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# MONTHLY LABOR REVIEW

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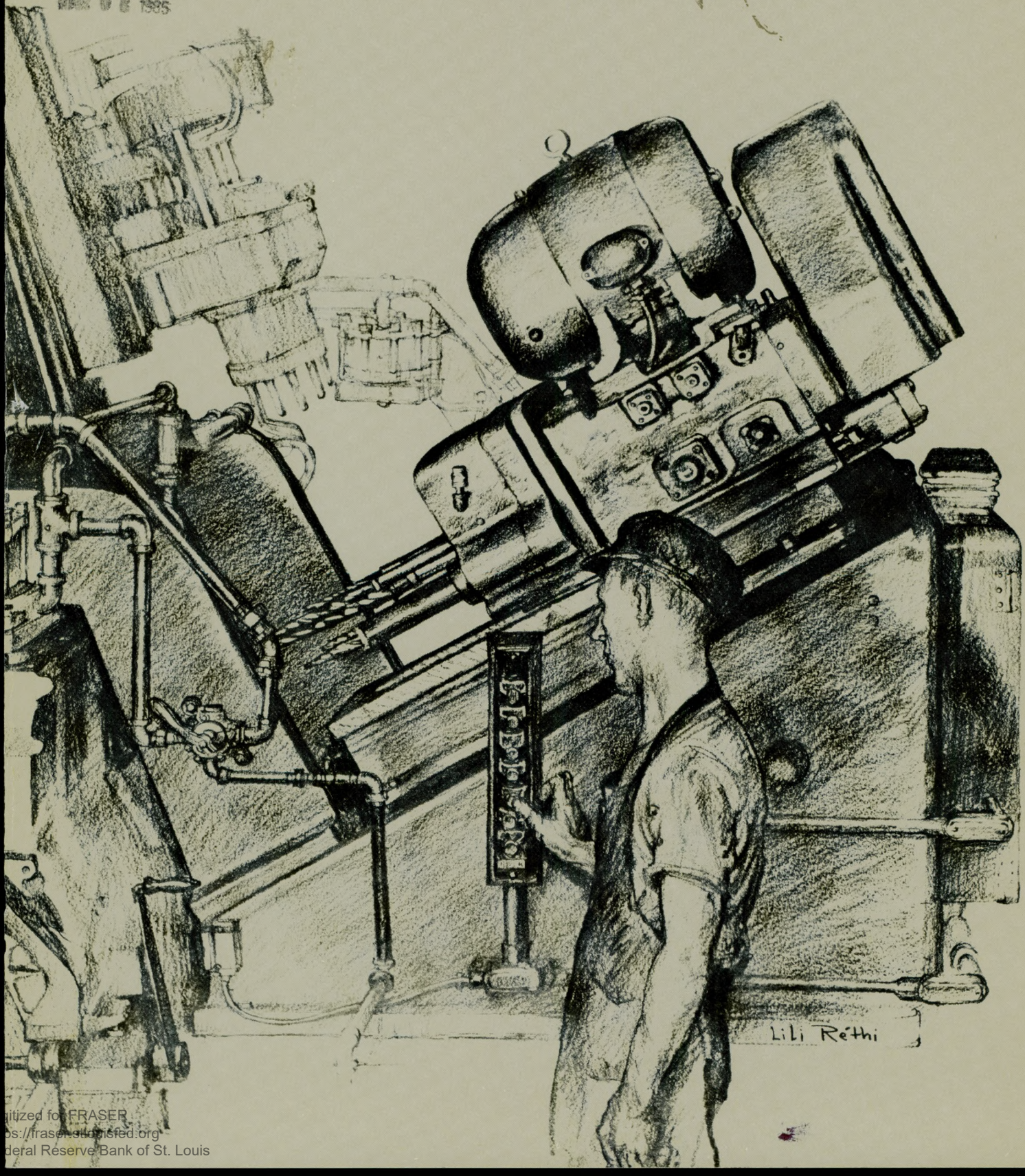
*In this issue:*

Employment and Unemployment in 1984

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**Raymond J. Donovan, *Secretary***

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

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MONTHLY LABOR REVIEW

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# Labor Month In Review

**IMPROVING STATISTICS.** In discussing the future of economic statistics—at the December meeting of the American Economic Association in Dallas—Commissioner of Labor Statistics Janet L. Norwood touched on several improvements needed or under way. Excerpts:

**Service sector.** Over the past few decades, most of the growth in the economy has shifted from manufacturing to services. Today, more than 7 of every 10 workers have jobs in the service-producing sector. Unfortunately, the data system has not kept up with these changes; while some data in major Bureau series cover services, large gaps remain. Congress, recognizing this need, added resources in the fiscal 1985 budget for expansion of data on the service sector and development of plans and cost estimates for further coverage. The budget increment should permit the BLS to undertake some of the research necessary for an appropriate measurement program in the major areas of the service sector as well as to develop a series of new measures of prices, wages, and productivity in the sector.

**Local area data.** Closely related to the shift from manufacturing to services is the structural decline that has for many years been taking place in a number of basic U.S. manufacturing industries. This industrial restructuring, in such industries as autos and steel, textiles and shoes, tends to be concentrated in particular areas of the country. Our current local area data base is inadequate for the determination of the effects of economic change.

Local area data are difficult and expensive to produce with accuracy. Indeed, development of local area data as a part of a national indicator tends to dilute the quality of the national measure. However, as industrial restructuring continues, the need for such data will surely increase.

**Wages.** The Bureau's Employment Cost Index provides a macro indicator of the percent change in occupational wage and salary rates and employer costs of nonwage compensation. While aggregate measures are produced for the total private economy, more detailed information is needed by industry, individual occupation, and geographic area.

One serious deficiency is the lack of dollar-level information on fringe benefits, an increasingly important element in employee compensation. More information is also needed on changes in employer practices and on new issues in collective bargaining. In addition, our occupational safety and health and other industrial relations information needs strengthening—and in some cases, reshaping—to make it more useful for research and analytical purposes.

**Employment.** BLS is currently involved in two major improvements in the employment-unemployment measurement area which will have a lasting effect on the future quality of these programs. The first of these—redesign of the Current Population Survey to take account of changes reflected in the 1980 census—is a joint operation with the Census Bureau and should be completed in July 1985. Major changes in sample design will help to improve the accuracy of estimates for individual States and will result in a more efficient national design. The second effort—modernization of the monthly business survey on employment, hours, and earnings—is a Federal-State cooperative improvement program of the BLS and the State Employment Security agencies.

**Prices.** Over the last decade, BLS has introduced major conceptual and methodological changes into its consumer and producer price programs. The Producer Price Index Revision program covering manufacturing and mining is nearly completed, and the program to revise the Consumer Price Index is well under way.

A few years ago, the Bureau launched a successful effort to establish a continuing program for the collection and publication of consumer expenditures. Processing problems have slowed the establishment of a program for regularly scheduled publication and analysis of the results of these important data. A great deal of progress has been made, however, and a schedule for regular recurring publication will soon be announced.

**Productivity.** The Nation's experience with slowdown in the rate of productivity growth during the last decade has demonstrated the need for more complete coverage of nonlabor factors of production in productivity measures. In an attempt to meet this need, BLS began publication of multifactor productivity measures, including indexes of capital productivity. Thus far, these measures have been limited to the major sectors of the economy, although progress has been made in the development of these new indexes in two industries—autos and steel. Economists will need a far more comprehensive set of these measures to analyze the important issues that continue to face the American economy in this field.

Over the next few years, the country will make a number of important choices in decisions on funding government programs. The challenge for the statistical system will be the implementation of those choices in a manner which does not short-change data users of the future. The economics profession can help by making its priorities known in a clear and effective manner. □



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# Employment and unemployment in 1984: a second year of strong growth in jobs

*As the economic recovery entered its second year, unemployment showed a further sharp decline amid the substantial increase in employment, but the across-the-board improvement in joblessness faded after midyear*

RICHARD M. DEVENS, JR., CAROL BOYD LEON, AND DEBBIE L. SPRINKLE

The employment situation in 1984 reflected extraordinary rates of employment growth in the first 2 quarters, a pause in the summer months, and additional employment growth in the last quarter of the year. Total civilian employment, as measured by the Current Population Survey, stood at 106.0 million in the fourth quarter after seasonal adjustment. Employees on nonagricultural payrolls, as measured by the Current Employment Statistics program, totaled 95.5 million at yearend. Both series were up by about 7 million from the trough of the 1981–82 recession.[1]

With the robust employment growth early in the year, unemployment continued to drop sharply, but, as the job growth slowed, the unemployment decline slowed after midyear. At 8.2 million in the fourth quarter, unemployment was down about 1.3 million from the year before and more than 3.5 million from the recession trough. At year's end, the rate of unemployment in the total labor force was 7.1 percent; it was 7.2 percent for the civilian labor force. These indicators were down 1.3 percentage points from the fourth quarter of 1983.

This article examines the behavior of the key labor force time series, both for 1984 and in relation to the business cycle, and details the effects on various social and economic groups.[2] Special emphasis is placed on such groups as minority workers, as well as on families and their relationship to the labor market, and selected industries that have had prominent roles in the changing employment structure of the economy.

Richard M. Devens, Jr., Carol Boyd Leon, and Debbie L. Sprinkle are economists in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

## Unemployment

As employment growth paused in mid-1984, so faded the rapid reduction in unemployment that had occurred in the first 6 quarters of recovery. The rate of unemployment for civilian workers dropped more than a full percentage point from the fourth quarter of 1983 to the second quarter of 1984 and then showed more modest improvement, ending the year at 7.2 percent. (See table 1.)

Among the major labor force groups by age and sex, men and teenagers showed declines in unemployment in all 4 quarters of 1984. After large decreases in the first and second quarters, the unemployment rate for men edged down slightly in the last two to end the year at 6.2 percent. The rate for women, however, actually edged up a bit in the third quarter, after dropping as low as 6.7 percent in the spring; unemployment among women stood at 6.6 percent at the end of the year. Teenage unemployment showed small declines throughout most of 1984 but remained at a persistently high level, ending the year at 18.4 percent.

The continuing decline in unemployment among adult males in the second half reflected improvements among black men, as their rate dropped from 14.8 to 13.1 percent between the second and fourth quarters. Over the same



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**Table 1. Selected labor force indicators, seasonally adjusted quarterly averages, 1982–84**

[Numbers in thousands]

| Characteristic | 1982 IV | 1983 IV | 1984 I | 1984 II | 1984 III | 1984 IV |
|---|---|---|---|---|---|---|
| **Total** | | | | | | |
| Civilian labor force | 110892 | 112100 | 112650 | 113514 | 113754 | 114185 |
| Participation rate | 64.1 | 64.1 | 64.1 | 64.5 | 64.4 | 64.5 |
| Employed | 99121 | 102591 | 103768 | 104985 | 105306 | 105951 |
| Employment-population ratio | 57.3 | 58.6 | 59.1 | 59.6 | 59.6 | 59.8 |
| Unemployed | 11772 | 9509 | 8882 | 8529 | 8447 | 8233 |
| Unemployment rate | 10.6 | 8.5 | 7.9 | 7.5 | 7.4 | 7.2 |
| **Men, 20 years and over** | | | | | | |
| Civilian labor force | 58356 | 59048 | 59352 | 59571 | 59798 | 60013 |
| Participation rate | 78.7 | 78.4 | 78.3 | 78.3 | 78.3 | 78.3 |
| Employed | 52570 | 54457 | 55199 | 55637 | 55952 | 56274 |
| Employment-population ratio | 70.9 | 72.3 | 72.8 | 73.1 | 73.3 | 73.4 |
| Unemployed | 5786 | 4592 | 4153 | 3934 | 3846 | 3738 |
| Unemployment rate | 9.9 | 7.8 | 7.0 | 6.6 | 6.4 | 6.2 |
| **Women, 20 years and over** | | | | | | |
| Civilian labor force | 44100 | 45034 | 45275 | 45924 | 46058 | 46335 |
| Participation rate | 52.9 | 53.3 | 53.3 | 53.9 | 53.8 | 53.9 |
| Employed | 40141 | 41764 | 42117 | 42838 | 42928 | 43285 |
| Employment-population ratio | 48.2 | 49.4 | 49.6 | 50.2 | 50.2 | 50.4 |
| Unemployed | 3959 | 3270 | 3158 | 3087 | 3129 | 3051 |
| Unemployment rate | 9.0 | 7.3 | 7.0 | 6.7 | 6.8 | 6.6 |
| **Both sexes, 16 to 19 years** | | | | | | |
| Civilian labor force | 8436 | 8018 | 8022 | 8019 | 7898 | 7837 |
| Participation rate | 54.1 | 53.2 | 53.7 | 54.3 | 53.9 | 53.8 |
| Employed | 6409 | 6371 | 6452 | 6510 | 6426 | 6392 |
| Employment-population ratio | 41.1 | 42.3 | 43.2 | 44.1 | 43.9 | 43.9 |
| Unemployed | 2027 | 1647 | 1570 | 1508 | 1472 | 1444 |
| Unemployment rate | 24.0 | 20.5 | 19.6 | 18.8 | 18.6 | 18.4 |
| **White** | | | | | | |
| Civilian labor force | 96567 | 97620 | 98096 | 98619 | 98425 | 98755 |
| Participation rate | 64.4 | 64.5 | 64.5 | 64.8 | 64.6 | 64.7 |
| Employed | 87460 | 90467 | 91437 | 92233 | 92172 | 92626 |
| Employment-population ratio | 58.3 | 59.8 | 60.1 | 60.6 | 60.5 | 60.7 |
| Unemployed | 9107 | 7153 | 6659 | 6387 | 6253 | 6129 |
| Unemployment rate | 9.4 | 7.3 | 6.8 | 6.5 | 6.4 | 6.2 |
| **Black** | | | | | | |
| Civilian labor force | 11509 | 11632 | 11816 | 11942 | 12102 | 12263 |
| Participation rate | 61.5 | 61.0 | 61.5 | 61.9 | 62.4 | 63.0 |
| Employed | 9155 | 9560 | 9842 | 10035 | 10187 | 10409 |
| Employment-population ratio | 48.9 | 50.2 | 51.2 | 52.0 | 52.5 | 53.4 |
| Unemployed | 2354 | 2072 | 1973 | 1907 | 1915 | 1854 |
| Unemployment rate | 20.5 | 17.8 | 16.7 | 16.0 | 15.8 | 15.1 |
| **Hispanic origin** | | | | | | |
| Civilian labor force | 5970 | 6226 | 6330 | 6341 | 6316 | 6440 |
| Participation rate | 63.7 | 64.1 | 63.8 | 63.6 | 64.8 | 65.1 |
| Employed | 5058 | 5476 | 5640 | 5657 | 5648 | 5775 |
| Employment-population ratio | 53.9 | 56.3 | 56.8 | 56.7 | 58.0 | 58.4 |
| Unemployed | 912 | 750 | 690 | 683 | 668 | 665 |
| Unemployment rate | 15.3 | 12.1 | 10.9 | 10.8 | 10.6 | 10.3 |

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

period, white male unemployment edged down to end the year at 5.4 percent. The overall unemployment rate for whites dropped slightly in the second half, to 6.2 percent, following a much stronger improvement in the first half. Among blacks, unemployment dropped from 17.8 to 16.0 percent between the end of 1983 and midyear; at the end of 1984 the black unemployment rate was 15.1 percent. Black teenagers continued to have a very high rate of unemployment. Even after a 6.6-percentage-point drop from fourth quarter 1983 to the end of 1984, unemployment affected about two-fifths of black teens in the labor force. The unemployment rate for workers of Hispanic origin showed a decline of 1.8 percentage points over the year to 10.3 percent, with most of the improvement taking place in the first quarter.

*Duration and reasons.* The median duration of unemployment fell from 9.3 weeks at the end of 1983 to 7.3 weeks at the end of 1984. Similarly, the average (mean) duration of unemployment fell 2.9 weeks to end the year



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at 17.1 weeks. These declines reflected a sharp reduction in the number of the unemployed who had been out of work for a long time. The number of persons jobless for 6 months or longer declined by three-quarters of a million over the year. Nevertheless, at yearend there were still 1.4 million persons who had been unemployed for half a year or more. Protracted unemployment is particularly a problem for men 55 years and older.

The number of job losers among the unemployed dropped by about a million between the end of 1983 and the fourth quarter of 1984 as their share of the unemployed fell from 55 to 51 percent. It should be noted, however, that this cyclically important indicator showed virtually no change from the third quarter to the fourth. Many observers treat a higher proportion of those who leave jobs voluntarily as an indicator of worker confidence in the economy; that proportion of the unemployed rose irregularly from 8.9 percent at the end of 1983 to 10.3 at yearend.

## Total employment

The first 2 quarters of 1984 extended the unusually rapid growth of total employment experienced in 1983. From the fourth quarter of 1983 to the second quarter of 1984, civilian employment grew by 2.4 million, or 2.3 percent. In contrast, from the second to the fourth quarters, employment grew by less than a million, or 0.9 percent. This declining rate of employment growth was reflected in other quarterly economic statistics, such as real Gross National Product (computed at a seasonally adjusted annual rate) and the Index of Industrial Production:

| *Quarter* | *Civilian employment* | *Real GNP* | *Industrial production* |
|---|---|---|---|
| I | 1.1 | 10.1 | 2.8 |
| II | 1.2 | 7.1 | 2.1 |
| III | 0.3 | 1.6 | 1.5 |
| IV | 0.6 | 2.8 | −0.2 |

Overall employment growth for the year was 3.3 percent, measured from the fourth quarter of 1983 to the fourth quarter of 1984. Men accounted for about 54 percent of the increase in employment, women for more than 45 percent, with virtually no change in teenage employment. Most of the gains for women occurred in the first half of the year, while gains among men were more evenly spread.

The proportion of the civilian noninstitutional population with jobs (the employment-population ratio) rose more than a full percentage point over the year to 59.8 percent in the fourth quarter. This was very close to the quarterly high of 60.0 percent reached in 1979. Employment growth exceeded population growth for men and women. Among teenagers, the decline in population coupled with fairly steady employment levels also resulted in a higher employment-population ratio.

There has been some concern over the composition of employment growth over the course of the current recovery. Such concerns are often based on the fact that the service-producing industries are growing at a faster rate than goods-producing industries. It is also useful to analyze the occupational distribution of job growth over the past year. While some analysts maintain that the changing industrial composition of employment implies an unfavorable trend toward "dead-end" service and clerical jobs, and thus away from "good" managerial/professional and industrial craft jobs, the figures for 1984 demonstrate that the latter occupational groups were the fastest growing, and the former occupations were among the slower.[3] Employment growth by occupational group:

| *Occupation* | *Employment* | | *Percent change* |
|---|---|---|---|
| | *1983 IV* | *1984 IV* | |
| Managerial and professional specialty | 24,071 | 25,305 | 5.1 |
| Technical, sales, and administrative support | 31,843 | 32,849 | 3.2 |
| Service occupations | 14,115 | 14,239 | 0.9 |
| Precision production, craft, and repair | 12,814 | 13,268 | 3.5 |
| Operators, fabricators, and laborers | 16,618 | 17,132 | 3.1 |
| Farming, forestry, and fishing | 3,365 | 3,393 | 0.8 |

The administrative support subsector, which includes clerical workers, grew by only about 2 percent over the year, while, in a development linked to recovery in the industrial sector, handlers, equipment cleaners, helpers, and laborers saw an employment increase of 5.1 percent.

## Nonfarm payroll employment

The number of nonagricultural jobs surged in the first half of 1984, sustained by the strong cyclical recovery. Growth continued at a somewhat slower pace during the second half, as the job total reached 95.5 million by yearend, surpassing the recession trough by 6.8 million employees. All in all, 2 years of economic recovery added about two and one-half times the number of payroll jobs lost during the 1981–82 recession. Virtually all of that recession loss, however, occurred in the goods-producing sector, while two-thirds of the recovery gains took place in the service-producing sector. Indeed, goods-sector jobs were still slightly short of their pre-recession peak at the end of 1984. Employment growth in the goods sector essentially stalled during the second half, as the service sector accounted for almost 85 percent of payroll additions. (See table 2.)

Despite a less heady pace of job growth, the recovery was still producing solid job gains, particularly when viewed in comparison with other post-World War II recoveries. Because the depth and duration of the 1973–75 recession were quite similar to those of the 1981–82 recession, the recovery beginning in 1975 provides a useful benchmark



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**Table 2. Employees on nonagricultural payrolls by industry, seasonally adjusted quarterly averages, 1982–84**

[In thousands]

| Industry | 1982 | 1983 | 1984 | | | |
|---|---|---|---|---|---|---|
| | IV | IV | I | II | III | IV[1] |
| Total | 88,713 | 91,686 | 92,765 | 93,790 | 94,560 | 95,480 |
| Total private | 72,877 | 75,817 | 76,896 | 77,884 | 78,562 | 79,365 |
| Goods-producing | 22,968 | 24,050 | 24,518 | 24,862 | 25,056 | 25,147 |
| Mining | 1,030 | 967 | 977 | 994 | 1,015 | 1,009 |
| Oil and gas extraction | 652 | 603 | 607 | 618 | 636 | 645 |
| Construction | 3,828 | 4,068 | 4,177 | 4,292 | 4,362 | 4,407 |
| General building contractors | 959 | 1,065 | 1,103 | 1,124 | 1,135 | 1,148 |
| Manufacturing | 18,110 | 19,016 | 19,364 | 19,576 | 19,679 | 19,731 |
| Durable goods | 10,484 | 11,169 | 11,432 | 11,600 | 11,719 | 11,784 |
| Lumber and wood products | 596 | 694 | 707 | 712 | 706 | 713 |
| Furniture and fixtures | 425 | 466 | 479 | 483 | 483 | 491 |
| Stone, clay, and glass products | 558 | 589 | 602 | 605 | 604 | 609 |
| Primary metal industries | 824 | 870 | 875 | 883 | 875 | 864 |
| Blast furnaces and basic steel products | 343 | 351 | 347 | 346 | 333 | 320 |
| Fabricated metal products | 1,349 | 1,420 | 1,448 | 1,469 | 1,489 | 1,499 |
| Machinery, except electrical | 2,052 | 2,102 | 2,151 | 2,206 | 2,246 | 2,252 |
| Electrical and electronic equipment | 1,951 | 2,109 | 2,176 | 2,226 | 2,261 | 2,275 |
| Transportation equipment | 1,663 | 1,836 | 1,893 | 1,909 | 1,942 | 1,961 |
| Motor vehicles and equipment | 660 | 825 | 862 | 853 | 872 | 881 |
| Instruments and related products | 698 | 705 | 715 | 721 | 726 | 731 |
| Miscellaneous manufacturing | 367 | 379 | 386 | 386 | 388 | 389 |
| Nondurable goods | 7,627 | 7,847 | 7,932 | 7,976 | 7,960 | 7,947 |
| Food and kindred products | 1,627 | 1,628 | 1,638 | 1,645 | 1,642 | 1,647 |
| Tobacco manufactures | 68 | 67 | 66 | 67 | 67 | 66 |
| Textile mill products | 728 | 760 | 768 | 762 | 750 | 732 |
| Apparel and other textile products | 1,137 | 1,194 | 1,213 | 1,217 | 1,196 | 1,181 |
| Paper and allied products | 654 | 672 | 679 | 682 | 684 | 684 |
| Printing and publishing | 1,271 | 1,316 | 1,333 | 1,355 | 1,371 | 1,385 |
| Chemical and allied products | 1,055 | 1,050 | 1,054 | 1,059 | 1,065 | 1,066 |
| Petroleum and coal products | 199 | 192 | 190 | 188 | 187 | 185 |
| Rubber and miscellaneous plastics products | 679 | 757 | 783 | 794 | 800 | 809 |
| Leather and leather products | 209 | 210 | 210 | 206 | 199 | 191 |
| Service-producing | 65,745 | 67,636 | 68,247 | 68,928 | 69,504 | 70,333 |
| Transportation and public utilities | 5,022 | 5,050 | 5,104 | 5,145 | 5,197 | 5,229 |
| Transportation | 2,734 | 2,772 | 2,828 | 2,872 | 2,919 | 2,957 |
| Communication and public utilities | 2,288 | 2,279 | 2,276 | 2,273 | 2,278 | 2,272 |
| Wholesale trade | 5,215 | 5,346 | 5,434 | 5,489 | 5,553 | 5,629 |
| Durable goods | 3,034 | 3,129 | 3,189 | 3,233 | 3,280 | 3,318 |
| Nondurable goods | 2,180 | 2,216 | 2,245 | 2,256 | 2,274 | 2,311 |
| Retail trade | 15,188 | 15,800 | 15,975 | 16,169 | 16,307 | 16,586 |
| General merchandise stores | 2,141 | 2,188 | 2,217 | 2,273 | 2,307 | 2,366 |
| Food stores | 2,512 | 2,594 | 2,623 | 2,635 | 2,645 | 2,693 |
| Automotive dealers and service stations | 1,633 | 1,703 | 1,738 | 1,748 | 1,758 | 1,771 |
| Eating and drinking places | 4,869 | 5,083 | 5,123 | 5,179 | 5,235 | 5,304 |
| Finance, insurance, and real estate | 5,350 | 5,529 | 5,593 | 5,659 | 5,680 | 5,727 |
| Finance | 2,655 | 2,778 | 2,813 | 2,857 | 2,853 | 2,877 |
| Insurance | 1,716 | 1,728 | 1,740 | 1,747 | 1,763 | 1,779 |
| Real estate | 979 | 1,023 | 1,040 | 1,055 | 1,064 | 1,071 |
| Services | 19,134 | 20,042 | 20,273 | 20,560 | 20,770 | 21,047 |
| Business services | 3,288 | 3,711 | 3,839 | 3,968 | 4,063 | 4,138 |
| Health services | 5,888 | 6,016 | 6,041 | 6,066 | 6,066 | 6,105 |
| Government | 15,837 | 15,869 | 15,869 | 15,906 | 15,998 | 16,115 |
| Federal | 2,743 | 2,760 | 2,764 | 2,778 | 2,789 | 2,792 |
| State | 3,642 | 3,668 | 3,679 | 3,697 | 3,712 | 3,728 |
| Local | 9,451 | 9,441 | 9,425 | 9,432 | 9,497 | 9,594 |

[1]Data are preliminary.

for assessing the strength of the current expansion. When employment growth in each recovery is indexed to the respective cyclical trough, we find that relative employment growth for the current recovery has increasingly exceeded the post-1975 experience with each successive month. The pattern varies markedly by sector, however. In the goods-producing sector, the post-1982 recovery had an extended period of faster growth than the earlier recovery, but it was marked by a pause in the rate of growth some 20 months into the recovery. In contrast, indices for the resilient service-producing sector tracked closely until early 1984, when the rate of growth in this recovery quickened and surpassed the post-1975 index. The service-producing index accelerated again in the fourth quarter after hesitating slightly in the third. (See chart 1.)

*Service-producing sector.* The service-producing sector gained 2.7 million jobs between the fourth quarters of 1983 and 1984, contributing 70 percent of the additions to total employment. This increase was led by vigorous growth in



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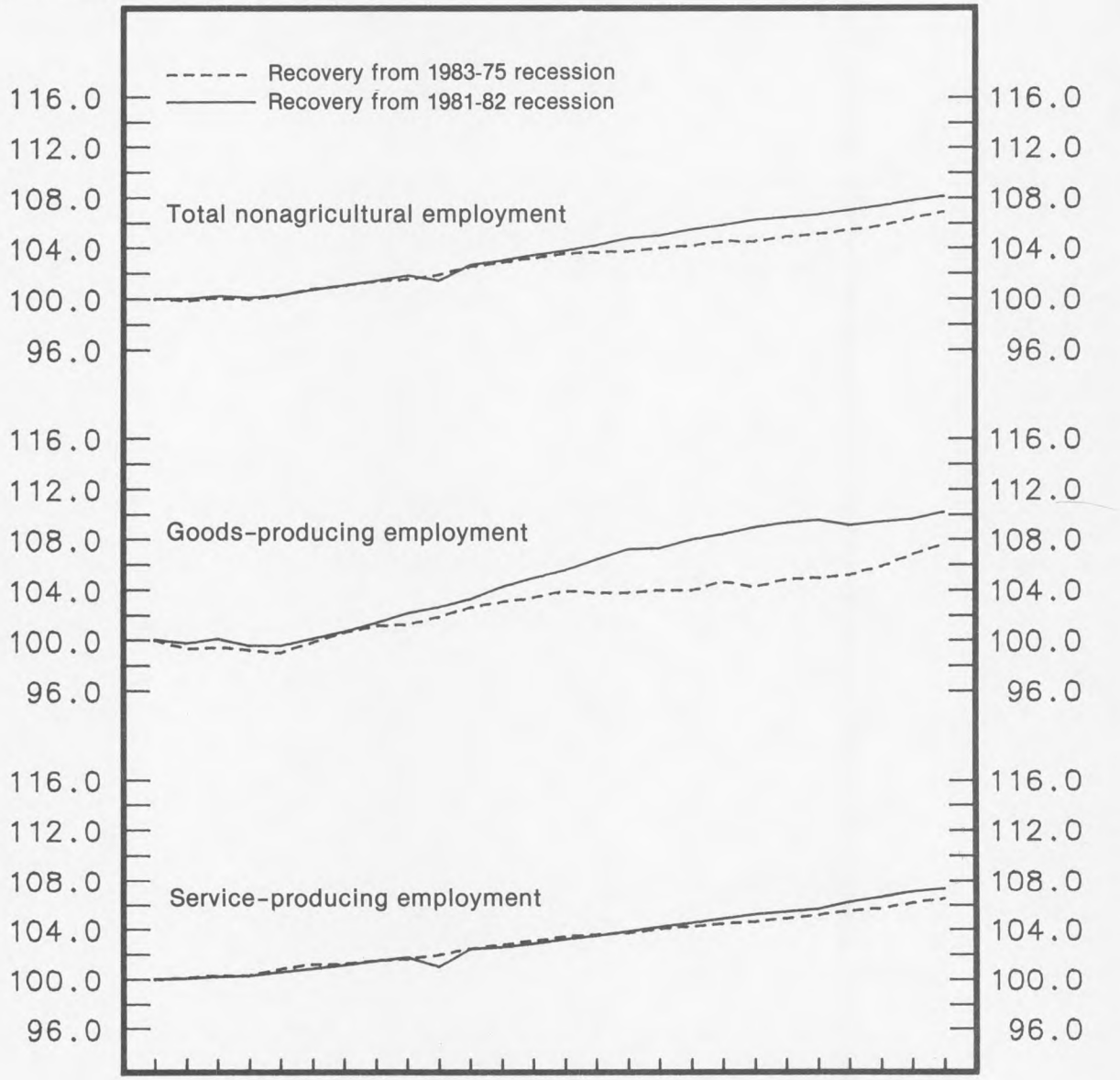
**Chart 1. Index of seasonally adjusted monthly employment change for the current recovery and the corresponding phase of the 1975–80 recovery**

[Recession trough = 100]




NOTE: The trough of the 1973-75 recession was March 1975 and of the 1981-82 recession, November 1982, according to the National Bureau of Economic Research.

services and retail trade. The services division created more than a million jobs, well over one-third of the sector's increase. This division encompasses a diversity of industries—from hotels, entertainment, and recreation to business, health, educational, social, and legal services. While the services division as a whole continued its historical trend of secular growth, health services exhibited a lower rate of employment growth than in previous years. An actual decline in hospital employment in 1984 explains the slower pace, as hospitals streamlined management and staff in response to lower demand and pressure for more cost-effective health services.

Business services, one of the more cyclically sensitive of the service industries, led the division in both magnitude and rate of growth, making up 40 percent of the division's employment gain in 1984. A continuing upward trend in personnel supply services—particularly in temporary help—explained a substantial proportion of business services' growth, although the pace of growth in this industry was a bit slower than in 1983. The temporary help industry contributed about 1 in 30 of the additional private payroll jobs in 1984, down from 1 in 20 during earlier stages of the economic recovery. Temporaries are used by a variety of industries, not only to meet short-term labor shortages but



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also to meet labor needs when employers are uncertain of the staying power of product demand. The use of temporaries declines as employers reassess their needs and add to their permanent work force.

Jobs in retail trade increased by 785,000 over the year. Eating and drinking places and general merchandise stores contributed about half the increase, with general merchandise showing the higher growth rate. Employment gains were particularly strong in the first and second quarters but tapered off in the third quarter as consumer spending flattened and retail sales lagged. By yearend, the pace picked up once again in anticipation of strong holiday sales.

In wholesale trade, a 280,000-increase was dominated by additional workers involved in the sale of durable goods, particularly in commercial and industrial equipment. First-quarter employment gains were particularly strong for cyclically sensitive durables and remained steady throughout 1984, despite a drop in the volume of sales after the second quarter.

Elsewhere in the service-producing sector, employment in transportation and public utilities added 180,000 jobs in 1984, bringing the industry total above its pre-recession peak. All of the increase occurred in transportation, with about half of it coming from trucking. Finance, insurance, and real estate jobs were also up 200,000. In contrast to previous years, employment in State and local government picked up as the economic recovery fueled greater tax revenues, but Federal employment remained essentially unchanged.

*Goods-producing sector.* The goods sector—construction and manufacturing, in particular—enjoyed a strong cyclical rebound early in the recovery and exhibited a higher rate of growth than the service-producing sector in the recovery's second through sixth quarters. The pace of growth moderated in the latter half of 1984, however, after a midyear climb in mortgage interest rates and an increasing volume of factory-made imports. By yearend, only construction had fully recovered the number of jobs lost during the previous recession, as manufacturing employment had recouped 75 percent of its job loss, and mining employment was still below the level recorded at the recession trough.

The moderation in goods-producing employment growth was reflected in the Bureau of Labor Statistics' diffusion index, which is heavily weighted toward manufacturing. Between 70 and 80 percent of the 186 composite industries registered job gains (over 3-month spans) during the first 2 quarters; the index hovered around 60 percent during the second half.

New jobs in construction grew at a less rapid pace in the second half, after a strong performance in the first and second quarters. The major weak spot in the construction market was in traditional single-family housing. Mortgage interest rates rose sharply in the spring, resulting in slower sales in the summer and a stalling in housing starts. These factors weakened the demand for construction labor. Cushioning the construction slowdown in the last two quarters was a backlog in orders for new homes left over from the pent-up demand from recession years. Moreover, home mortgage rates had edged down by yearend, and an expansion in multifamily housing reflected some of the demand from new households that would have otherwise been for single-family dwellings.[4]

The construction industry added 340,000 workers to its payrolls over the course of 1984. Four-fifths of the increase was in the special trades industry, which includes plumbing, painting, electrical work, masonry, or concrete work. The pattern of job growth in special trades dominated the trend for construction as a whole, and most of the employment gains for both series occurred in the first half. At yearend, construction employment had regained 170 percent of the jobs lost during the recession.

The rebound in manufacturing employment by the end of 1984 had been almost entirely within durable goods, while most of the less cyclical nondurables industries showed little or no growth. The moderation of job gains in the last half appeared to be associated with the widening merchandise trade deficit. Stimulated by the strength of the dollar abroad, the volume of imports grew throughout 1984, with virtually all of the increase in factory-made products. Paradoxically, the usual efforts of domestic manufacturers to remain competitive did not stimulate factory job growth at home as much as might have been expected. The investment in more modern equipment to increase productivity would normally benefit industries such as machinery, electrical and electronic equipment, and fabricated metal products because of increased demand for their products. In 1984, however, the capital investment dollar was worth more when spent on equipment produced overseas.

Foreign competition alone, however, did not explain the pause in durable goods' job growth. The overriding factor was the cooling of a heated recovery. New orders for durable goods failed to post big gains after the first quarter, and factory output flattened, particularly in durables. The rate of growth in gross national product faltered with industrial production. Durable goods employment increased 430,000 from fourth quarter 1983 to second quarter 1984, or 3.9 percent; the second-to-fourth quarter increase was only 180,000 workers, or 1.6 percent.

Despite the weakness in the hard-goods sector during the second half, durables posted a 600,000-gain in jobs over the year. Eighty-five percent of the increase came from additions in fabricated metal products, machinery, electrical and electronic equipment, and transportation equipment. The electrical equipment and machinery industries added the most workers, both numerically and on a percentage basis. Employment gains in machinery reflected the increased demand for construction, metalworking, and general industrial machinery, as well as for office equipment. The job gain in the electrical and electronic equipment industry



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was concentrated in electronic components and accessories, a "feeder" industry to other high technology products. Spurred by growth in this component, the employment level in electrical and electronic equipment continued to set new records in 1984, while other major growth industries within durables made marked progress toward previous peaks. For example, the transportation equipment industry added 125,000 workers over the year. Reflecting the economy's deceleration, three-fifths of employment increases in the four fast-growing durable industries were added in the first half.

Foreign competition played a more obvious role in the primary metals industry, the only major durable goods industry to post a decline in jobs over the year. There was a noticeable loss of around 30,000 jobs over the year in the struggling steel and blast furnace products industry. While steel demand was blunted only briefly by the short auto strikes in the third quarter, the decline in employment was fairly steady throughout the year.

Employment in construction-related industries was not particularly strong, despite a booming first half in the construction industry itself. Lumber and wood products, furniture and fixtures, and stone, clay and glass added few workers to payrolls after the first quarter. By yearend, lumber and furniture industries had recovered more jobs than were lost in the 1981–82 recession, but levels in all three industries remained below historical peaks.

Nondurables as a whole showed virtually no job growth, as small gains in the first half were countered by actual declines in the second half. Four industries—textiles, apparel, petroleum, and leather—experienced employment declines for the year. Demand for domestic products in these industries was also abated by the increasing volume of imports. Employment increases in printing, along with rubber and miscellaneous plastics, helped to offset the stagnation in other nondurables. Gains in printing were steady throughout the year. Employment in rubber and miscellaneous plastics, however, is driven by demand in the construction and auto industries; as a result, growth was concentrated in the first half.

Unlike other industries in the goods-producing sector, mining experienced moderate, steady employment gains up through the third quarter of 1984. Virtually all of the mining division's increase came from oil and gas extraction, although the number of jobs remained short of the 1982 peak. Since 1982, the demand for oil has weakened, while lower oil prices have left less incentive for increasing exploration and employment.

*Automobiles and steel.* The automobile and steel industries are often mentioned together as the prototypes of industries bearing the costs of "restructuring" the U.S. economy. However, there are significant differences in the way the two have been affected by the business cycles of the early 1980's. The two sketches here highlight the similarities, the differences, and their effect on industry employment.

For the past half century, the automobile industry has been a central element of the U.S. economy. Its impact on other industries is profound—for each job in the automobile industry there are about 2 associated jobs in the rest of the economy.[5] The three largest auto manufacturers rank 2, 9, and 38 on *Fortune* magazine's listings of the Nation's largest industrial corporations. Since the employment peak in the late 1970's, however, there have been a number of developments that have led to a deterioration in the relative position of the industry. Most obvious has been the effect of the back-to-back recessions of the early 1980's. Consumer durables manufacturing, such as for autos, has traditionally been sensitive to poor economic conditions, as consumers hedge against lower incomes by deferring "big ticket" purchases. This had tended to lengthen the average useful life of existing cars and lower demand for new autos. Post-baby-boom demographic patterns have slowed the long-term growth of the number of new motorists. In addition, as a private study of changes affecting the U.S. auto industry notes, a "shift in competition from styling to technology and quality has challenged the existing competitive strengths of domestic producers. . . .at the same time that foreign competitors have increased their presence markedly."[6]

The result of these changes has been a steep decline in the number of jobs in the automobile industry. After peaking at just over a million payroll jobs in the last quarter of 1978, auto employment plummeted to 660,000 at the fourth quarter 1982 trough. Despite the sharp recovery, in part due to strong consumer demand in 1984, payroll jobs in the industry—875,000 at the end of 1984—were still far below the level of 6 years before. Similarly, the unemployment rate for automobile manufacturing averaged slightly more than 4 percent in 1978, rose to more than 20 percent during the recession year of 1982, and in the final quarter of 1984 averaged about 6.5 percent. In should be noted that unemployment rates were lower in the first quarter—just under 6 percent—before starting to rise again. That the unemployment rate in the auto industry has roughly paralleled general labor force developments is in significant contrast to recent developments in the steel industry.

Throughout the late 1970's and into the 80's, the international steel industry has experienced severe change. World capacity has diversified geographically and now exceeds annual consumption needs by as much as 180 million tons. Technological change in production methods has radically altered the balance among the subsectors of the steel industry. Changes in demand for, and economies in the production of, final goods that are particularly steel intensive—for example, automobiles—have limited the demand for steel products.

Despite the vast size of its domestic market, the U.S. steel industry has not been isolated from these international trends. A combination of recession in the early 1980's, a change in the ratio of steel consumption to gross national



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product (including the "downsizing" of autos), and intense international competition has contributed to a complex restructuring of the U.S. steel industry. Between 1977 and 1984, the overall capacity of the steel industry fell by 16 percent. By the first quarter of 1984, imports accounted for about one-fourth of raw steel consumption in the U.S. market, up from 18 percent in 1977. Within the industry, "minimill" production techniques have grown from a 3-percent share of output in 1960 to about one-fifth currently. Over roughly the same period, the market share of the major integrated steel firms shrank from about four-fifths in the 1950's and early 1960's to just over one-half in 1983.

The structural changes affecting the steel industry have had significant consequences for employment. While the increases in raw steel production rates between 1982 and 1984 would normally have suggested a general increase in payroll employment, such has not been the case. From the trough of the 1981–82 recession (November 1982) to December 1983, the steel industry had only recovered 5 percent of the jobs lost during the downturn, and 1984 saw job levels fall by about 30,000. While it is true that the unemployment rate, as measured by the Current Population Survey, has fallen in the "blast furnaces, steel-works, rolling and finishing mills" industrial category, this undoubtedly reflects a transfer of labor away from the steel industry, rather than increased employment; that is, unemployed steel workers may have taken jobs in other industries or withdrawn from the labor force entirely.

## Hours of work

After steady increases throughout 1983, the factory workweek peaked at 41 hours in the early months of 1984; this level represented the longest workweek in manufacturing since 1967. The pattern of increase was partly a result of increasing factory overtime hours, which rose to a 1984 peak of 3.7 hours early in the second quarter. Employers often change hours of work in the short run to reconcile production schedules with the current number of workers. Adding employees to the payroll is a costly process, more costly than overtime hours if the increase in product demand is to be only transitory. If the increased level of production is viewed as more permanent, the employer will add workers to reduce overtime hours. As a result, employment will continue to increase after hours have begun to decline. This pattern was evident in hours and employment for manufacturing in 1984, particularly within the durable goods sector. While hours retreated from the first quarter peak, they remained at historically high levels.

The aggregate hours index is a comprehensive measure of labor input, taking into account both the number of production or nonsupervisory employees on nonfarm payrolls and their weekly hours. The index for the total private sector rose by 3.3 percentage points in the first six months, reflecting the strength in employment and hours for goods-producing industries and employment gains in the services sector. The index continued to edge up in the second half, buoyed by continued job growth in the services sector. The total private index ended the year at 114.5, a full 12 points above the previous recession trough.

*Full- and part-time workers.* Four of every 5 nonagricultural workers in the United States are employed full time—that is 35 hours or more a week. The remaining workers, those at work part time, totaled 18 million in the fourth quarter. Most of these (70 percent) worked part time voluntarily, or for noneconomic reasons. However, 5.5 million were at work on part-time schedules for economic reasons. These persons either wanted a full-time job but could not find one or usually worked full time but had had their hours cut back in response to unfavorable economic conditions.

The number of persons working part time for economic reasons had doubled from its late-1978 level to reach 6.4 million by the fourth quarter of 1982. Seventy percent of the 900,000-improvement since then took place during 1983.

While the number of persons involuntarily on short workweeks moves in a cyclical fashion, changes in the number of voluntary part-timers are not particularly cyclical but rather follow a fairly narrow secular growth trend. Over the 4 quarters ending in late 1984, there was less than 1 percent growth in the number of voluntary part-time workers in nonagricultural industries, despite a 4-percent increase in persons on full-time schedules. Voluntary part-timers accounted for about 13 percent of nonagricultural workers in the fourth quarter, down slightly from their 14-percent employment share in 1977.

Although only about 20 percent of employed women were voluntary part-timers in late 1984, they accounted for close to 60 percent of persons in all industries on voluntary part-time schedules. Men and teenagers fairly evenly made up the remaining 40 percent. These proportions have changed over the last few years, as more women have joined both the part-time and full-time labor forces, while the number of teenagers in the labor force has declined. This decline is especially relevant to the part-time employment issue, because about half of all working teens were on voluntary part-time schedules in 1984. Teenagers who work part time average about 17 hours per week, compared with a 20-hour average for adults.

## Labor force growth

The civilian labor force—the employed and the unemployed—grew in 1984, but by less than 2 percent. Both 1983 and 1984 have been years of slow labor force growth when compared to similar periods of recovery in the 1970's. For instance, the second year of recovery from the 1969–70 downturn saw a labor force increase approaching 3 percent. (The highest fourth-quarter-to-fourth-quarter labor force gains of the 1970's were recorded in 1972–73 and 1976–



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77, at 3.3 percent.) Contributing to the slower growth of the labor force was a decline in the number of teenagers in the labor force. This was a reflection of the long-term decline in the teenage population as the baby boom generation passed into adulthood, to be followed by a generation characterized by very low birth rates—the so-called "baby-bust" generation.

After a year and a half of rather sluggish increases in labor force participation, women registered a 0.6-percentage-point increase in their labor force participation rate, ending 1984 with 53.9 percent of their population working or looking for work. Men had virtually no change in labor force participation in 1984, nor did teenagers.

## Discouraged workers

Persons who are neither working nor looking for work are considered to be not in the labor force. Of the 63 million nonparticipants in the final quarter of 1984, about 1.3 million were "discouraged workers." These persons reported that they wanted a job but were not looking for work because they believed they could not find it. While the number of discouraged workers follows the cyclical movements in unemployment, the discouraged are not included in the count of the unemployed, because, unlike the unemployed, they have not looked for work during the 4-week period preceding the survey week. Indeed, they need not ever have actually tested the job market to be included in the category.[8]

The total of discouraged workers peaked in the final quarter of 1982 at 1.8 million. The following shows the number of discouraged, seasonally adjusted in thousands, at the two most recent business cycle peaks (P) and troughs (T) and for the past 5 quarters.

| | *Total discouraged* | *Job market factors* | *Personal factors* |
|---|---|---|---|
| 1980: I (P) ..... | 954 | 592 | 362 |
| III (T) .... | 1,008 | 697 | 311 |
| 1981: III (P) .... | 1,106 | 820 | 286 |
| 1982: IV (T) .... | 1,813 | 1,390 | 423 |
| 1983: IV ..... | 1,447 | 1,044 | 404 |
| 1984: I ..... | 1,350 | 939 | 411 |
| II ..... | 1,275 | 928 | 348 |
| III ..... | 1,211 | 885 | 326 |
| IV ..... | 1,303 | 935 | 368 |

The majority of discouraged workers cite job market factors, rather than personal factors—such as age or lack of education or skills—as their reason for not looking for work.The proportion citing job market factors has been in the 70-to-80 percent range over the past 3 years, with the 80-percent figure being registered in the first quarter of 1983, just after the recessionary trough. Over the most recent 4 quarters, the number of discouraged declined by about 130,000, with decreases occurring among the job-market discouraged and those discouraged by personal factors.

About 3 of every 5 discouraged workers are women. Interestingly, this proportion changed little over the course of the most recent recession, even though cyclical unemployment changes tend to be more pronounced among men than women. Blacks also make up a disproportionately large share of the discouraged and in the fourth quarter accounted for more than 35 percent of the total. There was no decline in the number of black discouraged workers over the year.

## Workers in families

Most labor force participants live in family units. About 65 percent of the labor force in 1984 consisted of persons responsible for their family units, including those with no spouse present (mainly women). An additional 20 percent consisted of relatives, generally teenagers and young adults living with their parents. Thus, only about 15 percent of the labor force were not in family units—fewer than 10 percent who lived alone and 6 percent who lived with others, such as housemates.

With the overwhelming proportion of the population living in family units and the growing number of women in the labor force has come an increase in the number of multi-worker families. In 1984, 44 percent of all married-couple families had both a husband and wife employed. This was up from 39 percent just 7 years earlier. A large number of the remaining married-couple families had two or more workers other than a husband/wife combination, while others were of retirement age and had no workers at all.

As employment grew in 1984, so did the proportion of multi-worker families. In the fourth quarter, the proportion of employed persons who were the sole support of their families was 24 percent, down about a percentage point from 1983. This proportion has been edging downward over time—despite some increases during recessionary periods. Over the last 7 years, the decline has totaled 4 percentage points.[9]

The decline in joblessness over the year reduced the proportion of families that had an unemployed member. In the fourth quarter, just under 10 percent of all families had someone unemployed, down from 11 percent the year earlier and 14 percent at the end of 1982. Moreover, the rising incidence of multi-worker families means that many of these families also had an employed family member. The effect of unemployment within a family is often mitigated by the presence of other workers and may also be minimized by the receipt of unemployment compensation, which about one-third of the jobless in 1984 claimed.

These cushioning effects were not available to all the unemployed, however. In the fourth quarter, about 33 percent of the unemployed living in families had no employed person in the family. (Data on the proportion with *neither* another family member employed nor receiving unemployment compensation are not available.) While less than 20 percent of the unemployed wives in late 1984 had no workers in their family, such was the case for almost 45 percent



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of the unemployed husbands. Men and women who maintain families alone were much more likely to be their family's sole support. About 70 percent of the unemployed men who maintain families and 80 percent of the women had no employed person in their family.

It should also be noted that unemployment may be dual in families. For instance, while husbands overall had a jobless rate of 4.1 percent in the fourth quarter, those with an unemployed wife had a jobless rate of more than 13 percent. Similarly, wives as a whole had an unemployment rate of 5.2 percent, but it was about 17 percent for those whose husbands also were looking for work. There were about 175,000 couples with dual unemployment, considerably less than in the recession years.

The likelihood of a woman participating in the labor force is greatly influenced by her age and marital status, and by whether she has children. For instance, more than 80 percent of never-married women ages 25 to 34 were in the labor force in the final quarter of 1984. The proportion drops to about 65 percent for married women in the same age group. The presence of young children, not surprisingly, tends to lower participation still further. Among married women of *all* ages, those with preschoolers had a participation rate of about 55 percent, compared with 67 percent for those with children in school. The effect of young children in the family was even larger among women who maintain families, where there is a 20-point participation rate difference between those with preschoolers and those with school-age children. In general, divorced women are the most likely to participate in the labor force and widows the least likely; no doubt the average age of 59 years for the latter group is an important factor.

Perhaps what is of most importance is not that labor force participation rates of mothers with young children are lower than those of women with older children, but rather that participation rates of mothers are so high. What is more, the largest increases in labor force participation have been among mothers with young children. In fact, the participation rate for married women with children under 6 grew by nearly 10 points in just 5 years and in 1984 far exceeded the rate for wives with no children present. (It should be noted that the wives without children tend to be older than the mothers, although certainly most were pre-retirement age and a number were young newlyweds.) Only the participation rates of widowed and divorced women have shown little growth.

## Black workers

The labor market situation for black workers has improved notably over the past 2 years. The unemployment rate for blacks, at 15.1 percent in the fourth quarter of 1984, declined by more than 2.5 points over the year and by more than 5 points from its all-time high, set in late 1982. The ratio of black-to-white unemployment, at 2.4 to 1, remained historically high, however.

Another way to view the differences in the unemployment rates for blacks and whites is by comparing their late-1984 levels to those registered in the first quarter of 1977; both of these periods came 8 quarters into recoveries from long and deep recessions. While the rate for white workers was, in fact, lower than it had been at the same point in the post-1974-75 recession recovery, the jobless rate for blacks at the end of 1984 remained above their 1977 level. One reason that unemployment among blacks is still higher than during the earlier recovery period is that blacks experienced essentially one long, hard recession, lasting from early 1980 through late 1982, while white workers experienced a 1-year period of partial recovery (from the third quarter of 1980 to the third quarter of 1981). Hence, the unemployment rate for blacks at the "official" business cycle peak in the third quarter of 1981 was even higher than that registered during the "official" recessionary trough a year earlier. (See chart 2.)

The jobless rate for black men, at 13.1 percent in late 1984, had fallen by about 7 points from its recession peak. Joblessness among white men only dropped about 3.5 percentage points but, at 5.4 percent, was substantially below the national average. Unemployment among black women, like that of white women, is less cyclical, meaning less prone to the ups and downs of the business cycle, than that of their male counterparts. The late-1984 rate for black women of 13.2 percent was about 4 points below the recession high but was substantially higher than the 5.6 percent registered for white women.

Nearly half of all black teenagers in the labor force in late 1982 were unemployed, and no improvement occurred during the next year. By late 1984, their unemployment rate dropped to 41 percent, about matching the level in 1977. Interestingly, white teenagers, like black teens and adults, showed no improvement in joblessness during the 1980–81 recovery. But the unemployment rate for white teens declined in both 1983 and 1984. By late 1984, their rate was down to 15.6 percent; hence, black teens were 2.6 times as likely as white teens to be unemployed.

The actual number of unemployed blacks rose from about 1.3 million before the 1980 recession to 2.4 million in the second quarter of 1983 and receded to 1.9 million by late 1984. About 200,000 of that decline took place in 1984.

On the employment side, the count dropped from 9.5 million before the 1980 recession to 9.2 million by late 1982 and then grew to 10.4 million by late 1984. Most of the improvement—about 850,000—took place over the last 4 quarters.

