with work experience has been among women who worked all year (table 2). The expansion in year-round employment was greatest among women ages 25 to 34. These are the young women—

**Table 1. Work experience during the year of persons 16 years of age and over, by extent of employment, sex, and race, 1977 and 1978**

[Numbers in thousands]

Extent of employment	Both sexes		Men		Women		White		Black		Hispanic origin <sup>1</sup>	
	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978
Population .....	158,188	160,756	74,814	76,070	83,374	84,686	138,999	140,999	16,449	16,794	7,518	7,543
Worked during the year <sup>2</sup> .....												
Number .....	107,096	110,290	60,717	61,917	46,379	48,373	94,991	97,603	10,198	10,655	4,938	5,091
Percent of population .....	67.7	68.6	81.2	81.4	55.6	57.1	68.3	69.2	62.0	63.4	65.7	67.5
	<b>Percent distribution</b>											
Worked during the year .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Full time <sup>3</sup> .....	78.6	79.1	87.5	87.9	67.0	67.8	78.5	78.9	79.4	80.7	83.3	83.2
50 to 52 weeks .....	54.9	56.4	64.7	66.3	42.1	43.7	55.2	56.8	52.6	52.5	52.0	53.8
1 to 49 weeks .....	23.7	22.8	22.7	21.7	24.8	24.2	23.3	22.1	26.7	28.1	31.3	29.3
Part time <sup>4</sup> .....	21.4	20.9	12.5	12.1	33.0	32.2	21.5	21.1	20.6	19.4	16.7	16.8
50 to 52 weeks .....	7.2	7.0	4.1	4.0	11.2	10.9	7.2	7.2	6.6	6.2	5.2	5.4
1 to 49 weeks .....	14.3	13.8	8.3	8.1	21.9	21.2	14.2	13.9	14.0	13.2	11.5	11.5

<sup>1</sup> Persons of Hispanic origin may be of any race.

<sup>2</sup> Time worked includes paid vacation and sick leave.

<sup>3</sup> Usually worked 35 hours or more per week.

<sup>4</sup> Usually worked 1 to 34 hours per week.

**Table 2. Persons who worked during the year and who worked 50 to 52 weeks, by sex, age, and occupation, 1968 and 1978**

[16 years and over]

Category	MEN						WOMEN					
	Worked during the year		Worked 50 to 52 weeks				Worked during the year		Worked 50 to 52 weeks			
			Number		Percent of total who worked				Number		Percent of total who worked	
	1968	1978	1968	1978	1968	1978	1968	1978	1968	1978	1968	1978
Total .....	53,312	61,917	39,251	43,562	73.6	70.4	36,918	48,373	18,803	26,387	50.9	54.5
<b>AGE</b>												
16 to 19 years .....	5,221	5,704	1,413	1,434	27.1	25.1	4,177	5,100	765	1,121	18.3	22.0
20 to 24 years .....	5,698	8,797	2,954	4,551	51.8	51.7	5,791	8,111	2,398	3,699	41.4	45.6
25 to 34 years .....	10,962	15,767	9,076	12,119	82.8	76.9	6,710	12,220	3,221	6,751	48.0	55.2
35 to 44 years .....	10,704	11,274	9,287	9,433	86.8	83.6	6,860	8,684	3,918	5,331	57.1	61.4
45 to 54 years .....	10,463	10,215	8,927	8,617	85.3	84.4	7,127	7,420	4,639	5,105	65.1	68.8
55 to 64 years .....	7,461	7,625	5,945	6,062	79.7	79.5	4,762	5,213	3,115	3,602	65.4	69.1
65 years and over .....	2,803	2,534	1,649	1,347	58.8	53.2	1,491	1,626	747	778	50.1	47.8
<b>OCCUPATION</b>												
Professional, technical and kindred workers .....	7,024	9,115	5,844	7,415	83.2	81.3	4,845	7,431	2,770	4,598	57.2	61.9
Managers and administrators, except farm .....	6,759	8,185	6,092	7,248	90.1	88.6	1,424	2,822	1,062	2,049	74.6	72.6
Sales workers .....	2,868	3,593	2,219	2,721	77.4	75.7	2,696	3,464	1,116	1,568	41.4	45.3
Clerical and kindred workers .....	3,780	3,749	2,847	2,768	75.3	73.8	12,104	16,442	6,966	10,170	57.6	61.9
Craft and kindred workers .....	10,529	12,755	7,981	9,000	75.8	70.6	382	802	242	446	63.4	55.6
Operatives, except transport .....	8,103	7,318	5,530	4,668	68.2	63.8	5,366	5,435	2,583	2,682	48.1	49.3
Transport equipment operatives .....	2,671	3,673	1,985	2,435	74.3	66.3	100	283	26	88	26.0	31.1
Laborers, except farm .....	4,314	5,157	1,955	2,206	45.3	42.8	206	657	85	256	41.3	39.0
Private household workers .....	65	27	33	17	( <sup>1</sup> )	( <sup>1</sup> )	2,365	1,421	929	516	39.3	36.3
Service workers, except private household .....	3,871	5,844	2,439	3,356	63.0	57.4	6,246	8,952	2,536	3,727	40.6	41.6
Farmers and farmworkers .....	3,328	2,500	2,326	1,729	69.9	69.2	1,184	664	408	288	34.5	43.4

**Table 3. Women who worked year round, full or part time, as proportion of total who worked during the year, by age and race, 1968 and 1978**

Age	1968		1978	
	White	Black <sup>1</sup> and other races	White	Black <sup>1</sup> and other races
16 years and over, total	51.1	50.1	54.2	56.8
16 to 19 years	18.8	14.6	23.0	12.5
20 to 24 years	41.9	37.7	46.4	40.5
25 to 34 years	47.3	51.6	54.5	60.0
35 to 44 years	56.9	58.4	60.4	67.5
45 to 64 years	65.4	63.4	68.6	71.1
65 years and over	50.6	45.9	60.4	54.9

<sup>1</sup> According to the 1970 census, 89 percent of this group were black. The others were American Indians, Asians and Pacific Islanders, and other nonwhite races. These data differ slightly from data in table 1 which are for black *only*.

born in the baby boom which followed World War II—who have established a new pattern of labor force participation for their age group. Today they are marrying later, often after several years in the labor market, and returning to work following the birth of children much sooner than did their mothers. In March 1979, 46 percent of all mothers under age 35 with a child under age 6 were in the labor force. Among women of all ages with children under 6 years, 43 percent were in the labor force during all of 1978 (50 to 52 weeks).

Since the early 1970's, black women have—in general—been more likely to work all year full time than white women and that difference persisted in 1978.<sup>3</sup> If women who work all year at part-time jobs are included with year-round, full-time workers, the black-white difference narrows slightly. However, black women under age 25 have consistently been less likely to work all year than white women in that age group, and the difference in proportions increased substantially over the decade (table 3). One of the reasons for this is that more black than white teenagers left school before graduating, and therefore lacked an important credential for jobs which provide steady employment. Also, among young women in the labor force, a higher percentage of blacks than whites had children under age 6. In the 25-to-34 age group, the proportions of both white and black women with year-round employment rose by 7 to 8 percentage points and that for black women ages 35 to 44 jumped even more. The proportions of white and black women with young children were about the same at these ages.

In contrast to the upward trend over the decade in year-round employment among women, the proportion of men with such steady work declined by 3 percentage points and dropped sharply among white and black men 25 to 34 years old—the “baby boom” cohort. Given that men in this age group have traditionally had high labor force participation rates, the decline in year-round employment may indicate some generational crowding with respect to the so-called “good” jobs

which offer steady employment.<sup>4</sup> Less year-round work also reflects the larger proportion of men in the age group with some unemployment during 1978 than during 1968 (15.9 versus 11.6 percent); in 1968, the Vietnam war took a large group of men out of the civilian economy, and there was also a high level of business activity.

The over-all figures obscure the sharp decline in year-round work among black men under age 25, in contrast to little change among young white men. Reasons for the deterioration in the employment situation of young blacks have been extensively explored in other reports with reference to their higher school dropout rate, their lack of vocational training, the scarcity of jobs in the inner city, and the range of socioeconomic factors which influence behavior in the labor market.<sup>5</sup> During the past 25 years, the employment situation of young blacks has continued to deteriorate even in times of general economic improvement.<sup>6</sup> In that context, the lower proportion of black teenagers and young adults with year-round work is further evidence of the extent of change.

**Table 4. Occupational distribution of persons who worked 50 to 52 weeks, by race and sex, 1968 and 1978**

[Numbers in thousands]

Category	White		Black and other races <sup>1</sup>	
	1968	1978	1968	1978
<b>MEN</b>				
Total: Number	35,681	39,504	3,570	4,058
Percent	100.0	100.0	100.0	100.0
Professional, technical and kindred workers	15.6	17.5	7.6	12.3
Managers and administrators, except farm	16.6	17.5	5.0	7.9
Sales workers	6.0	6.6	2.4	2.5
Clerical and kindred workers	7.2	6.2	7.5	8.1
Craft workers	20.9	20.9	14.7	17.8
Operatives, except transport	13.5	10.3	20.0	15.2
Transport equipment operatives	4.8	5.3	7.5	8.7
Laborers, except farm	3.9	4.6	16.1	9.1
Private household workers	.1	.....	.3	.1
Service workers, except private household	5.5	6.9	13.6	15.6
Farmers and farmworkers	6.0	4.1	5.2	2.7
<b>WOMEN</b>				
Total: Number	16,463	22,897	2,340	3,490
Percent	100.0	100.0	100.0	100.0
Professional, technical and kindred workers	15.2	17.7	11.8	15.9
Managers and administrators, except farm	6.2	8.3	2.1	4.2
Sales workers	6.5	6.5	1.9	2.4
Clerical and kindred workers	39.5	39.9	19.7	29.1
Craft workers	1.3	1.8	.9	1.0
Operatives, except transport	13.5	9.6	15.3	14.2
Transport equipment operatives	.1	.3	.1	.3
Laborers, except farm	.4	.9	.9	1.5
Private household workers	2.3	1.2	23.0	7.0
Service workers, except private household	12.1	12.6	23.2	24.0
Farmers and farmworkers	2.8	1.2	1.1	.6

<sup>1</sup> See footnote 1, table 3.



**Table 5. Persons 16 years and over who experienced some unemployment during year, by sex, 1977 and 1978**

Extent of unemployment	Both sexes		Men		Women		White		Black		Hispanic origin <sup>1</sup>	
	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978	1977	1978
Numbers (in thousands)												
Persons who worked or looked for work during the year . . . . .	109,663	112,362	61,675	62,680	47,989	49,683	96,734	98,985	10,972	11,304	5,097	5,240
Percent with unemployment . . . . .	17.8	15.8	17.4	15.3	18.3	16.4	16.7	14.7	27.1	25.0	23.9	21.3
Persons with unemployment . . . . .	19,512	17,738	10,727	9,572	8,785	8,166	16,150	14,548	2,973	2,831	1,218	1,116
Did not work but looked for work . . . . .	2,568	2,072	958	763	1,610	1,310	1,743	1,382	774	649	159	149
With work experience . . . . .	16,944	15,666	9,770	8,809	7,175	6,856	14,407	13,166	2,200	2,182	1,059	967
Percent distribution												
Did not work but looked for work . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1 to 14 weeks . . . . .	57.7	59.6	42.7	48.2	66.7	66.2	59.8	60.6	52.6	57.2	46.5	59.7
15 weeks or more . . . . .	42.3	40.4	57.3	51.6	33.3	33.7	40.2	39.4	47.4	42.8	53.5	40.3
Unemployed persons with work experience . . . . .	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Year-round workers <sup>2</sup> unemployed 1 to 2 weeks . . . . .	3.8	4.3	4.3	5.0	3.2	3.4	4.0	4.5	3.0	3.2	3.3	3.4
Part-year workers <sup>3</sup> unemployed . . . . .	96.2	95.7	95.7	95.0	96.8	96.6	96.0	95.5	97.0	96.8	96.7	96.6
1 to 4 weeks . . . . .	24.7	25.9	20.5	20.8	30.4	32.4	25.6	27.5	19.0	16.2	21.1	26.1
5 to 14 weeks . . . . .	33.8	35.7	35.1	37.7	31.9	33.1	34.6	35.8	28.8	35.3	32.7	33.3
15 weeks or more . . . . .	37.7	34.1	40.1	36.5	34.4	31.1	35.8	32.2	49.2	45.3	42.9	37.2
With 2 spells of unemployment or more . . . . .	32.6	32.5	36.2	35.0	27.8	29.3	32.2	31.7	35.7	37.3	36.1	32.4

<sup>1</sup> See footnote 1, Table 1.<sup>2</sup> Worked 50 or 51 weeks.<sup>3</sup> Worked less than 50 weeks.

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

## Occupational changes

The increase in year-round, full-time employment among women reflected movement into occupations which are likely to require a more regular work commitment. Most women who worked all year—both white and black—were employed as professional and technical workers, managers, clerical workers, or service workers. Since 1968, the proportion of women employed year round in professional and technical jobs rose by almost 5 percentage points, was unchanged among managers, and rose 4 percentage points among both sales and clerical workers.

Occupational shifts over the decade were especially dramatic for black women. For example, their year-round employment as private household workers dropped from 23 to 7 percent between 1968 and 1978 (table 4). At the same time, the proportion of black women in clerical work expanded from 20 to 29 percent, and there were substantially more employed in the higher paying white-collar occupations, such as professional and managerial work. Among white women, the proportion in white-collar positions rose from 68 to 72 percent, while the percentage of operatives declined.

The decline in year-round employment among men showed a similar occupational pattern for whites and blacks, with the sharpest drop among transport equipment operatives. Although the number of men in this occupation increased by more than a million from 1968 to 1978, more than half of the increase was among part-year or part-time workers. In 1978, 36 percent of the men in this occupation worked part of the year, com-

pared with 28 percent in 1968. The proportion of men who worked year round in service occupations also declined substantially, as two-thirds of the 2-million increase in employment was among part-year or part-time workers. By 1978, 52 percent of the men in service occupations worked less than year round, up from 45 percent in 1968.

The 17.7 million persons who encountered some unemployment during 1978 represented 15.8 percent of those who were in the labor force for either all or part of the year—the lowest such proportion since the mid-decade recession. In 1977, unemployment had reached 17.8 percent of the persons who were in the labor force (table 5). About 15.7 million, or 9 out of 10 of the persons with some unemployment during 1978, were also employed during part of the year. The number who never held a job—although they engaged in some jobseeking—was about 2.1 million, down from 2.6 million in 1977.

The decline in the incidence of unemployment affected all major labor force groups. The proportion of the work force with some unemployment fell by almost 2 percentage points for men and women, to 15.3 and 16.4 percent respectively. The proportion of white workers encountering unemployment during 1978 was 14.7 percent, while the percentages for blacks and Hispanic workers were, respectively, 25.0 and 21.3, all lower than in 1977. The number of persons accumulating 15 weeks of unemployment or more decreased substantially from 1977 to 1978—from 7.5 to 6.2 million—while the number with comparatively short spells of unemployment was down only slightly. □

<sup>1</sup> The data for this report are based on responses to special "work experience" questions included in the March 1979 Current Population Survey (CPS), conducted for the Bureau of Labor Statistics by the Bureau of the Census. The work experience questions refer, retroactively, to the civilian work experience of persons during the entire preceding year. Because many persons enter and leave the labor force during the course of the year, the number of persons with employment and with unemployment as determined through the work experience questions is much greater than the annual average for the same year based on the monthly survey conducted during the year. Persons who reached age 16 during January, February, or March 1979 are included. However, the work experience of persons who were in the civilian labor force during 1978 but were not in the civilian non-institutional population in March 1979 is not included; similarly data on persons who died in 1978 or in 1979, before the survey date, are not reflected.

This is the latest in a series of reports on this subject. Data from the March 1978 survey were published in the *Monthly Labor Review* in March 1979 (pp. 53-57) and issued with additional tabular data and explanatory notes as Special Labor Force Report 224. This report will be reprinted with additional data from the March 1979 survey as a Special Labor Force Report later this year.

<sup>2</sup> The rise in the proportion of women who work during the year has been documented in previous work experience reports such as

Special Labor Force Report 224 for 1977 and Special Labor Force Report 201 for 1976, both reprints of research summaries in the *Monthly Labor Review*.

<sup>3</sup> In this discussion of year-round employment and occupational changes, "black" refers to black and other races. Data for black, only, were not available for 1968.

<sup>4</sup> Daniel E. Hecker, "The Jam at the Bottom of the Funnel: The Outlook for College Graduates," *Occupational Outlook Quarterly*, Spring 1978, pp. 37-39. See also Richard Freeman and Holloman J. Herbert, "The Declining Value of College Going," *Change, The Magazine of Higher Learning*, September 1975, pp. 24-31, 64; Michael Ornstein, "Entry into the American Labor Force," Academic Press, Inc. 1976, p. 183; Lewis C. Solomon, "Higher Education and Good Jobs," *National Review*, October 15, 1976, p. 1122.

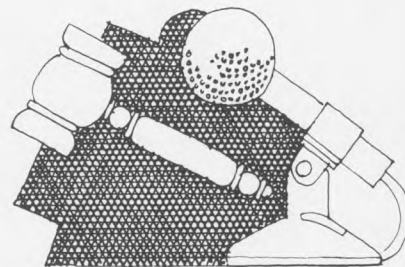
<sup>5</sup> For example: Norman Bowers, "Young and Marginal: An overview of youth employment," *Monthly Labor Review*, October 1979, pp. 4-18; Beacham, Herbert C., "Background and Training Needs of Persistently Unemployed Negroes," *Journal of Industrial Teacher Education*, Winter 1971, pp. 4-11; "Hardcore Personality and Industrial Illness and Accidents," *Industrial Medicine*, Vol. 39, No. 4, April 1970, pp. 33-37. See also "Young, Black and Unemployed," *The New York Times*, March 11-14, 1979.

<sup>6</sup> Morris J. Newman, "The labor market experience of black youth, 1954-78," *Monthly Labor Review*, October 1979, pp. 19-27.

### Erratum

In the article "The political and legal issues of binding arbitration in government," appearing in the September issue of the *Review*, the representative of a police bargaining unit in Buffalo was incorrectly identified on p. 39. At the time of the challenged arbitration award, the unit was represented by the Police Benevolent Association.

# Conventions



## Mine Workers' new president wins dues increase, right to name VP

MARY A. ANDREWS

The United Mine Workers of America saw its new president, Samuel Morgan Church, Jr., gavel his way to victory at the union's triennial convention in Denver, Colo. In the tradition of John L. Lewis, Church won on a number of important issues, including a dues increase, a newly established strike fund, and presidential authority to appoint a vice president.

More than 1,200 delegates, representing 230,000 active and retired members, adopted as a basic theme for the December 10-19 meeting, "unity and rebuilding of the UMW." They revised a number of significant provisions of the union's constitution and formulated guidelines for the 1981 negotiations with the Bituminous Coal Operators Association. For the first time, members of working committees were elected by the delegates, rather than appointed by the president.

In his keynote address, Church invoked the spirit of Lewis, who headed the union for more than 40 years, by urging unity and stressing that "we must once again become the mighty power that we were. With your help, I will see to it that America and its leaders know we are strong, and above all united for the common good of the union. Unity is important to the future of the UMW, the labor movement, and the future of the United States and Canada." All UMW members are in these countries.

### Credentials fight

A floor debate erupted during the delegates' consideration of a partial report of the credentials committee, which established the number of votes that were to be cast by the delegates. The convention first rejected this report by a voice vote. This meant that the convention could not formally seat the delegates and begin its business. Accordingly, Church told the delegates they had two options: to recess until the credentials committee

report was complete and updated; or to have a roll-call vote on the partial report. The delegates chose a roll-call vote. When it became apparent to Church that the vote would be in favor of accepting the committee's partial report, he suspended the roll-call vote and asked for a voice vote, which resulted in the adoption of the entire report. It was generally agreed by convention delegates that in winning the credentials report battle Church passed his first test of leadership.

Church expressed a desire to appoint his own successor to the post of vice president, citing a need for compatibility. The post had become vacant when President Arnold Miller resigned because of poor health, turning the leadership of the union over to Church.<sup>1</sup>

After a brief but spirited debate, the delegates endorsed a resolution from the floor to waive a provision of the union's constitution requiring a general election to fill the vacancy.<sup>2</sup> Some of the opposing delegates argued that such a waiver was not in the spirit of the democratic process and represented a loss of autonomy for them as representatives of the rank and file. The majority, however, upheld the president's right to pick a vice president. Another consideration was a saving of about \$750,000, the cost of running an election. Church chose not to fill the vacancy during the convention. At a press briefing, however, he mentioned that he had narrowed the list of prospective candidates down to about five persons.

### Shrinking assets

Willard A. Esselstyn, secretary-treasurer, told the delegates about the union's current financial difficulties, pointing to a decline in the union's liquid assets, from \$46 million in 1970 to \$2 million in 1979. Loans made by the union to its districts, costly legal settlements, and aid given to striking miners, combined with inflation, have brought the union to its current financial condition. With \$2 million left in the bank, approximately the cost of holding the convention, Esselstyn said the union would soon be at the "zero level" unless a dues increase were approved.

*Dues increase.* On a roll-call vote, following a sharp debate, the delegates approved a constitutional amendment to increase working miners' dues by more than

Mary A. Andrews is an economist in the Division of Industrial Relations, Bureau of Labor Statistics.



100 percent. The last increase was in 1973. The dues will be about \$48 million a year and will be divided equally among the locals, the districts, and the international union. Dues will be raised from the current flat rate of \$12 a month to \$26.67. Working miners will pay an amount equivalent to 3 hours' wages a month assessed at the grade 1 underground miner wage scale of \$8.89 per hour. Linking the dues structure to the hourly wage will automatically raise dues when wages increase. The hourly formula was used to tie dues to inflation and a member's ability to pay. The higher dues level was considered a major victory for Church, who saw it as another test of his leadership. "Give me a chance, give me what I need to work with, and if you don't like my performance, in just 3 years you can get rid of me," he told the delegates.

Some who opposed the change in the dues structure acknowledged that an increase might be needed but asserted that 3 hours' pay a month was too much. They argued that its adoption would make it too difficult to face their members back home, particularly when some of their locals and districts also were having financial troubles. They were also critical of what they called excessive spending by the union's officers, and called upon Church to curtail it. In response, Church promised to review the union's spending and staffing and said that money may be saved.

The dues increase also will provide the UMW with the necessary funds to increase its organizing activities. The organizing committee recommended that specific funds be earmarked for the organizing department, in order to launch an intensive campaign to bring thousands of miners and millions of tons of coal under the UMW's banner. The committee called for an increase in the number of organizers from about 40 to about 150. The present organizing staff has been operating on a budget of about \$500,000 a year.

Church told the delegates that his proposal for 50 more Western organizers (currently there are nine) will be a top priority of his administration. Major organizing efforts will be planned in the coal-rich Rocky Mountain West, an area where the UMW is weak and threatened by an increasing number of nonunion operations. But he warned the delegates that such efforts will not be cheap. "If our organizing in the West is to be thorough, we must realize the cost will be huge. 'Big money' will be needed to help organize the rich West."

*Strike fund and assessments.* The convention approved another constitutional change to establish a strike fund. The International Executive Board will be authorized to call selective strikes against one or more companies which are not members of the Bituminous Coal Operators Association. This will be a major change in UMW's strategy, which usually relies on industrywide work

stoppages. The adopted measure calls for the executive board to assess working miners \$25 a week to raise the money for striking miners. The new strategy is primarily directed at the Consolidation Coal Co. (Consol) which, last May, withdrew from the association, the coal industry's bargaining arm for 30 years. Consol, which employs about 20,000 of the union's members, plans to negotiate separately with the union during 1981.

In the early days of the convention, the delegates returned to the constitution committee a proposed amendment which would have permitted unlimited yearly assessments to provide for posting of bonds and payment of legal judgments against the UMW. Toward the end of the convention, the delegates authorized the executive board to assess working miners \$10 a year for this purpose. The assessment authority is necessary, union officials said, because of the \$16 million in potential court judgments facing the union during 1980. The lawsuits were filed by some of the coal operators, largely because of the rash of wildcat strikes that marked Miller's tenure.

Some delegates who spoke asserted that the large dues increase and establishment of a selective strike fund obviated the need for any assessment.

During the convention, it was announced that the U.S. Supreme Court had ruled the UMW International Union is not automatically liable for wildcat strikes.<sup>3</sup> The decision supported a lower court ruling that denied damages to the Carbon Fuel Co. of West Virginia for losses suffered from 48 wildcat strikes by three of District 17's locals during 1969-73. In a unanimous decision written by Justice William Brennan, the Supreme Court ruled that the Taft-Hartley Act, under which the suit was filed, does not impose liability on a parent union for strikes of locals the union did not authorize. In 1947, when Taft-Hartley was enacted, the international union deleted a clause in the national agreement requiring it to take disciplinary or other action to end unauthorized strikes. Because the contract only called for arbitration of disputes and for the union to preserve the integrity of the contract, the court ruled that neither the international nor District 17 could be held liable.

### **Bargaining goals for 1981**

In preparing for UMW's 1981 bargaining rounds, the negotiators may be faced with rapidly changing economic conditions, along with a weakening demand for coal. The Bituminous Coal Operators Association contract, scheduled to expire in March 1981, covers 125,000 workers and has set the pattern for the union's three other major contracts: the Western Surface Coal Agreements (12,000 workers) which expire April 1981,<sup>4</sup> the National Coal Mine Construction Agreement (14,000 workers) which expires March 1981, and the

Anthracite Wage Agreement (2,000 workers) which expires May 1981.

The delegates adopted the collective bargaining committee's report (which is intended as a guide to the negotiators) and asked for higher pay differentials on both the afternoon and midnight shifts, and for an uncapped cost-of-living increase of 1 cent per .3 percentage-point rise in the Consumer Price Index.

In addition, a shorter workweek will be sought, aimed at expanding the number of jobs for miners. Presently, an estimated 20,000 union miners are unemployed, and thousands more are on reduced work schedules because of lagging coal sales.

The committee also proposed that the negotiators of the contract explore the possibility of placing arbitrators under contract. This is intended to ensure that an arbitrator's fee would not be raised during the term of the contract; that bench decisions (usually oral and handed down immediately after a hearing, without recourse to further argument or evidence) be issued when they are mandated by the wage agreement; and that the use of post-hearing briefs be limited to emergency situations only. The committee felt the proposal would "give the parties more control over arbitrators" and possibly ensure that they would uphold the "integrity" of the union's wage agreement.

A broad set of collective bargaining goals designed to protect workers from hazardous and unhealthful work was also adopted. Proposals for the new contract provide that a full-time union safety inspector and a full-time nurse be employed at every mine; the right to strike over unsafe working conditions; the quadrupling of the annual protective clothing allowance paid by the opera-

tors to \$500; postponement of any new rules disputed by workers for safety reasons until ruled on by an arbitrator; and, safety and health training of employees.

### Other floor action

The office of Vice President for Pensioners' Affairs was abolished, to become effective at the end of the incumbent's term in December 1982. Because retirees have the right to vote for local union presidents and vice presidents, they are considered to have adequate representation, making the vice president's job unnecessary.

Also approved was a resolution stripping membership from a worker taking a temporary supervisory job, and requiring payment of a new initiation fee to rejoin the union upon return to the regular job.

Church and other UMW leaders accused the Government of neglecting coal in the U.S. energy program. Church indicated that increasing coal production could free the United States from dependence on the Organization of Petroleum Exporting Countries (OPEC) cartel and provide work for unemployed coal miners. The delegates endorsed a legislative committee report reaffirming legislative goals of the 1976 convention, including a national coal development policy, a curb on nuclear power, breakup of multinational oil companies, and continued regulation of gasoline and domestic oil prices to benefit miners in rural areas.

Guest speakers at the convention included Sen. Edward Kennedy, D-Mass., U.S. Assistant Secretary of Labor, William Hobgood (who delivered Secretary Ray Marshall's speech), and Congressman Nick J. Rahall, D-W.Va. □

### FOOTNOTES

<sup>1</sup> The resignation was accepted by the UMW International Executive Board, and Samuel Morgan Church, Jr., was sworn in on November 16, 1979. Under terms of the resignation, Arnold Miller will be designated "president emeritus" and will receive his full salary (\$42,000 a year) until the expiration of his term in December 1982. At that time, the International Executive Board will determine whether to continue his salary. Miller won the union presidency in December 1972, defeating W. A. "Tony" Boyle, who subsequently was convicted of conspiracy to murder an earlier rival, Joseph A. Yablonski.

<sup>2</sup> Article V., Section 2(a), UMW Constitution provides that the President shall fill by appointment all vacancies occurring in any International office. However, if at the time a vacancy occurs in the office of vice president, secretary-treasurer, or executive board member, if

more than 2 years of the term remains, he shall call for an election to fill the vacancy, the election to be held as promptly as possible.

The amendment to Article V., Section 2(a) reads as follows:

(b) Notwithstanding the provisions of Section 2(a) above, the President shall fill by appointment the vacancy existing in the office of Vice President which was created by the elevation of former Vice President Samuel Morgan Church, Jr.

<sup>3</sup> *Carbon Fuel Company vs. United Mine Workers of America*, 48 U.S.L.W. 4059 (U.S. December 10, 1979); for a further discussion of the case, turn to p. 51.

<sup>4</sup> Separate agreements expiring at different dates are to be negotiated with individual companies in 1981.

# Significant Decisions In Labor Cases



## Long leash for wildcats

In one of its first opinions of the 1979–80 term, the Supreme Court clarified the legal responsibility of parent unions when their local affiliates are involved in an unauthorized strike. Unanimously, the Court concluded that, under the National Labor Relations Act, a parent union may be held liable for damages resulting from such strikes when it can be proved that the local acted with the express or implied authority of the parent union. The Court also ruled that the terms of a collective bargaining contract determine whether and to what extent a parent union has an obligation to attempt to resolve unauthorized strikes; failure to fulfill such an obligation also could result in damage liability. Because the United Mine Workers International Union did not instigate, support, ratify, or encourage a series of wildcat strikes between 1969 and 1973 and because the UMW had no contractual obligation to resolve the strikes, it could not be held liable for resulting strike damages, the Court ruled. (*Carbon Fuel Co.*<sup>1</sup>)

The Carbon Fuel Co. claimed that a UMW contract provision specifying arbitration of grievances required the international to use “all reasonable means” to end unauthorized strikes. Congressional policy favoring arbitration imposes such an obligation when an arbitration clause exists, the company urged.

Writing for the Court, Justice William Brennan rejected this argument, which had created a conflict among the Circuit Courts of Appeals.<sup>2</sup> The “agency” test of union liability for unauthorized strikes established by Congress, he reasoned, precluded an extension of the policy in favor of arbitration which would impose an obligation on parent unions to intervene. However, Brennan noted that this result did not affect the *content* of arbitration clauses.

Carbon Fuel also claimed that a contract provision requiring the UMW to “maintain the integrity” of the contract obligated the international to attempt to end unauthorized strikes as part of its responsibility under the arbitration clause. On this issue, Brennan relied on elements of the Court’s decisions in the *Steelworkers*

Trilogy.<sup>3</sup> Essentially, he emphasized that when a contractual agreement is specific the courts may not substitute a different result. Thus, when the parties have agreed not to arbitrate, Federal policy in favor of arbitration cannot impose such an obligation. Brennan noted that, in 1952, specific contract language requiring the UMW to attempt to end unauthorized strikes was deleted. Because such a requirement to intervene had been purposefully negotiated out of the agreement, it could not now be covered by the contract’s arbitration provision. Although the full scope of the UMW’s responsibility to “maintain the integrity” of the contract was left unsettled, the Court ruled that in light of the parties’ bargaining history the union no longer had any obligation to resolve wildcat strikes.

The Court’s decision in *Carbon Fuel* made clear that a parent union is not liable for wildcat strike damages when (1) the local did not act as the agent of the parent “in accordance with their fundamental agreement of association”; and (2) the parent has fulfilled its responsibility under the collective bargaining agreement to resolve such unauthorized strikes. Thus, where contract language is unclear, a parent union could be held liable for wildcat strike damages if it failed to fulfill obligations found (by a court or an arbitrator) to be contained in the contract.

## Landbased longshoring

The availability of compensation for both disability and death suffered by longshoremen and harbor workers was substantially broadened by Congress in 1972. Court interpretations of earlier laws had limited compensation to the disabilities or death that occurred “on navigable waterways.” This distinction resulted in cases where workers injured in falls were awarded compensation depending on where they landed—over water or on land.<sup>4</sup> The 1972 law corrected this type of inequity by extending coverage to certain land areas and by covering “any person engaged in maritime employment.”

In a 1977 case,<sup>5</sup> the Supreme Court explained that one of the congressional reasons for expanding coverage was the increased use of containerized shipping—which permits traditional longshoring tasks to be performed in a variety of locations. Thus, the Court ruled that workers involved in packing and unpacking containers or

<sup>1</sup>“Significant Decisions in Labor Cases” is written by Gregory J. Mounts of the *Monthly Labor Review* staff.



those who, at least part of the time, could be assigned to perform such "indisputable" longshoring tasks were covered by the 1972 law. However, the Court left unresolved whether Congress meant to include other workers who handle ships' cargo within the definition of "maritime employment."

Late in 1979, clear occupational boundaries for coverage under the 1972 law were finally established. Congress meant to include all workers involved in moving cargo between ship and land transportation when it provided injury compensation for maritime employment, the Supreme Court unanimously held.<sup>6</sup> The Court explained that Congress was more concerned with the nature, not the location, of employment. Thus, the entire process of moving cargo from one form of transportation to another remains longshoring even though some intermediate—and integral—steps are now performed away from the water's edge.

The Court's decision approved a ruling by the 5th Circuit that two injured workers—one while fastening vehicles onto railroad flatcars and another while unloading cotton into a pier warehouse—were covered by the law because of the nature of their work. However, specifying both the nature and location of employment makes clear that not all who work within the land areas designated in the law are covered. Persons whose responsibility is only to pick up cargo for further transshipment are not covered despite the fact that they work at a marine situs, the Court emphasized.

### The costs of discrimination

In another case decided early in its 1979–80 term, the Supreme Court ruled that Federal funds available under the Emergency School Aid Act may be denied to elementary and secondary schools based on statistical evidence of a disparate racial impact in the hiring, promotion, or assignment of employees.<sup>7</sup>

Congress made funds available under the law to defray the costs associated with the "elimination of minority group discrimination" and to encourage the adoption of such desegregation programs. Schools compete for a limited amount of total funds, but become ineligible if they have engaged in certain discriminatory employment practices specified by the law. However, the ambiguity of the law's ineligibility provision had left it unclear whether schools could be denied aid based on the discriminatory *impact* of their practices or whether denial could be based only on proof of discriminatory *intent*.

The Court reasoned that Congress intended to provide financial assistance to schools, in part, as an enticement to encourage voluntary elimination of *de facto* as well as *de jure* minority group segregation and isolation. To disqualify only those applicants with a conscious intent to perpetuate racial isolation would defeat the congressional objective of ending both forms of discrimination, the Court declared.

In approving the use of an impact test, the Court explained that a school could possibly rebut the disparate effect shown by statistical evidence by proof of "educational necessity," analogous to the "business necessity" justification applied under Title VII of the 1964 Civil Rights Act.

Finally, the Court addressed the question of denying antidiscrimination aid to some of the actual victims of discrimination:

There is no force in the suggestion that a decision adverse to the Board here will serve to harm or penalize the very children who are objects of the beneficial provisions of the act. A ruling of ineligibility does not make the children who attend New York City schools any worse off; it does serve to deny them benefits that in theory would make them better off. The funds competed for, however, are not wasted, for they are utilized, in any event, to benefit other similarly disadvantaged children. It is a matter of benefit, not of deprivation, and it is a matter of selectivity. □

### FOOTNOTES

<sup>1</sup> *Carbon Fuel Co. v. United Mine Workers of America*, 48 U.S.L.W. 4059 (U.S., Dec. 10, 1979).

<sup>2</sup> The Third and Eighth Circuits had ruled that a parent union was liable under a no-strike clause for failure to use best efforts to end unauthorized strikes: *Eazor Express, Inc. v. Teamsters*, 520 F. 2d 951 (3d Cir. 1975); *United States Steel v. UMWA*, 534 F. 2d 1063 (3d Cir. 1976); *Bituminous Coal Operators v. UMWA*, 585 F. 2d 586 (3d Cir. 1978); *Republic Steel Corp. v. UMWA*, 570 F. 2d 467 (3d Cir., 1978); and *Wagner Elec. Corp. v. Local 1104*, 496 F. 2d 954 (8th Cir. 1974). The Fourth Circuit (in this and earlier cases) and the Sixth Circuit had both reached a contrary result: *United Construction Workers v. Haislip Baking Co.*, 223 F. 2d 872 (4th Cir. 1955); *UMWA v. Carbon Fuel Co.*, 582 F. 2d 1346 (4th Cir. 1978); and *Southern Ohio Coal Co.*

*v. UMWA*, 551 F. 2d 695 (6th Cir. 1977).

<sup>3</sup> *United Steelworkers v. American Mfg. Co.*, 363 U.S. 564 (1960); *United Steelworkers v. Warrior & Gulf Navigation Co.*, 363 U.S. 574 (1960); and *United Steelworkers v. Enterprise Wheel & Car Corp.*, 363 U.S. 593 (1960).

<sup>4</sup> See *Nacirema Operating Co. v. Johnson*, 396 U.S. 212 (1969).

<sup>5</sup> *Northeast Marine Terminal Co. v. Caputo*, 432 U.S. 249 (1977).

<sup>6</sup> *P. C. Pfeiffer Co., Inc. v. Ford*, 48 U.S.L.W. 4018 (U.S., Nov. 27, 1979).

<sup>7</sup> *Board of Ed., City of New York v. Harris*, 48 U.S.L.W. 4035 (U.S., Nov. 28, 1979).

# Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in April 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 <sup>1</sup>	Number of workers
Area Grocery Contract (Minnesota and Wisconsin) <sup>2</sup>	Retail trade	Food and Commercial Workers	1,200
Associated Contractors of Ohio, Inc., 2 agreements (Ohio and Kentucky)	Construction	Carpenters; and Operating Engineers	5,500
Associated General Contractors of America:			
Central Illinois Builders Chapter	Construction	Carpenters	1,600
Chattanooga Chapter (Alabama, Georgia, and Tennessee)	Construction	Carpenters	1,200
Mid-Florida, and 1 other association	Construction	Carpenters	2,200
New Orleans Chapter (Louisiana)	Construction	Building and Construction Trades Council	7,350
Northeastern Florida Chapter (Florida and Georgia)	Construction	Carpenters	1,500
Ohio Building Chapter, 2 agreements	Construction	Carpenters; and Laborers	4,500
St. Louis Chapter, 2 agreements (Missouri)	Construction	Carpenters; and Laborers	7,700
Bendix Corp., Master Agreement (Interstate)	Transportation equipment	Auto Workers (Ind.)	6,900
Borg-Warner Corp., York Division (Decatur, Ill.)	Machinery	Allied Industrial Workers	1,200
Builders of Tazewell County and 5 others (Peoria, Ill.)	Construction	Carpenters	4,300
California Conference of Mason Contractors Association, Inc. (Los Angeles, Calif.)	Construction	Bricklayers	1,000
Caterpillar Tractor Co. (California)	Machinery	Machinists	1,400
Charmin Paper Products Co. (Green Bay, Wisc.)	Paper	Paperworkers	1,500
Chicago Lithographers Association (Illinois)	Printing and publishing	Graphic Arts	4,800
Cities Service Co., Copperhill Operations (Copperhill, Tenn.)	Mining	Chemical Workers	1,200
Clark Equipment Co., Industrial Truck Division (Battle Creek, Mich.)	Machinery	Allied Industrial Workers	2,000
Clark Equipment Co., Transmission Division (Jackson, Mich.)	Transportation equipment	Allied Industrial Workers	1,500
Cleveland Electric Illuminating Co. (Ohio)	Utilities	Utility Workers	2,700
Construction Employers Association, Inc. (Kentucky and Indiana)	Construction	Carpenters	2,000
Construction Employers Association, Inc. and 2 others (Kentucky)	Construction	Laborers	3,000
Contractors' Association of Eastern Pennsylvania	Construction	Carpenters; Laborers; and Teamsters (Ind.)	4,500
Dayco Corp., Southern Division (Waynesville, N.C.)	Rubber	Rubber Workers	1,600
Dayton Tire & Rubber Co. (Dayton, Ohio)	Rubber	Rubber Workers	1,350
Denver Metropolitan Retail Grocers (Colorado) <sup>2</sup>	Retail trade	Food and Commercial Workers	1,200
ESB Inc., Automotive Division (Interstate)	Electrical products	Auto Workers (Ind.)	1,000
Exxon Corp., Exxon Co., U.S.A., Refinery and Chemical plants (Baytown, Tex.)	Petroleum	Gulf Coast Industrial Workers Union (Ind.)	1,500
Fischer & Porter Co., and 2 others (Pennsylvania)	Instruments	Independent Union of Rotamaster Workers	1,500
Formica Corp. (Cincinnati, Ohio)	Rubber	Electrical Workers (IBEW)	1,050
General Public Utilities Corp., Metropolitan Edison Co. (Pennsylvania)	Utilities	Electrical Workers (IBEW)	1,550
Gould, Inc. (Interstate)	Electrical products	Electrical Workers (IBEW)	1,200
Great Atlantic & Pacific Tea Co., Inc., Grocery Division (Horseheads, N.Y.)	Food products	Teamsters (Ind.)	1,700
Heavy Constructors Association (Kansas and Missouri)	Food products	Operating Engineers	1,750
Home Builders Association (St. Louis, Mo.)	Construction	Carpenters	2,200
Hoover Co. (Canton, Ohio)	Electrical products	Electrical Workers (IBEW)	3,200
Keystone Consolidated Industries, National Lock Division (Rockford, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,200
Luggage and Leather Goods Manufacturers Association (New York, N.Y.)	Leather	Leather Goods, Plastic and Novelty Workers	1,500
Mason Contractors Association of Baltimore, Inc. (Maryland)	Construction	Bricklayers	1,000
Meat Drivers (Chicago, Ill.) <sup>2</sup>	Food products	Teamsters (Ind.)	1,200

See footnotes at end of table.

## Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Union <sup>1</sup>	Number of workers
Metropolitan Edison Co. (Pennsylvania)	Utilities	Electrical Workers (IBEW)	1,550
Minneapolis Automobile Dealers Association (Minnesota)	Retail trade	Teamsters (Ind.)	1,250
Nevada Resort Association, 2 agreements (Las Vegas, Nev.)	Hotels	Hotel and Restaurant Employees	18,800
Northern Illinois Ready Mix and Materials Association (Illinois)	Wholesale trade	Teamsters (Ind.)	1,800
Ohio Contractors Association, and 1 other, 2 agreements (Ohio and Kentucky)	Construction	Bricklayers; Plasterers' and Cement Masons; and Operating Engineers	12,100
Owens-Illinois Inc. (Interstate)	Rubber	Glass Bottle Blowers Association	1,650
Pipe Line Contractors Association, National Agreement (Interstate)	Construction	Plumbers	10,000
Printing Industry of Twin Cities Minnesota (Minneapolis and St. Paul, Minn.) <sup>2</sup>	Printing and publishing	Graphic Arts	1,500
Public Service Electric and Gas Co., 2 agreements (New Jersey)	Utilities	Electrical Workers (IBEW); and Plumbers	2,800
Retail Meat Cutters Contract (Kansas and Missouri) <sup>2</sup>	Retail trade	Food and Commercial Workers	1,000
Retail Meat Markets (Michigan) <sup>2</sup>	Retail trade	Food and Commercial Workers	4,000
Rock Hill Printing and Finishing Co. (Rock Hill, S.C.)	Textiles	Textile Workers	1,800
Rock Products and Ready Mixed Concrete Employers (Southern California)	Mining	Teamsters (Ind.)	5,000
Sheet Metal and Air Conditioning Contractors National Association, Inc. (St. Louis, Mo.)	Construction	Sheet Metal Workers	1,150
Stanadyne Inc. (Chicago, Ill.)	Fabricated metal products	Auto Workers (Ind.)	1,000
Standard Brands, Inc., Planters Peanuts Division (Suffolk, Va.)	Food products	Distributive Workers (Ind.)	1,500
Store Fixture and Architectural Woodwork Institute (California)	Furniture	Carpenters	2,000
United Airlines, Inc., Pilots (Interstate) <sup>3</sup>	Air transportation	Airline Pilots	7,300
Washington Metal Trades, Inc. (Seattle, Wash.)	Fabricated metal products	Boilermakers	2,500
Washington Metal Trades, Inc.	Machinery	Machinists	2,500
West Penn Power Co. (Pennsylvania)	Utilities	Utility Workers	1,100
White Motor Corp., Farm Equipment Co. (Charles City, Iowa)	Machinery	Auto Workers (Ind.)	1,700
Wholesale-Retail Milk Agreement (Illinois) <sup>2</sup>	Wholesale trade	Teamsters (Ind.)	1,200

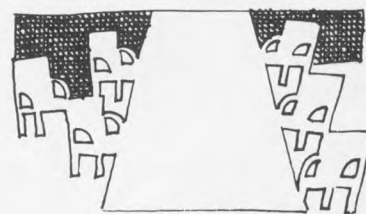
<sup>1</sup> Affiliated with AFL-CIO except where noted as independent (Ind.).

<sup>2</sup> Industry area (group of companies signing same contract).

<sup>3</sup> Information is from newspaper reports.



# Developments in Industrial Relations



## Anti-inflation unit urges higher pay lid

The Council on Wage and Price Stability received the recommendations of the Pay Advisory Committee, the 18-member body established as part of the "national accord" between the Administration and organized labor. (See *Monthly Labor Review*, February 1980, p. 12.)

The Pay Advisory Committee's most important recommendation was that the 7-percent standard for annual pay increases be replaced by a 7.5- to 9.5-percent standard. Apparently, this figure was a compromise between labor and business members of the committee. AFL-CIO President Lane Kirkland indicated that unions could accept the standard, saying, "If it had been any worse we couldn't have taken it, and if it had been any better, we wouldn't have gotten it." Committee member R. Heath Larry, former vice chairman of United States Steel Corp., called the new standard "realistic."

The council did not begin applying the new standard to wage settlements and determinations, pending development of criteria for assessing the size of particular settlements and determinations.

Other proposals ease the rule under which employees may receive pay increases above the guidelines if they have traditionally maintained a "tandem" relationship with those of other workers. The major aspects of this policy include:

- Permitting employee units not covered by automatic cost-of-living clauses to maintain historic pay relationships with units that have such clauses.
- Allowing employers to implement above-guidelines increases themselves, rather than seeking council approval. However, employers should be able to prove a tandem relationship.
- No longer requiring identical increases in a tandem relationship, but employers must be able to justify the difference.

- No longer requiring the leader in a tandem relationship to be in the same industry or geographic area. However, the leader must be exempt from or in compliance with the guidelines.

The latter requirement was first applied in January, when the council ruled that the September agreement between General Motors Corp. and the Auto Workers could not serve as the basis for a tandem exception to the guidelines for other companies because the accord exceeded the pay standards. (However, the council did not press General Motors to renegotiate the contract because the company had pledged to adhere to the price standard during the second year of the program, rather than use the alternative profit-margin standard that could permit larger increases.) The January ruling was in response to "numerous inquiries," particularly from the auto parts manufacturers which have traditionally followed the bargaining lead of the major auto companies.

Also, the committee recommended that the cost of contracts with wage escalator clauses be determined assuming that the Consumer Price Index will rise 7.5 percent a year.

The council accepted the committee's recommendation that longevity pay raises be excluded when calculating whether a unit of employees is in compliance with the pay standards. Previously, longevity increases were considered, while pay raises resulting from "legitimate promotions and qualification increases" were excluded. A council official said the change was made because employers were having difficulty distinguishing between raises based on length of service and those based on increased skills.

Another change accepted by the council permits all employees in units with average hourly earnings of \$5.35 or less to be excluded from the pay standards. The existing regulation, which permits the exclusion of any worker earning less than \$4 an hour, was retained.

In the committee's view, pay adjustments below the low end of the range may occur depending on criteria such as industry practice, prevailing competitive conditions, ability to pay, and prior levels of settlements. Pay adjustments above the range may occur in circumstan-

---

"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.

ces involving criteria such as productivity improvements, acute labor shortage, gross inequity, or undue hardship.

### Chrysler employees accept pay concessions

Chrysler Corp.'s bleak financial outlook was improved when the Auto Workers acceded to the requirements of emergency Federal legislation (the Chrysler Corporation Loan Guarantee Act of 1979) and agreed to a cut in the cost of its 3-year contract with Chrysler. The concessions of \$243 million from the pattern of settlements with General Motors Corp. and Ford Motor Co. were in addition to the \$203-million concessions in the October Chrysler accord. (See *Monthly Labor Review*, December 1979, pp. 55-57.) As a result, the Federal Government agreed to back loans obtained by the company.

Under the second agreement, Chrysler employees represented by the Auto Workers will receive 3-percent wage increases in March of 1980, 1981, and 1982. (The October settlement provided for increases in March 1980 and January and November of 1981.) There was no change in the 24-cents-an-hour cost-of-living "travel" increase, which was effective September 17, 1979.

Another concession is that employees will not receive any paid personal holidays during the 3-year contract which ends September 14, 1982. The UAW-represented workers will not receive their December 1980 bonus payment—equal to one day's pay—although they did receive the bonus in December 1979 and will receive another in December 1981. Under the October settlement, the workers would have received 9 paid personal holidays in 1981 and 11 in 1982, plus all three of the December bonuses.

The loan guarantee act also obligated Chrysler to give \$162.5 million in company stock to its employees. The distribution will be made over a 4-year period, scheduled to begin in July 1980. (This was in addition to a stock ownership plan negotiated in October.) Stock distributed to employees will equal the value of Federal tax credits on certain investments for machinery and equipment. Employees also may invest in additional shares, up to certain limits, with the company matching the amount.

These additional cost concessions and the stock distribution do not apply to the Chrysler employees the UAW represents in Canada. In a separate vote, the Canadian workers rejected the further concessions. Because of this, Chrysler agreed that all of the additional savings resulting from the second accord will be spent in the United States. The union also informed Chrysler that in 1982 it will bargain separately with the company for its members in the two countries.

Seven other unions, representing 4,000 Chrysler

workers in the United States, agreed to a total of \$16.5 million in concessions, similar to that in the UAW settlement.

### U.S. Steel plans plant closings

Plant closings and resulting losses of jobs loomed as an even more important issue in the 1980 steel negotiations, after U.S. Steel Corp. announced that it was closing more than a dozen plants in eight States and permanently laying off about 13,000 workers.

The action was described as "an economic tragedy" by United Steelworkers President Lloyd McBride, who called for immediate Government steps to aid the terminated workers. He said the union would attempt to head off any further closings in the industry by initiating negotiations with management whenever it believes that efforts to modernize and maintain facilities are inadequate.

U.S. Steel Board Chairman David M. Roderick said the facilities scheduled for closing had "become non-competitive for a variety of reasons, including operating costs, unfairly priced imports, or excessive environmental spending requirements."

The impact was particularly severe in the Youngstown, Ohio, area, where the decision to lay off 4,000 employees was followed by Jones & Laughlin's decision to close a plant with 1,300 employees. (In 1977, Youngstown Sheet and Tube Co. closed a Youngstown plant that had 4,000 employees.)

American Bridge Division plants in Ambridge and Lawrenceville, Pa., were saved from closing after employees reversed their earlier decision and agreed to wage concessions the company said were necessary to make the plants competitive with other steel fabricators. U.S. Steel said that a cost disparity had developed because the two fabrication plants, and a third in Gary, Ind., were covered by the company's contract for basic steel production units, where wages and benefits substantially exceed those at the other fabricators.

The concessions provided that employees of the Ambridge and Lawrenceville plants will receive all benefit improvements included in the 1980 basic steel settlement, but they will not receive the specified wage increases, and their wage escalator adjustments will be limited to 25 cents for each contract year.

U.S. Steel announced that the Gary plant, which was not on the original closing list, would be shut down in 1980. Plant employees again voted to reject the company's request for cost relief.

### Government unveils plan to control carcinogens

The Department of Labor announced the first comprehensive Federal policy to identify and protect

workers from cancer-causing substances. The new approach, scheduled to become effective in April, is subject to legal challenges by several industry groups, which generally contended that the rules were unclear, excessively rigid, and would be too costly to the industry.

Eula Bingham, assistant secretary of labor for occupational safety and health, said the change would permit at least 10 additional workplace carcinogens to be controlled each year, in contrast to the previous case-by-case approach, which brought 21 carcinogens under controls during the agency's 9-year existence. The substances to be brought under control would be selected from a list of about 500 agents that are suspected of causing cancer. Substances will be designated as "category 1" if scientific testing indicates that they pose a grave danger to workers and "category 2" if there is evidence "suggestive" of the danger of cancer.

Under the new procedures, employers would be required to reduce worker exposure to category 1 substances to "the lowest feasible level," primarily through engineering and work practice controls. If there is a suitable substitute, category 1 substances could be banned entirely. Category 2 substances would be subject to additional testing, but the Occupational Safety and Health Administration could issue temporary emergency standards governing the use of substances in either category.

The industries complained that the new regulations do not require a "cost-benefit" analysis before a standard is imposed. However, OSHA officials said that they do consider the impact on an industry before making a decision. A Federal Circuit Court of Appeals had ruled in favor of the cost-benefit approach in a case involving the benzene standard. A Supreme Court appeal was pending. (See *Monthly Labor Review*, March 1979, p. 68.)

Another objection was OSHA's approach to "negative" evidence produced by studies on humans. Previously, OSHA had ignored such studies. Under the new approach, it will consider the results of negative studies, but only if they examine evidence over a 30-year period, including 20 years of worker exposure, and if the sample studied is large enough to minimize the impact of "confounding variables."

### **Barbers and Beauticians union plans merger**

The Barbers and Beauticians union tentatively agreed to merge into the Food and Commercial Workers union. President Richard A. Plumb of the Barbers and Beauticians said the major reason for the move was that his union did not have the resources to organize the chain beauty shops and barber shops that are supplanting independent shops. The Food and Commercial Workers already represent employees in many shopping

malls and department stores in which the new shops are located.

The Barbers and Beauticians, with 35,000 members in 417 locals in the United States and Canada, dates back to the 1800's. The Food and Commercial Workers, which resulted from the 1979 merger of the Retail Clerks and the Meat Cutters, is the AFL-CIO's largest affiliate. It has 1.3 million members, and also dates back to the 1880's.

Plumb said that the merger was expected to be effective in April, after completion of a vote by the union's members. Under the proposal, Plumb would be a vice president of the Food and Commercial Workers and head its new Barbers and Cosmetologists Division.

In another merger development, the International Typographical Union and the Newspaper Guild announced agreement on the structure and authority of leaders of their new organization, as well as on major elements of the method for sanctioning strikes. Union officers participating in the negotiations said they expected the merger to be effective in January 1981.

### **Forest products workers form new federation**

In a move to strengthen their organizing and bargaining, four unions in the West Coast forest products industry have formed the United Federation of Industrial and Tidewater Labor Organizations. The units, with a total membership of 300,000, are the International Longshoremen's and Warehousemen's Union (ILWU); the Western Council of the Lumber Production Industrial Workers; Region 3 of the International Woodworkers of America (a unit of the Carpenters and Joiners); and the Association of Western Pulp and Paper Workers.

ILWU President Jim Herman, who was elected chairman of the new organization, said it was formed in response to the unified approach of employers in 1978 bargaining with the Paper Workers, which prevented the union from attaining its goal of 2-year contracts at all companies. He stressed that each of the four organizations will be "fully, completely and totally autonomous."

### **New contract for New York State employees**

About 47,000 scientific, professional, and technical employees of the State of New York were covered by a 3-year initial contract negotiated by the Public Employees Federation, an affiliate of both the Service Employees and the American Federation of Teachers. The settlement ended 8 months of negotiations that began after the Federation was certified as bargaining agent for the employees. The Federation had defeated an incumbent Civil Service Employees Association in a 1978



representation election.

The contract provides for three annual raises of 7 percent each, a single 9-percent increase for employees hired after April 1, 1979; establishment of a joint committee financed by the State to "assist employees in developing their full professional potential;" establishment of a "prevailing wage" concept for registered nurses under which their salary scales will be linked to those in private industry in the area; lifting of a moratorium on the reclassification of jobs; improvements in hospital, medical, optical, and prescription drug benefits; and a provision for a study of "deferred compensation" for employees.

### **Cleveland teachers approve contract, end strike**

Cleveland's 5,000 public schoolteachers ended an 11-week strike by approving a new 2-year contract that provided for an immediate salary increase of 10 percent, a 4-percent increase in September 1980, and 5 percent in January and April of 1981. The teachers, members of the Cleveland Teachers Union (an affiliate of the American Federation of Teachers), had earlier rejected two

offers, and the strike developed into the longest in the system's history.

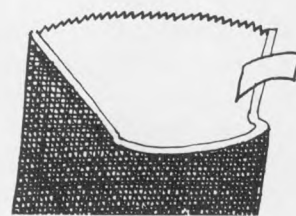
In the wake of the settlement, the school board began discussions with the teachers on how to attain the required 180 days a year of school for the 92,000 students without resorting to overtime, which would cost \$200,000 for each Saturday session.

### **Women workers at Kellogg get back pay**

The Kellogg Co. agreed to settle charges of alleged job discrimination against women at its Omaha, Neb., plant. Under the settlement, the company will give \$155,950 in back pay to 287 women employees; 140 of this group will get an additional \$141,750 in "incentive pay" as an encouragement to work in "nontraditional job areas." The cereal maker also agreed that 40 percent of the people the company hires as laborers and mechanics will be women.

The Department of Labor's charges of job discrimination were based on the assertion that women at the facility were concentrated in lower paying jobs and were not given a chance to compete for jobs usually held by men. □

# Book Reviews



## Global economic guidelines—take your pick

### *Challenges to a Liberal International Economic Order.*

Edited by Ryan C. Amacher, Gottfried Harberler, and Thomas D. Willett. Washington, American Enterprise Institute for Public Policy Research, 1979. 448 pp.

*Rich and Poor Nations in the World Economy.* By Albert Fishlow, Carlos F. Diaz-Alejandro, Richard R. Fagen, and Roger D. Hansen. New York, McGraw-Hill Book Co. for 1980's Project/Council on Foreign Relations, 1978. 264 pp.

Although these two collections are linked by a common issue, the proper structure for the international economic system, they are very different in style, economic substance, and political ideology. At the stylistic level, *Challenges to a Liberal International Economic Order* is a more massive book, both in volume and tone. The conference papers presented are academic in character, intended for someone with a specialized policy interest in the international economic order. *Rich and Poor Nations in the World Economy* is, in contrast, a collection of prescriptive essays that could be read by a well-informed general reader with an interest in foreign economic policy.

The papers in *Challenges to a Liberal International Economic Order* tie together three broad themes. First, the best structure for an international economic regime is the free trade, open market, floating exchanges world that is the subject of neoclassical trade and payments theory. While the contributions stop short of advocating complete *laissez faire*, it is the logical ultimate in liberal economic orders. Second, liberalized economic regimes, and especially the relatively liberal postwar system of the General Agreement on Tariffs and Trade and Bretton Woods, are mutually beneficial to all participants. The third is that the relatively liberal order is under attack and in certain critical areas is crumbling. Two sources of antiliberal pressure are identified, a "new protectionism" on the part of the industrialized developed countries, and the demands for a New International Economic Order.

The argument against the latter, to the extent that such a program involves illiberal international economic

practices, is based on empirical work. Jagdish N. Bhagwati's commentary suggests:

... one must go to the evidence to choose the desirable policy framework and that here, 'by and large,' 'more or less' (two splendid English phrases!), the lessons are clear. The outward-looking or export-promoting countries *have* done better than others cross-sectionally; the shift from protectionist to liberal trade and payments policies has *also* helped individual countries, according to time series evidence.

For a more complete statement of this position, Gottfried Harberler's paper, "The Liberal Economic Order in Historical Perspective," is recommended as one of the centerpieces of the collection.

My reading of the basic sense of this conference on the liberal order is that the ascendance of a "new protectionism" on the part of the advanced industrial market economies is a far more serious problem for the liberal order than the demands of a New International Economic Order. Jan Tumlrir's urgent essay entitled "The New Protectionism, Cartels, and the International Order" is the key to understanding this point of view. Tumlrir first outlines the two major economic forms the new protectionism takes: Cartel, especially popular among Europeans; and proposals for the "fair organization" of the international trade order. Tumlrir next develops a very perceptive political model; he sees domestic politics being increasingly fragmented by strong interest groups and domestic politicians responding by defining an increasingly large array of national objectives. In Tumlrir's words, "Our political life consists largely of politicians making promises to organized groups. Because each promise entails a function for government, our political life consists largely of government soliciting additional functions for itself."

Even domestically, Tumlrir sees that this form of politics can lead to mutual incompatibilities, and, as a result, even domestic economic planning ("organization") breaks down into "... political negotiation, an endless series of tests of power, the corporate state—a mutant incapable of survival because it cannot live at peace with its neighbors." The implications of this for the international order are clear: There are objectives in the national array for which the international order is a necessary condition, in the sense that it prevents the

predations of others on the array of national objectives; and there are objectives for which it is an impediment, in the sense that it proscribes the export of domestic economic problems. The problem is to construct an international order whose principles are such that universal compliance would not lead to the contradictions that are present now. Two conditions must be met before such an international order may be obtained. First, democratic governments must reject the view that they are merely passive conduits for the objectives of organized political groups, and policymakers must again define their role as reconciling and mediating the interests of various groups in such a way as to build some consensus on a truly national interest. Second, the international order must be constructed in such a way that it actually forces nations to adopt optimal policies. In the field of international economic transactions, theory leads us to believe that this policy is nondiscriminatory noninterference, that is, liberal trade. Tumlir believes that in this manner we would construct an international economic order such that national interest could always be equated to the development and support of the international trade and transactions regime.

*Rich and Poor Nations in the World Economy* presents the centrist, left-liberal, and radical leftist views on the need for, and shape of, a New International Economic Order. Albert Fishlow's essay is the most moderate piece offered. The economic paradigm that he centers his work on is an orthodox vision of international market forces straining to achieve the efficiency of the perfectly competitive equilibrium. While there are admittedly major institutional obstacles in the way (and Fishlow will admit to much more than the contributors to *Challenges to a Liberal International Order*), the ideal is still the free interplay of economic forces, guided by the maximization motive. Fishlow's policy prescription follows easily from this outlook; he offers a very generous package of institutional reforms, commodity fund finance, and other *ad hoc* measures that would add up to ". . . a limited reform modifying some of the objectionable features of the present system which could satisfy the limited objectives of all."

Politically, Fishlow sees a world of sovereign nation-state actors engaged in policymaking exercises designed to maximize the national interest. In this political model, the maximizing solution is quite probably a policy package similar to Fishlow's, assuming that all the actors define their interest in and around what Tumlir would call the "array" of economic objectives. I think that this is an overly naive and optimistic analysis of the international politics of the New International Economic Order. Perhaps the most ironic example of his misreading of the politics of the less developed countries, especially his assumption that their goals are reform, not rejection, of the current order, is his use of

a short quote from the Shah of Iran's oil minister to support his contention of moderation in the less developed countries. A year later, of course, the Shah himself was violently replaced by virulently rejectionist forces.

Carlos F. Diaz-Alejandro takes a much less sanguine view of the economics and politics of the New International Economic Order. His economics draws heavily on the literature of industrial organization and oligopoly. In his view, oligopolistic "centers" take exploitative advantage of their "peripheries" in a chain that runs internationally from the developed centers to the hinterlands of the less developed countries through the institution of the transnational corporation. In his political model, these same multinationals undermine the sovereignty of states, especially less developed states, to such an extent that reform is a politically impractical solution to the problem of a new order. His prescription stops short of what he terms "complete delinking" from, or rejection of, the current system, noting that the most recent example of complete delinking has been Cambodia. The scenario he favors he calls "selective delinking," which involves guaranteeing the less developed countries the political sovereignty necessary to disengage from, or engage minimally in, an international market that is oligopolistically organized in a manner disadvantageous to those countries involved. Conversely, the less developed countries should selectively enter markets that are organized competitively (or, better yet, in ways that favor them). Diaz-Alejandro's political analysis seems to me to be much shrewder than Fishlow's, but the reader might take issue with much of his economics, especially the automatic assumptions about the malevolence of the transnational corporations.

Richard R. Fagen has written an essay profoundly pessimistic of the possibility of reform of the international economic order in any way that will meaningfully address the issues of international or intranational equity. His economics and politics both draw heavily on a Marxist base, and, therefore, are difficult, to the point of impossibility, to analyze separately. Fagen proposes that the world is dichotomous—on one hand a hierarchy of capitalist bourgeois elites, on the other an exploited (mainly) less-developed subproletariat. In his analysis, the structural incentives in, and institutional framework of, the current order provide little hope for a policy that would meaningfully alleviate either the problem of absolute poverty among members of the subproletariat or of maldistribution of income between the classes. Implicit in his views are an economic model similar to, but far more radical than Diaz-Alejandro's, and a political viewpoint dominated by the perception that sovereign national policies are shaped entirely by the concerns of the financial and commercial interests within the state. I happen to disagree with both analy-



ses, but one must recognize that these ideas do exist, and are much more favorably received by analysts in the less developed countries than by economists in the advanced capitalist nations. Fagen must be commended for the force and clarity with which he presents his alternative paradigm.

—RICHARD M. DEVENS, JR.  
Economist  
Bureau of Labor Statistics

### A union's struggle in the South

*The Knights of Labor in the South.* By Melton Alonza McLaurin. Westport, Conn., Greenwood Press, 1978. 232 pp. (Contributions in Labor History, 4.) \$16.95.

The Southern States are usually thought of as antiunion in a rather sweeping sense, referring to attitudes of both employers and employees. Recent events are changing this image somewhat, but for many years it was a widely held stereotype. How wrong such common stereotypes can be is vividly illustrated in this fascinating history, *The Knights of Labor in the South*.

In 1885, the first district of the Knights in the South was formed in Richmond, and there had been some successful organizing activity in Georgia and Alabama as early as the 1870's. While the Knights functioned very briefly in the South as a large organization with significant impact, the history of their organizing work and local activities shows a clear interest on the part of Southern workers in banding together to obtain better wages and working conditions.

The author's careful, detailed account begins with an interesting sketch of general economic conditions in the post-Civil War South, describing the newly developing industries and burgeoning cities. Textiles, lumber, tobacco, mining, and iron became important early; employment in these industries grew, creating many of the same industrial relations problems that arose also in the North.

Another background chapter, "The Southern Labor Force," delineates differences between the South and the North, pointing out that the South continued to be basically an agricultural region for many years, even into the 20th century, with close to 90 percent of its population living in rural areas. Therefore, industrialization and related labor union growth could not possibly parallel that in the North.

The author presents statistics on wages and gives other information on the long hours and bleak conditions commonly endured by Southern workers of the period. The power of the employer and the near-hopeless situation of many of the workers is brought out graphically.

The main part of the book traces the growth of the Knights of Labor in the Southern States and describes their activities in several fields: organizational work; relationships with black members; strikes and boycotts undertaken by Knights' members in the South; political activities; work in educational and cooperative endeavors. Only the latter two activities were truly consistent with the original objectives of the national organization; the author explains how the circumstances of the workers, however, inevitably drew them into conflict with their employers, led to strikes and boycotts, and into efforts to better themselves through political means.

The Knights of Labor was not, because of limitations imposed by its national leaders, an organization well-suited to the needs of Southern industrial workers, but it offered the first hope to many of them for improvement and they joined, trying to adapt the organization to serve their interests. They were disappointed time after time when, in desperation, they asked for strike aid, or even speakers and organizers from the national organization, and received nothing.

What the Knights' organization did accomplish in the South was to introduce the idea of a union among the workers and give them some practical experience in operating one. There were more failures than successes in the history of the Knights in the South, and some of the failures, such as the lost strike at the textile mill in Augusta, Ga., described in the book, were tragic.

The author has assembled an impressive amount of detailed information about the activities of the various local groups of the Knights, and the people who participated. He has organized the subject matter in a logical way, pointing up the significance of the events from several perspectives.

Many of the problems that faced the early organizers of the Knights remain, in some degree, today. This book provides excellent historical background for the study of industrial relations in the South today; in addition it is an absorbing tale about the aspirations and struggles of some very brave workers of an earlier era.

The author is a professor of history at the University of North Carolina, Wilmington, and has written a previous volume on labor history, *Paternalism and Protest: Southern Cotton Mill Workers and Organized Labor, 1875-1905*. His new book is a scholarly work based mainly on extensive research in primary sources, such as the Terence Powderly and John W. Hayes papers. There are many footnotes and a full bibliography. It is by no means dull, however, and is recommended for general reading as well as for reference use by specialists.

—ELIZABETH K. VAN STAAVEREN  
Chief Bibliographer, U.S. Department  
of Labor Library

## Publications received

### Agriculture and natural resources

- Odell, Peter R., "World Energy in the 1980s: The Significance of Non-OPEC Oil Supplies," *Scottish Journal of Political Economy*, November 1979, pp. 215-31.
- Stobaugh, Robert and Daniel Yergin, "The energy outlook: combining the options," *Harvard Business Review*, January-February 1980, pp. 57-73.

### Economic and social statistics

- Gutmann, Peter M., "Statistical Illusions, Mistaken Policies," *Challenge*, November-December 1979, pp. 14-17.
- Guzzardi, Walter, Jr., "Demography's Good News for the Eighties," *Fortune*, Nov. 5, 1979, beginning on p. 92.
- Health Insurance Institute, *Source Book of Health Insurance Data, 1978-1979*. 20th ed. Washington, Health Insurance Institute, 1979, 96 pp.
- Levenson, Mark, "Equal Opportunity: A Scorecard," *Dun's Review*, November 1979, pp. 106-10.
- Montero, Darrel, *Vietnamese Americans: Patterns of Resettlement and Socioeconomic Adaptation in the United States*. Boulder, Colo., Westview Press, 1979, 218 pp., bibliography. \$17.50.
- North, David S., *Analyzing the Apprehension Statistics of the Immigration and Naturalization Service: Final Report, Phase One*. Washington, New TransCentury Foundation, Center for Labor and Migration Studies, 1979, 59 pp.
- Takeuchi, Hirotaka and Allan H. Schmidt, "New promise of computer graphics," *Harvard Business Review*, January-February 1980, pp. 122-31.
- U.S. Bureau of Labor Statistics, *Capital Stock Estimates for Input-Output Industries: Methods and Data*. Washington, 1979, 125 pp. (Bulletin 2034.) Stock No. 029-001-02397-9. \$4, Superintendent of Documents, Washington 20402.
- U.S. Department of Transportation, *National Transportation Statistics Annual Report, August 1979*. Washington, U.S. Department of Transportation, Research and Special Programs Administration, Transportation Systems Center, 1979, 204 pp., bibliography. Stock No. 050-000-00154-7. \$5.50, Superintendent of Documents, Washington 20402.
- U.S. Railroad Retirement Board, *Railroad Retirement Board 1978 Annual Report for Fiscal Year Ending September 30 and Statistical Supplement*. Chicago, Ill., 1979, 94 and 140 pp., respectively. \$3.50, Superintendent of Documents, Washington 20402.

### Health and safety

- Campbell, B. C. and others, "Occupational Lead Exposure and Renin Release," *Archives of Environmental Health*, November-December 1979, pp. 439-43.
- Crapnell, Stephen, "Accident prevention: Your key to controlling surging workers' compensation costs," *Occupational Hazards*, November 1979, pp. 35-38.
- Engel, Paul G., "The fight to control medical costs," *Occupational Hazards*, November 1979, pp. 41-45.
- Hurst, George A. and others, "The Tyler Asbestos Workers Program: I, A Medical Surveillance Model and Method," *Archives of Environmental Health*, November-December

1979, pp. 432-39.

- Luria, S. M. and Christine McKay, "Visual Processes of Smokers and Nonsmokers at Different Ages," *Archives of Environmental Health*, November-December 1979, pp. 449-54.

- Viscusi, W. Kip, *Employment Hazards: An Investigation of Market Performance*. Cambridge, Mass., Harvard University Press, 1979, 311 pp., bibliography. \$20.

### Industrial relations

- Antos, Joseph R., Mark Chandler, Wesley Mellow, "Sex Differences in Union Membership," *Industrial and Labor Relations Review*, January 1980, pp. 162-69.
- Beattie, A. C., "Access of Public Servants to Australian Industrial Tribunals: Attitudes of Governments and Government Employers," *The Journal of Industrial Relations*, June 1979, pp. 229-42.
- Brauer, Mary A., "Limitations on Use of an Impartial Umpire to Resolve Deadlocked Disputes Between Taft-Hartley Trustees," *Labor Law Journal*, December 1979, pp. 741-47.
- Burawoy, Michael, *Manufacturing Consent: Changes in the Labor Process Under Monopoly Capitalism*. Chicago, The University of Chicago Press, 1979, 267 pp., bibliography. \$20.
- Center to Protect Worker's Rights, *From Brass Knuckles to Briefcases: The Changing Art of Union-Busting in America*. Washington, Center to Protect Worker's Rights, 1979, 90 pp.
- Chermesh, Ran, "Strikes: The Issues of Social Responsibility," *British Journal of Industrial Relations*, November 1979, pp. 337-46.
- Edwards, P. K., "The Social Determination of Strike Activity: An Explication and Critique," *The Journal of Industrial Relations*, June 1979, pp. 198-216.
- Gill, David, "Industry Unions—Policy or Pipe Dream?" *The Journal of Industrial Relations*, June 1979, pp. 184-97.
- Grady, John S., "Statistics in Employment Discrimination," *Labor Law Journal*, December 1979, pp. 748-53.
- Hirsch, Barry T., "The Determinants of Unionization: An Analysis of Interarea Differences," *Industrial and Labor Relations Review*, January 1980, pp. 147-61.
- Lagather, Robert B., "The Federal Mine Safety and Health Act of 1977," *Labor Law Journal*, December 1979, pp. 723-31.
- Maurice, Marc and Francois Sellier, "Societal Analysis of Industrial Relations: A Comparison Between France and West Germany," *British Journal of Industrial Relations*, November 1979, pp. 322-36.
- Pati, Gopal C. and John I. Adkins, Jr., "Hire the handicapped—compliance is good business," *Harvard Business Review*, January-February 1980, beginning on p. 14.
- Rosenthal, Rhoda, "Arbitral Standards for Absentee Discharges," *Labor Law Journal*, December 1979, pp. 732-40.
- Sheridan, T., "Democracy Among the Aristocrats: Participation of Members in the Affairs of the AEU (Australian Section) 1900-1972," *The Journal of Industrial Relations*, June 1979, pp. 161-83.

Singh, Davinder and C. Glyn Williams, "A Model of Collective Bargaining for U.K. and U.S. Manufacturing: A Comparative Study," *British Journal of Industrial Relations*, November 1979, pp. 386-89.

Somers, Gerald G., ed., *Collective Bargaining: Contemporary American Experience*. Madison, Wis., Industrial Relations Research Association, 1980, 588 pp. \$20.

"The Uneasy Boundary: Church and State," *The Annals*, The American Academy of Political and Social Science, November 1979, pp. 1-161.

Tyler, Gus, "Labor in the 1980's: A New Challenge," *The AFL-CIO American Federationist*. November 1979, pp. 3-7.

U.S. Bureau of Labor Statistics, *Analysis of Work Stoppages, 1977*. (Prepared by Marcy Freedman.) Washington, 1979, 77 pp. (Bulletin 2032.) Stock No. 029-001-02392-8. \$3.50, Superintendent of Documents, Washington 20402.

### Industry and government organization

American Enterprise Institute for Public Policy Research, *Government Regulation: Proposals for Procedural Reform*. Washington, 1979, 56 pp. (AEI Legislative Analyses, 9.) \$3.

— *Limiting Presidential and Congressional Terms*. Washington, 1979, 33 pp. (AEI Legislative Analyses, 4.) \$3.

— *Proposals to Reform Drug Regulation Laws*. Washington, 1979, 50 pp. (AEI Legislative Analyses, 8.) \$3.

*Inside Congress*. 2d ed. Washington, *Congressional Quarterly, Inc.*, 1979, 194 pp., bibliography. \$6.95.

*National Party Conventions, 1831-1976*. Washington, *Congressional Quarterly, Inc.*, 1979, 227 pp. \$6.95.

### International economics

U.S. Bureau of International Labor Affairs, *Country Labor Profile: Columbia*. By Martha R. Lowenstern. Washington, U.S. Department of Labor, Bureau of International Labor Affairs, 1979, 8 pp. 60 cents, Superintendent of Documents, Washington, 20402.

— *Country Labor Profile: Thailand*. By Donald S. Harris. Washington, U.S. Department of Labor, Bureau of International Labor Affairs, 1979, 5 pp. 60 cents, Superintendent of Documents, Washington, 20402.

Stern, Andrew, "The impact of world price changes under alternative exchange rate regimes," *Journal of Economics and Business*, Fall 1979, pp. 79-85.

### Labor force

Freeman, Richard B., "Employment Opportunities in the Doctorate Manpower Market," *Industrial and Labor Relations Review*, January 1980, pp. 185-97.

Frost, Murray, *Survey of Nebraska Women's Employment Participation, Attitudes, and Needs*. Omaha, University of Nebraska at Omaha, Center for Applied Urban Research, 1979, 97 pp.

Great Britain, Department of Employment Gazette, "The development of special employment measures," *Employment Gazette*, November 1979, pp. 1122-25.

Greenhalgh, Christine A., "Male Labour Force Participation in Great Britain," *Scottish Journal of Political Economy*, November 1979, pp. 275-86.

Herrnstadt, Irwin L., Morris A. Horowitz, Andrew Sum, *The Transition from School to Work: The Contribution of Cooperative Education Programs at the Secondary Level*. Boston, Mass., Northeastern University, Department of Economics, 1979, 378 pp.

MacKay, R. Ross and Lydia Thomson, "Important Trends in Regional Policy and Regional Employment—A Modified Interpretation," *Scottish Journal of Political Economy*, November 1979, pp. 233-60.