The ratio of employment-to-population, by telling us what proportion of the population is employed, helps put employment changes into perspective in a setting of a continually growing population. About 53 percent of all working-age blacks in the civilian population were employed in late 1984; among whites, the proportion was 61 percent. Much of the difference can be attributed to a 10-point gap in the



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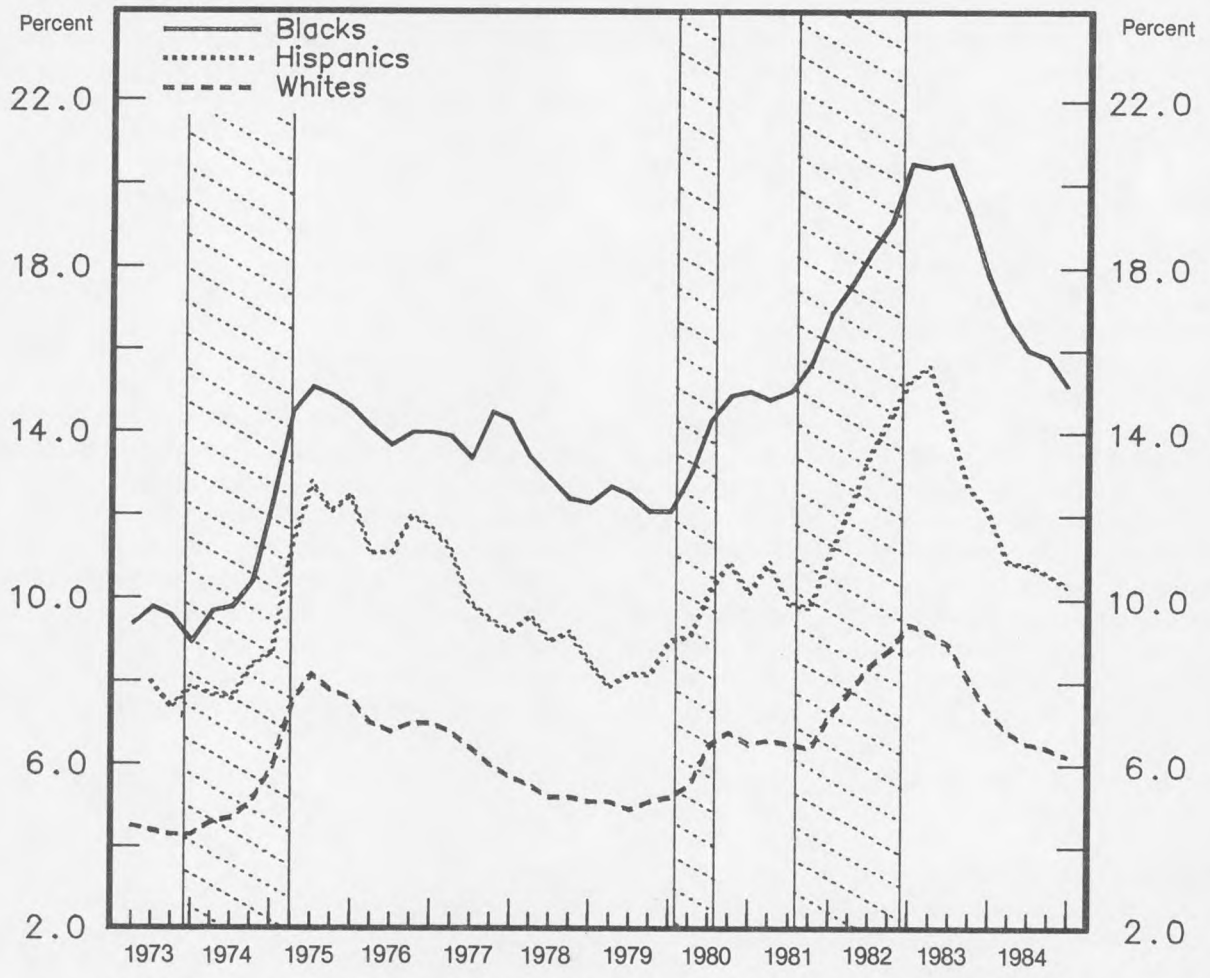
**Chart 2. Unemployment rates of blacks, Hispanics, and whites, quarterly averages, seasonally adjusted, 1973–84**




NOTE: Shaded areas indicate recessions as designated by the National Bureau of Economic Research.

ratios for black and white men—65 versus 75 percent. The ratios for men decline due both to economic downturns and earlier retirements.

Unlike their male counterparts, black women historically have had higher employment ratios than white women. But faster labor force growth among white women has brought their ratios to about the same level—50 percent. That high mark, representing a record for both groups of women, resulted from steady labor force participation during the recessionary period and a resumption of growth during the recovery.

As indicated earlier, the population of teenagers has been shrinking. For black teens, the decline began in 1981 and for white teens, in 1978. Both 16-to-19-year-old groups contracted by about 3 percent during 1984. But the number of employed black teens actually grew by almost 100,000 during 1984, raising their employment-population ratio nearly 5 points, to 23 percent. The employment of white teens was about unchanged, and when combined with the decrease in their population, their employment ratio rose, albeit by only 1 percentage point. Perhaps of more significance, however, is the fact that the employment ratio for black teens remains



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less than half that of white teens, whose ratio was 48 percent in late 1984.

The kinds of jobs held by black workers are quite different from those of whites. One-third of black men worked as machine operators, fabricators, and laborers in 1984, compared to one-fifth of white men. (See table 3.) Close to 20 percent of black men were in service occupations, twice the proportion of whites. Black men were underrepresented in all other fields, with about 15 percent in precision production, craft, and repair—compared to more than 20 percent of white males—and 12 percent in managerial and professional specialty jobs—compared to about 25 percent among whites.

The occupational distribution of black women also was notably different from that of their white counterparts. About 30 percent of the black women were in service occupations, in which fewer than one-fifth of white women worked. Like black men, black women were overrepresented as operators, fabricators, and laborers. While more than a third of the black female workers held jobs in the technical, sales, and administrative support category, nearly half of all white women were so employed. For both black and white women, administrative support including clerical jobs accounted for the majority of these positions. Black women were underrepresented in both managerial and professional specialty occupations. Only 2.5 percent of working black women or white women held precision production, craft, and repair jobs.

## Hispanic workers

Like other worker groups, persons of Hispanic origin shared in the economic recovery of the last 2 years, as their jobless rate dropped from 15.3 to 10.3 percent. In fact, the fourth-quarter 1984 figure compares favorably with the rate posted 2 years into the recovery from the 1973–75 recession. The labor market situation for Hispanic workers more or less paralleled the course of the business cycle, with two separate recessionary periods during the 1980's. The ratio of Hispanic-to-white unemployment rates was 1.7 to 1 in late 1984; that relationship has not altered appreciably since the inception of the Hispanic unemployment data series more than 10 years ago.

Hispanic men, women, and teenagers all exhibited substantial unemployment rate declines during the recovery from the latest recession. Between the fourth quarters of 1982 and 1984, the jobless rate for Hispanic men fell from 12.9 to 8.6 percent. For women, the rate dropped from 13.7 to 9.5 percent, and for teens, unemployment fell from 31.6 percent to 21.9 percent. (These data are not available on a seasonally adjusted basis and hence are not fully comparable with those shown for whites and blacks in table 1.)

The nearly 10 million working-age persons of Hispanic origin residing in the United States (excluding Puerto Rico) accounted for 5.6 percent of the overall population. The largest of the Hispanic ethnic groups was persons of Mexican origin, with 60 percent of the Hispanic total. The job-

**Table 3. Employed civilians by occupation, sex, race, and Hispanic origin, 1984 annual averages**

[Percent distribution]

| Occupation | Men | | | | Women | | | |
|---|---|---|---|---|---|---|---|---|
| | Total | White | Black | Hispanic origin | Total | White | Black | Hispanic origin |
| Total, 16 years and over (thousands) | 59,091 | 52,462 | 5,123 | 3,359 | 45,915 | 39,659 | 4,995 | 2,320 |
| Percent | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Managerial and professional speciality | 24.6 | 25.7 | 12.3 | 12.0 | 22.5 | 23.3 | 15.8 | 12.1 |
| Executive, administrative, and managerial | 13.0 | 13.7 | 6.3 | 7.1 | 8.5 | 8.9 | 5.2 | 5.1 |
| Professional speciality | 11.6 | 12.0 | 6.1 | 4.9 | 14.0 | 14.4 | 10.6 | 7.0 |
| Technical, sales, and administrative support | 19.6 | 20.0 | 15.0 | 15.2 | 45.6 | 46.9 | 36.5 | 41.3 |
| Technicians and related support | 2.8 | 2.8 | 1.9 | 2.0 | 3.3 | 3.3 | 3.3 | 2.3 |
| Sales occupations | 11.1 | 11.8 | 4.6 | 7.1 | 13.1 | 13.9 | 7.8 | 11.4 |
| Administrative support, including clerical | 5.7 | 5.4 | 8.5 | 6.1 | 29.1 | 29.8 | 25.3 | 27.6 |
| Service occupations | 9.4 | 8.4 | 18.4 | 13.8 | 18.7 | 17.2 | 30.8 | 23.0 |
| Private household | .1 | .1 | .1 | .1 | 2.1 | 1.6 | 5.9 | 3.9 |
| Protective service | 2.5 | 2.3 | 4.1 | 1.8 | .5 | .4 | .8 | .5 |
| Service, except private household and protective | 6.8 | 6.0 | 14.2 | 11.9 | 16.2 | 15.2 | 24.0 | 18.6 |
| Precision production, craft, and repair | 20.2 | 20.8 | 15.8 | 21.1 | 2.4 | 2.4 | 2.6 | 4.4 |
| Operators, fabricators, and laborers | 21.1 | 20.0 | 33.6 | 29.4 | 9.6 | 8.9 | 13.9 | 17.5 |
| Machine operators, assemblers, and inspectors | 8.0 | 7.6 | 11.4 | 12.7 | 7.1 | 6.5 | 11.0 | 14.3 |
| Transportation and material moving occupations | 6.9 | 6.6 | 11.2 | 7.1 | .8 | .8 | 1.0 | .6 |
| Handlers, equipment cleaners, helpers, and laborers | 6.2 | 5.8 | 11.0 | 9.7 | 1.6 | 1.6 | 1.8 | 2.6 |
| Farming, forestry, and fishing | 5.1 | 5.2 | 4.9 | 8.5 | 1.2 | 1.3 | .5 | 1.8 |

[1]Less than 0.05 percent.

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



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less rate for persons of Mexican origin (at 9.9 percent) was between that of workers of Puerto Rican origin (13.8 percent) and those of Cuban origin (7.3 percent). Cuban workers tend to be older and better educated than other Hispanics.

Employment among Hispanics, which had fallen by about 400,000 during the latest recession, has since grown by 700,000. Their employment-population ratio reached 58 percent—still shy of the 60-percent high posted in early 1979—but nonetheless substantially above the recessionary level of 54 percent.

The jobs Hispanic men hold are, with only a few exceptions, quite similar to those of black men. (See table 3.) Like blacks, Hispanic men in 1984 were overrepresented as machine operators, fabricators, and laborers, and in service occupations, while their numbers in managerial and professional specialty positions and sales occupations were relatively small. However, like white men, one-fifth of Hispanic males held precision production, craft, and repair jobs. About 9 percent of Hispanic men worked in farming, forestry, and fishing, a category which accounts for only about 5 percent of white men and black men.

The occupational distribution of Hispanic women is not especially like that of either white women or black women. Slightly more than one-fourth provided clerical and administrative support and just under one-fourth worked in service occupations. The next largest group of Hispanic female workers was machine operators, fabricators, and laborers—particularly textile, apparel, and furnishings machine operators, among whom Hispanics hold a disproportionately large share of the jobs. Hispanic women were especially poorly represented in the professional specialty category, as well as in executive, administrative, and managerial jobs.

IN SUMMARY, it would be accurate to call 1984 a year of strong employment gains—about 3 million more people had jobs by the end of the year than were employed a year earlier. However, employment growth did pause in the summer months before advancing again in the last quarter. Whether this moderate growth will continue will be the employment story for 1985. □

———*FOOTNOTES*———

[1] The Current Population Survey is conducted monthly by the Census Bureau on behalf of the Bureau of Labor Statistics. The survey is conducted among a scientifically selected sample of about 60,000 households and provides information on labor force, employment, and unemployment by a variety of demographic and economic characteristics.

Data from the Current Employment Statistics program are collected from the payroll records of nearly 200,000 nonagricultural establishments by the Bureau of Labor Statistics in cooperation with State agencies. This survey provides estimates of the number of persons on business payrolls, their average hours of work, and their average hourly and weekly earnings.

[2] The business cycle as identified by the National Bureau of Economic Research.

[3] See *Business Week,* July 9, 1984, p. 83, for a summary of contrasting opinions on this issue. See Barry Bluestone, and Bennett Harrison, *The Deindustrialization of America: Plant Closings, Community Abandonment, and the Dismantling of Basic Industry* (New York, Basic Books, 1982); and Robert Z. Lawrence, *Can America Compete?* (Washington, The Brookings Institution, 1984) for elaboration of the arguments.

[4] See "Housing Heads for a Soft Landing," *Business Week,* Sept. 17, 1984, pp. 38–39. Additional information on housing starts and construction expenditures is available from the U.S. Department of Commerce, Bureau of the Census.

[5] Based on unpublished Employment Requirements Tables developed by the Office of Economic Growth and Employment Projections, Bureau of Labor Statistics.

[6] Jeffrey Allen Hunker, *Structural Change in the U.S. Automobile Industry* (Lexington, MA and Toronto: Lexington Books, 1984), p. 2.

[7] Congressional Budget Office, *The Effects of Import Quotas on the Steel Industry* (Washington, Congressional Budget Office, 1984), pp. 16, 6, and 4. See also Patricia A. Daly, formerly a BLS economist, "The Steel Industry," 1983 (unpublished).

[8] For more information about discouraged workers, see Paul O. Flaim, "Discouraged workers: how strong are their links to the job market?" *Monthly Labor Review,* August 1984, pp. 8–11.

[9] These family data are available on a quarterly basis beginning with the second quarter of 1976. They are not available seasonally adjusted.



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# Implementing the Levitan Commission's recommendations to improve labor data

*Five years after the National Commission on Employment and Unemployment Statistics examined government's labor force statistics program, the BLS has implemented many of the recommendations and has undertaken activities aimed at adopting others*

HARVEY R. HAMEL AND JOHN T. TUCKER

One of the major recommendations of the National Commission on Employment and Unemployment Statistics (also known as the Levitan Commission after its chair, Professor Sar A. Levitan) was that a comprehensive review of the labor force data system be conducted at least once each decade. The Commission was established in 1978, and issued its recommendations in September 1979.[1]

Five years have proven a very short period for making changes in the statistics. The Bureau of Labor Statistics has implemented a number of the major recommendations that were approved by the two Secretaries of Labor who have served during this period, and continues testing and developing programs leading to the implementation of others. Some recommendations were found to be either impractical or too costly. Still others may be reexamined when the next review panel is convened. This article summarizes the accomplishments of the BLS in implementing several of the recommendations and in conducting activities preparatory to the adoption of others. It does not cover all the recommendations directed at the BLS or those relating to programs of other agencies.

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## Prior reviews

The National Commission on Employment and Unemployment Statistics was not the first outside review panel to examine the Nation's labor force data system. Earlier examinations took place in 1948, 1954–55, and 1961–62.[2] The most well-known of these was the 1961–62 review panel, officially named the President's Committee to Appraise Employment and Unemployment Statistics, but commonly known as the Gordon Committee after its chair, Professor Robert A. Gordon. The Gordon Committee made a number of recommendations for experimentation, sharpening of concepts, and expansion of data from the BLS major surveys.[3]

One of the basic issues confronting the Gordon Committee was the "accuracy and meaningfulness of the figures themselves."[4] Some critics argued, for example, that the official jobless measure was overstated because it included people who searched for work but whose willingness or availability to accept a job was marginal; others believed that the official measure understated the extent of labor market underutilization because it excluded persons who would have searched for work if they thought jobs were available.[5] The Gordon Committee recommendations led to the 1967 implementation of several important conceptual changes in



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the Current Population Survey (CPS)—the national household sample survey on which the unemployment statistics are based—which "tightened" the official definition of unemployment;[6] years later, the Levitan Commission considered, but rejected, other possible changes in the definition.[7] Despite these reviews, the debate over the relevancy and objectivity of the jobless measure continues.

The National Commission on Employment and Unemployment Statistics was charged with "responsibility for examining the procedures, concepts, and methodology involved in employment and unemployment statistics and suggesting ways and means of improving them."[8] Major areas of investigation concerned the accuracy of the BLS data program, including the household-based CPS, as well as the establishment-based Current Employment Statistics survey. Did the surveys measure what they purported to measure? More importantly, did they measure what they should be measuring, given the social and economic changes that had occurred since the last review? One of the main questions examined by the Commission, for example, was the desirability of linking information on labor force status with economic hardship. It also completed an extensive review of the establishment survey to determine the representativeness of the sample and the accuracy and reliability of the survey estimates, particularly in the fast-growing services sector.

In its report, the Commission made nearly 100 specific recommendations for improving the Nation's overall labor statistics system, most of which were concerned with major programs of the BLS.[9] Former Secretary of Labor Ray Marshall and current Secretary Raymond Donovan examined the Commission's recommendations and, as required by the public law establishing the Commission, submitted reports to the Congress evaluating each recommendation in terms of desirability, feasibility, and cost.[10]

## Current Population Survey issues

The BLS has made several Commission-recommended changes in the CPS program relating to the development of new or expanded labor market information, data presentation, as well as to the CPS estimation process. However, it has encountered several unresolved problems in adopting a number of recommendations for changes in labor force measurement which had been endorsed by the Secretary of Labor.

*Expanded data.* One of the key recommendations of the National Commission on Employment and Unemployment Statistics was that the labor force be redefined to include the Armed Forces stationed in the United States. (It recommended against including the military in the State and local area statistics because Armed Forces installations are not part of the local labor market.) The Commission noted that because joining the military was (and still is) voluntary, it represents a viable alternative to civilian employment.

The inclusion of resident Armed Forces data in the national labor force statistics was initiated in January 1983.[11] The new series reflect the inclusion of approximately 1.7 million resident Armed Forces members and include separate data on the noninstitutional population, labor force, participation rate, total employed, employment-population ratio, and unemployment rate. (The number of unemployed persons, of course, is not affected by the addition of the military data because Armed Forces members are, by definition, classified as employed.) Separate data are published for men and women 16 years and over, and monthly data back to 1950 are available. The new series augments, rather than replaces, the traditional civilian-based labor force series. The most conspicuous estimate from the new series, the total unemployment rate, is consistently one-tenth to two-tenths of a percentage point below the civilian-based jobless rate.[12] Because the resident Armed Forces level has varied little in recent years, both the civilian labor force and the total labor force series show identical trends.

The BLS also adopted the Commission's recommendation that monthly data be collected on whether youth ages 16 to 24 are attending school full or part time.[13] The Commission explained that such data are needed "to understand work and education choices, to design appropriate employment policies and training programs, and to help appraise the labor market attachment of students."[14] A short series of questions designed to determine whether youth are currently in school, whether those in school are high school or college students, and whether they are enrolled on a full- or part-time basis, was initiated in the regular CPS questionnaire in November 1983. The BLS is evaluating the responses to these new questionnaire items and expects to begin publishing the results with the January 1985 data.

The Commission did not address the controversial issue of whether youth who are attending school full time should continue to be included in the official labor force figures when they are working at or seeking part-time jobs. At present, neither school status nor other activities are considered in determining labor force status. Excluding full-time students from the official labor force count would reduce the overall jobless rate by about one-half percentage point.

Another key recommendation implemented by the BLS dealt with the preparation of an annual report that linked economic hardship resulting from low wages, unemployment, and low labor force participation with earnings and family and household income.[15] The BLS issued its first report in January 1982, based on data for calendar year 1979.[16] Subsequent reports have been published covering data for 1980, 1981, and 1982.[17]

The Commission was aware that introducing the 1980 Census-based occupational classification system into the CPS[18] (which was subsequently put into operation beginning with data for January 1983) would create discontinuity with prior CPS occupational groupings. Therefore, it recommended that



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a format be developed to provide for comparable historical data based on skill levels. Time and cost constraints precluded a complete recoding of the individual monthly records necessary to accomplish this goal. However, BLS and the Census Bureau developed a limited set of estimates for the 1972–82 period, based on the new classification system, which can be compared with data for 1983 forward.[19] Annual average estimates are available for all civilians, men, and women by major occupational group. The procedure was not sufficiently accurate to develop detailed occupational estimates below the major categories.

The Commission recommended more frequent collection of occupational mobility data through special supplements to the CPS in order to measure movements of workers among occupations over a single year.

In January of both 1981 and 1983, the BLS included supplements to the CPS which asked questions on the extent and nature of job changes during the prior year and length of employment on current job. The 1983 supplement also included questions on the type of job training persons received in order to obtain their current job or to improve skills in their present job.[20]

*Conceptual changes.* The National Commission on Employment and Unemployment Statistics made no recommendations for changing the basic labor force concepts and definitions. It did, however, recommend changes related to the identification and measurement of the relatively small number of persons outside the labor force commonly known as "discouraged workers." As currently defined, these are persons who want a job "now" but are not looking because they believe no job is available in their line of work or community. The Commission concluded that present CPS procedures for identifying this group were too arbitrary and subjective.[21] The procedures were considered too arbitrary because they exclude students and persons who cite home or family responsibilities as their reason for not searching for work even if such persons also indicate they believe no job is available. They were also considered too subjective because they depend on a person's stated desire for work, regardless of whether the person had, in fact, tested the job market recently.

The Commission recommended an alternative approach, one that is modeled after the Canadian Labor Force Survey. The new criteria would determine whether persons, who were neither working nor looking for work (during the most recent 4-week period), had, in fact, sought work in the previous 6 months. If so, they would be asked the reasons they were not presently looking for work, whether they were currently available for work, and whether they wanted a job. After much debate, the Commission also recommended continuation of the present practice of classifying discouraged workers as outside the labor force rather than making them part of the unemployment count. (Many critics believe the jobless figures are understated and that discouraged workers should be reflected in the unemployment figures.) The Secretary of Labor accepted these recommendations, agreeing that the new methodology would provide better estimates of the number of persons whose discouragement over the prospect of finding a job has prompted them to give up their job search. However, adoption of the new procedure has been delayed indefinitely because tests of the feasibility of introducing the necessary series of questions (as well as other potential changes) into the CPS questionnaire have been inconclusive. (See more detailed discussion later in this section.)

The Commission saw a need for procedures which would provide a more comprehensive picture of work time lost due to economic conditions in order to more accurately measure the extent of slack labor market resources. Thus, it recommended that all CPS respondents, whether working full or part time, be asked if they usually worked more hours than they had during the survey reference week.[22] Those on reduced hours would then be asked why they worked fewer hours than usual, and, if the response was an economic factor affecting the job, such persons would be counted as involuntary short-hour workers and tabulated by hours worked. This recommendation was accepted by the Secretary of Labor and is expected to be implemented during the mid-1980's by revising the CPS questionnaire.

The Commission recommended replacing the current CPS question which asks unemployed persons whether they are seeking full- or part-time jobs with one that asks whether they want to work more or less than 35 hours per week. The reply would determine their classification as full- or part-time jobseekers. This recommendation needs to be tested further to determine whether the change would have any effect on the distribution of the full- or part-time job-search categories.

In fact, the Commission recognized that testing was necessary to determine the feasibility and possible impact of its recommendations on existing labor force measures prior to any revision of the basic questionnaire. To this end, it recommended that the Census Bureau's Methods Development Survey (then called the Methods Test Panel) be doubled in size—from 1,600 to 3,200 households per month—and be used to test questionnaire revisions. The Methods Development Survey was expanded, but even a doubling of its size was insufficient for its intended purpose. It soon became apparent that although none of the questions being tested was intended to change the concepts of employment and unemployment, they did have a sizable impact on the employment and unemployment levels resulting from the test questionnaires. Throughout the testing period, estimates of such key labor force measures as the unemployment rate and the employment-population ratio were somewhat lower when based on the test document than those obtained from the control document (the present CPS questionnaire). In other words, the inclusion of the new questions resulted in lower estimates of labor force activity. Reasons for this



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effect were difficult to understand. The variations may have resulted from the content differences being tested, from procedural problems in conducting the test survey which had developed over time, or from the fact that the survey was quite limited geographically and the results were not representative of the Nation. The Methods Development Survey's monthly sample size reverted back to 1,600 households in mid-1981 because of funding cutbacks, thus becoming inadequate to support the objectives of the test.

The Methods Development Survey continued in that format until it was discontinued in September 1983. A scaled-down questionnaire (limited essentially to the new questions for identifying discouraged workers) was tested in connection with the Census Bureau's Random Digit Dialing project[23] from October 1983 to September 1984. Those results also showed an unexplained effect on the basic labor force measures. Currently, there are no plans for further testing.

Where does this leave the proposed implementation of a revised CPS questionnaire? It is apparent that the Methods Development Survey test questions produced significant differences in the level and rate of unemployment, even though no conceptual changes were made. Both Census Bureau and BLS technicians agree that, prior to introduction in the ongoing survey, revised questions would need to be tested under tightly controlled conditions in a major national overlap sample survey of a minimum of 10,000 households monthly for at least 1 year (in addition to a sufficient break-in period). A separate panel of that size would enable analysts to assess any difference in the levels and trends of the major labor force measures over the course of a year. For example, any potential breaks in series—such as in the unemployment rate—could be identified and quantified through the overlap sample testing, and the extent of the effect could then be clearly delineated at the time the new questions were adopted. Because it is impossible to measure the impact of the new questions on key labor force estimates in the absence of an overlap survey, it is not feasible to introduce major revisions into the CPS at this time.[24]

Two other Commission recommendations dealt with the labor force classification of participants of government classroom training and work experience programs. The Commission recommended that participants in programs that provide only classroom training be classified as not in the labor force and that participants in work experience programs be classified as employed. Formerly, if such information were volunteered, each group was classified as unemployed. Both recommendations were implemented in January 1984 through modifications to the CPS interviewers' instruction manual. However, there is no direct inquiry in the CPS questionnaire about participation in these programs, and we know that previously such information had been volunteered by only a few respondents. As expected, this definitional change has not had any measurable effect on the labor force estimates.

*Data presentation.* The National Commission on Employment and Unemployment Statistics recommendations related not only to the type of data to be collected through the CPS and how it should be measured, but also to the methods by which data and related information should be presented to the public. The Commission deemed the explanations of labor force concepts, definitions, and data reliability contained in the BLS monthly news release, "The Employment Situation," too technical and detailed for the intended audience. In 1981, the BLS rewrote these explanations in plainer language, particularly the explanation of seasonal adjustment. Another change in the news release related to the placement of the table showing alternative measures of unemployment (U–1 through U–7). In keeping with the Commission's suggestion, the table has been given greater prominence in the release. Also, the BLS had intended to simplify and revise the components of these measures, but encountered problems with the testing of new questions (described earlier) which prevented it from doing so.

The BLS adopted one of the two recommendations for changing the method of seasonally adjusting labor force statistics. In January 1980, it shifted to the X–11 ARIMA method, as suggested by the Commission. This method continues as the official method for seasonally adjusting employment and unemployment data. The Secretary of Labor withheld judgment on the Commission's recommendation that the BLS adopt the concurrent method of seasonal adjustment (that is, calculating new factors every month by including the current month's data in the seasonal adjustment process) primarily because such a procedure would necessarily preclude the present practice of advance announcements and publication of seasonal factors for future months. The BLS does make available each month the civilian worker unemployment rate based on a concurrent adjustment, as well as four other unofficial alternative approaches.[25] Both BLS and the Census Bureau are continuing to conduct research in this area and could adopt the concurrent method in the future if the perceived advantages outweigh the disadvantages.

The Commission urged that greater use be made of CPS gross flow data in order to provide insights into the dynamics of labor market behavior. Gross flow data provide monthly estimates of the total number of persons entering the labor force, those leaving the labor force, as well as shifts between employment and unemployment. Despite their potential value, until recently these data had not been published in many years because of serious deficiencies. The Secretary of Labor agreed with the Commission that publication of these data should be resumed on a regular basis, together with an explanation of the discrepancies between the gross flow data and the official estimates. The first two such reports were published in March 1982 and November 1983, and regular publication of the data is expected to continue.[26]

In mid-1984, the BLS and the Census Bureau sponsored a conference on gross flow statistics, bringing together experts from both inside and outside of government. Discus-



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sion focused on the identification of the specific reporting errors and biases which affect the accuracy of gross flow data, methods of adjusting the data to overcome these deficiencies, alternatives to gross flow data, and recommendations for future research directions.[27] Several promising techniques for adjusting the gross flow data to make them more useful were discussed. These techniques will be tested by the BLS, and the adjusted data will be published if they are acceptable.

*Estimation process.* The accuracy of CPS estimates depends largely on the accuracy of the population data that are used in the sample design and selection. For this reason, after every decennial Census since the inception of the CPS in 1940, the sample has been redesigned to reflect changes in the size, location, and characteristics of the population. Throughout most of its history, the CPS has been viewed as a national sample survey which produced national estimates. However, growing pressures for more accurate and consistent State and local area estimates (in some cases mandated by law for the implementation of Federal revenue sharing programs) brought three State and subState expansions to the survey during the 1970's. This made the CPS a sort of hybrid, that is, a national sample modified on an ad hoc basis to provide data for States and large labor market areas. The pressures for more reliable area statistics placed a strain on the CPS design. So that the post-1980 Census redesign of the CPS would provide a more efficient sample design, the National Commission on Employment and Unemployment Statistics supported the plan of the BLS and the Census Bureau to design 51 individual samples—each State plus the District of Columbia—as the basis for the overall national frame. The new sample is being phased in between April 1984 and July 1985, and is expected to improve the reliability of the State and subState estimates and the overall cost effectiveness of the sample.

The Commission also made several recommendations for research on and improvement of the reliability of sample estimates. These included the development of information on sources of bias, characteristics of refusals and nonresponse, the differential effects of rotation group bias, and possible biases arising from the use of proxy respondents. Results of research in some of these areas have already been useful to the Census Bureau in the CPS redesign process. Research continues on some of the more difficult methodological aspects of the survey.

## Improved establishment survey data

The National Commission on Employment and Unemployment Statistics made considerably fewer specific recommendations for improving the Current Employment Statistics survey. The Commission's report noted that the lack of many detailed recommendations was due to several basic shortcomings of the survey, particularly its nonprobability sample design, relatively poor survey documentation, and inadequate quality measures.

The Commission recognized that the extensive industry and geographic detail on employment, hours, and earnings produced from the survey were essential for current economic analysis as well as for providing basic building blocks for construction of estimates of industrial production, personal income, gross national product, and productivity. Therefore, while questioning the sample design and other basic statistical underpinnings of the survey, it urged caution in making major changes that might disrupt major economic series. The Commission stressed the importance of first documenting all survey and operational aspects of the existing program before proceeding to the conduct of basic research on the technical aspects of the survey. The BLS has addressed these recommendations in just that fashion. The process of documenting the current program operations has been completed, and a number of specific concerns noted by the Commission have been answered. These improvements have taken place during a period of great change in the basic structure of the program, as funding and administrative responsibility for the survey has been transferred from the Department of Labor's Employment and Training Administration to the BLS. As part of a major modernization effort, the BLS is now in the process of conducting the research and planning needed to place the establishment survey on a firmer statistical base.

*Documentation of current program.* Documentation has long been a problem because of the way the Current Employment Statistics program operated. The survey is conducted as a Federal/State program, with cooperating State agencies responsible for soliciting sample members and collecting data each month on a mail shuttle collection document (BLS–790 form). The microdata (individual employers' reports) are then transmitted to BLS in Washington for use in preparing national estimates. The State agencies also use these data to prepare State and area (Metropolitan Statistical Area) estimates of employment, hours, and earnings by industry. While obviously avoiding a duplicate reporting burden on employers to provide data separately to local, State, and national levels of government, the decentralized conduct of the survey by 51 separate agencies makes it difficult for BLS to ensure adherence to standards in survey operations. At the time of the Commission's review of the Current Employment Statistics program, the BLS did not have in place sufficient standards or the appropriate tools to monitor State performance.

After the Commission's report, BLS undertook a complete review and rewriting of the *State Operations Manual* which was used as the basis for a full round of training sessions with BLS regional and State personnel working on the survey. Annual updates to this manual reflect program changes and new developments. The manual is currently being revamped and is scheduled for reissue in 1985. Over the last



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several years, a training program has been developed for new employees in the State agencies and separate training has been provided to State employees involved in preparing estimates.

The first task in monitoring State agencies' performance was to review all aspects of each State's survey operations. BLS national and regional staff conducted the initial review in 1980. Based on the results of this review, improvement plans were developed for individual States to bring them into compliance with standards contained in the *State Operations Manual*. After the initial review of State operations, an annual review procedure was developed by BLS regional office staff to use in monitoring the implementation of improvement plans. Information on critical aspects of survey operations such as sample selection, solicitation, data collection, editing, data processing, estimation, and publication is now being maintained in a computer data base and is updated each year based on these reviews.

A new regional office operations manual was developed to systematically document the rapidly changing role of the BLS technical staff in the eight regional offices. This documentation has proven particularly important in keeping abreast of the application of data processing and telecommunications technology to survey operations. In addition, annual meetings are held with BLS Washington and regional technicians to review and discuss new developments.

The Commission questioned the sample design for the establishment survey (specifically the methods used for selecting the sample and its representativeness). It recommended that BLS study possible new sample designs, including a pilot version of a probability sample. While BLS has begun such a study, it recognizes that solicitation procedures would have to be greatly improved before any new design could be implemented. Various tests have been conducted to determine the most effective solicitation approach to assure high response rates from new sample members. These tests have shown that response rates in the 75- to 80-percent range are possible when solicitation is conducted by trained staff, with extensive followup for nonresponse. Based on this experience, a solicitation procedure has been developed for use in all States, with a requirement for stringent control and recordkeeping of solicitation efforts consistent with the current sample design. This procedure will be incorporated in the revised *State Operations Manual*, to be issued in 1985.

The use of telecommunications by State agencies to transmit microdata to Washington has greatly speeded the flow of data and enhanced the quality of the national estimates by providing more complete samples. The effect of this technology is most apparent in preliminary estimates included in "The Employment Situation" news release. Prior to the use of telecommunications, each State agency had to stop collecting and editing the reports of sample respondents by Wednesday or Thursday of the week prior to the news release. They had to mail the reports to Washington in time for them to be processed Monday evening of the release week. The advent of telecommunications has meant that the States can continue to collect and edit data from respondents through Monday afternoon, and then transmit the data electronically to Washington for processing that same evening. This capability, coupled with better controls and increased followup, has resulted in a dramatic increase in the sample response included in the preliminary estimates (from about 65,000 to more than 100,000 reports).

The Commission was concerned about the accuracy of the establishment survey data. This concern was intensified by the fact that the BLS had been unable to benchmark the survey results in 4 of the 7 years prior to the Commission's review. Furthermore, at the time of the review, the ES–202 (Quarterly Report on Employment and Wages of Employees Covered by Unemployment Insurance), the Federal-State cooperative program which is the cornerstone for the benchmark, was not being compiled on a timely basis by many of the State Employment Security Agencies. In addressing this concern, BLS devoted more resources to the annual benchmark adjustment, and the required adjustment has been made each year for the last 5 years. The benchmarks were not complete the first several years, as several State agencies continued to miss deadlines for submitting their ES–202 reports. However, in the last 2 years this situation has greatly improved, and all State agencies are now submitting the reports on time. As a result, the most recent benchmark adjustment was complete and the BLS has reduced by 3 months the time required for preparation and release of the benchmark revision. The latest establishment survey revisions were published in the May–June period rather than the August–October period as was customary prior to the Commission's review.

The Commission recommended that the number of cells and the degree of sample stratification for the establishment survey be reevaluated annually at the time of the benchmark revision. This recommendation was immediately implemented, and a review has been performed in conjunction with the annual benchmark revision each year. Nearly 1,100 strata are now used in the benchmark estimation process, an increase of more than 20 percent from 1978. The increased stratification has improved the accuracy of the hours and earnings estimates in addition to those for employment, and has permitted the publication of additional industry detail.

The Commission recognized that the industry detail produced from the establishment survey, while extensive, was inadequate for the large and growing service-producing sector of the economy. However, it stopped short of recommending a major expansion in industry detail because the sample appeared to be particularly weak in this sector. Many industries in the service-producing sector are characterized by small firms, which makes it very difficult to develop and



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maintain an adequate sample of employers.[28] Despite the difficulties, the cooperating State agencies have increased sample coverage in service-producing industries by 26,000 additional employer reports. As a direct result of this marked buildup of sample, the BLS expanded its publication of industry detail in the service-producing sector by 82 additional industries in 1984.[29]

The Commission recommended that the BLS intensify research for the implementation of cyclically sensitive bias adjustment procedures in the establishment survey.[30] This technique was used in the construction industry in 1981. It was more difficult, however, to develop procedures for other industries that actually improved the accuracy of current employment estimates. A major breakthrough in the research occurred in 1983, and BLS introduced cyclically-sensitive bias adjustment procedures for all industries coincident with the introduction of the latest benchmark revision in 1984.[31] The new model used to produce the bias adjustment factors represents a refinement of the old method that utilized a 3-year average of the differences between benchmarks and estimates. The new method uses the 3-year average of differences, but also relates the bias to the employment change in the sample in the most recent quarter. Thus, bias factors are now recomputed quarterly, instead of annually, and are much more sensitive to the economic cycle as measured by the month-to-month employment changes in the establishment sample.

*Modernizing the establishment survey.* The Bureau is currently involved in a full-scale modernization of the establishment survey that encompasses many of the broader recommendations made by the National Commission on Employment and Unemployment Statistics. This long-range project involves the review of all aspects of the program at the national, State, and area levels. The modernization effort stems from the fact that the nature of the establishment survey, as well as the basic cooperative Federal/State relationship under which it is conducted, has been relatively unchanged for the last 30 years. During this period, significant advances have occurred in the areas of survey design techniques, data processing, telecommunications, and employer recordkeeping practices. As discussed earlier, the ongoing survey has benefited from some of these developments, but major changes must await a systematic redesign.

The objectives of the modernization are:

- to provide data relevant to current public policy uses and needs;
- to develop a firm statistical foundation for the establishment survey within which objective measures of current sampling and nonsampling errors can be made for all survey estimates; and
- to modernize survey operations and procedures, and telecommunications and software systems.

Current research testing is focused on collection methodology and the control of response/nonresponse errors for the national preliminary estimates which appear in the monthly news release. In addition, the collection of new data items is also being tested, including total payroll—and total hours for all workers, and part-time employment, hours, and earnings for workers in service and trade establishments.

*Change in program responsibility.* The National Commission on Employment and Unemployment Statistics found that the division of technical and administrative responsibilities between the BLS and the ETA for supervising the conduct of the establishment survey in the State agencies led to duplication of effort and conflicting demands. Funds for the survey were not earmarked or itemized in the State agencies, making it difficult to assess the adequacy of funding levels. The Commission recommended, therefore, that BLS responsibility for the establishment survey (and several other Federal/State cooperative statistical programs) should include sole funding authority, and that allocations to State agencies for the survey should be earmarked.

After lengthy negotiations within the Department of Labor, the BLS was granted administrative responsibility for the survey in State agencies. In fiscal 1984, for the first time, cooperative agreements were signed between the BLS and each State agency specifying survey deliverables. The deliverables were in the form of specific State performance relative to program requirements and specified State compliance with specifications and standards outlined in the *State Operations Manual*. Variances were allowed only when improvement plans were agreed to that would bring the State(s) into compliance. This process also resulted in a funding reallocation based on each State's required sample size, the number of Metropolitan Statistical Areas, and other factors.

Although these new administrative procedures have been in effect for a comparatively short time, their positive impact is being felt in practically all aspects of the survey. Coupled with the annual State operations review, the cooperative agreements offer a degree of control for standardizing procedures and for implementing improvements in States that was not possible before.

## The ES–202 Report

As mentioned earlier, the National Commission on Employment and Unemployment Statistics had expressed concern with the timeliness of another of the BLS Federal-State cooperative programs—the ES–202 Report—which is the primary input to the annual industry employment benchmarks for the establishment survey. The Commission had also expressed concern with two other aspects of the ES–202 program—the absence of effective quality control and the failure to clearly identify funding and committed resources.



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With regard to quality control, the BLS instituted a formal State operations review procedure in 1980 to analyze all aspects of ES–202 operations. The purpose of the reviews was to identify problem areas (notably failure to meet standards contained in the *State Operations Manual*) and develop a plan with the State agencies to remove these deficiencies over a reasonable period. Initially, the reviews were conducted annually but are now being done every 2 years with an annual followup to assess progress made in implementing the previous year's program improvement recommendations.

With regard to the funding and resource problems, the BLS and the ETA agreed in 1983 to jointly manage the ES–202 program. Under this agreement, BLS and ETA share fiscal and administrative management of the program, while BLS retains full technical responsibilities. Resources for the program were moved from the overall Unemployment Insurance Program budget and were included among several programs that are administered under ETA's Employment Service Reimbursable Grants process. The net result of this transfer was that funds for the ES–202 program for each State are now clearly earmarked. ETA and BLS jointly determine the resources necessary for each State to operate the program and monitor each State agency's performance in the program, and work closely to resolve the "priority" problems mentioned earlier.

## Local Area Unemployment Statistics program

The National Commission on Employment and Unemployment Statistics noted that "the inadequacy of State and local data has become especially glaring in recent years as the use of these data . . . has expanded."[32] The accuracy of statewide unemployment statistics was (and still is) being questioned. In contrast to the national figures, monthly unemployment estimates for most State and local areas are not based directly on the CPS because the sample size in those areas is not adequate to provide data which meet the minimum statistical standards on a monthly basis. Under the current "two-tiered" system, monthly estimates for 10 large States and 2 large areas (Los Angeles and New York City) are based directly on CPS estimates because the sample size in those areas is large enough to support direct use of CPS data. Monthly estimates for the remaining 40 States and all other subState areas are developed using the so-called "Handbook" method. This method is based on (but not limited to) administrative statistics from the State Unemployment Insurance system, which, in turn, are subsequently adjusted in accordance with annual CPS statewide estimates. The Commission examined several options for improving State and local area unemployment estimates and concluded that, given the legislative requirements for the production of monthly estimates for thousands of areas and the prohibitive cost of expanding the use of CPS data to all areas, the continuation of a two-tiered system was warranted.

Based on the Commission's recommendations, the BLS implemented a research program aimed at improving the methodology for developing State and area estimates through the development of a system that would:

- use state-of-the-art statistical techniques for estimation and testing;
- provide minimum annual estimation errors relative to the CPS;
- reflect local seasonal patterns and business cycle movements;
- incorporate local counts and sample-based estimates;
- be susceptible to rigorous statistical testing;
- be capable of being updated at least annually; and
- be efficient to operate.

Results of ongoing research have shown that the use of regression techniques for developing subnational estimates, which the Commission also had supported,[33] may well be more consistent with BLS objectives for an accurate, efficient, and cost-effective system than the present "Handbook" procedures. Thus, recent BLS research has focused on regression methods.

The use of regression techniques for developing estimates may have several advantages over the "Handbook" method. First, and foremost, they result from well-established mathematical and statistical principles, which make it possible to hypothesize a causal relationship (that is, a model) between a set of economic variables, estimate the relationship among those variables, and test not only the adequacy of the model as a whole, but the individual relationships as well. Statistical advances in the "state-of-the-art" could easily be incorporated into the estimation techniques. Moreover, the model's coefficients could be updated periodically to adjust for changes in the interrelations. Results of this research to date have been promising, but further development and testing, including evaluation by cooperating State agencies, is necessary before a regression-based system could be substituted for the present methodology.

A NUMBER OF THE LEVITAN COMMISSION recommendations have either been implemented by the BLS or are in the process of being implemented. Changes in the methods by which the BLS data are collected, classified, and made available to the public have resulted in several improvements in the quality of the labor force statistics program and will lead to additional improvements in the future.

Several other recommendations were considered by the Secretary of Labor, but were deemed unacceptable because of substantive or cost considerations. Some of these, along with new issues that have surfaced in recent years, may be studied again in the next comprehensive review of the Nation's labor force data system. □



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## ——FOOTNOTES——

[1] National Commission on Employment and Unemployment Statistics, *Counting the Labor Force* (Washington, Government Printing Office, 1979).

[2] See John E. Bregger, "Establishment of a new Employment Statistics Review Commission," *Monthly Labor Review*, March 1977, pp. 14–20.

[3] President's Committee to Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment* (Washington, Government Printing Office, 1962).

[4] *Ibid.*, p. 10.

[5] *Ibid.*

[6] These included an availability for work test, a reporting of explicit job-search methods used, and a requirement that job-search activity had to have taken place during the prior 4-week period for classification as unemployed. For a detailed explanation of these changes, see Robert L. Stein, "New Definitions for Employment and Unemployment," *Employment and Earnings*, February 1967, pp. 3–27.

[7] See Robert L. Stein, "National Commission recommends changes in labor force statistics," *Monthly Labor Review*, April 1980, pp. 11–21.

[8] See Section 13, P.L. 94–444, HR 12987, 94th Cong., Oct. 1, 1976.

[9] See *Counting the Labor Force*. Because the U.S. statistical system is decentralized among several Federal agencies, many of the Commission's recommendations relate to programs of other agencies. Still others dealt with legislative concerns of Congress.

[10] See *Interim Report of the Secretary of Labor on the Recommendations of the National Commission on Employment and Unemployment Statistics* (U.S. Department of Labor, March 1980); and *Final Report of the Secretary of Labor on the Recommendations of the National Commission on Employment and Unemployment Statistics* (U.S. Department of Labor, October 1981).

[11] See Gloria Peterson Green and others, "Revisions in the Current Population Survey beginning in January 1983," *Employment and Earnings*, February 1983, pp. 7–15. Also see John E. Bregger, "Labor force data from CPS to undergo revision in January 1983," *Monthly Labor Review*, November 1982, pp. 3–6.

[12] For example, the seasonally adjusted total unemployment rate in November 1984 was 7.0 percent, compared with the civilian labor force based rate of 7.1 percent. Both measures are highlighted each month in the BLS Employment Situation news release and in the Commissioner of Labor Statistics statement on current labor market developments presented before the Joint Economic Committee of the Congress.

[13] Data on the school enrollment and the high school graduation and dropout status of youth have been collected in supplements to the CPS conducted each October since 1959.

[14] *Counting the Labor Force*, p. 90.

[15] More recently, the Job Training Partnership Act of 1982 (P.L. 97–300) also mandated the annual issuance of these reports.

[16] See *Linking Employment Problems to Economic Status*, Bulletin 2123 (Bureau of Labor Statistics, 1982).

[17] Data for 1980 are published in *Linking Employment Problems to Economic Status: Data for 1980*, PB 83–115345 (National Technical Information Service, 1982). Information for 1981 is published in *Linking Employment Problems to Economic Status*, Bulletin 2169 (Bureau of Labor Statistics, 1983). Data for 1982 are published in *Linking Employment Problems to Economic Status*, Bulletin 2201 (Bureau of Labor Statistics, 1984).

[18] The new system, developed for the 1980 Census of Population, evolved from the 1980 Standard Occupational Classification System, which has been designated as the standard for all occupational data issued by the U.S. Government.

[19] For an explanation of the estimation procedures and limitations of these data, see Deborah Pisetzner Klein, "Occupational Employment Statistics for 1972–82," *Employment and Earnings*, January 1984, pp. 13–16.

[20] See "One American Worker in Ten Has Been With the Same Employer More than 20 Years," *USDL News* 84–86, Mar. 1, 1984. More detailed findings are published in Ellen Sehgal, "Occupational mobility and job tenure in 1983," *Monthly Labor Review*, October 1984, pp. 18–23. Data for 1981 were published in *Job Tenure and Occupational Change*, Bulletin 2162 (Bureau of Labor Statistics, 1983).

[21] *Counting the Labor Force*, p. 45.

[22] *Ibid.*, p. 55.

[23] Random Digit Dialing refers to an experimental, national frame sample survey using centralized independent interviewing conducted by the Census Bureau. Methods Development Survey questionnaires were tested through Random Digit Dialing from October 1983 to September 1984.

[24] The Monthly Labor Survey, a separate test panel survey of some 15,000 households, was conducted in 1964–66 to test several Gordon Committee recommendations. The Monthly Labor Survey panel was merged with the ongoing CPS sample in 1967. For additional discussion, see John E. Bregger, "The Current Population Survey: a historical view and BLS' role," *Monthly Labor Review*, June 1984, pp. 8–14.

[25] Unemployment rates, based on alternative seasonal adjustment methods, together with explanations of each measure, are published each month in the Statement of the Commissioner of Labor Statistics before the Joint Economic Committee of the U.S. Congress.

[26] See *Gross Flow Data From the Current Population Survey, 1970–80*, PB 82–174327 (National Technical Information Service, March 1982); and *Gross Flows in the Labor Force*, PB 84–115740 (National Technical Information Service, 1983). For a comprehensive examination of this issue, see Ralph E. Smith and Jean E. Vanski, *Gross Change Data: The Neglected Data Base*, Background Paper No. 11 (National Commission on Employment and Unemployment Statistics, July 1978).

[27] The proceedings from this conference will be published in a BLS–Census Bureau report later this year. The BLS also convened a seminar in September 1979 on this subject. Edited transcripts of the formal presentations and related material are published in *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980).

[28] See Thomas J. Plewes, "Bureau seeks better measures of service employment," *Monthly Labor Review*, November 1982, pp. 7–16.

[29] See John T. Tucker, "Publication of employment data for additional service-producing industries," *Employment and Earnings*, June 1984, pp. 24–27.

[30] Because there is a lag in the coverage of new firms which are established during an expansionary period, the payroll survey often understates job growth as business conditions improve. The BLS attempts to adjust for the creation of new firms in the monthly estimation procedures through the use of bias adjustment factors.

[31] See John B. Farrell, "BLS establishment estimates revised to March 1983 benchmarks," *Employment and Earnings*, June 1984, pp. 6–23.

[32] *Counting the Labor Force*, p. 229.

[33] *Ibid.*, p. 261.



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# Changing employment patterns of organized workers

*The total number of U.S. workers rose while the number of employed workers who were members of unions or employee associations fell*

LARRY T. ADAMS

The organized labor movement lost 2.7 million members among employed wage and salary workers between 1980 and 1984. This was a particularly sharp drop in the number of union[1] members compared with the experience between the end of World War II and 1980, a period of generally rising union membership. Because this decline took place while the nation's workforce grew, the proportion of employed wage and salary workers who were union members declined during the period, continuing a trend that began in the late 1950's.

The change in the number and proportion of union members took place while changes in the American economy were having a particularly severe impact on employment in goods-producing industries and in transportation, where many union members worked. Competition from imports was growing and government deregulation of the transportation industry in 1980 increased competition from nonunion firms. The "smokestack" industries, the traditional source of union strength, were stagnant or declining, while the less-organized service-producing industries had vigorous employment gains. During the recession of 1981–1982, unemployment hit hardest in industries where unions were strong but, to date, the recovery has been most vigorous in industries and occupations that typically have low levels of unionization.

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This article discusses the employment of organized workers in May 1980 with averages for the year ended in September 1984, the second year of the recovery from the 1981–82 recession. Data on employment were obtained primarily from the Current Population Survey (CPS), conducted by the Census Bureau for the Bureau of Labor Statistics.[2] In May 1980, the CPS collected data on workers identified by their membership in unions or by their representation at work by a union, whether or not they were members. These data were next collected in January 1983 and have been collected each month since then.[3]

It should be noted that the CPS union membership data cover only employed *wage and salary workers*, not union members who are self-employed, unemployed, retired, laid off, or for other reasons are not wage and salary employees. Thus, they do not represent the total number of people who belong to unions and employee associations. The last BLS study[4] that counted total union membership (regardless of employment status) was in 1980. That study recorded union (and employee association) membership at 22,377,000. This was 2,282,000 or 11 percent more than the 20,095,000 employed wage and salary workers who were union members recorded by the May 1980 CPS. Because BLS no longer collects data on total union membership, a similar comparison of membership trends cannot be made for 1984.

The CPS data indicate that the number of employed wage and salary workers belonging to labor unions fell from 20.1 million in 1980 to 17.4 million in 1984—a loss of 2.7 million. During the same time the total number of employed



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wage and salary workers increased from 87.5 million to 91.3 million—a gain of 3.8 million. As a result, union members as a proportion of all employees fell from 23.0 percent in 1980 to 19.1 percent in 1984. (See table 1.)

Between May 1977 and May 1980, union membership among employed wage and salary workers increased by about three-quarters of a million, from 19.3 to 20.1 million. The proportion of employees who were union members, however, fell from 23.8 to 23.0 percent, a consequence of the growth of wage and salary employment outpacing the increase in union membership.

There are no comparable CPS data for earlier years. However, as previously noted, the BLS "Directory of National Unions and Employee Associations"[5] is another source of data on labor organization membership. Unlike the CPS, the Directory counted membership in labor organizations (unions only, prior to 1968) regardless of employment status. The data are, nevertheless, useful in providing a historical backdrop. They show that during the post-World War II era through 1980, union membership (excluding employee associations) fluctuated from year to year but grew on balance. It stood at 14.3 million in 1945, peaked at 20.2 million in 1978, and then declined to 19.8 million in 1980. During the period, the largest decline in membership was 1.2 million between 1956 and 1961.

Unions and employee associations combined showed a similar pattern of membership change between 1968 and 1980, the period for which such data are available. From 1968 to 1978, membership in both types of organizations rose from 20.7 million to 22.9 million, but then fell to 22.4 million in 1980.

During the 1945–1980 period, the number of employed wage and salary workers increased faster than membership in unions (excluding employee associations). Consequently the proportion of workers in unions fell from 35.5 percent in 1945 to 21.9 percent in 1980. When employee associations are combined with unions, the declines were from 30.5 percent in 1968 to 24.7 percent in 1980. Against this background, the 1980–84 declines in the number and proportion of union members among employed wage and salary workers indicated by the CPS data appear particularly steep despite definitional differences between the CPS and the *Directory of National Unions and Employee Associations*.