### Management and organization theory

Alber, Antone F., "How (and How Not) to Approach Job Enrichment," *Personnel Journal*, December 1979, beginning on p. 837.

Carnes, William T., *Effective Meetings for Busy People: Let's Decide It and Go Home*, New York, McGraw-Hill Book Co., 1980, 348 pp. \$13.95.

"Drucker on Management," *Management Review*, December 1979, pp. 40-41.

Drucker, Peter F., "Planning for 'Redundant' Workers," *The Personnel Administrator*, January 1980, pp. 32-34.

Grove, George, "Information Management in the Office of the Future," *Management Review*, December 1979, pp. 47-50.

Higgins, C. Wayne and Billy U. Philips, "Keeping Employees Well: How Company-Sponsored Fitness Programs Keep Employees on the Job," *Management Review*, December 1979, pp. 53-55.

Hill, Christopher T. and James M. Utterback, "The Dynamics of Product Process Innovation," *Management Review*, January 1980, pp. 14-20.

Hyde, Albert C. and Jay M. Shafritz, eds., "Special Issue: Symposium on Training and Development—Current Themes and Prospects," *Public Personnel Management*, November-December 1979, pp. 344-428.

Kantrow, Alan M., "Why read Peter Drucker?" *Harvard Business Review*, January-February 1980, pp. 74-82.

Karp, H. B., "From the Gestalt Perspective: A Tool for Increasing Individual Effectiveness," *Management Review*, January 1980, pp. 58-61.

Klingenberg, Ronna, "Decision Making and the Forces of Change," *Management Review*, December 1979, pp. 13-16.

Kovach, Kenneth A., "Do We Still Need Labor Unions?" *Personnel Journal*, December 1979, pp. 849-50.

Kowalski, Edita, "Why Women Are Not Going into In-house Management Training Programs," *The Canadian Personnel and Industrial Relations Journal*, November 1979, pp. 17-24.

"Listening and responding to employees' concerns: An interview with A. W. Clausen," *Harvard Business Review*, January-February 1980, pp. 101-14.

McNamara, Carlton P., "Management Productivity: How to Uncover a Hidden Corporate Asset" *Management Review*, December 1979, pp. 20-23.

Norwood, John M., "But I can't work on Saturdays," *The Personnel Administrator*, January 1980, pp. 25-30.

Rowney, J. I. A. and C. W. Nemeth, "Educational Programs for Professionalism," *The Canadian Personnel and Indus-*



*trial Relations Journal*, November 1979, pp. 10–14.

Sawyer, Sandra and Arthur A. Whatley, "Sexual harassment: a form of sex discrimination," *The Personnel Administrator*, January 1980, beginning on p. 36.

Schuler, Randall S., "Managing Stress Means Managing Time," *Personnel Journal*, December 1979, pp. 851–54.

Smith, Ward C., "Product Life-Cycle Strategy: How to Stay on the Growth Curve," *Management Review*, January 1980, pp. 8–13.

Woodworth, Warner and Reed Nelson, "Witch Doctors, Mesmerists, Sorcerers, and OD Consultants: Parallels and Paradigms," *Organizational Dynamics*, Autumn 1979, pp. 16–33.

### Wages and compensation

American Chemical Society, *Starting Salaries and Employment Status of Chemistry and Chemical Engineering Graduates: 1979 Survey Report*. Washington, American Chemical Society, 1979, 61 pp. \$5.

Barth, Peter S. with H. Allan Hunt, *Workers' Compensation and Work-Related Illnesses and Diseases*. Cambridge, Mass., The MIT Press, 1980, 343 pp. \$27.50, paper.

U.S. Bureau of Labor Statistics, *Area Wage Surveys: Toledo, Ohio-Michigan, Metropolitan Area, May 1979* (Bulletin 2050–16, 30 pp., \$1.10); *San Antonio, Tex., Metropolitan Area, May 1979* (Bulletin 2050–17, 27 pp., \$1); *Wichita, Kans., Metropolitan Area, April 1979* (Bulletin 2050–18, 28 pp., \$1); *San Jose, Calif., Metropolitan Area, March 1979* (Bulletin 2050–19, 36 pp., \$1.10); *Atlanta, Ga., Metropolitan Area, May 1979* (Bulletin 2050–20, 42 pp., \$1.30); *Chicago, Ill., Metropolitan Area, May 1979* (Bulletin 2050–21, 47 pp., \$1.75); *Norfolk-Virginia Beach-Portsmouth, Virginia-North Carolina Metropolitan Area, May 1979* (Bulletin 2050–22, 40 pp., \$1.75); *Worcester, Mass., Metropolitan Area, April 1979* (Bulletin 2050–23, 27 pp., \$1.50); *Richmond, Va., Metropolitan Area, June 1979* (Bulletin 2050–24, 31 pp., \$1.50); *Fresno, Calif., Metropolitan Area, June 1979* (Bulletin 2050–25, 27 pp., \$1.50); *Patterson-Clifton-Passaic, New Jersey Metropolitan Area, June 1979* (Bulletin 2050–26, 28 pp., \$1.50); *Portland,*

*Oregon-Washington Metropolitan Area, May 1979* (Bulletin 2050–27, 38 pp., \$1.75); *Northeast Pennsylvania Metropolitan Area, August 1979* (Bulletin 2050–32, 43 pp., \$1.75); *Corpus Christi, Tex., Metropolitan Area, July 1979* (Bulletin 2050–33, 39 pp., \$1.75); *Poughkeepsie, N.Y., Metropolitan Area, June 1979* (Bulletin 2050–34, 24 pp., \$1.50); *Poughkeepsie-Kingston-Newburgh, New York Area, June 1979* (Bulletin 2050–35, 27 pp., \$1.50). Available from the Superintendent of Documents, Washington 20402, GPO bookstores, or BLS regional offices.

— *Wage Chronologies: The Firestone Tire and Rubber Co. and the B. F. Goodrich Co., (Akron Plants) and the Rubber Workers, 1939–79; International Paper Co., Multiple Mill Group, and the Paperworkers and the Electrical Workers (IBEW), 1937–79*. Washington, 1979, 50 and 30 pp., respectively. (Bulletins 2011 and 2023.) Stock Nos., 029-001-02379-1 and 029-001-02393-6. \$2.50 and \$1.75, Superintendent of Documents, Washington, 20402.

Varghese, K. Thomas, "Wage indexation, inflation, and unemployment," *Journal of Economics and Business*, Fall 1979, pp. 51–55.

### Worker training and development

Ayres, Mary Ellen, "More Than Just a Summer Job: An Undergraduate Internship," *Occupational Outlook Quarterly*, Winter 1979, pp. 24–26.

Martin, Gail M., "Drawing Salaries: Jobs for Artists," *Occupational Outlook Quarterly*, Winter 1979, pp. 8–17.

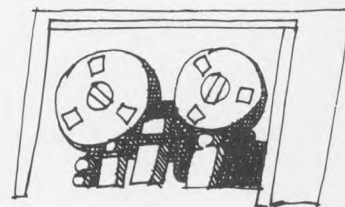
— "Taming Toxins: Toxicologists," *Occupational Outlook Quarterly*, Winter 1979, pp. 18–21.

Miller, Ernest C., "College Recruiting Pay Practices," *Occupational Outlook Quarterly*, Winter 1979, pp. 32–33.

Mirengoff, William and others, *The New CETA: Effect on Public Service Employment Programs: A Preliminary Report*. Washington, National Academy of Sciences, 1979, 82 pp.

Norwood, Janet L., "The Job Outlook for College Graduates Through 1990," *Occupational Outlook Quarterly*, Winter 1979, pp. 2–7.

# Current Labor Statistics



<b>Notes on Current Labor Statistics</b> .....	66
<b>Schedule of release dates for major BLS statistical series</b> .....	66
<b>Employment data from household survey. Definitions and notes</b> .....	67
1. Employment status of noninstitutional population, selected years, 1950-78 .....	67
2. Employment status by age, sex, and race, seasonally adjusted .....	68
3. Selected employment indicators, seasonally adjusted .....	69
4. Selected unemployment indicators, seasonally adjusted .....	70
5. Unemployment rates, by age and sex, seasonally adjusted .....	71
6. Unemployed persons, by reason for unemployment, seasonally adjusted .....	71
7. Duration of unemployment, seasonally adjusted .....	71
<b>Employment, hours, and earnings data from establishment surveys. Definitions and notes</b> .....	72
8. Employment by industry, 1949-78 .....	73
9. Employment by State .....	73
10. Employment by industry division and major manufacturing group .....	74
11. Employment by industry division and major manufacturing group, seasonally adjusted .....	75
12. Labor turnover rates in manufacturing, 1976 to date .....	76
13. Labor turnover rates in manufacturing, by major industry group .....	76
14. Hours and earnings, by industry division, 1947-78 .....	77
15. Weekly hours, by industry division and major manufacturing group .....	78
16. Weekly hours, by industry division and major manufacturing group, seasonally adjusted .....	79
17. Hourly earnings, by industry division and major manufacturing group .....	80
18. Hourly Earnings Index, by industry division .....	80
19. Weekly earnings, by industry division and major manufacturing group .....	81
20. Gross and spendable weekly earnings in current and 1967 dollars, 1960 to date .....	82
<b>Unemployment insurance data. Definitions and notes</b> .....	83
21. Unemployment insurance and employment service operations .....	83
<b>Price data. Definitions and notes</b> .....	84
22. Consumer Price Indexes, 1967-78 .....	85
23. Consumer Price Index, U.S. city average, general summary and selected items .....	85
24. Consumer Price Index, cross classification of region and population size class .....	91
25. Consumer Price Index, selected areas .....	92
26. Producer Price Indexes, by stage of processing .....	93
27. Producer Price Indexes, by commodity grouping .....	94
28. Producer Price Indexes, for special commodity groupings .....	96
29. Producer Price Indexes, by durability of product .....	96
30. Price indexes for the output of selected SIC industries .....	96
<b>Productivity data. Definitions and notes</b> .....	99
31. Indexes of productivity and related data, 1950-78 .....	99
32. Annual percent change in productivity and related data, 1968-78 .....	100
33. Indexes of productivity, hourly compensation, and unit costs .....	100
34. Percent change in productivity, hourly compensation, and unit costs .....	101
<b>Labor-management data. Definitions and notes</b> .....	102
35. Wage and benefit settlements in major collective bargaining units .....	102
36. Effective wage rate adjustments going into effect in major collective bargaining units .....	103
37. Work stoppages, 1946 to date .....	103

## 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 "Appendix A. The BLS Seasonal Factor Method," *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), pp. 272-78, and *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 was last introduced in the November 1979 issue of the *Review*. 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 ( $\$3/150 \times 100 = \$2$ ). 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 .....	March 7	February	April 4	March	1-11
Producer Price Indexes .....	March 7	February	April 4	March	26-30
Consumer Price Index .....	March 25	February	April 22	March	22-25
Real earnings .....	March 25	February	April 22	March	14-20
Productivity and costs:					
Nonfarm business and manufacturing .....	.....	.....	April 25	1st quarter	31-34
Work stoppages .....	March 28	February	April 29	March	37
Labor turnover in manufacturing .....	March 31	February	April 30	March	12-13



## 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.

Year	Total non-institutional population	Total labor force		Civilian labor force					Not in labor force	
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural 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	53,502
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	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>TOTAL</b>															
Total noninstitutional population <sup>1</sup>	161,058	163,620	162,448	162,633	162,909	163,008	163,260	163,469	163,685	163,891	164,106	164,468	164,682	164,898	165,101
Total labor force	102,537	104,996	104,155	104,473	104,595	104,280	104,476	104,552	105,475	105,218	105,586	105,688	105,744	106,088	106,310
Civilian noninstitutional population <sup>1</sup>	158,941	161,532	160,353	160,539	160,819	160,926	161,182	161,393	161,604	161,801	162,013	162,375	162,589	162,809	163,020
Civilian labor force	100,420	102,908	102,061	102,379	102,505	102,198	102,398	102,476	103,093	103,128	103,494	103,595	103,652	103,999	104,229
Employed	94,373	96,945	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804
Agriculture	3,342	3,297	3,260	3,307	3,320	3,215	3,246	3,243	3,267	3,315	3,364	3,294	3,385	3,359	3,270
Nonagricultural industries	91,031	93,648	92,897	93,189	93,303	93,039	93,249	93,409	93,917	93,689	94,140	94,180	94,223	94,553	94,534
Unemployed	6,047	5,963	5,904	5,883	5,882	5,944	5,903	5,824	5,909	6,124	5,990	6,121	6,044	6,087	6,425
Unemployment rate	6.0	5.8	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2
Not in labor force	58,521	58,623	58,292	58,160	58,314	58,728	58,784	58,917	58,511	58,673	58,519	58,780	58,937	58,810	58,791
<b>Men, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	67,006	68,293	67,726	67,816	67,939	67,997	68,123	68,227	68,319	68,417	68,522	68,687	68,804	68,940	69,047
Civilian labor force	53,464	54,486	54,191	54,349	54,315	54,239	54,288	54,370	54,579	54,597	54,735	54,760	54,709	54,781	54,855
Employed	51,212	52,264	52,024	52,211	52,151	52,049	52,158	52,201	52,325	52,311	52,453	52,443	52,374	52,478	52,279
Agriculture	2,361	2,350	2,303	2,329	2,350	2,295	2,301	2,305	2,327	2,375	2,377	2,371	2,438	2,427	2,387
Nonagricultural industries	48,852	49,913	49,721	49,882	49,801	49,754	49,857	49,896	49,998	49,936	50,076	50,072	49,936	50,051	49,892
Unemployed	2,252	2,223	2,167	2,138	2,164	2,190	2,130	2,169	2,254	2,286	2,282	2,317	2,335	2,303	2,577
Unemployment rate	4.2	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7
Not in labor force	13,541	13,807	13,535	13,467	13,624	13,758	13,835	13,857	13,740	13,820	13,787	13,937	14,095	14,159	14,192
<b>Women, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	75,489	76,860	76,228	76,332	76,476	76,532	76,670	76,784	76,897	77,006	77,124	77,308	77,426	77,542	77,656
Civilian labor force	37,416	38,910	38,207	38,399	38,574	38,415	38,619	38,653	39,033	39,304	39,239	39,362	39,445	39,659	39,878
Employed	35,180	36,698	36,012	36,197	36,362	36,216	36,411	36,457	36,873	37,000	37,075	37,112	37,248	37,402	37,574
Agriculture	586	591	596	593	595	572	577	583	585	600	628	572	612	582	540
Nonagricultural industries	34,593	36,107	35,416	35,604	35,767	35,644	35,834	35,874	36,288	36,400	36,447	36,540	36,636	36,820	37,034
Unemployed	2,236	2,212	2,195	2,202	2,212	2,199	2,208	2,196	2,160	2,304	2,164	2,250	2,197	2,257	2,304
Unemployment rate	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8
Not in labor force	38,073	37,949	38,021	37,933	37,902	38,117	38,051	38,131	37,864	37,702	37,885	37,946	37,981	37,883	37,778
<b>Both sexes, 16-19 years</b>															
Civilian noninstitutional population <sup>1</sup>	16,447	16,379	16,400	16,391	16,404	16,397	16,389	16,381	16,387	16,377	16,367	16,370	16,360	16,326	16,317
Civilian labor force	9,540	9,512	9,663	9,631	9,616	9,544	9,491	9,453	9,481	9,227	9,520	9,473	9,498	9,559	9,497
Employed	7,981	7,984	8,121	8,088	8,110	7,989	7,926	7,994	7,986	7,693	7,976	7,919	7,986	8,032	7,952
Agriculture	395	356	361	385	375	348	368	355	355	340	359	351	335	350	344
Nonagricultural industries	7,586	7,628	7,760	7,703	7,735	7,641	7,558	7,639	7,631	7,353	7,617	7,568	7,651	7,682	7,608
Unemployed	1,559	1,528	1,542	1,543	1,506	1,555	1,565	1,459	1,495	1,534	1,544	1,554	1,512	1,527	1,545
Unemployment rate	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
Not in labor force	6,907	6,867	6,737	6,760	6,788	6,853	6,898	6,928	6,906	7,150	6,847	6,897	6,862	6,767	6,820
<b>White</b>															
Civilian noninstitutional population <sup>1</sup>	139,580	141,614	140,683	140,825	141,063	141,123	141,331	141,492	141,661	141,822	141,981	142,296	142,461	142,645	142,806
Civilian labor force	88,456	90,602	89,973	90,250	90,260	89,996	90,120	90,215	90,659	90,759	91,082	91,147	91,242	91,579	91,852
Employed	83,836	86,025	85,434	85,786	85,754	85,497	85,632	85,775	86,120	85,976	86,425	86,454	86,571	86,894	86,895
Unemployed	4,620	4,577	4,539	4,464	4,506	4,499	4,488	4,440	4,539	4,783	4,657	4,693	4,671	4,685	4,957
Unemployment rate	5.2	5.1	5.0	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4
Not in labor force	51,124	51,011	50,590	50,430	50,648	51,200	51,313	51,213	51,107	51,161	50,900	51,149	51,219	51,066	50,954
<b>Black and other</b>															
Civilian noninstitutional population <sup>1</sup>	19,361	19,918	19,670	19,714	19,755	19,802	19,850	19,901	19,943	19,979	20,032	20,079	20,128	20,163	20,214
Civilian labor force	11,964	12,306	12,101	12,177	12,238	12,191	12,219	12,260	12,386	12,343	12,404	12,512	12,391	12,432	12,453
Employed	10,537	10,920	10,736	10,746	10,860	10,767	10,816	10,887	11,023	10,982	11,063	11,076	11,044	11,024	10,979
Unemployed	1,427	1,386	1,365	1,431	1,378	1,424	1,403	1,373	1,363	1,361	1,341	1,436	1,347	1,408	1,474
Unemployment rate	11.9	11.3	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8
Not in labor force	7,397	7,612	7,593	7,486	7,504	7,627	7,674	7,629	7,579	7,639	7,264	7,567	7,737	7,731	7,761

<sup>1</sup>As in table 1, population figures are not seasonally adjusted.

NOTE: The 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	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>CHARACTERISTIC</b>															
Total employed, 16 years and over	94,373	96,945	96,157	96,496	96,623	96,254	96,495	96,652	97,184	97,004	97,504	97,474	97,608	97,912	97,804
Men	55,491	56,499	56,326	56,476	56,449	56,294	56,372	56,477	56,570	56,408	56,714	56,629	56,580	56,734	56,486
Women	38,882	40,446	39,831	40,020	40,174	39,960	40,123	40,175	40,614	40,596	40,790	40,845	41,028	41,178	41,318
Married men, spouse present	38,688	39,090	39,139	39,291	39,193	38,910	39,045	39,079	39,176	39,180	39,198	39,124	38,845	38,924	38,749
Married women, spouse present	21,881	22,724	22,372	22,522	22,605	22,376	22,547	22,664	22,908	22,869	22,937	22,919	22,940	23,027	23,111
<b>OCCUPATION</b>															
White-collar workers	47,205	49,342	48,303	48,836	48,996	49,061	49,136	49,192	49,536	49,663	49,816	49,738	49,912	49,911	50,313
Professional and technical	14,245	15,050	14,734	14,950	15,012	15,091	15,100	15,010	15,057	15,068	15,141	15,057	15,131	15,272	15,337
Managers and administrators, except farm	10,105	10,516	10,312	10,379	10,392	10,398	10,427	10,534	10,612	10,698	10,659	10,639	10,617	10,535	10,608
Salesworkers	5,951	6,163	6,048	6,090	6,055	6,084	6,101	6,103	6,163	6,145	6,181	6,261	6,362	6,346	6,452
Clerical workers	16,904	17,613	17,209	17,417	17,537	17,488	17,508	17,545	17,704	17,752	17,835	17,781	17,802	17,758	17,915
Blue-collar workers	31,531	32,066	32,290	32,176	32,041	31,705	31,904	31,992	32,051	31,849	32,209	32,205	32,110	32,302	31,882
Craft and kindred workers	12,386	12,880	12,807	12,898	12,792	12,703	12,820	12,944	12,876	12,761	12,993	13,001	12,925	13,041	12,814
Operatives, except transport	10,875	10,909	10,958	10,901	10,991	10,770	10,755	10,804	10,884	10,909	10,964	10,967	10,963	11,042	10,678
Transport equipment operatives	3,541	3,612	3,651	3,602	3,569	3,564	3,644	3,605	3,627	3,604	3,617	3,593	3,628	3,635	3,616
Nonfarm laborers	4,729	4,665	4,674	4,775	4,689	4,668	4,685	4,639	4,664	4,575	4,635	4,644	4,594	4,584	4,774
Service workers	12,839	12,834	12,817	12,804	12,847	12,907	12,772	12,805	12,766	12,621	12,859	12,937	12,899	12,970	12,979
Farmworkers	2,798	2,703	2,764	2,746	2,774	2,659	2,628	2,679	2,678	2,707	2,722	2,695	2,718	2,694	2,660
<b>MAJOR INDUSTRY AND CLASS OF WORKER</b>															
<b>Agriculture:</b>															
Wage and salary workers	1,419	1,413	1,387	1,425	1,415	1,379	1,424	1,423	1,419	1,384	1,399	1,381	1,475	1,451	1,428
Self-employed workers	1,607	1,580	1,564	1,558	1,583	1,553	1,519	1,539	1,558	1,614	1,642	1,602	1,622	1,596	1,554
Unpaid family workers	316	304	295	334	314	291	283	291	310	325	313	310	310	293	293
<b>Nonagricultural industries:</b>															
Wage and salary workers	84,253	86,540	86,029	86,192	86,439	86,105	86,232	86,309	86,454	86,421	86,912	86,982	87,020	87,384	87,578
Government	15,289	15,369	15,251	15,322	15,281	15,359	15,616	15,318	15,393	15,279	15,407	15,423	15,358	15,397	15,414
Private industries	68,966	71,171	70,778	70,870	71,158	70,746	70,616	70,991	71,061	71,142	71,505	71,559	71,662	71,987	72,163
Private households	1,363	1,240	1,247	1,328	1,262	1,172	1,195	1,235	1,219	1,211	1,313	1,261	1,211	1,228	1,132
Other industries	67,603	69,931	69,531	69,542	69,896	69,574	69,421	69,756	69,842	69,931	70,192	70,298	70,451	70,759	71,031
Self-employed workers	6,305	6,652	6,497	6,591	6,542	6,463	6,608	6,629	6,752	6,689	6,731	6,812	6,781	6,737	6,752
Unpaid family workers	472	455	475	455	446	465	460	474	519	450	449	430	417	409	379
<b>PERSONS AT WORK<sup>1</sup></b>															
Nonagricultural industries	85,693	88,133	87,520	87,543	87,847	86,608	87,785	87,749	88,769	88,855	88,723	88,638	88,617	89,180	89,454
Full-time schedules	70,543	72,647	72,176	72,212	72,529	71,659	72,496	72,243	72,915	73,053	73,159	73,204	72,997	73,137	73,223
Part time for economic reasons	3,216	3,281	3,203	3,176	3,211	3,279	3,283	3,284	3,274	3,298	3,167	3,315	3,392	3,519	3,513
Usually work full time	1,249	1,325	1,252	1,246	1,254	1,287	1,273	1,322	1,334	1,401	1,273	1,354	1,413	1,491	1,549
Usually work part time	1,967	1,956	1,951	1,930	1,957	1,992	2,010	1,962	1,940	1,897	1,894	1,961	1,979	2,028	1,964
Part time for noneconomic reasons	11,934	12,205	12,141	12,155	12,107	11,670	12,006	12,222	12,580	12,397	12,119	12,228	12,524	12,718	12,718

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

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



4. Selected unemployment indicators, seasonally adjusted

Employment status	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>CHARACTERISTIC</b>															
Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9	6.2
Men, 20 years and over	4.2	4.1	4.0	3.9	4.0	4.0	3.9	4.0	4.1	4.2	4.2	4.2	4.3	4.2	4.7
Women, 20 years and over	6.0	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.5	5.9	5.5	5.7	5.6	5.7	5.8
Both sexes, 16-19 years	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
White, total	5.2	5.1	5.0	4.9	5.0	5.0	5.0	4.9	5.0	5.3	5.1	5.1	5.1	5.1	5.4
Men, 20 years and over	3.7	3.6	3.5	3.4	3.4	3.5	3.4	3.5	3.6	3.7	3.7	3.7	3.7	3.7	4.1
Women, 20 years and over	5.2	5.0	5.0	5.0	5.0	5.0	5.0	4.9	4.8	5.2	4.8	5.0	4.9	5.0	5.1
Both sexes, 16-19 years	13.9	13.9	13.8	13.6	13.6	13.9	14.2	13.2	13.8	14.8	14.3	14.1	13.9	13.9	14.0
Black and other, total	11.9	11.3	11.3	11.8	11.3	11.7	11.5	11.2	11.0	11.0	10.8	11.5	10.9	11.3	11.8
Men, 20 years and over	8.6	8.4	8.0	8.6	8.7	8.6	8.4	8.1	8.4	8.1	8.0	8.6	8.4	8.6	9.6
Women, 20 years and over	10.6	10.1	10.5	10.4	10.0	10.5	10.0	10.4	10.0	10.3	9.8	10.2	9.5	10.0	10.0
Both sexes, 16-19 years	36.3	33.5	33.0	34.9	31.5	34.3	36.1	33.5	31.5	32.6	32.3	35.1	32.8	34.3	34.6
Married men, spouse present	2.8	2.7	2.6	2.6	2.6	2.7	2.5	2.7	2.8	2.9	2.9	2.9	2.9	2.8	3.4
Married women, spouse present	5.5	5.1	5.3	5.3	5.2	5.2	5.2	5.1	4.9	5.3	4.8	5.2	4.8	5.0	5.2
Women who head families	8.5	8.3	8.0	8.3	8.2	8.3	8.6	9.0	8.1	7.9	7.7	8.4	8.4	8.4	9.2
Full-time workers	5.5	5.3	5.2	5.2	5.2	5.3	5.2	5.3	5.4	5.3	5.4	5.4	5.4	5.4	5.7
Part-time workers	9.0	8.7	9.1	8.8	9.0	8.7	9.3	8.6	8.3	8.8	8.4	8.9	8.3	8.5	8.7
Unemployed 15 weeks and over	1.4	1.2	1.2	1.2	1.3	1.2	1.2	1.1	1.0	1.1	1.1	1.2	1.1	1.2	1.3
Labor force time lost <sup>1</sup>	6.5	6.3	6.2	6.2	6.2	6.4	6.3	6.3	6.4	6.4	6.2	6.4	6.4	6.4	6.7
<b>OCCUPATION</b>															
White-collar workers	3.5	3.3	3.4	3.4	3.3	3.3	3.2	3.4	3.3	3.5	3.3	3.4	3.2	3.3	3.4
Professional and technical	2.6	2.4	2.5	2.4	2.2	2.3	2.1	2.5	2.5	2.5	2.4	2.7	2.4	2.3	2.2
Managers and administrators, except farm	2.1	2.1	2.0	2.0	2.1	2.3	2.2	2.1	2.0	2.3	2.2	2.2	1.9	2.0	1.9
Salesworkers	4.1	3.9	4.0	4.2	4.1	4.0	4.0	4.4	3.5	4.0	3.8	3.8	3.7	3.8	4.4
Clerical workers	4.9	4.6	4.7	4.7	4.8	4.5	4.5	4.6	4.5	4.9	4.5	4.7	4.4	4.6	4.8
Blue-collar workers	6.9	6.9	6.5	6.5	6.6	6.9	6.8	6.6	6.8	7.3	7.1	7.2	7.5	7.2	8.0
Craft and kindred workers	4.6	4.5	4.4	4.5	4.5	4.4	4.2	4.3	4.4	4.7	4.3	4.6	4.9	4.4	4.9
Operatives, except transport	8.1	8.4	7.8	7.8	7.8	8.5	8.2	7.7	8.3	8.9	9.0	9.1	9.0	9.0	9.9
Transport equipment operatives	5.2	5.4	5.0	5.0	5.2	5.9	5.4	5.7	5.1	6.2	6.1	5.6	5.2	5.0	6.9
Nonfarm laborers	10.7	10.8	9.7	9.7	10.2	10.6	11.1	10.6	11.0	11.3	11.0	10.7	12.2	12.2	12.3
Service workers	7.4	7.1	7.7	7.3	7.3	7.3	7.2	7.2	7.1	7.1	6.7	6.8	6.6	6.6	6.9
Farmworkers	3.8	3.8	2.9	3.4	3.3	3.4	3.6	3.2	4.2	3.9	4.1	4.3	4.5	4.3	4.4
<b>INDUSTRY</b>															
Nonagricultural private wage and salary workers <sup>2</sup>	5.9	5.7	5.7	5.6	5.6	5.7	5.7	5.6	5.7	6.0	5.8	5.9	5.8	5.8	6.2
Construction	10.6	10.2	10.3	10.9	10.1	10.5	10.0	10.0	10.0	10.1	9.6	9.9	10.2	10.3	10.8
Manufacturing	5.5	5.5	5.1	4.9	5.2	5.3	5.4	5.4	5.7	5.9	6.0	6.0	5.9	5.9	6.7
Durable goods	4.9	5.0	4.4	4.2	4.4	4.7	4.4	4.9	5.4	5.4	5.3	5.5	5.6	5.5	6.7
Nondurable goods	6.3	6.4	6.1	5.9	6.4	6.3	6.9	6.3	6.2	6.8	7.1	6.8	6.3	6.4	6.8
Transportation and public utilities	3.7	3.7	3.5	3.2	3.9	3.0	3.6	3.1	3.8	3.7	4.0	3.8	4.2	4.1	4.4
Wholesale and retail trade	6.9	6.5	6.6	6.5	6.3	6.6	6.4	6.7	6.3	6.5	6.4	6.4	6.5	6.4	6.6
Finance and service industries	5.1	4.9	5.1	4.8	4.8	4.8	4.9	4.7	4.9	5.2	4.7	4.9	4.6	4.7	4.6
Government workers	3.9	3.7	3.9	3.8	4.1	3.7	3.6	3.6	3.6	3.7	3.3	4.0	3.6	3.6	3.8
Agricultural wage and salary workers	8.8	9.1	7.5	8.6	8.0	8.7	9.3	7.8	9.7	9.9	10.0	9.9	10.1	9.4	10.3

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

<sup>2</sup> Includes mining, not shown separately.

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

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

Sex and age	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	Total, 16 years and over	6.0	5.8	5.8	5.7	5.7	5.8	5.8	5.7	5.7	5.9	5.8	5.9	5.8	5.9
16 to 19 years	16.3	16.1	16.0	16.0	15.7	16.3	16.5	15.4	15.8	16.6	16.2	16.4	15.9	16.0	16.3
16 to 17 years	19.3	18.1	18.6	18.5	18.5	18.7	18.9	17.5	17.3	18.5	16.9	18.4	17.3	18.0	19.0
18 to 19 years	14.2	14.6	13.8	14.3	13.5	14.3	15.0	14.4	14.5	15.4	15.6	15.0	14.7	14.5	14.0
20 to 24 years	9.5	9.0	8.7	8.6	8.8	8.6	8.9	8.9	9.1	9.3	9.2	9.6	8.8	9.8	10.1
25 years and over	4.0	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	4.0	3.9	4.0	4.0	3.8	4.2
25 to 54 years	4.2	4.1	4.1	4.1	4.1	4.2	4.0	4.1	4.0	4.2	4.1	4.2	4.3	4.1	4.4
55 years and over	3.2	3.0	3.0	3.0	3.1	3.1	3.1	2.9	3.2	3.1	2.9	3.0	2.7	2.7	3.5
Men, 16 years and over	5.2	5.1	5.1	5.0	5.0	5.1	5.0	4.9	5.1	5.2	5.2	5.2	5.2	5.2	5.7
16 to 19 years	15.7	15.8	16.2	16.1	15.8	16.0	16.1	14.5	15.4	16.3	16.1	15.7	15.8	15.6	16.2
16 to 17 years	19.2	17.9	19.2	19.2	18.9	17.9	18.9	16.8	16.1	18.0	16.7	17.1	17.8	17.9	19.0
18 to 19 years	13.2	14.2	13.7	14.2	13.6	14.1	14.0	14.0	14.8	15.1	15.3	14.4	14.0	13.6	13.9
20 to 24 years	9.1	8.6	8.4	8.1	8.3	8.0	8.2	8.3	8.8	8.8	8.8	9.5	8.4	9.4	10.4
25 years and over	3.3	3.3	3.2	3.2	3.2	3.3	3.1	3.2	3.3	3.4	3.3	3.4	3.5	3.2	3.7
25 to 54 years	3.4	3.4	3.3	3.3	3.3	3.3	3.2	3.2	3.4	3.5	3.6	3.5	3.8	3.4	3.8
55 years and over	3.1	2.9	2.9	2.8	2.8	3.0	2.8	3.1	3.3	3.1	2.8	2.8	2.6	2.6	3.5
Women, 16 years and over	7.2	6.8	6.8	6.8	6.8	6.9	6.9	6.8	6.6	7.0	6.6	6.9	6.6	6.8	6.8
16 to 19 years	17.0	16.4	15.7	15.9	15.5	16.6	16.9	16.5	16.2	17.0	16.4	17.2	16.1	16.4	16.3
16 to 17 years	19.5	18.3	17.8	17.7	18.0	19.6	18.8	18.3	18.6	19.0	17.2	19.8	16.7	18.0	19.1
18 to 19 years	15.3	15.0	14.0	14.5	13.3	14.5	16.0	14.9	14.2	15.7	15.9	15.6	15.5	15.5	14.2
20 to 24 years	10.1	9.6	9.1	9.3	9.5	9.4	9.7	9.7	9.4	9.8	9.6	9.7	9.3	10.2	9.8
25 years and over	5.1	4.8	5.0	5.0	4.9	4.9	4.9	4.8	4.7	4.9	4.6	4.9	4.7	4.7	4.9
25 to 54 years	5.4	5.2	5.4	5.4	5.3	5.3	5.2	5.2	5.0	5.3	5.0	5.2	5.0	5.1	5.2
55 years and over	3.3	3.2	3.2	3.3	3.6	3.2	3.6	2.8	3.1	3.2	2.9	3.4	2.9	2.9	3.4

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

[Numbers in thousands]

Reason for unemployment	1979												1980
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>NUMBER OF UNEMPLOYED</b>													
Lost last job	2,441	2,475	2,457	2,520	2,356	2,449	2,526	2,680	2,632	2,731	2,729	2,728	2,988
On layoff	752	779	791	839	725	816	797	915	855	929	987	944	1,019
Other job losers	1,689	1,696	1,666	1,681	1,631	1,633	1,729	1,765	1,777	1,802	1,742	1,784	1,969
Left last job	900	828	864	847	940	857	846	875	825	835	845	800	779
Reentered labor force	1,721	1,766	1,766	1,778	1,767	1,753	1,762	1,788	1,760	1,762	1,698	1,771	1,797
Seeking first job	824	858	808	800	824	781	726	745	801	804	736	858	811
<b>PERCENT DISTRIBUTION</b>													
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	41.5	41.8	41.7	42.4	40.0	41.9	43.1	44.0	43.7	44.5	45.4	44.3	46.9
On layoff	12.8	13.1	13.4	14.1	12.3	14.0	13.6	15.0	14.2	15.2	16.4	15.3	16.0
Other job losers	28.7	28.6	28.3	28.3	27.7	28.0	29.5	29.0	29.5	29.4	29.0	29.0	30.9
Job leavers	15.3	14.0	14.7	14.2	16.0	14.7	14.4	14.4	13.7	13.6	14.1	13.0	12.2
Reentrants	29.2	29.8	30.0	29.9	30.0	30.0	30.1	29.4	29.2	28.7	28.3	28.8	28.2
New entrants	14.0	14.5	13.7	13.5	14.0	13.4	12.4	12.2	13.3	13.1	12.3	13.9	12.7
<b>UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE</b>													
Job losers	2.4	2.4	2.4	2.5	2.3	2.4	2.5	2.6	2.5	2.6	2.6	2.6	2.9
Job leavers	.9	.8	.8	.8	.9	.8	.8	.8	.8	.8	.8	.8	.7
Reentrants	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.6	1.7	1.7
New entrants	.8	.8	.8	.8	.8	.8	.7	.7	.8	.8	.7	.8	.8

### 7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979												1980
	1978	1979	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Less than 5 weeks	2,793	2,869	2,751	2,779	2,769	2,876	2,823	2,880	2,820	3,168	2,778	2,955	2,919	2,916	3,184
5 to 14 weeks	1,875	1,892	1,881	1,877	1,860	1,884	1,919	1,808	1,934	1,738	2,035	1,963	1,869	1,966	1,907
15 weeks and over	1,379	1,202	1,229	1,239	1,291	1,223	1,212	1,152	1,067	1,185	1,152	1,195	1,191	1,230	1,334
15 to 26 weeks	746	684	708	700	729	687	705	656	615	658	644	678	660	711	795
27 weeks and over	633	518	521	539	562	536	507	496	452	527	508	517	531	519	539
Average (mean) duration, in weeks	11.9	10.8	11.2	11.3	11.8	11.0	10.9	10.5	10.1	10.7	10.7	10.5	10.6	10.5	10.5

NOTE: The data in these tables have been revised to reflect seasonal experience through 1979. See pages 74-5.

## 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 162,000 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 service 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 September 1979 data, published in the November 1979 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 June 1979 and seasonally adjusted data from January 1974 through June 1979) 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 1977-79, see *Employment and Earnings*, September 1979, pp. 6-8. Beginning with data for January 1978, real earnings data are adjusted using the revised Consumer Price Index for Urban Wage Earners and Clerical Workers. Data prior to January 1978 are based on the unrevised Consumer Price Index for Urban Wage Earners and Clerical Workers.



### 8. Employment by industry, 1949-78

[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
1949	43,754	930	2,194	14,441	4,001	9,264	2,602	6,662	1,828	5,240	5,856	1,908	3,948
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 <sup>1</sup>	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	82,423	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,079	2,727	12,352
1978	86,446	851	4,271	20,476	4,927	19,499	4,957	14,542	4,727	16,220	15,476	2,753	12,723

<sup>1</sup>Data include Alaska and Hawaii beginning in 1959.

### 9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Dec. 1978	Nov. 1979	Dec. 1979 P	State	Dec. 1978	Nov. 1979	Dec. 1979 P
Alabama	1,361.3	1,364.7	1,367.2	Montana <sup>1</sup>	283.9	290.1	289.5
Alaska	156.6	162.1	NA	Nebraska	605.4	619.5	618.5
Arizona	933.6	986.3	991.6	Nevada	366.5	383.9	382.7
Arkansas	734.9	750.3	749.0	New Hampshire	372.3	387.9	386.9
California	9,536.3	9,827.7	9,892.6	New Jersey	3,015.4	3,058.0	3,065.5
Colorado	1,168.3	1,206.5	1,211.3	New Mexico	456.9	474.1	476.5
Connecticut	1,396.6	1,422.9	1,431.5	New York	7,143.4	7,172.7	7,181.0
Delaware	251.5	248.2	252.1	North Carolina	2,318.9	2,376.1	2,377.5
District of Columbia	591.3	598.8	601.5	North Dakota <sup>1</sup>	238.5	249.3	247.4
Florida	3,259.3	3,353.5	3,399.2	Ohio	4,495.0	4,521.5	4,525.5
Georgia	2,027.0	2,037.5	2,039.6	Oklahoma	1,051.8	1,098.1	1,105.2
Hawaii	398.3	398.1	408.3	Oregon	1,032.7	1,075.3	1,065.3
Idaho <sup>1</sup>	339.0	343.6	340.5	Pennsylvania	4,734.8	4,748.1	4,742.0
Illinois	4,843.9	4,837.9	4,833.8	Rhode Island	408.3	406.5	405.9
Indiana	2,233.7	2,248.7	2,243.4	South Carolina	1,153.2	1,174.4	1,177.0
Iowa	1,124.0	1,148.0	1,144.0	South Dakota <sup>1</sup>	240.5	241.8	240.0
Kansas	934.1	964.2	968.1	Tennessee	1,749.6	1,738.3	1,738.3
Kentucky	1,272.0	1,297.2	1,297.8	Texas	5,407.7	5,621.2	5,638.8
Louisiana	1,442.9	1,469.1	1,472.0	Utah <sup>1</sup>	543.5	573.8	574.2
Maine	410.2	413.1	412.4	Vermont <sup>1</sup>	197.4	199.8	202.6
Maryland	1,633.6	1,635.0	1,643.5	Virginia	2,092.3	2,127.8	2,130.3
Massachusetts	2,568.1	2,614.0	2,625.0	Washington	1,562.1	1,639.5	1,640.8
Michigan	3,646.8	3,581.4	3,602.3	West Virginia	636.9	639.1	635.6
Minnesota	1,725.3	1,795.8	1,790.1	Wisconsin	1,930.1	2,003.1	1,999.1
Mississippi	835.6	836.9	838.0	Wyoming <sup>1</sup>	190.2	213.3	213.8
Missouri	1,952.1	1,965.8	1,967.8				

<sup>1</sup> Revised series; not strictly comparable with previously published data.

**10. Employment by industry division and major manufacturing group**

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979													1980
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. P	Jan. P	
<b>TOTAL</b> .....	82,423	86,446	87,128	87,331	88,207	88,820	89,671	90,541	89,618	89,673	90,211	90,678	90,902	91,000	89,176	
<b>MINING</b> .....	813	851	910	915	926	932	944	968	976	986	980	982	984	985	977	
<b>CONSTRUCTION</b> .....	3,851	4,271	3,998	3,957	4,226	4,413	4,662	4,881	4,993	5,048	4,984	4,976	4,879	4,708	4,305	
<b>MANUFACTURING</b> .....	19,682	20,476	20,763	20,775	20,887	20,907	20,988	21,234	20,965	20,996	21,192	21,094	20,966	20,905	20,677	
Production workers .....	14,135	14,714	14,910	14,908	14,993	15,002	15,061	15,240	14,946	14,960	15,172	15,082	14,954	14,900	14,673	
<b>Durable goods</b> .....	11,597	12,246	12,561	12,579	12,664	12,697	12,739	12,877	12,712	12,598	12,805	12,737	12,661	12,645	12,518	
Production workers .....	8,307	8,786	9,016	9,018	9,081	9,105	9,129	9,223	9,031	8,907	9,116	9,058	8,983	8,969	8,822	
Lumber and wood products .....	721.9	752.4	739.0	737.7	745.5	748.8	763.8	783.2	776.8	780.0	776.3	771.3	748.9	730.8	709.8	
Furniture and fixtures .....	464.3	491.1	497.0	495.2	491.8	487.8	483.9	484.2	475.5	483.5	485.3	487.6	488.7	486.6	483.8	
Stone, clay, and glass products .....	668.7	698.0	681.6	680.6	697.2	706.6	718.6	733.1	727.1	728.2	723.6	721.0	712.9	699.7	675.6	
Primary metal industries .....	1,181.6	1,212.7	1,243.8	1,244.8	1,251.1	1,259.0	1,258.6	1,274.3	1,260.7	1,244.5	1,244.3	1,225.1	1,216.7	1,204.5	1,199.5	
Fabricated metal products .....	1,582.8	1,673.4	1,716.0	1,715.6	1,719.8	1,723.7	1,727.8	1,749.0	1,715.7	1,716.1	1,735.3	1,738.3	1,738.2	1,728.7	1,705.8	
Machinery, except electrical .....	2,174.7	2,319.2	2,428.7	2,446.4	2,459.5	2,468.0	2,463.6	2,491.2	2,485.1	2,467.1	2,496.4	2,447.2	2,440.9	2,454.6	2,499.4	
Electric and electronic equipment .....	1,878.0	1,999.5	2,060.9	2,071.0	2,082.6	2,086.1	2,095.2	2,128.2	2,111.7	2,089.5	2,136.1	2,143.7	2,146.3	2,154.7	2,147.8	
Transportation equipment .....	1,871.5	1,991.7	2,075.2	2,062.7	2,083.9	2,082.2	2,091.8	2,077.9	2,027.7	1,933.2	2,051.0	2,040.9	2,009.7	2,038.6	1,963.2	
Instruments and related products .....	615.1	653.5	677.5	680.2	683.2	686.5	686.5	698.8	692.9	695.3	692.7	695.4	695.9	699.2	698.3	
Miscellaneous manufacturing .....	438.4	454.0	441.2	444.8	449.0	448.0	448.9	457.4	438.6	460.6	463.8	466.9	462.8	447.2	434.4	
<b>Nondurable goods</b> .....	8,086	8,230	8,202	8,196	8,223	8,210	8,249	8,357	8,253	8,398	8,387	8,357	8,305	8,260	8,159	
Production workers .....	5,828	5,928	5,894	5,890	5,912	5,897	5,932	6,017	5,915	6,053	6,056	6,024	5,971	5,931	5,851	
Food and kindred products .....	1,711.0	1,721.2	1,678.0	1,658.1	1,666.9	1,657.3	1,669.6	1,716.6	1,737.8	1,810.0	1,814.1	1,766.8	1,725.0	1,699.2	1,645.8	
Tobacco manufactures .....	70.7	69.6	69.8	66.4	64.4	62.5	61.9	62.1	62.1	69.0	72.2	71.9	64.8	66.5	65.0	
Textile mill products .....	910.2	900.2	896.3	896.4	894.4	890.4	892.5	900.4	875.5	890.4	888.9	889.8	893.9	893.7	887.8	
Apparel and other textile products .....	1,316.3	1,332.5	1,313.6	1,320.6	1,326.6	1,323.7	1,327.5	1,333.1	1,278.7	1,308.9	1,309.1	1,317.0	1,306.2	1,293.7	1,276.9	
Paper and allied products .....	691.6	700.9	700.0	703.4	708.8	710.8	712.7	724.6	719.6	723.3	718.5	717.7	715.9	715.1	712.7	
Printing and publishing .....	1,141.4	1,193.1	1,221.0	1,225.7	1,229.5	1,231.0	1,234.7	1,243.4	1,245.8	1,245.4	1,246.1	1,254.5	1,265.6	1,272.8	1,266.9	
Chemicals and allied products .....	1,073.7	1,096.3	1,100.0	1,099.7	1,103.9	1,106.7	1,110.9	1,126.6	1,123.0	1,121.2	1,114.9	1,115.0	1,115.2	1,115.7	1,114.3	
Petroleum and coal products .....	202.3	208.7	205.8	206.4	208.3	210.8	212.9	216.8	218.0	218.3	218.1	218.1	217.2	215.1	211.8	
Rubber and miscellaneous plastics products .....	713.5	751.9	771.0	773.8	774.4	772.0	777.0	779.4	767.4	765.8	762.0	762.6	757.6	746.9	743.4	
Leather and leather products .....	254.8	255.6	246.3	245.1	245.7	245.1	249.2	253.7	224.7	245.8	243.1	243.1	243.2	241.0	234.7	
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	4,713	4,927	5,010	5,028	5,060	4,989	5,125	5,231	5,200	5,210	5,242	5,244	5,255	5,237	5,173	
<b>WHOLESALE AND RETAIL TRADE</b> .....	18,516	19,499	19,765	19,548	19,690	19,957	20,119	20,222	20,118	20,137	20,260	20,314	20,580	20,923	20,175	
<b>WHOLESALE TRADE</b> .....	4,708	4,957	5,066	5,067	5,098	5,112	5,146	5,211	5,208	5,211	5,206	5,235	5,251	5,238	5,207	
<b>RETAIL TRADE</b> .....	13,808	14,542	14,699	14,481	14,592	14,845	14,973	15,011	14,910	14,926	15,054	15,079	15,329	15,685	14,968	
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4,467	4,727	4,829	4,845	4,870	4,900	4,936	5,003	5,032	5,053	5,002	5,013	5,029	5,039	5,030	
<b>SERVICES</b> .....	15,303	16,220	16,353	16,545	16,749	16,897	17,039	17,239	17,314	17,312	17,225	17,292	17,281	17,273	17,083	
<b>GOVERNMENT</b> .....	15,079	15,476	15,500	15,718	15,799	15,825	15,858	15,763	15,020	14,931	15,326	15,763	15,928	15,930	15,756	
Federal .....	2,727	2,753	2,730	2,738	2,740	2,750	2,773	2,824	2,838	2,844	2,751	2,756	2,760	2,770	2,754	
State and local .....	12,352	12,723	12,770	12,980	13,059	13,075	13,085	12,939	12,182	12,087	12,575	13,007	13,168	13,160	13,002	

### 11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	1979												1980
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. P	Jan. P
<b>TOTAL</b> .....	88,433	88,700	89,039	89,036	89,398	89,626	89,713	89,762	89,803	89,982	90,100	90,231	90,536
<b>MINING</b> .....	927	937	940	940	944	949	956	968	973	979	983	992	995
<b>CONSTRUCTION</b> .....	4,497	4,486	4,614	4,559	4,648	4,662	4,688	4,674	4,671	4,694	4,714	4,780	4,843
<b>MANUFACTURING</b> .....	20,958	21,025	21,073	21,066	21,059	21,063	21,079	20,957	20,949	20,899	20,836	20,882	20,867
Production workers .....	15,085	15,128	15,153	15,134	15,112	15,096	15,090	14,956	14,957	14,894	14,829	14,873	14,844
<b>Durable goods</b> .....	12,640	12,715	12,751	12,752	12,739	12,760	12,786	12,714	12,737	12,650	12,587	12,610	12,594
Production workers .....	9,085	9,138	9,158	9,146	9,119	9,123	9,124	9,044	9,066	8,972	8,908	8,929	8,887
Lumber and wood products .....	768	768	769	761	762	757	753	752	758	760	751	741	738
Furniture and fixtures .....	497	496	493	490	487	485	488	484	480	482	483	482	484
Stone, clay, and glass products .....	709	712	718	714	715	715	711	710	708	709	704	706	702
Primary metal industries .....	1,250	1,256	1,259	1,260	1,254	1,257	1,256	1,245	1,236	1,226	1,223	1,208	1,206
Fabricated metal products .....	1,725	1,733	1,732	1,732	1,730	1,737	1,730	1,714	1,716	1,723	1,726	1,724	1,714
Machinery, except electrical .....	2,419	2,437	2,450	2,466	2,471	2,484	2,500	2,492	2,496	2,455	2,438	2,442	2,489
Electric and electronic equipment .....	2,065	2,079	2,093	2,101	2,106	2,124	2,131	2,092	2,117	2,125	2,125	2,142	2,152
Transportation equipment .....	2,069	2,094	2,094	2,084	2,077	2,057	2,073	2,079	2,086	2,025	1,994	2,014	1,957
Instruments and related products .....	679	682	685	689	688	693	694	695	692	696	694	698	700
Miscellaneous manufacturing .....	459	458	458	455	449	451	450	451	448	449	449	453	452
<b>Nondurable goods</b> .....	8,318	8,310	8,322	8,314	8,320	8,303	8,293	8,243	8,212	8,249	8,249	8,272	8,273
Production workers .....	6,000	5,990	5,995	5,988	5,993	5,973	5,966	5,912	5,891	5,922	5,921	5,944	5,957
Food and kindred products .....	1,735	1,729	1,736	1,728	1,725	1,720	1,707	1,696	1,691	1,707	1,710	1,718	1,702
Tobacco manufactures .....	68	68	69	69	70	69	68	64	65	65	60	62	64
Textile mill products .....	900	899	897	892	893	892	892	886	884	887	889	893	891
Apparel and other textile products .....	1,339	1,327	1,324	1,325	1,324	1,312	1,324	1,302	1,294	1,299	1,292	1,299	1,302
Paper and allied products .....	706	711	716	717	714	715	718	717	714	715	714	714	718
Printing and publishing .....	1,225	1,229	1,232	1,234	1,236	1,242	1,250	1,247	1,245	1,252	1,262	1,264	1,271
Chemicals and allied products .....	1,109	1,108	1,108	1,111	1,114	1,119	1,116	1,111	1,110	1,113	1,114	1,119	1,123
Petroleum and coal products .....	211	212	213	213	213	212	212	213	215	217	217	217	217
Rubber and miscellaneous plastics products .....	774	779	780	781	784	775	777	764	751	751	749	744	746
Leather and leather products .....	251	248	247	244	247	247	229	243	243	243	242	242	239
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	5,071	5,094	5,116	5,024	5,130	5,190	5,169	5,194	5,180	5,218	5,229	5,206	5,236
<b>WHOLESALE AND RETAIL TRADE</b> .....	19,965	20,016	20,054	20,088	20,129	20,116	20,122	20,126	20,169	20,243	20,308	20,246	20,378
<b>WHOLESALE TRADE</b> .....	5,102	5,118	5,134	5,138	5,156	5,180	5,182	5,185	5,190	5,209	5,235	5,222	5,244
<b>RETAIL TRADE</b> .....	14,863	14,898	14,920	14,950	14,973	14,936	14,940	14,941	14,979	15,034	15,073	15,024	15,134
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4,868	4,884	4,899	4,915	4,936	4,958	4,972	5,003	4,997	5,018	5,039	5,054	5,071
<b>SERVICES</b> .....	16,670	16,763	16,833	16,880	16,954	17,051	17,092	17,141	17,191	17,257	17,298	17,360	17,414
<b>GOVERNMENT</b> .....	15,477	15,495	15,510	15,564	15,598	15,637	15,635	15,699	15,673	15,674	15,693	15,711	15,732
Federal .....	2,758	2,757	2,757	2,758	2,770	2,788	2,785	2,813	2,762	2,770	2,771	2,771	2,782
State and local .....	12,719	12,738	12,753	12,806	12,828	12,849	12,850	12,886	12,911	12,904	12,922	12,940	12,950



**12. Labor turnover rates in manufacturing, 1976 to date**

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>Total accessions</b>													
1976	3.9	3.9	3.5	4.2	3.9	4.5	4.8	4.2	5.1	4.4	3.5	2.9	2.2
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	3.4	3.8	3.9	4.7	4.8	4.3	4.9	4.4	4.1	2.9	P2.2
<b>New hires</b>													
1976	2.6	2.1	2.1	2.7	2.6	3.1	3.6	2.9	3.6	3.2	2.5	1.9	1.3
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	...	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	P1.5
<b>Recalls</b>													
1976	1.0	1.4	1.0	1.2	1.0	1.0	.9	1.1	1.1	.8	.7	.7	.7
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	...	.9	.7	.7	.7	.8	.7	.9	.9	.8	.7	.5	P.6
<b>Total separations</b>													
1976	3.8	3.7	3.0	3.5	3.6	3.4	3.6	4.3	4.9	4.7	4.1	3.4	3.5
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	4.8	4.1	3.5	3.4
1979	...	3.8	3.2	3.6	3.6	3.8	3.9	4.3	5.7	4.7	4.2	3.8	P3.4
<b>Quits</b>													
1976	1.7	1.3	1.2	1.6	1.7	1.7	1.8	1.9	2.8	2.5	1.7	1.2	1.0
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	...	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	P1.1
<b>Layoffs</b>													
1976	1.3	1.6	1.0	1.1	1.1	.9	.9	1.6	1.1	1.3	1.5	1.5	1.8
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	1.0	.8	.8	.9	1.0	1.4
1979	...	1.1	.8	.8	.9	.7	.8	1.4	1.3	1.1	1.2	1.5	P1.7

**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		
	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>	Dec. 1978	Nov. 1979	Dec. 1979 <sup>P</sup>
<b>MANUFACTURING</b>	2.4	2.9	2.2	1.7	2.2	1.5	0.5	0.5	0.6	3.4	3.8	3.4	1.3	1.6	1.1	1.4	1.5	1.7
Seasonally adjusted	4.5	3.9	4.0	3.5	3.0	3.0	...	...	...	4.0	4.1	3.9	2.2	2.0	1.9	.9	1.3	1.2
<b>Durable goods</b>	2.2	2.6	2.0	1.6	1.9	1.3	.4	.4	.5	2.9	3.5	3.1	1.1	1.3	.9	1.1	1.4	1.6
Lumber and wood products	3.2	3.3	2.4	2.6	2.7	1.7	.4	.5	.7	4.9	6.7	5.9	2.3	2.6	1.8	1.7	3.1	3.3
Furniture and fixtures	3.1	3.9	2.6	2.6	3.2	1.8	.3	.6	.7	4.0	4.6	3.5	2.1	2.3	1.6	.9	1.1	1.2
Stone, clay, and glass products	2.2	2.7	2.0	1.6	2.0	1.3	.4	.6	.6	4.7	4.2	4.8	1.3	1.5	1.1	2.6	2.0	3.0
Primary metal industries	1.7	1.9	1.9	1.0	1.1	.7	.5	.6	.9	1.8	3.2	3.2	.6	.7	.5	.6	1.8	1.9
Fabricated metal products	2.4	3.0	2.2	1.8	2.3	1.5	.4	.5	.5	3.2	3.9	3.4	1.4	1.5	1.1	1.1	1.6	1.6
Machinery, except electrical	2.0	2.3	1.9	1.6	1.8	1.3	.2	.2	.4	1.8	2.5	1.9	.8	1.1	.7	.3	.7	.6
Electric and electronic equipment	2.1	2.5	2.0	1.5	1.9	1.5	.2	.3	.3	2.4	2.8	2.1	1.1	1.3	.9	.5	.7	.6
Transportation equipment	1.8	2.4	...	1.1	1.4	...	.4	.7	...	2.8	3.3	...	.7	.9	...	1.4	1.8	...
Instruments and related products	2.0	2.5	1.7	1.6	2.0	1.4	.2	.2	.1	2.1	2.2	1.9	1.0	1.1	.8	.3	.4	.6
Miscellaneous manufacturing	2.7	3.5	2.3	1.8	2.7	1.6	.7	.6	.5	8.0	6.6	6.8	1.8	2.5	1.4	5.1	3.0	4.7
<b>Nondurable goods</b>	2.7	3.4	2.6	1.9	2.5	1.7	.6	.7	.7	4.1	4.3	3.9	1.6	1.9	1.4	1.8	1.6	1.8
Food and kindred products	3.9	4.5	3.4	2.7	3.2	2.2	1.0	1.1	.9	6.5	6.2	6.1	2.3	2.5	1.9	3.5	2.9	3.4
Tobacco manufacturers	2.5	4.1	...	.8	1.4	...	1.2	2.3	...	5.7	5.5	...	.5	.4	...	4.6	4.4	...
Textile mill products	2.4	3.7	2.4	1.9	2.9	1.9	.3	.5	.3	3.5	4.0	3.4	1.8	2.4	1.6	.9	.8	1.1
Apparel and other products	3.0	4.5	3.1	1.8	3.1	1.8	1.0	1.2	1.1	5.4	5.6	5.3	1.9	2.6	1.8	2.8	2.3	2.9
Paper and allied products	1.8	1.9	1.7	1.2	1.4	1.0	.4	.4	.5	2.5	2.7	2.3	.9	1.0	.7	1.0	1.0	1.0
Printing and publishing	2.6	3.2	2.7	2.1	2.6	2.1	.4	.4	.5	3.0	3.0	2.8	1.6	1.9	1.6	.8	.5	.7
Chemicals and allied products	1.1	1.3	1.1	.9	1.0	.9	.1	.2	.2	1.5	1.4	1.4	.5	.6	.5	.4	.4	.4
Petroleum and coal products	1.2	1.5	1.1	.9	1.3	.9	.1	.1	.1	2.1	1.9	1.8	.6	.7	.6	1.1	.7	.8
Rubber and miscellaneous																		
plastics products	2.7	3.5	2.6	2.1	2.6	1.6	.4	.6	.8	3.7	5.2	4.2	1.8	2.2	1.6	1.1	2.1	1.8
Leather and leather products	4.0	5.4	4.3	2.8	4.1	2.6	1.0	1.1	1.5	7.9	6.7	6.2	3.0	3.2	2.3	3.9	2.6	3.1

### 14. Hours and earnings, by industry division, 1947-78

[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		
1947	\$45.58	40.3	\$1.131	\$59.94	40.8	\$1.469	\$58.87	38.2	\$1.541	\$49.17	40.4	\$1.217
1948	49.00	40.0	1.225	65.56	39.4	1.664	65.27	38.1	1.713	53.12	40.0	1.328
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 <sup>1</sup>	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	332.11	43.3	7.67	318.32	36.8	8.65	249.27	40.4	6.17
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1947				\$38.07	40.5	\$0.940	\$43.21	37.9	\$1.140			
1948				40.80	40.4	1.010	45.48	37.9	1.200			
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				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	178.36	36.4	4.90	163.67	32.8	4.99

<sup>1</sup> 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
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. <sup>P</sup>	Jan. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	36.0	35.8	35.2	35.4	35.7	35.1	35.5	35.9	36.0	36.0	35.8	35.7	35.6	36.0	35.1
<b>MINING</b> .....	43.4	43.3	42.4	42.6	42.9	42.6	42.8	43.3	41.7	43.1	43.5	43.7	43.7	43.9	43.6
<b>CONSTRUCTION</b> .....	36.5	36.8	34.6	35.4	37.0	35.5	37.2	37.9	37.7	38.0	37.9	37.6	36.5	37.1	35.1
<b>MANUFACTURING</b> .....	40.3	40.4	40.1	40.2	40.6	38.9	40.1	40.4	39.9	40.0	40.3	40.3	40.4	41.0	39.9
Overtime hours .....	3.5	3.6	3.5	3.5	3.6	2.5	3.3	3.4	3.2	3.3	3.6	3.4	3.4	3.4	3.1
<b>Durable goods</b> .....	41.0	41.1	40.9	41.1	41.4	39.3	40.8	41.0	40.4	40.4	40.8	40.8	40.8	41.7	40.4
Overtime hours .....	3.7	3.8	3.8	3.9	3.9	2.6	3.6	3.6	3.4	3.4	3.6	3.5	3.5	3.5	3.1
Lumber and wood products .....	39.8	39.8	38.5	39.0	39.7	39.1	39.6	40.2	39.4	39.9	40.1	39.8	38.8	39.4	38.1
Furniture and fixtures .....	39.0	39.3	38.3	38.1	39.0	37.5	38.2	38.8	38.0	38.6	39.0	39.3	39.2	39.9	38.4
Stone, clay, and glass products .....	41.3	41.6	40.5	40.6	41.8	41.1	41.9	42.1	41.5	41.7	41.7	41.7	41.7	41.9	40.7
Primary metal industries .....	41.3	41.8	42.2	42.1	41.9	41.7	41.4	41.6	41.3	40.8	41.3	40.9	40.7	40.9	40.3
Fabricated metal products .....	41.0	41.0	40.8	40.9	41.3	38.8	40.7	41.0	40.3	40.5	40.8	41.0	41.0	42.0	40.6
Machinery except electrical .....	41.5	42.0	42.1	42.5	42.6	40.3	41.7	42.0	41.2	41.3	41.9	41.6	41.9	42.9	41.6
Electric and electronic equipment .....	40.4	40.3	40.3	40.5	40.7	38.8	40.2	40.5	39.6	39.7	40.5	40.3	40.9	41.4	40.3
Transportation equipment .....	42.5	42.2	41.9	42.1	42.3	37.9	41.6	41.3	40.9	40.5	40.7	41.3	40.8	42.6	40.5
Instruments and related products .....	40.6	40.9	40.6	41.0	41.3	40.0	40.8	40.7	40.3	40.3	40.7	40.8	41.4	41.7	40.1
Miscellaneous manufacturing .....	38.8	38.8	38.6	38.6	39.2	37.6	38.5	39.0	38.7	38.9	39.3	39.3	39.6	39.6	39.2
<b>Nondurable goods</b> .....	39.4	39.4	38.9	38.9	39.3	38.2	39.1	39.4	39.2	39.4	39.6	39.4	39.6	40.0	39.2
Overtime hours .....	3.2	3.2	3.0	3.0	3.1	2.5	2.9	3.0	3.0	3.2	3.5	3.2	3.3	3.2	3.0
Food and kindred products .....	40.0	39.7	39.5	39.2	39.6	39.0	39.6	39.8	40.1	40.3	40.6	40.0	40.2	40.4	39.6
Tobacco manufactures .....	37.8	38.1	36.1	36.2	38.1	37.6	38.9	39.0	36.1	37.6	39.1	38.8	39.0	39.9	38.0
Textile mill products .....	40.4	40.4	39.9	39.9	40.4	38.6	40.1	40.6	39.9	40.3	40.8	40.8	41.3	41.6	41.1
Apparel and other textile products .....	35.6	35.6	34.6	34.9	35.4	33.9	35.1	35.6	35.4	35.6	35.4	35.5	35.6	36.0	34.9
Paper and allied products .....	42.9	42.9	42.6	42.2	42.6	41.6	42.4	42.8	42.5	42.6	42.7	42.6	42.9	43.6	42.8
Printing and publishing .....	37.7	37.6	37.1	37.3	37.7	36.8	37.3	37.4	37.4	37.9	37.9	37.5	37.9	38.1	37.5
Chemicals and allied products .....	41.7	41.9	41.7	41.7	41.9	41.9	41.8	41.8	41.7	41.8	41.8	41.7	42.1	42.3	41.5
Petroleum and coal products .....	42.7	43.6	42.8	42.7	43.8	43.9	43.7	43.4	44.1	43.6	44.7	44.1	44.8	44.2	43.1
Rubber and miscellaneous plastics products .....	41.0	40.9	41.1	41.2	41.4	39.4	40.5	40.7	40.2	40.0	40.5	40.5	40.3	40.7	40.0
Leather and leather products .....	36.9	37.1	36.3	35.9	35.9	35.3	36.4	37.1	36.9	36.6	36.8	36.5	36.8	37.2	36.7
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	39.9	40.0	39.6	39.9	39.8	39.0	39.6	40.0	40.0	40.3	39.9	39.9	40.2	40.2	39.6
<b>WHOLESALE AND RETAIL TRADE</b> .....	33.3	32.9	32.0	32.1	32.4	32.5	32.4	32.9	33.3	33.2	32.7	32.5	32.4	32.9	31.8
<b>WHOLESALE TRADE</b> .....	38.8	38.8	38.4	38.4	38.9	38.6	38.9	39.0	39.0	38.9	38.8	38.9	38.9	39.1	38.3
<b>RETAIL TRADE</b> .....	31.6	31.0	29.9	30.1	30.3	30.6	30.4	31.0	31.5	31.4	30.7	30.4	30.4	31.0	29.7
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	36.4	36.4	36.4	36.4	36.3	36.4	36.1	36.2	36.4	36.2	36.3	36.3	36.4	36.4	36.4
<b>SERVICES</b> .....	33.0	32.8	32.4	32.4	32.6	32.5	32.5	32.9	33.3	33.2	32.7	32.6	32.6	32.8	32.4



### 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
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. P	Jan. P
<b>TOTAL PRIVATE</b> .....	35.8	35.7	35.9	35.3	35.7	35.6	35.6	35.6	35.7	35.6	35.7	35.7	35.7
<b>MINING</b> .....	43.4	43.1	43.1	42.9	42.8	43.0	41.6	43.2	43.1	43.1	43.2	43.9	44.6
<b>CONSTRUCTION</b> .....	37.1	36.6	37.1	35.5	37.1	37.2	36.8	37.2	37.5	36.6	36.8	37.1	37.6
<b>MANUFACTURING</b> .....	40.6	40.6	40.6	39.1	40.2	40.1	40.2	40.1	40.2	40.2	40.1	40.3	40.4
Overtime hours .....	3.7	3.7	3.7	2.7	3.5	3.4	3.3	3.2	3.2	3.2	3.3	3.2	3.3
<b>Durable goods</b> .....	41.4	41.4	41.4	39.5	40.9	40.7	40.7	40.7	40.7	40.8	40.6	40.8	40.8
Overtime hours .....	4.1	4.1	4.0	2.7	3.8	3.6	3.5	3.3	3.3	3.3	3.4	3.3	3.3
Lumber and wood products .....	39.9	39.6	40.0	39.1	39.4	39.4	39.3	39.5	39.7	39.4	38.9	39.2	39.5
Furniture and fixtures .....	38.9	38.8	39.1	38.1	38.5	38.5	38.4	38.3	38.6	38.8	38.9	39.0	39.0
Stone, clay, and glass products .....	41.8	41.6	42.0	41.2	41.7	41.6	41.4	41.3	41.5	41.3	41.5	41.7	42.0
Primary metal industries .....	42.3	42.2	42.0	41.8	41.4	41.2	41.3	41.0	41.0	41.1	40.7	40.6	40.4
Fabricated metal products .....	41.1	41.3	41.3	39.1	40.7	40.7	40.8	40.6	40.7	40.9	40.7	41.1	40.9
Machinery, except electrical .....	42.3	42.5	42.4	40.5	42.0	42.0	41.9	41.6	41.9	41.6	41.6	41.7	41.8
Electric and electronic equipment .....	40.5	40.7	40.7	39.0	40.4	40.3	40.2	39.8	40.3	40.3	40.6	40.6	40.5
Transportation equipment .....	42.8	42.7	42.3	37.9	41.5	40.8	40.9	41.7	40.6	41.3	40.6	41.0	41.4
Instruments and related products .....	41.1	41.2	41.2	40.3	40.8	40.6	40.7	40.5	40.6	40.7	41.0	40.9	40.6
Miscellaneous manufacturing .....	39.0	39.0	39.0	37.6	38.6	38.9	39.3	39.1	39.1	39.1	39.1	39.1	39.6
<b>Nondurable goods</b> .....	39.5	39.3	39.4	38.6	39.2	39.2	39.2	39.2	39.3	39.3	39.4	39.5	39.7
Overtime hours .....	3.2	3.2	3.3	2.7	3.0	3.0	3.0	3.0	3.1	3.0	3.2	3.1	3.2
Food and kindred products .....	40.0	39.8	40.0	39.6	39.8	39.8	39.8	39.7	40.0	39.9	40.0	40.0	40.1
Tobacco manufactures .....	37.2	36.9	38.0	37.6	38.9	37.6	38.5	38.0	38.6	38.3	37.8	39.2	39.1
Textile mill products .....	40.7	40.1	40.3	38.8	40.0	40.1	40.1	40.1	40.6	40.8	41.1	41.1	41.9
Apparel and other textile products .....	35.3	35.4	35.4	34.2	35.2	35.2	35.5	35.3	35.3	35.3	35.3	35.7	35.6
Paper and allied products .....	42.8	42.7	42.8	41.8	42.6	42.5	42.5	42.6	42.4	42.6	42.7	43.0	43.0
Printing and publishing .....	37.7	37.7	37.7	37.1	37.4	37.4	37.5	37.7	37.5	37.4	37.6	37.4	38.1
Chemicals and allied products .....	42.0	42.0	41.9	41.7	41.9	41.7	41.9	42.0	41.7	41.7	41.9	41.8	41.8
Petroleum and coal products .....	43.5	43.6	44.0	43.9	43.7	43.3	43.6	43.7	44.1	43.7	44.4	44.3	43.8
Rubber and miscellaneous plastics products .....	41.4	41.2	41.3	39.7	40.9	40.7	40.6	40.2	40.3	40.3	40.0	39.9	40.3
Leather and leather products .....	36.8	36.4	36.3	35.6	36.1	36.4	36.6	36.5	37.0	36.5	36.7	36.8	37.2
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	40.0	40.0	40.0	39.2	39.8	39.8	39.7	39.9	39.9	39.9	40.2	40.0	40.0
<b>WHOLESALE AND RETAIL TRADE</b> .....	32.5	32.5	32.7	32.8	32.6	32.6	32.6	32.5	32.6	32.6	32.7	32.6	32.4
<b>WHOLESALE TRADE</b> .....	38.7	38.7	39.0	38.7	39.0	38.8	38.8	38.7	38.7	38.8	38.9	38.9	38.6
<b>RETAIL TRADE</b> .....	30.6	30.6	30.7	30.9	30.6	30.6	30.6	30.5	30.7	30.6	30.7	30.6	30.4
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	36.3	36.4	36.4	36.5	36.1	36.2	36.3	36.1	36.4	36.2	36.5	36.4	36.3
<b>SERVICES</b> .....	32.6	32.6	32.8	32.7	32.7	32.7	32.8	32.7	32.7	32.6	32.7	32.9	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	
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. <sup>P</sup>	Jan. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	\$5.25	\$5.69	\$5.97	\$6.00	\$6.02	\$6.03	\$6.09	\$6.12	\$6.16	\$6.19	\$6.31	\$6.32	\$6.35	\$6.38	\$6.41
<b>MINING</b> .....	6.94	7.67	8.20	8.21	8.27	8.54	8.45	8.49	8.52	8.48	8.57	8.57	8.70	8.72	8.70
<b>CONSTRUCTION</b> .....	8.10	8.65	8.98	9.02	8.97	9.02	9.14	9.13	9.24	9.32	9.51	9.49	9.50	9.56	9.53
<b>MANUFACTURING</b> .....	5.68	6.17	6.49	6.52	6.56	6.54	6.63	6.66	6.71	6.69	6.80	6.82	6.86	6.96	6.95
<b>Durable goods</b> .....	6.06	6.58	6.92	6.96	6.99	6.95	7.07	7.11	7.15	7.12	7.24	7.25	7.29	7.41	7.37
Lumber and wood products .....	5.10	5.60	5.79	5.83	5.84	5.90	5.97	6.16	6.23	6.23	6.32	6.24	6.23	6.23	6.22
Furniture and fixtures .....	4.34	4.68	4.87	4.93	4.95	4.94	4.97	5.05	5.04	5.10	5.18	5.20	5.23	5.28	5.30
Stone, clay, and glass products .....	5.81	6.32	6.57	6.58	6.64	6.73	6.78	6.85	6.89	6.90	6.98	7.00	7.07	7.10	7.07
Primary metal industries .....	7.40	8.20	8.62	8.75	8.75	8.92	8.83	8.91	9.04	9.10	9.16	9.10	9.26	9.30	9.26
Fabricated metal products .....	5.91	6.34	6.60	6.65	6.72	6.62	6.77	6.81	6.80	6.83	6.93	6.96	6.99	7.11	7.04
<b>Nondurable goods</b> .....	5.11	5.53	5.81	5.82	5.85	5.90	5.91	5.94	6.03	6.04	6.11	6.14	6.21	6.26	6.31
Food and kindred products .....	5.37	5.80	6.09	6.10	6.12	6.19	6.22	6.22	6.28	6.28	6.33	6.36	6.51	6.55	6.61
Tobacco manufactures .....	5.54	6.13	6.36	6.53	6.64	6.80	6.83	6.82	6.83	6.59	6.54	6.43	7.01	7.04	7.10
Textile mill products .....	3.99	4.30	4.52	4.51	4.52	4.48	4.52	4.54	4.65	4.77	4.82	4.83	4.86	4.88	4.89
Apparel and other textile products .....	3.62	3.94	4.17	4.17	4.19	4.19	4.20	4.21	4.23	4.21	4.28	4.32	4.32	4.39	4.41
Paper and allied products .....	5.96	6.52	6.80	6.83	6.88	6.92	6.96	7.05	7.17	7.22	7.32	7.34	7.42	7.49	7.52
Printing and publishing .....	6.12	6.50	6.72	6.73	6.77	6.72	6.83	6.88	6.90	6.94	7.04	7.06	7.09	7.15	7.21
Chemicals and allied products .....	6.43	7.01	7.32	7.32	7.36	7.50	7.47	7.53	7.60	7.65	7.73	7.82	7.87	7.89	7.95
Petroleum and coal products .....	7.83	8.63	9.01	9.10	9.31	9.44	9.39	9.32	9.39	9.35	9.51	9.49	9.57	9.44	9.77
Rubber and miscellaneous plastics products .....	5.17	5.52	5.82	5.84	5.86	5.82	5.90	5.91	5.95	5.94	6.03	6.12	6.14	6.22	6.24
Leather and leather products .....	3.61	3.89	4.13	4.14	4.17	4.18	4.18	4.19	4.19	4.22	4.29	4.31	4.34	4.40	4.53
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	6.99	7.57	7.90	7.92	7.90	7.88	7.94	8.03	8.23	8.32	8.45	8.45	8.52	8.55	8.55
<b>WHOLESALE AND RETAIL TRADE</b> .....	4.28	4.67	4.96	4.97	4.98	5.00	5.00	5.02	5.05	5.06	5.13	5.15	5.18	5.17	5.30
<b>WHOLESALE TRADE</b> .....	5.39	5.88	6.18	6.21	6.23	6.30	6.29	6.34	6.39	6.41	6.51	6.51	6.57	6.66	6.68
<b>RETAIL TRADE</b> .....	3.85	4.20	4.47	4.47	4.47	4.49	4.49	4.50	4.51	4.52	4.58	4.59	4.62	4.60	4.74
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4.54	4.90	5.13	5.19	5.16	5.23	5.22	5.22	5.29	5.29	5.38	5.37	5.42	5.48	5.52
<b>SERVICES</b> .....	4.65	4.99	5.23	5.27	5.26	5.29	5.27	5.27	5.29	5.30	5.45	5.48	5.54	5.60	5.65

**18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division**

[Seasonally adjusted data: 1967 = 100]