The sharp reversal in the upward trend in the absolute number of union members in the work force and the accelerated decline in the proportion of union members in the work force between 1980 and 1984 stem from different employment patterns in the two major sectors—goods and services—of private industry. Historically the main source of union members, nonagricultural goods-producing industries (mining, construction, and manufacturing) suffered a *net* employment decline of 800,000 workers over the period. However, in these industries, jobs held by union members fell 1.9 million while jobs held by nonmembers rose 1.1 million. By contrast, in service-producing industries, which historically have had a comparatively low proportion of union members (with the exception of the transportation, communications, and utilities industries), employment in-

**Table 1. Employed wage and salary workers and numbers and proportions of union members, by industry, May 1980 and the average for the year ended in September 1984**

[Workers in thousands]

| Industry | Number of employed wage and salary workers | | | | | | Percent of employed wage and salary workers who were union members | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | | | Union members | | | | | |
| | May 1980 | Year ended September 1984 | 1980–84 change | May 1980 | Year ended September 1984 | 1980–84 change | May 1980 | Year ended September 1984 | 1980–84 percentage-point change |
| All industries[1] | 87,480 | 91,331 | +3,851 | 20,095 | 17,417 | −2,678 | 23.0 | 19.1 | − 3.9 |
| Private sector[1] | 71,424 | 75,582 | +4,158 | 14,332 | 11,756 | −2,567 | 20.1 | 15.6 | − 4.5 |
| Goods-producing[1] | 27,590 | 26,787 | −803 | 8,428 | 6,569 | −1,859 | 30.5 | 24.5 | − 6.0 |
| Mining | 891 | 903 | ([2]) | 285 | 162 | −123 | 32.0 | 17.9 | −14.1 |
| Construction | 4,437 | 4,413 | ([2]) | 1,371 | 1,072 | −299 | 30.9 | 24.3 | − 6.6 |
| Manufacturing | 20,824 | 20,038 | −786 | 6,726 | 5,302 | −1,424 | 32.3 | 26.5 | − 5.8 |
| Durable goods | 12,419 | 11,980 | −479 | 4,328 | 3,339 | −989 | 34.8 | 28.0 | − 6.8 |
| Nondurable goods | 8,405 | 8,098 | −307 | 2,398 | 1,963 | −435 | 28.5 | 24.2 | − 4.3 |
| Service-producing | 43,834 | 48,795 | +4,961 | 5,904 | 5,188 | −716 | 13.5 | 10.6 | − 2.9 |
| Transportation, communications, and public utilities | 5,277 | 5,414 | +137 | 2,554 | 2,146 | −408 | 48.4 | 39.6 | − 8.8 |
| Wholesale and retail trade | 17,287 | 18,680 | +1,393 | 1,746 | 1,525 | −221 | 10.1 | 8.2 | − 1.9 |
| Finance, insurance, and real estate | 5,062 | 5,753 | +691 | 162 | 156 | ([2]) | 3.2 | 2.7 | ([2]) |
| Service | 16,168 | 18,948 | +2,780 | 1,439 | 1,361 | ([2]) | 8.9 | 7.2 | − 1.7 |
| Government | 16,056 | 15,748 | −308 | 5.764 | 5,661 | ([2]) | 35.9 | 35.9 | − |

[1]Includes agriculture, forestry and fisheries not shown separately.

[2]Change not statistically significant.

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

SOURCE: Current Population Survey.



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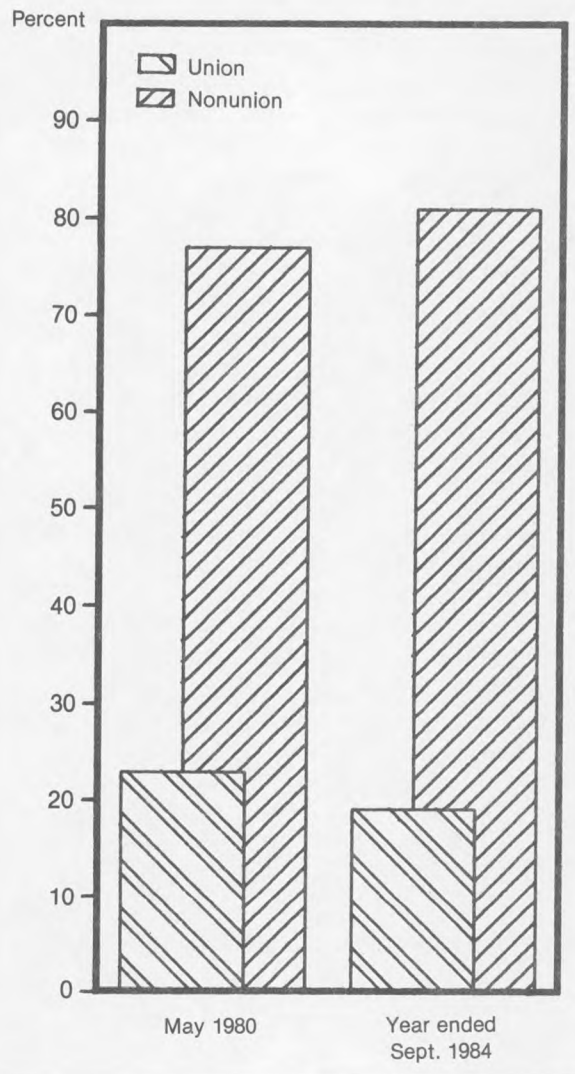
**Chart 1. Distribution of employed wage and salary workers, by union membership status, in May 1980 and in the year ended in September 1984**




creased by 5 million. However, union membership among the service industries' work force fell by 700,000.

In goods-producing industries, both the recession and import competition (especially in steel, automobiles, and apparel and textiles) had a sharp effect on employment during 1980–84. Firms facing declining markets, or market shares, tried to recoup by reducing labor costs by several means. Among those that particularly affected employment of union member workers were greater use of nonunion facilities, contracting out work previously performed by union members, and purchasing supplies previously produced in-house by union members from nonunion domestic sources or foreign suppliers. Furthermore, nonunion competition for available work intensified, and it seems likely that some jobs lost during the 1981–82 recession were regained by nonunion firms during the subsequent recovery.

Within the goods-producing sector, the mining industry suffered the largest proportional loss of working union members, 43 percent, as the number of mining employees belonging to unions fell from 285,000 to 162,000 between 1980 and 1984. Because total employment in the mining industry was about the same in 1984 (903,000) as in 1980 (891,000), the proportion of union members decreased from 32.0 percent to 17.9 percent.

The other principal components of the nonfarm goods-producing sector, construction and manufacturing, also had declines in the number of union member workers and proportional union membership. By 1984, employment in the construction industry had returned to its 1980 prerecession level of approximately 4.4 million. The number of construction industry jobs held by union members, however, stood at 1.1 million in 1984, down from 1.4 million in 1980; thus, 24.3 percent of total employment in the industry in 1984 compared with 30.9 percent in 1980 were union members. As construction slowed during the 1981–82 recession, competition between union and nonunion contractors for available work intensified, with many nonunion contractors bidding for, and receiving, work historically performed by union contractors. Indeed, some unionized firms created separate companies that were not unionized. In a tight market, nonunion companies sometimes could be more competitive than union firms when bidding on or performing on projects. They could, for example, pay less than union scale, and be more flexible in work practices because they were not governed by union work rules or staffing requirements.

In the manufacturing industries, employment in 1984 was just over 20 million, 800,000 below the 1980 level. The number of employed union members in manufacturing, however, declined by about 1.4 million, resulting in the proportion of union members in manufacturing falling from 32.3 percent in 1980 to 26.5 percent in 1984.

Changes in employment and union membership varied somewhat among component manufacturing industries, however. Employment in the durable goods industries decreased approximately 500,000 between 1980 and 1984. However, the number of employed union members in these industries fell by almost 1 million. The primary and fabricated metals industries and the nonelectrical machinery industry accounted for most of the decline in employed union members. These industries have not fully recovered from the 1981–82 recession, and have been subject to intense import competition. Two other durable goods industries adversely affected by the recession and imports—stone, clay, and glass products and electrical machinery—had employed union member decreases of approximately 100,000 each.

The nondurable goods industries had a decline of about 300,000 jobs and lost over 400,000 employed union members. As a result, in those industries, the proportion of union members fell from 28.5 percent in 1980 to 24.2 percent in



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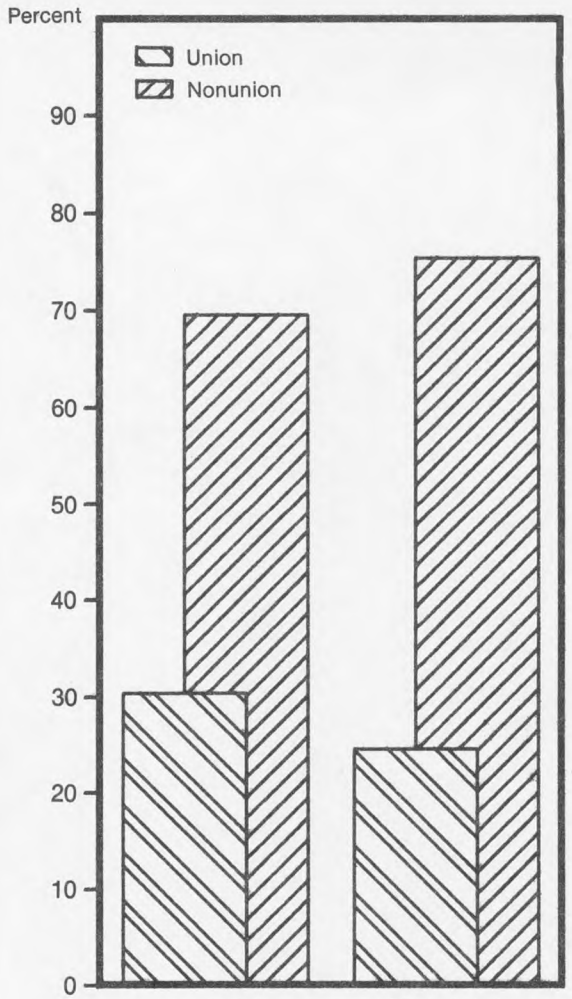
1984. Among the nondurable manufacturers, the chemical industry had the largest decreases in the number of employed union members—109,000—and a decline from 25.8 to 18.3 percent in their proportion of total employment. The textiles and apparel industries lost approximately 150,000 jobs between 1980 and 1984. The number of employed union members in these industries decreased by more than 90,000 during the same period. Consequently, the proportion of union members fell from 21.3 to 18.2 percent of total employment.

The service-producing sector,[6] unlike goods-producing industries, had strong employment gains between 1980 and 1984. Bolstered by substantial and continuing increases in health care and business services employment and more modest, but steady, gains in finance, insurance, and real estate, the service sector had an employment increase of 5.0 million jobs. The transportation, communications, and public utilities and wholesale and retail trade industries experienced employment losses during the 1981–82 recession, but these were more than offset by gains during the subsequent recovery.

Despite the overall rise in employment in the service sector, the number of employed union members fell by more than 700,000. About half the loss was in the transportation industry. The deregulation of trucking and airlines brought intense competition between union and nonunion firms in these industries.

In Federal, State, and local government, employment declined by about 300,000, from 16,056,000 workers in 1980 to 15,748,000 in 1984. The number of government employees who were union members declined by 100,000 to about 5.7 million. The proportion of union members, therefore, held steady at 35.9 percent. A detailed discussion of employed union members working for government over the 1980–84 period is not possible because 1980 data were not tabulated by level of government.

**Chart 2. Distribution of employed wage and salary workers, by union membership status, private goods-producing sector, in May 1980 and in the year ended in September 1984**




## Employed union members in 1984

The industrial and occupational distribution of employed union workers that existed in 1984 is the result of long-term trends as well as recent changes in employment and union membership. Five out of six union members worked in the goods-producing industries, the government sector, and transportation, communications, and public utilities in the service-producing industries. By comparison, just 1 out of 2 of all wage and salary workers were employed in these industry groupings. Union members accounted for 30.0 percent of the workers in these industries, but only 7.0 percent of the workers in other industries: wholesale and retail trade; finance, insurance, and real estate; and services. (See table 2.)

The distribution of employed union members by occupation, sex, and race is influenced by many factors. In general, however, workers in occupations typically found in construction, mining, manufacturing, and transportation are more likely to be union members than those in finance, trade, or service jobs; employed men are more likely than employed women to be union members, and employed blacks are more likely to be union members than employed whites.

In private industry, transportation, communications, and utilities had the highest proportion of union members—two-fifths of the division's employment. Manufacturing and construction, each with about 1 out of 4 of its employees as union members, ranked second and third, respectively, in proportion of union members. Mining had about 1 out of 5 employees in unions, and was fourth. Trade, services, and finance, insurance, and real estate each had fewer than 1 out of 10 employees in unions.

Manufacturing employed 45 percent of union members who worked in private industry: transportation, communications, and utilities accounted for 18 percent. Despite the



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**Table 2. Employed wage and salary workers and union members by industry, occupation, race, and sex, average for the year ended in September 1984**

| Worker characteristic | All industries[1] | Private sector | | | | | | | | Government |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total[1] | Mining | Construction | Manufacturing | Transportation, communication and public utilities | Wholesale and retail trade | Finance, insurance, and real estate | Service | |
| | Number of employed wage and salary workers (thousands) | | | | | | | | | |
| All workers: | | | | | | | | | | |
| All occupations[2] | 91,331 | 75,582 | 903 | 4,413 | 20,038 | 5,414 | 18,680 | 5,753 | 18,948 | 15,748 |
| Managerial and professional specialty | 20,540 | 13,792 | 227 | 375 | 3,330 | 872 | 1,580 | 1,491 | 5,880 | 6,749 |
| Technical, sales, and administrative | 28,857 | 24,555 | 177 | 385 | 3,888 | 1,656 | 9,150 | 3,850 | 5,355 | 4,302 |
| Service | 13,085 | 10,342 | 14 | 24 | 370 | 180 | 3,988 | 236 | 5,517 | 2,744 |
| Precision production, craft, and repair | 11,035 | 10,198 | 290 | 2,549 | 3,886 | 1,095 | 1,263 | 88 | 990 | 837 |
| Operators, fabricators, and laborers | 16,081 | 15,137 | 194 | 1,072 | 8,501 | 1,604 | 2,666 | 46 | 973 | 945 |
| Union members by occupation: | | | | | | | | | | |
| All occupations[2] | 17,417 | 11,756 | 162 | 1,072 | 5,302 | 2,146 | 1,525 | 156 | 1,361 | 5,661 |
| Managerial and professional specialty | 3,283 | 715 | 4 | 33 | 134 | 97 | 28 | 26 | 391 | 2,569 |
| Technical, sales, and administrative | 3,259 | 1,959 | 6 | 11 | 405 | 576 | 603 | 85 | 273 | 1,300 |
| Service | 1,982 | 902 | 3 | 4 | 130 | 88 | 175 | 29 | 472 | 1,080 |
| Precision production, craft, and repair | 3,375 | 3,044 | 84 | 749 | 1,290 | 626 | 175 | 10 | 108 | 331 |
| Operators, fabricators, and laborers | 5,430 | 5,088 | 64 | 275 | 3,333 | 755 | 543 | 5 | 110 | 342 |
| Union members by race: | | | | | | | | | | |
| White | 14,482 | 9,844 | 152 | 964 | 4,452 | 1,829 | 1,312 | 120 | 988 | 4,638 |
| Black | 2,491 | 1,605 | 9 | 90 | 745 | 276 | 157 | 27 | 301 | 886 |
| Union members by sex: | | | | | | | | | | |
| Male | 11,554 | 8,569 | 158 | 1,054 | 4,050 | 1,667 | 937 | 78 | 597 | 2,985 |
| Female | 5,863 | 3,187 | 3 | 18 | 1,252 | 479 | 588 | 77 | 764 | 2,676 |
| | Percent of employed wage and salary workers who were union members | | | | | | | | | |
| Union members: | | | | | | | | | | |
| All occupations[2] | 19.1 | 15.6 | 17.9 | 24.3 | 26.5 | 39.6 | 8.2 | 2.7 | 7.2 | 35.9 |
| Managerial and professional specialty | 16.0 | 5.2 | 1.7 | 8.8 | 4.0 | 11.1 | 1.8 | 1.7 | 6.7 | 38.1 |
| Technical, sales, and administrative | 11.3 | 8.0 | 3.3 | 2.9 | 10.4 | 34.8 | 6.6 | 2.2 | 5.1 | 30.2 |
| Service | 15.1 | 8.7 | ([3]) | ([3]) | 35.2 | 49.0 | 4.4 | 12.4 | 8.6 | 39.4 |
| Precision production, craft, and repair | 30.6 | 29.8 | 29.2 | 29.4 | 33.2 | 57.2 | 13.9 | 11.0 | 10.9 | 39.6 |
| Operators, fabricators, and laborers | 33.8 | 33.6 | 32.9 | 25.7 | 39.2 | 47.1 | 20.4 | ([3]) | 11.3 | 36.2 |
| White | 18.2 | 14.8 | 17.9 | 24.0 | 25.4 | 38.4 | 7.8 | 2.3 | 6.1 | 35.6 |
| Black | 26.2 | 22.2 | ([3]) | 26.9 | 36.9 | 49.3 | 11.1 | 5.9 | 13.4 | 39.0 |
| Male | 23.3 | 20.5 | 21.4 | 26.1 | 30.2 | 42.5 | 9.8 | 3.5 | 8.7 | 38.9 |
| Female | 14.0 | 9.5 | 2.1 | 4.9 | 18.9 | 32.1 | 6.4 | 2.2 | 6.3 | 33.1 |

[1]Includes agriculture, forestry, and fisheries not shown separately.

[2]Includes farming, forestry, and fishing not shown separately.

[3]Data do not meet publication standards.

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

SOURCE: Current Population Survey.

comparatively small proportions of workers in trade and services who were union members, those two industry divisions, because they employed large numbers of workers relative to other industries, together accounted for 1 out of 4 union member employees in private industry. In contrast, construction had one of the higher proportions union membership but because of its relatively small size, only about one-tenth of union members in private industry.



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## Occupation, sex, and race

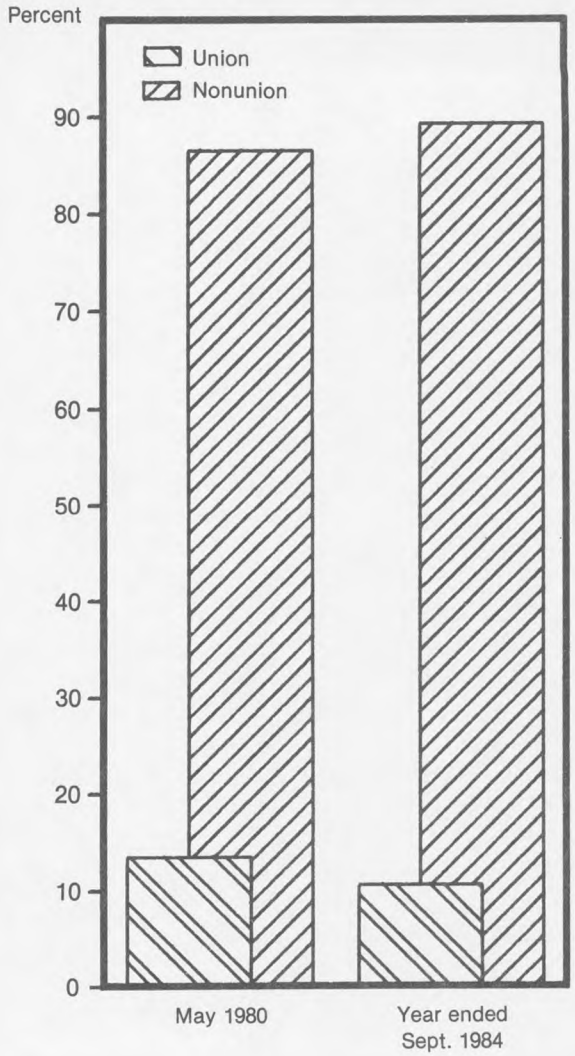
*By occupation.* In private industry, two of the five major occupational groups[7] were relatively heavily unionized. About a third of the operators, fabricators, and laborers, and nearly three-tenths of the precision production, craft, and repair workers were union members. These two occupations were also among the most highly organized on an industry division basis as well, although the proportions varied. Overall, less than a tenth of the workers in any of the other occupational groups were union members. There were, however, sharp differences among the industry divisions in union membership by occupation. For example, in transportation, communications, and utilities, more than one-third of the employees in every occupational group except managerial and professional workers were union members, and nearly three-fifths of the precision production, craft, and repair workers were union members. On the other hand, in services, fewer than one-eighth in any of the occupations were union members.

Compared with private industry, government had little variation in unionization by occupation. The proportion of union members ranged from 36 to 40 percent among four of the five occupational groups. The exception was the technical, sales, and administrative group with 30 percent union members. Overall, in government, 35.9 percent of the employees were union members. Two occupations—teachers (except college and university) and protective service workers—accounted for a disproportionate share of union membership in government. While making up 23.3 percent of government employment they constituted 38.3 percent of union members.

*By sex.* A greater proportion of men than of women employees were members of unions, 23.3 percent compared to 14.0 percent. The greater degree of union membership among men than women occurred in almost every occupation/industry cross classification, and in both the public and private sectors. The only noticeable exception was the managerial and professional specialty group in government where women in these jobs had a union membership rate of 41.6 percent, compared to 33.9 percent for men. The comparatively high rate of unionization among women in these occupations stems from the high proportion of women who were teachers, and the high degree of unionization among teachers.

*By race.* Black workers were more likely than white workers to be union members. This was true in virtually every industrial occupational grouping. The proportion of blacks in the private sector belonging to unions was 22.2 percent while 39.0 percent of their counterparts in government were union members. Among white workers, 14.8 percent in private industry and 35.6 percent in government were union members. □

**Chart 3. Distribution of employed wage and salary workers, by union membership status, private service-producing sector,[1] in May 1980 and in the year ended September 1984**




*FOOTNOTES*

[1] "Union" is defined to include traditional labor unions and employee associations that represent employees in collective bargaining.

[2] These data were from the Current Population Survey. (See the appendix at the end of this article.) The 1980 data were collected in May of that year and therefore reflect an unknown amount of seasonal variation. The data referred to as representing 1984 are averages for the 12 months ended in September of that year, the most recent CPS data available.

[3] See Paul O. Flaim, "New Data on Union Members and Their Earnings," *Employment and Earnings*, January 1985.

[4] Unpublished Bureau of Labor Statistics data derived from the discontinued BLS Bulletin, *Directory of National Unions and Employee Associations*.

[5] The Bureau's *Directory of National Unions and Employee Associations* series provides union membership data from 1930 to 1980. The directory data were obtained directly from the labor unions and employee associations by way of a biennial questionnaire. The responding organizations provided, through their own determination, the average number of dues-paying members. Unlike the CPS data, which determine the union mem-



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bership status of employed persons, the dues-paying member definition includes unemployed members as well as members on strike, layoff, or retired. Thus, while data from the directory are not entirely comparable with those from the Current Population Survey, they are a useful source for long-term membership trends.

[6]The service-producing sector consists of: transportation, communications, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services.

[7]Employed wage and salary workers were classified in one of the following major occupational groups: Managerial and professional specialty; technical, sales, and administrative support; service; precision production, craft, and repair workers; and operators, fabricators, and laborers.

## APPENDIX: Use of the CPS for this study

The CPS is a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. In 1983 and 1984, the monthly sample consisted of about 60,000 households selected so their members represent the U.S. population 16 years of age and older. In one-fourth of the households (those leaving the sample that month), two special questions are asked concerning the union status of any household member reported to be in a wage and salary job. The first question asked if the employee was a member of a labor organization; the second question—asked only if the answer to the first was negative—asked if the employee was represented by a labor organization on the job. Only the employee's principal job was considered.

It should be noted that the CPS is subject to reporting errors for these data in addition to the sampling error inherent in any sample survey. Often, a single member of the household provides the information for all members of the residence. It is possible, for example, that the respondent may not be completely informed on the employed person's industry of employment, union membership, or union representation. For a full description of the CPS and a discussion of the procedure used to collect union membership data, see the January 1985 issue of *Employment and Earnings*, a periodical published by BLS.

*Industries and occupations.* The occupational definitions used in the May 1980 CPS followed the Standard Occupational Classification (SOC) introduced in 1972. By contrast, the definitions used in computing the averages for the 12-month period ended in September 1984 are in accord with the revised SOC introduced with the 1980 Census. The two sets of data are thus not fully comparable in terms of their occupational breakdowns. (See U.S. Department of Commerce, Office of Federal Statistical Policy Standards, *Standard Occupational Classification Manual, 1980* (Washington, U.S. Government Printing Office, 1980).) Industries used were the conventional industry divisions defined in the Standard Industrial Classification (SIC) for 1972. The 1972 SIC was modified for use in this article to identify all government employees and include them in the public sector rather than in the industry divisions. This classification is important for this article because of the strong interest in the organization of government employees by unions and employee associations. The industrial classification used in BLS Bulletin 2105, *Earnings and Other Characteristics of Organized Workers*, May 1980, did not incorporate this modification of the SIC. Therefore, its industry data are not comparable to the data in this article, in which unpublished 1980 data, based on the modified SIC, are used for 1980–84 comparisons. The 1980 and 1984 data also differ in that the 1980 data pertain to the month of May whereas the 1984 data are averages for the 12-month period ended in September 1984. (See Office of Management and Budget, *Standard Industrial Classification Manual, 1972* (Washington, U.S. Government Printing Office, 1972).)



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# Employee income protection against short-term disabilities

*Most workers in medium and large firms are protected, but the degree and duration of protection vary; usually white-collar workers get sick leave benefits, while blue-collar workers are covered by sickness and accident insurance*

WILLIAM J. WIATROWSKI

The vast majority of workers in medium and large firms are protected against loss of income during temporary absences from work due to nonoccupational sickness or accident. However, degree of protection and duration of coverage vary widely. Short-term disability protection was provided to 94 percent of these employees in 1983 in the form of paid sick leave plans, or sickness and accident insurance benefits, or both.

Data on short-term disability protection are from the 1983 Bureau of Labor Statistics survey of the incidence and characteristics of employee benefits.[1] The survey provides information on the amount of income protection available to employees, but not on the actual usage of this benefit. Data were tabulated for all full-time employees and for three employee groups: professional–administrative, technical–clerical, and production employees. In this article, the first two groups are frequently combined and labeled white-collar workers, in contrast with production or blue-collar workers. Short-term disability protection provided white-collar workers differs considerably from that provided blue-collar workers. Just over 90 percent of the white-collar employees were covered by sick leave plans in 1983, more than double the percentage of blue-collar employees. Conversely, two-thirds of blue-collar employees had sickness and accident insurance plans, compared with only one-third of the white-collar workers. (See table 1.)

This difference partly reflects contrasting wage payment practices for white- and blue-collar employees. The former typically are salaried, and their regular weekly or monthly pay can be continued during periods of disability. Pay continuation is more difficult to administer for blue-collar workers, who usually receive a rate per hour worked rather than a fixed salary; in such instances, sickness and accident insurance provides an alternative vehicle for income protection.

## Paid sick leave plans

Sick leave, available to two-thirds of all employees covered by the survey, virtually always continues full pay for at least part of the duration of disability. Sick leave is always financed entirely by the employer out of operating funds, rather than through insurance carriers. Full-pay benefits may be accompanied by benefits at less than full pay for some additional period, and duration of benefits may vary by length of service or remain constant over the worklife of an employee. Benefits are seldom subject to a waiting period, but may require medical proof of illness. Although sick leave provisions are generally spelled out in formal plans—giving employees reasonable assurance of receiving benefits under the stipulated conditions—some plans are informal, with benefits at the discretion of a supervisor. Only formal plans were included in the survey.

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**Table 1. Participation in short-term disability plans, full-time employees in medium and large firms, 1983**

[In percent]

| Type of plan | All employees | Professional and administrative | Technical and clerical | Production |
|---|---|---|---|---|
| Total | 100 | 100 | 100 | 100 |
| Sickness and accident insurance only | 27 | 4 | 5 | 49 |
| Noncontributory[1] | 23 | 3 | 5 | 43 |
| Paid sick leave only | 45 | 66 | 63 | 25 |
| Combined sickness and accident insurance/paid sick leave | 23 | 26 | 29 | 18 |
| Noncontributory[1] sickness and accident insurance | 17 | 19 | 22 | 14 |
| No sickness and accident insurance or paid sick leave | 6 | 4 | 3 | 9 |

[1]Provided at no cost to employee.

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

Sick leave plans provide benefits for a maximum number of days per year (annual plans), for a maximum number of days per illness (per-disability plans), or "as needed." A small number of establishments provide employees with both annual and per-disability sick leave benefits, each intended for specific purposes. The following tabulation distributes participants in sick leave plans in 1983 by these approaches to granting sick leave:

| | *Percent of participants* |
|---|---|
| All sick leave plans | 100 |
| Annual plans | 72 |
| Per-disability plans | 20 |
| Annual and per-disability plans | 6 |
| "As needed" plans | 2 |

*Annual plans.* For nearly three-fifths of the workers under annual plans, the number of sick leave days available per year was uniform, regardless of seniority. For the remaining workers, benefits varied with seniority. Duration generally increased rapidly in the early years of service, with increases slowing after 5 or 10 years. (Maximum benefits were generally reached by 15 years of service.) Average available sick leave benefits reflect this gradation. The average number of days at full pay for all employees under annual plans rose rapidly from 17 days at 1 year of service to 40 days at 15 years of service; then they increased more slowly to 46 days at 30 years of service. (See table 2.)

At all seniority levels, the average duration of benefits available per year to professional and administrative employees was more than double those available to production workers. (See table 2.) The average duration of benefits for technical and clerical employees equaled that for production workers at 6 months of service, but rose more rapidly thereafter. For all three groups, however, the rates of change were substantial. The increase in duration of average benefit between 1 and 15 years of service was 111 percent for professional and administrative employees, 117 percent for production employees, and 171 percent for technical and clerical employees. Over the next 15 years, increases averaged about 1 percent a year for each occupational group.

*Per-disability plans.* Plans which provide a specified number of sick leave days per illness are most beneficial to employees with a recurring illness because the full amount of the benefit is available for each new spell of illness. In such cases, a new benefit period will begin after an employee has not used sick leave for a specified period, such as 60 days. Per-disability plans typically tie benefits to length of service.

The average number of sick leave days allowed under per-disability plans was greater than under annual plans and tended to increase sharply with length of service up to 25 years. (See table 2.) The average limit on paid sick leave days under such plans rose from 46 days at 1 year of service to 111 days at 15 years. Unlike annual plans, significant increases continued after 15 years, reaching more than 150 days after 25 years of service.

Variations among occupational groups in allowable days of per-disability sick leave were not as pronounced as in annual plans. At short-term service, the sick leave duration was greater for white-collar employees, but after 20 years of service, blue-collar workers could receive benefits for longer periods. (This result, and much of the data on per-disability plans, was influenced largely by one nationwide plan that covered 45 percent of all production employees in

**Table 2. Average number of sick leave days allowable at full pay in medium and large firms, by type of plan, 1983**

| Type of plan and length of service | All participants | Professional and administrative | Technical and clerical | Production |
|---|---|---|---|---|
| Annual sick leave[1] by length of service: | | | | |
| 6 months | 14 | 22 | 10 | 10 |
| 1 year | 17 | 27 | 14 | 12 |
| 3 years | 21 | 32 | 19 | 14 |
| 5 years | 27 | 39 | 24 | 18 |
| 10 years | 34 | 49 | 32 | 22 |
| 15 years | 40 | 57 | 38 | 26 |
| 20 years | 43 | 61 | 41 | 28 |
| 25 years | 45 | 64 | 42 | 30 |
| 30 years[2] | 46 | 65 | 43 | 30 |
| Per-disability sick leave[3] by length of service: | | | | |
| 6 months | 41 | 49 | 33 | 37 |
| 1 year | 46 | 54 | 36 | 44 |
| 3 years | 52 | 63 | 44 | 44 |
| 5 years | 73 | 80 | 66 | 71 |
| 10 years | 88 | 98 | 84 | 76 |
| 15 years | 111 | 114 | 107 | 111 |
| 20 years | 132 | 129 | 127 | 145 |
| 25 years | 152 | 142 | 147 | 178 |
| 30 years[2] | 152 | 143 | 147 | 178 |

[1]Employees earn a specified number of days per year. This number may vary by length of service.

[2]The average increased slightly for longer periods of service.

[3]Employees earn a specified number of sick leave days for each illness or disability. This number may vary by length of service.

NOTE: Computation of average excluded days paid at partial pay and workers with only partial paydays or zero days of sick leave.



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per-disability plans.) The increase in average duration of per-disability sick leave days between 1 and 25 years of service ranged from 163 percent for professional and administrative employees to 300 percent or more for technical and clerical and production employees.

*Other sick leave arrangements.* Six percent of the participants in sick leave plans were under combined annual and per-disability plans. In such arrangements, the annual plan covered incidental illnesses, while the per-disability plan was available for longer absences. For example, a single unexpected sick day would be covered by the annual plan, while an anticipated absence, such as a hospital stay, would be covered by the per-disability plan. Annual plans also covered the waiting periods which occasionally occurred in per-disability plans. Also included in the estimates for combined plans are the less than .5 percent of participants in plans that provided sick leave on an annual basis to employees with short-term service and on a per-disability basis to longer-term employees.

Two percent of the participants in sick leave plans were eligible for benefits "as needed." Such plans were mostly available to professional and administrative employees. As with all sick leave arrangements included in this survey, "as needed" sick leave was under an established formal plan, rather than a discretionary action by a supervisor.

## Other sick leave features

About one-fourth of the participants in the sick leave plans analyzed in 1983 were provided benefits at partial pay after exhaustion of available full-pay days. These partial pay provisions were more common for workers in per-disability plans (58 percent of participants) than for workers in annual plans (18 percent). For example, a plan might provide benefits for up to 130 work days (6 months) per disability, with the number of days at full pay and at half pay varying with years of service. At 1 year of service, the employee would receive 10 days at full pay and 120 days at half pay. Each year thereafter, the plan would increase full pay benefits by 10 days while decreasing half pay benefits by 10 days. After 13 years of service, the employee would received all 6 months of sick leave at full pay. (Two percent of sick leave plan participants were covered by partial pay provisions only.)

More than two-thirds of all sick leave plan participants were required to complete a service requirement before becoming eligible to receive benefits. Of this group, half had short eligibility periods, generally 3 months. The remaining half had to wait either 6 months or 1 year. Production employees generally had longer eligibility periods than white-collar workers.

After attaining eligibility, participants may be required to wait a short period (usually 1 to 3 days) before receiving benefits for any absence. At 1 year of service, 16 percent of the participants had a waiting period, which often decreased—or was eliminated—as years of service increased. Waiting periods were more common among per-disability plans and occasionally varied by the nature of a disability. A limited number of plans waived the waiting period when an employee was hospitalized.

*Unused sick leave policy.* Forty-three percent of all participants in annual sick leave plans could carryover some or all of their benefits to succeeding years, or could cash in unused benefits at the end of the year. The distribution of participants in these plans by unused sick leave policy was as follows:

| | *Percent of participants* |
|---|---|
| All annual sick leave plans | 100 |
| Carryover | 31 |
| Cash-in | 8 |
| Carryover and cash-in | 4 |
| Unused benefits lost | 57 |

Carryover provisions greatly affect the number of sick leave days made available to employees. Annual plans that allow the carryover of unused sick leave from one year to the next ("cumulative" plans) generally make fewer days available each year than noncumulative plans; in effect, employees must rely on accumulated sick leave to provide protection for a disability of several weeks. For example, at 1 year of service, cumulative plans averaged a maximum benefit of 9 days a year, while noncumulative plans averaged 22 days. The cumulative plans' average rose to 15 days at 25 years of service, while the noncumulative plans' average nearly tripled to 62 days. (See table 3.) Per-disability sick leave

**Table 3. Average number of annual sick leave days allowable at full pay in medium and large firms, by accumulation policy, 1983**

| Length of service and accumulation policy[1] | All participants | Professional and administrative | Technical and clerical | Production |
|---|---|---|---|---|
| 1 year of service: | | | | |
| Cumulative plan | 9 | 12 | 9 | 7 |
| Noncumulative plan | 22 | 33 | 17 | 14 |
| 5 years of service: | | | | |
| Cumulative plan | 12 | 15 | 12 | 9 |
| Noncumulative plan | 35 | 50 | 32 | 24 |
| 10 years of service: | | | | |
| Cumulative plan | 14 | 18 | 14 | 10 |
| Noncumulative plan | 46 | 63 | 43 | 30 |
| 20 years of service: | | | | |
| Cumulative plan | 15 | 20 | 15 | 11 |
| Noncumulative plan | 59 | 78 | 57 | 39 |
| 25 years of service: | | | | |
| Cumulative plan | 15 | 20 | 15 | 12 |
| Noncumulative plan | 62 | 83 | 59 | 42 |

[1]Data are for paid sick leave plans with a specified number of days available each year. Per-disability plans were excluded from this table because only annual sick leave plans allow the employee to carryover and accumulate unused sick leave from one year to the next. Instead, the number of days of paid sick leave under a per-disability plan is renewed for each illness or disability after the employee returns to work for a specified period.

NOTE: Computation of average excluded days paid at partial pay and workers with only partial paydays or zero days of sick leave.



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plans, which renew benefits for each spell of illness, and "as needed" sick leave arrangements do not provide for carryover or cash-in of benefits.

## Uniform and graduated sick leave

Sick leave plans may provide either uniform benefits for all employees or benefits that increase with seniority.[2] These two approaches were about equally popular in 1983—49 percent of participants in annual or per-disability plans were under arrangements providing uniform benefits, and 51 percent had graduated provisions. However, uniform benefits occurred more often in annual plans, while graduated benefits were more common in per-disability plans. Fifty-six percent of the participants under annual plans had uniform benefits; 44 percent had graduated benefits. In contrast, only 27 percent of the per-disability plan participants had uniform benefits, while 73 percent had graduated benefits.

The following tabulation shows separately the average number of days allowable at full pay in plans with uniform and graduated provisions:[3]

| *Length of service* | *All plans* | *Uniform provisions* | *Graduated provisions* |
|---|---|---|---|
| 6 months | 23 | 31 | 14 |
| 1 year | 27 | 33 | 20 |
| 5 years | 42 | 33 | 51 |
| 10 years | 51 | 33 | 67 |
| 20 years | 65 | 33 | 96 |
| 30 years | 70 | 33 | 106 |

Plans providing uniform benefits averaged 33 days of allowable sick leave per year or per disability at 1 or more years of service. Plans with graduated benefits averaged 20 days at 1 year of service and 106 days at 30 years' service.

## Sickness and accident insurance

Sickness and accident insurance, which is provided through an insurance company or a trust fund, replaces only part of earnings, and requires a waiting period before benefits begin. Maximum duration of benefits is specified for each successive disability, thereby resembling provisions of per-disability sick leave plans.

Nearly half of the employees covered by the 1983 survey had sickness and accident insurance; two-thirds of the blue-collar employees participated, which was double the white-collar rate. Benefits were almost equally split between plans that paid a specified percent of the employee's earnings (generally 50 to 70 percent), and plans that provided a flat dollar amount per week, either fixed or varying by salary. Typically, white-collar workers were under plans paying a percent of earnings, while production workers were covered by scheduled dollar benefits. Plans commonly limited the amount of the weekly benefit, often by providing a dollar cap on the yield from a percent-of-earnings benefit formula. Slightly more than half the participants could receive benefit payments for a maximum of 26 weeks. (See table 4.)

Payments under sickness and accident insurance commonly are based on an employee's current hourly rate, multiplied by regularly scheduled weekly hours. Alternative bases include the highest or average weekly rate over a specified period.

**Table 4. Participation in sickness and accident insurance in medium and large firms, by type and duration of payment, 1983**

[Percent of participants]

| Type of payment | Total[1] | Maximum weeks of coverage | | | |
|---|---|---|---|---|---|
| | | 13 | 26 | 52 | Varies by service |
| All types | 100 | 13 | 55 | 13 | 13 |
| Fixed percent of earnings | 47 | 5 | 32 | 1 | 4 |
| Less than 50 | (2) | (2) | (2) | — | — |
| 50–54 | 18 | 1 | 14 | (2) | 1 |
| 55–59 | 1 | (2) | 1 | — | (2) |
| 60–64 | 12 | 1 | 8 | (2) | 1 |
| 65–69 | 10 | 2 | 7 | (2) | 1 |
| 70 or more | 4 | 1 | 2 | (2) | 1 |
| Percent of earnings varies | 4 | (2) | 1 | 2 | 1 |
| By service | 2 | (2) | 1 | 1 | — |
| By length of disability | 1 | (2) | (2) | 1 | (2) |
| By both service and length of disability | 1 | — | (2) | — | 1 |
| Fixed weekly dollar benefit | 27 | 7 | 16 | 1 | 1 |
| Less than $60 | 6 | 3 | 3 | — | (2) |
| $60–$79 | 2 | 1 | 1 | — | — |
| $80–$99 | 3 | 1 | 1 | (2) | — |
| $100–$119 | 5 | 1 | 3 | (2) | (2) |
| $120–$139 | 4 | (2) | 3 | 1 | (2) |
| $140 or more | 7 | (2) | 4 | 1 | 1 |
| Weekly dollar benefit varies | 22 | 1 | 6 | 9 | 7 |
| By earnings | 21 | (2) | 5 | 8 | 7 |
| By service or length of disability | 1 | (2) | (2) | (2) | (2) |

[1] Includes maximum weeks of coverage not shown separately.

[2] Less than 0.5 percent.

NOTE: Because of rounding, sums of individual items may not equal totals. Dash indicates no employees in this category.

As noted earlier, sickness and accident insurance benefits for an illness do not begin until completion of a waiting period. Insurance plans are not designed for illnesses lasting a few days, but are for disabilities of longer duration. Medical proof of disability is often required before payments begin. A typical plan would provide benefits beginning the eighth calendar day for illnesses and on the first day for accidents and for conditions requiring hospitalization. Retroactive payments may cover the waiting period once an employee is off the job a specified number of days, but such provisions are rare.

Three-fourths of the participants in sickness and accident insurance plans were required to complete a minimum service period (usually 3 months or less) before they were covered by the plan. In most cases, the employer paid the full cost of the insurance; 17 percent of the participants contributed toward the cost of their plan. Most employee contributions were a fixed amount, usually $1 to $2 a month.[4]

## Coordinating sick leave with insurance plans

Twenty-three percent of the employees covered by the survey participated in both sick leave and sickness and accident insurance plans. Such combined benefits were avail-



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able to 27 percent of white-collar employees and 18 percent of blue-collar employees. Provisions of each combination plan specified how the amount and duration of payments from each type of benefit worked in tandem.

One approach used to link sick leave and sickness and accident benefits is the "offset" method; that is, benefits received simultaneously are coordinated so that the total benefit does not exceed full salary. In a typical case, sick leave benefits begin immediately and provide full pay; insurance benefits begin after a waiting period and overlap the sick leave benefits schedule. Consequently, sick leave benefits are reduced by the amount of the insurance payment during the period when both benefits are paid. In other words, the insurance payment and the reduced sick leave payment together equal the original sick leave payment, which generally is full pay. Benefits from each source continue for their specified durations.

Another approach is the "combined" method, whereby insurance benefits do not begin until sick leave benefits have ended. In this case, insurance begins after its waiting period or immediately after sick leave benefits run out, whichever is later. The duration of benefits (the sum of each plan's schedule of payments) extends beyond the limits of either insurance or sick leave alone.

Establishments offering sickness and accident insurance allow fewer sick leave days, on average, than those without such insurance. At 1 year of service, for example, annual sick leave plans linked with sickness and accident insurance in 1983 averaged 12 days per year, while those in establishments without such insurance averaged 21 days. Similar differences occurred at all service intervals, culminating at 25 years of service in an average of 26 sick leave days when insurance was also provided and 57 days when insurance was not provided. (See table 5.)

## Variations by industry and region

The sample for the Employee Benefits Survey is not designed to permit analysis of data by industry or geographic location. Nonetheless, information from the Bureau of Labor Statistics Area Wage Surveys does permit such comparisons on the incidence of short-term disability benefits.[5] These wage surveys provide data on the incidence of benefits (but not detailed provisions) for plant and nonsupervisory office workers in six broad industrial divisions: manufacturing; transportation, communications and other public utilities; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. Data are also available for four regions—Northeast, South, North Central, and West. (See table 6.)

Nearly half of the firms within the scope of the Area Wage Surveys have fewer than 100 employees.[6] Partly because small firms are less likely to provide sick leave or sickness and accident insurance, the overall incidence of short-term disability coverage is somewhat lower in the Area Wage Survey results for all metropolitan areas than in the Bureau's national survey of employee benefits in medium and large firms. Differing approaches to State temporary disability insurance benefits also contribute to this result. New York and New Jersey employees are reported in the Area Wage Survey program as having sickness and accident insurance benefits only if their temporary disability insurance contributions exceed State requirements, or if employee benefits exceed requirements of the law. Conversely, the Employee Benefits Survey counts as sickness and accident insurance participants all workers whose employers make any temporary disability insurance contributions. However, these differences are found mainly among blue-collar workers, with 82 percent having coverage in the Area Wage Survey establishments, compared with 91 percent in the study of medium and large firms. The corresponding figures for white-collar workers are 94 percent and 97 percent.

Among plant workers, the overall incidence of short-term disability plans was highest in public utilities (93 percent of the workers) and lowest in services (53 percent). Sickness and accident insurance was most prominent in manufacturing and least likely to be found in services. By region, short-term disability protection financed by employers was more prevalent in the Northeast (84 percent of the workers covered) and North Central States (91 percent covered) than in the West (74 percent) and South (78 percent). Reflecting the effect of California's Disability Insurance Program, the West had the lowest incidence of employer financed, short-term disability coverage, but the highest incidence of separate sick leave plans.[7]

**Table 5. Average number of annual sick leave days allowable at full pay in medium and large firms, by availability of sickness and accident insurance, 1983**

| Length of service and availability of insurance[1] | All participants | Professional and administrative | Technical and clerical | Production |
|---|---|---|---|---|
| 1 year of service: | | | | |
| With insurance | 12 | 19 | 12 | 7 |
| Without insurance | 21 | 31 | 15 | 16 |
| 5 years of service: | | | | |
| With insurance | 16 | 27 | 17 | 8 |
| Without insurance | 33 | 46 | 27 | 27 |
| 10 years of service: | | | | |
| With insurance | 20 | 33 | 23 | 10 |
| Without insurance | 43 | 57 | 37 | 34 |
| 20 years of service: | | | | |
| With insurance | 25 | 40 | 29 | 12 |
| Without insurance | 54 | 71 | 47 | 43 |
| 25 years of service: | | | | |
| With insurance | 26 | 42 | 30 | 13 |
| Without insurance | 57 | 75 | 49 | 45 |

[1]Per-disability plans are excluded because only 3 percent of the employees covered by the survey were under both per-disability sick leave plans and sickness and accident insurance. Twenty percent of the employees had annual sick leave and sickness and accident insurance.

NOTE: Computation of average excludes days paid at partial pay, and zero days of annual sick leave.



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**Table 6. Percent of full-time employees in establishments reporting short-term disability plans, by industry division and region, all metropolitan areas, 1980–82**

| Type of worker and plan | Industry division | | | | | | | Region | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | All industries | Manufacturing | Public utilities | Wholesale trade | Retail trade | Finance, insurance, and real estate | Selected services | Northeast | South | North Central | West |
| Plant workers: | | | | | | | | | | | |
| Sick leave only | 23 | 16 | 37 | 36 | 31 | 43 | 28 | 21 | 26 | 11 | 44 |
| Sickness and accident insurance only | 36 | 52 | 17 | 21 | 21 | 8 | 11 | 33 | 32 | 61 | 10 |
| Sick leave and sickness and accident insurance | 23 | 20 | 39 | 31 | 21 | 32 | 14 | 30 | 20 | 19 | 20 |
| Total | 82 | 88 | 93 | 88 | 73 | 83 | 53 | 84 | 78 | 91 | 74 |
| Office workers: | | | | | | | | | | | |
| Sick leave only | 47 | 33 | 46 | 49 | 44 | 60 | 53 | 41 | 52 | 39 | 65 |
| Sickness and accident insurance only | 9 | 15 | 6 | 9 | 16 | 5 | 6 | 11 | 8 | 14 | 4 |
| Sick leave and sickness and accident insurance | 38 | 46 | 44 | 33 | 29 | 32 | 32 | 42 | 33 | 43 | 26 |
| Total | 94 | 94 | 96 | 91 | 89 | 97 | 91 | 94 | 93 | 96 | 95 |

NOTE: Unpublished data from the Area Wage Survey program, collected over a 3-year period in 70 selected metropolitan areas, and weighted to represent all metropolitan areas of the United States as of February 1974. In this program, if a majority of workers in an establishment were covered by a plan, all workers were considered covered. If less than a majority had the plan, none was considered to have the plan.

Industrial and regional differences were not as pronounced for office workers. Sick leave, either alone or coordinated with sickness and accident insurance, was the predominant benefit for these employees; fewer than 10 percent of the office workers had sickness and accident insurance only.

## Additional disability benefits

Occupational disabilities are almost universally covered by workers' compensation laws. In the three States (New Jersey, South Carolina, and Texas) without compulsory workers' compensation laws, rejection of coverage is sufficiently difficult to guarantee almost complete coverage. Employers may also provide additional coverage to supplement workers' compensation. Benefits from these supplementary plans were not included in the short-term disability analysis.

Permanent disabilities may be covered by an employer's long-term disability insurance plan or disability benefits from a private pension plan. In addition, social security benefits are available to individuals having a specified amount of "covered employment" and meeting the prescribed definition of disability. Social security benefits begin after 5 months of disability. Long-term disability benefits are beyond the scope of this discussion.[8]

During the period of nonoccupational short-term disability, seniority rights continue which may affect such future events as promotions, layoffs, and retirement benefits. Similarly, employer-sponsored health and welfare insurance benefits generally continue during periods of temporary disability; and waiver-of-premium provisions are common in group life insurance policies, exempting both the employer and the disabled employee from paying premiums. Provision for continuation of these benefits often is not included in the short-term disability benefit plan, and is specified only in seniority, health insurance, and pension plan descriptions. Consequently, it was not feasible to review these provisions, because the analysis was limited to short-term disability benefit plan documents. □

*FOOTNOTES*

[1] The Employee Benefits Survey is conducted annually in private sector establishments in the contiguous United States employing at least 50, 100, or 250 workers, depending on the industry. Industrial coverage includes: mining; construction; manufacturing; transportation, communications, and electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. Findings of the 1983 survey are reported in *Employee Benefits in Medium and Large Firms, 1983*, Bulletin 2213 (Bureau of Labor Statistics, 1984). In addition to short-term disability plans, the survey explores the incidence and detailed characteristics of health, life, and long-term disability insurance; private retirement pensions; and a variety of paid time-off items. It also reports on the extent of eligibility for numerous other benefits. For information on the background and conduct of the survey, see Robert Frumkin and William Wiatrowski, "Bureau of Labor Statistics takes a new look at employee benefits," *Monthly Labor Review*, August 1982, pp. 41–45.

[2] The Federal employees sick leave system, providing 13 days a year regardless of length of service, is an example of uniform benefits.

[3] Average number of sick leave days includes annual and per-disability sick leave plans. Figures are full days only, disregarding any waiting period or carryover from previous years. Per-disability sick leave days are those available for the first illness of a year; "as needed" sick leave plans were excluded from tabulation.

[4] Five States (California, Hawaii, New Jersey, New York, and Rhode Island) have temporary disability insurance laws providing for benefits similar to those under private sickness and accident insurance. Because employees pay the full premium for State disability insurance in Rhode Island and California (except where employers substitute private coverage), the plans of these two States are excluded from BLS surveys. State disability plans in New Jersey and New York are included in the sickness and accident



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insurance portion of the Employee Benefits Survey because employers pay at least part of the cost. Employees generally pay a fixed percent of earnings for coverage and the employer pays the remainder of the premium, but some employers in New York pay the entire cost. (Hawaii also requires employers to pay part of the cost of the program, but is outside the scope of the Employee Benefits Survey.)

[5] Area Wage Surveys are conducted in a sample of 70 metropolitan areas designed to represent all metropolitan areas of the United States. In each area, wage data are collected annually and the incidence of selected employee benefits is reported every third year. The Area Wage Survey benefit data provided here were gathered during the 1980–82 period and were weighted to represent all metropolitan areas, combined.

[6] The Area Wage Surveys are conducted in establishments with a minimum of 50 or 100 employees, depending on the industry and area.

[7] Under the California Disability Insurance Program, employees contribute to a State fund which provides cash benefits to nearly all employees who may be temporarily disabled by nonwork-connected injury or illness, eliminating the need for employer paid sickness and accident insurance. Many employers, however, provide sick leave coverage to coordinate with the State plan.

[8] Social security disability benefits are offset by any workers' compensation received. Employer-provided benefits generally are reduced by other disability payments, including social security, to avoid duplication. For a further discussion of permanent disability benefits, see Donald Bell and William Wiatrowski, "Disability benefits for employees in private pension plans," *Monthly Labor Review*, August 1982, pp. 36–40.

## Unions in transition

The 1930's ushered in the modern union era and the rebirth of collective bargaining. In the early war and postwar years of the 1940's, the unions were able to consolidate their gains of the 1930's and demonstrate that they were here to stay. By the 1950's, the law and a resurgent management were able to slow the growth of union membership. The inability of membership to keep pace with the expanding white-collar sector continued to be the critical element in the slowdown. In the 1960's, unions penetrated the public sector, including large numbers of white-collar employees. As in Western Europe, the inflation years of the 1970's made union power one of the targets of wage and incomes policy in the United States. The 1980's seem to be shaping up as the decade of union retrenchment and retreat. The question: Will the 1980s be just another cyclical downturn, or will they mark a long-term change in union strategy from offense to defense?

—JACK BARBASH
"Trade Unionism from Roosevelt to Reagan,"
*The Annals* of the American Academy of Political and Social Science,
May 1984, p. 12.



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# Communications

## Estimating lost future earnings using the new worklife tables

GEORGE C. ALTER AND WILLIAM E. BECKER

Since the 1982 publication of the Bureau of Labor Statistics updated worklife tables, articles have appeared in the *Monthly Labor Review* and several legal journals regarding the use of such tables in liability proceedings.[1] As stated in these articles expert witnesses in wrongful death and injury litigation are interested primarily in using the increment-decrement worklife tables to find the expected number of years an individual would have been active in the work force had an injury or death not occurred. This expected worklife is then used to calculate the present value of "expected" earnings lost between the date of death or injury and the date of expected final separation from the work force.

It will be shown here that such methods do not yield a mathematically defensible expectation of future earnings, because the sum of earnings over the expected worklife need not equal the sum of expected yearly earnings over life. A model based on the increment-decrement worklife table is developed for calculations of expected earnings in each year of possible life. This model is then modified to obtain the discounted present value of expected future earnings. The final section of this article presents our calculations of expected earnings for representative individuals who die prior to age 85, and compares them with those reported by David Nelson and Kenneth Boudreaux in past issues of the *Review*.[2]

### Expected earnings

It is a simple exercise to show that the sum of earnings over expected worklife need not equal the sum of expected yearly earnings over life. For instance, assume that a cohort of 1,000 people are initially active in the work force but, at the end of the first year, 400 become inactive. Similarly, in the second and third years, 300 become inactive at the end of each year. The expected worklife for this hypothetical cohort is 1.9 years. If individual earnings in each subsequent year are projected to be \$25,000, \$30,000, and \$35,000, then, using current techniques, an expert witness would conclude that expected earnings are \$52,000 (= \$25,000 + 0.9 × \$30,000), ignoring discounting and other adjustments. But such a calculation overlooks the interaction of the probability of being active in each year and the earnings which are projected for the year. The true mathematical mean, or expected earnings, is \$53,500 (= 0.4 × \$25,000 + 0.3 × \$55,000 + 0.3 × \$90,000).

For pedagogical ease, the above example assumes that the hypothetical cohort of 1,000 remains alive for all 3 years. It does not allow for both movement into and out of the work force. These complications affect the calculation of expected income. Using all the information now available in the increment-decrement worklife tables, the true mathematical expected earnings of an active individual at age $x$ can be derived in the following manner.

Let $q_x$ represent the probability (or more precisely, the relative frequency) of death in the year following exact age $x$. Let $l_x$ represent the number of survivors at age $x$. At each age, survivors can be divided into those who are active in the work force and those who are not. In addition, at each age, a survivor who is active may stay active or leave the work force, while someone who is inactive may stay inactive or move into the work force. Let the four relevant probabilities (or relative frequencies) for work force transition be represented as follows:

$_{I}P_{x}^{A}$ = the probability that someone who is inactive at age $x$ will be active at age $x + 1$;

$_{I}P_{x}^{I}$ = the probability that someone who is inactive at age $x$ will be inactive at age $x + 1$;

$_{A}P_{x}^{I}$ = the probability that someone who is active at age $x$ will be inactive at age $x + 1$; and,

$_{A}P_{x}^{A}$ = the probability that someone who is active at age $x$ will be active at age $x + 1$

The above transitional probabilities are conditional on survival from age $x$ to age $x + 1$. Thus:

$$_{I}P_{x}^{A} + {}_{I}P_{x}^{I} = 1, \text{ and } {}_{A}P_{x}^{I} + {}_{A}P_{x}^{A} = 1$$

Assuming that the probability of death and the probabilities of transition between work force states are independent, the

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number of inactive survivors at age $x + 1$ (that is, ${}^{I}l_{x+1}$) and the number of active survivors at age $x + 1$ (${}^{A}l_{x+1}$) can now be defined as:

$${}^{I}l_{x+1} = (1 - q_x)\,({}^{I}l_x\,{}^{I}p_x^{I} + {}^{A}l_x\,{}^{A}p_x^{I}); \text{ and}$$

$${}^{A}l_{x+1} = (1 - q_x)\,({}^{I}l_x\,{}^{I}p_x^{A} + {}^{A}l_x\,{}^{A}p_x^{A})$$

where $l_x = {}^{I}l_x + {}^{A}l_x$, and $l_{x+1} = l_x\,(1 - q_x)$.

As in the published increment-decrement worklife tables, these formulas yield:

$$\text{Expected worklife for persons active at age } x = (1/{}^{A}l_x) \sum_{n=0}^{M} [(1 - q_{x+n})\,({}^{A}l_{x+n}\,{}^{A}p_{x+n}^{A} + 0.5\,{}^{A}l_{x+n}\,{}^{A}p_{x+n}^{I} + 0.5\,{}^{I}l_{x+n}\,{}^{I}p_{x+n}^{A}) + 0.5\,{}^{A}l_{x+n}q_{x+n}]$$

where $M$ is the number of ages remaining after age $x$ until the cohort is extinguished.

The above formula for expected worklife is based on a cohort that dies out over $x + M + 1$ years. At age $x$, for each of the remaining $M + 1$ years, there are four terms over which yearly summation takes place. The first three terms refer to persons who survive to the next year of age. Among these survivors there are those who are active at the start of the year and stay active for a full year. For this group, $(1 - q_{x+n})({}^{A}l_{x+n}\,{}^{A}p_{x+n}^{A})$ is the total number of active years accumulated between ages $x + n$ and $x + n + 1$. Persons who survive the year, but move from active to inactive or from inactive to active status, are assumed to be active for one-half year. Thus $(1-q_{x+n})(0.5\,{}^{A}l_{x+n}\,{}^{A}p_{x+n}^{I})$ and $(1-q_{x+n})(0.5\,{}^{I}l_{x+n}\,{}^{I}p_{x+n}^{A})$ are the total numbers of active years accumulated in year $x + n$ by individuals who live to age $x + n + 1$, and who make midyear work force transitions from either active to inactive or inactive to active status, respectively. Persons who were active at the beginning of the year and die in the interval are also considered active for one-half year. Thus, $0.5\,{}^{A}l_{x+n}q_{x+n}$ is the total number of active years between years $x + n$ and $x + n + 1$ for individuals who are assumed to die at age $x + n + 0.5$.

Unlike the simpler mortality tables, the increment-decrement model poses an added complication in the formulation of expected worklife which has implications for calculating expected earnings: The values for survivors by age and work force status depend upon the age at which one begins the computations and the distribution of persons by work force status at that age. In a mortality table, any arbitrary value for $l_0$ will yield the same expectation of life for each successive age. In the increment-decrement table, one must set either the active or inactive population to zero at the starting age. For example, the expected working life for persons inactive at age 16 is computed by setting ${}^{I}l_{16} =$ 1,000 and ${}^{A}l_{16} = 0$. The associated ${}^{I}l_x$ and ${}^{A}l_x$ can then be computed from these two initial values. If one starts at age 17, or calculates the table for persons out of the work force at age 16, all of the ${}^{I}l_x$ and ${}^{A}l_x$ values will change.

Expected earnings at age $x$ are calculated by introducing annual earnings. Let total annual earnings in year $x$ ($y_x$) be paid in two equal biannual payments. The payments to persons changing work force status during a year can be approximated by assuming that a person who becomes inactive or dies is active for the first half of the year, and that a person who is inactive and becomes active has earnings in the last half of the year. Under these conditions:

$$\text{Expected earnings for active person at age } x = (1/{}^{A}l_x) \sum_{n=0}^{M} [(1 - q_{x+n})\,({}^{A}l_{x+n}\,{}^{A}p_{x+n}^{A}y_{x+n} + 0.5\,{}^{A}l_{x+n}\,{}^{A}p_{x+n}^{I}y_{x+n} + 0.5\,{}^{I}l_{x+n}\,{}^{I}p_{x+n}^{A}y_{x+n}) + 0.5\,{}^{A}l_{x+n}q_{x+n}y_{x+n}]$$

As does the formula for expected worklife, this formula for expected earnings describes four groups who work (or, more precisely, are active) for different portions of the year between ages $x + n$ and $x + n + 1$. Years of work, however, are now evaluated in terms of total dollars earned by each of the four groups.

The above formula for calculating expected earnings involves an assumption either that time has no value, or that productivity and inflation gains are exactly offset by the market rate of interest. While some expert witnesses still advocate the use of such a "total offset method,"[3] courts today will accept the discounting of future earnings to reflect the net time value of money.[4] The expected earnings equation can be modified to accommodate discounting by defining either a continuous compounding rate ($r$) or its annual discount rate equivalent ($d$), that is, $1 + d)^{-n} = e^{nr}$. (For instance, if the annual rate of discount is 11 percent, its continuous compounding equivalent is 10.44 percent.) The present value of expected earnings for an active person at age $x$, in continuous discounting form is:

$$(1/{}^{A}l_x) \sum_{n=0}^{M} \{(1 - q_{x+n})\,[0.5\,{}^{A}l_{x+n}\,{}^{A}p^{A}{}_{x+n}y_{x+n}(e^{(n+.5)r} + e^{(n+1)r}) + 0.5\,{}^{A}l_{x+n}\,{}^{A}p^{I}{}_{x+n}y_{x+n}e^{(n+.5)r} + 0.5\,{}^{I}l_{x+n}\,{}^{I}p^{A}{}_{x+n}y_{x+n}e^{(n+1)r}] + 0.5\,{}^{A}l_{x+n}q_{x+n}y_{x+n}e^{(n+1)r}\}$$

Corresponding expressions for the expected worklife, expected earnings, and present value of expected earnings for persons inactive at age $x$ can be derived in a similar way.



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## Calculation procedures

In her comment on Boudreaux's and Nelson's methods for adjusting the worklife tables to estimate lost earnings, Shirley Smith notes that "frequently, economists want to look past the lifetime-worklife expectancy figure to study the timing of the potential earnings stream." Here we argue that in the calculation of expected lost earnings it is not sufficient to know the "median number of years until final separation," as defined by Nelson; to adjust this figure by assuming that activity is evenly spread over the entire period until retirement, as suggested by Boudreaux; or to know any other single number that represents the possible length of time that a person will be active. A true mathematical expectation of lost earnings requires knowledge of the timing of probable activity and of the potential (nominal or discounted) earnings during the period of probable activity.

Because the timing of probable activity is sensitive to both the initial work force status and the age of an individual, our development of the true mathematical expected earnings, unlike the approaches of Nelson and Boudreaux, emphasizes an active or inactive starting point. To assess the consequences of this distinction, consider the example provided by Boudreaux. A man age 30 with annual earnings of $25,000 (using a current market interest rate of 11 percent and an annual earnings increase of 4.5 percent) has a present value of "expected" earnings of $332,913, by the worklife table estimate of 29.2 years of remaining worklife for the entire population. Using Nelson's 31.5 years to final separation criterion, the present value of "expected" earnings is $341,857. Boudreaux's 7.3-percentage reduction criterion drops this estimate to $316,901. However, our calculations show that the true mathematical present value of expected earnings for an active man at age 30 is $319,397, and for an inactive man at age 30 it is $273,535.

In some cases, one might wish to ignore initial work force status. A weighted average of our active and inactive estimates can be obtained by using the proportions of men active and inactive at the initial age. In the above example of a man at age 30, this average present value of expected earnings is $316,502, which compares favorably to Boudreaux's estimate of $316,901. Given the ease of using Boudreaux's adjustment method, one might question the practical value of using our more complicated true mathematical expectation method.

Unfortunately, Boudreaux's approximation is close to the true mathematical expectation only for younger men. His assumption that inactivity is spread evenly over the entire period until retirement is inappropriate at older ages, when the proportion that are inactive rises rapidly. For a younger person, changes in expected earnings caused by increasing probabilities of inactivity later in life are mitigated by high

**Table 1. Probabilities of work force transitions for men, by age and work force status**

| Age | Rate of — | | Status in next year for survivors — | | | |
|---|---|---|---|---|---|---|
| | | | Active at age *x* | | Inactive at age *x* | |
| | Survival | Death | Active | Inactive | Inactive | Active |
| 16 | 0.99870 | 0.00130 | 0.73633 | 0.26367 | 0.70348 | 0.29652 |
| 17 | 0.99848 | 0.00152 | 0.83598 | 0.16402 | 0.73269 | 0.26731 |
| 18 | 0.99832 | 0.00168 | 0.82814 | 0.17186 | 0.68197 | 0.31803 |
| 19 | 0.99821 | 0.00179 | 0.82234 | 0.17766 | 0.63228 | 0.36772 |
| 20 | 0.99810 | 0.00190 | 0.86112 | 0.13888 | 0.60466 | 0.39534 |
| 21 | 0.99800 | 0.00200 | 0.88646 | 0.11354 | 0.59445 | 0.40555 |
| 22 | 0.99793 | 0.00207 | 0.90865 | 0.09135 | 0.59370 | 0.40630 |
| 23 | 0.99792 | 0.00208 | 0.92901 | 0.07099 | 0.58156 | 0.41844 |
| 24 | 0.99795 | 0.00205 | 0.94483 | 0.05517 | 0.57096 | 0.42904 |
| 25 | 0.99799 | 0.00201 | 0.95668 | 0.04332 | 0.56366 | 0.43634 |
| 26 | 0.99803 | 0.00197 | 0.96503 | 0.03497 | 0.56330 | 0.43670 |
| 27 | 0.99807 | 0.00193 | 0.97052 | 0.02948 | 0.56318 | 0.43682 |
| 28 | 0.99810 | 0.00190 | 0.97424 | 0.02576 | 0.56642 | 0.43358 |
| 29 | 0.99812 | 0.00188 | 0.97614 | 0.02386 | 0.58214 | 0.41786 |
| 30 | 0.99814 | 0.00186 | 0.97908 | 0.02092 | 0.60012 | 0.39988 |
| 31 | 0.99814 | 0.00186 | 0.98082 | 0.01918 | 0.61932 | 0.38068 |
| 32 | 0.99811 | 0.00189 | 0.98212 | 0.01788 | 0.65411 | 0.34589 |
| 33 | 0.99803 | 0.00197 | 0.98295 | 0.01705 | 0.67299 | 0.32701 |
| 34 | 0.99792 | 0.00208 | 0.98414 | 0.01586 | 0.68539 | 0.31461 |
| 35 | 0.99778 | 0.00222 | 0.98545 | 0.01455 | 0.70813 | 0.29187 |
| 36 | 0.99761 | 0.00239 | 0.98600 | 0.01400 | 0.73233 | 0.26767 |
| 37 | 0.99743 | 0.00257 | 0.98645 | 0.01355 | 0.75924 | 0.24076 |
| 38 | 0.99723 | 0.00277 | 0.98710 | 0.01290 | 0.75448 | 0.24552 |
| 39 | 0.99700 | 0.00300 | 0.98629 | 0.01371 | 0.75752 | 0.24248 |
| 40 | 0.99675 | 0.00325 | 0.98477 | 0.01523 | 0.75835 | 0.24165 |
| 41 | 0.99645 | 0.00355 | 0.98388 | 0.01612 | 0.75415 | 0.24585 |
| 42 | 0.99612 | 0.00388 | 0.98391 | 0.01609 | 0.75912 | 0.24088 |
| 43 | 0.99575 | 0.00425 | 0.98295 | 0.01705 | 0.76601 | 0.23399 |
| 44 | 0.99533 | 0.00467 | 0.98170 | 0.01830 | 0.76927 | 0.23073 |
| 45 | 0.99488 | 0.00512 | 0.98111 | 0.01889 | 0.77840 | 0.22160 |
| 46 | 0.99438 | 0.00562 | 0.98059 | 0.01941 | 0.78560 | 0.21440 |
| 47 | 0.99382 | 0.00618 | 0.97837 | 0.02163 | 0.81025 | 0.18975 |
| 48 | 0.99319 | 0.00681 | 0.97601 | 0.02399 | 0.82041 | 0.17959 |
| 49 | 0.99249 | 0.00751 | 0.97529 | 0.02471 | 0.83038 | 0.16962 |
| 50 | 0.99172 | 0.00828 | 0.97388 | 0.02612 | 0.83728 | 0.16272 |
| 51 | 0.99090 | 0.00910 | 0.97211 | 0.02789 | 0.84637 | 0.15363 |
| 52 | 0.99005 | 0.00995 | 0.97115 | 0.02885 | 0.86455 | 0.13545 |
| 53 | 0.98919 | 0.01081 | 0.96918 | 0.03082 | 0.88187 | 0.11813 |
| 54 | 0.98829 | 0.01171 | 0.96582 | 0.03418 | 0.89427 | 0.10573 |
| 55 | 0.98737 | 0.01263 | 0.96144 | 0.03856 | 0.89962 | 0.10038 |
| 56 | 0.98634 | 0.01366 | 0.95790 | 0.04210 | 0.90767 | 0.09233 |
| 57 | 0.98509 | 0.01491 | 0.94989 | 0.05011 | 0.91160 | 0.08840 |
| 58 | 0.98353 | 0.01647 | 0.93407 | 0.06593 | 0.91543 | 0.08457 |
| 59 | 0.98174 | 0.01826 | 0.91500 | 0.08500 | 0.92765 | 0.07235 |
| 60 | 0.97974 | 0.02026 | 0.88540 | 0.11460 | 0.93765 | 0.06235 |
| 61 | 0.97769 | 0.02231 | 0.85444 | 0.14556 | 0.94056 | 0.05944 |
| 62 | 0.97571 | 0.02429 | 0.82607 | 0.17393 | 0.94039 | 0.05961 |
| 63 | 0.97389 | 0.02611 | 0.79895 | 0.20105 | 0.94124 | 0.05876 |
| 64 | 0.97217 | 0.02783 | 0.76808 | 0.23192 | 0.94353 | 0.05647 |
| 65 | 0.97042 | 0.02958 | 0.73537 | 0.26463 | 0.94273 | 0.05727 |
| 66 | 0.96846 | 0.03154 | 0.71640 | 0.28360 | 0.94702 | 0.05298 |
| 67 | 0.96612 | 0.03388 | 0.70816 | 0.29184 | 0.95150 | 0.04850 |
| 68 | 0.96325 | 0.03675 | 0.69670 | 0.30330 | 0.95379 | 0.04621 |
| 69 | 0.95987 | 0.04013 | 0.69525 | 0.30475 | 0.95789 | 0.04211 |
| 70 | 0.95623 | 0.04377 | 0.68951 | 0.31049 | 0.96207 | 0.03793 |
| 71 | 0.95239 | 0.04761 | 0.68370 | 0.31630 | 0.96371 | 0.03629 |
| 72 | 0.94816 | 0.05184 | 0.67571 | 0.32429 | 0.96540 | 0.03460 |
| 73 | 0.94351 | 0.05649 | 0.66528 | 0.33472 | 0.96817 | 0.03183 |
| 74 | 0.93844 | 0.06156 | 0.66368 | 0.33632 | 0.97240 | 0.02760 |
| 75 | 0.93297 | 0.06703 | 0.64235 | 0.35765 | 0.96161 | 0.03839 |
| 76 | 0.92714 | 0.07286 | 0.46071 | 0.53929 | 0.56857 | 0.43143 |
| 77 | 0.92100 | 0.07900 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 78 | 0.91461 | 0.08539 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 79 | 0.90805 | 0.09195 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 80 | 0.90148 | 0.09852 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 81 | 0.89513 | 0.10487 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 82 | 0.88943 | 0.11057 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 83 | 0.88503 | 0.11497 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 84 | 0.88298 | 0.11702 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |
| 85 | 0.00000 | 1.00000 | 0.00000 | 1.00000 | 1.00000 | 0.00000 |



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discounting of expected earnings in distant years. For older people, the mitigating effect of discounting is not present. Thus, for a man age 45 with the same earnings stream used above, Nelson's and Boudreaux's methods of estimating the present value of potential earnings yield $256,044 and $242,217, respectively. Our mathematical expectations are $236,626 for an active man, $155,310 for an inactive man, and $231,325 for the weighted average of active and inactive persons.

OUR METHOD OF CALCULATION requires two modifications of the increment-decrement worklife tables published by BLS.[5] First, the probabilities of transition into and out of the work force at each age must be converted to probabilities that are conditional on survival. Second, conditional probabilities of transition between active and inactive work force status must be added at age 76 to close the table. The relevant probabilities of transition are provided in table 1. A computer program for calculating the present value of expected earnings based on these transitional probabilities is available from the authors. □

——*FOOTNOTES*——

ACKNOWLEDGMENT: The authors thanks Shirley J. Smith of the Bureau of Labor Statistics for critical comments and helpful suggestions on an earlier draft of this article.

[1] See Shirley J. Smith, "New worklife estimates reflect changing profile of labor force," *Monthly Labor Review,* March 1982, pp. 15–20; Shirley J. Smith, "Using the appropriate worklife estimate in court proceedings," *Monthly Labor Review,* October 1983, pp. 31–32; David M. Nelson, "The use of worklife tables in estimates of lost earning capacity," *Monthly Labor Review,* April 1982, pp. 30–31; Kenneth J. Boudreaux, "A further adjustment needed to estimate lost earning capacity," *Monthly Labor Review,* October 1983, pp. 30–31; Gerald P. Martin, "New Worklife Expectancy Study Favors the Defense," *For the Defense,* March 1983, pp. 3–4; and Melvin Borland and Robert Palsinelli, "Equalizing Wage Differences, Worklife Expectancy Tables and Wrongful Death Litigation," *Trial Lawyer's Guide,* Summer 1983, pp. 213–19.

[2] See Nelson, "The use of worklife tables"; and Boudreaux, "A further adjustment needed."

[3] See Michael T. Brady, "Inflation, Productivity, and the Total Offset Method of Calculating Damages for Lost Future Earnings," *The University of Chicago Law Review,* Fall 1982, pp. 93–122.

[4] Edwin B. Wainscott, "Computation of Lost Future Earnings in Personal Injury and Wrongful Death Action," *Indiana Law Review,* Summer 1978, pp. 648–91.

[5] Shirley J. Smith, *Tables of Working Life: The Increment-Decrement Model,* Bulletin 2135 (Bureau of Labor Statistics, November 1982), pp. 1–65.

# Estimating lost future earnings using the new worklife tables: a comment

SHIRLEY J. SMITH

George C. Alter and William E. Becker provide yet another valuable contribution to the ongoing dialog on estimates of lost earnings due to wrongful injury or death. The authors have written a computer program replicating the BLS worklife model, expanding it to manipulate earnings projections by age, and allowing selection of a discount rate to estimate the present value of those lost future earnings.

I have no reservations about the worklife component of their model, which is nearly identical to our own. They do use a different closure procedure (for persons age 75 and over) than was employed in the BLS 1977 estimates. Our closure procedure has now been modified for better internal consistency. Alter and Becker also redefine transition rates, making them conditional on survival. Mortality is factored into their model somewhat differently than it is in the BLS procedure. However this is a difference of form rather than substance, the results of the two techniques being virtually identical.

The authors' primary purpose in replicating the BLS model is to draw out some of its unpublished findings having to do with the age-by-age timing of forgone labor force involvement for persons of a known labor force status at the time of injury. Readers involved in liability claims have expressed considerable interest in this type of data. As I noted in an earlier issue of the *Review*,[1] it is possible to derive population-based estimates of worklife during each age from the published tables. Alter and Becker reassert the need for estimates specific to the labor force status of the claimant.

The BLS model produces such estimates, but we have not found it feasible to publish them as part of the Bureau's worklife bulletin. (Status-specific estimates by sex, for 60 initial ages, would add at least 120 pages of tables to an already lengthy publication.) Nevertheless, we have taken note of the demand for such estimates.

Our next worklife publication is slated to include tables not only by sex, but also by race and education. This expansion of the output from 2 to 12 reference groups will require a cutback in the number of data items published for each group. We hope to be able to retain the estimates most useful for analysis of lost earnings. In addition, we hope to be able to provide on request some of the unpublished findings of the model, such as initial-status-specific worklife expectancies within each age, in some form certifiable for use in court.

The Alter and Becker model estimates lost earnings under the assumption of biannual payments over the claimant's natural lifetime. Doing so entails the use of very detailed worklife data (specifically, estimates of labor force entries and exits at each subsequent age, for a cohort of a given initial age and labor force status). We may also attempt to provide counts of these flows in the unpublished tables, to facilitate this type of computation. □

——*FOOTNOTE*——

[1] Shirley J. Smith, "Using the appropriate worklife estimate in court proceedings," *Monthly Labor Review*, October 1983, pp. 31–32.

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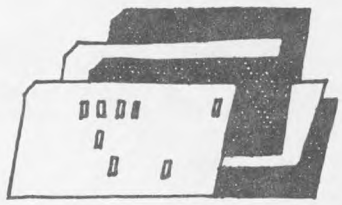
# Research Summaries



## One-fourth of the adult labor force are college graduates

ANNE MCDOUGALL YOUNG

Between 1983 and 1984, the number of 25- to 64-year-old college graduates in the labor force rose by a million—the third consecutive annual increase of this magnitude. Graduates continued to register higher rates of labor force participation, markedly lower unemployment rates, and larger shares of managerial and professional specialty jobs than other workers. Data from the March 1984 Current Population Survey[1] show that college graduates now account for one-fourth of all adult workers.[2] Moreover, persons who have completed at least 1 year of college outnumber those who left school directly after high school graduation. (See table 1.)

*Labor force.* Although population increases account for the bulk of the over-the-year rise in the college educated work force, a higher labor force participation rate for female graduates also contributed. Women thus comprised three-fifths of the increase and now represent 38 percent of all

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**Table 1. Labor force status of persons 25 to 64 years old by years of school completed, sex, race, and Hispanic origin, March 1983–84**

[Numbers in thousands]

| Labor force status and years of school completed | Total | | Men | | Women | | White | | Black | | Hispanic origin | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | 1983 | 1984 | 1983 | 1984 | 1983 | 1984 | 1983 | 1984 | 1983 | 1984 |
| Civilian noninstitutional population | 111,658 | 113,893 | 53,862 | 54,991 | 57,794 | 58,901 | 96,864 | 98,826 | 11,739 | 12,100 | 6,258 | 6,585 |
| Elementary: 8 years or less | 11,122 | 10,618 | 5,725 | 5,560 | 5,396 | 5,059 | 8,881 | 8,457 | 1,879 | 1,830 | 2,291 | 2,299 |
| High school: 1 to 3 years | 13,513 | 13,197 | 6,220 | 6,131 | 7,292 | 7,068 | 10,796 | 10,502 | 2,444 | 2,420 | 928 | 1,009 |
| 4 years only | 44,815 | 46,209 | 19,224 | 19,900 | 25,590 | 26,310 | 39,516 | 40,738 | 4,430 | 4,589 | 1,799 | 1,902 |
| College: 1 to 3 years | 18,996 | 19,636 | 9,229 | 9,538 | 9,768 | 10,100 | 16,755 | 17,303 | 1,756 | 1,865 | 721 | 815 |
| 4 years or more | 23,213 | 24,232 | 13,463 | 13,865 | 9,749 | 10,368 | 20,914 | 21,825 | 1,230 | 1,395 | 519 | 559 |
| Civilian labor force | 83,615 | 86,001 | 47,903 | 48,767 | 35,712 | 37,234 | 72,750 | 74,911 | 8,592 | 8,954 | 4,378 | 4,690 |
| Elementary: 8 years or less | 6,095 | 5,818 | 4,110 | 3,902 | 1,986 | 1,917 | 4,942 | 4,732 | 982 | 960 | 1,374 | 1,395 |
| High school: 1 to 3 years | 8,762 | 8,545 | 5,193 | 5,073 | 3,570 | 3,472 | 7,035 | 6,810 | 1,543 | 1,560 | 613 | 686 |
| 4 years only | 33,397 | 34,603 | 17,404 | 17,895 | 15,993 | 16,709 | 29,301 | 30,422 | 3,459 | 3,568 | 1,378 | 1,458 |
| College: 1 to 3 years | 15,159 | 15,812 | 8,459 | 8,761 | 6,702 | 7,050 | 13,304 | 13,840 | 1,483 | 1,601 | 578 | 678 |
| 4 years or more | 20,201 | 21,223 | 12,738 | 13,136 | 7,462 | 8,086 | 18,171 | 19,105 | 1,127 | 1,266 | 434 | 474 |
| Labor force participation rate | 74.9 | 75.5 | 88.9 | 88.7 | 61.8 | 63.2 | 75.1 | 75.8 | 73.2 | 74.0 | 70.0 | 71.2 |
| Elementary: 8 years or less | 54.8 | 54.8 | 71.8 | 70.2 | 36.8 | 37.9 | 55.6 | 56.0 | 52.3 | 52.5 | 60.0 | 60.7 |
| High school: 1 to 3 years | 64.8 | 64.7 | 83.5 | 82.7 | 49.0 | 49.1 | 65.2 | 64.8 | 63.1 | 64.5 | 66.1 | 68.0 |
| 4 years only | 74.5 | 74.9 | 90.5 | 89.9 | 62.5 | 63.5 | 74.1 | 74.7 | 78.1 | 77.8 | 76.6 | 76.7 |
| College: 1 to 3 years | 79.8 | 80.5 | 91.7 | 91.9 | 68.6 | 69.8 | 79.4 | 80.0 | 84.5 | 85.8 | 80.2 | 83.2 |
| 4 years or more | 87.0 | 87.6 | 94.6 | 94.7 | 76.5 | 78.0 | 86.9 | 87.5 | 91.6 | 90.8 | 83.6 | 84.8 |
| Employed | 76,098 | 80,365 | 43,194 | 45,412 | 32,903 | 34,953 | 66,915 | 70,610 | 7,152 | 7,764 | 3,777 | 4,249 |
| Elementary: 8 years or less | 5,154 | 5,144 | 3,466 | 3,453 | 1,688 | 1,691 | 4,188 | 4,210 | 819 | 819 | 1,129 | 1,217 |
| High school: 1 to 3 years | 7,352 | 7,488 | 4,336 | 4,418 | 3,015 | 3,070 | 5,992 | 6,075 | 1,204 | 1,262 | 510 | 594 |
| 4 years only | 30,051 | 32,097 | 15,334 | 16,451 | 14,715 | 15,646 | 26,595 | 28,480 | 2,806 | 3,050 | 1,208 | 1,341 |
| College: 1 to 3 years | 14,047 | 14,980 | 7,750 | 8,302 | 6,296 | 6,678 | 12,443 | 13,201 | 1,287 | 1,446 | 523 | 638 |
| 4 years or more | 19,493 | 20,655 | 12,307 | 12,787 | 7,186 | 7,868 | 17,600 | 18,642 | 1,036 | 1,186 | 407 | 459 |
| Unemployed | 7,518 | 5,635 | 4,710 | 3,355 | 2,810 | 2,280 | 5,835 | 4,301 | 1,440 | 1,191 | 602 | 438 |
| Elementary: 8 years or less | 942 | 675 | 644 | 448 | 297 | 226 | 755 | 522 | 162 | 141 | 247 | 178 |
| High school: 1 to 3 years | 1,410 | 1,056 | 857 | 654 | 553 | 401 | 1,042 | 735 | 339 | 298 | 103 | 89 |
| 4 years only | 3,347 | 2,505 | 2,069 | 1,444 | 1,277 | 1,061 | 2,606 | 1,941 | 653 | 517 | 170 | 117 |
| College: 1 to 3 years | 1,112 | 831 | 708 | 458 | 405 | 372 | 86 | 640 | 197 | 155 | 55 | 40 |
| 4 years or more | 708 | 568 | 431 | 350 | 277 | 218 | 570 | 463 | 91 | 79 | 27 | 14 |
| Unemployment rate | 9.0 | 6.6 | 9.8 | 6.9 | 7.9 | 6.1 | 8.0 | 5.7 | 16.8 | 13.3 | 13.8 | 9.3 |
| Elementary: 8 years or less | 15.5 | 11.6 | 15.7 | 11.5 | 15.0 | 11.8 | 15.3 | 11.0 | 16.5 | 14.7 | 18.0 | 12.8 |
| High school: 1 to 3 years | 16.1 | 12.4 | 16.5 | 12.9 | 15.5 | 11.5 | 14.8 | 10.8 | 22.0 | 19.1 | 16.8 | 13.0 |
| 4 years only | 10.0 | 7.2 | 11.9 | 8.1 | 8.0 | 6.3 | 8.9 | 6.4 | 18.9 | 14.5 | 12.3 | 8.0 |
| College: 1 to 3 years | 7.3 | 5.3 | 8.4 | 5.2 | 6.0 | 5.3 | 6.5 | 4.6 | 13.3 | 9.7 | 9.5 | 5.9 |
| 4 years or more | 3.5 | 2.7 | 3.4 | 2.7 | 3.7 | 2.7 | 3.1 | 2.4 | 8.1 | 6.2 | 6.2 | 3.0 |

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



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**Table 2. Labor force status of female college graduates 25 to 64 years old by marital status, presence of children, and race, March 1984**

[Numbers in thousands]

| Marital status, race, and Hispanic origin | Civilian noninstitutional population | | Civilian labor force | |
|---|---|---|---|---|
| | Total | Percent distribution | Total | Percent of population |
| **White** | | | | |
| Total, 25 to 64 years | 9,120 | 100.0 | 7,052 | 77.3 |
| Never married | 1,590 | 17.4 | 1,507 | 94.8 |
| Married, spouse present | 6,306 | 69.1 | 4,465 | 70.8 |
| With children under 18 years old | 3,639 | 39.9 | 2,477 | 68.1 |
| Other marital status | 1,223 | 13.4 | 1,080 | 88.3 |
| Widowed | 180 | 2.0 | 120 | 66.7 |
| Divorced or separated | 1,045 | 11.5 | 959 | 91.8 |
| **Black** | | | | |
| Total, 25 to 64 years | 779 | 100.0 | 684 | 87.8 |
| Never married | 173 | 22.2 | 158 | 91.3 |
| Married, spouse present | 396 | 50.8 | 346 | 87.4 |
| With children under 18 years old | 251 | 32.2 | 227 | 90.4 |
| Other marital status | 210 | 27.0 | 180 | 85.7 |
| Widowed | 21 | 2.7 | 12 | [1] |
| Divorced or separated | 188 | 24.1 | 168 | 89.4 |
| **Hispanic origin** | | | | |
| Total, 25 to 64 years | 260 | 100.0 | 189 | 72.7 |
| Married, spouse present | 167 | 64.2 | 105 | 62.9 |
| With children under 18 years old | 120 | 46.1 | 72 | 60.0 |
| Other marital status | 93 | 35.8 | 84 | 90.3 |

[1]Data not shown where base is less than 75,000.

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

adult workers with 4 years or more of college, compared with 32 percent in 1970. Over this period, the labor force participation rate for female college graduates ages 25 to 64 rose from 61 to 78 percent, while that for male graduates edged down from 96 to 95 percent.[3]

The proportion of black college graduates in the labor force continued to exceed that for white graduates, reflecting primarily the high participation rate of black women. As shown in table 2, black female graduates who were married were much more likely than their white counterparts to be in the labor force, especially if they had children. Black female graduates were also more likely than white graduates to have never married and were twice as likely to be divorced or separated. The much larger proportion of black women in these marital status groups and the high labor force participation rates characteristic of persons responsible for their own support and that of others help account for the higher participation rate of black graduates. Among men, white and black college graduates had roughly comparable participation rates. Married Hispanic women who were college graduates were less likely to be in the labor force than either whites or blacks, but those who were not married matched the participation rates of their white and black counterparts.

*Unemployment.* Unemployment rates of persons 25 to 64 declined over the year for all educational attainment groups as the economic recovery continued. College graduates were about one-fifth as likely as those who had completed 1 to 3 years of high school and one-third as likely as high school graduates to be unemployed. The inverse relationship of unemployment rates and educational attainment has been a historical pattern; moreover, college graduates are hit less hard by recessions than the other educational status groups.

*Occupations.* A majority of workers in managerial and professional speciality occupations were college graduates. Within this broad category, the proportion of workers who had completed 4 years or more of college was substantially higher in professional specialty occupations—81 percent for men and 72 percent for women—than in executive, administrative, and managerial occupations—52 percent for men and 35 percent for women. (See table 3.)

Although most workers in professional specialty occupations continue to end their formal education at the baccalaureate level, advanced degrees have increasingly become an expectation for professional status in many of the specific categories. In March 1984, about 45 percent of the adult men and 25 percent of the adult women in professional specialty jobs had completed 6 or more years of college. (See table 4.)

There is some indication that the proportion of professional women with postgraduate work may increase in the future. For example, the proportion of all master's, doctorates, and first professional degrees awarded to women rose from 33 percent in 1970–71 to 45 percent 10 years later.[4] Professional women are also slowly shifting from a concentration in education and nursing occupations to some of the more traditionally male strongholds, such as engineering, law, and the life and physical sciences.

In contrast to those in professional specialties, only about 5 percent of the managerial workers had completed 5 years

**Table 4. Percentage of college graduates employed in selected occupations by sex, age, and years of college completed, March 1984**

| Occupation, sex, and age | Total employed (thousands) | Percent who were college graduates by years of college completed | | | |
|---|---|---|---|---|---|
| | | 4 years or more | | | |
| | | Total | 4 years | 5 years | 6 years or more |
| **Professional specialty occupations** | | | | | |
| Men, 25 to 64 years | 6,225 | 80.7 | 25.2 | 10.8 | 44.7 |
| 25 to 44 years | 4,238 | 82.1 | 27.6 | 11.3 | 43.2 |
| 45 to 64 years | 1,987 | 77.8 | 20.1 | 9.8 | 47.9 |
| Women, 25 to 64 years | 5,992 | 72.4 | 34.7 | 13.2 | 24.5 |
| 25 to 44 years | 4,435 | 74.7 | 36.8 | 13.8 | 24.1 |
| 45 to 64 years | 1,557 | 66.0 | 28.7 | 11.5 | 25.8 |
| **Executive, administrative, and managerial occupations** | | | | | |
| Men, 25 to 64 years | 6,899 | 52.1 | 31.0 | 5.6 | 15.5 |
| 25 to 44 years | 4,204 | 56.8 | 33.7 | 6.7 | 16.4 |
| 45 to 64 years | 2,695 | 44.7 | 26.7 | 4.0 | 14.0 |
| Women, 25 to 64 years | 3,442 | 35.2 | 20.9 | 4.7 | 9.6 |
| 25 to 44 years | 2,366 | 40.8 | 25.7 | 4.8 | 10.3 |
| 45 to 64 years | 1,076 | 23.0 | 10.5 | 4.4 | 8.1 |



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**Table 3. Employed civilians 25 to 64 years old by sex, selected occupation, and years of school completed, March 1984**

| Sex and occupation | Total employed (thousands) | Percent distribution | | | | |
|---|---|---|---|---|---|---|
| | | Total | Years of school completed | | | |
| | | | Less than 4 years of high school | 4 years of high school only | 1 to 3 years of college | 4 years of college or more |
| **Men** | | | | | | |
| Total, 25 to 64 years | 45,412 | 100.0 | 17.3 | 36.2 | 18.3 | 28.2 |
| Managerial and professional specialty | 13,123 | 100.0 | 3.5 | 15.1 | 15.7 | 65.7 |
| Executive, administrative, and managerial | 6,899 | 100.0 | 5.8 | 22.6 | 19.5 | 52.1 |
| Professional specialty | 6,225 | 100.0 | .9 | 6.8 | 11.5 | 80.7 |
| Technical, sales, and administrative support | 9,015 | 100.0 | 7.6 | 34.6 | 27.5 | 30.3 |
| Technicians and related support | 1,358 | 100.0 | 3.3 | 28.8 | 33.9 | 33.9 |
| Sales occupations | 5,199 | 100.0 | 7.7 | 32.5 | 26.2 | 33.6 |
| Administrative support, including clerical | 2,459 | 100.0 | 9.6 | 42.2 | 26.6 | 21.6 |
| Service occupations | 3,410 | 100.0 | 25.6 | 41.8 | 21.6 | 11.1 |
| Private household | 28 | 100.0 | ([1]) | ([1]) | ([1]) | ([1]) |
| Protective service | 1,131 | 100.0 | 10.3 | 43.6 | 31.8 | 14.3 |
| Food service | 645 | 100.0 | 30.2 | 38.1 | 20.6 | 10.9 |
| Health service | 132 | 100.0 | 25.8 | 38.6 | 18.2 | 16.7 |
| Cleaning and building service | 1,201 | 100.0 | 39.0 | 43.0 | 12.2 | 5.9 |
| Personal service | 273 | 100.0 | 17.6 | 38.5 | 24.5 | 19.0 |
| Precision production, craft, and repair | 9,386 | 100.0 | 23.2 | 52.5 | 18.4 | 5.9 |
| Operators, fabricators, and laborers | 8,629 | 100.0 | 34.7 | 49.7 | 12.1 | 3.6 |
| Farming, forestry, and fishing | 1,849 | 100.0 | 37.2 | 38.6 | 14.1 | 10.2 |
| **Women** | | | | | | |
| Total, 25 to 64 years | 34,953 | 100.0 | 13.6 | 44.8 | 19.1 | 22.5 |
| Managerial and professional specialty | 9,435 | 100.0 | 2.3 | 19.2 | 19.2 | 58.7 |
| Executive, administrative, and managerial | 3,442 | 100.0 | 3.7 | 36.2 | 24.8 | 35.2 |
| Professional specialty | 5,992 | 100.0 | 1.4 | 9.5 | 16.6 | 72.4 |
| Technical, sales, and administrative support | 15,085 | 100.0 | 6.6 | 56.1 | 24.7 | 12.5 |
| Technicians and related support | 1,269 | 100.0 | 3.1 | 36.6 | 33.8 | 26.5 |
| Sales occupations | 3,684 | 100.0 | 12.2 | 54.3 | 19.0 | 14.4 |
| Administrative support, including clerical | 10,132 | 100.0 | 5.0 | 59.2 | 25.7 | 10.1 |
| Service occupations | 5,632 | 100.0 | 31.3 | 52.0 | 12.1 | 4.6 |
| Private household | 549 | 100.0 | 51.4 | 38.3 | 9.8 | .5 |
| Protective service | 128 | 100.0 | 14.8 | 53.9 | 20.3 | 10.9 |
| Food service | 1,823 | 100.0 | 32.4 | 54.6 | 10.1 | 3.0 |
| Health service | 1,135 | 100.0 | 23.6 | 55.4 | 15.9 | 5.0 |
| Cleaning and building service | 817 | 100.0 | 48.6 | 42.8 | 6.2 | 2.2 |
| Personal service | 1,178 | 100.0 | 17.5 | 57.4 | 15.8 | 9.3 |
| Precision production, craft, and repair | 835 | 100.0 | 26.9 | 53.8 | 12.3 | 6.9 |
| Operators, fabricators, and laborers | 3,632 | 100.0 | 40.0 | 50.6 | 7.3 | 2.2 |
| Farming, forestry, and fishing | 335 | 100.0 | 31.9 | 44.2 | 14.3 | 9.6 |

[1]Percent not shown where base is less than 75,000.

or more of college and only 13 percent, 6 years or more. Younger workers were somewhat more likely than older workers to have completed at least a bachelor's degree. It is expected that requirements for managers to complete advanced studies will increase as more technical expertise and specialized knowledge are needed for such positions.[5]

Two other occupational groups have comparatively high proportions of workers with a college education—technical workers, both men and women, and male salesworkers. Technical workers usually assist professional specialty workers, and must have the educational background to keep up with developments in their respective fields. Among salesworkers, men traditionally have dominated jobs in such areas as manufacturing, financial management, and insurance, which depend on knowledge of engineering, money and banking, and underwriting, whereas women have remained concentrated in retail trade.

Although relatively few college graduates were employed in the other broad occupational categories, gains in the formal education of younger workers have raised the educational attainment levels in some more specific service occupations. For instance, 17 percent of the male protective service workers under 45 years of age had completed 4 years of college, compared with only 8 percent of those over 45. This difference underscores the increasing emphasis in many police departments on the professional training of their officers. In addition, recent growth in such service industries as hotels, gyms and spas, and recreational services has contributed to the rising proportion of younger college graduates in personal service jobs. □

*FOOTNOTES*

[1]Data in this report are based on information from the March 1984 Current Population Survey (CPS), conducted for the Bureau of Labor Statistics by the Bureau of the Census. The data relate to persons 25 to 64 years old, unless otherwise specified. Because these estimates are based on a sample, they may differ from those obtained if a complete census



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could have been conducted. Sampling variability may be relatively large in cases where the estimates are small. Small estimates, or small differences between estimates, should be interpreted with caution. This report is the latest in a series on this subject. The earlier summary was Anne McDougall Young, "More U.S. workers are college graduates," *Monthly Labor Review*, March 1984, pp. 46–49, reprinted with additional detailed tables for March 1982 and March 1983 in *Educational Attainment of Workers, March 1982–83*, Bulletin 2191 (Bureau of Labor Statistics, April 1984).

[2]Furthermore, even though the college age population is expected to decline through 1990, the number of persons earning bachelor's and postgraduate degrees is projected to continue to increase by at least a million a year. See Debra E. Gerald, *Projections of Education Statistics to 1992–93; Methodological Report with Detailed Projection Tables*, National Center for Educational Statistics, forthcoming.

[3]See table 1, Bulletin 2191.

[4]National Center for Education Statistics, *The Condition of Education*, 1984 Edition, tables 2.14, 2.15, and 2.16.

[5]*Occupational Outlook Handbook, 1984–85 Edition*, Bulletin 2205 (Bureau of Labor Statistics, April 1984), p. 18.

## Using the CPS to track retirement trends among older men

PHILIP L. RONES

Changes in the age structure of the population and dramatic declines in work activity among older men have made retirement trends a critical social issue. The economic and political ramifications of these trends are considerable: Already, declines in retirement age have combined with a rising life expectancy and changing age distribution, among other factors, to put pressure on public and private pension systems. Intergenerational conflicts may also arise, particularly during periods of high unemployment; for example, early retirement inducements are often used by employers seeking to avoid laying off younger workers. And, labor shortages could occur as the number of retirees increases in relation to the number of new labor force entrants.

It has always been difficult to identify the age at which people retire because separation from the labor force is often neither abrupt—part-time work is very common among older workers—nor final—many older persons reenter the labor force after a period of absence. In addition, retirement status is best defined by current work activity for some purposes, while for others, pension receipt is the more appropriate criterion. Given the types of data that are most readily available, a simple definition of retirees is often used, such as those who receive Social Security retirement benefits, or those above a certain age, such as 55, who are not in the labor force.

Transitions from work to retirement are probably best tracked by longitudinal surveys, which follow the same individuals for a period of time. Among the most notable of these are the Retirement History Survey and the Continuous Work History Sample of the Social Security Administration, and the National Longitudinal Survey, conducted by the Center for Human Resource Research, Ohio State University. Longitudinal surveys are particularly useful because of the considerable amount of demographic and other personal information available on individuals in the survey. A drawback of many longitudinal surveys is that they focus on persons in a limited age range at the time of the initial survey, which means that they cannot provide comparisons between these and other cohorts of workers.

One does not need to follow the same people to track a group's labor force trends. Unlike the longitudinal surveys, the Current Population Survey (CPS)[1] relies on a rotating sample—that is, a household (technically, an address) is in the sample for a limited time and is then replaced. In the CPS, 25 percent of the sample changes each month. But, while the survey does not follow the same people for long periods, the sample can "represent" the same group over time. In other words, within the limits of sampling reliability, any random sample of persons 55 years of age at one point in time would represent the same group as a different sample of 54-year-olds surveyed a year earlier.[2]

Because of the long history of the CPS and the frequency of observation, the survey can provide an excellent overview of changes in retirement trends. The data can be used in three ways. The cross-sectional view examines the labor force characteristics of persons of different ages at a fixed point in time. The time-series view examines the behavior of one or more demographic groups at different times. A third, the cohort view, follows the same people, or a sample representing the same people, as they age. This view has the advantage of permitting one to consider the unique history of each population group when assessing its present labor force status.

"Retirement" data from the CPS have generally been used with the time-series approach to track changes in labor force participation rates for broad age groups, usually persons 55 to 64 years and 65 years and over. However, since 1963 CPS data have been available on labor force characteristics by single year of age and by sex, for persons age 55 to 74. Thus, the CPS provides a better vantage point than most longitudinal surveys in that it follows work histories of many cohorts through their older years.

This summary presents these previously unpublished data for older men and estimates of rough retirement histories for different generations of these men. A simple definition of retirement is used for this purpose; all men over age 55 who are not in the labor force are deemed to be retired. Conversely, all who are working, whether full or part time, and all those actively looking for work are *not* retired.

Labor force participation rates—the proportion of the population in the labor force at each age—for men between ages 55 and 74 are shown in table 1 for the years 1963–

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**Table 1. Labor force participation rates for men ages 55 to 74, 1963–83 annual averages**

| Year | Age | | | | | | | | | | | | | | | | | | | | Birth cohort |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | |
| 1963 | 92.8 | 93.1 | 90.6 | 90.9 | 88.6 | 88.1 | 83.5 | 79.7 | 75.5 | 71.5 | 54.4 | 43.4 | 39.0 | 32.6 | 33.3 | 27.0 | 27.4 | 29.5 | 26.3 | 24.4 | |
| 1964 | 92.6 | 91.5 | 91.9 | 90.0 | 89.0 | 85.5 | 84.6 | 78.2 | 74.1 | 71.5 | 56.0 | 47.4 | 40.2 | 34.9 | 32.1 | 26.4 | 27.3 | 24.9 | 26.5 | 22.3 | |
| 1965 | 93.0 | 90.9 | 89.2 | 89.0 | 88.4 | 86.0 | 83.3 | 78.7 | 72.5 | 67.7 | 55.9 | 45.5 | 41.2 | 36.7 | 32.3 | 26.7 | 25.8 | 25.4 | 23.9 | 21.4 | |
| 1966 | 92.7 | 91.0 | 89.8 | 88.5 | 87.2 | 85.9 | 83.4 | 79.4 | 71.7 | 67.4 | 52.8 | 47.0 | 40.7 | 37.9 | 32.3 | 26.5 | 24.3 | 25.2 | 20.0 | 21.7 | |
| 1967 | 91.3 | 91.1 | 90.8 | 88.9 | 87.9 | 85.5 | 82.2 | 76.0 | 73.2 | 68.5 | 52.9 | 47.1 | 43.2 | 37.4 | 34.9 | 30.3 | 25.7 | 22.0 | 21.2 | 18.3 | |
| 1968 | 91.9 | 91.3 | 90.6 | 88.8 | 86.6 | 84.8 | 82.8 | 76.4 | 71.9 | 69.0 | 53.4 | 46.6 | 40.8 | 37.5 | 33.9 | 30.2 | 25.5 | 24.5 | 21.6 | 19.9 | |
| 1969 | 91.7 | 91.5 | 89.0 | 89.2 | 86.2 | 85.0 | 81.6 | 76.0 | 68.4 | 66.0 | 51.3 | 45.6 | 41.6 | 36.1 | 35.0 | 30.2 | 25.6 | 24.4 | 22.4 | 19.7 | |
| 1970 | 91.8 | 90.7 | 89.1 | 87.7 | 87.5 | 83.9 | 81.2 | 73.9 | 69.4 | 64.4 | 49.9 | 44.7 | 39.4 | 37.7 | 34.0 | 30.2 | 27.9 | 24.8 | 22.0 | 19.1 | |
| 1971 | 91.0 | 89.6 | 88.9 | 87.8 | 86.4 | 83.6 | 79.6 | 74.4 | 68.5 | 62.2 | 47.2 | 41.6 | 37.8 | 35.1 | 32.2 | 28.9 | 25.9 | 22.8 | 24.0 | 18.3 | |
| 1972 | 90.7 | 88.9 | 86.1 | 86.8 | 84.4 | 82.1 | 79.5 | 70.9 | 66.5 | 61.5 | 45.2 | 38.6 | 34.6 | 33.8 | 29.6 | 27.1 | 25.5 | 22.4 | 20.4 | 20.2 | |
| 1973 | 88.8 | 87.6 | 85.8 | 85.1 | 83.5 | 79.2 | 76.6 | 67.2 | 62.1 | 58.1 | 41.5 | 37.1 | 31.5 | 30.2 | 27.8 | 25.4 | 24.0 | 23.6 | 17.8 | 16.9 | |
| 1974 | 88.0 | 86.6 | 86.5 | 84.4 | 82.9 | 79.0 | 76.1 | 66.8 | 59.3 | 56.3 | 39.8 | 35.4 | 33.0 | 29.7 | 26.6 | 23.5 | 23.7 | 23.0 | 20.5 | 19.2 | |
| 1975 | 87.6 | 85.6 | 84.4 | 83.7 | 80.4 | 76.9 | 73.5 | 64.4 | 58.3 | 53.0 | 38.7 | 33.7 | 30.6 | 28.4 | 25.8 | 23.7 | 22.2 | 22.6 | 20.0 | 16.0 | |
| 1976 | 87.1 | 84.1 | 83.7 | 82.3 | 79.7 | 75.5 | 75.3 | 61.8 | 55.7 | 50.3 | 36.6 | 31.0 | 28.1 | 26.7 | 22.3 | 22.4 | 23.2 | 19.2 | 19.4 | 15.6 | |
| 1977 | 85.8 | 85.4 | 82.6 | 81.9 | 80.7 | 77.2 | 73.0 | 61.2 | 53.1 | 50.2 | 35.1 | 30.3 | 32.6 | 27.4 | 25.4 | 24.8 | 21.2 | 20.3 | 16.4 | 15.2 | |
| 1978 | 85.9 | 83.4 | 83.6 | 80.9 | 79.4 | 75.4 | 72.8 | 61.4 | 54.1 | 49.2 | 38.3 | 32.0 | 25.4 | 29.9 | 27.0 | 22.8 | 20.9 | 19.1 | 19.0 | 14.8 | 1904 |
| 1979 | 86.3 | 84.8 | 80.2 | 81.2 | 79.3 | 75.0 | 68.6 | 59.0 | 52.8 | 48.6 | 38.5 | 31.1 | 28.0 | 25.4 | 22.7 | 24.4 | 21.5 | 16.3 | 17.3 | 16.2 | 1905 |
| 1980 | 85.3 | 83.7 | 81.5 | 79.9 | 78.8 | 74.8 | 69.7 | 55.0 | 50.0 | 45.7 | 33.9 | 31.5 | 26.1 | 25.4 | 22.2 | 18.7 | 18.6 | 16.0 | 15.2 | 17.7 | 1906 |
| 1981 | 85.2 | 82.5 | 79.7 | 78.2 | 77.2 | 72.7 | 68.0 | 53.7 | 45.2 | 42.6 | 33.0 | 27.7 | 28.7 | 25.0 | 22.6 | 18.7 | 17.4 | 17.1 | 15.9 | 13.6 | 1907 |
| 1982 | 84.6 | 84.2 | 80.3 | 79.7 | 76.2 | 73.0 | 67.6 | 55.0 | 46.4 | 44.9 | 32.1 | 26.5 | 26.3 | 24.7 | 23.7 | 19.2 | 16.3 | 18.4 | 15.5 | 11.5 | 1908 |
| 1983 | 85.7 | 83.3 | 80.2 | 77.9 | 75.3 | 71.6 | 67.7 | 54.3 | 46.6 | 41.3 | 31.0 | 27.1 | 25.8 | 22.7 | 23.0 | 19.2 | 19.1 | 14.5 | 15.7 | 15.8 | |
| | | | | | | | 1922 | 1921 | 1920 | 1919 | 1918 | 1917 | 1916 | 1915 | 1914 | 1913 | 1912 | 1911 | 1910 | 1909 | |

Birth cohort

NOTE: The birth cohorts indicated by the shaded area are those used in the calculations for tables 2 and 3.