Industry	1979												1980	Percent change	
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. <sup>P</sup>	Jan. <sup>P</sup>	Dec. 1979 to Jan. 1980	Jan. 1979 to Jan. 1980
<b>TOTAL PRIVATE (in current dollars)</b> ..	222.6	224.0	225.2	226.8	227.5	229.0	230.9	232.2	234.3	234.9	237.3	239.3	239.8	0.2	7.7
Mining .....	252.1	253.7	256.1	264.1	262.7	264.9	266.9	265.6	266.1	268.0	271.6	272.8	270.6	- .8	7.3
Construction .....	213.8	216.7	216.5	218.1	220.4	220.4	222.1	223.1	224.4	224.0	225.8	227.4	226.2	- .5	5.8
Manufacturing .....	225.4	227.2	228.7	231.0	232.3	233.9	235.4	236.9	238.7	240.0	242.1	244.1	244.7	- .2	8.5
Transportation and public utilities .....	240.8	241.7	243.1	241.7	243.7	246.4	251.3	252.6	255.6	255.8	258.9	260.5	261.0	.2	8.4
Wholesale and retail trade .....	217.7	218.1	219.4	220.9	221.0	222.6	223.8	225.4	227.0	227.4	229.5	230.9	233.2	1.0	7.1
Finance, insurance, and real estate .....	202.4	204.2	204.8	207.5	207.0	208.0	210.8	211.5	214.4	213.1	216.2	218.4	217.5	- .4	7.5
Services .....	220.8	222.2	223.3	225.0	224.3	225.7	227.0	228.4	231.5	232.3	234.7	237.8	237.6	- .1	7.6
<b>TOTAL PRIVATE (in constant dollars)</b> ..	108.5	107.8	107.3	106.9	106.1	105.7	105.6	105.1	104.9	104.2	104.2	103.9	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> 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
	1977	1978	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec. <sup>P</sup>	Jan. <sup>P</sup>	
<b>TOTAL PRIVATE</b> .....	\$189.00	\$203.70	\$210.14	\$212.40	\$214.91	\$211.65	\$216.20	\$219.71	\$221.76	\$222.84	\$225.90	\$225.62	\$226.06	\$229.68	\$224.99	
<b>MINING</b> .....	301.20	332.11	347.68	349.75	354.78	363.80	361.66	367.62	355.28	365.49	372.80	374.51	380.19	382.81	379.32	
<b>CONSTRUCTION</b> .....	295.65	318.32	310.71	319.31	331.89	320.21	340.01	346.03	348.35	354.16	360.43	356.82	346.75	354.68	334.50	
<b>MANUFACTURING</b> .....	228.90	249.27	260.25	262.10	266.34	254.41	265.86	269.06	267.73	267.60	274.04	274.85	277.14	285.36	277.31	
<b>Durable goods</b> .....	248.46	270.44	283.03	286.06	289.39	273.14	288.46	291.51	288.86	287.65	295.39	295.80	297.43	309.00	297.75	
Lumber and wood products .....	202.98	222.88	222.92	227.37	231.85	230.69	236.41	247.63	245.46	248.58	253.43	248.35	241.72	245.46	236.98	
Furniture and fixtures .....	169.26	183.92	186.52	187.83	193.05	185.25	189.85	195.94	191.52	196.86	202.02	204.36	205.02	210.67	203.52	
Stone, clay, and glass products .....	239.95	262.91	266.09	267.15	277.55	276.60	284.08	288.39	285.94	287.73	291.07	291.90	294.82	297.49	287.75	
Primary metal industries .....	305.62	342.76	363.76	368.38	366.63	371.96	365.56	370.66	373.35	371.28	378.31	372.19	376.88	380.37	373.18	
Fabricated metal products .....	242.31	259.94	269.28	271.99	277.54	256.86	275.54	279.21	274.04	276.62	282.74	285.36	286.59	298.62	285.82	
Machinery except electrical .....	259.79	284.34	298.91	304.30	306.29	286.13	302.33	308.28	302.82	303.56	313.41	309.92	314.67	327.33	317.41	
Electric and electronic equipment .....	217.76	234.55	246.23	248.27	250.71	237.07	249.64	253.13	248.29	252.49	261.63	261.14	266.26	274.07	266.38	
Transportation equipment .....	309.40	333.80	349.45	351.54	356.17	313.05	356.10	352.29	349.70	341.82	349.61	358.07	354.14	379.14	356.40	
Instruments and related products .....	214.77	233.54	243.19	246.82	249.45	241.20	249.29	248.68	248.25	247.44	252.75	257.86	264.55	270.63	258.24	
Miscellaneous manufacturing .....	169.17	181.97	190.30	191.07	194.04	186.50	192.50	194.61	194.66	196.06	199.25	201.22	203.94	206.71	208.54	
<b>Nondurable goods</b> .....	201.33	217.88	226.01	226.40	229.91	225.38	231.08	234.04	236.38	237.98	241.96	241.92	245.92	250.40	247.35	
Food and kindred products .....	214.80	230.26	240.56	239.12	242.35	241.41	246.31	247.56	251.83	253.08	257.00	254.40	261.70	264.62	261.76	
Tobacco manufactures .....	209.41	233.55	229.60	236.39	252.98	255.68	265.69	265.98	246.56	247.78	255.71	249.48	273.39	280.90	269.80	
Textile mill products .....	161.20	173.72	180.35	179.50	182.61	172.93	181.25	184.32	185.54	192.23	196.66	197.06	200.72	203.01	200.98	
Apparel and other textile products .....	128.87	140.26	144.28	145.53	148.33	142.04	147.42	149.88	149.74	149.88	151.51	153.36	153.79	158.04	153.91	
Paper and allied products .....	255.68	279.71	289.68	288.23	293.09	287.87	295.10	302.74	304.73	307.57	312.56	312.68	318.32	326.56	321.86	
Printing and publishing .....	230.72	244.40	249.31	251.03	255.23	247.30	254.76	257.31	258.06	263.03	266.82	264.75	268.71	272.42	270.38	
Chemicals and allied products .....	268.13	293.72	305.24	305.24	308.38	314.25	312.25	314.75	316.92	319.77	323.11	326.09	331.33	333.75	329.93	
Petroleum and coal products .....	334.34	376.27	385.63	388.57	407.78	414.42	410.34	404.49	414.10	407.66	425.10	418.51	428.74	417.25	421.09	
Rubber and miscellaneous plastics products .....	211.97	225.77	239.20	240.61	242.60	229.31	238.95	240.54	239.19	237.60	244.22	247.86	247.44	253.15	249.60	
Leather and leather products .....	133.21	144.32	149.92	148.63	149.70	147.55	152.15	155.45	154.61	154.45	157.87	157.32	159.71	163.68	166.25	
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	278.90	302.80	312.84	316.01	314.42	307.32	314.42	321.20	329.20	335.30	337.16	337.16	342.50	343.71	338.58	
<b>WHOLESALE AND RETAIL TRADE</b> .....	142.52	153.64	158.72	159.54	161.35	162.50	162.00	165.16	168.17	167.99	167.75	167.38	167.83	170.09	168.54	
<b>WHOLESALE TRADE</b> .....	209.13	228.14	237.31	238.46	242.35	243.18	244.68	247.26	249.21	249.35	252.59	253.24	255.57	260.41	255.84	
<b>RETAIL TRADE</b> .....	121.66	130.20	133.65	134.55	135.44	137.39	136.50	139.50	142.07	141.93	140.61	139.54	140.45	142.60	140.78	
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	165.26	178.36	186.73	188.92	187.31	190.37	188.44	188.96	192.56	191.50	195.29	194.93	197.29	199.47	200.93	
<b>SERVICES</b> .....	153.45	163.67	169.45	170.75	171.48	171.93	171.28	173.38	176.16	175.96	178.22	178.65	180.60	183.68	183.06	



**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	214.67	110.02
1979: January	210.14	102.66	170.88	83.48	187.22	91.46	260.25	127.14	206.40	100.83	225.48	110.15
February	212.40	102.56	172.53	83.31	188.98	91.25	262.10	126.56	207.69	100.28	226.89	109.56
March	214.91	102.68	174.35	83.30	190.93	91.22	266.34	127.25	210.65	100.65	230.10	109.94
April	211.65	99.93	171.98	81.20	188.39	88.95	254.41	120.12	202.32	95.52	221.05	104.37
May	216.20	100.89	175.29	81.80	191.93	89.56	265.86	124.06	210.32	98.14	229.74	107.20
June	219.71	101.30	177.85	82.00	194.67	89.75	269.06	124.05	212.51	97.98	232.17	107.04
July	221.76	101.08	179.35	81.75	196.26	89.45	267.73	122.03	211.61	96.45	231.16	105.36
August	222.84	100.60	180.13	81.32	197.11	88.99	267.60	120.81	211.52	95.49	231.06	104.32
September	225.90	100.98	182.36	81.52	199.42	89.15	274.04	122.50	215.89	96.51	235.94	105.47
October	225.62	100.01	182.16	80.74	199.21	88.30	274.85	121.83	216.44	95.94	236.56	104.86
November	226.06	99.32	182.48	80.18	199.54	87.67	277.14	121.77	217.99	95.78	238.30	104.70
December <sup>P</sup>	229.68	99.86	185.04	80.45	202.29	87.95	285.36	124.07	223.57	97.20	244.53	106.32
1980: January <sup>P</sup>	224.99	( <sup>1</sup> )	181.70	( <sup>1</sup> )	198.73	( <sup>1</sup> )	277.31	( <sup>1</sup> )	218.11	( <sup>1</sup> )	238.43	( <sup>1</sup> )

<sup>1</sup>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 (revised). 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, 1977-79" *Employment and Earnings*, September 1979, pp. 6-8.

## 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 the State, Ex-Servicemen, and UCFE programs, 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 unem-

ployed. 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	1978	1979											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
All programs:													
Insured unemployment	2,567	3,198	3,209	2,921	2,610	2,230	2,119	2,429	2,377	2,164	2,236	2,559	3,047
State unemployment insurance program: <sup>1</sup>													
Initial claims <sup>2</sup>	1,882	2,421	1,576	1,396	1,589	1,309	1,400	1,976	1,545	1,219	1,641	1,837	.....
Insured unemployment (average weekly volume)	2,421	3,037	3,053	2,750	2,440	2,078	1,991	2,300	2,245	2,024	2,057	2,384	2,864
Rate of insured unemployment	3.2	3.9	4.0	3.6	3.1	2.6	2.5	2.8	2.7	2.4	2.4	2.8	3.4
Weeks of unemployment compensated	7,907	11,371	10,762	11,105	8,956	8,442	7,197	7,889	8,830	6,993	7,638	8,151	.....
Average weekly benefit amount for total unemployment	\$85.34	\$88.28	\$90.31	\$90.28	\$89.25	\$88.37	\$87.25	\$86.40	\$88.56	\$89.07	\$90.59	\$92.23	.....
Total benefits paid	\$645,084	\$972,820	\$915,146	\$975,641	\$777,699	\$725,229	\$610,269	\$665,687	\$767,025	\$606,095	\$673,965	\$731,273	.....
Unemployment compensation for ex-servicemen: <sup>3</sup>													
Initial claims <sup>1</sup>	24	24	21	21	20	20	24	28	28	23	26	24	.....
Insured unemployment (average weekly volume)	50	54	53	52	48	45	45	51	52	52	52	54	56
Weeks of unemployment compensated	228	262	219	241	207	214	193	216	234	211	236	232	.....
Total benefits paid	\$21,040	\$24,425	\$20,489	\$22,794	\$19,617	\$20,440	\$18,623	\$20,965	\$22,550	\$19,634	\$23,325	\$23,143	.....
Unemployment compensation for Federal civilian employees: <sup>4</sup>													
Initial claims	18	21	13	12	12	12	13	16	13	13	18	15	.....
Insured unemployment (average weekly volume)	34	37	35	33	27	24	23	2.5	25	25	28	29	31
Weeks of unemployment compensated	136	158	133	143	112	106	91	96	107	91	109	118	.....
Total benefits paid	\$12,174	\$14,222	\$12,256	\$13,168	\$10,345	\$9,330	\$8,341	\$8,802	\$9,829	\$8,456	\$10,093	\$11,088	.....
Railroad unemployment insurance:													
Applications	10	8	6	5	3	3	9	15	8	13	11	10	11
Insured unemployment (average weekly volume)	17	26	24	23	18	10	8	11	12	21	18	20	19
Number of payments	30	50	50	23	40	29	19	20	26	32	51	36	41
Average amount of benefit payment	\$189.59	\$200.80	\$200.54	\$204.72	\$195.55	\$177.39	\$183.13	\$190.10	\$195.61	\$189.08	\$189.61	\$183.38	\$197.22
Total benefits paid	\$5,678	\$9,634	\$9,871	\$10,538	\$7,276	\$5,681	\$3,314	\$3,699	\$3,767	\$5,747	\$8,003	\$6,462	\$8,085
Employment service: <sup>5</sup>													
New applications and renewals	414	5,630	.....	8,059	9,180	10,452	11,907	13,186	14,479	.....	.....	.....	.....
Nonfarm placements	1,120	1,414	.....	1,991	2,291	2,616	3,051	3,482	3,935	.....	.....	.....	.....

<sup>1</sup>Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

<sup>2</sup>Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

<sup>3</sup>Excludes data on claims and payments made jointly with other programs.

<sup>4</sup>Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

<sup>5</sup>Cumulative total for fiscal year (October 1 - September 30).

NOTE: Data for Puerto Rico included. Dashes indicate data not available.

## 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, 1967-78**

[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)						
	1978		1979					1978		1979				
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
All items	202.9	218.9	221.1	223.4	225.4	227.5	229.9	202.9	219.4	221.5	223.7	225.6	227.6	230.0
Food and beverages	214.1	230.7	230.2	231.0	232.1	233.1	235.5	214.0	230.9	230.4	231.2	232.3	233.1	235.7
Housing	211.5	228.4	231.5	234.6	237.7	240.8	243.6	211.2	228.4	231.5	234.5	237.7	240.7	243.6
Apparel and upkeep	163.2	164.3	166.3	169.8	171.0	171.7	172.2	163.3	164.5	166.2	169.3	170.8	171.3	171.4
Transportation	192.6	216.6	219.6	221.4	222.7	224.9	227.7	193.1	217.8	220.7	222.4	223.4	225.7	228.3
Medical care	227.8	239.9	241.8	243.7	245.9	248.0	250.7	228.0	240.5	242.6	244.7	247.2	249.1	251.7
Entertainment	180.9	189.1	190.2	191.1	192.0	192.8	193.4	181.0	188.6	188.9	190.2	191.4	192.0	191.5
Other goods and services	189.1	195.2	197.0	201.7	202.3	202.9	204.0	188.4	195.1	197.2	200.6	201.4	202.0	203.0
Commodities	194.2	210.5	212.2	214.1	215.6	217.4	219.4	194.1	211.0	212.6	214.4	215.8	217.4	219.4
Commodities less food and beverages	182.4	198.4	200.9	203.3	204.9	206.9	208.8	182.3	198.8	201.3	203.5	205.0	206.9	208.7
Nondurables less food and beverages	182.0	204.2	208.8	213.2	214.9	216.6	219.0	182.3	205.6	210.5	214.8	216.6	218.1	220.5
Durables	181.2	192.6	193.6	194.5	196.0	198.4	199.8	180.9	192.2	192.9	193.5	194.8	196.9	198.2
Services	219.2	234.7	237.6	240.7	243.6	246.2	249.3	219.1	235.1	237.9	241.0	244.0	246.7	249.6
Rent, residential	169.5	175.9	177.5	179.0	181.4	182.1	182.9	169.4	175.8	177.3	178.9	181.2	181.9	182.7
Household services less rent	245.0	268.6	272.8	276.7	280.7	284.6	289.2	245.1	269.8	274.1	278.2	282.3	286.3	291.1
Transportation services	203.3	212.6	214.9	216.6	218.5	221.5	224.2	203.7	213.3	215.3	216.8	218.6	221.5	224.0
Medical care services	244.8	258.5	260.6	262.8	265.3	267.6	270.7	244.8	258.8	261.2	263.8	266.8	268.8	271.8
Other services	191.5	199.3	200.5	204.7	205.7	206.5	207.1	191.8	200.1	201.2	204.9	206.4	207.3	206.7
Special indexes:														
All items less food	198.6	214.2	216.9	219.6	221.8	224.1	226.4	198.4	214.6	217.3	219.8	222.0	224.2	226.4
All items less mortgage interest costs	198.7	213.0	214.7	216.7	218.3	219.8	221.7	198.7	213.7	215.3	217.2	218.7	220.1	222.0
Commodities less food	181.3	197.0	199.5	201.8	203.4	205.4	207.2	181.2	197.4	199.9	202.0	203.5	205.4	207.1
Nondurables less food	180.0	201.1	205.4	209.6	211.3	212.9	215.2	180.3	202.5	207.0	211.0	212.9	214.4	216.7
Nondurables less food and apparel	191.7	222.8	228.3	232.7	234.8	236.8	240.1	192.0	223.9	229.7	234.2	236.3	238.2	241.5
Nondurables	198.8	218.3	220.4	223.1	224.5	225.8	228.2	199.0	219.2	221.3	223.9	225.3	226.5	229.0
Services less rent	228.2	245.6	248.8	252.1	255.1	258.2	261.6	228.1	246.1	249.2	252.6	255.7	258.8	262.1
Services less medical care	215.0	230.6	233.6	236.7	239.6	242.3	245.3	214.9	231.0	233.9	236.9	239.9	242.6	245.5
Domestically produced farm foods	207.7	225.9	223.5	223.7	224.1	224.5	230.8	207.6	225.8	223.4	223.6	224.0	224.4	227.5
Selected beef cuts	216.6	267.8	253.0	255.3	257.3	256.5	263.2	217.8	270.1	255.5	258.0	259.1	259.2	265.2
Energy	228.3	287.1	296.3	304.3	307.5	307.8	313.7	228.5	289.2	298.8	307.0	310.2	310.7	317.0
All items less energy	201.3	213.8	215.4	217.3	219.2	221.4	223.6	201.2	213.9	215.3	217.0	218.8	221.0	223.0
All items less food and energy	196.0	207.3	209.4	211.5	213.6	216.1	218.1	195.8	207.2	209.0	211.0	213.0	215.4	217.3
Commodities less food and energy	177.0	185.6	186.8	188.2	189.6	191.4	192.6	176.8	185.4	186.4	187.5	188.7	190.4	191.4
Energy commodities	223.3	300.8	314.5	325.3	329.0	332.5	340.0	223.6	301.9	315.8	326.5	330.2	333.8	341.5
Services less energy	217.9	232.4	235.4	238.4	241.3	244.6	247.6	217.8	232.7	235.7	238.7	241.7	245.1	248.0
Purchasing power of the consumer dollar, 1967 = \$1	\$0.493	\$0.457	\$0.452	\$0.448	\$0.444	\$0.440	\$0.435	\$0.493	\$0.456	\$0.451	\$0.447	\$0.443	\$0.439	\$0.435

**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)							
	1978		1979				1978		1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>FOOD AND BEVERAGES</b>	214.1	230.7	230.2	231.0	232.1	233.1	235.5	214.0	230.9	230.4	231.2	232.3	233.1	235.7
<b>Food</b>	219.4	236.9	236.3	237.1	238.2	239.1	241.7	219.3	237.1	236.5	237.3	238.3	239.1	241.8
Food at home	217.9	235.5	233.9	234.7	235.4	236.0	238.7	217.6	235.0	233.5	234.2	234.8	235.4	238.3
Cereals and bakery products	207.9	220.1	223.7	225.6	227.0	228.7	231.6	208.8	221.1	224.1	226.6	227.9	229.7	232.3
Cereals and cereal products (12/77 = 100)	111.2	116.6	118.5	120.0	120.8	121.1	122.9	111.4	117.0	119.0	120.6	121.4	122.1	123.8
Flour and prepared flour mixes (12/77 = 100)	111.1	119.4	122.5	123.4	124.0	122.8	123.8	112.4	120.3	123.3	125.1	125.0	124.6	125.1
Cereal (12/77 = 100)	110.5	117.0	118.0	118.8	119.2	119.7	122.8	110.4	117.4	118.5	118.7	119.3	119.9	122.9
Rice, pasta, and cornmeal (12/77 = 100)	112.2	113.6	115.7	118.6	120.4	121.6	122.2	111.8	113.4	115.8	119.1	120.8	122.7	123.9
Bakery products (12/77 = 100)	109.6	116.4	118.3	119.2	119.9	121.0	122.4	110.2	117.0	118.5	119.7	120.3	121.3	122.7
White bread	183.0	194.2	198.4	200.7	202.5	204.5	207.4	183.4	194.3	198.0	200.5	202.3	203.9	206.6
Other breads (12/77 = 100)	110.4	116.2	118.6	119.6	120.5	121.3	123.3	112.1	118.5	120.8	122.5	123.8	124.2	126.0
Fresh biscuits, rolls, and muffins (12/77 = 100)	109.4	116.1	118.1	119.0	119.4	121.2	123.1	109.5	115.8	117.7	118.6	118.7	120.8	122.3
Fresh cakes and cupcakes (12/77 = 100)	107.9	114.8	116.6	116.7	117.6	119.4	120.3	108.7	115.9	116.3	116.8	118.1	119.1	120.1
Cookies (12/77 = 100)	108.5	114.8	115.6	115.9	116.6	117.1	117.8	109.5	117.2	117.2	117.8	118.3	118.4	119.6
Crackers and bread and cracker products (12/77 = 100)	107.4	112.7	114.7	114.8	115.0	114.5	116.2	107.8	112.9	114.9	114.9	115.0	116.1	116.3
Fresh sweetrolls, coffee cake, and donuts (12/77 = 100)	108.0	116.0	117.5	118.8	118.9	119.9	121.5	109.4	117.8	119.3	121.6	120.7	121.9	123.4
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	111.2	119.8	120.8	121.7	122.5	123.7	124.8	110.6	116.5	117.1	118.6	118.8	120.8	121.4
Meats, poultry, fish, and eggs	216.5	239.0	230.2	231.0	230.3	230.2	235.5	216.2	238.3	229.6	230.5	229.7	230.0	235.1
Meats, poultry, and fish	219.8	245.0	235.8	236.0	235.9	235.2	239.8	219.4	244.2	235.3	235.4	235.3	235.0	239.2
Meats	219.4	248.0	237.8	238.1	238.6	237.4	242.3	219.0	247.4	237.6	237.7	238.1	237.3	241.8
Beef and veal	215.4	266.4	251.9	254.2	256.2	255.5	262.2	216.5	268.4	254.1	256.4	257.5	257.7	263.7
Ground beef other than canned	217.1	274.5	260.3	261.4	263.4	264.2	271.2	217.8	274.7	261.9	263.5	265.8	266.0	273.0
Chuck roast	218.5	280.5	257.5	261.0	263.3	263.1	268.1	224.7	288.7	264.0	267.9	268.3	273.1	274.2
Round roast	196.7	239.1	222.2	229.2	230.3	229.1	238.1	197.1	242.7	225.9	231.0	233.0	232.7	240.5
Round steak	202.6	248.1	238.1	239.2	242.2	241.9	247.5	200.9	246.4	235.4	235.7	239.4	239.7	246.2
Sirloin steak	214.3	260.7	247.5	251.0	250.4	247.0	250.8	213.7	260.7	247.3	253.9	249.6	247.4	253.5
Other beef and veal (12/77 = 100)	125.3	151.8	145.0	145.6	147.1	146.3	150.2	125.7	152.8	146.0	146.6	147.0	146.6	149.9
Pork	223.4	215.1	207.4	206.5	204.3	201.0	205.0	222.6	214.9	207.6	206.1	204.7	201.5	205.6
Bacon	221.8	200.0	192.5	194.0	190.5	186.3	193.6	223.1	201.6	195.0	195.6	194.4	188.7	195.8
Pork chops	207.1	207.7	195.3	198.1	195.1	188.8	187.8	205.3	209.2	196.2	196.1	194.9	188.1	189.1
Ham other than canned (12/77 = 100)	111.9	97.2	96.4	95.2	94.8	95.9	102.5	111.1	96.1	94.9	94.3	94.0	95.4	100.9
Sausage	271.7	270.4	263.8	258.4	257.6	254.5	256.5	269.5	269.5	263.2	258.4	258.1	255.8	258.3
Canned ham	231.2	224.4	221.1	216.6	218.2	214.8	218.9	231.7	222.3	218.9	215.3	215.8	214.6	219.1
Other pork (12/77 = 100)	120.3	124.2	118.3	117.4	115.2	112.9	112.6	119.7	123.2	118.4	117.5	115.1	112.7	112.7
Other meats	219.8	245.1	243.5	240.2	240.7	242.0	243.0	217.3	241.0	239.9	236.6	238.0	238.5	239.5
Frankfurters	212.5	243.2	241.9	235.9	236.8	238.9	239.3	212.2	243.0	242.6	237.0	237.2	238.7	238.7
Bologna, liverwurst, and salami (12/77 = 100)	122.2	135.4	134.3	133.2	134.2	133.4	134.4	120.1	132.3	129.7	129.5	130.7	130.4	130.8
Other luncheats (12/77 = 100)	115.6	122.0	122.7	121.6	120.3	121.6	121.5	113.4	119.4	120.8	119.0	118.8	119.5	119.4
Lamb and organ meats (12/77 = 100)	118.4	141.0	137.6	135.6	137.7	138.3	140.0	118.4	141.1	137.9	136.9	138.8	139.8	141.7
Poultry	177.6	186.2	177.1	174.8	170.3	171.6	176.2	175.9	184.0	174.3	178.8	168.3	170.1	173.9
Fresh whole chicken	176.7	184.1	171.3	169.9	159.7	166.7	175.2	173.4	179.6	166.7	165.8	157.7	163.3	169.8
Fresh and frozen chicken parts (12/77 = 100)	112.5	119.4	112.1	111.8	110.1	110.8	112.3	112.7	119.1	111.1	110.9	108.4	110.7	111.8
Other poultry (12/77 = 100)	118.7	123.6	123.0	119.2	120.3	115.9	116.9	117.5	123.2	112.1	119.8	119.8	116.0	117.4
Fish and seafood	286.5	304.3	306.5	309.7	311.5	312.2	312.6	284.4	298.3	301.4	304.4	306.5	307.5	309.1
Canned fish and seafood (12/77 = 100)	107.9	111.4	112.7	113.9	115.2	116.8	117.1	106.9	110.2	111.5	113.5	114.5	116.0	116.5
Fresh and frozen fish and seafood (12/77 = 100)	109.8	118.6	119.2	120.4	120.7	120.1	120.2	109.2	115.7	116.9	117.5	118.1	117.8	118.5
Eggs	179.5	165.8	161.8	170.7	161.3	170.1	185.9	180.6	165.4	160.5	170.5	160.3	169.6	186.6
Dairy Products	196.4	206.3	208.6	211.3	213.3	216.0	216.9	196.7	206.7	208.9	212.0	214.0	216.3	217.4
Fresh milk and cream (12/77 = 100)	110.6	116.1	117.7	119.0	120.3	121.9	122.7	110.7	116.3	117.9	119.5	120.4	121.8	122.6
Fresh whole milk	181.2	190.0	192.8	195.4	197.6	200.4	201.2	181.4	190.3	193.0	195.6	197.4	199.7	200.9
Other fresh milk and cream (12/77 = 100)	110.4	116.3	117.4	118.1	119.2	120.6	122.0	110.3	116.5	117.7	119.3	119.8	121.1	122.2
Processed dairy products (12/77 = 100)	111.5	117.3	118.2	120.1	120.9	122.3	122.5	111.9	117.6	118.4	120.5	121.7	123.0	123.3
Butter	195.4	200.6	203.0	209.9	213.3	214.4	214.0	196.7	202.6	205.7	212.3	216.6	217.1	216.6
Cheese (12/77 = 100)	111.7	117.7	118.4	120.1	121.0	122.7	122.6	111.4	117.4	118.4	120.2	121.1	122.5	122.7
Ice cream and related products (12/77 = 100)	109.9	117.0	117.8	120.1	120.4	121.4	122.6	111.5	118.4	118.1	120.7	121.9	123.4	124.3
Other dairy products (12/77 = 100)	109.3	114.5	115.4	115.5	116.4	117.8	117.9	109.7	114.3	115.4	115.6	116.9	118.2	118.3
Fruits and vegetables	209.7	238.1	237.8	231.8	232.0	229.5	230.2	207.7	236.6	237.0	229.6	230.2	226.7	228.3
Fresh fruits and vegetables	203.2	249.4	247.5	234.7	235.5	230.1	230.1	201.2	248.1	247.9	232.9	233.6	226.7	228.5
Fresh fruits	202.5	278.2	286.9	271.6	260.4	242.7	234.9	199.4	278.2	288.9	271.2	260.6	238.3	233.3
Apples	200.7	250.2	275.2	244.7	212.7	207.2	221.8	197.3	248.4	275.9	243.1	212.9	207.7	220.2
Bananas	184.8	221.0	202.3	210.3	206.6	209.0	225.2	185.1	218.5	202.5	208.4	199.7	206.5	222.0
Oranges	233.5	313.5	316.2	312.3	306.7	293.9	256.7	224.5	306.1	298.6	291.8	290.3	283.3	249.5
Other fresh fruits (12/77 = 100)	100.8	151.3	157.5	147.1	143.9	127.5	121.1	99.8	154.2	163.5	152.3	149.7	125.7	121.6
Fresh vegetables	203.8	222.4	210.7	200.3	212.2	218.4	225.7	202.9	221.0	211.0	198.4	209.4	216.4	224.2
Potatoes	190.0	225.7	211.4	199.3	191.1	195.7	207.0	193.9	227.9	212.1	193.4	183.8	191.7	199.6
Lettuce	240.0	200.0	235.7	219.6	262.9	244.2	227.5	233.2	195.9	240.3	222.9	264.2	239.0	231.3
Tomatoes	189.9	185.8	187.0	178.5	194.4	225.3	227.9	188.9	185.6	179.2	194.1	229.4	224.8	
Other fresh vegetables (12/77 = 100)	109.8	132												

**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)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>FOOD AND BEVERAGES—Continued</b>														
<b>Food—Continued</b>														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77=100)	110.3	114.3	113.9	114.7	113.6	113.4	114.4	108.8	112.4	112.0	112.6	111.9	111.8	113.0
Other canned and dried vegetables (12/77=100)	105.2	108.8	109.7	110.1	109.9	110.0	110.9	103.6	107.5	108.1	108.7	108.5	108.1	109.1
Other foods at home	257.4	269.5	272.8	276.0	278.0	279.6	281.1	256.7	268.7	271.8	274.7	276.5	278.3	279.9
Sugar and sweets	264.9	279.4	281.0	282.0	283.1	283.2	284.6	264.4	278.3	279.9	281.2	282.2	281.9	284.1
Candy and chewing gum (12/77=100)	111.6	118.5	119.4	119.7	119.9	120.1	120.1	111.4	118.1	119.0	119.3	119.6	119.8	119.9
Sugar and artificial sweeteners (12/77=100)	110.6	115.4	115.6	115.9	119.0	116.2	117.2	111.1	115.4	115.5	116.4	116.9	116.2	117.6
Other sweets (12/77=100)	108.2	113.8	114.6	115.3	115.9	116.4	117.5	107.1	112.6	113.6	114.0	114.8	114.6	116.6
Fats and oils (12/77=100)	217.6	227.4	228.9	231.5	231.9	232.3	233.0	218.4	227.6	228.9	230.7	231.9	232.8	233.7
Margarine	233.2	240.2	240.3	245.5	244.4	246.2	247.7	233.3	239.7	239.8	242.8	244.9	246.7	247.8
Nondairy substitutes and peanut butter (12/77=100)	108.2	113.7	114.0	114.6	115.1	115.1	115.7	108.2	113.6	114.0	114.5	114.6	115.0	115.8
Other fats, oils, and salad dressings (12/77=100)	112.6	118.3	119.7	120.6	121.1	121.0	121.1	113.2	118.5	119.6	120.4	121.0	121.3	121.5
Nonalcoholic beverages	341.7	354.6	361.8	367.7	372.1	374.3	375.4	340.6	353.6	360.0	365.0	368.2	370.7	372.3
Cola drinks, excluding diet cola	225.4	238.3	239.2	242.7	246.4	247.5	247.2	223.9	236.5	236.9	240.1	242.0	243.6	243.4
Carbonated drinks, including diet cola (12/77=100)	110.0	115.6	116.2	117.9	118.5	118.4	118.7	107.6	113.0	114.2	115.7	116.1	115.6	116.4
Roasted coffee	368.6	376.5	411.7	425.9	432.4	438.1	440.7	366.7	375.1	406.1	418.2	424.4	430.8	435.3
Freeze dried and instant coffee	343.2	335.6	349.5	359.9	366.5	370.2	374.3	343.0	336.2	349.4	358.9	365.3	369.3	372.9
Other noncarbonated drinks (12/77=100)	109.3	113.1	114.2	114.0	114.8	115.7	116.3	108.9	112.2	113.0	112.7	113.5	114.8	115.5
Other prepared foods	197.8	209.1	210.5	212.6	213.4	215.3	217.4	197.6	208.8	210.4	212.4	213.4	215.7	217.2
Canned and packaged soup (12/77=100)	106.5	113.2	113.2	113.1	113.4	114.3	115.9	106.9	113.1	113.3	113.3	113.3	114.8	116.3
Frozen prepared foods (12/77=100)	111.4	121.4	120.7	123.1	123.1	124.5	125.6	110.4	119.5	118.7	121.1	122.0	122.9	123.9
Snacks (12/77=100)	107.1	114.0	115.7	118.4	119.6	120.4	121.3	107.7	114.8	116.4	119.0	120.6	121.7	122.2
Seasonings, olives, pickles, and relish (12/77=100)	111.3	115.0	115.9	117.4	118.8	118.9	120.1	111.2	114.2	115.4	116.3	117.6	118.2	119.0
Other condiments (12/77=100)	108.5	114.3	115.2	115.9	115.8	116.8	119.5	108.2	115.2	116.2	117.5	117.0	118.5	120.2
Miscellaneous prepared foods (12/77=100)	110.3	115.3	116.3	116.8	117.2	119.0	118.9	110.5	115.2	116.3	116.3	116.7	118.6	118.7
Other canned and packaged prepared foods (12/77=100)	111.0	115.8	116.8	116.7	116.7	117.7	118.6	110.2	115.3	116.7	116.7	116.9	118.0	118.6
Food away from home	227.4	244.9	246.5	247.6	249.6	251.3	253.4	227.6	246.5	248.3	249.3	251.3	252.7	255.1
Lunch (12/77=100)	110.9	119.6	120.3	120.7	121.3	122.3	123.3	110.9	120.4	121.3	121.7	122.2	123.2	124.0
Dinner (12/77=100)	110.1	118.9	119.8	120.3	121.6	122.4	123.4	110.3	119.7	120.5	120.9	122.4	123.0	124.2
Other meals and snacks (12/77=100)	109.8	117.3	117.8	118.6	119.5	120.2	121.4	109.7	118.2	119.1	119.9	120.5	120.9	122.5
<b>Alcoholic beverages</b>	164.8	172.7	173.3	174.2	176.0	177.4	178.0	165.1	173.3	173.6	174.9	176.9	178.0	178.7
Alcoholic beverages at home (12/77=100)	107.0	112.2	112.7	113.3	114.6	115.6	116.0	107.8	113.3	113.4	114.3	115.7	116.5	117.0
Beer and ale	159.6	170.3	170.6	172.3	175.1	176.9	177.8	160.5	170.5	170.3	171.8	175.2	176.9	177.6
Whiskey	124.1	127.4	128.4	129.0	129.4	130.7	130.8	124.5	129.2	129.9	130.4	131.0	131.9	132.0
Wine	183.9	194.1	196.0	195.2	198.0	198.1	199.1	189.2	197.8	199.4	202.7	202.5	201.5	204.0
Other alcoholic beverages (12/77=100)	103.9	105.2	105.4	105.5	105.9	107.0	106.9	103.1	105.0	105.1	105.3	105.9	106.2	106.4
Alcoholic beverages away from home (12/77=100)	109.7	114.5	114.6	115.1	115.9	116.4	116.8	107.4	112.3	112.8	113.4	114.2	114.9	115.2
<b>HOUSING</b>	211.5	228.4	231.5	234.6	237.7	240.8	243.6	211.2	228.4	231.5	234.5	237.7	240.7	243.6
<b>Shelter</b>	221.0	240.1	243.9	247.4	251.5	255.9	259.4	221.0	240.7	244.5	248.2	252.4	256.9	260.4
Rent, residential	169.5	175.9	177.5	179.0	181.4	182.1	182.9	169.4	175.8	177.3	178.9	181.2	181.9	182.7
Other rental costs	216.6	236.0	238.2	239.3	241.6	243.1	244.9	216.4	235.2	237.6	238.6	241.3	242.6	244.4
Lodging while out of town	223.3	248.8	251.2	251.8	254.2	256.2	258.4	222.7	246.7	249.5	249.9	253.0	254.6	256.9
Tenants' insurance (12/77=100)	104.5	110.9	112.0	113.7	114.1	114.6	115.1	104.5	111.5	112.6	114.1	114.7	115.0	115.5
Homeownership	239.5	263.0	267.6	271.9	276.7	282.4	286.9	239.7	264.2	268.9	273.3	278.3	284.1	288.7
Home purchase	207.1	224.0	226.9	228.8	233.4	237.3	239.9	206.8	224.0	227.0	230.0	233.6	237.7	240.2
Financing, taxes, and insurance	273.1	308.6	316.4	323.0	330.5	340.1	348.3	274.3	310.6	318.7	325.6	333.5	343.5	351.6
Property insurance	290.3	312.6	314.6	316.7	319.9	320.8	323.1	289.8	312.1	314.2	318.5	321.9	322.6	324.5
Property taxes	179.3	181.8	183.1	184.7	185.1	185.1	186.0	180.7	183.3	184.6	186.1	186.5	186.6	187.4
Contracted mortgage interest cost	323.1	375.6	387.2	396.7	408.1	423.1	435.3	322.9	375.8	387.4	397.1	408.8	424.2	436.1
Mortgage interest rates	153.6	164.9	167.7	169.7	172.0	175.4	178.3	153.6	164.9	167.8	169.7	172.0	175.6	178.4
Maintenance and repairs	243.3	257.9	259.7	262.5	264.7	266.4	268.3	242.0	259.1	260.8	263.4	265.3	266.5	268.9
Maintenance and repair services	262.6	280.0	281.8	284.4	287.0	288.8	290.4	261.5	282.8	284.2	287.2	289.4	290.3	292.8
Maintenance and repair commodities	198.4	206.1	208.1	211.5	212.5	214.0	216.6	198.0	206.5	209.0	210.8	211.9	213.6	215.8
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	108.6	112.5	114.3	117.0	117.4	118.8	121.6	108.6	112.8	115.0	116.1	116.6	118.1	120.3
Lumber, awnings, glass, and masonry (12/77=100)	109.2	113.7	113.7	115.2	116.0	115.5	115.4	109.8	114.4	114.8	115.7	116.2	117.2	118.1
Plumbing, electrical, heating, and cooling supplies (12/77=100)	104.9	110.1	110.8	111.9	112.8	113.4	114.7	105.2	110.2	111.5	112.6	113.8	114.0	114.5
Miscellaneous supplies and equipment (12/77=100)	106.8	110.3	111.1	112.9	113.3	113.8	114.3	104.8	109.5	110.3	111.2	111.9	112.2	112.3
<b>Fuel and other utilities</b>	219.9	243.5	247.2	251.2	252.9	252.0	255.1	220.1	244.1	247.7	251.7	253.4	252.4	255.7
<b>Fuels</b>	252.7	293.8	299.7	306.6	310.3	307.0	311.8	252.9	293.9	299.8	306.6	310.1	306.9	311.8
Fuel oil, coal, and bottled gas	311.8	412.9	438.6	461.6	470.8	477.4	488.0	312.0	413.5	439.0	462.5	471.7	478.2	489.0
Fuel oil	313.5	429.5	458.2	482.5	491.2	497.2	507.3	313.6	430.0	458.5	483.3	491.9	497.7	508.1
Other fuels (6/78=100)	99.3	106.2	109.3	114.4	118.5	121.7	126.0	99.5	106.5	109.4	114.6	118.8	122.2	126.6
Gas (piped) and electricity	236.2	264.5	266.5	270.1	272.5	267.3	270.8	236.3	264.6	266.5	269.9	272.2	267.1	270.7
Electricity	202.0	227.4	229.2	230.6	228.7	221.5	224.7	202.5	228.0	229.7	231.1	228.8	221.5	224.9
Utility (piped) gas	277.0	307.7	309.7	317.5	329.1	328.9	332.6	276.1	306.5	308.5	315.8	327.4	327.8	331.1