83. From these estimates, two types of retirement histories are calculated, using the cohort perspective, for the 1904–22 birth cohorts. (Insufficient data are available for earlier cohorts, and later cohorts are not old enough to be included.) Table 2 shows the proportion of the *population* of each cohort that had retired at any particular age. These estimates are additive, that is, adding across gives the proportion of a cohort that had retired as of a certain age. These retirement rates are depicted in chart 1, which shows the percentage of men in even-year birth cohorts who were out the labor force as of selected ages. The heights of the five sections of each bar represent the percentages of men who were retired by age 61, and of those who subsequently retired at ages 62, 63 and 64, 65, and 66 to 70. Of course, the retirement histories of the younger cohorts are not yet complete.

The second type of retirement history is provided in table 3, which gives the probability of someone who is *in the labor force* as of a certain age leaving the labor force the next year. For example, this table shows the probability that someone who was in the labor force at age 65 in 1970 would be out of the labor force at age 66 in 1971.[3]

The difference in the two types of "retirement rates" is that the first shows the proportion of the *population* of each cohort leaving the labor force at each age, while the second shows the proportion of those *in the labor force* at each age leaving it the next year. In other words, table 2 answers the question, "At what age did men in each cohort leave the

**Table 2. Annual percentage-point decline in labor force participation rates for men in the 1904–22 birth cohorts at ages 55 to 70**

| Year of birth | Not in the labor force at age 55 (percent) | Age | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 1904 | | | | | | 3.1 | 2.2 | 3.9 | 6.2 | 4.2 | 17.7 | 6.8 | 6.9 | 4.0 | 6.0 | 4.3 |
| 1905 | | | | | 1.9 | 3.0 | 2.6 | 7.4 | 4.1 | 5.9 | 16.1 | 8.3 | 7.6 | 4.4 | 3.6 | 2.9 |
| 1906 | | | | 0.6 | 1.6 | 2.5 | 3.7 | 5.8 | 8.0 | 4.6 | 17.2 | 8.6 | 7.1 | 3.8 | 1.9 | 3.4 |
| 1907 | | | 1.2 | 2.9 | 1.8 | 1.7 | 2.7 | 6.8 | 6.6 | 7.2 | 17.0 | 8.1 | 4.1 | 3.6 | 6.1 | +1.5 |
| 1908 | 7.2 | 1.3 | 2.3 | 0.7 | 0.8 | 3.1 | 3.2 | 7.7 | 5.4 | 7.0 | 20.0 | 6.1 | 4.8 | 3.9 | 1.3 | 2.6 |
| 1909 | 7.4 | 1.7 | 1.1 | 0.9 | 2.3 | 1.6 | 3.8 | 6.8 | 7.9 | 8.4 | 18.3 | 6.1 | 5.6 | .7 | .4 | 2.6 |
| 1910 | 7.0 | 2.0 | 0.2 | 2.0 | 2.6 | 2.3 | 4.3 | 8.7 | 8.8 | 5.8 | 17.6 | 7.7 | +1.6 | 2.7 | 7.2 | 4.0 |
| 1911 | 7.3 | 1.6 | 1.5 | 1.4 | 1.7 | 3.9 | 4.1 | 12.3 | 7.9 | 6.3 | 16.4 | 6.3 | 4.9 | 0.0 | 3.2 | 3.5 |
| 1912 | 8.7 | 0.0 | 2.3 | 1.3 | 1.3 | 4.3 | 5.5 | 9.8 | 8.5 | 8.0 | 15.2 | 3.1 | 4.0 | 2.6 | 2.8 | 3.4 |
| 1913 | 8.1 | 0.4 | 2.4 | 1.3 | 3.4 | 5.2 | 3.1 | 11.7 | 8.7 | 5.5 | 11.9 | 7.2 | 5.0 | 1.1 | 1.3 | 4.5 |
| 1914 | 8.3 | 1.0 | 1.8 | 2.1 | 3.3 | 4.5 | 5.5 | 11.7 | 8.7 | 3.9 | 11.7 | 7.0 | 2.8 | 4.0 | 1.7 | |
| 1915 | 8.2 | 2.2 | 3.5 | 1.0 | 2.2 | 6.0 | 1.6 | 14.1 | 7.1 | 5.5 | 14.7 | 6.2 | 1.4 | 3.6 | | |
| 1916 | 9.0 | 2.1 | 3.1 | 1.4 | 4.0 | 4.9 | 2.5 | 11.6 | 8.6 | 7.1 | 12.7 | 6.5 | .7 | | | |
| 1917 | 9.3 | 3.1 | 1.1 | 2.8 | 4.0 | 2.5 | 4.4 | 13.8 | 9.0 | 7.4 | 10.5 | 5.0 | | | | |
| 1918 | 11.2 | 2.2 | 2.2 | 2.1 | 1.6 | 5.3 | 6.8 | 13.6 | 9.8 | 6.3 | 13.9 | | | | | |
| 1919 | 12.0 | 2.4 | 1.9 | 1.8 | 2.5 | 4.4 | 5.3 | 16.0 | 7.3 | 5.1 | | | | | | |
| 1920 | 12.4 | 3.5 | 1.5 | 1.7 | 1.6 | 4.5 | 6.8 | 13.0 | 8.4 | | | | | | | |
| 1921 | 12.9 | 1.7 | 1.8 | 2.4 | 2.4 | 6.1 | 5.1 | 13.0 | | | | | | | | |
| 1922 | 14.2 | 2.4 | 3.2 | 0.3 | 2.7 | 4.2 | 5.3 | | | | | | | | | |

NOTE: These figures represent the proportion of the civilian noninstitutional population of selected cohorts of men who were not in the labor force at age 55 and the proportion of each cohort retiring at each age from 56 to 70. All figures are derived from the data in table 1.



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**Chart 1. Percent out of the labor force at specified ages, selected cohorts of older men**

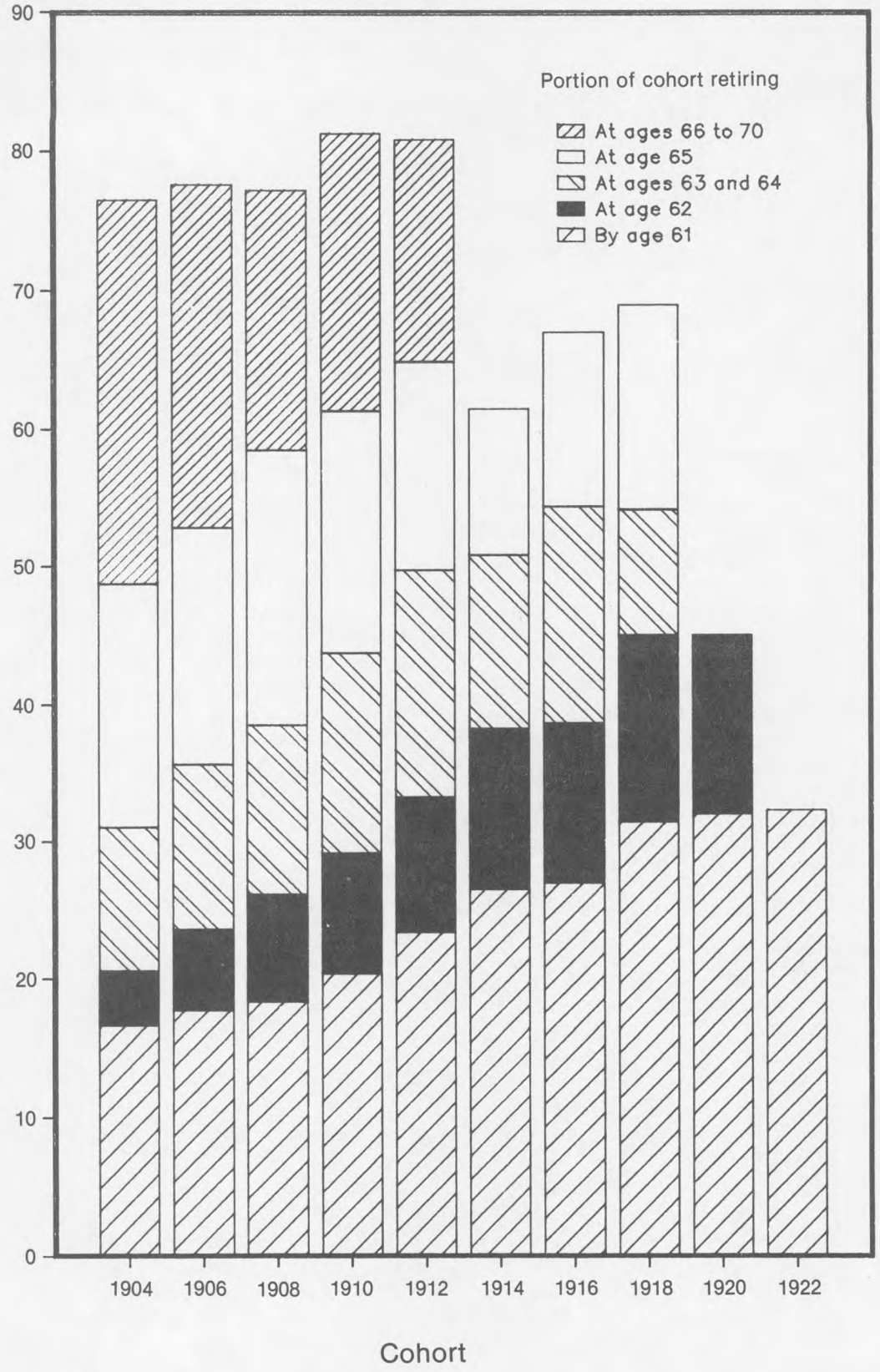




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**Table 3. Annual percent decline in labor force participation rates for men in the 1904–22 birth cohorts at ages 56 to 70**

| Year of birth | Age | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |
| 1904 | | | | | 3.5 | 2.6 | 4.7 | 7.8 | 5.7 | 25.7 | 12.9 | 15.4 | 10.5 | 17.8 | 15.5 |
| 1905 | | | | 2.1 | 3.4 | 3.0 | 8.9 | 5.4 | 8.2 | 24.4 | 16.6 | 16.8 | 12.7 | 11.9 | 10.9 |
| 1906 | | | 6.6 | 1.8 | 2.8 | 4.3 | 7.1 | 10.5 | 5.8 | 26.7 | 18.2 | 18.4 | 12.1 | 6.9 | 13.2 |
| 1907 | | 1.3 | 3.2 | 2.0 | 1.9 | 4.3 | 7.1 | 8.7 | 10.4 | 27.3 | 17.9 | 11.1 | 13.9 | 21.5 | +11.2 |
| 1908 | 1.4 | 2.5 | 0.8 | 0.7 | 3.5 | 3.5 | 9.4 | 7.3 | 10.2 | 32.5 | 17.2 | 13.6 | 12.7 | 4.9 | 10.2 |
| 1909 | 1.8 | 1.2 | 1.0 | 2.6 | 1.8 | 4.5 | 8.4 | 10.6 | 12.6 | 31.5 | 15.3 | 16.6 | 2.5 | 1.5 | 9.6 |
| 1910 | 2.2 | 0.2 | 2.2 | 2.9 | 2.7 | 5.1 | 10.9 | 12.4 | 6.4 | 31.3 | 20.0 | + 5.2 | 8.3 | 24.0 | 17.6 |
| 1911 | 1.7 | 0.5 | 1.5 | 1.9 | 4.5 | 4.9 | 15.5 | 11.8 | 10.6 | 30.9 | 17.2 | 16.1 | 0.0 | 12.4 | 15.8 |
| 1912 | 0.0 | 2.5 | 1.5 | 1.5 | 5.0 | 6.7 | 12.8 | 12.7 | 13.7 | 30.2 | 8.8 | 12.5 | 9.3 | 11.0 | 15.0 |
| 1913 | 0.4 | 2.6 | 1.5 | 3.9 | 6.2 | 3.9 | 15.4 | 13.5 | 9.9 | 23.7 | 18.8 | 16.1 | 4.2 | 5.2 | 19.0 |
| 1914 | 1.1 | 2.0 | 2.4 | 3.8 | 5.4 | 7.0 | 15.9 | 14.1 | 7.3 | 21.7 | 18.2 | 9.8 | 13.9 | 6.9 | |
| 1915 | 2.4 | 3.9 | 1.2 | 2.6 | 7.2 | 2.1 | 18.7 | 11.6 | 10.2 | 30.2 | 18.3 | 5.1 | 13.7 | | |
| 1916 | 2.3 | 3.5 | 1.6 | 4.7 | 6.1 | 3.3 | 15.9 | 14.0 | 13.4 | 27.8 | 19.7 | 2.6 | | | |
| 1917 | 3.4 | 1.3 | 3.2 | 4.8 | 3.1 | 5.7 | 19.0 | 15.3 | 14.8 | 24.6 | 15.6 | | | | |
| 1918 | 2.5 | 2.5 | 2.5 | 2.7 | 6.6 | 9.0 | 19.8 | 17.8 | 6.6 | 31.0 | | | | | |
| 1919 | 2.7 | 2.2 | 2.2 | 3.1 | 5.5 | 7.1 | 23.0 | 13.6 | 11.0 | | | | | | |
| 1920 | 4.0 | 1.8 | 2.1 | 2.0 | 5.5 | 9.1 | 19.1 | 15.3 | | | | | | | |
| 1921 | 2.0 | 2.1 | 2.2 | 3.0 | 7.7 | 7.0 | 19.7 | | | | | | | | |
| 1922 | 2.8 | 3.8 | 0.4 | 3.4 | 5.4 | 7.3 | | | | | | | | | |

NOTE: These figures represent the percent decline in participation for each cohort of men as compared to the prior year. They are derived by calculating the percent change in participation rates for a cohort from one year to the next. See text footnote 3.

labor force?'' For example, among the 1904 cohort, 3.1 percent left the labor force at age 60, and 2.2 percent did so at age 61. Table 3 answers the question, ''What is the probability of someone who was in the labor force as of a certain age retiring (that is, leaving the labor force) the next year?'' Among the 1904 cohort, 3.5 percent of 59-year-old labor force participants retired at age 60; of those left in the labor force, 2.6 percent retired at age 61, and so forth.

In using any of these data, one should keep in mind that, as in any sample survey, the results shown may differ from the true population values, largely because of sampling error. The problem of statistical reliability of the estimates becomes more acute as the size of the group being counted declines.[4] Thus, apparently inconsistent trends or odd occurrences (such as the two positive retirement rates shown in tables 2 and 3) may be attributable, at least in part, to sampling error, and to other types of measurement error such as response or coding errors. Users should interpret the estimates for specific cells in each table with some caution; the data are best used to show general trends in retirement behavior. □

*FOOTNOTES*

[1] The Current Population Survey is a nationwide survey of approximately 60,000 households conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics.

[2] The sample in 2 subsequent years would actually differ slightly, due to death, institutionalization, and international migration.

[3] The data in table 3 are derived by calculating the percent change in a cohort's participation rate from one year to the next. For example, in table 1, 92.8 percent of 55-year-olds were in the labor force in 1963 and in 1964, this cohort of men born in 1908 had a participation rate of 91.5 percent. Thus, the ''withdrawal rate'' for the cohort at age 56 in table 3 is (92.8–91.5)/92.8 = 1.4 percent. The way table 3 should be read is: Of the 1908 cohort, 1.4 percent of those in the labor force retired at age 56; of those left, 2.5 percent retired at age 57, and so forth. The reader might also note that, working backwards, if the participation rate for each cohort of 55-year-olds shown in table 1 is reduced each year by the percent shown in table 3 (for example, the 92.8-percent rate for the 1908 cohort is reduced by 1.4 percent, then 2.5 percent, and so on, the rest of table 1 would be recreated (within the limits imposed by the rounding of figures shown in both tables).

[4] A discussion of standard errors of labor force estimates can be found in the Explanatory Notes section of any issue of the Bureau of Labor Statistics monthly publication *Employment and Earnings* under the heading: ''Household data, reliability of estimates.''

## Women and minorities: their proportions grow in the professional work force

The 1984 annual edition of *Professional Women and Minorities* records the increasing participation of women and minorities in the professions, noting in particular gains by women. The Scientific Manpower Commission, which sponsored the study, reports these findings:

*Women.* In 1970, women earned 41.5 percent of the bachelor's degrees, 39.7 percent of the master's degrees, and 13.3 percent of the doctorate degrees awarded. However, by 1982, women were earning more than half of the bachelor's (50.3 percent) and master's (50.8 percent) degrees and 32 percent of the doctorates.

Despite the entry of so many women, growth of the professional labor force has slowed since the 1960's. This is especially evident in science and engineering, where the number of bachelor's degrees rose less than 1 percent between 1974 and 1982, even though there was a 21-percent increase in the number of women earning these degrees.

At the doctoral level, while total science and engineering degree awards declined slightly from 1973 to 1983, the change resulted from a drop of 15.4 percent in the number



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awarded to men and an increase in the number awarded to women. By 1983, the proportion of women with these degrees had risen to 25.7 percent from 12.9 percent in 1973.

Although the female proportion of scientists in the labor force is still below their proportion in recent graduating classes, women now make up 41 percent of life scientists, 23 percent of chemists, 18 percent of geological scientists, 30 percent of mathematicians and computer specialists, 6 percent of engineers, and 57 percent of psychologists. Their proportions are less in the doctoral population, but are growing.

The growth in the number of engineers has been so rapid in the past decade that their 5 percent proportion in the work force is well below their present proportion among students and graduates. Their share of bachelor's degrees has grown from less than 1 percent in 1970 to 13.2 percent in 1983; from less than 1 percent to 9.0 percent at the master's level; and from 0.9 percent to 4.7 percent at the doctoral level. The fall 1983 freshman class includes 17 percent women.

*Minorities.* The report also shows that minorities are increasing their participation in the engineering field—growing from 0.9 percent of bachelor's graduates in 1970 to 9.5 percent in 1983. Asian/Pacific Islanders had the largest representation of any minority group in this field, having doubled their share of all engineering degrees since 1973. The number of black engineers graduating at the bachelor's level had risen from 657 in 1973 to 1,842 in 1983, while their proportion of total graduates had moved from 1.5 to 2.5 percent.

Except for Asian/Pacific Islanders, minorities continue to be underrepresented in the physical and mathematical sciences, where they earned 9.6 percent of the bachelor's, 7.4 percent of the master's, and 5.3 percent of the doctorate degrees given in 1982. However, a significant percentage of these degrees, especially at the graduate level, are earned by Asian Americans.

Particularly at the graduate level, the proportions of graduates who are foreign nationals on temporary visas has grown significantly over the decade. In engineering, for example, foreign students earned 3.3 percent of the bachelor's, 11.9 percent of the master's, and 12.1 percent of the doctorate degrees awarded by U.S. schools in 1969. By 1983, their share had risen to 8.5 percent of the bachelor's, 25.8 percent of the master's, and 39.4 percent of the doctorate degrees.

*Women and minorities.* In the professional fields, both women and minorities have substantially increased their proportion of both graduates, and to a lesser extent, the labor force. Women earned 27 percent of the medical degrees awarded in 1983, and minorities, 10 percent. Their proportionate shares in 1971 were 9.2 and 0.2 percent. Women are now 16 percent of all physicians, and minorities, 17 percent. Women are 16 percent of lawyers, 27 percent of pharmacists, and 38 percent of economists. Minorities constitute 5 percent of architects, 7.5 percent of dentists, and 5.5 percent of lawyers.

Women's and minorities' employment in higher education had grown slowly during the 1970's. Women continue to be disproportionately overrepresented among nonfaculty researchers in higher education, while men are disproportionately overrepresented in the tenured faculty. In 1983, women accounted for 19 percent of faculty in universities and 37 percent of faculty in public 2-year colleges. Only 51 percent of the female faculty in all higher educational institutions had tenure in 1983, compared with 70 percent of the male faculty. Women's proportion among scientists and engineers at academic institutions has increased slowly. Between 1974 and 1983, women rose from 13.4 to 17.6 percent of mathematicians; from 9.8 to 13 percent of chemists; from 19.7 to 24.8 percent of biologists; and from 21.3 to 26.5 percent of psychologists employed at academic institutions. More than half of the college teachers in English, foreign languages, health specialties, and home economics are women, but they are less than 5 percent of the total in engineering and physics.

THE FULL REPORT, entitled *Professional Women and Minorities—A Manpower Data Resource Service*, fifth edition, presents a comprehensive statistical picture of the professional work force. The foregoing summary is based on the press release announcing the report. Copies of the 288-page volume may be obtained from the Scientific Manpower Commission, 1776 Massachusetts Ave., N.W. Washington, D.C. 20036. Price: $70. □

## Work interruptions and the female-male earnings gap

Differences in labor force attachment, or the extent of work interruptions, are often cited as one of the main reasons women earn less than men. However, a recent study by the Bureau of the Census reports that work interruptions explain only a small part of the earnings disparity between men and women. According to the report, if women had the same experience, interruptions, and education as men, the earnings gap would be reduced by only 14.6 percent.

The report is based on data from the 1979 Income Survey Development Program, which covered persons ages 21 to 64 who had ever worked. Participants were surveyed at 3-month intervals during a year and a half beginning in February 1979. The survey measured the extent of work interruptions by sex, race and Hispanic origin, years of school completed, occupations, and age and marital status. Surveyed persons were asked if they had ever been away from work for 6 months or longer because of inability to find work, caring for home or family, or illness or disability.



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*Sex and race.* About 72 percent of the women surveyed had worked interruptions, compared with about 26 percent of the men. Approximately 65 percent of the women and 2 percent of the men responded that they were "caring for home or family." "Inability to find work" was reported by 14 percent of the women with interruptions and about 17 percent of the men. There was no significant difference in the proportions of women and men with disability or illness interruptions.

Black women had fewer work interruptions than white and Hispanic-origin women, but were more likely to have interruptions due to illness. White and Hispanic-origin women were more likely to interrupt work because of family responsibilities; 67 percent of the white women and 62 percent of the Hispanic-origin women, compared with 44 percent of the black women. The labor force interruption rates for white and Hispanic-origin women were generally the same, except twice as many Hispanic-origin women cited "inability to find work."

Overall, black men had higher interruption rates than white men. About 35 percent of the black men had interruptions due to an inability to find work, compared with 15 percent of the white men. The proportions for Hispanic-origin men were similar to those of white men.

*Educational attainment.* Higher educational attainment was related to fewer work interruptions. Specifically, the proportion of persons with work interruptions because of inability to find work decreased as the educational level increased. For example, 25 percent of the men who did not graduate from high school experienced such work interruptions, compared with only 8 percent of those who graduated from college. (For women, the rates were 22 and 9 percent, respectively.) About two-thirds of women with less than a college education had work interruptions due to family responsibilities, compared with about half of those who graduated from college.

*Occupation.* Among women in white-collar occupations, those who were in professional, technical, or kindred fields were less likely to have interruptions due to family or home care than those who were in sales or clerical jobs. However, for each occupational group, women were more likely than men to have work interruptions. Among professional, technical, and managerial workers, the interruption rate was 61 percent for women, compared with 15 percent for men.

*Age and marital status.* About 43 percent of women ages 21 to 29 had work interruptions due to family reasons compared with about 73 percent of women age 30 and over. Comparable figures for men were about 1.5 percent for those ages 21 to 29 and about 1.6 percent for those 30 and over. The interruption rates due to illness or disability were highest among women ages 45 to 64 (16 percent), and lowest for those under age 30 (4 percent). The proportions of disability interruptions among men were generally similar to those of women.

The interruption rate for women ages 21 to 29 who had never married was 21 percent for those without children and 44 percent for those with children. For never-married women ages 30 to 44, the rates ranged from 33 percent for those without children to 47 percent for those with children. For women who were presently married or had been married at some time, the rates were 33 percent for those without children and 81 percent for those with children.

The report, "Lifetime Work Experience and Its Effect on Earnings: Retrospective Data From the 1979 Income Survey Development Program," U.S. Bureau of the Census, *Current Population Reports*, Series P–23, No. 136, is for sale ($1.75) by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

## ILO labor yearbook: some international comparisons

The 1983 edition of the International Labor Organization's *Year Book of Labor Statistics* includes international data on occupational injuries, industrial disputes and working days lost, and wage differentials between men and women.

According to the 64-nation survey on injury rates at work, about 9 million persons were injured in 1982 as a result of on-the-job accidents—24,000 of these were fatal.

In the three most dangerous industries—mining and quarrying, construction, and manufacturing—fatality rates declined more than 20 percent in several of the countries. Although manufacturing had the highest number of fatal injuries (27 percent), in terms of fatality rates, mining and quarrying were more dangerous than construction, and manufacturing was least hazardous of the three industries.

The 46-nation study on industrial relations reveals that there were 15 percent fewer strikes in 1982, but 5 percent more workers were involved in industrial disputes, resulting in more working days lost. In the 18 participating OECD countries, the number of strikes decreased by 15 percent (from 13,000 in 1981 to 11,000 in 1982), the number of strikers increased by 8 percent (from 15 million to 16.2 million), and the number of working days lost increased by 5 percent (from 37 million to 39 million). By comparison, in the 28 mainly developing countries, the number of strikes also decreased by 15 percent, strikers decreased by 9 percent (from 3.5 million to 3.2 million), but the number of working days lost increased significantly by 17 percent (from 45 million to 53 million).

Finally, the "wage gap" survey of 18 nations covered the manufacturing and nonagricultural industries for the years 1973–82 and 1977–82. In 1982, Korean women in the nonagricultural industries had the highest salary differential,



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earning 54.9 percent less than Korean men, while Australian women had the lowest, 8.1 percent less than their male counterparts. In the manufacturing industries, Japanese women earned 56.9 percent less than men and Swedish women, 9.7 percent less.

An ILO report on the yearbook notes that comparisons are difficult because the definitions, concepts, sources, and scope of the surveys often vary among countries. □

## Job satisfaction high in America, says Conference Board study

Nearly 80 percent of American workers are satisfied with their jobs, according to a recent survey conducted by NFO Research, Inc. for The Conference Board. The older the worker, the more satisfied he or she appears to be. About 73 percent of those under age 25 were satisfied with their work. This figure rose for each 10-year age group (except the 45 to 54 group), reaching 92 percent for those 65 and older.

Job satisfaction also is linked to family income. Only 71 percent of those with family income under $10,000 liked their work, compared with 82 percent of those in households with incomes of $20,000 or more.

There is hardly any difference in job satisfaction among areas. Of the 10 areas in the survey universe, satisfaction ranged from 75.2 percent in the West South Central region to 80.9 percent in the Mountain region.

The survey is based on a representative sample of 5,000 households. Copies are available from Consumer Research Center, The Conference Board, 845 Third Avenue, New York 10022. □

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### The new bargainers

The great leaders have either died or retired, and a new generation of labor leader has come to power. The present-day union leader is likely to carry a briefcase, look like a business executive, and sport an undergraduate or professional degree. In other words, the modern labor leader may look less like their rank-and-file members than like their counterparts on the management side of the table. The labor leaders of the past had less education. They started out working on the shop floor of the plant or the mill and had a strong ideological commitment. The new breed of union leader has more formal education and fewer direct roots in the working class. The new labor leader may be less pugilistic, less rough and ready, and more sophisticated and accommodating.

—ARTHUR R. SCHWARTZ and MICHELE M. HOYMAN
"The Changing of the Guard: The New American Labor Leader,"
*The Annals* of the American Academy of Political and Social Science,
May 1984, p. 65.

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# Technical Note

## The effect of rental equivalence on the Consumer Price Index, 1967–82

In 1983, the Bureau of Labor Statistics converted to a rental equivalence measure for homeowners' costs in order to remove the investment aspect from the Consumer Price Index for All Urban Consumers.[1] This note provides an estimate of the effect which this change would have had on the CPI–U during 1967–82, when the prices of houses rose sharply.

Under the new measure of homeowners' costs, the index would have increased by 165 percent. By contrast, the official CPI–U climbed by almost 188 percent during the 16-year period.

In essence, the change converted the homeownership component from a method that included investment as well as consumption elements to a flow-of-services approach that measures only the cost of shelter services consumed by homeowners. The flow-of-services approach uses a technique that estimates the change in the cost of renting housing services equivalent to those provided by owner-occupied homes.

The change in the index followed many years of recommendations and research by BLS staff and by other government, academic, business, and labor economists and statisticians. The Bureau conducted extensive research on measuring shelter cost for homeowners as part of the program that led to the comprehensive revision of the CPI in 1978. From these efforts came a BLS staff proposal to change the treatment of shelter costs in the CPI to a flow-of-services approach. This proposal was widely reviewed and discussed. However, difficulties in developing a workable flow-of-services measure and the diversity of views held by various advisory groups led to the decision not to change the component's concept at that time.

In 1980, the Bureau introduced five experimental measures (known as the CPI–U–X1 through the CPI–U–X5) to demonstrate the effect different homeownership concepts and techniques could have on the All Items CPI. The experimental CPI–U–X1, which used a rent substitution technique, is the direct (although approximate) antecedent of the method the Bureau has now adopted. The development of the CPI–U–X1 increased confidence in the workability and credibility of a rental equivalence measure.

**Table 1. The rental component of the CPI–U and a rental equivalency measure for homeownership, 1967–82[1]**

[In percent]

| Year | Rent | Rental equivalency |
|---|---|---|
| Cumulative change, 1967–82 | 128.5 | 125.6 |
| Annual change | 5.3 | 5.2 |
| 1968 | 2.8 | 2.7 |
| 1969 | 3.8 | 3.8 |
| 1970 | 4.6 | 4.4 |
| 1971 | 3.8 | 3.8 |
| 1972 | 3.5 | 3.4 |
| 1973 | 4.9 | 4.6 |
| 1974 | 5.4 | 5.3 |
| 1975 | 5.2 | 5.1 |
| 1976 | 5.5 | 5.3 |
| 1977 | 6.5 | 6.5 |
| 1978 | 7.4 | 7.5 |
| 1979 | 7.9 | 7.7 |
| 1980 | 9.1 | 9.3 |
| 1981 | 8.5 | 8.6 |
| 1982 | 6.6 | 5.9 |

[1]December-to-December percent changes.

### Limitations of the CPI–U–X1

Because the CPI–U–X1 was computed outside the CPI production system by restructuring indexes of major national price groups, it lacked the precision and detail and, more importantly, the proper local area weighting of the official CPI. Further, the five homeownership items of the old method—home purchase, contracted mortgage interest cost, property taxes, property insurance, and maintenance and repairs—were simply replaced in the CPI–U–X1 by a single, new homeownership item. The weight for this new item was computed using a rather imprecise, short-cut technique from homeowners' estimates of what their homes would rent for, as reported in the 1972–73 Consumer Expenditure Survey. Finally, the price movement used for this item was the price movement of the U.S. residential rent index.

BLS addressed these limitations of the CPI–U–X1 for the 1983 conversion to rental equivalence. First, the new index was computed from local area item-strata cost weights. This process provides the precision, complete item and geographic detail, and proper geographic weighting associated with the official CPI. Second, new expenditure weights were



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calculated by means of the complex statistical estimating procedures used throughout the CPI. As described below, weights were calculated for a new primary homeownership item, homeowners' equivalent rent, and recalculated for household insurance, maintenance and repairs, and house appliances. Third, a new set of statistical weights for the sample of rental units was calculated so that its price movements could represent owner-occupied housing units as well as renter-occupied units. Finally, the rent sample was augmented, in part by adding sample units in areas with high owner occupancy. This made the sample more efficient for measuring changes in owners' equivalent rent, and the increased sample size reduced the expected errors of both the renters' data and the owners' estimates of price change.

To address the question of how different the CPI–U–X1 would have been had the 1983 refinements been used in its calculation, BLS constructed an enhanced X1. Unfortunately, it was not feasible to replicate all of the enhancements. In particular, recalculating a price change measure from an augmented and reweighted rent sample was beyond the scope of this project. Local area price changes for homeowners' costs reflecting the reweighting, but not the augmentation, of the rent sample were available from some test runs of the new procedures starting with data for June 1980. It was not practical to perform calculations for earlier periods. Nor was it practical to produce the full index with its full calculational precision. The enhanced X1 presented here—like the original—was produced using a method that averages together indexes with relative importances for weights. However, except for the extensive numeric precision and the item and geographic detail of the official calculation, the special technique does yield accurate recalculated indexes. The first step in calculating an enhanced X1 was to compute a U.S. rental equivalence index for the 1967–82 period. This index used the proper weighting among local areas and, from June 1980 forward, rental change measures from a sample weighted to represent homeowners, instead of renters.

The local area indexes were averaged together using the local area weights for owners' equivalence of rent that were developed for the 1983 CPI–U to produce a national rental equivalence index from the base year 1967 to 1982. Compared to the rent weights, owners' equivalent rent shifts weight from the larger metropolitan areas to the smaller. The three largest local areas account for 29.9 percent of the rent weight but only 21.7 percent of the owners' equivalent rent weight, mostly because of the large difference in the New York standard metropolitan statistical area. The CPI geographic areas that represent smaller urban areas have 40.7 percent of the rent weight and 49.5 percent of the rental equivalence index. Renting is more common and more expensive in larger areas.

As shown in table 1, the differences between the changes in the rent and owners' equivalent rent indexes were surprisingly small. Reweighting the local area, at least, seems to have no discernible effect, although the change over the 16-year period was slightly smaller for owners' equivalent rent. Reweighting the rent sample itself may have some effect. The largest difference between the two series occurs in the last period, the only period in which the full effect of the sample reweighting is present. The Bureau, however, does not have enough information about sample reweighting (and none at all about sample augmentation) to be able to demonstrate any difference conclusively.

The next step toward enhancement was to combine the new index of rental equivalence with other CPI series to obtain an all-items index. The original CPI–U–X1 was an aggregate of the seven major groups of the CPI (food and beverages, housing, apparel and upkeep, transportation, medical care, entertainment, and other goods and services) less homeownership (which was part of the housing group)

**Table 2. Relative importance of components of the CPI–U–X1 and enhanced X1, December 1977**

[In percent]

| Component | CPI–U–X1 | Enhanced X1 |
|---|---|---|
| All items | 100.000 | 100.000 |
| Food and beverages | 20.849 | 20.760 |
| Housing (old) | 48.657 | — |
| Homeownership | −25.319 | — |
| Rent substitution | 14.503 | — |
| Housing (new) | 37.841 | 38.108 |
| Rent | — | 6.206 |
| Other rental costs | — | 0.786 |
| Owners' equivalent rent | — | 14.287 |
| Household insurance | — | 0.392 |
| Maintenance and repair services | — | 0.273 |
| Maintenance and repair commodities | — | 0.259 |
| Fuels and other utilities | — | 7.183 |
| Household furnishings and operations | — | 9.065 |
| Appliance adjustment | — | −0.343 |
| Apparel and upkeep | 6.427 | 6.400 |
| Transportation | 19.978 | 19.893 |
| Medical care | 5.506 | 5.483 |
| Entertainment | 4.528 | 4.509 |
| Other goods and services | 4.870 | 4.850 |

**Table 3. Annual changes in the CPI–U, CPI–U–X1, and enhanced X1, 1967–82[1]**

[In percent]

| Year | CPI–U | CPI–U–X1 | Enhanced X1 |
|---|---|---|---|
| Cumulative change, 1967–82 | 187.8 | 164.6 | 165.0 |
| 1968 | 4.7 | 3.9 | 3.9 |
| 1969 | 6.1 | 5.2 | 5.2 |
| 1970 | 5.5 | 4.5 | 4.6 |
| 1971 | 3.4 | 3.5 | 3.6 |
| 1972 | 3.4 | 3.3 | 3.2 |
| 1973 | 8.8 | 8.5 | 8.5 |
| 1974 | 12.2 | 11.1 | 11.1 |
| 1975 | 7.0 | 6.6 | 6.5 |
| 1976 | 4.8 | 5.1 | 5.1 |
| 1977 | 6.8 | 6.3 | 6.3 |
| 1978 | 9.0 | 7.9 | 8.0 |
| 1979 | 13.3 | 10.8 | 10.8 |
| 1980 | 12.4 | 10.8 | 10.8 |
| 1981 | 8.9 | 8.5 | 8.9 |
| 1982 | 3.9 | 5.0 | 4.9 |

[1]December-to-December percent changes.



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plus the rent substitution item. The price movement of the rent substitution items was taken from the national rent index. The enhanced X1 combines a new housing group with the six other major groups. The housing group is an aggregation of eight items: rent, other rental costs, owners' equivalent rent, household insurance, maintenance and repair services, maintenance and repair commodities, fuels and other utilities, and household furnishings and operations. A small adjustment was made to the weight for household appliances to compensate for the cost implicitly counted in the owners' equivalent of rent. Table 2 shows the components used to construct the CPI–U–X1 and the enhanced X1, as well as the weight of each. Although there are more components for housing in the enhanced X1, the 1983 refinement of the item weights had very little effect on the distribution of weight among the major groups. Note that the weight for housing in the CPI has been reduced from almost 49 percent to about 38 percent.

The results of this study are shown in table 3, which compares the enhanced X1 with the CPI–U–X1 and the CPI–U. From 1967 to 1982, differences between the enhanced X1 and the CPI–U–X1 are few and negligible compared with the differences between either and the official CPI–U. □

*FOOTNOTES*

[1] "Changing the Homeownership Component of the Consumer Price Index to Rental Equivalence," *CPI Detailed Report*, January 1983.

## Documenting youth competencies

Employers report in survey after survey that what they are seeking in young employees is, first, the basic skills needed to learn on the job, and, second, the dependability and world-of-work skills to show up on time and follow instructions. Vocational skills are less frequently required, although important for some jobs such as secretarial work. Employers do not usually give academic or other tests, and have little basis for judging the dependability of those with limited work experience, so they judge on the basis of academic credentials and other considerations such as vouching by acquaintances or relatives, best bets based on previous experiences with similar individuals, or prejudice. Employment and training programs recruit and serve those unable to secure jobs in the private sector. Unless these enrollees attain academic credentials recognized by employers, or are sorted so that those who prove to be dependable and trainable are identified, participants who are disadvantaged at entry will be equally disadvantaged at exit.

—NATIONAL COUNCIL ON EMPLOYMENT POLICY,
*Investing in America's Future: A Policy Statement by the National Council on Employment Policy*
(Washington, National Council
On Employment Policy, 1984), pp. 24–25.



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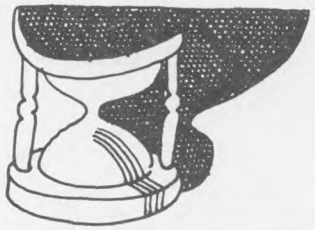
# Major Agreements Expiring Next Month



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

| Employer and location | Private industry | Labor organization[1] | Number of workers |
|---|---|---|---|
| Associated General Contractors of America, Inc.: | | | |
| South Florida Chapter | Construction | Operating Engineers | 1,400 |
| South Florida Chapter | Construction | Carpenters | 6,500 |
| South Florida Chapter and Builders Association | Construction | Laborers | 4,000 |
| South Florida Chapter and Builders Association of Southern Florida | Construction | Bricklayers | 1,400 |
| Houston Chapter (Texas) | Construction | Carpenters | 5,400 |
| Houston Chapter (Houston and Galveston, TX) | Construction | Iron Workers | 2,700 |
| Houston Chapter and Construction Employers Association (Texas) | Construction | Operating Engineers | 2,200 |
| Houston Chapter and Construction Employers Association (Texas) | Construction | Laborers | 3,650 |
| New York State Chapter | Construction | Carpenters | 7,000 |
| New York State Chapter | Construction | Laborers | 5,000 |
| New York State Chapter | Construction | Teamsters (Ind.) | 2,000 |
| New York State Chapter | Construction | Operating Engineers | 3,000 |
| Indiana Chapter, Laborers' Negotiating Committee | Construction | Laborers | 5,000 |
| Associated Building Contractors (Indiana) | Construction | Operating Engineers | 1,500 |
| Southern Illinois Builders Association (Illinois) | Construction | Laborers | 1,900 |
| Southern Illinois Builders Association (Illinois) | Construction | Carpenters | 1,500 |
| Indiana Highway Association, Inc. (Indiana) | Construction | Operating Engineers | 1,500 |
| National Automatic Sprinkler and Fire Association, Inc. (Interstate) | Construction | Plumbers | 5,500 |
| Houston Sheet Metal Contractors Association (Texas) | Construction | Sheet Metal Workers | 1,600 |
| Mechanical Contractors Association of Maryland, steamfitters (Maryland) | Construction | Plumbers | 1,100 |
| Tri-State Iron Workers Employers Association (Interstate) | Construction | Iron Workers | 1,500 |
| Anheuser-Busch, Inc. (Interstate) | Food products | Teamsters (Ind.) | 8,000 |
| Dried fruit industry (California) | Food products | Teamsters (Ind.) | 1,800 |
| Banquet Foods Corp. (Interstate) | Food products | Teamsters (Ind.) | 3,000 |
| Clothing Manufacturers Association of the United States of America (Interstate) | Apparel | Clothing and Textile Workers | 70,000 |
| Lily Tulip, Inc. (Springfield, MO) | Paper | Electrical Workers (IBEW) | 1,000 |
| Edition Bookbinders of New York, Inc. (New York, NY) | Printing and publishing | Graphic Communications | 1,200 |
| Chevron U.S.A. Inc. (California) | Petroleum | Petroleum and Industrial Workers, Seafarers | 1,650 |
| Colt Industries, Inc., Firearms Division (Connecticut) | Fabricated metal products | Auto Workers | 1,300 |
| Zenith Radio Corp., Springfield Division (Missouri) | Electrical products | Electrical Workers (IBEW) | 2,200 |
| The Budd Co. (Interstate) | Transportation equipment | Auto Workers | 7,800 |
| AMF/Harley-Davidson Motor Co., Inc. (Milwaukee, WI) | Transportation equipment | Industrial Workers | 1,000 |
| Milton Bradley Co. (Springfield, MA) | Miscellaneous manufacturing | Retail, Wholesale and Department Store | 1,000 |
| Jewelry Manufacturers Association, Inc. and Associate Jewelers, Inc. (New York, NY) | Miscellaneous manufacturing | Service Employees | 2,000 |
| Queens Transit and 3 other companies (New York) | Transit | Transport Workers | 1,200 |
| Trailways (Interstate) | Transit | Amalgamated Transit | 4,000 |
| Trailways (Interstate) | Transit | United Transportation | 1,500 |

See footnotes at end of table.



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## Continued—Major Agreements Expiring Next Month

| Employer and location | Private industry | Labor organization[1] | Number of workers |
|---|---|---|---|
| Trucking Management, Inc., Over-the-Road, National Master Freight agreement (Interstate) | Trucking | Teamsters (Ind.) | 100,000 |
| Trucking Management, Inc., Local Cartage, National Master Freight agreement (Interstate) | Trucking | Teamsters (Ind.) | 200,000 |
| Merchants Fast Motor Lines, Inc. (Dallas, TX) | Trucking | Union of Transportation Employees (Ind.) | 1,300 |
| Joint area cartage agreement (Chicago, IL)[2] | Trucking | Teamsters (Ind.) | 10,000 |
| Western States trucking maintenance agreement (Interstate)[2] | Trucking | Machinists | 3,800 |
| Master Rail-Truck agreement (Interstate)[2] | Trucking | Teamsters (Ind.) | 3,500 |
| Master Cartage agreement (Chicago, IL) | Trucking | Chicago Truck Drivers (Ind.) | 7,500 |
| Eastern Air Lines, flight attendants (Interstate)[3] | Air transportation | Transport Workers | 6,200 |
| American Broadcasting Co., Inc. (Interstate) | Communication | Broadcast Employees and Technicians | 2,800 |
| Central Telephone Company of Florida (Florida) | Communication | Electrical Workers (IBEW) | 1,150 |
| Virginia Electric and Power Co. (Virginia) | Utilities | Electrical Workers (IBEW) | 4,500 |
| Puget Sound Power and Light Co. (Bellevue, WA) | Utilities | Electrical Workers (IBEW) | 1,500 |
| Bloomingdale Brothers (New York, NY) | Retail trade | Retail, Wholesale and Department Store | 4,000 |
| Associated Men's Wear Retailers of New York, Inc. (New York, NY) | Retail trade | Retail, Wholesale and Department Store | 1,800 |

| | | Government activity | Labor organization[1] | Number of Workers |
|---|---|---|---|---|
| California: | Southern California Rapid Transit District (Los Angeles) | Transportation | Amalgamated Transit | 1,700 |
| Massachusetts: | Massachusetts Bay Transportation Authority, maintenance employees (Boston) | Transportation | Amalgamated Transit | 3,500 |
| Michigan: | University of Michigan, graduate student teachers (Ann Arbor) | Education | Teachers | 1,600 |
| New York: | New York City Transit Authority | Transportation | Transport Workers | 27,500 |
| | New York City Transit Authority (Brooklyn) | Transportation | Amalgamated Transit | 1,300 |
| | New York City Surface and Roads Unit | Transportation | Transport Workers | 5,400 |
| | New York State, administrative services | General government | State, County and Municipal Employees | 37,700 |
| | New York State Unified Court System | Courts | State, County and Municipal Employees | 1,500 |
| | New York State Security Services | Correctional institutions | State, County and Municipal Employees | 11,000 |
| | New York State Operational Services, blue collar | General government | State, County and Municipal Employees | 25,500 |
| | New York State Troopers | Law enforcement | Fraternal Order of Police | 2,400 |
| | New York State Institutional Services | Institutions | State, County and Municipal Employees | 41,000 |
| | New York State Professional and Technical Employees | General government | Public Employees Federation | 51,000 |

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

[2]Industry area (group of companies signing same contract).

[3]Information is from newspaper reports.



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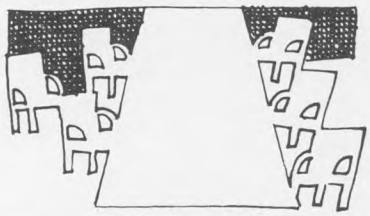
# Developments in Industrial Relations



## Settlement reached in GM parts plants

The International Union of Electronic Workers (IUE) announced membership approval of a 3-year contract for 24,000 employees of nine General Motors Corp. (GM) plants.

Terms were similar to those in GM's settlement with the United Auto Workers (see *Monthly Labor Review*, December 1984, pp. 46–49), except that the IUE agreement provides for more paid time off, which the union said was a high priority for the workers employed by GM's Delco, Packard Electric, and other parts plants. Under the IUE agreement, the paid absence allowance was increased to 9 work days in the first contract year and 8 in the second. In the third year, the employees will receive 5 paid absence days, the same as in each year of the prior agreement, which had a 2-year term. (In contrast, the new 3-year UAW-GM contract continued to provide for 5 paid absence days per year.) In exchange for the improved paid absence provision, the IUE agreed to offsetting changes in other provisions: the initial wage increase (2.25 percent) was not retroactive to the September 14 termination date of the prior agreement; 11 cents of the existing cost-of-living allowance was not rolled into base rates; 14 cents will be diverted from future cost-of-living adjustments for the contract duration; and increased company payments into a training fund and establishment of a legal services plan were deferred to 1987.

The plants covered by the settlement are located in Ohio, Mississippi, New York, and New Jersey.

One of the plants, a Packard Electric Division operation in Warren, OH, agreed to give members of Local 717 virtually lifetime job and income guarantees in exchange for adoption of a two-tier compensation system. Under the system, the company is permitted to hire new employees at 55 percent of current pay for their job and to give them less lucrative benefits. The pay of these workers will rise gradually over 10 years until it matches the regular rates. The contract, which will be in effect indefinitely, obligates the company to hire one new worker at the plant for every three who leave through attrition.

"Developments in Industrial Relations" is prepared by George Ruben of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is largely based on information from secondary sources.

## UAW and Chrysler will not reopen contract

The United Auto Workers formally asked Chrysler Corp. to reopen their contract for the purpose of regaining compensation parity and returning to the same bargaining cycle as General Motors and Ford Motor Co. However, back-and-forth communications between the parties finally resulted in a decision to not bargain early. (The UAW–Chrysler contract does not include a specific provision for reopening negotiations and is not scheduled to expire until October 15, 1985.) The disparity began to develop in 1979, when Chrysler employees negotiated the first of several concessionary contracts to aid the company in overcoming its financial difficulties. In 1982 and 1983 settlements at Chrysler, the disparity was narrowed, but at the time of the reopening request, Chrysler workers were still earning about $1 an hour less than employees of the other companies, and they were not covered by job and income security plans equal to those at GM and Ford.

Chrysler rebuffed the union's request for a reopening because the union wanted to set a deadline for completing the talks, backed by the right to strike. However, Chrysler did offer to discuss modification of the pay and benefit provisions of the contract, despite its contention that matching Ford's and GM's pay and benefit levels would result in labor costs higher at Chrysler than those at GM and Ford because of a higher proportion of retired employees drawing pensions and medical benefits at Chrysler.

The union responded to Chrysler's decision by calling for a meeting of its Chrysler Council, composed of 150 local union officials. At the meeting, the union leaders decided not to accept Chrysler's offer because of the lack of the strike weapon. As a result, bargaining will not start until August 1985.

## Aerospace settlements

Production of F-16 fighter planes resumed at General Dynamics Corp.'s Fort Worth, TX, plant after members of the Machinists union ratified a 3-year contract to end a 2-week strike. Under the contract, the 6,400 workers will receive annual bonuses in the first and second contract years each equal to 4 percent of their earnings during the preceding 12 months, followed by a 4-percent pay increase in the final year.



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Other terms included continuation of the provision for automatic quarterly cost-of-living pay adjustments; an increase in the pension rate to $16 (from $14) a month for each year of credited service effective immediately and $18 on August 1, 1986, applicable to all workers retiring after the effective date of the contract; a 12th annual paid holiday; improved medical and dental benefits, including a free generic prescription drug program; and a new joint committee to determine training and job changes needed to implement changes in technology.

Lump-sum payments in lieu of wage increases also were a feature of a settlement between Martin Marietta Corp. and the Auto Workers for 3,500 workers in Denver, Baltimore, and Orlando (FL). In the first year of the 3-year contract, workers will receive a payment equal to 4.5 percent of their earnings during the preceding 12 months, followed by a second-year payment of 3.5 percent of earnings, and a third-year specified wage increase of 3 percent.

## Canadian members to leave UAW

In a move that could have a major effect on bargaining in the industry, the UAW rejected a request from the union's Canadian section for a more independent role within the union. Immediately after the decision by the union's International Executive Board, UAW President Owen Bieber and Canadian Director Robert White announced that a committee would be formed to oversee a separation of the Canadian members from the union. The separation entails such issues as apportioning the union's property and its $600 million strike fund.

The split betweeen the U.S. and Canadian sections of the union can be traced to the changing economic relationship between the two nations and resulting differences in collective bargaining goals. In 1980, the Canadians objected to the concessions agreed to by U.S. employees of Chrysler Corp., and in 1982 struck the company to obtain more favorable terms for Canadian and U.S. employees. In 1984, the Canadians balked at accepting the settlement pattern for U.S. employees of Ford and GM and struck GM for 12 days before gaining a larger wage increase than their U.S. counterparts. The stoppage caused some turmoil within the union because it shut off the flow of some parts from GM's Canadian plants, leading to the layoff of 90,000 GM workers in the United States.

Despite the differences, Bieber said he believed the union will be able to carry out the split "in an orderly and proper fashion. . . .We are friendly, and we'll continue to be friendly."

Similar sentiments were expressed by White, who said the split doesn't represent "a war between our two countries or memberships or the leaderships of the two countries. We expect to have in the end two different organizations with close . . . ties."

Executives of the auto companies were less hopeful, saying that the breakup might prompt them to line up alternate sources of supply for parts currently made only in their Canadian plants. White said he did not believe this would be a serious problem because the companies will base decisions on production sources on "where they can make money" rather than "whether we're an international union or not."

The Canadian section of the union comprises 120,000 workers or about 10 percent of total UAW membership.

## Food store accords

More than 5,700 employees of 70 Kroger Co. supermarkets in Atlanta and elsewhere in Georgia were covered by a 42-month accord that established a two-tier pay system under which employees hired after September 8, 1984, will start at $4 an hour and progress to a maximum of $7.30. Current employees will continue to progress to their existing $10.30 maximum rate, but it will now take longer. After they reach $6.79 an hour, they will receive increases of 50 cents an hour at 6-month intervals until a final 51-cent increase brings them to the $10.30 top rate. Previously, employees moved to the $10.30 rate 6 months after reaching $6.79.

The agreement, negotiated by Local 1063 of the Food and Commercial Workers, did not provide for any general pay increases, but full-time employees who were on the payroll and at the top of their pay range on September 8 will receive four bonus payments totaling $1,000 over the contract term. The payments are contingent on the employees remaining in the same job classification.

The contract, which was retroactive to May 20, 1984, also provided for an $8 a month increase in Kroger's financing of health and welfare benefits in December 1984 and a $9 increase in June 1986, bringing the total contribution to $146.

In Ohio, Local 880 of the Food and Commercial Workers negotiated a 3-year contract with eight major food store chains that provided for no wage increase in the first year, bonus payments of $500 for full-time workers in the second year, and a 27-cent-an-hour pay increase in the final year. The accord, covering 14,000 workers in Cleveland, Akron, and Canton, also provided for a 10-cent-an-hour increase in the pay progression rate, with 5 cents subject to use for health and welfare benefits.

## Chicago teachers get 1-year contract, end strike

A 2-week strike against the Nation's third largest public school system ended when the Chicago Board of Education and the American Federation of Teachers agreed on a 1-year contract. The stoppage involved 28,000 teachers and 12,000 members of 17 other unions who accepted similar terms.

The teachers' contract called for a 4.5-percent salary increase effective December 17 and a one-time bonus in March



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1985 equal to 2.5 percent of earnings during 1984. The board also agreed to resume paying the full cost of medical insurance, as it had done since 1971. Earlier, the board had moved to ease its fiscal problems by requiring the employees to begin paying 25 percent of the cost, which became a major issue in the dispute. To some extent, medical cost will be moderated by a new plan under which the board will contract with certain hospitals to treat employees. If the employees use other hospitals, they will have to pay higher deductibles.

In another cost-containment move, the parties agreed to make up only 5 of the 10 school days lost due to the strike. The board also voted to cut the number of teaching positions, reduce funds for maintenance and supplies, and eliminate a proposed plan to improve academic standards.

## Western Union employees take pay cut

Western Union Corp., which has been experiencing financial difficulties, and the United Telegraph Workers and the Communications Workers unions agreed on a 10-percent pay cut during the balance of their current 3-year contracts, scheduled to expire in July 1985. The cut affected 8,000 union members plus 4,000 nonunion employees who had earlier agreed to the plan.

The company, which lost $15.5 million in the third quarter of 1984, attributed its difficulties to lack of finances and management talent to carry out a diversification plan.

## Keebler contract calls for pay raise

More than 3,500 workers at seven cookie and cracker plants in six states were covered by a settlement between the Keebler Co. and the Bakery and Confectionery Workers. Straight-time pay, which reportedly averaged $10.71 an hour, was raised by 55 cents on November 1, 1984, with a 50-cent increase to be effective a year later.

Other provisions included a 41-cent-an-hour increase in the company's $1.145 payment to the health benefit fund; a 13-cent-an-hour increase in the company's $1.30 payment to the pension fund; a 10-cent-an-hour payment to a separate fund to maintain health benefits for retirees; and a lowering of the requirement for 6 weeks of vacation to 25 years of service, from 30. □



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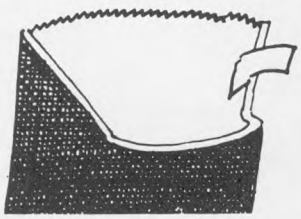

# Book Reviews

## Unsung heroines

*Women Veterans* By June A. Willenz. New York, The Continuum Publishing Co., 1983. 252 pp. $19.50.

This remarkable book is worth reading on several counts. Among them is the fact that nothing as comprehensive about women veterans exists in print. Also, the military and post-military experiences of these women illustrate that without even knowing it, many were pioneers in redefining women's role in contemporary society.

June A. Willenz decided to write this book after spending 20 years in the veteran's field of study and wondering where the women veterans were and why they were not visible. She discovered that officially there were 1.2 million women veterans as of April 1982 but could find no further Government statistics about them, nor any academic studies. Why is it, she asks, that neither the dedication nor willingness of over a million women to give themselves to their country was included in veterans' literature or official reports?

We are fortunate that Willenz persevered in completing this book, for she does a superb job of pushing aside many myths and stereotypes and providing the reader with solidly based historical material on women's formal and informal participation in U.S. military service since Colonial times. This is followed by richly detailed profiles of individual women who served in the military at some time between the 1940's and 1970's, emphasizing what happened to them when they returned to civilian life. The book concludes with a description of the current situation for women veterans, including their medical, educational, and other benefits, and several governmental policy initiatives.

The chapter devoted to historical background points out that women's official participation in the Armed Forces began with the formation of the Army Nurse Corps in 1901, followed by the Navy Nurse Corps in 1903. Women, however, have had roles *with* the military services, if not *in* the services, since our country was founded. The support services and even more direct roles women provided in the Army and militia units of the Revolutionary War are often overlooked in the literature on that largely guerilla war. George Washington's "Women of the Army" served as nurses and orderlies in his often chaotic hospital system and also did washing, cooking, and mending, frequently riding in baggage wagons much to his consternation. Other women served as water carriers for artillery units, an essential function because after a cannon was fired, it had to be swabbed with water before it was reloaded. It turns out that "Molly Pitcher" was not a single woman, but represented a group of women, much like "GI Joe" represented American soldiers during World War II.

The historical chapter also recounts many equally fascinating events and anecdotes from the War of 1812 and the Civil and Spanish American Wars. World War I is reviewed as the first war in which women were actually recruited into the military services other than the Nurse Corps. While nurses remained the most numerous group in the services, the Navy recruited women to serve as Naval Reserve Yeomen, filling mostly clerical and administrative jobs. Also, a very small number of women served in the Marine Reserve, performing clerical duties and doing some messenger and recruiting work. Willenz contends that one of the by-products of women's World War I military activities was the passage of the 19th amendment to the U.S. Constitution in 1920, which gave women the opportunity to vote in national elections.

Less than 25 years later, the outbreak of World War II produced the same need for women's participation in both the civilian and military sectors. What transpired reflects society's view of women at the time. Their entry into military service is described as meeting strong resistance from the War Department, Congress, and society in general. It took from 1941 to 1942 for the bill authorizing the WAAC (Women's Auxiliary Army Corps) to be passed. Recruiters were then faced with the fact that although patriotism was the overwhelming sentiment across the country, there was no great enthusiasm in most families to send their daughters off to war. Recruiters had to promise that new skills and training would be available to those who signed up.

Willenz does well in characterizing the times. "Young women with high school educations were likely to be engaged in routine clerical positions or in unskilled factory jobs. They were easily impressed by the new kinds of experience the services were publicizing. The film industry, meanwhile, was turning out romanticized versions of what war was like, shrouding its realities in Hollywood tinsel." . . . "As was true with many men, there were those who enlisted because of personal trauma, the loss of a loved one,



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or the breakup of a romance. Certainly the sense of adventure motivated some young women.''. . . ''Signing up for military service was an acceptable means of going out into the world. It was a permissible way for a woman to spread her wings and contribute to the national purpose.'' Some women joined because they had special skills, such as nurses, or were older women with professional training and experience, such as writers, broadcasters, public relations workers, teachers, linguists, scientists, and engineers. Most of these latter women became officers, even if they didn't initially enter as officers.

Willenz maintains that World War II was the last one for which patriotism was the dominant reason for going into the military. Neither the Korean nor Vietnam War was popular, and with Vietnam, the disinterest was compounded by the hostility of large segments of the population toward the war. During the 1970's, the All Volunteer Force changed the character of the military services to an occupational model. Since then, Willenz believes that the major attractions for both men and women have been job possibilities and post-service benefits.

A 100-page section of the book, entitled Profiles, consists of the compelling personal stories of women aviators, the mechanically inclined, the adventurers, the ones who sought and got specific training, the dreamers, and the disappointed. Included are interviews with over 20 women veterans whose collective military service spans the years from World War II through the post-Vietnam era. We meet women who extol their participation, while others criticize the racial barriers or are bitter about the indignities of communal living and their often sex-segregated assignments and training. Some allowed their real names to be used, such as Sarah McClendon, currently a Washington journalist. There are stories of ''bad apples'' in the barracks and of being the object of deeply rooted prejudice against servicewomen, especially in the South. Some women say that they still don't let most people know they are veterans.

In another section of the book, the service-related benefits received by women veterans are described as ranging from very little for the majority of World War II veterans to close to parity for those who served during the Vietnam War or afterwards. Based on her research and interviews, Willenz believes that most women veterans of World War II probably did not use their GI Bill benefits because such a great number married and raised families and had neither the time, energy, nor inclination to use them. This, of course, is all speculation because no data exist on the subject. Willenz states that it seems unlikely that we will ever be able to determine how meaningful the GI Bill was to the World War II servicewomen, ''because the Veterans Administration (VA) kept only a 2-percent sampling of information on all veterans. Since women were less than 2 percent of the Armed Forces, they fell by the wayside in VA sampling procedures.''

Health and hospital care are described as by far the weakest, most deficient, and for many years, practically undeliverable benefits to which women veterans were entitled. In theory, female veterans were always entitled to the same medical benefits as male veterans; in practice, this entitlement was given short shrift. Willenz points out that from the 1940's through the 1960's, nearly all VA hospitals lacked facilities for women veterans. Moreover, these women were virtually disregarded as outpatients. That the situation has changed somewhat since 1970, especially for post-Vietnam veterans, only became known in 1982 when the VA published the first report in VA history on ''Women Veterans Usage of VA Hospital Facilities.'' (This report was updated by the VA in 1984.)

Willenz sees today's situation as one in which women who served in the Armed Forces are emerging out of a long period of isolation and neglect to achieve legitimacy as veterans. They are becoming visible in the media and are finally being heard by government agencies that are supposed to service them. Policymakers have heard women veterans speak out about the Vietnam Veterans Readjustment Counseling program, exposure to Agent Orange, obtaining spousal and pregnancy benefits, and receiving the same treatment men receive in the VA medical system for nonservice connected health problems. (Most VA medical treatment for male veterans today is for nonservice connected problems.) Also, in contrast to women veterans in the past, who tended to shun general veterans organizations and to join specific groups like the WAC Veterans or the Women Marines, if they joined at all, those who served during the Vietnam conflict have been joining veterans organizations in sizable numbers.

The book concludes with a warning that the current trend of interest in women veterans will come to nothing unless it is translated into public policy, and a plea that the VA continue its relatively new Advisory Committee on Women Veterans.

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### A note on communications

The *Monthly Labor Review* welcomes communications that supplement, challenge, or expand on research published in its pages. To be considered for publication, communications should be factual and analytical, not polemical in tone. Communications should be addressed to the Editor-in-Chief, *Monthly Labor Review,* Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C. 20212.

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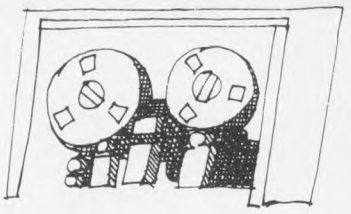
# Current Labor Statistics

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# 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.

Seasonally adjusted labor force data in tables 3–8 were revised in the February 1985 issue of the *Review,* to reflect experience through 1984.

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, February 1980). 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 shown in tables 11, 13, and 15 were made in July 1984 using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 29 and 30 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

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

**Availability of information.** Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. More information from household and establishment surveys is provided in *Employment and Earnings,* a monthly publication of the Bureau. Comparable household information is published in a two-volume data book–*Labor Force Statistics Derived From the Current Population Survey,* Bulletin 2096. Comparable establishment information appears in two data books–*Employment and Earnings, United States,* and *Employment and Earnings, States and Areas,* and their annual supplements. 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 BLS statistical series**

| Series | Release date | Period covered | Release date | Period covered | Release date | Period covered | MLR table number |
|---|---|---|---|---|---|---|---|
| Employment situation | February 1 | January | March 8 | February | April 5 | March | 1–11 |
| Producer Price Index | February 15 | January | March 15 | February | April 12 | March | 23–27 |
| Consumer Price Index | February 26 | January | March 22 | February | April 23 | March | 19–22 |
| Real earnings | February 26 | January | March 22 | February | April 23 | March | 12–16 |
| Major collective bargaining settlements | ..... | ..... | ..... | ..... | April 26 | 1st quarter | 36–37 |
| Productivity and costs: | | | | | | | |
| Nonfarm business and manufacturing | ..... | ..... | ..... | ..... | April 25 | 1st quarter | 29–32 |
| Nonfinancial corporations | February 28 | 4th quarter | ..... | ..... | ..... | ..... | 29–32 |
| Employment Cost Index | ..... | ..... | ..... | ..... | April 30 | 1st quarter | 33–35 |



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# 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 60,000 households selected to represent the U.S population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

## Definitions

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

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

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

## Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data 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 2–8 are seasonally adjusted, based on the seasonal experience through December 1984.

### 1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950–84

[Numbers in thousands]

| Year | Noninstitutional population | Labor force | | | | | | | | | | Not in labor force |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Employed | | | | | | Unemployed | | |
| | | Number | Percent of population | Total | Percent of population | Resident Armed Forces | Civilian | | | Number | Percent of labor force | |
| | | | | | | | Total | Agriculture | Nonagricultural industries | | | |
| 1950 | 106,164 | 63,377 | 59.7 | 60,087 | 56.6 | 1,169 | 58,918 | 7,160 | 51,758 | 3,288 | 5.2 | 42,787 |
| 1955 | 111,747 | 67,087 | 60.0 | 64,234 | 57.5 | 2,064 | 62,170 | 6,450 | 55,722 | 2,852 | 4.3 | 44,660 |
| 1960 | 119,106 | 71,489 | 60.0 | 67,639 | 56.8 | 1,861 | 65,778 | 5,458 | 60,318 | 3,852 | 5.4 | 46,617 |
| 1965 | 128,459 | 76,401 | 59.5 | 73,034 | 56.9 | 1,946 | 71,088 | 4,361 | 66,726 | 3,366 | 4.4 | 52,058 |
| 1966 | 130,180 | 77,892 | 59.8 | 75,017 | 57.6 | 2,122 | 72,895 | 3,979 | 68,915 | 2,875 | 3.7 | 52,288 |
| 1967 | 132,092 | 79,565 | 60.2 | 76,590 | 58.0 | 2,218 | 74,372 | 3,844 | 70,527 | 2,975 | 3.7 | 52,527 |
| 1968 | 134,281 | 80,990 | 60.3 | 78,173 | 58.2 | 2,253 | 75,920 | 3,817 | 72,103 | 2,817 | 3.5 | 53,291 |
| 1969 | 136,573 | 82,972 | 60.8 | 80,140 | 58.7 | 2,238 | 77,902 | 3,606 | 74,296 | 2,832 | 3.4 | 53,602 |
| 1970 | 139,203 | 84,889 | 61.0 | 80,796 | 58.0 | 2,118 | 78,678 | 3,463 | 75,215 | 4,093 | 4.8 | 54,315 |
| 1971 | 142,189 | 86,355 | 60.7 | 81,340 | 57.2 | 1,973 | 79,367 | 3,394 | 75,972 | 5,016 | 5.8 | 55,834 |
| 1972 | 145,939 | 88,847 | 60.9 | 83,966 | 57.5 | 1,813 | 82,153 | 3,484 | 78,669 | 4,882 | 5.5 | 57,091 |
| 1973 | 148,870 | 91,203 | 61.3 | 86,838 | 58.3 | 1,774 | 85,064 | 3,470 | 81,594 | 4,355 | 4.8 | 57,667 |
| 1974 | 151,841 | 93,670 | 61.7 | 88,515 | 58.3 | 1,721 | 86,794 | 3,515 | 83,279 | 5,156 | 5.5 | 58,171 |
| 1975 | 154,831 | 95,453 | 61.6 | 87,524 | 56.5 | 1,678 | 85,845 | 3,408 | 82,438 | 7,929 | 8.3 | 59,377 |
| 1976 | 157,818 | 97,826 | 62.0 | 90,420 | 57.3 | 1,668 | 88,752 | 3,331 | 85,421 | 7,406 | 7.6 | 59,991 |
| 1977 | 160,689 | 100,665 | 62.6 | 93,673 | 58.3 | 1,656 | 92,017 | 3,283 | 88,734 | 6,991 | 6.9 | 60,025 |
| 1978 | 163,541 | 103,882 | 63.5 | 97,679 | 59.7 | 1,631 | 96,048 | 3,387 | 92,661 | 6,202 | 6.0 | 59,659 |
| 1979 | 166,460 | 106,559 | 64.0 | 100,421 | 60.3 | 1,597 | 98,824 | 3,347 | 95,477 | 6,137 | 5.8 | 59,900 |
| 1980 | 169,349 | 108,544 | 64.1 | 100,907 | 59.6 | 1,604 | 99,303 | 3,364 | 95,938 | 7,637 | 7.0 | 60,806 |
| 1981 | 171,775 | 110,315 | 65.2 | 102,042 | 59.4 | 1,645 | 100,397 | 3,368 | 97,030 | 8,273 | 7.5 | 61,460 |
| 1982 | 173,939 | 111,872 | 64.3 | 101,194 | 58.2 | 1,668 | 99,526 | 3,401 | 96,125 | 10,578 | 9.5 | 62,067 |
| 1983 | 175,891 | 113,226 | 64.4 | 102,510 | 58.3 | 1,676 | 100,834 | 3,383 | 97,450 | 10,717 | 9.5 | 62,665 |
| 1984 | 178,080 | 115,241 | 64.7 | 106,702 | 59.9 | 1,697 | 105,005 | 3,321 | 101,685 | 8,539 | 7.4 | 62,839 |



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## 2. Employment status of the population, including Armed Forces in the United States, by sex, seasonally adjusted

[Numbers in thousands]

| Employment status and sex | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| **TOTAL** | | | | | | | | | | | | | | | |
| Noninstitutional population[1,2] | 175,891 | 178,080 | 176,809 | 177,219 | 177,363 | 177,510 | 177,662 | 177,813 | 177,974 | 178,138 | 178,295 | 178,483 | 178,661 | 178,834 | 179,004 |
| Labor force[2] | 113,226 | 115,241 | 113,925 | 114,006 | 114,408 | 114,592 | 114,895 | 115,412 | 115,309 | 115,566 | 115,341 | 115,484 | 115,721 | 115,773 | 116,162 |
| Participation rate[3] | 64.4 | 64.7 | 64.4 | 64.3 | 64.5 | 64.6 | 64.7 | 64.9 | 64.8 | 64.9 | 64.7 | 64.7 | 64.8 | 64.7 | 64.9 |
| Total employed[2] | 102,510 | 106,702 | 104,717 | 104,980 | 105,572 | 105,809 | 106,095 | 106,852 | 107,081 | 107,075 | 106,860 | 107,114 | 107,354 | 107,631 | 107,971 |
| Employment-population rate[4] | 58.3 | 59.9 | 59.2 | 59.2 | 59.5 | 59.6 | 59.7 | 60.1 | 60.2 | 60.1 | 59.9 | 60.0 | 60.1 | 60.2 | 60.3 |
| Resident Armed Forces[1] | 1,676 | 1,697 | 1,688 | 1,686 | 1,684 | 1,686 | 1,693 | 1,690 | 1,690 | 1,698 | 1,712 | 1,720 | 1,705 | 1,699 | 1,698 |
| Civilian employed | 100,834 | 105,005 | 103,029 | 103,294 | 103,888 | 104,123 | 104,402 | 105,162 | 105,391 | 105,377 | 105,148 | 105,394 | 105,649 | 105,932 | 106,273 |
| Agriculture | 3,383 | 3,321 | 3,329 | 3,294 | 3,364 | 3,305 | 3,379 | 3,367 | 3,368 | 3,333 | 3,264 | 3,319 | 3,169 | 3,334 | 3,385 |
| Nonagricultural industries | 97,450 | 101,685 | 99,700 | 100,000 | 100,524 | 100,818 | 101,023 | 101,795 | 102,023 | 102,044 | 101,884 | 102,075 | 102,480 | 102,598 | 102,888 |
| Unemployed | 10,717 | 8,539 | 9,208 | 9,026 | 8,836 | 8,783 | 8,800 | 8,560 | 8,228 | 8,491 | 8,481 | 8,370 | 8,367 | 8,142 | 8,191 |
| Unemployment rate[5] | 9.5 | 7.4 | 8.1 | 7.9 | 7.7 | 7.7 | 7.7 | 7.4 | 7.1 | 7.3 | 7.4 | 7.2 | 7.2 | 7.0 | 7.1 |
| Not in labor force | 62,665 | 62,839 | 62,884 | 63,213 | 62,955 | 62,918 | 62,767 | 62,401 | 62,665 | 62,572 | 62,954 | 62,999 | 62,940 | 63,061 | 62,842 |
| **Men, 16 years and over** | | | | | | | | | | | | | | | |
| Noninstitutional population[1,2] | 84,064 | 85,156 | 84,506 | 84,745 | 84,811 | 84,880 | 84,953 | 85,024 | 85,101 | 85,179 | 85,257 | 85,352 | 85,439 | 85,523 | 85,607 |
| Labor force[2] | 64,580 | 65,386 | 64,846 | 64,966 | 65,081 | 65,151 | 65,200 | 65,304 | 65,348 | 65,412 | 65,357 | 65,589 | 65,558 | 65,657 | 65,814 |
| Participation rate[3] | 76.8 | 76.8 | 76.7 | 76.7 | 76.7 | 76.8 | 76.7 | 76.8 | 76.8 | 76.8 | 76.7 | 76.8 | 76.7 | 76.8 | 76.9 |
| Total employed[2] | 58,320 | 60,642 | 59,608 | 59,843 | 60,113 | 60,262 | 60,289 | 60,578 | 60,758 | 60,687 | 60,766 | 60,959 | 61,018 | 61,155 | 61,252 |
| Employment-population rate[4] | 69.4 | 71.2 | 70.5 | 70.6 | 70.9 | 71.0 | 71.0 | 71.2 | 71.4 | 71.2 | 71.3 | 71.4 | 71.4 | 71.5 | 71.6 |
| Resident Armed Forces[1] | 1,533 | 1,551 | 1,537 | 1,542 | 1,540 | 1,542 | 1,548 | 1,545 | 1,545 | 1,551 | 1,563 | 1,571 | 1,557 | 1,552 | 1,550 |
| Civilian employed | 56,787 | 59,091 | 58,071 | 58,301 | 58,573 | 58,720 | 58,741 | 59,033 | 59,213 | 59,136 | 59,203 | 59,388 | 59,461 | 59,603 | 59,702 |
| Unemployed | 6,260 | 4,744 | 5,238 | 5,123 | 4,968 | 4,889 | 4,911 | 4,726 | 4,590 | 4,725 | 4,591 | 4,630 | 4,540 | 4,502 | 4,562 |
| Unemployment rate[5] | 9.7 | 7.3 | 8.1 | 7.9 | 7.6 | 7.5 | 7.5 | 7.2 | 7.0 | 7.2 | 7.0 | 7.1 | 6.9 | 6.9 | 6.9 |
| **Women, 16 years and over** | | | | | | | | | | | | | | | |
| Noninstitutional population[1,2] | 91,827 | 92,924 | 92,302 | 92,474 | 92,552 | 92,630 | 92,709 | 92,789 | 92,873 | 92,958 | 93,039 | 93,132 | 93,222 | 93,311 | 93,397 |
| Labor force[2] | 48,646 | 49,855 | 49,079 | 49,040 | 49,327 | 49,441 | 49,695 | 50,108 | 49,961 | 50,154 | 49,984 | 49,895 | 50,163 | 50,116 | 50,348 |
| Participation rate[3] | 53.0 | 53.7 | 53.2 | 53.0 | 53.3 | 53.4 | 53.6 | 54.0 | 53.8 | 54.0 | 53.7 | 53.6 | 53.8 | 53.7 | 53.9 |
| Total employed[2] | 44,190 | 46,061 | 45,109 | 45,137 | 45,459 | 45,547 | 45,806 | 46,274 | 46,323 | 46,388 | 46,094 | 46,155 | 46,336 | 46,476 | 46,719 |
| Employment-population rate[4] | 48.1 | 49.6 | 48.9 | 48.8 | 49.1 | 49.2 | 49.4 | 49.9 | 49.9 | 49.9 | 49.5 | 49.6 | 49.7 | 49.8 | 50.0 |
| Resident Armed Forces[1] | 143 | 146 | 151 | 144 | 144 | 144 | 145 | 145 | 145 | 147 | 149 | 149 | 148 | 147 | 148 |
| Civilian employed | 44,047 | 45,915 | 44,958 | 44,993 | 45,315 | 45,403 | 45,661 | 46,129 | 46,178 | 46,241 | 45,945 | 46,006 | 46,188 | 46,329 | 46,571 |
| Unemployed | 4,457 | 3,794 | 3,970 | 3,903 | 3,868 | 3,894 | 3,889 | 3,834 | 3,638 | 3,766 | 3,890 | 3,740 | 3,827 | 3,640 | 3,629 |
| Unemployment rate[5] | 9.2 | 7.6 | 8.1 | 8.0 | 7.8 | 7.9 | 7.8 | 7.7 | 7.3 | 7.5 | 7.8 | 7.5 | 7.6 | 7.3 | 7.2 |

[1] The population and Armed Forces figures are not adjusted for seasonal variation.
[2] Includes members of the Armed Forces stationed in the United States.
[3] Labor force as a percent of the noninstitutional population.
[4] Total employed as a percent of the noninstitutional population.
[5] Unemployment as a percent of the labor force (including the resident Armed Forces).
NOTE: Monthly data have been revised based on the seasonal experience through December 1984.



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## 3. Employment status of the civilian population by sex, age, race, and Hispanic origin, seasonally adjusted

[Numbers in thousands]

| Employment status | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| **TOTAL** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 174,215 | 176,383 | 175,121 | 175,533 | 175,679 | 175,824 | 175,969 | 176,123 | 176,284 | 176,440 | 176,583 | 176,763 | 176,956 | 177,135 | 177,306 |
| Civilian labor force | 111,550 | 113,544 | 112,237 | 112,320 | 112,724 | 112,906 | 113,302 | 113,722 | 113,619 | 113,868 | 113,629 | 113,764 | 114,016 | 114,074 | 114,464 |
| Participation rate | 64.0 | 64.4 | 64.1 | 64.0 | 64.2 | 64.2 | 64.3 | 64.6 | 64.5 | 64.5 | 64.3 | 64.4 | 64.4 | 64.4 | 64.6 |
| Employed | 100,834 | 105,005 | 103,029 | 103,294 | 103,888 | 104,123 | 104,402 | 105,162 | 105,391 | 105,377 | 105,148 | 105,394 | 105,649 | 105,932 | 106,273 |
| Employment-population ratio[2] | 57.9 | 59.5 | 58.8 | 58.8 | 59.1 | 59.2 | 59.3 | 59.7 | 59.8 | 59.7 | 59.5 | 59.6 | 59.7 | 59.8 | 59.9 |
| Unemployed | 10,717 | 8,539 | 9,208 | 9,026 | 8,836 | 8,783 | 8,800 | 8,560 | 8,228 | 8,491 | 8,481 | 8,370 | 8,367 | 8,142 | 8,191 |
| Unemployment rate | 9.6 | 7.5 | 8.2 | 8.0 | 7.8 | 7.8 | 7.8 | 7.5 | 7.2 | 7.5 | 7.5 | 7.4 | 7.3 | 7.1 | 7.2 |
| Not in labor force | 62,665 | 62,839 | 62,884 | 63,213 | 62,955 | 62,918 | 62,767 | 62,401 | 62,665 | 62,572 | 62,954 | 62,999 | 62,940 | 63,061 | 62,842 |
| **Men, 20 years and over** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 74,872 | 76,219 | 75,433 | 75,692 | 75,786 | 75,880 | 75,973 | 76,073 | 76,176 | 76,269 | 76,350 | 76,451 | 76,565 | 76,663 | 76,753 |
| Civilian labor force | 58,744 | 59,701 | 59,097 | 59,285 | 59,372 | 59,400 | 59,474 | 59,572 | 59,668 | 59,730 | 59,771 | 59,892 | 59,913 | 59,994 | 60,131 |
| Participation rate | 78.5 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 | 78.3 |
| Employed | 53,487 | 55,769 | 54,715 | 55,012 | 55,233 | 55,352 | 55,387 | 55,663 | 55,861 | 55,846 | 55,935 | 55,075 | 56,182 | 56,269 | 56,372 |
| Employment-population ratio[2] | 71.4 | 73.2 | 72.5 | 72.7 | 72.9 | 72.9 | 72.9 | 73.2 | 73.3 | 73.2 | 73.3 | 78.3 | 73.4 | 73.4 | 73.4 |
| Agriculture | 2,429 | 2,418 | 2,367 | 2,367 | 2,399 | 2,382 | 2,446 | 2,443 | 2,448 | 2,444 | 2,406 | 2,414 | 2,334 | 2,434 | 249.4 |
| Nonagricultural industries | 51,058 | 53,351 | 52,348 | 52,645 | 52,834 | 52,970 | 52,941 | 53,220 | 53,413 | 53,402 | 53,529 | 53,661 | 53,848 | 53,835 | 53,878 |
| Unemployed | 5,257 | 3,932 | 4,382 | 4,273 | 4,139 | 4,048 | 4,087 | 3,909 | 3,807 | 3,884 | 3,836 | 3,817 | 3,731 | 3,725 | 3,759 |
| Unemployment rate | 8.9 | 6.6 | 7.4 | 7.2 | 7.0 | 6.8 | 6.9 | 6.6 | 6.4 | 6.5 | 6.4 | 6.4 | 6.2 | 6.2 | 6.3 |
| **Women, 20 years and over** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 84,069 | 85,429 | 84,666 | 84,860 | 84,962 | 85,064 | 85,168 | 85,272 | 85,380 | 85,488 | 85,581 | 85,688 | 85,793 | 85,897 | 85,995 |
| Civilian labor force | 44,636 | 45,900 | 45,099 | 45,031 | 45,313 | 45,482 | 45,685 | 46,130 | 45,958 | 46,131 | 46,092 | 45,950 | 46,264 | 46,279 | 46,463 |
| Participation rate | 53.1 | 53.7 | 53.3 | 53.1 | 53.3 | 53.5 | 53.6 | 54.1 | 53.8 | 54.0 | 53.9 | 53.6 | 53.9 | 53.9 | 54.0 |
| Employed | 41,004 | 42,793 | 41,872 | 41,840 | 42,178 | 42,334 | 42,524 | 43,003 | 42,986 | 43,001 | 42,878 | 42,906 | 43,091 | 43,252 | 43,511 |
| Employment-population ratio[2] | 48.8 | 50.1 | 49.5 | 49.3 | 49.6 | 49.8 | 49.9 | 50.4 | 50.3 | 50.3 | 50.1 | 50.1 | 52.2 | 50.4 | 50.6 |
| Agriculture | 620 | 595 | 647 | 621 | 627 | 587 | 613 | 603 | 611 | 580 | 573 | 590 | 569 | 580 | 595 |
| Nonagricultural industries | 40,384 | 42,198 | 41,225 | 41,219 | 41,551 | 41,747 | 41,911 | 42,400 | 42,375 | 42,421 | 42,305 | 42,316 | 42,521 | 42,672 | 42,916 |
| Unemployed | 3,632 | 3,107 | 3,227 | 3,191 | 3,135 | 3,148 | 3,161 | 3,127 | 2,972 | 3,130 | 3,214 | 3,044 | 3,173 | 3,027 | 2,952 |
| Unemployment rate | 8.1 | 6.8 | 7.2 | 7.1 | 6.9 | 6.9 | 6.9 | 6.8 | 6.5 | 6.8 | 7.0 | 6.6 | 6.9 | 6.5 | 6.4 |
| **Both sexes, 16 to 19 years** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 15,274 | 14,735 | 15,022 | 14,981 | 14,931 | 14,880 | 14,828 | 14,778 | 14,728 | 14,683 | 14,653 | 14,624 | 14,598 | 14,575 | 14,557 |
| Civilian labor force | 8,171 | 7,943 | 8,041 | 8,004 | 8,039 | 8,024 | 8,043 | 8,020 | 7,993 | 8,007 | 7,766 | 7,922 | 7,839 | 7,801 | 7,870 |
| Participation rate | 53.5 | 53.9 | 53.5 | 53.4 | 53.8 | 53.9 | 54.2 | 54.3 | 54.3 | 54.5 | 53.0 | 54.2 | 53.7 | 53.5 | 54.1 |
| Employed | 6,342 | 6,444 | 6,442 | 6,442 | 6,477 | 6,437 | 6,491 | 6,496 | 6,544 | 6,530 | 6,335 | 6,413 | 6,376 | 6,411 | 6,390 |
| Employment-population ratio[2] | 41.5 | 43.7 | 42.9 | 43.0 | 43.4 | 43.3 | 43.8 | 44.0 | 44.4 | 44.5 | 43.2 | 43.9 | 43.7 | 44.0 | 43.9 |
| Agriculture | 334 | 309 | 315 | 306 | 338 | 336 | 320 | 321 | 309 | 309 | 285 | 315 | 266 | 320 | 296 |
| Nonagricultural industries | 6,008 | 6,135 | 6,127 | 6,136 | 6,139 | 6,101 | 6,171 | 6,175 | 6,235 | 6,221 | 6,050 | 6,098 | 6,110 | 6,091 | 6,094 |
| Unemployed | 1,829 | 1,499 | 1,599 | 1,562 | 1,562 | 1,587 | 1,552 | 1,524 | 1,449 | 1,477 | 1,431 | 1,509 | 1,463 | 1,390 | 1,480 |
| Unemployment rate | 22.4 | 18.9 | 19.9 | 19.5 | 19.4 | 19.8 | 19.3 | 19.0 | 18.1 | 18.4 | 18.4 | 19.0 | 18.7 | 17.8 | 18.8 |
| **White** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 150,805 | 152,347 | 151,484 | 151,939 | 152,079 | 152,285 | 152,178 | 152,229 | 152,295 | 152,286 | 152,402 | 152,471 | 152,605 | 152,659 | 152,734 |
| Civilian labor force | 97,021 | 98,492 | 97,751 | 97,824 | 98,121 | 98,343 | 98,419 | 98,749 | 98,690 | 98,627 | 98,223 | 98,426 | 98,631 | 98,630 | 99,005 |
| Participation rate | 64.3 | 64.6 | 64.5 | 64.4 | 64.5 | 64.6 | 64.7 | 64.9 | 64.8 | 64.8 | 64.4 | 64.6 | 64.6 | 64.6 | 64.8 |
| Employed | 88,893 | 92,120 | 90,857 | 91,068 | 91,494 | 91,750 | 91,852 | 92,330 | 92,516 | 92,389 | 91,951 | 92,177 | 92,407 | 92,587 | 92,884 |
| Employment-population ratio[2] | 58.9 | 60.5 | 60.0 | 59.9 | 60.2 | 60.2 | 60.4 | 60.7 | 60.7 | 60.7 | 60.3 | 60.5 | 60.6 | 60.6 | 60.8 |
| Unemployed | 8,128 | 6,372 | 6,894 | 6,756 | 6,627 | 6,593 | 6,567 | 6,419 | 6,174 | 6,238 | 6,272 | 6,249 | 6,224 | 6,043 | 6,121 |
| Unemployment rate | 8.4 | 6.5 | 7.1 | 6.9 | 6.8 | 6.7 | 6.7 | 6.5 | 6.3 | 6.3 | 6.4 | 6.3 | 6.3 | 6.1 | 6.2 |
| **Black** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 18,925 | 19,348 | 19,086 | 19,196 | 19,222 | 19,248 | 19,274 | 19,302 | 19,330 | 19,360 | 19,386 | 19,416 | 19,449 | 19,481 | 19,513 |
| Civilian labor force | 11,647 | 12,033 | 11,684 | 11,712 | 11,890 | 11,845 | 11,898 | 11,968 | 11,959 | 12,083 | 12,142 | 12,082 | 12,208 | 12,276 | 12,306 |
| Participation rate | 61.5 | 62.2 | 61.2 | 61.0 | 61.9 | 61.5 | 61.7 | 62.0 | 61.9 | 62.4 | 62.6 | 62.2 | 62.8 | 63.0 | 63.1 |
| Employed | 9,375 | 10,119 | 9,620 | 9,721 | 9,928 | 9,878 | 9,913 | 10,053 | 10,138 | 10,079 | 10,222 | 10,260 | 10,340 | 10,426 | 10,462 |
| Employment-population ratio[2] | 49.5 | 52.3 | 50.4 | 50.6 | 51.6 | 51.3 | 51.4 | 52.1 | 52.4 | 52.1 | 52.7 | 52.8 | 53.2 | 53.5 | 53.6 |
| Unemployed | 2,272 | 1,914 | 2,064 | 1,991 | 1,962 | 1,967 | 1,985 | 1,915 | 1,821 | 2,004 | 1,920 | 1,822 | 1,868 | 1,850 | 1,844 |
| Unemployment rate | 19.5 | 15.9 | 17.7 | 17.0 | 16.5 | 16.6 | 16.7 | 16.0 | 15.2 | 16.6 | 15.8 | 15.1 | 15.3 | 15.1 | 15.0 |
| **Hispanic origin** | | | | | | | | | | | | | | | |
| Civilian noninstitutional population[1] | 9,632 | 9,881 | 9,735 | 9,778 | 9,906 | 10,080 | 10,072 | 10,026 | 9,824 | 9,738 | 9,785 | 9,713 | 9,794 | 9,901 | 9,959 |
| Civilian labor force | 6,142 | 6,356 | 6,256 | 6,309 | 6,271 | 6,410 | 6,387 | 6,331 | 6,304 | 6,301 | 6,302 | 6,345 | 6,342 | 6,449 | 6,529 |
| Participation rate | 63.8 | 64.3 | 64.3 | 64.5 | 63.3 | 63.6 | 63.4 | 63.1 | 64.2 | 64.7 | 64.4 | 65.3 | 64.8 | 65.1 | 65.6 |
| Employed | 5,303 | 5,679 | 5,535 | 5,601 | 5,626 | 5,692 | 5,654 | 5,658 | 5,660 | 5,635 | 5,633 | 5,675 | 5,662 | 5,799 | 5,865 |
| Employment-population ratio[2] | 55.1 | 57.5 | 56.9 | 57.3 | 56.8 | 56.5 | 56.1 | 56.4 | 57.6 | 57.9 | 57.6 | 58.4 | 57.8 | 58.6 | 58.9 |
| Unemployed | 839 | 676 | 721 | 708 | 645 | 718 | 733 | 673 | 644 | 666 | 669 | 670 | 680 | 650 | 664 |
| Unemployment rate | 13.7 | 10.6 | 11.5 | 11.2 | 10.3 | 11.2 | 11.5 | 10.6 | 10.2 | 10.6 | 10.6 | 10.6 | 10.7 | 10.1 | 10.2 |

[1] The population figures are not seasonally adjusted.

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

NOTE: Monthly data have been revised based on the seasonal experience through December 1984. Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.



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## 4. Selected employment indicators, seasonally adjusted

[In thousands]

| Selected categories | Annual average | | 1983 | 1984 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| **CHARACTERISTIC** | | | | | | | | | | | | | | | |
| Civilian employed, 16 years and over | 100,834 | 105,005 | 103,029 | 103,294 | 103,888 | 104,123 | 104,402 | 105,162 | 105,391 | 105,377 | 105,148 | 105,394 | 105,649 | 105,932 | 106,273 |
| Men | 56,787 | 59,091 | 58,071 | 58,301 | 58,573 | 58,720 | 58,741 | 59,033 | 59,213 | 59,136 | 59,203 | 59,388 | 59,461 | 59,603 | 59,702 |
| Women | 44,047 | 45,915 | 44,958 | 44,993 | 45,315 | 45,403 | 45,661 | 46,129 | 46,178 | 46,241 | 45,945 | 46,006 | 46,188 | 46,329 | 46,571 |
| Married men, spouse present | 37,967 | 39,056 | 38,525 | 38,676 | 38,859 | 38,895 | 39,012 | 39,060 | 39,060 | 39,123 | 39,073 | 39,071 | 39,054 | 39,337 | 39,443 |
| Married women, spouse present | 24,603 | 25,636 | 25,121 | 24,991 | 25,244 | 25,286 | 25,468 | 25,658 | 25,734 | 25,719 | 25,772 | 25,715 | 25,897 | 25,995 | 26,122 |
| Women who maintain families | 5,091 | 5,465 | 5,301 | 5,328 | 5,373 | 5,449 | 5,482 | 5,606 | 5,622 | 5,626 | 5,496 | 5,429 | 5,378 | 5,396 | 5,396 |
| **MAJOR INDUSTRY AND CLASS OF WORKER** | | | | | | | | | | | | | | | |
| Agriculture: | | | | | | | | | | | | | | | |
| Wage and salary workers | 1,579 | 1,555 | 1,509 | 1,468 | 1,547 | 1,522 | 1,627 | 1,580 | 1,578 | 1,519 | 1,453 | 1,565 | 1,511 | 1,593 | 1,733 |
| Self-employed workers | 1,565 | 1,553 | 1,589 | 1,608 | 1,598 | 1,579 | 1,545 | 1,549 | 1,566 | 1,557 | 1,562 | 1,555 | 1,487 | 1,555 | 1,485 |
| Unpaid family workers | 240 | 213 | 240 | 234 | 230 | 211 | 215 | 239 | 211 | 220 | 209 | 195 | 187 | 204 | 212 |
| Nonagricultural industries: | | | | | | | | | | | | | | | |
| Wage and salary workers | 89,500 | 93,565 | 91,531 | 91,812 | 92,374 | 92,747 | 92,908 | 93,780 | 93,845 | 93,768 | 93,680 | 94,140 | 94,415 | 94,442 | 94,725 |
| Government | 15,537 | 15,770 | 15,547 | 15,562 | 15,773 | 15,765 | 15,765 | 15,744 | 15,713 | 15,639 | 15,758 | 15,881 | 15,997 | 15,785 | 15,858 |
| Private industries | 73,963 | 77,794 | 75,984 | 76,250 | 76,601 | 76,982 | 77,143 | 78,036 | 78,132 | 78,129 | 77,922 | 78,259 | 78,418 | 78,657 | 78,867 |
| Private households | 1,247 | 1,238 | 1,232 | 1,216 | 1,235 | 1,164 | 1,280 | 1,327 | 1,297 | 1,238 | 1,199 | 1,198 | 1,213 | 1,228 | 1,257 |
| Other | 72,716 | 76,556 | 74,752 | 75,034 | 75,366 | 75,818 | 75,863 | 76,709 | 76,835 | 76,891 | 76,723 | 77,061 | 77,205 | 77,429 | 77,610 |
| Self-employed workers | 7,575 | 7,785 | 7,735 | 7,663 | 7,824 | 7,769 | 7,812 | 7,745 | 7,815 | 7,744 | 7,807 | 7,752 | 7,782 | 7,731 | 7,786 |
| Unpaid family workers | 376 | 335 | 434 | 361 | 331 | 332 | 341 | 323 | 347 | 318 | 321 | 318 | 314 | 357 | 357 |
| **PERSONS AT WORK[1]** | | | | | | | | | | | | | | | |
| Nonagricultural industries | 92,038 | 96,246 | 94,348 | 94,773 | 95,151 | 95,162 | 96,274 | 96,279 | 96,465 | 96,668 | 96,757 | 96,540 | 96,767 | 96,839 | 97,311 |
| Full-time schedules | 73,624 | 78,030 | 76,020 | 76,389 | 76,810 | 77,084 | 77,785 | 78,060 | 78,343 | 78,503 | 78,676 | 78,403 | 78,592 | 78,754 | 78,943 |
| Part time for economic reasons | 5,997 | 5,512 | 5,677 | 5,719 | 5,697 | 5,465 | 5,520 | 5,377 | 5,549 | 5,482 | 5,384 | 5,449 | 5,483 | 5,413 | 5,596 |
| Usually work full time | 1,826 | 1,623 | 1,662 | 1,733 | 1,613 | 1,519 | 1,559 | 1,580 | 1,643 | 1,608 | 1,702 | 1,649 | 1,622 | 1,596 | 1,625 |
| Usually work part time | 4,171 | 3,889 | 4,010 | 4,081 | 4,126 | 3,967 | 4,006 | 3,840 | 3,858 | 3,771 | 3,632 | 3,819 | 3,874 | 3,819 | 3,965 |
| Part time for noneconomic reasons | 12,417 | 12,704 | 12,656 | 12,570 | 12,602 | 12,592 | 12,924 | 12,799 | 12,621 | 12,786 | 12,747 | 12,669 | 12,679 | 12,670 | 12,778 |

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

NOTE: Monthly data have been revised based on the seasonal experience through December 1984.

## 5. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

| Selected categories | Annual average | | 1983 | 1984 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| **CHARACTERISTIC** | | | | | | | | | | | | | | | |
| Total, all civilian workers | 9.6 | 7.5 | 8.2 | 8.0 | 7.8 | 7.8 | 7.8 | 7.5 | 7.2 | 7.5 | 7.5 | 7.4 | 7.3 | 7.1 | 7.2 |
| Both sexes, 16 to 19 years | 22.4 | 18.9 | 19.9 | 19.5 | 19.4 | 19.8 | 19.3 | 19.0 | 18.1 | 18.4 | 18.4 | 19.0 | 18.7 | 17.8 | 18.8 |
| Men, 20 years and over | 8.9 | 6.6 | 7.4 | 7.2 | 7.0 | 6.8 | 6.9 | 6.6 | 6.4 | 6.5 | 6.4 | 6.4 | 6.2 | 6.2 | 6.3 |
| Women, 20 years and over | 8.1 | 6.8 | 7.2 | 7.1 | 6.9 | 6.9 | 6.9 | 6.8 | 6.5 | 6.8 | 7.0 | 6.6 | 6.9 | 6.5 | 6.4 |
| White, total | 8.4 | 6.5 | 7.1 | 6.9 | 6.8 | 6.7 | 6.7 | 6.5 | 6.3 | 6.3 | 6.4 | 6.3 | 6.3 | 6.1 | 6.2 |
| Both sexes, 16 to 19 years | 19.3 | 16.0 | 16.8 | 16.4 | 16.5 | 16.9 | 16.2 | 16.2 | 15.8 | 15.2 | 16.0 | 16.3 | 15.9 | 15.1 | 15.9 |
| Men, 16 to 19 years | 20.2 | 16.8 | 17.4 | 17.7 | 16.8 | 17.3 | 16.8 | 16.9 | 16.6 | 17.4 | 16.7 | 17.0 | 16.6 | 16.2 | 16.2 |
| Women, 16 to 19 years | 18.3 | 15.2 | 16.1 | 14.9 | 16.1 | 16.4 | 15.7 | 15.5 | 15.1 | 12.9 | 15.4 | 15.5 | 15.2 | 13.9 | 15.5 |
| Men, 20 years and over | 7.9 | 5.7 | 6.5 | 6.3 | 6.1 | 5.9 | 5.9 | 5.7 | 5.4 | 5.5 | 5.5 | 5.5 | 5.4 | 5.4 | 5.4 |
| Women, 20 years and over | 6.9 | 5.8 | 6.0 | 6.0 | 5.9 | 5.9 | 6.0 | 5.8 | 5.6 | 5.8 | 5.9 | 5.7 | 5.8 | 5.5 | 5.5 |
| Black, total | 19.5 | 15.9 | 17.7 | 17.0 | 16.5 | 16.6 | 16.7 | 16.0 | 15.2 | 16.6 | 15.8 | 15.1 | 15.3 | 15.1 | 15.0 |
| Both sexes, 16 to 19 years | 48.5 | 42.7 | 47.8 | 47.4 | 43.8 | 46.6 | 44.3 | 44.4 | 37.1 | 42.3 | 41.3 | 41.9 | 40.2 | 41.2 | 42.1 |
| Men, 16 to 19 years | 48.8 | 42.7 | 45.0 | 46.6 | 46.0 | 44.3 | 42.9 | 41.4 | 38.2 | 42.3 | 40.5 | 41.0 | 43.8 | 42.0 | 43.8 |
| Women, 16 to 19 years | 48.2 | 42.6 | 50.8 | 48.2 | 41.4 | 49.4 | 45.9 | 48.1 | 35.8 | 42.2 | 42.2 | 43.0 | 36.2 | 40.2 | 40.1 |
| Men, 20 years and over | 18.1 | 14.3 | 15.1 | 15.1 | 14.6 | 15.1 | 15.6 | 14.3 | 14.6 | 15.5 | 14.1 | 13.5 | 13.4 | 12.8 | 13.3 |
| Women, 20 years and over | 16.5 | 13.5 | 15.9 | 14.6 | 14.4 | 13.8 | 13.6 | 13.7 | 12.6 | 13.8 | 13.8 | 12.6 | 13.4 | 13.5 | 12.7 |
| Hispanic origin, total | 13.7 | 10.6 | 11.5 | 11.2 | 10.3 | 11.2 | 11.5 | 10.6 | 10.2 | 10.6 | 10.6 | 10.6 | 10.7 | 10.1 | 10.2 |
| Married men, spouse present | 6.5 | 4.6 | 5.2 | 5.0 | 4.9 | 4.7 | 4.7 | 4.6 | 4.6 | 4.5 | 4.5 | 4.6 | 4.5 | 4.4 | 4.4 |
| Married women, spouse present | 7.0 | 5.7 | 6.2 | 6.0 | 5.9 | 5.8 | 5.8 | 5.8 | 5.7 | 5.8 | 5.8 | 5.7 | 5.7 | 5.4 | 5.4 |
| Women who maintain families | 12.2 | 10.3 | 10.9 | 10.7 | 10.8 | 10.8 | 10.5 | 10.0 | 9.8 | 9.8 | 10.3 | 10.1 | 10.4 | 10.8 | 9.6 |
| Full-time workers | 9.5 | 7.2 | 8.0 | 7.8 | 7.6 | 7.5 | 7.5 | 7.2 | 6.7 | 7.2 | 7.1 | 7.1 | 7.1 | 6.9 | 6.9 |
| Part-time workers | 10.4 | 9.3 | 9.7 | 9.4 | 9.4 | 9.3 | 9.3 | 9.4 | 10.0 | 9.6 | 9.6 | 9.3 | 9.1 | 8.6 | 8.8 |
| Unemployed 15 weeks and over | 3.8 | 2.4 | 3.0 | 2.8 | 2.7 | 2.6 | 2.5 | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 | 2.2 | 2.1 | 2.1 |
| Labor force time lost[1] | 10.9 | 8.6 | 9.4 | 9.1 | 9.0 | 8.9 | 8.8 | 8.6 | 8.4 | 8.5 | 8.5 | 8.5 | 8.4 | 8.2 | 8.3 |
| **INDUSTRY** | | | | | | | | | | | | | | | |
| Nonagricultural private wage and salary workers | 9.9 | 7.4 | 8.3 | 7.9 | 7.8 | 7.7 | 7.7 | 7.3 | 7.0 | 7.4 | 7.4 | 7.3 | 7.2 | 7.2 | 7.2 |
| Mining | 17.0 | 10.0 | 12.6 | 11.3 | 11.8 | 10.8 | 10.1 | 8.8 | 7.5 | 7.7 | 10.2 | 8.6 | 10.5 | 11.7 | 10.7 |
| Construction | 18.4 | 14.3 | 16.3 | 15.2 | 14.9 | 13.6 | 14.4 | 14.7 | 14.6 | 14.6 | 14.1 | 13.9 | 13.7 | 14.2 | 13.7 |
| Manufacturing | 11.2 | 7.5 | 8.3 | 8.2 | 7.7 | 7.6 | 7.7 | 7.2 | 7.3 | 7.5 | 7.4 | 7.4 | 7.3 | 7.2 | 7.2 |
| Durable goods | 12.1 | 7.2 | 8.3 | 8.0 | 7.5 | 7.7 | 7.5 | 7.1 | 7.2 | 6.9 | 6.9 | 6.9 | 6.9 | 7.0 | 7.1 |
| Nondurable goods | 10.0 | 7.8 | 8.3 | 8.6 | 8.0 | 7.5 | 8.0 | 7.3 | 7.5 | 8.5 | 8.1 | 8.1 | 7.8 | 7.4 | 7.2 |
| Transportation and public utilities | 7.4 | 5.5 | 6.4 | 5.2 | 5.9 | 5.4 | 5.5 | 5.7 | 5.3 | 5.9 | 5.9 | 5.9 | 5.3 | 5.2 | 5.0 |
| Wholesale and retail trade | 10.0 | 8.0 | 8.7 | 8.4 | 8.3 | 8.2 | 8.7 | 8.0 | 7.3 | 7.8 | 7.7 | 8.0 | 7.9 | 7.6 | 7.5 |
| Finance and service industries | 7.2 | 5.9 | 6.5 | 6.2 | 6.3 | 6.3 | 6.1 | 5.7 | 5.5 | 5.9 | 6.0 | 5.6 | 5.7 | 5.8 | 5.9 |
| Government workers | 5.3 | 4.5 | 4.9 | 4.9 | 4.5 | 4.5 | 4.4 | 4.7 | 4.2 | 4.5 | 4.4 | 4.5 | 4.4 | 4.3 | 4.4 |
| Agricultural wage and salary workers | 16.0 | 13.5 | 15.3 | 15.1 | 14.1 | 14.6 | 12.7 | 13.8 | 12.3 | 14.3 | 13.1 | 14.7 | 13.7 | 11.2 | 12.2 |

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

NOTE: Monthly data have been revised based on the seasonal experience through December 1984.