**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)							
	1978	1979					1978	1979						
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>HOUSING—Continued</b>														
<b>Fuel and other utilities—Continued</b>														
Other utilities and public services	160.1	159.4	159.8	159.8	159.8	161.0	161.9	160.1	159.4	159.8	159.8	158.9	160.9	161.8
Telephone services	133.3	132.1	132.5	132.4	131.2	133.3	134.3	133.4	132.2	132.5	132.4	131.3	133.3	134.2
Local charges (12/77 = 100)	101.5	100.1	100.5	100.4	98.7	101.8	103.2	101.6	100.2	100.6	100.5	98.8	101.8	103.2
Interstate toll calls (12/77 = 100)	99.2	98.4	98.5	98.4	98.4	98.4	99.3	98.5	98.5	98.4	98.4	98.4	98.4	98.4
Intrastate toll calls (12/77 = 100)	101.3	101.3	101.5	101.4	101.7	101.5	101.5	101.2	101.2	101.4	101.3	101.5	101.3	101.3
Water and sewerage maintenance	241.1	244.0	244.6	245.3	245.6	247.1	247.2	240.8	244.0	244.6	245.5	245.8	247.2	247.3
<b>Household furnishings and operations</b>	184.0	190.4	191.2	192.2	193.3	195.1	195.8	183.0	189.0	189.8	190.6	191.7	193.2	193.9
Housefurnishings	158.6	162.9	163.2	164.1	165.2	166.6	166.9	158.1	162.5	163.0	163.5	164.4	165.5	165.9
Textile housefurnishings	168.4	173.6	172.8	175.3	177.8	178.9	178.6	170.1	171.6	173.0	174.9	177.2	178.4	177.3
Household linens (12/77 = 100)	103.8	104.3	103.6	106.7	107.7	108.8	108.3	104.6	103.1	103.7	106.3	107.4	108.3	107.2
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	106.2	112.4	112.0	112.0	114.2	114.4	114.6	107.7	111.4	112.7	112.2	114.1	114.5	114.4
Furniture and bedding	172.0	176.8	177.1	178.3	180.0	182.2	182.8	171.1	177.2	177.3	178.5	180.3	182.1	182.7
Bedroom furniture (12/77 = 100)	108.8	113.2	114.0	114.8	116.4	117.7	118.3	107.7	112.1	112.7	113.0	114.8	115.9	116.0
Sofas (12/77 = 100)	103.5	106.2	106.3	107.1	107.3	107.9	108.2	104.5	108.7	108.2	108.6	109.6	111.7	111.6
Living room chairs and tables (12/77 = 100)	103.4	104.5	104.9	105.1	106.2	107.7	108.1	103.3	106.2	106.1	106.7	107.5	108.6	109.2
Other furniture (12/77 = 100)	110.2	113.3	112.7	113.9	115.0	116.8	117.1	108.8	112.5	112.5	114.2	114.7	115.3	115.9
Appliances including TV and sound equipment	133.1	135.4	135.8	136.2	136.9	137.5	137.5	132.3	135.0	135.5	135.7	135.7	136.2	136.9
Television and sound equipment (12/77 = 100)	103.2	103.9	104.3	104.7	104.9	105.0	105.3	102.4	103.3	104.0	104.4	104.1	104.4	104.8
Television	102.7	102.6	102.8	102.9	103.4	103.6	103.6	101.6	101.6	101.9	101.9	102.0	102.4	102.2
Sound equipment (12/77 = 100)	104.8	106.1	106.8	107.5	107.4	107.4	107.8	104.1	105.8	106.7	107.4	106.9	107.1	108.0
Household appliances	151.1	155.1	155.5	155.8	156.9	158.2	157.9	150.3	154.9	155.1	155.2	155.6	156.2	157.1
Refrigerators and home freezer	149.9	152.9	154.6	154.1	155.3	156.0	156.7	152.3	157.3	157.9	156.5	157.9	158.1	159.0
Laundry equipment (12/77 = 100)	106.3	110.7	110.7	110.9	112.1	113.1	113.6	105.6	110.1	110.2	111.2	111.3	112.2	112.8
Other household appliances (12/77 = 100)	106.3	108.7	108.6	109.1	109.8	110.8	109.9	104.6	107.1	107.1	107.2	107.2	107.6	108.2
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	108.1	109.0	108.5	108.6	109.0	109.7	108.6	105.3	107.6	107.7	107.7	106.9	107.1	108.1
Office machines, small electric appliances, and air conditioners (12/77 = 100)	104.1	108.5	108.8	109.7	110.7	112.1	111.4	103.7	106.5	106.4	106.8	107.6	108.2	108.3
Other household equipment (12/77 = 100)	106.1	110.3	110.7	110.9	111.2	112.4	113.0	105.9	110.4	110.6	110.3	110.8	111.6	111.8
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	105.7	109.1	109.5	111.1	109.8	111.1	111.7	101.3	104.6	105.9	105.8	105.5	107.7	107.4
Clocks, lamps, and decor items (12/77 = 100)	103.0	107.5	107.1	108.0	108.6	110.0	110.1	104.4	107.2	106.7	107.0	107.1	108.2	107.3
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	108.5	114.4	115.1	114.7	115.4	116.8	117.2	108.4	114.1	113.9	114.5	114.7	115.2	115.2
Lawn equipment, power tools, and other hardware (12/77 = 100)	105.2	107.6	108.5	107.6	108.5	109.0	110.3	106.4	111.0	111.5	109.5	111.0	111.1	112.5
Housekeeping supplies	213.8	222.3	223.4	224.1	224.8	228.3	229.2	214.1	220.7	221.6	222.6	223.9	226.7	227.2
Soaps and detergents	208.1	210.9	212.5	215.1	217.9	220.6	221.2	206.8	210.5	210.9	214.5	216.3	218.2	219.7
Other laundry and cleaning products (12/77 = 100)	107.6	111.3	112.0	112.3	113.7	114.1	114.7	107.5	111.3	111.9	112.4	113.5	113.7	114.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	111.2	116.5	116.2	116.4	117.2	119.2	120.5	111.5	116.9	116.3	117.1	117.9	119.6	120.9
Stationery, stationery supplies, and gift wrap (12/77 = 100)	104.4	108.9	109.5	109.9	109.5	111.3	111.9	104.2	107.5	108.5	108.3	108.6	109.2	109.3
Miscellaneous household products (12/77 = 100)	108.7	112.3	112.9	113.3	114.3	115.6	116.9	107.2	110.5	111.3	111.6	112.7	114.1	114.7
Lawn and garden supplies (12/77 = 100)	104.6	113.0	113.8	112.7	110.0	113.8	112.5	107.6	110.4	111.3	109.9	108.8	113.2	109.9
Housekeeping services	238.1	249.7	251.6	253.4	254.6	256.6	258.1	237.4	248.6	250.4	252.1	253.9	255.9	257.5
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.2	257.2	257.2	257.2	257.2	257.2
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	108.8	116.3	117.3	118.1	118.8	120.4	121.2	109.5	116.5	117.7	118.6	119.7	121.2	122.3
Appliance and furniture repair (12/77 = 100)	105.8	109.5	110.7	111.7	112.3	112.9	113.4	105.4	109.4	110.3	111.1	112.1	112.9	113.4
<b>APPAREL AND UPKEEP</b>	163.2	164.3	166.3	169.8	171.0	171.7	172.2	163.3	164.5	166.2	169.3	170.8	171.3	171.4
<b>Apparel commodities</b>	158.9	158.6	160.6	164.2	165.2	165.9	166.1	159.1	159.1	160.7	163.9	165.3	165.7	165.7
Apparel commodities less footwear	157.0	155.6	157.7	161.5	162.3	162.9	163.0	157.4	156.0	157.9	161.2	162.4	162.7	162.6
Men's and boys'	160.2	159.2	159.6	162.7	164.2	165.4	165.4	160.3	160.6	161.1	163.2	164.4	165.3	165.0
Men's (12/77 = 100)	101.6	100.0	100.6	102.7	103.5	104.3	104.3	101.9	101.3	101.9	103.2	103.8	104.5	104.2
Suits, sport coats, and jackets (12/77 = 100)	99.9	96.8	97.1	100.0	101.6	101.2	100.9	98.2	95.8	96.2	98.3	99.1	98.7	96.8
Coats and jackets (12/77 = 100)	99.3	94.4	95.5	96.5	97.8	98.1	98.0	100.8	97.6	99.2	99.1	99.5	99.7	99.1
Furnishings and special clothing (12/77 = 100)	105.1	108.4	109.3	110.6	109.9	112.4	112.3	104.4	106.6	107.0	108.6	109.1	110.0	109.9
Shirts (12/77 = 100)	103.5	100.9	103.2	107.2	108.5	109.7	110.5	104.7	104.1	104.9	107.1	108.3	109.4	111.5
Dungarees, jeans, and trousers (12/77 = 100)	100.3	99.0	98.1	99.0	99.5	100.5	100.4	101.6	101.5	101.9	102.5	102.8	104.0	103.4
Boys' (12/77 = 100)	101.2	104.2	103.3	104.8	106.3	106.6	106.6	100.6	103.5	102.7	103.9	105.3	105.6	105.8
Coats, jackets, sweaters, and shirts (12/77 = 100)	96.6	101.7	101.1	102.7	103.9	103.2	102.4	96.1	101.3	100.3	102.0	103.8	103.4	103.1
Furnishings (12/77 = 100)	106.2	108.0	107.9	109.4	110.8	111.5	111.9	105.8	107.1	107.0	108.8	110.1	109.7	110.2
Suits, trousers, sport coats, and jackets (12/77 = 100)	102.8	104.8	103.1	104.5	106.5	107.4	107.8	102.0	103.9	102.9	103.5	104.7	105.8	106.2
Women's and girls'	151.7	147.8	151.3	155.9	155.5	155.1	154.6	151.9	147.5	150.5	154.4	154.8	154.5	153.5
Women's (12/77 = 100)	101.0	98.4	100.7	103.9	103.4	103.0	102.8	101.3	98.7	100.4	103.0	103.3	103.0	102.3
Coats and jackets	166.0	162.1	170.4	174.1	173.9	173.3	170.0	170.4	166.8	173.1	175.7	174.1	172.4	167.9
Dresses	162.4	157.2	162.8	171.1	167.2	164.3	165.3	161.9	152.8	152.8	158.5	159.1	156.8	155.7
Separates and sportswear (12/77 = 100)	99.8	95.0	96.3	99.8	99.6	99.2	98.6	98.5	98.7	97.7	100.4	100.4	100.7	99.5
Underwear, nightwear, and hosiery (12/77 = 100)	103.4	105.6	106.2	106.2	106.6	108.1	108.2	103.9	106.1	107.0	107.4	107.9	108.9	109.3
Suits (12/77 = 100)	94.6	87.3	89.8	96.7	97.1	95.2	95.8	95.9	87.9	91.0	98.1	99.9	97.5	97.7
Girls' (12/77 = 100)	100.4	98.1	100.5	102.4	103.6	103.9	102.8	99.7	95.5	98.8	101.1	101.5	101.7	101.4
Coats, jackets, dresses, and suits (12/77 = 100)	98.4	98.7	100.8	102.8	102.8	102.2	100.3	97.8	94.6	95.9	98.5	97.9	97.5	97.7
Separates and sportswear (12/77 = 100)	100.9	93.9	98.3	100.3	102.5	103.6	102.6	99.9	92.5	99.7	102.1	103.5	104.3	102.9
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	102.8	104.6	104.1	105.7	106.7	107.2	107.3	102.4	102.0	101.8	103.5	103.9	104.2	104.4

**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)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>APPAREL AND UPKEEP — Continued</b>														
<b>Apparel commodities — Continued</b>														
Apparel commodities less footwear — Continued														
Infants' and toddlers' .....	219.2	219.0	221.2	223.4	224.8	226.3	227.1	215.5	221.9	224.2	226.0	228.7	228.7	230.5
Other apparel commodities .....	162.0	167.9	169.8	172.6	175.5	177.8	180.9	164.7	168.4	170.2	174.9	178.7	179.8	182.9
Sewing materials and notions (12/77 = 100) .....	99.1	101.3	102.3	102.3	102.2	100.8	102.4	99.4	95.6	96.8	100.4	100.8	99.7	100.8
Jewelry and luggage (12/77 = 100) .....	107.2	111.7	113.0	115.6	118.3	121.0	123.1	109.8	114.9	116.1	118.9	122.3	123.8	126.2
Footwear .....	169.6	176.6	177.5	180.1	182.6	183.8	184.3	168.8	176.6	176.9	179.4	181.9	183.2	183.8
Men's (12/77 = 100) .....	107.2	113.4	114.5	115.0	116.7	117.7	117.3	106.9	114.5	115.2	116.3	118.0	119.1	119.4
Boys' and girls' (12/77 = 100) .....	105.5	111.0	112.0	111.6	113.0	114.0	115.8	105.7	111.2	111.4	111.6	113.0	114.5	114.7
Womens' (12/77 = 100) .....	105.9	108.3	108.1	112.0	113.5	113.9	113.8	104.7	106.9	106.5	109.6	111.1	111.2	111.8
<b>Apparel services</b> .....	192.5	205.7	207.7	210.2	212.5	214.2	216.6	191.9	204.9	206.7	208.7	210.8	212.0	213.4
Laundry and drycleaning other than coin operated (12/77 = 100) .....	111.2	120.6	122.1	123.6	125.2	126.3	127.1	111.3	120.3	121.8	123.2	124.7	125.7	126.6
Other apparel services (12/77 = 100) .....	107.1	111.2	111.9	113.0	114.0	114.7	117.0	106.2	111.2	111.5	112.3	112.9	113.3	113.7
<b>TRANSPORTATION</b> .....	192.6	216.6	219.6	221.4	222.7	224.9	227.7	193.1	217.8	220.7	222.4	223.4	225.7	228.3
<b>Private</b> .....	192.5	217.4	220.4	222.0	223.1	225.0	227.5	192.8	218.3	221.2	222.7	223.7	225.7	228.2
New cars .....	159.8	166.7	166.6	166.1	167.5	170.6	171.7	159.4	166.6	166.3	165.9	167.4	170.9	171.7
Used cars .....	194.0	209.2	207.0	202.9	199.9	198.4	198.2	194.0	209.2	207.0	202.9	199.9	198.4	198.3
Gasoline .....	206.2	280.0	292.0	301.0	303.8	306.9	313.9	206.5	281.0	293.3	302.3	305.2	308.3	315.6
Automobile maintenance and repair .....	229.3	244.0	245.7	247.1	249.1	250.8	252.6	229.5	244.2	246.0	247.5	249.4	251.1	253.4
Body work (12/77 = 100) .....	109.5	117.4	118.6	119.4	120.6	121.6	123.3	110.0	117.6	118.6	119.2	120.4	121.7	121.6
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100) .....	110.1	116.7	117.4	118.1	119.4	120.1	120.6	110.7	117.5	118.2	119.0	120.2	120.8	121.8
Maintenance and servicing (12/77 = 100) .....	108.9	115.9	116.3	116.9	117.5	118.4	119.2	108.2	115.3	116.0	116.8	117.3	118.2	119.3
Power plant repair (12/77 = 100) .....	108.1	114.8	116.0	116.7	117.8	118.5	119.2	108.5	115.2	116.3	117.0	118.0	118.6	119.6
Other private transportation .....	190.6	198.5	200.5	201.7	203.7	205.5	207.5	191.0	199.1	201.0	202.3	204.0	206.3	208.4
Other private transportation commodities .....	164.2	173.3	175.1	177.7	182.0	183.4	185.6	166.4	174.4	176.1	178.7	181.6	183.9	186.4
Motor oil, coolant, and other products (12/77 = 100) .....	105.2	110.5	112.2	114.4	115.9	117.4	118.1	104.6	109.9	112.0	114.5	115.9	118.1	119.3
Automobile parts and equipment (12/77 = 100) .....	106.2	112.3	113.4	114.9	117.9	118.7	120.3	108.0	113.2	114.1	115.7	117.6	119.0	120.6
Tires .....	146.0	153.7	154.7	156.4	160.7	161.5	163.8	149.1	155.7	156.1	158.1	161.1	163.0	165.7
Other parts and equipment (12/77 = 100) .....	107.6	114.8	116.7	119.1	121.8	123.0	124.4	108.3	114.3	116.8	118.6	120.0	121.5	122.4
Other private transportation services .....	199.4	207.1	209.1	210.1	211.4	213.4	215.3	199.4	207.6	209.6	210.6	211.9	214.3	216.3
Automobile insurance .....	222.2	229.1	232.3	233.5	233.8	233.9	235.3	222.2	229.0	232.3	233.5	233.7	233.9	235.2
Automobile finance charges (12/77 = 100) .....	109.4	116.8	117.2	117.7	120.4	124.6	127.2	108.5	116.4	116.4	117.0	119.4	124.1	126.5
Automobile rental, registration, and other fees (12/77 = 100) .....	104.2	106.9	107.5	107.8	107.9	108.3	108.5	104.4	107.3	108.1	108.4	108.6	108.9	109.2
State registration .....	143.8	144.0	144.0	144.0	144.0	144.1	144.1	143.6	143.9	143.9	143.9	143.9	144.0	144.0
Drivers' license (12/77 = 100) .....	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.3	104.3	104.3	104.3	104.2	104.2	104.2
Vehicle inspection (12/77 = 100) .....	110.2	114.6	114.6	114.6	114.6	115.6	117.5	111.4	115.5	115.5	115.5	115.5	116.5	118.3
Other vehicle related fees (12/77 = 100) .....	107.8	114.0	115.5	116.1	116.4	117.1	117.6	109.5	116.9	119.3	120.3	120.8	121.3	122.2
<b>Public</b> .....	189.1	197.1	200.8	205.2	209.1	216.5	223.0	190.0	197.6	200.6	204.1	207.3	214.0	219.1
Airline fare .....	188.8	198.5	205.2	214.1	220.6	232.1	245.5	188.3	198.4	205.2	214.2	220.7	232.4	245.8
Intercity bus fare .....	243.3	258.8	263.2	268.0	276.0	279.8	282.2	243.6	258.5	263.0	268.0	275.5	279.9	282.3
Intra-city mass transit .....	185.7	189.8	190.5	190.5	191.3	195.6	196.4	185.5	189.7	190.2	190.2	191.0	195.1	195.7
Taxi fare .....	207.6	220.6	224.7	228.5	233.6	237.0	238.5	211.8	226.5	230.3	233.9	238.7	242.4	243.9
Intercity train fare .....	192.8	216.1	220.6	221.0	221.1	231.0	236.3	192.8	217.1	220.8	221.3	221.4	232.1	236.6
<b>MEDICAL CARE</b> .....	227.8	239.9	241.8	243.7	245.9	248.0	250.7	228.0	240.5	242.6	244.7	247.2	249.1	251.7
<b>Medical care commodities</b> .....	148.0	154.1	155.0	155.8	156.6	157.8	159.2	148.7	155.3	156.2	156.7	157.4	158.5	159.9
Prescription drugs .....	136.2	141.9	142.8	143.5	144.5	145.5	146.4	136.9	143.0	143.7	144.4	145.2	146.2	147.4
Anti-infective drugs (12/77 = 100) .....	107.1	112.0	112.5	113.1	113.5	113.9	114.6	108.6	113.0	113.2	114.1	114.8	115.5	116.8
Tranquillizers and sedatives (12/77 = 100) .....	110.6	114.0	114.6	114.9	115.8	117.1	118.4	110.0	114.4	114.8	115.0	115.6	116.9	118.1
Circulators and diuretics (12/77 = 100) .....	105.0	108.6	109.3	109.3	109.7	111.0	111.4	105.9	109.1	109.7	110.0	110.6	111.6	112.3
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100) .....	112.3	118.9	120.3	120.9	122.5	123.2	123.8	112.7	119.3	120.4	120.8	122.2	122.6	123.1
Pain and symptom control drugs (12/77 = 100) .....	108.3	113.1	113.7	114.8	115.6	116.8	117.8	108.7	114.7	115.2	116.0	116.3	117.5	118.2
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100) .....	106.1	109.5	110.3	110.9	111.3	111.9	112.1	106.8	111.0	111.7	112.2	112.6	112.8	113.7
Nonprescription drugs and medical supplies (12/77 = 100) .....	106.5	110.8	111.4	112.0	112.5	113.4	114.6	107.1	111.9	112.5	112.8	113.2	114.0	115.1
Eyeglasses (12/77 = 100) .....	104.0	108.2	108.7	109.2	110.2	110.9	110.9	104.4	108.5	108.9	109.3	110.0	110.4	110.5
Internal and respiratory over-the-counter drugs .....	164.1	171.3	172.2	173.0	173.7	175.4	177.9	165.1	173.2	174.3	174.7	175.2	176.6	178.5
Nonprescription medical equipment and supplies (12/77 = 100) .....	106.0	109.7	110.4	110.8	111.0	111.8	113.1	106.6	110.7	111.3	111.2	111.8	112.7	114.2
<b>Medical care services</b> .....	244.8	258.5	260.6	262.8	265.3	267.6	270.7	244.8	258.8	261.2	263.8	266.8	268.8	271.8
Professional services .....	215.9	227.6	228.9	230.3	231.6	233.0	235.9	216.8	229.3	231.1	233.1	234.9	235.9	238.3
Physicians' services .....	230.9	224.7	246.6	248.4	249.7	250.8	252.5	230.9	246.8	248.7	251.5	254.4	255.5	256.5
Dental services .....	204.7	215.2	216.0	217.2	218.5	220.7	224.5	207.4	217.1	219.0	220.7	221.2	222.7	226.1
Other professional services (12/77 = 100) .....	107.2	111.5	111.9	112.4	112.7	112.8	115.1	106.5	111.0	111.5	111.7	112.1	112.2	114.8
Other medical care services .....	279.8	295.8	299.0	302.0	306.2	309.5	312.8	279.0	294.9	298.1	301.3	305.9	309.3	313.0
Hospital and other medical services (12/77 = 100) .....	111.3	117.3	118.6	119.6	121.3	122.6	123.8	111.1	116.6	117.8	118.9	120.5	121.8	123.2
Hospital room .....	350.5	369.7	374.2	376.4	380.2	385.1	389.4	350.1	367.5	371.7	374.1	379.4	383.6	388.7
Other hospital and medical care services .....	110.4	116.4	117.4	118.8	120.8	122.0	122.9	110.1	115.6	116.7	118.0	119.5	120.8	122.1

**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)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>ENTERTAINMENT</b>	180.9	189.1	190.2	191.1	192.0	192.8	193.4	181.0	188.6	188.9	190.2	191.4	192.0	191.5
<b>Entertainment commodities</b>	181.3	189.7	191.0	192.0	193.1	194.0	195.2	180.9	188.2	188.4	189.9	190.7	191.3	192.4
Reading materials (12/77 = 100)	106.4	110.0	111.1	111.9	113.8	114.5	115.1	106.1	109.5	110.7	111.4	113.3	114.2	114.8
Newspapers	204.5	212.6	214.0	214.5	217.7	222.4	223.5	203.9	212.2	213.7	214.2	217.4	222.2	223.3
Magazines, periodicals, and books (12/77 = 100)	109.2	112.0	113.7	115.0	117.2	116.0	116.8	109.4	111.7	113.5	114.8	117.2	115.8	116.6
Sporting goods and equipment (12/77 = 100)	103.8	110.0	110.4	111.3	111.2	111.7	112.2	102.7	107.0	105.4	107.5	106.7	106.9	107.7
Sport vehicles (12/77 = 100)	103.5	110.8	111.3	112.3	111.5	112.2	112.9	102.8	106.9	103.9	106.7	104.6	104.8	105.8
Indoor and warm weather sport equipment (12/77 = 100)	104.9	106.7	105.9	106.1	107.5	107.8	107.5	101.6	104.7	104.7	104.7	106.0	106.1	106.3
Bicycles	153.1	162.2	163.8	165.6	167.1	167.1	167.1	151.9	161.8	162.9	164.7	166.9	167.4	167.0
Other sporting goods and equipment (12/77 = 100)	103.3	107.8	108.6	109.3	110.0	110.3	111.0	102.2	106.5	107.2	108.5	109.8	110.2	111.3
Toys, hobbies and other entertainment (12/77 = 100)	104.6	109.4	110.2	110.4	110.8	111.2	112.1	105.1	109.6	110.2	110.4	111.0	111.2	111.8
Toys, hobbies and music equipment (12/77 = 100)	105.0	109.3	110.0	110.4	110.7	110.5	111.2	105.0	109.1	109.8	109.6	110.1	109.8	109.9
Photographic supplies and equipment (12/77 = 100)	104.6	108.4	108.2	108.9	109.4	109.9	109.7	104.3	107.7	107.6	108.8	109.3	109.6	110.1
Pet supplies and expense (12/77 = 100)	104.0	110.3	111.8	111.6	112.1	113.5	115.5	105.7	111.6	112.6	112.9	113.9	114.6	116.1
<b>Entertainment services</b>	180.7	188.6	189.4	190.2	190.8	191.5	191.1	182.1	190.1	190.7	191.8	193.5	194.3	190.9
Fees for participant sports (12/77 = 100)	106.4	111.9	112.3	113.0	113.2	113.8	113.8	107.4	112.1	112.3	113.4	114.9	115.2	112.8
Admissions (12/77 = 100)	108.5	114.3	114.7	115.2	115.7	116.1	116.6	109.5	115.3	115.9	116.3	116.8	117.3	117.8
Other entertainment services (12/77 = 100)	107.2	109.1	109.7	109.4	110.0	110.0	108.6	106.5	110.5	110.9	110.9	111.4	112.0	109.0
<b>OTHER GOODS AND SERVICES</b>	189.1	195.2	197.0	201.7	202.3	202.9	204.0	188.4	195.1	197.2	200.6	201.4	202.0	203.0
<b>Tobacco products</b>	180.9	186.8	189.9	190.9	191.3	191.5	192.1	180.6	186.9	190.1	190.9	191.2	191.4	192.1
Cigarettes	183.5	189.2	192.6	193.6	193.8	194.0	194.7	183.4	189.4	193.1	193.7	193.9	194.1	194.8
Other tobacco products and smoking accessories (12/77 = 100)	105.9	110.8	111.1	112.2	113.0	112.8	113.2	104.8	110.3	110.0	111.0	112.3	112.4	112.7
<b>Personal care</b>	187.3	196.4	197.5	199.0	199.8	200.9	203.0	186.8	196.0	197.6	198.4	199.4	200.5	202.3
Toilet goods and personal care appliances	180.9	188.6	189.7	191.4	192.5	193.1	195.8	180.7	188.1	190.2	191.0	191.6	192.4	194.5
Products for the hair, hairpieces and wigs (12/77 = 100)	105.2	109.4	111.1	111.6	111.9	112.2	113.0	103.8	108.5	110.5	110.6	111.1	111.4	112.4
Dental and shaving products (12/77 = 100)	106.6	113.2	113.6	114.3	114.1	115.6	117.3	106.4	111.0	112.1	112.5	112.7	113.9	114.7
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	103.7	109.5	108.9	110.4	110.7	111.4	113.0	103.5	109.0	110.0	110.6	110.1	110.2	112.1
Other toilet goods and small personal care appliances (12/77 = 100)	105.1	106.2	107.6	108.6	110.9	109.9	112.1	106.9	108.8	109.7	110.3	111.7	112.3	113.1
Personal care services	193.7	203.9	205.0	206.4	207.0	208.5	210.0	193.0	204.0	205.0	205.8	207.3	208.6	210.2
Beauty parlor services for women	195.3	205.2	206.1	207.7	208.3	210.3	212.1	195.8	205.9	206.7	207.4	209.1	210.2	212.0
Haircuts and other barber shop services for men (12/77 = 100)	108.0	114.1	115.1	115.5	115.9	116.1	116.8	106.3	113.6	114.2	114.7	115.4	116.3	117.1
<b>Personal and educational expenses</b>	206.7	209.3	210.8	223.3	224.0	224.2	224.6	206.9	209.8	211.2	223.5	224.2	224.4	224.8
School books and supplies	187.7	191.6	192.6	201.5	202.3	202.3	202.5	189.6	194.2	195.2	205.0	205.8	205.9	206.0
Personal and educational services	211.4	213.8	215.4	228.6	229.4	229.6	229.9	211.4	214.0	215.5	228.4	229.0	229.3	229.7
Tuition and other school fees	108.4	108.9	109.4	117.7	118.1	118.1	118.1	108.3	108.8	109.4	117.9	118.2	118.2	118.2
College tuition (12/77 = 100)	108.6	109.2	109.7	116.9	117.3	117.3	117.3	108.6	109.2	109.7	116.8	117.3	117.3	117.3
Elementary and high school tuition (12/77 = 100)	107.5	107.5	108.3	120.9	120.9	120.9	120.9	107.4	107.4	108.4	120.7	120.7	120.7	120.7
Personal expenses (12/77 = 100)	108.5	113.0	114.8	115.1	115.8	116.3	117.3	108.7	113.0	114.4	114.4	114.9	115.5	116.3
<b>Special Indexes:</b>														
Gasoline, motor oil, coolant and other products	204.6	276.6	288.2	297.1	299.8	302.9	309.7	204.8	277.5	289.5	298.3	301.2	304.3	311.4
Insurance and finance	246.6	272.8	278.7	283.5	288.9	296.0	302.1	246.4	272.5	278.3	283.1	288.5	295.8	301.6
Utilities and public transportation	201.7	215.3	217.0	219.3	220.7	220.5	223.5	202.1	215.9	217.4	219.5	220.7	220.3	223.0
Housekeeping and home maintenance services	257.4	272.5	274.4	276.6	278.7	280.6	282.2	256.4	273.7	275.3	277.8	279.9	281.3	283.4



**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)		
	1979			1979			1979			1979		
	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.
<b>Northeast</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	115.0	117.3	119.0	117.3	120.2	122.2	120.2	123.0	125.7	116.9	119.2	121.8
Food and beverages	117.9	119.2	120.6	118.9	119.6	121.9	121.7	121.9	123.2	120.4	119.4	121.2
Housing	114.8	117.9	119.8	116.7	121.3	123.7	122.5	127.7	132.1	116.1	119.9	123.2
Apparel and upkeep	104.9	107.7	108.9	106.1	109.2	109.0	104.3	107.8	108.5	103.4	108.3	109.8
Transportation	119.6	121.1	123.7	123.4	125.0	127.6	123.6	124.9	127.0	122.5	124.5	127.3
Medical care	113.6	115.4	117.3	115.3	118.5	120.0	114.8	117.0	118.9	114.8	116.3	119.0
Entertainment	110.6	111.4	111.5	110.9	113.6	113.5	110.4	110.0	109.8	113.6	114.1	115.1
Other goods and services	108.3	111.7	112.7	111.4	114.1	114.3	113.0	115.6	116.3	109.2	112.5	113.1
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	116.6	118.6	120.5	119.0	121.8	123.7	120.8	122.8	125.1	117.7	120.0	122.5
Commodities less food and beverages	115.8	118.3	120.4	119.0	122.8	124.6	120.4	123.2	126.0	116.5	120.4	123.2
Services	113.0	115.6	117.2	114.6	117.8	119.9	119.1	123.3	126.6	115.7	117.9	120.7
<b>North Central</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	121.0	123.2	126.3	120.5	122.3	124.6	119.0	121.9	123.7	119.5	122.0	123.0
Food and beverages	120.2	121.2	123.2	118.6	119.2	120.2	120.4	121.6	123.4	122.0	122.8	124.8
Housing	125.8	128.7	133.1	124.1	125.7	129.3	120.3	124.5	125.9	120.5	124.0	123.6
Apparel and upkeep	102.8	105.3	105.6	104.6	109.9	110.9	105.3	107.4	109.0	104.0	110.0	111.9
Transportation	122.8	125.0	127.9	122.9	125.2	127.5	123.7	126.0	129.1	123.2	124.3	127.3
Medical care	115.0	115.9	119.6	117.2	118.6	119.3	116.4	117.5	119.7	117.5	119.1	121.8
Entertainment	111.9	112.6	113.9	109.2	110.7	111.0	110.5	112.7	114.4	111.3	112.7	113.8
Other goods and services	109.0	112.5	113.6	114.9	117.8	117.7	110.0	112.3	114.0	112.7	115.7	116.1
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	120.7	122.5	125.4	119.4	120.8	122.5	119.1	121.7	123.5	118.9	121.1	122.5
Commodities less food and beverage	120.9	123.0	126.4	119.7	121.5	123.5	118.5	121.7	123.6	117.6	120.4	121.6
Services	121.5	124.3	127.7	122.4	124.7	128.0	118.8	122.2	124.1	120.4	123.3	123.8
<b>South</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	118.7	120.7	123.1	120.1	122.4	124.6	119.9	122.1	124.3	118.5	120.6	122.5
Food and beverages	121.1	122.2	123.5	120.3	121.3	122.9	121.6	122.1	123.9	120.0	121.0	122.5
Housing	119.9	122.0	125.0	122.4	125.8	128.4	122.7	125.9	128.4	119.3	121.6	123.9
Apparel and upkeep	107.5	111.2	112.3	107.3	110.8	110.3	104.5	106.4	105.7	102.8	103.9	104.8
Transportation	122.6	124.2	127.6	123.5	124.5	127.8	121.8	123.2	126.4	122.4	124.4	126.3
Medical care	113.3	116.0	117.7	115.7	116.9	118.3	115.5	117.6	120.7	118.5	122.5	124.9
Entertainment	108.1	109.4	109.5	111.9	113.2	113.9	111.8	113.6	113.8	115.9	117.1	119.4
Other goods and services	111.5	114.4	115.8	110.8	114.0	115.1	111.4	114.2	115.5	114.3	117.3	118.3
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	118.9	120.5	122.6	119.3	121.2	123.1	119.3	120.7	122.7	118.6	120.2	121.9
Commodities less food and beverages	118.0	119.8	122.2	118.9	121.2	123.2	118.3	120.1	122.2	118.0	119.9	121.6
Services	118.4	121.0	123.8	121.2	124.3	126.8	120.8	124.2	126.7	118.5	121.1	123.5
<b>West</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	118.7	120.8	124.8	120.9	123.6	126.6	119.5	122.2	124.5	118.8	122.8	124.3
Food and beverages	119.4	121.2	123.4	121.4	123.1	125.8	120.1	121.1	122.9	121.6	121.5	123.7
Housing	119.0	121.2	127.0	122.4	126.2	130.2	120.5	124.8	127.8	117.8	124.8	125.4
Apparel and upkeep	104.8	107.9	110.0	108.8	111.0	111.5	103.9	104.4	104.4	109.5	114.0	114.9
Transportation	125.3	127.2	129.9	124.8	126.7	128.8	125.0	126.3	129.0	123.1	124.6	128.2
Medical care	116.8	119.8	121.9	116.6	117.8	121.3	116.5	118.4	119.9	119.0	120.7	122.7
Entertainment	109.3	109.3	111.1	114.4	115.6	115.9	112.6	113.8	114.9	115.7	117.8	119.2
Other goods and services	112.4	115.2	115.5	112.5	115.3	116.5	110.7	113.0	113.6	114.4	116.0	116.4
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	118.7	120.5	123.1	120.8	123.1	125.3	119.4	121.7	123.6	119.1	120.7	123.0
Commodities less food and beverage	118.3	120.2	123.0	120.6	123.1	125.1	119.1	121.9	123.8	118.0	120.4	122.7
Services	118.8	121.3	126.9	121.0	124.4	128.4	119.6	122.8	125.9	118.5	125.9	126.3

**25. Consumer Price Index—U.S. city average, and selected areas**

[1967 = 100 unless otherwise specified]

Area <sup>1</sup>	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1978	1979						1978	1979					
	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.
U.S. city average <sup>2</sup>	202.9	218.9	221.1	223.4	225.4	227.5	229.9	202.9	219.4	221.5	223.7	225.6	227.6	230.0
Anchorage, Alaska (10/67 = 100)	...	207.4	...	213.2	...	213.7	...	...	206.4	...	210.9	...	211.8	...
Atlanta, Ga.	184.5	...	216.9	...	220.8	...	223.3	199.2	...	219.0	...	223.5	...	227.0
Baltimore, Md.	...	221.0	...	224.9	...	227.2	...	...	221.4	...	224.9	...	227.9	...
Boston, Mass.	...	214.2	...	218.1	...	222.7	...	...	213.7	...	217.9	...	222.5	...
Buffalo, N.Y.	199.7	...	214.6	...	218.7	...	221.2	199.5	...	215.3	...	218.6	...	220.7
Chicago, Ill.-Northwestern Ind.	198.6	217.4	218.6	221.3	221.8	225.9	228.4	198.5	216.8	218.2	220.6	221.7	225.6	227.8
Cincinnati, Ohio-Ky.-Ind.	...	224.8	...	229.0	...	233.4	...	...	226.5	...	230.8	...	235.6	...
Cleveland, Ohio	205.7	...	221.4	...	224.7	...	232.5	206.0	...	222.6	...	225.5	...	233.2
Dallas-Ft. Worth, Tex.	201.6	...	222.9	...	228.2	...	234.1	201.2	...	223.0	...	228.0	...	233.3
Denver-Boulder, Colo.	...	236.5	...	240.8	...	245.9	...	...	239.3	...	243.6	...	248.6	...
Detroit, Mich.	202.2	219.5	222.2	223.7	227.2	231.3	233.2	201.9	219.8	222.6	223.5	226.9	230.8	232.2
Honolulu, Hawaii	191.3	...	207.2	...	210.5	...	214.8	191.2	...	207.2	...	211.1	...	215.5
Houston, Tex.	219.7	...	240.6	...	244.2	...	248.7	218.3	...	239.0	...	241.8	...	246.0
Kansas City, Mo.-Kansas	198.8	...	224.6	...	229.9	...	233.7	198.9	...	223.1	...	227.9	...	232.4
Los Angeles-Long Beach, Anaheim, Calif.	197.1	214.7	217.5	220.7	221.8	224.2	228.0	197.0	216.8	219.6	223.0	224.0	225.8	229.9
Miami, Fla. (11/77 = 100)	...	115.7	...	117.4	...	119.4	...	...	116.9	...	118.7	...	120.5	...
Milwaukee, Wis.	...	222.7	...	226.0	...	229.8	...	...	225.0	...	228.7	...	232.5	...
Minneapolis-St. Paul, Minn.-Wis.	208.6	...	227.0	...	231.2	...	234.0	209.2	...	228.5	...	233.0	...	234.8
New York, N.Y.-Northeastern N.J.	201.5	214.0	215.4	218.1	219.9	221.3	222.9	200.9	214.1	215.3	217.8	219.3	220.7	222.4
Northeast, Pa. (Scranton)	...	211.7	...	215.4	...	220.0	...	...	213.4	...	217.1	...	221.1	...
Philadelphia, Pa.-N.J.	201.1	216.1	217.7	219.5	220.1	222.4	223.7	202.4	216.9	218.1	220.3	221.3	223.8	224.6
Pittsburgh, Pa.	205.2	...	219.1	...	226.0	...	229.2	204.2	...	220.0	...	226.1	...	229.7
Portland, Oreg.-Wash.	...	227.4	...	232.2	...	236.6	...	...	227.9	...	232.6	...	236.7	...
St. Louis, Mo.-Ill.	...	216.9	...	222.2	...	225.7	...	...	217.4	...	222.5	...	226.3	...
San Diego, Calif.	...	236.1	...	240.4	...	247.8	...	...	233.1	...	237.7	...	244.8	...
San Francisco-Oakland, Calif.	200.8	...	218.3	...	221.5	...	230.2	200.4	...	218.6	...	220.8	...	229.0
Seattle-Everett, Wash.	...	217.5	...	222.6	...	227.6	...	...	215.9	...	221.0	...	225.5	...
Washington, D.C.-Md.-Va.	...	220.4	...	222.9	...	225.4	...	...	221.9	...	224.4	...	226.7	...