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## 6. Unemployment rates by sex and age, seasonally adjusted

[Civilian workers]

| Sex and age | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| Total, 16 years and over | 9.6 | 7.5 | 8.2 | 8.0 | 7.8 | 7.8 | 7.8 | 7.5 | 7.2 | 7.5 | 7.5 | 7.4 | 7.3 | 7.1 | 7.2 |
| 16 to 24 years | 17.2 | 13.9 | 14.8 | 14.7 | 14.3 | 14.4 | 14.5 | 14.1 | 13.2 | 13.6 | 13.9 | 13.9 | 13.5 | 13.2 | 13.5 |
| 16 to 19 years | 22.4 | 18.9 | 19.9 | 19.5 | 19.4 | 19.8 | 19.3 | 19.0 | 18.1 | 18.4 | 18.4 | 19.0 | 18.7 | 17.8 | 18.8 |
| 16 to 17 years | 24.5 | 21.2 | 22.7 | 22.2 | 22.1 | 22.7 | 22.1 | 20.6 | 20.1 | 20.7 | 21.2 | 20.9 | 20.2 | 20.0 | 21.0 |
| 18 to 19 years | 21.1 | 17.4 | 18.5 | 17.8 | 17.8 | 18.1 | 17.6 | 17.9 | 16.8 | 16.7 | 16.7 | 17.7 | 17.8 | 16.8 | 17.7 |
| 20 to 24 years | 14.5 | 11.5 | 12.3 | 12.3 | 11.7 | 11.7 | 12.1 | 11.6 | 10.8 | 11.2 | 11.7 | 11.4 | 11.0 | 10.9 | 10.9 |
| 25 years and over | 7.5 | 5.8 | 6.4 | 6.2 | 6.1 | 6.0 | 6.0 | 5.8 | 5.7 | 5.8 | 5.7 | 5.6 | 5.7 | 5.5 | 5.5 |
| 25 to 54 years | 8.0 | 6.1 | 6.8 | 6.5 | 6.4 | 6.3 | 6.3 | 6.0 | 5.8 | 6.1 | 6.0 | 5.9 | 5.9 | 5.8 | 5.8 |
| 55 years and over | 5.3 | 4.5 | 4.9 | 4.7 | 4.4 | 4.4 | 4.3 | 4.5 | 4.5 | 4.5 | 4.5 | 4.5 | 4.7 | 4.4 | 4.1 |
| Men, 16 years and over | 9.9 | 7.4 | 8.3 | 8.1 | 7.8 | 7.7 | 7.7 | 7.4 | 7.2 | 7.4 | 7.2 | 7.2 | 7.1 | 7.0 | 7.1 |
| 16 to 24 years | 18.4 | 14.4 | 15.6 | 15.4 | 14.7 | 14.7 | 14.9 | 14.3 | 13.9 | 14.5 | 14.3 | 14.6 | 13.8 | 13.7 | 14.1 |
| 16 to 19 years | 23.3 | 19.6 | 20.3 | 20.5 | 19.9 | 20.0 | 19.7 | 19.5 | 18.9 | 20.4 | 18.8 | 19.7 | 19.8 | 18.9 | 19.4 |
| 16 to 17 years | 25.2 | 21.9 | 23.5 | 22.5 | 22.2 | 23.0 | 23.3 | 21.7 | 22.4 | 22.6 | 22.2 | 21.0 | 21.3 | 20.3 | 19.8 |
| 18 to 19 years | 22.2 | 18.3 | 18.5 | 19.4 | 18.3 | 18.2 | 17.7 | 18.1 | 17.0 | 18.5 | 16.6 | 18.7 | 18.9 | 18.3 | 19.3 |
| 20 to 24 years | 15.9 | 11.9 | 13.2 | 12.9 | 12.2 | 12.0 | 12.6 | 11.7 | 11.5 | 11.6 | 12.1 | 12.2 | 10.9 | 11.2 | 11.5 |
| 25 years and over | 7.8 | 5.7 | 6.5 | 6.2 | 6.1 | 5.9 | 5.9 | 5.7 | 5.5 | 5.6 | 5.5 | 5.5 | 5.4 | 5.4 | 5.4 |
| 25 to 54 years | 8.2 | 5.9 | 6.7 | 6.5 | 6.4 | 6.1 | 6.2 | 5.9 | 5.7 | 5.8 | 5.7 | 5.6 | 5.6 | 5.6 | 5.6 |
| 55 years and over | 5.6 | 4.6 | 5.2 | 4.9 | 4.6 | 4.7 | 4.5 | 4.6 | 4.5 | 4.6 | 4.6 | 4.8 | 4.7 | 4.7 | 4.4 |
| Women, 16 years and over | 9.2 | 7.6 | 8.1 | 8.0 | 7.9 | 7.9 | 7.8 | 7.7 | 7.3 | 7.5 | 7.8 | 7.5 | 7.7 | 7.3 | 7.2 |
| 16 to 24 years | 15.8 | 13.3 | 14.0 | 14.0 | 13.8 | 14.1 | 14.0 | 13.9 | 12.5 | 12.7 | 13.5 | 13.2 | 13.2 | 12.6 | 12.8 |
| 16 to 19 years | 21.3 | 18.0 | 19.4 | 18.4 | 18.9 | 19.6 | 18.8 | 18.4 | 17.3 | 16.4 | 18.1 | 18.3 | 17.4 | 16.6 | 18.1 |
| 16 to 17 years | 23.7 | 20.4 | 21.8 | 22.0 | 22.1 | 22.3 | 20.8 | 19.4 | 17.6 | 18.7 | 20.3 | 20.9 | 19.0 | 19.7 | 22.3 |
| 18 to 19 years | 19.9 | 16.6 | 18.5 | 16.0 | 17.2 | 17.9 | 17.6 | 17.7 | 16.5 | 14.7 | 16.7 | 16.6 | 16.5 | 15.1 | 16.0 |
| 20 to 24 years | 12.9 | 10.9 | 11.2 | 11.6 | 11.1 | 11.2 | 11.4 | 11.5 | 10.0 | 10.8 | 11.1 | 10.5 | 11.1 | 10.7 | 10.2 |
| 25 years and over | 7.2 | 6.0 | 6.3 | 6.2 | 6.1 | 6.1 | 6.0 | 5.9 | 5.9 | 6.0 | 6.1 | 5.9 | 6.0 | 5.7 | 5.6 |
| 25 to 54 years | 7.7 | 6.3 | 6.8 | 6.5 | 6.5 | 6.5 | 6.4 | 6.2 | 6.0 | 6.4 | 6.5 | 6.2 | 6.2 | 6.1 | 6.0 |
| 55 years and over | 4.7 | 4.2 | 4.4 | 4.5 | 4.1 | 4.0 | 4.0 | 4.3 | 4.5 | 4.2 | 4.3 | 4.0 | 4.8 | 3.9 | 3.7 |

## 7. Unemployed persons by reason for unemployment, seasonally adjusted

[Numbers in thousands]

| Reason for unemployment | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| Job losers | 6,258 | 4,421 | 5,039 | 4,829 | 4,739 | 4,622 | 4,531 | 4,373 | 4,271 | 4,475 | 4,227 | 4,188 | 4,261 | 4,141 | 4,176 |
| On layoff | 1,780 | 1,171 | 1,304 | 1,257 | 1,271 | 1,248 | 1,117 | 1,187 | 1,162 | 1,165 | 1,146 | 1,110 | 1,151 | 1,068 | 1,070 |
| Other job losers | 4,478 | 3,250 | 3,735 | 3,572 | 3,468 | 3,374 | 3,414 | 3,186 | 3,109 | 3,310 | 3,081 | 3,078 | 3,110 | 3,073 | 3,106 |
| Job leavers | 830 | 823 | 836 | 810 | 786 | 777 | 792 | 812 | 809 | 850 | 833 | 841 | 829 | 869 | 858 |
| Reentrants | 2,412 | 2,184 | 2,205 | 2,199 | 2,171 | 2,208 | 2,301 | 2,184 | 1,989 | 2,111 | 2,294 | 2,254 | 2,150 | 2,161 | 2,218 |
| New entrants | 1,216 | 1,110 | 1,170 | 1,185 | 1,102 | 1,200 | 1,197 | 1,170 | 1,134 | 1,092 | 1,088 | 1,057 | 1,060 | 1,024 | 1,011 |
| **PERCENT DISTRIBUTION** | | | | | | | | | | | | | | | |
| Total unemployed | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Job losers | 58.4 | 51.8 | 54.5 | 53.5 | 53.9 | 52.5 | 51.4 | 51.2 | 52.1 | 52.5 | 50.1 | 50.2 | 51.3 | 50.5 | 50.5 |
| On layoff | 16.6 | 13.7 | 14.1 | 13.9 | 14.4 | 14.2 | 12.7 | 13.9 | 14.2 | 13.7 | 13.6 | 13.3 | 13.9 | 13.0 | 12.9 |
| Other job losers | 41.8 | 38.1 | 40.4 | 39.6 | 39.4 | 38.3 | 38.7 | 37.3 | 37.9 | 38.8 | 36.5 | 36.9 | 37.5 | 37.5 | 37.6 |
| Job leavers | 7.7 | 9.6 | 9.0 | 9.0 | 8.9 | 8.8 | 9.0 | 9.5 | 9.9 | 10.0 | 9.9 | 10.1 | 10.0 | 10.6 | 10.4 |
| Reentrants | 22.5 | 25.6 | 23.8 | 24.4 | 24.7 | 25.1 | 26.1 | 25.6 | 24.2 | 24.8 | 27.2 | 27.0 | 25.9 | 26.4 | 26.8 |
| New entrants | 11.3 | 13.0 | 12.6 | 13.1 | 12.5 | 13.6 | 13.6 | 13.7 | 13.8 | 12.8 | 12.9 | 12.7 | 12.8 | 12.5 | 12.2 |
| **PERCENT OF CIVILIAN LABOR FORCE** | | | | | | | | | | | | | | | |
| Job losers | 5.6 | 3.9 | 4.5 | 4.3 | 4.2 | 4.1 | 4.0 | 3.8 | 3.8 | 3.9 | 3.7 | 3.7 | 3.7 | 3.6 | 3.6 |
| Job leavers | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .7 | .8 | .7 |
| Reentrants | 2.2 | 1.9 | 2.0 | 2.0 | 1.9 | 2.0 | 2.0 | 1.9 | 1.8 | 1.9 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 |
| New entrants | 1.1 | 1.0 | 1.0 | 1.1 | 1.0 | 1.1 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | .9 | .9 | .9 | .9 |

## 8. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

| Weeks of unemployment | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
| Less than 5 weeks | 3,570 | 3,350 | 3,393 | 3,298 | 3,359 | 3,378 | 3,407 | 3,275 | 3,229 | 3,409 | 3,513 | 3,313 | 3,395 | 3,352 | 3,282 |
| 5 to 14 weeks | 2,937 | 2,451 | 2,499 | 2,529 | 2,482 | 2,514 | 2,485 | 2,440 | 2,303 | 2,449 | 2,406 | 2,533 | 2,406 | 2,324 | 2,516 |
| 15 weeks and over | 4,210 | 2,737 | 3,351 | 3,201 | 3,002 | 2,894 | 2,842 | 2,833 | 2,630 | 2,672 | 2,621 | 2,605 | 2,527 | 2,428 | 2,374 |
| 15 to 26 weeks | 1,652 | 1,104 | 1,276 | 1,194 | 1,172 | 1,122 | 1,102 | 1,173 | 1,012 | 1,088 | 1,116 | 1,106 | 1,092 | 990 | 972 |
| 27 weeks and over | 2,559 | 1,634 | 2,075 | 2,007 | 1,830 | 1,772 | 1,740 | 1,660 | 1,618 | 1,584 | 1,505 | 1,499 | 1,435 | 1,438 | 1,402 |
| Mean duration in weeks | 20.0 | 18.2 | 19.6 | 19.9 | 19.0 | 18.9 | 18.7 | 18.5 | 18.1 | 18.0 | 17.6 | 17.3 | 16.7 | 17.4 | 17.3 |
| Median duration in weeks | 10.1 | 7.9 | 8.9 | 8.9 | 8.4 | 8.4 | 8.1 | 8.3 | 7.5 | 7.6 | 7.6 | 7.6 | 7.3 | 7.3 | 7.4 |

NOTE: Monthly data shown in tables 6, 7, and 8 have been revised based on the seasonal experience through December 1984.



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# 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 over 200,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

## Definitions

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

**Production workers** in manufacturing include blue-collar worker supervisors and all nonsupervisory workers closely associated with production operations. Those workers mentioned in tables 12–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in transportation and public utilities; in wholesale and retail trade; in finance, insurance, and real estate; and in services industries. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

**Earnings** are the payments production or nonsupervisory workers receive during the survey period, including premium pay for overtime or late-shift work but excluding irregular bonuses and other special payments. **Real earnings** are earnings adjusted to reflect the effects of changes in consumer prices. The deflator for this series is derived from the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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

**The Diffusion Index,** introduced in table 17 of the May 1983 issue, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 3-, 6-, and 9-month spans are seasonally adjusted, while that for the 12-month span is unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

## Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1984 data, published in the July 1984 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1982; seasonally adjusted data have been revised back to January 1979. Unadjusted data from April 1983 forward, and seasonally adjusted data from January 1980 forward are subject to revision in future benchmarks. Earlier comparable unadjusted and seasonally adjusted data are published in a *Supplement to Employment and Earnings* (unadjusted data from April 1977 through February 1984 and seasonally adjusted data from January 1974 through February 1984) and in *Employment and Earnings, United States, 1909–78,* BLS Bulletin 1312–11 (for prior periods).

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,* Bulletin 2134-1 (Bureau of Labor Statistics, 1982).



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## 9. Employment, by industry, selected years, 1950–83

[Nonagricultural payroll data, in thousands]

| Year | Total | Private sector | Goods-producing | | | | Service-producing | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | Government | | | |
| | | | Total | Mining | Construction | Manufacturing | Total | Transportation and public utilities | Wholesale trade | Retail trade | Finance, insurance, and real estate | Services | Total | Federal | State | Local |
| 1950 | 45,197 | 39,170 | 18,506 | 901 | 2,364 | 15,241 | 26,691 | 4,034 | 2,635 | 6,751 | 1,888 | 5,357 | 6,026 | 1,928 | [1] | [1] |
| 1955 | 50,641 | 43,727 | 20,513 | 792 | 2,839 | 16,882 | 30,128 | 4,141 | 2,926 | 7,610 | 2,298 | 6,240 | 6,914 | 2,187 | 1,168 | 3,558 |
| 1960[2] | 54,189 | 45,836 | 20,434 | 712 | 2,926 | 16,796 | 33,755 | 4,004 | 3,143 | 8,248 | 2,629 | 7,378 | 8,353 | 2,270 | 1,536 | 4,547 |
| 1964 | 58,283 | 48,686 | 21,005 | 634 | 3,097 | 17,274 | 37,278 | 3,951 | 3,337 | 8,823 | 2,911 | 8,660 | 9,596 | 2,348 | 1,856 | 5,392 |
| 1965 | 60,765 | 50,689 | 21,926 | 632 | 3,232 | 18,062 | 38,839 | 4,036 | 3,466 | 9,250 | 2,977 | 9,036 | 10,074 | 2,378 | 1,996 | 5,700 |
| 1966 | 63,901 | 53,116 | 23,158 | 627 | 3,317 | 19,214 | 40,743 | 4,158 | 3,597 | 9,648 | 3,058 | 9,498 | 10,784 | 2,564 | 2,141 | 6,080 |
| 1967 | 65,803 | 54,413 | 23,308 | 613 | 3,248 | 19,447 | 42,495 | 4,268 | 3,689 | 9,917 | 3,185 | 10,045 | 11,391 | 2,719 | 2,302 | 6,371 |
| 1968 | 67,897 | 56,058 | 23,737 | 606 | 3,350 | 19,781 | 44,160 | 4,318 | 3,779 | 10,320 | 3,337 | 10,567 | 11,839 | 2,737 | 2,442 | 6,660 |
| 1969 | 70,384 | 58,189 | 24,361 | 619 | 3,575 | 20,167 | 46,023 | 4,442 | 3,907 | 10,798 | 3,512 | 11,169 | 12,195 | 2,758 | 2,533 | 6,904 |
| 1970 | 70,880 | 58,325 | 23,578 | 623 | 3,588 | 19,367 | 47,302 | 4,515 | 3,993 | 11,047 | 3,645 | 11,548 | 12,554 | 2,731 | 2,664 | 7,158 |
| 1971 | 71,214 | 58,331 | 22,935 | 609 | 3,704 | 18,623 | 48,278 | 4,476 | 4,001 | 11,351 | 3,772 | 11,797 | 12,881 | 2,696 | 2,747 | 7,437 |
| 1972 | 73,675 | 60,341 | 23,668 | 628 | 3,889 | 19,151 | 50,007 | 4,541 | 4,113 | 11,836 | 3,908 | 12,276 | 13,334 | 2,684 | 2,859 | 7,790 |
| 1973 | 76,790 | 63,058 | 24,893 | 642 | 4,097 | 20,154 | 51,897 | 4,656 | 4,277 | 12,329 | 4,046 | 12,857 | 13,732 | 2,663 | 2,923 | 8,146 |
| 1974 | 78,265 | 64,095 | 24,794 | 697 | 4,020 | 20,077 | 53,471 | 4,725 | 4,433 | 12,554 | 4,148 | 13,441 | 14,170 | 2,724 | 3,039 | 8,407 |
| 1975 | 76,945 | 62,259 | 22,600 | 752 | 3,525 | 18,323 | 54,345 | 4,542 | 4,415 | 12,645 | 4,165 | 13,892 | 14,686 | 2,748 | 3,179 | 8,758 |
| 1976 | 79,382 | 64,511 | 23,352 | 779 | 3,576 | 18,997 | 56,030 | 4,582 | 4,546 | 13,209 | 4,271 | 14,551 | 14,871 | 2,733 | 3,273 | 8,865 |
| 1977 | 82,471 | 67,344 | 24,346 | 813 | 3,851 | 19,682 | 58,125 | 4,713 | 4,708 | 13,808 | 4,467 | 15,303 | 15,127 | 2,727 | 3,377 | 9,023 |
| 1978 | 86,697 | 71,026 | 25,585 | 851 | 4,229 | 20,505 | 61,113 | 4,923 | 4,969 | 14,573 | 4,724 | 16,252 | 15,672 | 2,753 | 3,474 | 9,446 |
| 1979 | 89,823 | 73,876 | 26,461 | 958 | 4,463 | 21,040 | 63,363 | 5,136 | 5,204 | 14,989 | 4,975 | 17,112 | 15,947 | 2,773 | 3,541 | 9,633 |
| 1980 | 90,406 | 74,166 | 25,658 | 1,027 | 4,346 | 20,285 | 64,748 | 5,146 | 5,275 | 15,035 | 5,160 | 17,890 | 16,241 | 2,866 | 3,610 | 9,765 |
| 1981 | 91,156 | 75,126 | 25,497 | 1,139 | 4,188 | 20,170 | 65,659 | 5,165 | 5,358 | 15,189 | 5,298 | 18,619 | 16,031 | 2,772 | 3,640 | 9,619 |
| 1982 | 89,566 | 73,729 | 23,813 | 1,128 | 3,905 | 18,781 | 65,753 | 5,082 | 5,278 | 15,179 | 5,341 | 19,036 | 15,837 | 2,739 | 3,640 | 9,458 |
| 1983 | 90,138 | 74,288 | 23,394 | 957 | 3,940 | 18,497 | 66,744 | 4,958 | 5,259 | 15,545 | 5,467 | 19,665 | 15,851 | 2,752 | 3,660 | 9,439 |

[1] Not available.
[2] Data include Alaska and Hawaii beginning in 1959.

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

## 10. Employment, by State

[Nonagricultural payroll data, in thousands]

| State | November 1983 | October 1984 | November 1984[p] | State | November 1983 | October 1984 | November 1984[p] |
|---|---|---|---|---|---|---|---|
| Alabama | 1,336.6 | 1,354.1 | 1,356.0 | Montana | 273.3 | 276.7 | 275.4 |
| Alaska | 211.7 | 224.1 | 217.6 | Nebraska | 620.5 | 639.9 | 640.3 |
| Arizona | 1,105.0 | 1,172.0 | 1,187.8 | Nevada | 417.9 | 424.3 | 425.5 |
| Arkansas | 762.5 | 789.0 | 782.7 | New Hampshire | 418.5 | 441.2 | 440.8 |
| California | 10,130.9 | 10,490.7 | 10,530.2 | New Jersey | 3,211.1 | 3,309.6 | 3,313.9 |
| Colorado | 1,345.9 | 1,374.5 | 1,385.3 | New Mexico | 484.9 | 504.9 | 504.2 |
| Connecticut | 1,475.8 | 1,505.0 | 1,515.5 | New York | 7,421.1 | 7,552.5 | 7,570.5 |
| Delaware | 272.4 | 277.2 | 278.8 | North Carolina | 2,471.1 | 2,523.4 | 2,526.1 |
| District of Columbia | 596.7 | 599.0 | 602.3 | North Dakota | 254.4 | 256.3 | 254.4 |
| Florida | 4,008.8 | 4,191.4 | 4,238.7 | Ohio | 4,177.5 | 4,242.1 | 4,244.5 |
| Georgia | 2,331.2 | 2,466.5 | 2,481.9 | Oklahoma | 1,173.8 | 1,186.7 | 1,186.8 |
| Hawaii | 404.4 | 400.9 | 407.0 | Oregon | 982.4 | 1,017.8 | 1,008.3 |
| Idaho | 326.5 | 332.9 | 329.9 | Pennsylvania | 4,606.1 | 4,668.1 | 4,670.5 |
| Illinois | 4,545.3 | 4,618.6 | 4,626.0 | Rhode Island | 401.7 | 408.6 | 409.6 |
| Indiana | 2,042.0 | 2,097.7 | 2,095.2 | South Carolina | 1,208.7 | 1,241.9 | 1,240.7 |
| Iowa | 1,043.2 | 1,049.2 | 1,047.3 | South Dakota | 237.0 | 241.5 | 241.6 |
| Kansas | 929.5 | 951.5 | 955.1 | Tennessee | 1,764.3 | 1,826.6 | 1,822.9 |
| Kentucky | 1,177.3 | 1,209.1 | 1,213.4 | Texas | 6,248.5 | 6,398.7 | 6,413.4 |
| Louisiana | 1,580.1 | 1,579.6 | 1,582.1 | Utah | 584.7 | 611.6 | 614.7 |
| Maine | 425.6 | 441.1 | 437.0 | Vermont | 207.8 | 214.7 | 212.2 |
| Maryland | 1,730.5 | 1,762.7 | 1,774.5 | Virginia | 2,242.0 | 2,319.7 | 2,324.9 |
| Massachusetts | 2,728.6 | 2,763.9 | 2,778.1 | Washington | 1,604.3 | 1,672.2 | 1,665.8 |
| Michigan | 3,263.0 | 3,354.9 | 3,347.0 | West Virginia | 592.3 | 590.9 | 593.9 |
| Minnesota | 1,760.3 | 1,878.6 | 1,876.2 | Wisconsin | 1,895.0 | 1,954.9 | 1,954.3 |
| Mississippi | 803.3 | 816.3 | 816.0 | Wyoming | 203.0 | 205.9 | 202.4 |
| Missouri | 1,944.3 | 1,980.0 | 1,977.5 | | | | |
| | | | | Virgin Islands | 35.7 | 33.6 | 34.1 |

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## 11. Employment, by industry, seasonally adjusted

[Nonagricultural payroll data, in thousands]

| Industry division and group | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1982 | 1983 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov.p | Dec.p |
| **TOTAL** | 89,566 | 90,138 | 92,026 | 92,391 | 92,846 | 93,058 | 93,449 | 93,768 | 94,135 | 94,350 | 94,523 | 94,807 | 95,154 | 95,489 | 95,798 |
| **PRIVATE SECTOR** | 73,729 | 74,288 | 76,157 | 76,533 | 76,971 | 77,185 | 77,546 | 77,864 | 78,241 | 78,422 | 78,566 | 78,698 | 79,054 | 79,368 | 79,674 |
| **GOODS-PRODUCING** | 23,813 | 23,394 | 24,198 | 24,383 | 24,577 | 24,595 | 24,760 | 24,851 | 24,974 | 25,059 | 25,098 | 25,010 | 25,080 | 25,113 | 25,248 |
| **Mining** | 1,128 | 957 | 969 | 975 | 978 | 978 | 984 | 995 | 1,002 | 1,007 | 1,017 | 1,020 | 1,012 | 1,009 | 1,005 |
| Oil and gas extraction | 708 | 600 | 607 | 608 | 607 | 607 | 612 | 619 | 623 | 629 | 636 | 642 | 643 | 648 | 645 |
| **Construction** | 3,905 | 3,940 | 4,086 | 4,154 | 4,226 | 4,151 | 4,246 | 4,286 | 4,343 | 4,356 | 4,356 | 4,374 | 4,382 | 4,393 | 4,447 |
| General building contractors | 991 | 1,015 | 1,077 | 1,100 | 1,111 | 1,099 | 1,110 | 1,126 | 1,135 | 1,133 | 1,132 | 1,140 | 1,140 | 1,144 | 1,160 |
| **Manufacturing** | 18,781 | 18,497 | 19,143 | 19,254 | 19,373 | 19,466 | 19,530 | 19,570 | 19,629 | 19,696 | 19,725 | 19,616 | 19,686 | 19,711 | 19,796 |
| Production workers | 12,742 | 12,581 | 13,145 | 13,234 | 13,326 | 13,388 | 13,443 | 13,465 | 13,492 | 13,541 | 13,558 | 13,448 | 13,497 | 13,502 | 13,584 |
| **Durable goods** | 11,039 | 10,774 | 11,266 | 11,343 | 11,440 | 11,513 | 11,551 | 11,598 | 11,652 | 11,702 | 11,758 | 11,696 | 11,752 | 11,772 | 11,828 |
| Production workers | 7,311 | 7,151 | 7,585 | 7,643 | 7,718 | 7,769 | 7,799 | 7,826 | 7,860 | 7,899 | 7,945 | 7,876 | 7,915 | 7,921 | 7,975 |
| Lumber and wood products | 598 | 658 | 698 | 702 | 706 | 712 | 714 | 711 | 712 | 708 | 706 | 703 | 710 | 713 | 717 |
| Furniture and fixtures | 432 | 447 | 470 | 475 | 480 | 483 | 482 | 482 | 485 | 485 | 484 | 481 | 487 | 492 | 493 |
| Stone, clay, and glass products | 577 | 573 | 592 | 595 | 604 | 606 | 604 | 605 | 605 | 606 | 603 | 603 | 606 | 607 | 613 |
| Primary metal industries | 922 | 838 | 877 | 871 | 877 | 877 | 879 | 887 | 884 | 880 | 879 | 865 | 866 | 866 | 861 |
| Blast furnaces and basic steel products | 396 | 343 | 352 | 347 | 348 | 347 | 345 | 347 | 345 | 342 | 334 | 324 | 320 | 320 | 321 |
| Fabricated metal products | 1,427 | 1,374 | 1,431 | 1,440 | 1,447 | 1,456 | 1,459 | 1,469 | 1,479 | 1,490 | 1,491 | 1,485 | 1,495 | 1,497 | 1,505 |
| Machinery, except electrical | 2,244 | 2,038 | 2,122 | 2,137 | 2,151 | 2,166 | 2,189 | 2,203 | 2,226 | 2,242 | 2,252 | 2,243 | 2,255 | 2,250 | 2,252 |
| Electrical and electronic equipment | 2,008 | 2,024 | 2,132 | 2,152 | 2,175 | 2,202 | 2,212 | 2,228 | 2,237 | 2,252 | 2,267 | 2,263 | 2,269 | 2,274 | 2,281 |
| Transportation equipment | 1,735 | 1,756 | 1,855 | 1,876 | 1,898 | 1,905 | 1,905 | 1,906 | 1,917 | 1,926 | 1,961 | 1,939 | 1,945 | 1,954 | 1,983 |
| Motor vehicles and equipment | 699 | 758 | 843 | 858 | 865 | 863 | 857 | 848 | 855 | 858 | 894 | 864 | 865 | 877 | 901 |
| Instruments and related products | 716 | 695 | 707 | 711 | 715 | 718 | 719 | 722 | 723 | 727 | 726 | 726 | 729 | 731 | 733 |
| Miscellaneous manufacturing | 382 | 371 | 382 | 384 | 387 | 388 | 388 | 385 | 384 | 386 | 389 | 388 | 390 | 388 | 390 |
| **Nondurable goods** | 7,741 | 7,724 | 7,877 | 7,911 | 7,933 | 7,953 | 7,979 | 7,972 | 7,977 | 7,994 | 7,967 | 7,920 | 7,934 | 7,939 | 7,968 |
| Production workers | 5,431 | 5,430 | 5,560 | 5,591 | 5,608 | 5,619 | 5,644 | 5,639 | 5,632 | 5,642 | 5,613 | 5,572 | 5,582 | 5,581 | 5,609 |
| Food and kindred products | 1,636 | 1,622 | 1,631 | 1,638 | 1,637 | 1,638 | 1,648 | 1,643 | 1,644 | 1,655 | 1,642 | 1,630 | 1,640 | 1,645 | 1,657 |
| Tobacco manufactures | 69 | 69 | 67 | 66 | 65 | 66 | 67 | 67 | 67 | 66 | 65 | 69 | 69 | 66 | 63 |
| Textile mill products | 749 | 744 | 762 | 758 | 767 | 769 | 766 | 762 | 759 | 755 | 751 | 744 | 735 | 731 | 730 |
| Apparel and other textile products | 1,161 | 1,164 | 1,202 | 1,207 | 1,213 | 1,218 | 1,226 | 1,217 | 1,209 | 1,206 | 1,200 | 1,181 | 1,178 | 1,177 | 1,188 |
| Paper and allied products | 662 | 662 | 675 | 676 | 680 | 680 | 680 | 681 | 685 | 687 | 686 | 680 | 684 | 683 | 686 |
| Printing and publishing | 1,272 | 1,296 | 1,321 | 1,328 | 1,333 | 1,339 | 1,348 | 1,356 | 1,362 | 1,368 | 1,371 | 1,375 | 1,380 | 1,387 | 1,389 |
| Chemicals and allied products | 1,075 | 1,047 | 1,052 | 1,053 | 1,054 | 1,054 | 1,057 | 1,057 | 1,062 | 1,064 | 1,067 | 1,063 | 1,065 | 1,065 | 1,067 |
| Petroleum and coal products | 201 | 195 | 191 | 191 | 190 | 190 | 189 | 188 | 188 | 187 | 187 | 186 | 185 | 185 | 185 |
| Rubber and miscellaneous plastics products | 697 | 718 | 766 | 774 | 784 | 790 | 790 | 795 | 797 | 801 | 800 | 798 | 805 | 809 | 813 |
| Leather and leather products | 219 | 208 | 210 | 210 | 210 | 209 | 208 | 206 | 204 | 205 | 198 | 194 | 193 | 191 | 190 |
| **SERVICE-PRODUCING** | 65,753 | 66,744 | 67,828 | 68,008 | 68,269 | 68,463 | 68,689 | 68,917 | 69,161 | 69,291 | 69,425 | 69,797 | 70,074 | 70,376 | 70,550 |
| **Transportation and public utilities** | 5,082 | 4,958 | 5,055 | 5,095 | 5,105 | 5,112 | 5,129 | 5,144 | 5,163 | 5,175 | 5,202 | 5,213 | 5,225 | 5,224 | 5,238 |
| Transportation | 2,789 | 2,739 | 2,776 | 2,816 | 2,828 | 2,839 | 2,862 | 2,871 | 2,883 | 2,896 | 2,924 | 2,937 | 2,951 | 2,953 | 2,966 |
| Communication and public utilities | 2,293 | 2,219 | 2,279 | 2,279 | 2,276 | 2,273 | 2,267 | 2,273 | 2,280 | 2,279 | 2,278 | 2,276 | 2,274 | 2,271 | 2,272 |
| **Wholesale trade** | 5,278 | 5,259 | 5,371 | 5,406 | 5,438 | 5,457 | 5,473 | 5,492 | 5,502 | 5,528 | 5,544 | 5,588 | 5,612 | 5,623 | 5,653 |
| Durable goods | 11,039 | 10,774 | 11,266 | 11,343 | 11,440 | 11,513 | 11,551 | 11,598 | 11,652 | 11,702 | 11,758 | 11,696 | 11,752 | 11,772 | 11,828 |
| Nondurable goods | 7,741 | 7,724 | 7,877 | 7,911 | 7,933 | 7,953 | 7,979 | 7,972 | 7,977 | 7,994 | 7,967 | 7,920 | 7,934 | 7,939 | 7,968 |
| **Retail trade** | 15,179 | 15,545 | 15,857 | 15,914 | 15,980 | 16,030 | 16,095 | 16,166 | 16,245 | 16,283 | 16,295 | 16,342 | 16,468 | 16,639 | 16,650 |
| General merchandise stores | 2,184 | 2,161 | 2,189 | 2,210 | 2,211 | 2,230 | 2,251 | 2,273 | 2,295 | 2,301 | 2,303 | 2,318 | 2,334 | 2,390 | 2,374 |
| Food stores | 2,478 | 2,560 | 2,600 | 2,618 | 2,626 | 2,626 | 2,635 | 2,630 | 2,641 | 2,648 | 2,640 | 2,648 | 2,677 | 2,697 | 2,705 |
| Automotive dealers and service stations | 1,632 | 1,667 | 1,710 | 1,725 | 1,740 | 1,748 | 1,743 | 1,751 | 1,751 | 1,762 | 1,758 | 1,755 | 1,763 | 1,771 | 1,778 |
| Eating and drinking places | 4,831 | 5,007 | 5,095 | 5,111 | 5,121 | 5,136 | 5,154 | 5,183 | 5,199 | 5,211 | 5,238 | 5,255 | 5,280 | 5,306 | 5,327 |
| **Finance, insurance, and real estate** | 5,341 | 5,467 | 5,546 | 5,573 | 5,593 | 5,613 | 5,640 | 5,662 | 5,676 | 5,676 | 5,679 | 5,684 | 5,705 | 5,728 | 5,748 |
| Finance | 2,646 | 2,740 | 2,789 | 2,797 | 2,812 | 2,831 | 2,851 | 2,863 | 2,854 | 2,854 | 2,850 | 2,856 | 2,865 | 2,876 | 2,890 |
| Insurance | 1,714 | 1,721 | 1,730 | 1,737 | 1,741 | 1,742 | 1,742 | 1,746 | 1,752 | 1,759 | 1,763 | 1,766 | 1,774 | 1,779 | 1,784 |
| Real estate | 981 | 1,005 | 1,027 | 1,039 | 1,040 | 1,041 | 1,047 | 1,053 | 1,066 | 1,063 | 1,066 | 1,062 | 1,066 | 1,073 | 1,074 |
| **Services** | 19,036 | 19,665 | 20,130 | 20,162 | 20,278 | 20,378 | 20,449 | 20,549 | 20,681 | 20,701 | 20,748 | 20,861 | 20,964 | 21,041 | 21,137 |
| Business services | 3,286 | 3,539 | 3,758 | 3,798 | 3,845 | 3,875 | 3,912 | 3,979 | 4,014 | 4,035 | 4,069 | 4,085 | 4,110 | 4,144 | 4,161 |
| Health services | 5,812 | 5,973 | 6,026 | 6,030 | 6,040 | 6,052 | 6,062 | 6,073 | 6,064 | 6,079 | 6,034 | 6,085 | 6,087 | 6,104 | 6,123 |
| **Government** | 15,837 | 15,851 | 15,869 | 15,858 | 15,875 | 15,873 | 15,903 | 15,904 | 15,894 | 15,928 | 15,957 | 16,109 | 16,100 | 16,121 | 16,124 |
| Federal | 2,739 | 2,752 | 2,762 | 2,760 | 2,763 | 2,770 | 2,771 | 2,767 | 2,777 | 2,779 | 2,785 | 2,804 | 2,790 | 2,793 | 2,794 |
| State | 3,640 | 3,660 | 3,668 | 3,670 | 3,682 | 3,686 | 3,693 | 3,699 | 3,699 | 3,697 | 3,714 | 3,725 | 3,719 | 3,728 | 3,738 |
| Local | 9,458 | 9,439 | 9,439 | 9,428 | 9,430 | 9,417 | 9,439 | 9,438 | 9,418 | 9,452 | 9,458 | 9,580 | 9,591 | 9,600 | 9,592 |

p = preliminary.

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



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## 12. Average hours and earnings, by industry 1968–83

[Production or nonsupervisory workers on nonagricultural payrolls]

| Year | 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 |
|---|---|---|---|---|---|---|---|---|---|
| | Private sector | | | Mining | | | Construction | | |
| 1968 | 37.8 | $2.85 | $107.73 | 42.6 | $3.35 | $142.71 | 37.3 | $4.41 | $164.49 |
| 1969 | 37.7 | 3.04 | 114.61 | 43.0 | 3.60 | 154.80 | 37.9 | 4.79 | 181.54 |
| 1970 | 37.1 | 3.23 | 119.83 | 42.7 | 3.85 | 164.40 | 37.3 | 5.24 | 195.45 |
| 1971 | 36.9 | 3.45 | 127.31 | 42.4 | 4.06 | 172.14 | 37.2 | 5.69 | 211.67 |
| 1972 | 37.0 | 3.70 | 136.90 | 42.6 | 4.44 | 189.14 | 36.5 | 6.06 | 221.19 |
| 1973 | 36.9 | 3.94 | 145.39 | 42.4 | 4.75 | 201.40 | 36.8 | 6.41 | 235.89 |
| 1974 | 36.5 | 4.24 | 154.76 | 41.9 | 5.23 | 219.14 | 36.6 | 6.81 | 249.25 |
| 1975 | 36.1 | 4.53 | 163.53 | 41.9 | 5.95 | 249.31 | 36.4 | 7.31 | 266.08 |
| 1976 | 36.1 | 4.86 | 175.45 | 42.4 | 6.46 | 273.90 | 36.8 | 7.71 | 283.73 |
| 1977 | 36.0 | 5.25 | 189.00 | 43.4 | 6.94 | 301.20 | 36.5 | 8.10 | 295.65 |
| 1978 | 35.8 | 5.69 | 203.70 | 43.4 | 7.67 | 332.88 | 36.8 | 8.66 | 318.69 |
| 1979 | 35.7 | 6.16 | 219.91 | 43.0 | 8.49 | 365.07 | 37.0 | 9.27 | 342.99 |
| 1980 | 35.3 | 6.66 | 235.10 | 43.3 | 9.17 | 397.06 | 37.0 | 9.94 | 367.78 |
| 1981 | 35.2 | 7.25 | 255.20 | 43.7 | 10.04 | 438.75 | 36.9 | 10.82 | 399.26 |
| 1982 | 34.8 | 7.68 | 267.26 | 42.7 | 10.77 | 459.88 | 36.7 | 11.63 | 426.82 |
| 1983 | 35.0 | 8.02 | 280.70 | 42.5 | 11.27 | 478.98 | 37.2 | 11.92 | 443.42 |
| | Manufacturing | | | Transportation and public utilities | | | Wholesale trade | | |
| 1968 | 40.7 | $3.01 | $122.51 | 40.6 | $3.42 | $138.85 | 40.1 | $3.05 | $122.31 |
| 1969 | 40.6 | 3.19 | 129.51 | 40.7 | 3.63 | 147.74 | 40.2 | 3.23 | 129.85 |
| 1970 | 39.8 | 3.35 | 133.33 | 40.5 | 3.85 | 155.93 | 39.9 | 3.44 | 137.26 |
| 1971 | 39.9 | 3.57 | 142.44 | 40.1 | 4.21 | 168.82 | 39.5 | 3.65 | 129.85 |
| 1972 | 40.5 | 3.82 | 154.71 | 40.4 | 4.65 | 187.86 | 39.4 | 3.85 | 144.18 |
| 1973 | 40.7 | 4.09 | 166.46 | 40.5 | 5.02 | 203.31 | 39.3 | 4.08 | 151.69 |
| 1974 | 40.0 | 4.42 | 176.80 | 40.2 | 5.41 | 217.48 | 38.8 | 4.39 | 160.34 |
| 1975 | 39.5 | 4.83 | 190.79 | 39.7 | 5.88 | 233.44 | 38.7 | 4.73 | 183.05 |
| 1976 | 40.1 | 5.22 | 209.32 | 39.8 | 6.45 | 256.71 | 38.7 | 5.03 | 194.66 |
| 1977 | 40.3 | 5.68 | 228.90 | 39.9 | 6.99 | 278.90 | 38.8 | 5.39 | 209.13 |
| 1978 | 40.4 | 6.17 | 249.27 | 40.0 | 7.57 | 302.80 | 38.8 | 5.88 | 228.14 |
| 1979 | 40.2 | 6.70 | 269.34 | 39.9 | 8.16 | 325.58 | 38.8 | 6.39 | 247.93 |
| 1980 | 39.7 | 7.27 | 288.62 | 39.6 | 8.87 | 351.25 | 38.5 | 6.96 | 267.96 |
| 1981 | 39.8 | 7.99 | 318.00 | 39.4 | 9.70 | 382.18 | 38.5 | 7.56 | 291.06 |
| 1982 | 38.9 | 8.49 | 330.26 | 39.0 | 10.32 | 402.48 | 38.3 | 8.09 | 309.85 |
| 1983 | 40.1 | 8.83 | 354.08 | 39.0 | 10.80 | 421.20 | 38.5 | 8.54 | 328.79 |
| | Retail trade | | | Finance, insurance, and real estate | | | Services | | |
| 1968 | 34.7 | $2.16 | $74.95 | 37.0 | $2.75 | $101.75 | 34.7 | $2.42 | $83.97 |
| 1969 | 34.2 | 2.30 | 78.66 | 37.1 | 2.93 | 108.70 | 34.7 | 2.61 | 90.57 |
| 1970 | 33.8 | 2.44 | 82.47 | 36.7 | 3.07 | 112.67 | 34.4 | 2.81 | 96.66 |
| 1971 | 33.7 | 2.60 | 87.62 | 36.6 | 3.22 | 117.85 | 33.9 | 3.04 | 103.06 |
| 1972 | 33.4 | 2.75 | 91.85 | 36.6 | 3.36 | 122.98 | 33.9 | 3.27 | 110.85 |
| 1973 | 33.1 | 2.91 | 96.32 | 36.6 | 3.53 | 129.20 | 33.8 | 3.47 | 117.29 |
| 1974 | 32.7 | 3.14 | 102.68 | 36.5 | 3.77 | 137.61 | 33.6 | 3.75 | 126.00 |
| 1975 | 32.4 | 3.36 | 108.86 | 36.5 | 4.06 | 148.19 | 33.5 | 4.02 | 134.67 |
| 1976 | 32.1 | 3.57 | 114.60 | 36.4 | 4.27 | 155.43 | 33.3 | 4.31 | 143.52 |
| 1977 | 31.6 | 3.85 | 121.66 | 36.4 | 4.54 | 165.26 | 33.0 | 4.65 | 153.45 |
| 1978 | 31.0 | 4.20 | 130.20 | 36.4 | 4.89 | 178.00 | 32.8 | 4.99 | 163.67 |
| 1979 | 30.6 | 4.53 | 138.62 | 36.2 | 5.27 | 190.77 | 32.7 | 5.36 | 175.27 |
| 1980 | 30.2 | 4.88 | 147.38 | 36.2 | 5.79 | 209.60 | 32.6 | 5.85 | 190.71 |
| 1981 | 30.1 | 5.25 | 158.03 | 36.3 | 6.31 | 229.05 | 32.6 | 6.41 | 208.97 |
| 1982 | 29.9 | 5.48 | 163.85 | 36.2 | 6.78 | 245.44 | 32.6 | 6.92 | 225.59 |
| 1983 | 29.8 | 5.74 | 171.05 | 36.2 | 7.29 | 263.90 | 32.7 | 7.30 | 238.71 |

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



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## 13. Average weekly hours, by industry, seasonally adjusted

[Production or nonsupervisory workers on private nonagricultural payrolls]

| Industry | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1982 | 1983 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov.p | Dec.p |
| **PRIVATE SECTOR** | 34.8 | 35.0 | 35.2 | 35.4 | 35.3 | 35.3 | 35.4 | 35.3 | 35.3 | 35.2 | 35.2 | 35.4 | 35.1 | 35.2 | 35.3 |
| **MANUFACTURING** | 38.9 | 40.1 | 40.6 | 40.9 | 40.9 | 40.7 | 41.1 | 40.6 | 40.6 | 40.5 | 40.5 | 40.6 | 40.4 | 40.5 | 40.7 |
| Overtime hours | 2.3 | 3.0 | 3.4 | 3.5 | 3.5 | 3.5 | 3.7 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.3 | 3.4 | 3.4 |
| **Durable goods** | 39.3 | 40.7 | 41.3 | 41.6 | 41.7 | 41.4 | 41.8 | 41.3 | 41.2 | 41.2 | 41.2 | 41.5 | 41.3 | 41.2 | 41.5 |
| Overtime hours | 2.2 | 3.0 | 3.5 | 3.7 | 3.8 | 3.7 | 4.0 | 3.5 | 3.5 | 3.5 | 3.4 | 3.5 | 3.5 | 3.6 | 3.6 |
| Lumber and wood products | 38.0 | 40.1 | 40.0 | 40.6 | 40.4 | 40.1 | 40.4 | 39.6 | 39.4 | 39.3 | 39.4 | 40.2 | 39.7 | 39.6 | 40.4 |
| Furniture and fixtures | 37.2 | 39.4 | 40.1 | 40.0 | 39.9 | 39.6 | 39.7 | 39.7 | 39.1 | 39.8 | 39.1 | 39.9 | 39.6 | 39.8 | 39.6 |
| Stone, clay, and glass products | 40.1 | 41.5 | 41.9 | 42.1 | 42.5 | 41.9 | 42.3 | 42.1 | 41.8 | 41.9 | 41.7 | 42.0 | 41.8 | 41.8 | 41.7 |
| Primary metal industries | 38.6 | 40.5 | 41.8 | 41.9 | 42.0 | 41.8 | 42.2 | 42.1 | 41.7 | 41.5 | 41.0 | 41.3 | 41.3 | 41.6 | 41.7 |
| Blast furnaces and basic steel products | 37.9 | 39.5 | 41.2 | 41.0 | 41.3 | 41.2 | 41.0 | 41.6 | 41.1 | 39.9 | 39.6 | 40.0 | 40.1 | 41.1 | 40.8 |
| Fabricated metal products | 39.2 | 40.6 | 41.4 | 41.6 | 41.8 | 41.3 | 41.8 | 41.4 | 41.3 | 41.3 | 41.1 | 41.5 | 40.3 | 41.1 | 41.7 |
| Machinery, except electrical | 39.7 | 40.5 | 41.5 | 41.8 | 41.9 | 41.9 | 42.3 | 41.9 | 42.0 | 41.8 | 42.0 | 42.0 | 41.9 | 41.7 | 41.8 |
| Electrical and electronic equipment | 39.3 | 40.5 | 41.0 | 41.2 | 41.2 | 41.0 | 41.3 | 41.0 | 40.8 | 40.8 | 40.9 | 41.2 | 40.9 | 41.0 | 41.0 |
| Transportation equipment | 40.5 | 42.1 | 42.4 | 43.2 | 43.1 | 42.9 | 43.5 | 42.4 | 42.3 | 42.2 | 42.4 | 42.8 | 42.4 | 42.4 | 42.8 |
| Motor vehicles and equipment | 40.5 | 43.3 | 43.9 | 44.8 | 44.3 | 44.4 | 44.8 | 42.9 | 43.1 | 42.4 | 43.3 | 43.9 | 43.3 | 43.3 | 44.1 |
| Instruments and related products | 39.8 | 40.4 | 40.8 | 41.3 | 41.2 | 41.1 | 41.4 | 40.7 | 41.3 | 41.3 | 41.1 | 41.5 | 41.2 | 41.4 | 42.2 |
| **Nondurable goods** | 38.4 | 39.4 | 39.7 | 39.9 | 39.9 | 39.8 | 40.2 | 39.6 | 39.6 | 39.4 | 39.5 | 39.4 | 39.3 | 39.5 | 39.6 |
| Overtime hours | 2.5 | 3.0 | 3.2 | 3.3 | 3.3 | 3.3 | 3.4 | 3.1 | 3.2 | 3.1 | 3.1 | 3.0 | 2.9 | 3.2 | 3.1 |
| Food and kindred products | 39.4 | 39.5 | 39.5 | 39.7 | 39.7 | 39.8 | 40.1 | 39.7 | 39.8 | 39.5 | 39.7 | 39.6 | 39.6 | 39.6 | 39.9 |
| Textile mill products | 37.5 | 40.5 | 40.7 | 40.6 | 40.8 | 40.6 | 41.2 | 40.0 | 40.0 | 39.8 | 39.4 | 39.2 | 38.7 | 39.1 | 39.4 |
| Apparel and other textile products | 34.7 | 36.2 | 36.6 | 36.6 | 36.9 | 36.7 | 37.4 | 36.5 | 36.4 | 35.8 | 36.0 | 35.9 | 35.9 | 36.1 | 36.3 |
| Paper and allied products | 41.8 | 42.6 | 43.1 | 43.2 | 43.2 | 43.0 | 43.2 | 43.1 | 42.9 | 43.3 | 43.1 | 43.1 | 43.0 | 43.2 | 43.2 |
| Printing and publishing | 37.1 | 37.6 | 37.7 | 37.9 | 37.9 | 37.9 | 38.2 | 38.0 | 37.7 | 37.7 | 37.8 | 37.9 | 37.8 | 38.0 | 37.6 |
| Chemicals and allied products | 40.9 | 41.6 | 41.9 | 42.1 | 42.1 | 42.0 | 42.0 | 41.8 | 41.9 | 41.9 | 42.0 | 41.8 | 41.6 | 41.6 | 42.1 |
| Petroleum and coal products | 43.9 | 43.9 | 44.6 | 44.8 | 44.5 | 44.7 | 43.7 | 43.5 | 43.1 | 43.2 | 43.9 | 43.1 | 43.5 | 43.4 | 42.6 |
| Leather and leather products | 35.6 | 36.8 | 37.1 | 37.3 | 37.2 | 36.7 | 37.5 | 36.5 | 36.7 | 37.0 | 36.0 | 36.5 | 36.4 | 36.5 | 37.2 |
| **TRANSPORTATION AND PUBLIC UTILITIES** | 39.0 | 39.0 | 39.4 | 39.5 | 39.3 | 39.2 | 39.5 | 39.4 | 39.6 | 39.8 | 39.4 | 39.8 | 39.1 | 39.4 | 39.6 |
| **WHOLESALE TRADE** | 38.3 | 38.5 | 38.6 | 38.6 | 38.5 | 38.5 | 38.7 | 38.6 | 38.6 | 38.6 | 38.7 | 38.8 | 38.6 | 38.6 | 38.7 |
| **RETAIL TRADE** | 29.9 | 29.8 | 30.3 | 30.1 | 30.0 | 30.1 | 30.0 | 30.1 | 30.2 | 29.9 | 29.9 | 30.0 | 29.8 | 29.9 | 29.8 |
| **SERVICES** | 32.6 | 32.7 | 32.6 | 32.8 | 32.7 | 32.8 | 32.8 | 32.7 | 32.7 | 32.7 | 32.6 | 32.8 | 32.7 | 32.7 | 32.7 |

p = preliminary.