<sup>1</sup>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.

<sup>2</sup>Average of 85 cities.

## 26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1978	1979												1980
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>FINISHED GOODS</b>														
Finished goods .....	194.6	205.4	207.7	209.1	211.4	212.7	213.7	216.2	217.3	220.7	223.7	225.9	227.8	232.1
Finished consumer goods .....	192.6	203.7	206.3	207.9	210.2	211.6	212.7	215.6	217.5	221.7	224.1	226.6	228.8	233.2
Finished consumer foods .....	206.7	220.2	225.1	226.3	227.8	226.6	223.6	224.9	223.5	228.1	226.7	230.5	232.0	231.4
Crude .....	215.5	236.7	257.2	244.6	241.8	226.7	227.1	224.9	231.7	214.0	215.4	228.0	227.8	225.9
Processed .....	204.1	216.9	220.5	222.8	224.6	224.4	221.3	222.8	220.7	227.0	225.4	228.6	230.1	229.7
Other nondurable goods .....	195.4	205.4	207.2	209.8	213.1	217.1	221.7	227.1	233.4	238.9	243.0	245.2	247.8	254.4
Durable goods .....	165.8	175.2	176.2	176.8	178.4	179.5	180.4	181.6	181.6	182.9	187.4	188.5	191.2	198.2
Capital Equipment .....	199.1	209.3	210.8	211.7	214.0	215.1	215.8	217.2	216.5	217.8	222.5	223.8	225.1	229.1
<b>INTERMEDIATE MATERIALS</b>														
Intermediate materials, supplies, and components .....	215.5	225.7	228.5	231.5	235.8	238.2	240.3	244.6	247.5	251.0	254.6	256.1	258.4	265.6
Materials and components for manufacturing .....	208.3	218.6	221.6	224.5	229.0	230.9	232.1	236.0	238.0	240.7	243.9	245.2	247.5	255.2
Materials for food manufacturing .....	202.3	214.4	217.3	219.6	222.2	222.5	222.3	226.7	225.1	228.9	225.3	227.7	230.5	225.8
Materials for nondurable manufacturing .....	195.8	203.2	205.3	208.7	213.7	216.7	218.1	222.5	227.6	231.2	231.2	233.1	235.1	240.6
Materials for durable manufacturing .....	237.2	252.0	256.8	260.0	266.0	267.2	268.9	273.3	275.2	278.8	284.5	284.2	287.5	303.5
Components for manufacturing .....	189.1	197.2	199.0	200.3	203.1	204.5	205.3	207.7	209.3	211.3	212.5	214.5	215.9	218.9
Materials and components for construction .....	224.4	236.1	239.0	241.3	244.5	245.2	245.6	247.4	249.2	252.5	254.4	253.8	253.6	257.5
Processed fuels and lubricants .....	296.4	302.0	304.8	312.9	323.9	336.8	349.5	364.8	384.6	399.3	410.5	416.5	424.6	443.9
Manufacturing industries .....	270.4	268.3	269.0	275.4	280.7	287.4	293.8	304.0	311.2	317.2	322.5	325.3	332.3	340.6
Nonmanufacturing industries .....	320.0	334.0	339.1	348.9	365.9	385.5	404.9	425.5	458.8	483.0	500.4	509.7	518.8	549.8
Containers .....	212.5	223.9	224.3	229.3	231.8	234.5	234.9	235.4	237.6	237.9	240.8	243.5	246.1	250.9
Supplies .....	196.9	207.4	209.6	211.1	212.8	213.7	216.1	219.6	219.6	221.2	224.4	226.0	228.4	232.2
Manufacturing industries .....	183.6	193.1	194.3	197.4	199.4	201.5	202.7	204.2	208.6	209.4	211.8	213.1	215.3	220.9
Nonmanufacturing industries .....	204.0	215.0	217.7	218.4	219.9	220.3	223.2	227.8	225.4	227.5	231.1	232.9	235.3	238.2
Manufactured animal feeds .....	200.2	215.9	221.6	219.3	219.5	214.6	226.2	241.3	220.8	224.0	229.2	227.3	230.8	224.2
Other supplies .....	201.9	211.6	213.6	215.0	216.8	218.3	219.2	221.5	223.1	224.9	228.1	230.7	232.9	237.8
<b>CRUDE MATERIALS</b>														
Crude materials for further processing .....	240.1	260.2	270.4	276.6	279.9	282.3	283.0	287.1	281.7	288.3	289.2	290.8	296.7	296.9
Foodstuffs and feedstuffs .....	215.3	233.0	243.7	247.4	251.5	251.9	248.2	254.1	243.7	248.7	247.1	246.4	249.7	243.0
Nonfood materials .....	286.7	311.5	320.7	331.6	333.3	339.6	348.7	349.3	353.6	363.1	368.9	374.8	385.8	399.0
Nonfood materials except fuel .....	235.4	255.6	264.7	275.5	276.5	276.6	286.6	285.2	286.1	293.3	298.6	304.6	311.5	329.9
Manufacturing industries .....	240.8	261.8	271.9	283.8	284.8	284.7	295.9	294.0	294.9	302.8	308.5	314.9	322.5	342.0
Construction .....	185.7	198.8	200.4	201.9	203.6	204.5	205.4	207.2	208.6	209.9	212.2	214.6	216.6	225.7
Crude fuel .....	463.7	504.3	513.9	525.2	529.2	556.8	563.1	570.7	586.2	604.0	611.4	616.8	641.8	637.2
Manufacturing industries .....	481.9	529.6	541.6	555.4	560.0	593.8	601.3	610.4	629.2	651.8	660.5	667.0	697.7	691.7
Nonmanufacturing industries .....	459.6	494.9	502.7	512.1	515.8	538.8	544.3	550.7	563.6	577.8	584.4	589.0	609.7	606.2
<b>SPECIAL GROUPINGS</b>														
Finished goods excluding foods .....	188.9	198.8	200.2	201.7	204.2	206.3	208.5	211.4	213.2	216.2	220.6	222.2	224.3	230.1
Finished consumer goods excluding Foods .....	183.7	193.3	194.9	196.7	199.3	202.1	205.2	208.4	212.3	216.3	220.6	222.4	225.0	231.8
Intermediate materials, supplies, and Components, excluding intermediate materials for food manufacturing and manufactured animal feeds .....	216.4	226.5	229.1	232.3	236.7	238.8	241.3	245.4	249.0	252.5	256.4	257.8	260.1	268.1
Intermediate foods and feeds .....	201.0	214.3	218.2	218.9	220.7	219.3	223.0	231.0	223.1	226.6	226.0	227.0	230.0	224.7
Crude materials for further processing excluding crude foodstuffs and feedstuffs, plant and animal fibers, oilseeds, and leaf tobacco .....	316.6	344.2	356.4	370.6	372.4	379.2	389.5	391.7	396.9	408.6	416.5	423.9	437.1	453.0

NOTE: Data for September 1979 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.



**27. Producer Price Indexes, by commodity groupings<sup>1</sup>**

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
	All commodities	209.3	220.8	224.1	226.7	230.0	232.0	233.5	236.9	238.3	242.0	245.2	246.9	249.4	254.7
	All commodities (1957-59 = 100)	222.1	234.2	237.7	240.5	243.7	245.7	247.7	251.4	252.8	256.7	260.2	262.0	264.6	267.3
	Farm products and processed foods and feeds	206.6	221.1	227.2	229.0	244.0	230.8	229.0	232.2	227.5	231.8	230.6	232.3	234.5	231.9
	Industrial commodities	209.4	220.0	222.5	225.4	229.0	231.6	234.0	237.5	240.6	244.2	248.5	250.2	252.8	260.3
<b>FARM PRODUCTS AND PROCESSED FOODS AND FEEDS</b>															
01	Farm products	212.5	230.4	240.9	242.8	223.3	245.4	242.8	246.8	238.5	241.0	239.5	240.2	242.5	236.4
01-1	Fresh and dried fruits and vegetables	216.5	233.7	263.0	235.7	234.7	228.2	226.4	226.7	241.7	208.3	217.8	216.4	210.5	218.9
01-2	Grains	182.5	184.4	189.3	192.0	198.3	210.3	218.7	247.4	229.1	224.4	229.0	226.6	227.9	214.6
01-3	Livestock	220.1	247.3	266.5	275.8	284.0	280.7	264.0	256.0	240.2	256.4	251.7	248.3	252.5	247.8
01-4	Live poultry	199.8	206.0	217.8	217.6	209.4	216.3	182.9	183.8	171.9	173.5	162.0	195.5	194.7	195.2
01-5	Plant and animal fibers	193.4	213.6	205.1	197.8	197.8	207.6	219.5	207.6	207.9	211.3	212.9	215.4	222.0	239.0
01-6	Fluid milk	219.7	241.8	244.6	243.7	242.4	242.0	243.8	247.6	250.0	258.5	258.5	262.5	264.0	262.3
01-7	Eggs	158.6	178.5	176.7	199.9	185.5	163.8	170.7	167.6	166.8	175.4	155.9	178.7	198.4	165.6
01-8	Hay, hayseeds, and oilseeds	215.8	240.1	246.1	249.5	248.3	240.7	258.4	260.1	251.9	240.9	235.1	229.8	230.3	218.1
01-9	Other farm products	274.9	269.7	253.6	254.6	255.1	264.1	281.0	311.9	310.8	315.9	317.6	318.3	319.4	301.1
02	Processed foods and feeds	202.6	215.2	218.9	220.5	222.3	222.0	220.6	223.3	220.5	225.8	224.8	227.1	229.2	228.5
02-1	Cereal and bakery products	190.3	197.2	199.1	200.1	203.0	204.9	206.3	212.4	216.0	218.7	219.2	222.3	223.7	225.4
02-2	Meats, poultry, and fish	217.1	240.3	248.5	250.6	253.0	250.4	241.4	237.7	225.5	239.9	234.4	239.5	242.8	239.5
02-3	Dairy products	188.4	203.5	203.2	204.9	207.1	207.9	208.4	209.0	215.2	218.3	218.2	219.0	219.6	221.4
02-4	Processed fruits and vegetables	202.6	218.5	219.5	219.6	220.5	221.4	221.5	223.6	224.6	225.1	223.3	222.5	222.3	222.8
02-5	Sugar and confectionery	197.8	204.8	208.4	208.4	208.7	207.6	211.1	215.7	218.3	217.2	218.6	222.7	234.4	234.8
02-6	Beverages and beverage materials	200.0	200.9	201.1	201.2	201.5	205.3	208.5	214.1	216.5	217.9	219.2	221.4	221.9	224.1
02-7	Fats and oils	225.3	229.7	237.5	238.6	246.2	241.8	243.6	253.2	251.7	253.3	246.2	242.1	235.8	224.9
02-8	Miscellaneous processed foods	199.0	206.7	208.0	217.5	219.3	220.2	211.1	212.7	217.6	219.0	220.6	222.1	222.0	225.4
02-9	Manufactured animal feeds	197.4	211.3	217.2	215.7	215.6	210.8	220.5	234.9	216.2	219.2	224.3	222.7	225.3	219.5
<b>INDUSTRIAL COMMODITIES</b>															
03	Textile products and apparel	159.8	164.1	164.2	165.2	166.4	167.2	168.4	169.3	170.5	171.3	171.9	172.4	172.8	174.9
03-1	Synthetic fibers (12/75 = 100)	109.6	113.0	113.5	113.6	115.1	117.4	118.5	119.5	120.6	123.6	125.6	124.9	124.5	126.9
03-2	Processed yarns and threads (12/75 = 100)	102.4	105.3	105.3	107.0	106.8	107.8	108.6	109.5	110.6	111.7	112.2	113.0	113.1	114.4
03-3	Gray fabrics (12/75 = 100)	118.6	125.6	123.2	123.1	124.5	124.7	125.4	128.3	128.7	128.7	129.8	130.6	132.5	132.2
03-4	Finished fabrics (12/75 = 100)	103.8	103.5	104.1	105.4	105.9	107.0	107.6	108.2	109.0	109.1	108.7	108.5	109.3	109.8
03-81	Apparel	152.4	157.4	157.6	158.3	159.8	159.8	160.2	160.3	161.4	161.6	162.1	162.9	162.3	165.3
03-82	Textile housefurnishings	178.6	181.8	186.0	187.4	188.0	188.0	189.3	189.9	190.5	193.9	194.6	194.8	197.0	199.2
04	Hides, skins, leather, and related products	200.0	223.4	232.2	253.3	258.9	269.6	268.0	261.9	257.9	251.1	253.6	248.5	248.9	255.3
04-1	Hides and skins	360.5	452.8	497.8	639.6	642.2	666.9	611.0	566.5	511.9	465.3	478.8	447.6	443.9	468.8
04-2	Leather	238.6	292.8	309.2	371.9	393.6	429.4	414.6	385.2	365.9	330.0	343.6	319.8	324.8	347.6
04-3	Footwear	183.0	196.4	203.0	209.9	212.0	216.3	221.1	221.8	225.4	226.9	226.9	227.3	227.3	228.5
04-4	Other leather and related products	177.0	190.7	192.2	195.9	200.4	209.1	212.3	212.1	210.9	210.1	209.8	208.5	208.1	213.2
05	Fuels and related products and power	322.5	338.1	342.5	350.9	361.5	377.6	393.7	411.8	432.8	454.8	468.8	476.7	488.7	507.8
05-1	Coal	430.0	443.6	444.0	445.3	447.1	450.8	452.0	452.5	454.2	452.5	454.9	455.4	457.8	458.1
05-2	Coke	411.8	421.2	423.7	428.5	430.1	430.6	430.6	430.6	430.6	430.6	431.2	431.2	431.2	430.6
05-3	Gas fuels <sup>1</sup>	428.7	449.9	458.1	471.0	477.4	507.2	522.3	548.4	572.4	603.4	619.1	631.7	670.5	679.6
05-4	Electric power	250.6	251.0	251.1	257.3	260.6	265.9	269.9	274.8	278.8	280.5	283.6	282.1	287.2	290.7
05-61	Crude petroleum <sup>2</sup>	300.1	316.4	322.3	324.2	326.2	335.7	356.4	370.6	385.7	422.1	436.7	450.4	470.8	513.6
05-7	Petroleum products, refined <sup>3</sup>	321.0	343.9	350.0	360.3	378.6	400.0	423.6	449.8	482.8	513.7	534.4	544.9	554.8	582.4
06	Chemicals and allied products	198.8	205.0	207.3	209.9	215.1	218.0	219.2	225.0	228.5	230.8	233.5	235.6	238.1	245.5
06-1	Industrial chemicals <sup>4</sup>	225.6	234.0	237.4	239.7	248.2	255.6	259.3	270.4	277.1	280.0	284.2	287.2	291.6	302.6
06-21	Prepared paint	192.3	198.9	202.3	202.3	203.3	201.3	201.3	205.3	205.3	206.0	206.7	206.9	210.7	223.1
06-22	Paint materials	212.7	222.5	224.3	227.0	231.6	236.1	239.5	246.7	247.9	252.0	253.5	254.8	255.4	258.9
06-3	Drugs and pharmaceuticals	148.1	155.4	156.2	156.6	157.5	157.7	159.0	159.2	159.6	161.0	162.9	163.0	164.4	166.5
06-4	Fats and oils, inedible	315.8	336.1	367.9	398.5	448.7	418.3	374.1	381.6	376.4	379.9	366.9	344.3	327.1	325.6
06-5	Agricultural chemicals and chemical products	198.4	201.7	203.1	206.3	209.8	210.0	209.2	211.2	215.3	219.4	223.7	229.2	232.7	238.1
06-6	Plastic resins and materials	199.8	204.2	206.3	210.9	220.6	228.5	230.1	244.5	250.1	252.0	252.6	261.7	262.7	270.0
06-7	Other chemicals and allied products	181.8	184.3	184.7	186.5	186.9	188.9	190.5	191.8	194.4	195.8	196.5	199.3	201.9	209.6
07	Rubber and plastic products	174.8	180.8	183.2	185.9	188.8	190.8	193.1	195.5	198.8	200.7	202.4	204.3	205.7	208.2
07-1	Rubber and rubber products	185.3	194.7	197.6	199.4	201.2	202.6	204.8	209.5	214.6	217.1	219.7	223.3	223.9	227.1
07-11	Crude rubber	187.2	197.9	201.1	204.8	211.6	214.2	222.0	226.1	233.0	232.2	235.2	236.4	239.4	251.9
07-12	Tires and tubes	179.2	191.5	194.1	195.0	196.1	197.3	198.9	206.2	211.6	215.0	217.9	222.7	222.7	224.7
07-13	Miscellaneous rubber products	189.6	195.1	198.1	200.3	201.3	202.6	203.5	205.4	209.4	211.9	214.2	216.9	217.4	219.1
07-2	Plastic products (6/78 = 100)	102.3	103.5	105.7	108.0	109.5	111.0	111.2	112.2	113.0	113.6	113.8	115.2	116.2	
08	Lumber and wood products	276.0	290.2	293.9	300.5	304.9	302.8	299.8	300.1	304.7	309.7	308.8	299.0	289.8	290.0
08-1	Lumber	322.4	336.6	339.9	350.5	355.4	354.8	354.8	355.0	365.3	373.9	370.2	355.5	338.9	336.3
08-2	Millwork	235.4	244.5	251.5	257.8	266.0	261.6	258.9	252.5	249.6	250.9	253.2	250.3	253.3	254.1
08-3	Plywood	235.6	257.4	257.1	254.7	252.4	249.3	238.6	249.7	254.3	257.9	254.4	242.9	237.7	238.2
08-4	Other wood products	211.8	223.2	226.2	232.2	235.5	238.4	238.5	237.6	237.4	238.0	237.7	239.9	240.5	242.2

See footnotes at end of table.

27. Continued—Producer Price Indexes, by commodity groupings<sup>1</sup>

[1967 = 100 unless otherwise specified]

Code	Commodity groups and subgroups	Annual average 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>INDUSTRIAL COMMODITIES—Continued</b>															
09	Pulp, paper, and allied products	195.6	207.0	208.8	212.3	215.0	216.2	216.6	218.3	222.2	223.0	227.2	229.3	231.0	237.4
09-1	Pulp, paper, and products, excluding building paper and board	195.6	207.7	209.5	213.2	216.0	217.2	217.8	219.6	223.6	224.3	228.6	230.9	232.6	239.1
09-11	Woodpulp	266.5	291.3	291.4	294.3	303.8	306.9	308.3	320.3	320.6	320.6	339.4	339.9	339.9	358.8
09-12	Wastepaper	191.2	192.9	194.1	203.2	206.5	206.2	207.2	207.9	206.6	206.7	206.7	220.0	221.2	222.7
09-13	Paper	206.1	217.9	221.2	223.3	226.3	227.2	227.5	228.2	229.5	230.3	239.0	242.1	243.0	245.5
09-14	Paperboard	179.6	188.5	190.2	192.9	197.9	199.2	199.8	201.7	206.4	209.6	211.2	212.8	215.4	221.8
09-15	Converted paper and paperboard products	185.6	198.3	199.8	204.1	205.8	207.0	207.6	209.0	214.4	214.6	216.5	218.4	220.3	227.5
09-2	Building paper and board	187.4	184.1	183.6	182.6	183.4	183.3	180.8	178.0	179.1	182.6	185.5	183.6	184.4	186.0
10	Metals and metal products	227.1	241.9	247.3	251.7	256.0	256.2	258.2	260.8	261.8	263.7	268.4	270.9	273.5	284.5
10-1	Iron and steel	253.6	272.4	274.9	279.9	280.2	279.5	283.2	286.8	286.1	285.5	289.0	291.6	292.7	297.3
10-13	Steel mill products	254.5	271.5	271.8	272.5	275.0	276.7	277.3	284.6	284.7	284.8	288.4	288.7	289.3	293.7
10-2	Nonferrous metals	207.8	223.5	239.2	246.6	259.6	258.2	259.7	262.3	263.1	269.3	282.8	283.7	291.2	326.1
10-3	Metal containers	243.4	256.8	256.8	264.5	270.1	268.5	267.3	267.2	268.4	268.7	276.7	280.7	280.7	283.3
10-4	Hardware	200.4	211.7	213.3	214.2	215.8	216.9	217.1	218.5	220.1	221.5	223.8	225.4	226.5	228.4
10-5	Plumbing fixtures and brass fittings	199.1	204.3	207.8	209.7	212.0	213.8	217.0	219.6	222.4	223.0	223.4	225.4	226.4	229.7
10-6	Heating equipment	174.4	180.1	180.9	183.4	183.8	185.7	185.2	186.0	188.1	191.3	191.9	192.7	195.2	197.3
10-7	Fabricated structural metal products	226.4	238.4	240.5	241.3	243.8	247.0	248.2	250.5	252.2	253.7	255.6	256.6	257.7	258.8
10-8	Miscellaneous metal products	212.0	222.0	223.4	225.2	227.0	228.5	230.1	231.8	235.6	236.7	239.1	239.9	243.8	241.5
11	Machinery and equipment	196.1	205.1	206.5	207.9	209.8	211.4	212.4	214.8	216.0	217.7	219.6	221.0	222.9	227.1
11-1	Agricultural machinery and equipment	213.1	222.8	223.9	224.8	226.4	228.3	229.4	231.2	233.3	237.4	238.8	241.4	243.2	247.6
11-2	Construction machinery and equipment	232.9	245.5	247.9	248.7	251.7	253.7	254.0	257.0	258.5	258.9	262.9	264.5	268.2	275.4
11-3	Metalworking machinery and equipment	217.0	230.4	232.0	233.0	235.3	237.6	239.1	241.4	243.5	246.4	249.1	251.4	254.6	258.7
11-4	General purpose machinery and equipment	216.6	226.3	227.7	230.4	232.6	234.0	235.1	237.1	238.3	240.2	242.1	243.7	246.1	249.6
11-6	Special industry machinery and equipment	223.0	236.2	237.0	239.1	243.4	245.1	246.1	249.8	251.0	251.2	253.9	255.3	256.2	260.7
11-7	Electrical machinery and equipment	164.9	171.2	172.8	173.8	175.0	176.5	177.6	179.9	181.2	182.5	184.1	185.0	186.5	190.5
11-9	Miscellaneous machinery	194.7	202.7	203.4	204.0	205.4	207.1	207.4	209.7	209.7	212.0	212.9	214.5	215.7	220.0
12	Furniture and household durables	160.4	166.6	167.9	168.3	168.7	169.6	170.2	170.7	171.5	172.7	174.1	175.6	177.0	182.1
12-1	Household furniture	173.5	181.0	181.3	181.8	182.7	184.8	185.3	185.8	186.2	188.5	189.3	192.4	194.3	195.4
12-2	Commercial furniture	201.5	214.4	221.2	221.2	221.7	221.9	221.8	222.7	222.7	222.7	223.3	223.3	225.1	227.1
12-3	Floor coverings	141.6	143.4	143.6	144.0	144.4	146.0	146.5	149.1	150.0	150.4	151.8	152.8	152.9	159.8
12-4	Household appliances	153.0	157.0	158.3	158.8	158.7	159.3	160.0	161.1	162.2	162.7	163.2	164.5	165.2	166.6
12-5	Home electronic equipment	90.2	92.2	92.3	92.3	92.3	92.4	92.8	90.2	90.2	90.3	87.8	87.9	88.1	88.5
12-6	Other household durable goods	203.1	216.0	216.6	217.9	218.6	219.5	220.6	223.7	226.6	231.0	244.1	246.6	251.1	283.1
13	Nonmetallic mineral products	222.8	238.3	240.5	240.8	243.4	245.6	246.9	249.5	249.9	254.6	255.6	257.1	259.2	268.0
13-11	Flat glass	172.8	181.1	183.1	183.1	183.1	183.1	184.0	184.1	184.1	184.5	184.7	185.4	186.4	190.9
13-2	Concrete ingredients	217.7	235.9	238.2	239.8	242.0	242.5	243.3	245.1	245.9	246.7	246.9	248.4	249.9	263.5
13-3	Concrete products	214.0	235.6	236.4	237.8	240.5	241.6	243.7	245.2	246.3	248.7	249.4	250.5	253.2	264.9
13-4	Structural clay products excluding refractories	197.2	209.7	210.7	212.8	214.8	215.7	216.5	220.3	222.3	223.7	221.1	221.1	226.8	229.6
13-5	Refractories	216.5	227.5	227.8	228.3	228.4	228.5	232.6	240.8	241.7	242.4	245.0	248.2	248.7	249.3
13-6	Asphalt roofing	292.0	306.8	317.8	303.1	316.4	317.9	323.0	328.4	325.9	333.0	334.0	345.9	342.9	356.5
13-7	Gypsum products	229.1	247.6	250.6	251.0	252.2	248.8	251.3	251.8	252.3	254.9	255.3	256.2	255.0	255.4
13-8	Glass containers	244.4	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.5	265.5	273.6	274.5
13-9	Other nonmetallic minerals	275.6	288.8	293.7	294.5	300.0	303.0	302.0	310.5	309.9	336.0	341.2	342.2	342.2	351.6
14	Transportation equipment (12/68 = 100)	173.5	182.7	183.5	183.8	186.8	187.2	187.5	188.4	185.9	186.6	193.6	194.4	195.1	198.3
14-1	Motor vehicles and equipment	176.0	185.0	185.9	186.1	189.4	189.8	190.1	190.8	187.8	188.6	196.3	197.0	197.6	200.3
14-4	Railroad equipment	252.8	266.4	268.0	268.9	271.7	271.6	274.7	280.6	280.9	281.6	286.3	288.2	289.0	295.0
15	Miscellaneous products	184.3	197.7	199.8	200.6	201.4	203.3	205.2	207.0	208.9	213.1	216.8	219.0	227.2	242.2
15-1	Toys, sporting goods, small arms, ammunition	163.2	170.4	171.0	171.5	173.2	174.3	174.7	176.9	177.6	179.8	181.2	181.7	183.5	190.4
15-2	Tobacco products	198.5	213.5	213.6	214.0	214.4	214.4	214.4	214.8	221.3	221.9	221.9	221.9	226.3	236.3
15-3	Notions	182.0	188.2	188.2	190.2	190.2	190.6	190.6	192.0	191.9	191.9	195.8	196.0	197.0	203.1
15-4	Photographic equipment and supplies	145.7	150.1	150.2	150.2	150.1	150.6	151.6	152.0	152.2	154.3	157.3	161.3	164.5	166.0
15-51	Mobile Homes (12/74 = 100)	126.4	131.7	132.5	133.8	135.2	137.2	137.9	138.2	139.5	140.7	142.5	143.5	143.6	144.2
15-9	Other miscellaneous products	210.6	237.8	244.0	245.5	246.1	250.6	255.8	261.4	261.4	272.5	280.9	284.9	307.9	349.7

<sup>1</sup> Prices for natural gas are lagged 1 month.

<sup>2</sup> Includes only domestic production.

<sup>3</sup> Most prices for refined petroleum products are lagged 1 month.

<sup>4</sup> Some prices for industrial chemicals are lagged 1 month.

<sup>5</sup> Not available.

NOTE: Data for September 1979 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.

**28. Producer Price Indexes, for special commodity groupings**

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1978	1979												1980
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All commodities — less farm products	208.4	219.3	222.0	224.7	228.0	230.1	232.0	235.4	237.5	241.4	244.9	246.7	249.2	219.3
All foods	206.4	219.9	225.0	225.9	227.7	226.4	223.8	225.4	224.7	228.5	226.8	229.9	232.1	219.9
Processed foods	206.7	219.8	223.5	225.6	227.8	227.5	224.7	226.4	224.8	230.8	228.9	231.8	234.1	219.8
Industrial commodities less fuels	197.2	207.3	209.6	211.9	214.7	216.0	217.0	219.0	220.3	222.0	225.4	226.4	228.1	207.3
Selected textile mill products (Dec. 1975 = 100)	108.8	109.1	110.8	111.6	112.3	112.8	113.5	114.0	115.1	115.8	116.0	116.1	117.0	109.8
Hosiery	106.3	110.1	109.9	110.5	112.5	112.5	112.7	114.1	113.0	112.7	113.0	114.6	115.3	110.1
Underwear and nightwear	158.9	164.6	166.3	167.1	167.3	167.7	168.3	168.5	170.8	170.8	171.2	171.6	172.9	164.6
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	190.5	196.3	198.0	200.0	204.1	207.6	209.5	215.0	218.6	220.9	223.7	226.0	228.6	196.3
Pharmaceutical preparations	140.6	148.1	149.0	149.4	150.0	150.1	151.7	151.7	152.0	153.6	155.6	155.4	156.9	148.1
Lumber and wood products, excluding millwork and other wood products	298.3	314.8	317.0	323.7	326.4	325.1	321.7	325.3	333.9	341.0	337.4	323.5	310.3	314.8
Special metals and metal products	209.6	220.0	225.6	228.2	232.7	232.4	233.7	235.5	234.9	236.4	242.9	244.2	245.9	222.0
Fabricated metal products	216.2	227.0	228.6	230.6	232.9	234.6	235.7	237.4	239.8	241.1	243.7	244.8	245.6	227.0
Copper and copper products	155.6	168.8	188.2	197.9	212.1	199.0	193.0	191.9	197.1	200.5	211.5	213.6	216.1	168.8
Machinery and motive products	190.4	199.6	200.8	201.7	204.1	205.3	206.0	207.7	207.2	208.5	212.8	214.0	215.4	199.6
Machinery and equipment, except electrical	214.3	224.9	226.1	227.7	230.0	231.8	232.6	235.1	236.2	238.2	240.2	242.0	244.1	224.9
Agricultural machinery, including tractors	216.3	227.6	228.5	229.6	230.8	232.1	233.8	235.8	238.4	243.6	244.7	247.9	250.0	227.6
Metalworking machinery	228.8	245.2	247.4	248.9	251.2	254.3	256.8	260.1	261.7	265.6	269.5	272.5	276.2	245.2
Numerically controlled machine tools (Dec. 1971 = 100)	179.1	188.9	190.9	192.6	192.7	195.7	195.8	202.2	204.2	206.5	208.7	209.0	211.3	188.9
Total tractors	228.7	240.8	242.5	243.1	245.4	247.7	248.2	251.2	253.8	256.0	259.4	260.9	264.9	240.8
Agricultural machinery and equipment less parts	212.7	223.5	224.4	225.5	226.7	228.1	229.5	231.4	233.7	238.4	239.5	242.4	244.6	223.5
Farm and garden tractors less parts	216.1	225.6	225.8	226.7	228.5	230.5	231.8	233.9	237.6	244.1	246.3	248.8	250.4	225.6
Agricultural machinery excluding tractors less parts	216.7	229.5	230.9	232.1	233.0	233.6	235.7	237.6	239.2	243.5	243.7	247.4	250.0	229.5
Industrial valves	232.3	245.4	247.8	249.5	252.4	255.0	255.8	257.0	258.2	260.1	260.3	261.1	265.2	245.4
Industrial fittings	232.7	249.9	249.9	252.0	255.5	259.3	260.4	260.8	262.3	264.3	271.7	276.8	276.8	249.9
Abrasive grinding wheels	208.1	220.2	220.2	220.3	220.3	221.6	222.8	224.6	224.6	226.6	235.3	235.3	239.0	220.2
Construction materials	228.3	241.4	244.1	246.9	250.0	250.3	250.3	252.3	254.3	256.6	258.2	256.5	255.3	241.4

NOTE: Data for September 1979 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 1978	1979												1980
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
Total durable goods	204.9	216.3	218.9	221.0	223.9	224.7	225.8	227.6	228.0	230.1	234.0	234.9	236.6	243.4
Total nondurable goods	211.9	223.4	227.3	230.4	234.1	236.9	238.8	243.7	245.8	251.1	253.5	256.0	259.2	263.0
Total manufactures	204.2	215.0	217.5	219.7	223.1	225.0	226.5	229.8	231.7	235.2	238.6	240.2	242.3	248.2
Durable	204.7	215.8	218.0	219.8	222.7	223.8	224.6	226.6	227.2	229.4	233.3	234.1	235.8	242.2
Nondurable	203.0	213.4	216.1	219.0	222.8	225.6	227.8	232.5	235.9	241.0	243.7	246.3	248.8	253.8
Total raw or slightly processed goods	234.6	250.2	258.5	263.3	266.1	268.2	269.7	274.3	272.1	276.9	278.6	281.1	286.4	287.5
Durable	209.6	235.4	253.9	273.6	272.5	262.9	272.8	265.4	259.8	255.7	259.0	265.8	267.8	282.7
Nondurable	235.6	250.4	258.0	261.6	264.7	267.6	268.5	274.0	272.0	277.5	279.1	281.3	286.8	286.9

NOTE: Data for September 1979 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 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>MINING</b>															
1011	Iron ores (12/75 = 100)	121.9	127.3	127.3	127.3	131.9	131.9	136.0	136.0	138.8	138.1	140.2	140.2	142.0	
1092	Mercury ores (12/75 = 100)	126.6	153.3	168.7	178.3	202.1	237.5	277.0	270.8	245.8	252.1	275.0	252.1	300.0	
1211	Bituminous coal and lignite	430.2	444.0	444.4	445.7	447.5	451.3	452.5	453.1	454.8	452.9	455.4	455.8	458.1	
1311	Crude petroleum and natural gas	358.2	388.2	397.2	403.8	407.6	427.2	444.1	457.5	476.0	508.4	522.0	533.5	553.3	
1442	Construction sand and gravel	194.6	208.0	210.4	210.9	214.1	216.0	217.0	219.3	220.1	221.0	223.5	224.3	225.7	
1455	Kaolin and ball clay (6/76 = 100)	111.8	125.4	125.4	125.4	125.4	125.4	125.5	125.5	125.5	125.5	126.7	114.7	119.7	
<b>MANUFACTURING</b>															
2011	Meat packing plants	216.7	243.6	250.8	256.6	265.0	259.2	249.1	243.8	229.3	247.2	239.1	241.6	243.9	
2013	Sausages and other prepared meats	215.2	223.8	230.4	235.6	224.4	227.7	217.1	214.7	203.4	211.7	213.0	214.2	219.9	
2016	Poultry dressing plants	192.5	194.6	204.6	206.1	199.7	203.5	177.8	178.4	169.6	171.2	163.1	188.3	188.5	
2021	Creamery butter	205.2	211.9	211.1	216.1	224.7	225.3	225.3	227.5	237.9	240.6	240.1	241.7	243.1	

See footnotes 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 1978	1979												1980
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>MANUFACTURING—Continued</b>															
2022	Cheese natural and processed (12/72 = 100)	169.6	184.2	179.4	182.5	186.8	185.2	185.6	186.3	195.4	200.8	196.8	193.4	192.6	197.1
2024	Ice cream and frozen desserts (12/72 = 100)	154.8	166.2	166.7	166.7	167.3	171.0	171.5	175.0	176.1	177.5	178.4	180.2	180.9	180.9
2033	Canned fruits and vegetables	193.2	203.3	204.4	205.2	206.2	207.2	207.5	209.9	210.5	212.0	213.0	212.4	212.0	213.5
2034	Dehydrated food products (12/73 = 100)	131.3	179.6	181.2	180.9	181.7	182.1	181.0	182.0	180.7	170.0	158.2	156.3	157.3	157.6
2041	Flour mills (12/71 = 100)	147.0	155.8	160.5	157.5	158.1	166.7	174.6	190.9	176.9	183.5	184.6	184.9	184.9	181.7
2044	Rice milling	207.6	163.6	166.6	171.0	206.8	206.8	206.8	206.8	218.7	223.5	227.3	231.8	218.1	217.5
2048	Prepared foods, n.e.c. (12/75 = 100)	107.3	115.6	118.4	118.3	117.5	115.2	118.9	128.1	119.4	120.9	123.9	124.6	125.3	122.3
2061	Raw cane sugar	190.7	191.6	198.2	195.7	197.5	195.6	207.0	209.0	216.8	216.7	224.3	223.3	244.4	260.5
2063	Beet sugar	188.5	197.0	197.0	198.6	199.3	199.7	199.7	202.0	199.4	200.0	202.6	209.6	223.4	223.5
2067	Chewing gum	218.0	241.6	242.5	242.5	242.6	242.2	242.2	242.9	242.9	242.9	242.9	262.2	262.2	262.3
2074	Cottonseed oil mills	183.1	198.7	204.5	202.8	198.5	192.5	210.4	224.5	214.1	217.9	214.9	204.7	205.6	182.2
2075	Soybean oil mills	225.6	233.1	241.2	242.0	244.7	237.7	251.1	262.8	250.0	248.6	244.8	242.6	241.8	230.2
2077	Animal and marine fats and oils	287.9	305.0	344.5	362.6	393.1	363.8	335.3	352.0	321.4	333.8	333.7	315.2	300.7	296.0
2083	Malt	181.5	190.8	190.8	190.8	190.8	190.8	201.4	201.4	201.4	214.9	214.9	228.2	228.2	244.1
2085	Distilled liquor, except brandy (12/75 = 100)	106.7	108.9	109.4	109.4	113.6	113.6	113.6	115.7	117.1	117.1	117.1	118.1	118.1	118.6
2091	Canned and cured seafoods (12/73 = 100)	136.4	137.3	137.9	138.5	139.2	140.9	142.1	148.5	148.2	154.0	151.1	155.6	159.8	160.9
2092	Fresh or frozen packaged fish	303.8	338.1	361.9	359.4	375.8	382.4	397.6	403.7	391.5	389.2	400.9	392.4	389.3	390.7
2095	Roasted coffee (12/72 = 100)	262.3	229.4	222.5	221.6	220.5	231.7	244.2	271.0	279.2	279.2	280.0	287.5	287.5	281.3
2098	Macaroni and spaghetti	176.9	184.7	184.7	184.7	184.7	186.6	188.6	203.5	210.4	210.4	210.4	221.5	227.7	227.7
2111	Cigarettes	204.6	221.1	221.2	221.3	221.4	221.4	221.4	221.5	228.9	229.1	229.2	229.2	234.3	245.8
2121	Cigars	141.4	142.8	143.0	145.0	145.4	145.4	145.3	149.8	150.1	150.1	147.4	147.2	147.2	147.9
2131	Chewing and smoking tobacco	222.0	235.3	236.4	240.9	245.9	245.9	245.9	246.4	246.4	255.8	260.4	260.8	260.8	260.9
2211	Weaving mills, cotton (12/72 = 100)	181.1	188.8	190.1	190.4	191.2	192.7	194.3	196.1	196.5	198.7	200.7	200.1	200.8	203.1
2221	Weaving mills, synthetic (12/77 = 100)	109.0	114.5	112.7	112.4	113.3	113.6	114.1	116.2	116.3	116.2	116.9	116.9	117.3	117.6
2251	Women's hosiery, except socks (12/75 = 100)	91.5	95.1	94.3	94.4	97.3	97.3	97.6	96.6	98.1	97.5	98.0	100.3	100.2	103.6
2254	Knit underwear mills	164.1	169.3	169.9	172.6	172.8	173.1	173.3	172.9	174.0	174.0	174.3	174.6	176.2	182.9
2257	Circular knit fabric mills (6/76 = 100)	98.5	91.2	91.7	93.9	93.2	94.1	95.8	96.1	96.4	96.2	96.4	96.4	98.4	98.8
2261	Finishing plants, cotton (6/76 = 100)	111.0	116.5	117.4	118.2	119.0	120.8	120.9	122.5	123.2	124.0	126.1	123.1	123.4	124.9
2262	Finishing plants, synthetics, silk (6/76 = 100)	101.4	104.6	105.0	105.2	105.9	106.3	107.0	107.5	108.2	108.3	109.2	108.9	109.2	109.8
2271	Woven carpets and rugs (12/75 = 100)	114.7	115.8	115.8	116.0	116.0	116.7	117.1	(1)	(1)	(1)	(1)	(1)	(1)	(1)
2272	Tufted carpets and rugs	125.3	125.8	126.0	126.5	127.0	127.7	128.1	127.6	128.6	129.0	129.5	130.0	130.1	135.6
2281	Yarn mills, except wool (12/71 = 100)	167.4	170.9	171.4	172.3	173.1	174.5	175.7	177.5	177.4	179.4	181.2	182.9	184.6	188.3
2282	Throwing and winding mills (6/76 = 100)	99.2	103.1	102.7	106.0	104.4	106.3	107.5	108.5	109.7	111.2	111.0	109.2	109.3	
2284	Thread mills (6/76 = 100)	114.6	120.3	120.3	120.3	120.4	120.4	120.4	120.5	128.1	128.1	128.3	128.4	128.5	128.7
2298	Cordage and twine (12/77 = 100)	99.3	98.5	98.6	98.6	101.7	102.8	105.4	105.4	113.5	115.1	114.9	114.9	115.0	115.0
2311	Men's and boys' suits and coats	194.3	199.3	199.6	199.9	203.9	204.2	204.5	205.8	206.5	206.5	206.6	206.8	206.6	207.5
2321	Men's and boys' shirts and nightwear	180.8	191.2	191.4	191.6	191.8	192.4	193.5	194.7	195.9	196.0	194.5	194.7	194.5	198.8
2322	Men's and boys' underwear	180.6	184.5	184.6	188.7	188.7	188.7	188.7	188.7	190.0	190.0	190.0	190.0	194.0	200.0
2323	Men's and boys' neckwear (12/75 = 100)	102.3	103.4	103.4	103.4	103.4	103.4	103.4	103.4	110.9	110.9	110.9	110.9	110.9	112.4
2327	Men's and boys' separate trousers	152.7	157.7	157.8	157.8	162.3	162.3	162.5	162.5	162.7	162.7	162.9	163.4	163.4	164.2
2328	Men's and boys' work clothing	195.2	198.5	199.8	200.0	206.5	206.5	209.0	208.9	210.7	210.9	213.1	218.9	219.4	225.3
2331	Women's and misses' blouses and waists (6/78 = 100)	102.6	99.1	99.2	99.1	100.3	100.5	102.6	102.6	102.7	102.8	103.0	105.9	106.8	107.0
2335	Women's and misses' dresses (12/77 = 100)	100.7	105.0	104.9	106.6	106.6	105.9	105.9	106.4	108.3	108.3	108.7	108.8	108.8	112.9
2341	Women's and children's underwear (12/72 = 100)	132.1	141.2	142.3	142.3	142.6	143.3	143.3	144.2	145.3	145.3	146.7	147.4	147.7	149.4
2342	Brassieres and allied garments (12/75 = 100)	111.7	113.5	116.0	116.0	116.1	116.2	117.5	117.5	117.8	117.8	117.8	118.8	118.8	119.4
2361	Children's dresses and blouses (12/77 = 100)	(1)	105.4	105.4	105.5	106.7	106.7	102.1	102.4	102.4	103.7	105.7	105.7	105.6	106.1
2381	Fabric dress and work gloves	214.4	227.3	232.2	232.2	241.5	243.9	243.9	245.4	245.4	245.4	245.4	246.9	246.9	257.7
2394	Canvas and related products (12/77 = 100)	99.6	105.9	105.9	105.9	105.9	105.9	106.9	108.4	111.0	111.4	111.4	112.1	120.1	122.1
2396	Automotive and apparel trimmings (12/77 = 100)	106.3	107.1	107.1	107.1	107.1	107.1	114.3	114.3	114.3	114.3	114.3	114.3	114.3	114.3
2421	Sawmills and planing mills (12/71 = 100)	228.9	239.5	241.9	249.5	252.5	251.6	250.9	251.3	259.1	265.6	262.2	250.1	237.5	234.8
2436	Softwood veneer and plywood (12/75 = 100)	150.1	164.2	162.2	160.1	157.3	151.1	140.7	148.1	153.4	156.0	153.3	143.3	138.7	138.5
2439	Structural wood members, n.e.c. (12/75 = 100)	136.2	142.3	148.1	148.3	150.1	150.1	150.0	150.0	149.9	150.8	158.2	158.2	158.2	158.2
2448	Wood pallets and skids (12/75 = 100)	149.4	160.6	161.8	163.8	166.8	166.7	167.0	166.9	166.8	167.9	167.9	171.0	170.5	169.8
2451	Mobile homes (12/74 = 100)	126.5	131.8	132.5	133.8	135.3	137.3	138.0	138.2	139.6	140.7	142.5	143.5	143.6	144.2
2492	Particleboard (12/75 = 100)	159.7	143.0	141.9	142.7	143.8	141.6	137.4	134.3	134.7	138.5	139.6	136.9	134.1	136.5
2511	Wood household furniture (12/71 = 100)	152.4	160.3	160.3	160.9	162.7	164.6	164.0	164.5	164.6	168.0	168.1	171.3	173.6	175.7
2512	Upholstered household furniture (12/71 = 100)	143.1	146.9	146.9	147.6	147.4	149.2	149.4	150.0	150.2	151.6	151.8	153.9	155.8	155.9
2515	Mattresses and bedspreads	156.3	162.3	162.9	162.9	163.1	163.2	164.1	164.5	165.8	165.8	168.8	172.1	172.1	169.7
2521	Wood office furniture	194.4	207.2	213.1	213.1	214.2	214.3	214.2	216.8	216.8	216.8	217.6	217.6	221.9	226.2
2611	Pulp mills (12/73 = 100)	178.5	187.1	187.3	189.9	192.5	195.2	196.6	205.4	205.7	205.8	215.2	215.6	215.6	227.2
2621	Paper mills, except building (12/74 = 100)	115.7	123.7	124.7	126.0	128.5	129.3	129.5	130.2	131.0	131.4	135.2	136.7	137.0	139.2
2631	Paperboard mills (12/74 = 100)	106.4	112.0	112.9	114.4	117.1	118.1	118.5	119.7	121.9	123.4	125.4	126.4	127.7	131.4
2647	Sanitary paper products	251.4	267.4	267.6	269.2	270.8	271.7	271.9	276.4	285.9	285.4	286.4	286.5	289.1	294.0
2654	Sanitary food containers	170.8	178.8	179.4	179.5	184.1	189.1	189.1	189.6	189.6	191.8	195.8	198.1	199.9	202.6
2655	Fiber cans, drums, and similar products (12/75 = 100)	123.0													

30. Continued—Producer Price Indexes for the output of selected SIC Industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1978	1979												1980 Jan.	
			Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.		
3021	Rubber and plastic footwear (12/71 = 100)	158.7	168.7	169.0	169.0	169.0	169.5	169.6	171.0	173.4	173.4	173.4	173.4	173.4	173.4	173.7
3031	Reclaimed rubber (12/73 = 100)	154.3	161.3	161.3	162.1	164.5	167.6	169.1	169.2	169.2	177.7	171.7	177.1	177.4	177.4	177.6
3079	Miscellaneous plastic products (6/78 = 100)		102.1	103.4	105.4	107.5	109.0	110.7	111.4	112.3	113.1	113.9	114.1	115.6	116.6	
3111	Leather tanning and finishing (12/77 = 100)	119.1	135.9	143.7	173.8	182.9	201.3	195.8	181.8	172.9	155.2	161.9	150.8	153.5	164.3	
3142	House slippers (12/75 = 100)	122.5	129.6	134.7	136.3	136.3	138.5	142.0	135.0	135.0	135.0	136.9	137.0	137.0	144.8	
3143	Men's footwear, except athletic (12/75 = 100)	127.1	135.2	141.0	145.6	147.6	152.8	155.4	155.4	158.2	160.1	159.3	159.2	159.2	159.3	
3144	Women's footwear, except athletic	164.1	176.3	178.4	189.2	190.3	192.2	195.4	198.7	201.5	201.6	202.3	204.0	204.0	205.7	
3171	Women's handbags and purses (12/75 = 100)	111.4	123.0	123.0	123.0	123.0	131.7	131.8	131.8	131.8	131.8	131.8	131.8	131.8	131.9	
3211	Flat glass (12/71 = 100)	142.7	149.0	150.8	150.8	150.8	150.8	151.8	151.9	151.9	152.3	152.6	153.3	153.9	157.4	
3221	Glass containers	244.3	250.7	250.7	250.7	250.7	265.2	265.2	265.2	265.2	265.2	265.4	265.5	273.6	274.5	
3241	Cement, hydraulic	251.2	275.4	278.8	280.3	283.1	283.2	283.7	285.4	285.4	285.4	282.8	282.9	283.6	302.8	
3251	Brick and structural clay tile	230.8	248.9	250.9	252.8	256.7	258.3	259.7	263.0	263.0	265.9	260.4	261.3	262.7	268.3	
3253	Ceramic wall and floor tile (12/75 = 100)	107.7	111.6	111.6	113.0	113.0	113.0	113.0	120.2	120.2	120.2	120.1	120.2	130.3	130.4	
3255	Clay refractories	221.4	233.4	233.2	234.1	234.4	234.6	236.9	246.5	246.7	247.1	251.7	254.4	255.4	256.5	
3259	Structural clay products, n.e.c.	176.3	184.1	184.4	186.7	186.8	186.8	187.8	188.2	192.1	192.1	193.2	196.2	196.9	196.7	
3261	Vitreous plumbing fixtures	189.7	195.1	198.6	198.9	201.6	204.6	206.4	210.1	212.4	213.1	214.5	215.7	217.3	219.2	
3262	Vitreous china food utensils	268.8	284.4	290.6	290.6	290.6	290.6	290.6	297.5	297.5	298.0	297.9	305.3	307.9	307.9	
3263	Fine earthenware food utensils	228.1	242.4	237.0	237.1	237.1	237.1	236.4	238.8	238.8	246.0	245.8	246.9	290.3	290.3	
3269	Pottery products, n.e.c. (12/75 = 100)	122.2	129.6	129.2	129.2	129.2	129.2	129.0	131.0	131.0	133.3	133.2	135.0	148.8	148.8	
3271	Concrete block and brick	202.0	223.0	223.1	227.0	228.8	232.6	232.7	232.7	232.7	237.8	240.0	240.0	240.1	249.5	
3273	Ready-mixed concrete	217.6	240.0	241.1	241.7	244.5	245.2	247.5	249.6	250.5	252.4	253.0	254.5	257.0	270.1	
3274	Lime (12/75 = 100)	129.5	136.2	136.6	137.5	139.9	139.8	140.1	141.8	142.9	144.2	144.7	144.4	147.7	149.6	
3275	Gypsum products	229.5	248.1	251.1	251.5	252.7	249.4	251.9	252.8	255.4	255.2	255.5	256.8	255.6	255.9	
3291	Abrasive products (12/71 = 100)	172.3	181.1	182.2	182.4	184.0	185.1	185.8	187.7	188.6	190.4	193.9	194.7	197.1	199.2	
3297	Nonclay refractories (12/74 = 100)	133.6	139.8	140.3	140.4	140.5	140.5	143.9	148.1	149.1	150.1	152.3	152.4	152.6	152.6	
3312	Blast furnaces and steel mills	262.3	279.9	280.3	281.1	283.5	285.3	285.8	292.8	293.0	293.2	296.3	297.0	297.6	302.3	
3313	Electrometallurgical products (12/75 = 100)	94.8	103.5	104.0	104.0	106.8	111.7	112.3	116.5	116.5	116.6	116.2	117.5	117.6	117.8	
3316	Cold finishing of steel shapes	241.0	258.1	258.3	258.4	259.1	259.8	261.3	270.6	270.9	271.9	273.2	273.9	274.2	274.2	
3317	Steel pipes and tubes	255.2	265.0	265.1	265.8	265.0	264.5	264.5	271.9	271.3	271.3	272.8	272.8	273.0	280.9	
3321	Gray iron foundries (12/68 = 100)	233.5	244.9	244.7	249.4	253.9	253.3	254.5	253.9	253.8	254.8	256.6	268.0	268.3	272.3	
3333	Primary zinc	223.2	243.2	260.6	260.9	274.2	274.5	275.2	281.4	265.5	264.2	265.2	257.9	265.7	266.1	
3334	Primary aluminum	217.4	220.3	226.1	232.4	235.8	237.4	238.5	244.9	247.4	248.2	256.0	263.2	266.6	267.0	
3351	Copper rolling and drawing	170.2	184.2	199.9	211.0	220.1	215.6	211.7	211.2	213.6	216.7	223.3	222.7	225.1	231.1	
3353	Aluminum sheet plate and foil (12/75 = 100)	137.6	145.8	146.4	146.5	148.0	148.8	149.6	149.8	150.0	150.8	151.5	151.9	153.4	153.4	
3354	Aluminum extruded products (12/75 = 100)	134.3	141.1	141.6	142.5	146.1	147.5	147.6	150.3	151.9	151.9	153.5	157.3	157.8	158.8	
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	119.7	125.2	126.5	127.5	129.6	131.5	131.6	132.7	133.1	133.5	136.8	139.9	140.3	140.5	
3411	Metal cans	238.5	252.7	253.9	260.9	264.4	263.8	262.2	262.2	262.9	263.5	270.2	273.8	273.9	276.6	
3425	Hand saws and saw blades (12/72 = 100)	147.9	157.7	157.8	157.9	159.6	161.9	162.5	162.8	166.3	166.4	166.9	169.4	169.6	173.0	
3431	Metal sanitary ware	209.1	214.7	217.4	219.2	220.8	222.2	224.1	226.4	228.9	229.2	230.1	231.7	232.9	237.3	
3465	Automotive stampings (12/75 = 100)	118.8	123.6	125.0	125.7	126.2	127.0	127.1	127.8	130.9	131.6	132.7	132.7	132.7	132.8	
3482	Small arms ammunition (12/75 = 100)	119.5	129.3	129.3	125.9	128.3	130.4	131.4	134.0	134.0	134.0	137.5	137.9	149.2	147.9	
3493	Steel springs, except wire	204.6	210.9	212.6	216.7	218.1	218.7	220.5	221.6	222.1	222.8	223.5	223.9	225.4	226.0	
3494	Valves and pipe fittings (12/71 = 100)	185.5	196.1	197.6	199.0	201.4	203.6	204.2	205.3	206.2	207.5	209.5	211.6	213.9	216.5	
3498	Fabricated pipe and fittings	265.5	276.6	276.7	276.8	284.9	288.2	290.7	294.8	294.8	294.9	297.0	297.4	301.7	301.7	
3519	Internal combustion engines, n.e.c.	220.1	232.7	233.8	234.0	237.1	239.0	239.2	242.3	245.7	251.8	252.8	253.7	253.7	259.2	
3531	Construction machinery (12/76 = 100)	114.0	120.0	121.1	121.6	123.0	123.9	124.0	125.6	126.3	126.5	128.4	129.0	130.7	134.2	
3532	Mining machinery (12/72 = 100)	209.5	222.5	223.4	224.2	228.0	228.4	228.4	231.2	231.5	232.7	233.1	234.7	235.8	243.1	
3533	Oilfield machinery and equipment	246.2	279.5	281.4	281.8	283.5	288.4	290.0	292.0	293.3	296.8	300.5	301.3	308.0	314.0	
3534	Elevators and moving stairways	204.2	211.7	214.1	213.4	213.8	213.6	214.2	215.4	214.6	211.9	216.8	220.6	220.9	223.9	
3542	Machine tools, metal forming types (12/71 = 100)	213.6	231.6	233.3	234.1	237.9	238.8	240.6	244.6	245.1	247.9	249.6	253.5	256.7	266.0	
3546	Power driven hand tools (12/76 = 100)	111.1	115.4	116.3	116.9	117.7	117.8	118.7	119.2	120.2	120.4	121.9	122.7	124.2	126.2	
3552	Textile machinery (12/69 = 100)	179.9	189.0	189.6	190.4	191.6	191.7	192.6	195.0	197.5	198.2	199.2	200.6	200.6	202.7	
3553	Woodworking machinery (12/72 = 100)	168.1	177.9	177.3	179.2	181.0	183.2	184.5	185.9	187.7	190.0	193.0	193.1	193.3	201.7	
3576	Scales and balances, excluding laboratory	179.7	188.8	191.1	191.1	191.3	192.8	193.7	194.8	195.4	195.4	192.9	196.6	197.7	200.9	
3592	Carburetors, pistons, rings, valves (6/76 = 100)	128.2	135.0	135.7	136.9	137.6	138.6	138.7	139.2	139.6	140.7	141.5	143.5	144.6	147.3	
3612	Transformers	158.3	163.2	165.4	167.0	168.5	168.0	168.5	167.9	167.6	168.4	171.4	170.5	171.7	173.0	
3623	Welding apparatus, electric (12/72 = 100)	178.1	184.8	186.0	186.6	187.3	191.5	191.9	193.5	194.1	195.1	196.2	197.9	199.6	200.6	
3631	Household cooking equipment (12/75 = 100)	114.8	119.1	119.2	120.2	120.3	120.7	120.9	122.0	123.4	124.3	124.3	125.8	126.1	128.6	
3632	Household refrigerators, freezers (6/76 = 100)	109.6	111.4	112.5	112.7	111.8	111.9	112.6	113.6	114.3	115.1	114.8	115.3	115.9	116.6	
3633	Household laundry equipment (12/73 = 100)	141.0	145.4	146.3	146.9	149.9	147.0	147.2	148.8	149.9	150.6	152.1	153.5	154.7	155.2	
3635	Household vacuum cleaners	135.5	138.1	138.1	140.4	140.4	141.2	141.5	141.6	141.7	141.9	144.3	144.7	145.8	146.2	
3636	Sewing machines (12/75 = 100)	111.2	119.8	119.8	119.8	121.1	121.1	121.1	121.8	122.2	122.2	122.0	122.0	122.0	122.0	
3641	Electric lamps	214.7	226.6	226.8	227.1	229.8	229.8	229.7	240.8	242.7	244.8	240.8	240.8	240.5	248.3	
3644	Noncurrent-carrying wiring devices (12/72 = 100)	185.8	196.1	197.1	198.0	200.4	202.6	203.0	203.3	207.7	209.1	212.8	214.2	217.3	215.2	
3646	Commercial lighting fixtures (12/75 = 100)	112.7	117.6	119.6	121.2	124.3	126.8	127.4	127.9	127.9	130.5	130.3	132.0	132.3	133.9	
3648	Lighting equipment, n.e.c. (12/75 = 100)	114.6	121.2	121.9	122.3	123.5	124.0	124.6	127.6	128.2	128.5	129.3	129.8	130.5	133.0	
3671	Electron tubes receiving type	200.9	210.8	210.9	211.0	211.2	211.3	226.4	226.5	226.6	227.2	227.2	227.2	227.6	229.1	
3674	Semiconductors and related devices	85.3	84.1	84.2	84.4	84.7	84.7	84.7	84.2	84.3	84.7	84.7	85.0	86.0	86.6	
3675	Electronic capacitors (12/75 = 100)	111.5	112.7	114.4	115.9	119.8	120.1	122.1	126.7	129.3	134.1	134.0	134.9	137.9	147.7	
3676	Electronic resistors (12/75 = 100)	118														

## 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. Indexes of productivity and related data, selected years, 1950-79

[1967 = 100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
<b>Private business sector:</b>													
Output per hour of all persons .....	61.0	70.3	78.7	95.0	104.2	111.4	113.6	110.1	112.4	116.4	118.6	119.2	118.1
Compensation per hour .....	42.4	55.8	71.9	88.7	123.1	139.7	151.2	164.9	181.3	197.2	213.0	231.2	252.8
Real compensation per hour .....	58.9	69.6	81.1	93.8	105.8	111.5	113.6	111.7	112.5	115.6	117.3	118.3	116.3
Unit labor cost .....	69.6	79.4	91.3	93.3	118.2	125.4	133.1	149.8	161.3	169.4	179.6	194.0	214.1
Unit nonlabor payments .....	73.2	80.5	85.5	95.9	105.8	119.0	124.9	130.4	150.4	158.0	165.6	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
<b>Nonfarm business sector:</b>													
Output per hour of all persons .....	66.9	74.3	80.9	95.9	103.0	110.1	112.0	108.5	110.5	114.4	116.2	116.8	115.5
Compensation per hour .....	45.4	58.7	74.2	89.4	121.7	138.4	149.2	162.8	178.9	193.8	209.3	227.3	247.6
Real compensation per hour .....	63.0	73.2	83.7	94.6	104.6	110.4	112.1	110.2	111.0	113.7	115.3	116.3	113.9
Unit labor cost .....	67.9	79.1	91.7	93.2	118.1	125.7	133.2	150.0	161.8	169.4	180.1	194.5	214.4
Unit nonlabor payments .....	71.5	80.1	84.5	95.8	106.0	117.5	117.8	124.7	146.0	156.0	163.9	169.9	178.8
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	202.2
<b>Nonfinancial corporations:</b>													
Output per hour of all employees .....	( <sup>1</sup> )	( <sup>1</sup> )	80.2	96.8	103.5	110.5	112.8	108.5	111.9	115.5	116.8	117.9	( <sup>1</sup> )
Compensation per hour .....	( <sup>1</sup> )	( <sup>1</sup> )	75.7	90.0	121.5	136.7	147.5	161.4	177.4	192.2	207.6	224.8	( <sup>1</sup> )
Real compensation per hour .....	( <sup>1</sup> )	( <sup>1</sup> )	85.4	95.3	104.4	109.1	110.8	109.3	110.1	112.7	114.4	115.0	( <sup>1</sup> )
Unit labor cost .....	( <sup>1</sup> )	( <sup>1</sup> )	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	( <sup>1</sup> )
Unit nonlabor payments .....	( <sup>1</sup> )	( <sup>1</sup> )	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	( <sup>1</sup> )
Implicit price deflator .....	( <sup>1</sup> )	( <sup>1</sup> )	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	( <sup>1</sup> )
<b>Manufacturing:</b>													
Output per hour of all persons .....	65.0	74.1	78.9	98.3	104.5	115.7	118.8	112.6	118.2	123.4	127.2	128.0	130.2
Compensation per hour .....	45.1	60.5	77.1	91.0	121.8	136.6	146.4	161.1	180.2	195.1	212.0	229.5	250.5
Real compensation per hour .....	62.5	75.4	87.0	96.3	104.7	109.0	110.0	109.1	111.8	114.5	116.8	117.5	115.2
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	192.4
Unit nonlabor payments .....	82.4	88.6	92.4	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	( <sup>1</sup> )
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	( <sup>1</sup> )

<sup>1</sup> Not available.



**32. Annual percent change in productivity and related data, 1969-79**

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-78	1960-78
<b>Private business sector:</b>													
Output per hour of all persons	0.2	0.7	3.3	3.5	1.9	-3.0	2.1	3.5	1.9	0.5	-0.9	2.6	2.2
Compensation per hour	6.8	7.1	6.7	6.3	8.2	9.1	9.9	8.8	8.0	8.5	9.3	5.8	6.8
Real compensation per hour	1.4	1.1	2.4	2.9	1.9	-1.7	.7	2.8	1.5	0.8	-1.7	2.6	2.1
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.4	3.2	4.5
Unit nonlabor payments	1.0	1.2	6.8	5.2	5.0	4.4	15.3	5.1	4.8	5.3	5.8	2.8	4.0
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	3.1	4.3
<b>Nonfarm business sector:</b>													
Output per hour of all persons	-3	.1	3.1	3.7	1.7	-3.1	1.9	3.5	1.6	0.5	-1.2	2.2	2.0
Compensation per hour	6.3	6.7	6.7	6.5	7.8	9.1	9.9	8.3	8.0	8.6	8.9	5.5	6.5
Real compensation per hour	.9	.7	2.3	3.1	1.5	-1.7	.7	2.4	1.4	0.9	-2.1	2.3	1.9
Unit labor cost	6.7	6.5	3.5	2.8	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.2	4.5
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.1	6.9	5.0	3.7	5.2	2.8	3.9
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.7	3.1	4.3
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	.3	-1	3.4	3.3	2.1	-3.8	3.1	3.2	1.1	1.0	( <sup>1</sup> )	( <sup>1</sup> )	2.0
Compensation per hour	6.7	6.7	6.2	5.9	7.9	9.4	10.0	8.3	8.0	8.3	( <sup>1</sup> )	( <sup>1</sup> )	6.3
Real compensation per hour	1.2	.7	1.9	2.5	1.6	-1.4	.7	2.4	1.5	0.6	( <sup>1</sup> )	( <sup>1</sup> )	1.7
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	( <sup>1</sup> )	( <sup>1</sup> )	4.2
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	( <sup>1</sup> )	( <sup>1</sup> )	3.4
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	( <sup>1</sup> )	( <sup>1</sup> )	3.9
<b>Manufacturing:</b>													
Output per hour of all persons	1.1	-3	5.3	5.1	2.7	-5.2	4.9	4.4	3.1	.6	1.8	2.6	2.6
Compensation per hour	6.4	6.9	6.3	5.5	7.2	10.1	11.8	8.3	8.6	8.3	9.1	5.4	6.3
Real compensation per hour	1.0	.9	2.0	2.1	.9	-8	2.4	2.4	2.0	.6	-1.9	2.2	1.6
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	7.2	2.7	3.6
Unit nonlabor payments	-4.4	-3.2	9.2	2.3	-1.0	-7	21.6	8.8	5.5	3.4	N.A.	1.8	2.3
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	N.A.	2.5	3.3

<sup>1</sup> Not available.

**33. Indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted**

[1967 = 100]

Item	Annual average		Quarterly indexes										
			1977			1978				1979			
	1978	1979	II	III	IV	I	II	III	IV	I	II	III	IV
<b>Private business sector:</b>													
Output per hour of all persons	119.2	118.1	117.9	119.4	118.8	118.4	119.0	119.7	119.8	118.9	118.2	117.8	117.3
Compensation per hour	231.2	252.8	210.8	215.3	218.5	224.2	218.5	233.6	238.4	244.8	250.3	255.6	260.0
Real compensation per hour	118.3	116.3	116.7	117.6	117.9	118.7	118.1	118.2	118.0	118.0	116.9	115.8	114.2
Unit labor cost	194.0	214.1	178.8	180.2	183.8	189.4	192.1	195.2	199.0	205.9	211.7	217.0	*221.5
Unit nonlabor payments	174.3	184.4	164.7	167.9	168.6	164.8	173.9	177.0	181.3	180.8	183.7	185.6	*188.2
Implicit price deflator	187.2	203.8	173.9	176.0	178.6	180.9	185.8	188.9	192.9	197.2	202.0	206.1	*210.0
<b>Nonfarm business sector:</b>													
Output per hour of all persons	116.8	115.5	115.8	116.7	116.3	116.0	116.5	117.3	117.6	116.6	115.4	115.0	114.9
Compensation per hour	227.3	247.6	207.3	211.2	214.8	220.6	224.6	229.4	234.3	240.2	*244.4	249.9	255.2
Real compensation per hour	116.3	113.9	114.7	115.4	115.9	116.8	116.1	116.1	116.0	115.8	114.3	113.2	112.1
Unit labor cost	194.5	214.4	179.0	180.9	184.7	190.2	192.7	195.6	199.3	206.0	212.1	217.3	222.2
Unit nonlabor payments	169.9	178.8	163.2	167.1	166.0	161.1	169.2	173.0	176.1	174.3	177.6	180.5	183.3
Implicit price deflator	186.1	202.2	173.6	176.2	178.3	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.9
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	117.9	( <sup>1</sup> )	116.5	117.4	116.7	116.7	117.8	118.4	118.8	118.1	117.3	*117.2	( <sup>1</sup> )
Compensation per hour	224.8	( <sup>1</sup> )	205.7	209.5	212.8	218.5	222.3	226.9	231.3	237.4	242.1	247.1	( <sup>1</sup> )
Real compensation per hour	115.0	( <sup>1</sup> )	113.8	114.5	114.8	115.7	114.9	114.8	114.5	114.5	113.1	*112.0	( <sup>1</sup> )
Total unit costs	193.3	( <sup>1</sup> )	180.5	182.4	186.3	190.8	191.6	194.0	196.8	202.3	208.0	*213.2	( <sup>1</sup> )
Unit labor cost	190.6	( <sup>1</sup> )	176.6	178.4	182.3	187.3	188.7	191.5	194.8	201.0	206.4	*210.8	( <sup>1</sup> )
Unit nonlabor costs	201.8	( <sup>1</sup> )	192.4	194.8	198.7	201.5	200.8	201.6	203.1	206.5	213.2	*220.5	( <sup>1</sup> )
Unit profits	127.2	( <sup>1</sup> )	123.3	130.9	122.2	107.1	129.2	132.7	138.7	130.3	129.2	*127.5	( <sup>1</sup> )
Implicit price deflator	183.5	( <sup>1</sup> )	172.0	174.7	176.8	178.3	182.3	184.9	188.2	191.6	196.3	*200.4	( <sup>1</sup> )
<b>Manufacturing:</b>													
Output per hour for all persons	128.0	130.2	127.3	128.4	127.8	125.7	127.2	129.2	129.8	129.0	130.0	131.1	130.6
Compensation per hour	229.5	250.5	209.7	214.1	217.5	223.2	226.6	231.4	236.5	242.4	248.2	253.0	258.0
Real compensation per hour	117.5	115.2	116.1	117.0	117.4	118.1	117.1	117.0	117.1	116.9	115.9	114.6	113.3
Unit labor cost	179.4	192.4	164.7	166.7	170.2	177.5	178.1	179.1	182.2	187.9	190.9	193.0	197.6

**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					
	II 1978 to III 1978	III 1978 to IV 1978	IV 1978 to I 1979	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	III 1977 to III 1978	IV 1977 to IV 1978	I 1978 to I 1979	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979
	<b>Private business sector:</b>											
Output per hour of all persons	2.4	0.3	-3.0	-2.2	-1.3	-1.6	0.2	0.8	0.4	-0.6	-1.6	-2.0
Compensation per hour	9.2	8.5	11.1	9.3	8.8	6.9	8.5	9.1	9.2	9.5	9.4	9.0
Real compensation per hour	.3	-.7	.1	-3.8	-3.6	-5.6	0.4	.1	-.6	-1.0	-2.0	-3.2
Unit labor cost	6.6	8.1	14.6	11.8	10.3	8.7	8.3	8.3	8.7	10.2	11.2	11.3
Unit nonlabor payments	7.4	9.9	-1.0	6.5	4.1	5.9	5.4	7.5	9.7	5.6	4.8	3.9
Implicit price deflator	6.9	8.7	9.3	10.1	8.3	7.8	7.4	8.0	9.0	8.7	9.1	8.9
<b>Nonfarm business sector:</b>												
Output per hour of all persons	2.7	.8	-3.2	-4.1	-1.4	-1.2	.5	1.1	1.5	-1.0	-2.0	-2.3
Compensation per hour	8.8	8.8	10.4	7.9	8.5	8.9	8.7	9.1	8.9	9.0	8.9	8.9
Real compensation per hour	.0	-.4	-.6	-5.0	-3.9	3.8	.6	.1	-.8	-1.5	-2.5	-3.3
Unit labor cost	6.0	8.0	14.0	12.5	10.1	9.3	8.1	7.9	8.3	10.1	11.1	11.1
Unit nonlabor payments	9.4	7.3	-4.0	7.8	6.6	6.4	3.5	6.1	8.2	5.0	4.3	4.1
Implicit price deflator	7.0	7.8	8.1	11.0	9.0	8.4	6.6	7.3	8.3	8.5	9.0	9.1
<b>Nonfinancial corporations:</b>												
Output per hour of all employees	2.0	1.1	-2.1	-2.8	-0.2	( <sup>1</sup> )	0.8	1.8	1.3	.5	-1.0	( <sup>1</sup> )
Compensation per hour	8.4	8.1	11.0	8.0	8.6	( <sup>1</sup> )	8.3	8.7	8.7	8.9	8.9	( <sup>1</sup> )
Real compensation per hour	-.4	-1.0	.0	-4.9	-3.8	( <sup>1</sup> )	.2	-.3	-1.0	-1.6	-2.5	( <sup>1</sup> )
Total unit costs	5.1	5.9	11.7	11.8	10.2	( <sup>1</sup> )	6.4	5.6	6.1	8.6	9.9	( <sup>1</sup> )
Unit labor costs	6.2	6.9	13.4	11.2	8.8	( <sup>1</sup> )	7.4	6.8	7.3	9.4	10.1	( <sup>1</sup> )
Unit nonlabor costs	1.7	2.9	6.8	13.5	4.6	( <sup>1</sup> )	3.5	2.2	2.5	6.2	9.4	( <sup>1</sup> )
Unit profits	11.4	19.5	-22.1	-3.4	-5.3	( <sup>1</sup> )	1.4	13.6	21.7	0	-3.9	( <sup>1</sup> )
Implicit price deflator	5.7	7.3	7.6	10.2	8.6	( <sup>1</sup> )	5.8	6.4	7.5	7.7	8.4	( <sup>1</sup> )
<b>Manufacturing:</b>												
Output per hour of all persons	6.3	2.0	-2.4	2.9	3.5	-1.5	.6	1.6	2.6	2.2	1.5	0.6
Compensation per hour	8.7	9.3	10.3	9.8	8.1	8.2	8.1	8.7	8.6	9.5	9.4	9.1
Real compensation per hour	-.1	0	-.6	-3.4	-4.3	4.5	0	-.3	-1.1	-1.0	-2.1	-3.2
Unit labor cost	2.2	7.1	13.0	6.7	4.4	9.8	7.4	7.1	5.9	7.2	7.8	8.5

## LABOR-MANAGEMENT DATA

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.

Sector and measure	Annual average					Quarterly average							
	1975	1976	1977	1978	1979	1978			1979				
						II	III	IV	I	II	III	IV	
Wage and benefit settlements, all industries:													
First-year settlements .....	11.4	8.5	9.6	8.3	8.9	6.8	7.2	6.1	2.5	10.6	9.0	8.1	
Annual rate over life of contract .....	8.1	6.6	6.2	6.3	6.6	6.0	5.9	5.2	5.2	7.7	6.0	6.0	
Wage rate settlements, all industries:													
First-year settlements .....	10.2	8.4	7.8	7.6	7.4	6.9	7.5	7.4	4.8	9.0	6.6	6.3	
Annual rate over life of contract .....	7.8	6.4	5.8	6.4	6.0	6.2	6.4	5.9	6.6	7.0	4.8	4.9	
Manufacturing:													
First-year settlements .....	9.8	8.9	8.4	8.3	7.0	7.1	8.4	9.5	8.7	9.9	6.2	5.9	
Annual rate over life of contract .....	8.0	6.0	5.5	6.6	5.4	5.8	7.2	7.4	8.6	8.1	4.6	4.2	
Nonmanufacturing (excluding construction):													
First-year settlements .....	11.9	8.6	8.0	8.0	7.5	7.7	7.4	6.4	2.3	8.5	9.1	7.2	
Annual rate over life of contract .....	8.0	7.2	5.9	6.5	5.9	6.9	5.9	5.1	5.6	5.7	5.8	7.5	
Construction:													
First-year settlements .....	8.0	6.1	6.3	6.5	8.9	6.4	7.0	8.4	11.0	9.1	10.4	7.9	
Annual rate over life of contract .....	7.5	6.2	6.3	6.2	8.4	6.0	7.2	7.1	7.7	8.2	9.1	7.1	



### 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	1977	1978				1979			
						IV	I	II	III	IV	I	II	III	IV
Total effective wage rate adjustment, all industries .....	8.7	8.1	8.0	8.2	8.8	1.1	1.3	2.6	2.7	1.4	1.4	2.6	3.2	1.5
Change resulting from—														
Current settlement .....	2.8	3.2	3.0	2.0	2.8	0.5	0.5	0.6	0.5	0.4	0.2	1.1	1.0	0.4
Prior settlement .....	3.7	3.2	3.2	3.7	3.0	.3	.6	1.4	1.2	.5	.6	.9	1.0	.4
Escalator provision .....	2.2	1.6	1.7	2.4	3.0	.3	.3	.6	1.0	.5	.6	.5	1.2	.6
Manufacturing .....	8.5	8.5	8.4	8.6	9.2	1.4	1.4	2.2	2.9	1.9	1.4	2.3	3.1	2.2
Nonmanufacturing .....	8.9	7.7	7.6	7.9	8.5	.8	1.3	2.9	2.5	1.1	1.4	2.8	3.4	.9

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: September .....	453	854	448	551	4,446	.25
October .....	370	721	117	216	2,352	.13
November .....	268	569	64	136	1,691	.09
December .....	157	408	53	143	1,377	.08
1979: January .....	262	366	68	144	1,925	.10
February .....	299	501	75	221	1,670	.10
March .....	391	608	112	223	1,871	.10
April .....	512	781	426	535	5,126	.27
May .....	556	877	132	395	3,682	.19
June .....	536	866	137	302	2,989	.16
July .....	471	817	168	290	3,001	.16
August .....	463	869	119	270	3,152	.15
September .....	464	793	135	243	2,319	.13
October .....	443	781	230	334	2,968	.15
November .....	257	546	91	255	2,720	.15
December .....	134	.....	42	.....	1,976	.11
1980: January <sup>P</sup> .....	352	441	207	292	3,142	.16

## 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, 1978-79 Edition.** Bulletin 1955. A useful resource supplying valuable assistance to all persons seeking satisfying and productive employment. \$8, paperback; \$11 hard 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.

# Handbook of Labor Statistics 1978



## Tables include:

Labor force  
Employment  
Unemployment  
Hours  
Productivity and unit labor costs  
Compensation  
Prices and living conditions  
Unions and industrial relations  
Foreign labor statistics  
General economic data

The 1978 edition of the Handbook of Labor Statistics makes available in one 620-page volume the major series produced by the Bureau of Labor Statistics. Each table is complete historically, beginning with the earliest reliable and consistent data and running through calendar year 1977. The volume includes index and technical notes.

## Mail Order Form to:

BLS Regional Office  
nearest you (listing  
elsewhere) or  
Superintendent of  
Documents, U.S.  
Government  
Printing Office,  
Washington, D.C. 20402  
Make checks  
payable to  
Superintendent of  
Documents

Please send \_\_\_\_\_ copies of BLS Bulletin 2000 *Handbook of Labor Statistics 1978* Stock No. 029-001-02194-1 at \$9.50 a copy.

Name \_\_\_\_\_

Organization \_\_\_\_\_

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  
Lao-441



**SECOND CLASS MAIL**