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



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## 14. Average hourly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

| Industry | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1982 | 1983 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov.p | Dec.p |
| **PRIVATE SECTOR** | $7.68 | $8.02 | $8.16 | $8.26 | $8.24 | $8.24 | $8.29 | $8.28 | $8.29 | $8.32 | $8.30 | $8.43 | $8.40 | $8.43 | $8.47 |
| Seasonally adjusted | (1) | (1) | 8.17 | 8.21 | 8.23 | 8.25 | 8.31 | 8.29 | 8.33 | 8.35 | 8.34 | 8.40 | 8.38 | 8.42 | 8.48 |
| **MINING** | 10.77 | 11.27 | 11.41 | 11.54 | 11.49 | 11.60 | 11.62 | 11.56 | 11.57 | 11.57 | 11.57 | 11.66 | 11.52 | 11.57 | 11.68 |
| **CONSTRUCTION** | 11.63 | 11.92 | 12.02 | 12.08 | 11.99 | 11.97 | 11.95 | 11.99 | 11.94 | 11.97 | 12.01 | 12.15 | 12.14 | 12.00 | 12.16 |
| **MANUFACTURING** | 8.49 | 8.83 | 9.04 | 9.08 | 9.06 | 9.09 | 9.11 | 9.11 | 9.14 | 9.18 | 9.14 | 9.23 | 9.22 | 9.30 | 9.39 |
| **Durable goods** | 9.04 | 9.38 | 9.60 | 9.64 | 9.63 | 9.66 | 9.67 | 9.66 | 9.69 | 9.70 | 9.68 | 9.77 | 9.76 | 9.83 | 9.94 |
| Lumber and wood products | 7.43 | 7.79 | 7.80 | 7.88 | 7.88 | 7.87 | 7.89 | 7.92 | 8.04 | 8.01 | 8.05 | 8.15 | 8.06 | 8.01 | 8.04 |
| Furniture and fixtures | 6.31 | 6.62 | 6.78 | 6.76 | 6.75 | 6.76 | 6.76 | 6.80 | 6.84 | 6.88 | 6.90 | 6.95 | 6.95 | 6.96 | 7.00 |
| Stone, clay, and glass products | 8.87 | 9.27 | 9.41 | 9.42 | 9.38 | 9.40 | 9.51 | 9.54 | 9.58 | 9.64 | 9.62 | 9.64 | 9.63 | 9.66 | 9.68 |
| Primary metal industries | 11.33 | 11.34 | 11.35 | 11.38 | 11.49 | 11.44 | 11.51 | 11.49 | 11.46 | 11.45 | 11.34 | 11.39 | 11.31 | 11.46 | 11.54 |
| Blast furnaces and basic steel products | 13.35 | 12.89 | 12.71 | 12.76 | 13.10 | 12.97 | 13.12 | 13.09 | 13.02 | 13.02 | 12.90 | 13.01 | 12.86 | 13.02 | 13.12 |
| Fabricated metal products | 8.77 | 9.11 | 9.35 | 9.31 | 9.31 | 9.31 | 9.34 | 9.33 | 9.33 | 9.33 | 9.30 | 9.41 | 9.38 | 9.42 | 9.54 |
| Machinery, except electrical | 9.26 | 9.55 | 9.85 | 9.85 | 9.87 | 9.90 | 9.91 | 9.90 | 9.93 | 9.96 | 9.92 | 10.01 | 10.01 | 10.06 | 10.18 |
| Electrical and electronic equipment | 8.21 | 8.65 | 8.84 | 8.88 | 8.86 | 8.88 | 8.89 | 8.89 | 8.91 | 8.95 | 9.00 | 9.08 | 9.09 | 9.16 | 9.25 |
| Transportation equipment | 11.11 | 11.66 | 12.04 | 12.06 | 12.00 | 12.12 | 12.06 | 12.04 | 12.14 | 12.13 | 12.13 | 12.23 | 12.29 | 12.42 | 12.58 |
| Motor vehicles and equipment | 11.62 | 12.12 | 12.47 | 12.53 | 12.41 | 12.62 | 12.56 | 12.51 | 12.67 | 12.61 | 12.59 | 12.69 | 12.81 | 12.97 | 13.22 |
| Instruments and related products | 8.06 | 8.46 | 8.65 | 8.68 | 8.66 | 8.71 | 8.73 | 8.71 | 8.78 | 8.83 | 8.85 | 8.92 | 8.89 | 8.92 | 9.00 |
| Miscellaneous manufacturing | 6.42 | 6.80 | 6.95 | 7.00 | 6.97 | 6.97 | 6.97 | 6.99 | 6.98 | 7.02 | 6.97 | 7.01 | 7.02 | 7.05 | 7.13 |
| **Nondurable goods** | 7.74 | 8.08 | 8.24 | 8.27 | 8.24 | 8.27 | 8.29 | 8.30 | 8.33 | 8.41 | 8.37 | 8.44 | 8.44 | 8.53 | 8.58 |
| Food and kindred products | 7.92 | 8.20 | 8.36 | 8.41 | 8.37 | 8.39 | 8.43 | 8.43 | 8.44 | 8.41 | 8.36 | 8.37 | 8.33 | 8.46 | 8.52 |
| Tobacco manufactures | 9.79 | 10.35 | 10.19 | 10.77 | 11.13 | 11.29 | 11.43 | 11.55 | 11.92 | 11.67 | 10.75 | 10.31 | 10.35 | 12.17 | 11.89 |
| Textile mill products | 5.83 | 6.18 | 6.31 | 6.39 | 6.40 | 6.41 | 6.43 | 6.42 | 6.43 | 6.43 | 6.46 | 6.49 | 6.49 | 6.54 | 6.58 |
| Apparel and other textile products | 5.20 | 5.37 | 5.44 | 5.50 | 5.46 | 5.48 | 5.49 | 5.48 | 5.50 | 5.51 | 5.53 | 5.61 | 5.59 | 5.58 | 5.63 |
| Paper and allied products | 9.32 | 9.94 | 10.24 | 10.23 | 10.22 | 10.25 | 10.29 | 10.34 | 10.42 | 10.56 | 10.50 | 10.55 | 10.56 | 10.67 | 10.68 |
| Printing and publishing | 8.74 | 9.11 | 9.29 | 9.26 | 9.30 | 9.29 | 9.29 | 9.31 | 9.30 | 9.36 | 9.42 | 9.51 | 9.48 | 9.54 | 9.61 |
| Chemicals and allied products | 9.96 | 10.59 | 10.90 | 10.91 | 10.90 | 10.95 | 10.97 | 11.02 | 11.03 | 11.12 | 11.13 | 11.23 | 11.32 | 11.37 | 11.38 |
| Petroleum and coal products | 12.46 | 13.29 | 13.54 | 13.47 | 13.43 | 13.44 | 13.44 | 13.32 | 13.33 | 13.27 | 13.32 | 13.54 | 13.52 | 13.70 | 13.64 |
| Rubber and miscellaneous plastics products | 7.64 | 7.99 | 8.16 | 8.17 | 8.16 | 8.20 | 8.25 | 8.20 | 8.23 | 8.30 | 8.28 | 8.31 | 8.31 | 8.38 | 8.46 |
| Leather and leather products | 5.33 | 5.54 | 5.61 | 5.68 | 5.67 | 5.68 | 5.68 | 5.68 | 5.67 | 5.70 | 5.67 | 5.72 | 5.71 | 5.75 | 5.76 |
| **TRANSPORTATION AND PUBLIC UTILITIES** | 10.32 | 10.80 | 11.00 | 11.08 | 11.01 | 11.02 | 11.07 | 11.03 | 11.07 | 11.18 | 11.17 | 11.27 | 11.22 | 11.30 | 11.32 |
| **WHOLESALE TRADE** | 8.09 | 8.54 | 8.74 | 8.82 | 8.79 | 8.79 | 8.89 | 8.86 | 8.90 | 8.97 | 8.95 | 9.05 | 8.99 | 9.06 | 9.16 |
| **RETAIL TRADE** | 5.48 | 5.74 | 5.78 | 5.89 | 5.89 | 5.89 | 5.90 | 5.88 | 5.88 | 5.87 | 5.84 | 5.89 | 5.88 | 5.93 | 5.89 |
| **FINANCE, INSURANCE, AND REAL ESTATE** | 6.78 | 7.29 | 7.43 | 7.55 | 7.54 | 7.54 | 7.62 | 7.55 | 7.58 | 7.60 | 7.57 | 7.76 | 7.67 | 7.73 | 7.82 |
| **SERVICES** | 6.92 | 7.30 | 7.47 | 7.57 | 7.55 | 7.54 | 7.60 | 7.55 | 7.53 | 7.56 | 7.53 | 7.69 | 7.69 | 7.74 | 7.81 |

[1] Not available.

p = preliminary.

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

## 15. The Hourly Earnings Index, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls; 1977 = 100]

| Industry | Not seasonally adjusted | | | | | Seasonally adjusted | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Dec. 1983 | Oct. 1984 | Nov. 1984p | Dec. 1984p | Percent change from: Dec. 1983 to Dec. 1984 | Dec. 1983 | Aug. 1984 | Sept. 1984 | Oct. 1984 | Nov. 1984p | Dec. 1984p | Percent change from: Nov. 1984 to Dec. 1984 |
| **PRIVATE SECTOR (in current dollars)** | 157.9 | 161.5 | 162.2 | 163.2 | 3.4 | 157.8 | 160.6 | 161.6 | 161.3 | 162.0 | 163.0 | 0.6 |
| Mining | 169.7 | 174.6 | 176.0 | 177.3 | 4.5 | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Construction | 146.1 | 148.2 | 146.5 | 147.7 | 1.1 | 145.6 | 146.6 | 146.8 | 146.3 | 146.5 | 147.2 | .5 |
| Manufacturing | 160.2 | 163.7 | 164.6 | 165.8 | 3.5 | 159.7 | 163.3 | 163.4 | 163.8 | 164.5 | 165.3 | .5 |
| Transportation and public utilities | 159.7 | 163.5 | 164.3 | 164.8 | 3.2 | 159.1 | 161.9 | 163.0 | 163.0 | 163.2 | 164.1 | .6 |
| Wholesale trade | 161.8 | 166.5 | 167.6 | 169.3 | 4.7 | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Retail trade | 151.4 | 153.6 | 154.4 | 154.0 | 1.7 | 152.7 | 153.6 | 154.0 | 153.9 | 154.9 | 155.1 | .2 |
| Finance, insurance, and real estate | 161.7 | 166.4 | 167.5 | 169.5 | 4.8 | (1) | (1) | (1) | (1) | (1) | (1) | (1) |
| Services | 159.5 | 164.0 | 165.0 | 166.3 | 4.3 | 159.4 | 162.8 | 164.7 | 164.0 | 164.7 | 166.2 | .9 |
| **PRIVATE SECTOR (in constant dollars)** | 95.0 | 93.9 | 94.4 | (2) | (2) | 94.9 | 94.1 | 94.2 | 93.9 | 94.2 | (2) | (2) |

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

[2] Not available.

p = preliminary.

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



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## 16. Average weekly earnings, by industry

[Production or nonsupervisory workers on private nonagricultural payrolls]

| Industry | Annual average | | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1982 | 1983 | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov.p | Dec.p |
| **PRIVATE SECTOR** | | | | | | | | | | | | | | | |
| Current dollars | $267.26 | $280.70 | $289.68 | $289.10 | $288.40 | $288.40 | $292.64 | $291.46 | $294.30 | $296.19 | $294.65 | $299.27 | $295.68 | $295.89 | $300.69 |
| Seasonally adjusted | (1) | (1) | 287.58 | 290.63 | 290.52 | 291.23 | 294.17 | 292.64 | 294.05 | 293.92 | 293.57 | 297.36 | 294.14 | 296.38 | 299.34 |
| Constant (1977) dollars | 168.09 | 171.37 | 174.40 | 173.32 | 172.59 | 172.59 | 174.71 | 173.18 | 174.45 | 174.85 | 172.31 | 173.99 | 171.91 | 172.23 | (1) |
| **MINING** | 459.88 | 478.98 | 495.19 | 499.68 | 492.92 | 496.48 | 499.66 | 499.39 | 505.61 | 497.51 | 503.30 | 513.04 | 497.66 | 502.14 | 509.25 |
| **CONSTRUCTION** | 426.82 | 443.42 | 442.34 | 438.50 | 443.63 | 439.30 | 448.13 | 458.02 | 460.88 | 462.04 | 462.39 | 467.78 | 461.32 | 448.80 | 457.22 |
| **MANUFACTURING** | | | | | | | | | | | | | | | |
| Current dollars | 330.26 | 354.08 | 372.45 | 368.65 | 368.74 | 369.96 | 372.60 | 369.87 | 372.91 | 369.95 | 369.26 | 375.66 | 373.41 | 378.51 | 387.81 |
| Constant (1977) dollars | 207.71 | 216.17 | 224.23 | 221.01 | 220.67 | 221.40 | 222.45 | 219.77 | 221.05 | 218.39 | 215.94 | 218.41 | 217.10 | 220.32 | (1) |
| Durable goods | 355.27 | 381.77 | 403.20 | 398.13 | 398.68 | 399.92 | 402.27 | 399.92 | 402.14 | 396.73 | 396.88 | 405.46 | 403.09 | 406.96 | 419.47 |
| Lumber and wood products | 282.34 | 312.38 | 311.22 | 311.26 | 313.62 | 314.01 | 317.18 | 317.59 | 324.01 | 316.40 | 322.00 | 329.26 | 320.79 | 314.79 | 323.21 |
| Furniture and fixtures | 234.73 | 260.83 | 277.98 | 263.64 | 263.93 | 267.02 | 267.02 | 268.60 | 270.86 | 269.70 | 273.24 | 278.70 | 279.39 | 279.10 | 284.20 |
| Stone, clay, and glass products | 355.69 | 384.71 | 394.28 | 386.22 | 389.27 | 389.16 | 401.32 | 404.50 | 407.15 | 406.81 | 405.96 | 408.74 | 405.42 | 405.72 | 403.66 |
| Primary metal industries | 437.34 | 459.27 | 478.97 | 476.82 | 482.58 | 480.48 | 488.02 | 481.43 | 480.17 | 472.89 | 462.67 | 472.69 | 462.58 | 475.59 | 485.83 |
| Blast furnaces and basic steel products | 505.97 | 509.16 | 526.19 | 521.88 | 539.72 | 534.36 | 549.73 | 540.62 | 536.42 | 524.71 | 506.97 | 524.30 | 506.68 | 528.61 | 537.92 |
| Fabricated metal products | 343.78 | 369.87 | 395.51 | 385.43 | 386.37 | 384.50 | 387.61 | 386.26 | 388.13 | 380.66 | 381.30 | 389.57 | 387.39 | 389.05 | 405.45 |
| Machinery except electrical | 367.62 | 386.78 | 418.63 | 411.73 | 413.55 | 415.80 | 417.21 | 413.82 | 417.06 | 411.35 | 411.68 | 420.42 | 417.42 | 422.52 | 435.70 |
| Electrical and electronic equipment | 322.65 | 350.33 | 369.51 | 364.97 | 364.15 | 364.08 | 364.49 | 363.60 | 365.31 | 361.58 | 366.30 | 374.10 | 371.78 | 377.39 | 386.65 |
| Transportation equipment | 449.96 | 490.89 | 521.33 | 517.37 | 514.80 | 521.16 | 523.40 | 514.11 | 519.59 | 508.25 | 504.61 | 517.33 | 521.10 | 530.33 | 549.75 |
| Motor vehicles and equipment | 470.61 | 524.80 | 556.16 | 555.08 | 544.80 | 560.33 | 563.94 | 546.69 | 557.48 | 537.19 | 532.56 | 548.21 | 554.67 | 561.60 | 589.61 |
| Instruments and related products | 320.79 | 341.78 | 357.25 | 356.75 | 356.79 | 358.85 | 358.80 | 354.50 | 362.61 | 361.15 | 362.85 | 371.07 | 365.38 | 371.07 | 384.30 |
| Miscellaneous manufacturing | 246.53 | 265.88 | 278.00 | 272.30 | 276.01 | 276.01 | 275.32 | 274.71 | 273.62 | 273.08 | 272.53 | 277.60 | 278.69 | 279.89 | 286.63 |
| Nondurable goods | 297.22 | 318.35 | 330.42 | 326.67 | 326.30 | 327.49 | 329.94 | 328.68 | 331.53 | 331.35 | 331.45 | 335.07 | 332.54 | 337.79 | 343.20 |
| Food and kindred products | 312.05 | 323.90 | 333.56 | 331.35 | 327.27 | 329.73 | 332.99 | 333.83 | 337.60 | 333.04 | 335.24 | 336.47 | 331.53 | 337.55 | 343.36 |
| Tobacco manufactures | 370.06 | 387.09 | 385.18 | 410.34 | 405.13 | 416.60 | 451.49 | 457.38 | 482.76 | 437.63 | 421.40 | 408.28 | 412.97 | 492.89 | 480.36 |
| Textile mill products | 218.63 | 250.29 | 258.71 | 257.52 | 259.84 | 258.96 | 260.42 | 257.44 | 259.77 | 252.70 | 256.46 | 255.71 | 253.11 | 257.68 | 260.57 |
| Apparel and other textile products | 180.44 | 194.39 | 199.65 | 198.55 | 200.38 | 201.12 | 202.03 | 200.02 | 202.40 | 198.36 | 200.74 | 201.96 | 201.80 | 202.00 | 204.37 |
| Paper and allied products | 389.58 | 423.44 | 448.51 | 440.91 | 438.44 | 437.68 | 442.47 | 443.59 | 449.10 | 456.19 | 451.50 | 457.87 | 455.14 | 462.01 | 468.85 |
| Printing and publishing | 324.25 | 342.54 | 356.74 | 347.25 | 349.68 | 353.02 | 353.02 | 351.92 | 349.68 | 351.94 | 357.02 | 362.33 | 358.34 | 364.43 | 368.06 |
| Chemicals and allied products | 407.36 | 440.54 | 462.16 | 458.22 | 457.80 | 458.81 | 460.74 | 460.64 | 463.26 | 463.70 | 464.12 | 471.66 | 470.91 | 475.27 | 484.79 |
| Petroleum and coat products | 546.99 | 583.43 | 603.88 | 594.03 | 584.21 | 585.98 | 590.02 | 580.75 | 579.86 | 579.90 | 584.75 | 598.47 | 590.82 | 597.32 | 581.06 |
| Rubber and miscellaneous plastics products | 302.54 | 329.19 | 345.98 | 343.14 | 342.72 | 341.94 | 347.33 | 341.94 | 344.84 | 341.96 | 342.79 | 344.87 | 344.03 | 348.61 | 355.32 |
| Leather and leather products | 189.75 | 203.87 | 209.25 | 208.46 | 208.66 | 205.05 | 210.16 | 209.59 | 213.76 | 212.61 | 206.39 | 208.21 | 207.27 | 211.03 | 215.42 |
| **TRANSPORTATION AND PUBLIC UTILITIES** | 402.48 | 421.20 | 436.70 | 434.34 | 429.39 | 429.78 | 435.05 | 432.38 | 440.59 | 447.20 | 443.45 | 449.67 | 439.82 | 446.35 | 451.67 |
| **WHOLESALE TRADE** | 309.85 | 328.79 | 339.99 | 338.69 | 335.78 | 336.66 | 342.27 | 342.00 | 344.43 | 348.04 | 347.26 | 351.14 | 347.91 | 350.62 | 357.24 |
| **RETAIL TRADE** | 163.85 | 171.05 | 178.02 | 173.17 | 173.17 | 174.34 | 175.82 | 176.40 | 178.75 | 180.21 | 178.70 | 177.29 | 174.64 | 176.12 | 178.47 |
| **FINANCE, INSURANCE, AND REAL ESTATE** | 245.44 | 263.90 | 268.97 | 275.58 | 274.46 | 273.70 | 278.13 | 274.07 | 275.15 | 278.92 | 275.55 | 284.02 | 279.96 | 281.37 | 287.78 |
| **SERVICES** | 225.59 | 238.71 | 243.52 | 246.78 | 246.13 | 245.80 | 248.52 | 246.13 | 247.74 | 250.24 | 248.49 | 252.23 | 250.69 | 252.32 | 255.39 |

[1] Not available.

p = preliminary.

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

## 17. Indexes of diffusion: industries in which employment increased, seasonally adjusted

[In percent]

| Time span | Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Over 1-month span | 1982 | 27.6 | 47.6 | 35.7 | 31.1 | 41.1 | 33.5 | 34.6 | 32.4 | 37.3 | 28.9 | 32.4 | 45.7 |
| | 1983 | 54.3 | 46.5 | 60.8 | 68.9 | 69.5 | 64.6 | 74.3 | 68.6 | 69.5 | 75.4 | 69.7 | 73.8 |
| | 1984 | 71.1 | 73.2 | 67.0 | 63.8 | 64.1 | 63.0 | 62.4 | 57.6 | 40.8 | 65.7 | p51.9 | p66.5 |
| Over 3-month span | 1982 | 25.1 | 27.8 | 27.8 | 27.3 | 27.6 | 28.6 | 23.5 | 24.1 | 26.5 | 25.9 | 27.8 | 41.6 |
| | 1983 | 46.8 | 57.3 | 64.1 | 75.1 | 75.7 | 77.8 | 74.1 | 81.6 | 80.8 | 78.9 | 79.5 | 77.6 |
| | 1984 | 82.2 | 80.5 | 76.5 | 71.1 | 68.4 | 68.9 | 63.5 | 58.1 | 58.6 | p53.8 | p67.0 | — |
| Over 6-month span | 1982 | 19.2 | 22.2 | 21.9 | 24.6 | 20.3 | 21.4 | 21.4 | 18.6 | 23.2 | 27.3 | 29.5 | 35.4 |
| | 1983 | 50.8 | 63.0 | 69.2 | 75.1 | 80.0 | 82.4 | 84.1 | 82.4 | 84.6 | 85.9 | 86.8 | 83.8 |
| | 1984 | 81.9 | 82.7 | 79.7 | 75.4 | 69.2 | 63.2 | 62.4 | p62.4 | p62.4 | — | — | — |
| Over 12-month span | 1982 | 21.6 | 21.4 | 17.6 | 18.1 | 16.2 | 18.1 | 21.1 | 21.1 | 25.1 | 31.6 | 34.1 | 40.3 |
| | 1983 | 49.5 | 54.3 | 61.9 | 71.1 | 77.3 | 79.5 | 83.8 | 88.1 | 86.8 | 87.3 | 85.4 | 87.3 |
| | 1984 | 86.5 | 81.9 | 78.9 | p76.8 | p74.9 | p74.9 | — | — | — | — | — | — |

p = preliminary.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the spans. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.



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# UNEMPLOYMENT INSURANCE DATA

NATIONAL UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from monthly reports of unemployment insurance activity prepared by State agencies. Railroad unemployment insurance data are prepared by the U.S. Railroad Retirement Board.

## Definitions

Data for **all programs** represent an unduplicated count of insured unemployment under State programs, Unemployment Compensation for Ex-Servicemen, and Unemployment Compensation for Federal Employees, and the Railroad Insurance Act.

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about 10 percent 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.

Average weekly seasonally adjusted insured unemployment data are computed by BLS' Weekly Seasonal Adjustment program. This procedure incorporated the X-11 Variant of the Census Method II Seasonal Adjustment program.

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.

### 18. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

| Item | 1983 | | 1984 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Nov. | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sept. | Oct. | Nov.p |
| All programs: | | | | | | | | | | | | | |
| Insured unemployment | 2,620 | 2,915 | 3,374 | 3,174 | 2,958 | 2,613 | 2,290 | 2,166 | 2,327 | 2,184 | 2,083 | 2,146 | |
| State unemployment insurance program:[1] | | | | | | | | | | | | | |
| Initial claims[2] | 1,757 | r2,105 | 2,355 | 1,528 | 1,424 | 1,429 | 1,368 | 1,387 | r1,767 | r1,459 | 1,260 | 1,674 | |
| Insured unemployment (average weekly volume) | 2,508 | 2,805 | 3,249 | 3,056 | 2,843 | 2,515 | 2,215 | 2,111 | 2,270 | r2,129 | 2,023 | 2,069 | |
| Rate of insured unemployment | 2.9 | 3.3 | 3.8 | 3.6 | 3.3 | 2.9 | 2.6 | 2.5 | 2.6 | 2.5 | 2.3 | 2.4 | |
| Weeks of unemployment compensated | 9,301 | 10,168 | 12,232 | 11,622 | 11,339 | 9,695 | 9,304 | 8,053 | r8,380 | r8,716 | 7,226 | 7,862 | |
| Average weekly benefit amount for total unemployment | $122.19 | $122.61 | $123.60 | $124.30 | $124.67 | $125.26 | $123.69 | $121.96 | r$119.83 | r$120.24 | $122.49 | $123.85 | |
| Total benefits paid | $1,099,862 | $1,203,605 | $1,457,983 | $1,400,458 | $1,369,536 | $1,173,601 | $1,109,268 | $948,381 | r$974,135 | r$1,017,804 | $855,460 | $939,653 | |
| State unemployment insurance program:[1] (Seasonally adjusted data) | | | | | | | | | | | | | |
| Initial claims[2] | 1,677 | 1,604 | 1,617 | 1,572 | 1,570 | 1,569 | 1,614 | 1,559 | r1,661 | r1,618 | 1,707 | 1,662 | |
| Insured unemployment (average weekly volume) | 2,711 | 2,687 | 2,510 | 2,428 | 2,470 | 2,507 | 2,300 | 2,356 | 2,457 | r2,355 | 2,567 | 2,457 | |
| Rate of insured unemployment | 3.2 | 3.1 | 2.9 | 2.8 | 2.9 | 2.9 | 2.7 | 2.7 | 2.8 | r2.7 | 3.0 | 2.8 | |
| Unemployment compensation for ex-servicemen:[3] | | | | | | | | | | | | | |
| Initial claims[1] | 15 | 14 | 15 | 13 | 13 | 12 | 12 | 12 | 13 | 14 | 13 | 15 | |
| Insured unemployment (average weekly volume) | 28 | 27 | 27 | 24 | 22 | 20 | 18 | 18 | 18 | 19 | 20 | 21 | |
| Weeks of unemployment compensated | 116 | 113 | 112 | 96 | 89 | 78 | 79 | 71.1 | 71 | r79 | 72 | 86 | |
| Total benefits paid | $15,121 | $14,815 | $14,532 | $12,540 | $11,813 | $10,349 | $10,577 | $9,467 | $9,573 | r$10,715 | $9,853 | $11,712 | |
| Unemployment compensation for Federal civilian employees:[4] | | | | | | | | | | | | | |
| Initial claims | 13 | 13 | 16 | 10 | 9 | 13 | 9 | 11 | 12 | 10 | 9 | 14 | |
| Insured unemployment (average weekly volume) | 27 | 29 | 32 | 31 | 28 | 23 | 20 | 19 | 20 | 19 | 19 | 21 | |
| Weeks of unemployment compensated | 110 | 119 | 133 | 129 | 122 | 98 | 88 | 76 | 80 | 83 | 69 | 82 | |
| Total benefits paid | $12,415 | $13,888 | $15,588 | $15,003 | $14,778 | $11,844 | $10,529 | $8,994 | r$9,489 | r$9,776 | $8,198 | $9,832 | |
| Railroad unemployment insurance: | | | | | | | | | | | | | |
| Applications | 8 | 8 | 10 | 4 | 3 | 2 | 2 | 11 | 25 | 7 | 6 | 9 | 10 |
| Insured unemployment (average weekly volume) | 40 | 43 | 51 | 49 | 41 | 27 | 19 | 16 | 16 | 17 | 18 | 21 | 26 |
| Number of payments | 92 | 95 | 121 | 104 | 99 | 70 | 54 | 38 | 35 | 37 | 34 | 46 | 52 |
| Average amount of benefit payment | $212.36 | $213.71 | $210.73 | $209.56 | $208.96 | $196.32 | $188.45 | $187.37 | $189.06 | $197.85 | $196.15 | $195.20 | $198.85 |
| Total benefits paid | $19,536 | $19,870 | $23,866 | $23,228 | $20,112 | $13,356 | $10,233 | $7,039 | $6,691 | $6,695 | $6,349 | $8,596 | .... |
| Employment service:[5] | | | | | | | | | | | | | |
| New applications and renewals | .... | 4,297 | .... | .... | 8,231 | .... | .... | 9,517 | .... | .... | 4,132 | .... | |
| Nonfarm placements | .... | 782 | .... | .... | 1,469 | .... | .... | 1,810 | .... | .... | 1,000 | .... | |

[1] Initial claims and State insured unemployment include data under the program for Puerto Rican sugarcane workers.

[2] Excludes transition claims under State programs.

[3] Excludes data on claims and payments made jointly with other programs.

[4] Excludes data or claims and payments made jointly with State programs.

[5] Cumulative total for fiscal year (October 1–September 30). Data computed quarterly.

NOTE: Data for Puerto Rico and the Virgin Islands included. Dashes indicate data not available.

p = preliminary.

r = revised.



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# 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. It introduced a CPI for All Urban Consumers, covering 80 percent of the total noninstitutional population, and revised the CPI for Urban Wage Earners and Clerical Workers, covering about half the new index population. The All Urban Consumers index covers 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, doctors' and dentists' 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. Data are collected from more than 24,000 retail establishments and 24,000 tenants 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

Regional CPI's cross classified by population size were introduced in the May 1978 *Review*. These indexes 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 are published bimonthly. (See table 20.)

For details concerning the 1978 revision of the CPI, see *The Consumer Price Index: Concepts and Content Over the Years,* Report 517, revised edition (Bureau of Labor Statistics, May 1978).

As of January 1976, the Producer Price Index incorporated a revised weighting structure reflecting 1972 values of shipments.

Additional data and analyses of price changes are provided in the *CPI Detailed Report* and *Producer Prices and Price Indexes,* both monthly publications of the Bureau.

For a discussion of the general method of computing producer, and industry price indexes, see *BLS Handbook of Methods,* Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 7. For consumer prices, see *BLS Handbook of Methods for Surveys and Studies* (1976), chapter 13. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review,* April 1978. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review,* August 1965.



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## 19. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967–83

[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 | 115.8 | 5.8 |
| 1971 | 121.3 | 4.3 | 118.3 | 3.1 | 123.4 | 4.4 | 119.8 | 3.3 | 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 | 8.0 | 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 |
| 1980 | 247.0 | 13.5 | 248.7 | 8.7 | 263.2 | 15.7 | 177.4 | 6.6 | 250.5 | 17.7 | 287.2 | 11.3 | 203.7 | 8.5 | 213.6 | 8.8 |
| 1981 | 272.3 | 10.2 | 267.8 | 7.7 | 293.2 | 11.4 | 186.6 | 5.2 | 281.3 | 12.3 | 295.1 | 10.4 | 219.0 | 7.5 | 233.3 | 9.2 |
| 1982 | 288.6 | 6.0 | 278.5 | 4.0 | 314.7 | 7.3 | 190.9 | 2.3 | 293.1 | 4.2 | 326.9 | 10.8 | 232.4 | 6.1 | 257.0 | 10.2 |
| 1983 | 297.4 | 3.0 | 284.7 | 2.2 | 322.0 | 2.3 | 195.6 | 2.5 | 300.0 | 2.4 | 355.1 | 8.6 | 242.4 | 4.3 | 286.3 | 11.4 |

## 20. 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 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| **All items** | 303.1 | 310.7 | 311.7 | 313.0 | 314.5 | 315.3 | 315.3 | 301.4 | 306.2 | 307.5 | 310.3 | 312.1 | 312.2 | 311.9 |
| Food and beverages | 285.3 | 294.3 | 295.3 | 296.9 | 296.4 | 296.6 | 296.3 | 285.6 | 294.3 | 295.3 | 296.9 | 296.3 | 296.5 | 296.2 |
| Housing | 327.0 | 336.2 | 338.1 | 339.5 | 341.4 | 341.2 | 340.9 | 324.5 | 326.2 | 328.7 | 334.2 | 336.8 | 335.5 | 334.4 |
| Apparel and upkeep | 200.7 | 197.4 | 196.6 | 200.1 | 204.2 | 205.7 | 205.2 | 199.7 | 196.1 | 195.3 | 199.0 | 203.3 | 204.8 | 204.2 |
| Transportation | 306.3 | 313.1 | 312.9 | 312.9 | 313.7 | 315.5 | 316.1 | 308.2 | 315.5 | 315.2 | 315.2 | 316.0 | 317.8 | 318.3 |
| Medical care | 364.9 | 378.0 | 380.3 | 381.9 | 383.1 | 385.5 | 387.5 | 362.9 | 376.3 | 378.5 | 380.1 | 381.2 | 383.7 | 385.6 |
| Entertainment | 249.5 | 254.5 | 255.3 | 256.4 | 257.3 | 258.3 | 259.0 | 245.7 | 250.7 | 251.4 | 252.5 | 253.4 | 254.2 | 254.8 |
| Other goods and services | 298.1 | 304.4 | 306.5 | 307.2 | 314.6 | 315.8 | 316.5 | 295.5 | 302.1 | 304.5 | 305.3 | 310.9 | 311.9 | 312.6 |
| Commodities | 275.2 | 280.6 | 280.6 | 281.4 | 282.3 | 283.1 | 283.0 | 276.2 | 279.7 | 280.1 | 281.4 | 282.5 | 283.1 | 282.8 |
| Commodities less food and beverages | 266.3 | 269.6 | 269.0 | 269.3 | 271.0 | 272.1 | 272.2 | 267.5 | 268.7 | 268.8 | 270.0 | 271.8 | 272.5 | 272.3 |
| Nondurables less food and beverages | 274.5 | 275.4 | 274.3 | 274.8 | 277.2 | 278.6 | 278.2 | 276.6 | 277.2 | 276.2 | 276.6 | 279.0 | 280.3 | 279.9 |
| Durables | 261.0 | 267.8 | 267.8 | 267.8 | 268.7 | 269.3 | 270.0 | 258.7 | 260.3 | 261.3 | 263.0 | 264.4 | 264.6 | 264.5 |
| Services | 351.0 | 361.9 | 364.5 | 366.5 | 368.9 | 369.7 | 369.9 | 348.2 | 355.2 | 358.2 | 363.9 | 366.8 | 366.3 | 365.9 |
| Rent, residential | 241.3 | 248.4 | 249.7 | 251.1 | 252.4 | 253.8 | 254.8 | 240.7 | 247.7 | 249.0 | 250.3 | 251.7 | 253.1 | 254.0 |
| Household services less rent of shelter (12/82 = 100) | 104.2 | 108.5 | 109.7 | 110.5 | 111.0 | 109.9 | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . |
| Transportation services | 310.1 | 319.6 | 321.4 | 323.8 | 324.6 | 327.5 | 328.9 | 306.0 | 315.7 | 317.4 | 319.6 | 320.7 | 323.7 | 325.1 |
| Medical care services | 395.0 | 408.4 | 410.9 | 412.7 | 413.9 | 416.5 | 418.5 | 392.3 | 406.1 | 408.6 | 410.4 | 411.5 | 414.1 | 416.1 |
| Other services | 286.5 | 293.6 | 294.2 | 295.5 | 302.5 | 304.2 | 305.2 | 283.6 | 290.9 | 291.5 | 292.8 | 299.0 | 300.6 | 301.5 |
| **Special indexes:** | | | | | | | | | | | | | | |
| All items less food | 303.9 | 311.0 | 312.0 | 313.2 | 315.2 | 316.1 | 316.2 | 302.3 | 306.0 | 307.3 | 310.4 | 312.7 | 312.9 | 312.6 |
| All items less homeowners' costs | 103.6 | 106.2 | 106.5 | 106.9 | 107.4 | 107.6 | 107.6 | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . |
| All items less mortgage interest costs | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | 288.3 | 294.0 | 294.9 | 296.4 | 297.9 | 298.4 | 298.2 |
| Commodities less food | 264.1 | 267.4 | 266.8 | 267.1 | 268.8 | 269.8 | 269.9 | 265.3 | 266.6 | 266.7 | 267.8 | 269.6 | 270.3 | 270.1 |
| Nondurables less food | 269.5 | 270.5 | 269.5 | 270.0 | 272.3 | 273.6 | 273.3 | 271.5 | 272.4 | 271.4 | 271.8 | 274.1 | 275.4 | 275.0 |
| Nondurables less food and apparel | 309.3 | 312.9 | 311.9 | 311.0 | 312.3 | 313.5 | 313.4 | 310.9 | 314.3 | 313.3 | 312.2 | 313.5 | 314.8 | 314.5 |
| Nondurables | 281.1 | 286.0 | 286.0 | 287.1 | 288.0 | 288.8 | 288.5 | 282.1 | 286.9 | 286.8 | 287.8 | 288.8 | 289.5 | 289.2 |
| Services less rent of shelter (12/82 = 100) | 104.7 | 108.3 | 109.0 | 109.7 | 110.5 | 110.6 | 110.5 | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . | . . . . |
| Services less medical care | 344.1 | 354.5 | 357.1 | 359.2 | 361.7 | 362.3 | 362.3 | 341.3 | 347.6 | 350.5 | 356.6 | 359.6 | 358.9 | 358.2 |
| Domestically produced farm foods | 267.7 | 278.0 | 279.0 | 281.4 | 280.0 | 279.7 | 278.8 | 266.7 | 276.4 | 277.4 | 279.8 | 278.3 | 278.0 | 277.2 |
| Selected beef cuts | 265.3 | 273.7 | 271.9 | 274.2 | 271.5 | 271.0 | 271.6 | 266.4 | 274.9 | 272.8 | 275.5 | 273.2 | 272.2 | 273.0 |
| Energy | 419.9 | 428.5 | 428.3 | 427.3 | 429.0 | 426.7 | 421.8 | 420.8 | 428.2 | 427.8 | 426.5 | 428.3 | 426.1 | 421.5 |
| Energy commodities | 414.4 | 414.4 | 408.9 | 404.2 | 405.4 | 408.2 | 407.2 | 415.8 | 415.0 | 409.5 | 404.9 | 406.3 | 408.9 | 407.8 |
| All items less energy | 294.4 | 301.9 | 303.1 | 304.6 | 306.1 | 307.1 | 307.7 | 291.8 | 296.3 | 297.8 | 301.0 | 302.7 | 303.1 | 303.2 |
| All items less food and energy | 293.2 | 300.2 | 301.3 | 302.8 | 304.9 | 306.1 | 306.9 | 290.3 | 293.6 | 295.1 | 298.7 | 301.0 | 301.5 | 301.6 |
| Commodities less food and energy | 248.9 | 252.8 | 253.0 | 254.2 | 256.0 | 256.8 | 257.0 | 247.8 | 249.3 | 250.1 | 252.0 | 253.8 | 254.3 | 254.2 |
| Services less energy | 344.9 | 354.7 | 356.8 | 358.6 | 361.0 | 362.7 | 364.0 | 341.6 | 347.2 | 349.7 | 355.5 | 358.4 | 358.9 | 359.4 |
| Purchasing power of the consumer dollar, 1967 = $1 | $0.330 | $0.322 | $0.321 | $0.319 | $0.318 | $0.317 | $0.317 | $0.332 | $0.327 | $0.325 | $0.322 | $0.320 | $0.320 | $0.321 |



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## 20. Continued—Consumer Price Index—U.S. city Average

[1967 = 100 unless otherwise specified]

| General summary | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| **FOOD AND BEVERAGES** | 285.3 | 294.3 | 295.3 | 296.9 | 296.4 | 296.6 | 296.3 | 285.6 | 294.3 | 295.3 | 296.9 | 296.3 | 296.5 | 296.2 |
| ***Food*** | 292.5 | 302.0 | 303.2 | 304.8 | 304.2 | 304.4 | 304.1 | 292.6 | 301.8 | 302.8 | 304.5 | 303.8 | 304.0 | 303.7 |
| Food at home | 281.4 | 291.4 | 292.5 | 294.4 | 293.4 | 293.4 | 292.4 | 280.5 | 290.0 | 291.0 | 292.9 | 291.9 | 291.8 | 290.9 |
| Cereals and bakery products | 295.7 | 304.9 | 306.6 | 307.8 | 307.9 | 308.7 | 309.0 | 294.3 | 303.4 | 304.9 | 306.3 | 306.3 | 307.1 | 307.4 |
| Cereals and cereal products (12/77 = 100) | 157.9 | 164.2 | 164.5 | 165.0 | 164.5 | 163.6 | 163.8 | 158.6 | 164.8 | 165.2 | 165.7 | 165.1 | 164.3 | 164.4 |
| Flour and prepared flour mixes (12/77 = 100) | 140.8 | 146.2 | 147.2 | 148.3 | 146.3 | 145.2 | 143.9 | 141.3 | 146.5 | 147.5 | 148.6 | 146.6 | 145.6 | 144.4 |
| Cereal (12/77 = 100) | 177.3 | 185.7 | 185.7 | 185.9 | 186.1 | 186.2 | 186.7 | 179.4 | 188.0 | 188.0 | 188.2 | 188.3 | 188.4 | 189.0 |
| Rice, pasta, and cornmeal (12/77 = 100) | 146.1 | 150.1 | 150.3 | 150.5 | 150.4 | 148.5 | 149.3 | 147.2 | 151.2 | 151.4 | 151.7 | 151.5 | 149.7 | 150.5 |
| Bakery products (12/77 = 100) | 156.0 | 160.4 | 161.5 | 162.2 | 162.4 | 163.3 | 163.4 | 154.8 | 159.1 | 160.1 | 160.9 | 161.1 | 161.9 | 162.1 |
| White bread | 257.0 | 260.2 | 260.9 | 262.6 | 263.2 | 264.3 | 265.8 | 252.7 | 256.0 | 256.6 | 258.5 | 258.8 | 260.1 | 261.3 |
| Other breads (12/77 = 100) | 151.9 | 154.8 | 155.7 | 154.9 | 155.8 | 155.7 | 155.4 | 154.1 | 157.0 | 157.8 | 157.3 | 158.0 | 158.0 | 157.6 |
| Fresh biscuits, rolls, and muffins (12/77 = 100) | 155.7 | 158.7 | 158.7 | 159.3 | 159.7 | 160.7 | 161.1 | 151.7 | 154.5 | 154.6 | 155.1 | 155.6 | 156.4 | 157.0 |
| Fresh cakes and cupcakes (12/77 = 100) | 157.9 | 161.3 | 163.9 | 164.9 | 165.9 | 167.4 | 166.4 | 156.2 | 159.3 | 161.8 | 162.7 | 163.6 | 165.0 | 164.1 |
| Cookies (12/77 = 100) | 157.0 | 165.8 | 166.1 | 167.9 | 167.3 | 168.3 | 168.5 | 158.4 | 166.7 | 167.1 | 168.9 | 168.3 | 169.5 | 169.6 |
| Crackers, bread, and cracker products (12/77 = 100) | 147.8 | 157.9 | 160.7 | 162.0 | 161.7 | 162.7 | 160.9 | 149.2 | 159.2 | 162.0 | 163.4 | 163.0 | 164.2 | 162.4 |
| Fresh sweetrolls, coffeecake, and donuts 912/77 = 100) | 156.8 | 162.1 | 163.0 | 163.4 | 162.9 | 163.8 | 163.9 | 159.6 | 164.9 | 165.6 | 166.3 | 165.9 | 166.6 | 166.7 |
| Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100) | 160.6 | 166.6 | 169.0 | 168.9 | 169.3 | 170.0 | 171.1 | 154.0 | 159.8 | 162.1 | 161.8 | 162.0 | 162.7 | 163.8 |
| Meats, poultry, fish, and eggs | 256.6 | 263.9 | 264.6 | 265.7 | 264.5 | 263.5 | 262.4 | 256.1 | 263.3 | 263.9 | 265.2 | 264.1 | 262.9 | 261.8 |
| Meats, poultry, and fish | 260.8 | 270.3 | 271.4 | 272.7 | 271.6 | 270.4 | 269.4 | 260.2 | 269.6 | 270.4 | 272.1 | 271.0 | 269.7 | 268.7 |
| Meats | 258.6 | 266.8 | 267.3 | 269.9 | 268.0 | 267.1 | 266.1 | 258.1 | 266.1 | 266.6 | 269.4 | 267.7 | 266.6 | 265.5 |
| Beef and veal 1 | 265.7 | 274.2 | 272.1 | 274.3 | 271.9 | 271.3 | 271.9 | 266.1 | 274.6 | 272.4 | 274.9 | 272.8 | 271.9 | 272.5 |
| Ground beef other than canned | 251.6 | 255.1 | 253.0 | 254.8 | 252.9 | 252.4 | 254.3 | 252.5 | 256.3 | 253.7 | 256.0 | 254.4 | 253.5 | 255.7 |
| Chuck roast | 266.2 | 272.1 | 269.1 | 272.7 | 271.8 | 276.6 | 280.9 | 274.0 | 280.9 | 277.3 | 280.4 | 280.6 | 285.1 | 289.9 |
| Round roast | 235.3 | 238.3 | 231.4 | 235.7 | 234.3 | 236.5 | 234.1 | 238.1 | 242.6 | 235.1 | 239.9 | 237.8 | 240.3 | 237.9 |
| Round steak | 250.0 | 254.2 | 250.6 | 254.7 | 252.4 | 251.3 | 248.4 | 248.6 | 251.3 | 247.7 | 254.4 | 251.4 | 248.3 | 246.4 |
| Sirloin steak | 265.3 | 284.6 | 286.5 | 287.7 | 286.1 | 273.9 | 271.6 | 266.9 | 285.9 | 288.4 | 288.9 | 288.7 | 275.3 | 273.6 |
| Other beef and veal (12/77 = 100) | 163.2 | 170.9 | 170.5 | 171.2 | 169.0 | 168.5 | 168.8 | 161.8 | 169.3 | 169.1 | 169.8 | 167.8 | 167.2 | 167.3 |
| Pork | 241.1 | 250.5 | 255.5 | 259.9 | 257.5 | 255.0 | 251.2 | 240.7 | 249.9 | 254.8 | 259.2 | 257.0 | 254.3 | 250.3 |
| Bacon | 253.7 | 262.8 | 272.4 | 272.3 | 270.3 | 271.1 | 266.5 | 256.8 | 266.7 | 276.3 | 276.3 | 274.2 | 275.0 | 270.4 |
| Chops | 222.3 | 234.4 | 242.4 | 250.7 | 242.3 | 235.9 | 232.7 | 220.3 | 232.4 | 240.1 | 248.3 | 240.6 | 234.0 | 230.4 |
| Ham other than canned (12/77 = 100) | 109.1 | 110.7 | 111.4 | 113.5 | 116.8 | 117.2 | 115.6 | 106.4 | 107.6 | 108.3 | 110.4 | 113.6 | 113.8 | 112.5 |
| Sausage | 305.0 | 319.3 | 322.0 | 322.9 | 321.2 | 319.0 | 315.3 | 305.9 | 319.8 | 322.9 | 323.6 | 322.7 | 319.6 | 315.5 |
| Canned ham | 248.0 | 248.3 | 246.5 | 248.1 | 251.4 | 252.6 | 246.8 | 254.3 | 253.3 | 252.0 | 253.4 | 256.0 | 258.4 | 250.4 |
| Other pork (12/77 = 100) | 131.5 | 139.1 | 142.0 | 146.1 | 142.5 | 139.0 | 137.0 | 131.1 | 138.3 | 141.1 | 145.3 | 141.7 | 138.5 | 136.4 |
| Other meats | 262.6 | 267.5 | 268.0 | 268.4 | 268.7 | 270.0 | 269.4 | 262.4 | 267.1 | 267.5 | 268.0 | 268.2 | 269.5 | 268.6 |
| Frankfurters | 259.7 | 265.8 | 265.3 | 267.8 | 267.6 | 269.6 | 265.0 | 258.8 | 264.4 | 263.8 | 266.3 | 266.1 | 268.0 | 263.3 |
| Bologna, liverwurst, and salami (12/77 = 100) | 152.8 | 155.0 | 154.8 | 154.8 | 155.6 | 156.2 | 155.8 | 152.8 | 154.7 | 154.8 | 154.7 | 155.4 | 156.0 | 155.7 |
| Other lunchmeats (12/77 = 100) | 135.8 | 138.2 | 138.2 | 138.2 | 138.8 | 139.4 | 138.6 | 133.9 | 136.4 | 136.4 | 136.4 | 137.0 | 137.5 | 136.7 |
| Lamb and organ meats (12/77 = 100) | 134.6 | 137.1 | 139.0 | 138.6 | 137.3 | 138.2 | 141.1 | 137.8 | 140.3 | 142.0 | 141.7 | 140.1 | 141.0 | 143.9 |
| Poultry | 201.7 | 219.6 | 221.3 | 216.5 | 217.2 | 214.0 | 213.1 | 199.7 | 217.7 | 218.8 | 214.0 | 214.7 | 211.6 | 210.9 |
| Fresh whole chicken | 207.6 | 223.7 | 228.1 | 218.6 | 220.2 | 213.8 | 215.4 | 205.1 | 221.5 | 225.4 | 216.1 | 217.5 | 211.4 | 213.0 |
| Fresh and frozen chicken parts (12/77 = 100) | 134.1 | 147.6 | 146.6 | 144.1 | 144.7 | 141.4 | 140.4 | 132.1 | 145.7 | 144.4 | 141.8 | 142.4 | 139.2 | 138.4 |
| Other poultry (12/77 = 100) | 120.6 | 131.6 | 132.7 | 133.3 | 132.7 | 135.1 | 132.6 | 120.3 | 131.0 | 131.5 | 132.3 | 131.8 | 134.3 | 131.9 |
| Fish and seafood | 374.9 | 382.3 | 387.0 | 387.0 | 390.6 | 390.6 | 389.2 | 373.4 | 380.9 | 385.5 | 385.7 | 389.1 | 389.1 | 388.2 |
| Canned fish and seafood | 132.6 | 133.0 | 134.4 | 134.4 | 133.7 | 132.9 | 133.0 | 132.1 | 132.5 | 133.9 | 133.9 | 133.2 | 132.5 | 132.5 |
| Fresh and frozen fish and seafood (12/77 = 100) | 148.8 | 153.1 | 155.1 | 155.1 | 157.7 | 158.2 | 157.3 | 148.5 | 152.9 | 154.8 | 155.0 | 157.5 | 157.9 | 157.3 |
| Eggs | 208.2 | 185.8 | 182.7 | 179.3 | 178.6 | 177.8 | 175.6 | 209.3 | 186.7 | 183.7 | 180.4 | 179.7 | 178.7 | 176.4 |
| Dairy products | 250.2 | 251.7 | 252.2 | 252.7 | 254.9 | 256.1 | 257.2 | 249.3 | 250.6 | 251.1 | 251.7 | 253.8 | 255.1 | 256.2 |
| Fresh milk and cream (12/77 = 100) | 135.9 | 136.6 | 136.7 | 136.7 | 137.7 | 138.7 | 139.8 | 135.3 | 135.9 | 136.0 | 136.0 | 136.9 | 137.9 | 139.1 |
| Fresh whole milk | 222.1 | 223.2 | 223.3 | 223.2 | 224.7 | 226.8 | 228.7 | 221.2 | 222.1 | 222.2 | 222.0 | 223.5 | 225.6 | 227.5 |
| Other fresh milk and cream (12/77 = 100) | 136.4 | 137.3 | 137.5 | 137.7 | 138.7 | 139.0 | 140.0 | 135.8 | 136.6 | 136.8 | 137.0 | 138.0 | 138.3 | 139.3 |
| Processed dairy products | 149.3 | 150.2 | 150.8 | 151.5 | 153.1 | 153.3 | 153.3 | 149.5 | 150.5 | 151.0 | 151.8 | 153.4 | 153.7 | 153.6 |
| Butter | 254.8 | 254.1 | 261.2 | 264.4 | 266.0 | 268.8 | 268.7 | 257.4 | 256.7 | 263.8 | 266.7 | 268.6 | 271.4 | 271.5 |
| Cheese (12/77 = 100) | 146.8 | 147.4 | 147.9 | 148.2 | 149.1 | 149.5 | 150.1 | 147.1 | 147.8 | 148.2 | 148.6 | 149.4 | 149.9 | 150.5 |
| Ice cream and related products (12/77 = 100) | 155.3 | 156.6 | 155.8 | 157.4 | 160.9 | 160.0 | 158.1 | 154.2 | 155.5 | 154.8 | 156.5 | 159.9 | 159.0 | 157.1 |
| Other dairy products (12/77 = 100) | 145.7 | 148.5 | 148.3 | 148.1 | 149.9 | 150.0 | 150.9 | 146.1 | 148.8 | 148.6 | 148.6 | 150.4 | 150.4 | 151.3 |
| Fruits and vegetables | 288.9 | 318.1 | 320.0 | 327.7 | 319.7 | 318.4 | 314.8 | 285.1 | 313.1 | 315.1 | 322.4 | 313.6 | 312.3 | 308.9 |
| Fresh fruits and vegetables | 288.7 | 329.7 | 332.4 | 345.7 | 332.5 | 329.3 | 323.4 | 283.4 | 322.5 | 325.2 | 337.6 | 323.0 | 319.9 | 314.6 |
| Fresh fruits | 279.5 | 343.3 | 346.9 | 353.3 | 364.8 | 354.3 | 343.9 | 269.3 | 328.8 | 333.5 | 338.8 | 349.6 | 337.4 | 329.3 |
| Apples | 265.9 | 315.5 | 329.9 | 341.8 | 337.9 | 298.0 | 302.8 | 267.3 | 315.2 | 330.6 | 342.8 | 339.6 | 299.9 | 304.5 |
| Bananas | 233.1 | 277.9 | 271.8 | 257.0 | 249.9 | 242.1 | 234.9 | 230.7 | 275.5 | 269.5 | 254.7 | 248.4 | 240.6 | 232.7 |
| Oranges | 307.8 | 452.5 | 486.5 | 530.8 | 553.6 | 538.4 | 473.6 | 279.3 | 413.0 | 448.5 | 487.7 | 507.1 | 489.1 | 434.1 |
| Other fresh fruits (12/77 = 100) | 148.5 | 169.6 | 163.6 | 160.4 | 170.4 | 172.7 | 175.3 | 142.9 | 162.6 | 157.0 | 153.6 | 163.6 | 165.2 | 168.1 |
| Fresh vegetables | 297.4 | 317.1 | 318.8 | 338.7 | 302.3 | 306.0 | 304.4 | 296.2 | 316.8 | 317.8 | 336.7 | 299.2 | 304.2 | 301.5 |
| Potatoes | 305.0 | 391.4 | 455.6 | 478.1 | 354.1 | 324.3 | 313.1 | 300.1 | 387.6 | 451.1 | 470.0 | 344.5 | 318.4 | 305.1 |
| Lettuce | 329.8 | 262.6 | 246.0 | 316.6 | 337.8 | 363.6 | 350.5 | 330.0 | 264.6 | 246.2 | 319.1 | 338.0 | 365.1 | 349.2 |
| Tomatoes | 243.0 | 262.3 | 237.3 | 310.4 | 252.9 | 255.1 | 245.3 | 246.9 | 267.4 | 242.1 | 314.3 | 256.2 | 259.9 | 249.7 |
| Other fresh vegetables (12/77 = 100) | 163.0 | 174.6 | 167.1 | 157.1 | 152.1 | 158.7 | 164.3 | 162.3 | 174.1 | 166.1 | 155.3 | 150.2 | 157.0 | 162.6 |
| Processed fruits and vegetables | 291.6 | 308.0 | 309.2 | 310.7 | 308.4 | 309.2 | 308.0 | 289.5 | 305.3 | 306.5 | 308.0 | 305.6 | 306.5 | 305.2 |
| Processed fruits (12/77 = 100) | 151.2 | 163.2 | 163.6 | 164.3 | 163.1 | 164.5 | 163.5 | 150.8 | 162.7 | 163.1 | 163.7 | 162.6 | 164.0 | 162.9 |
| Frozen fruit and fruit juices (12/77 = 100) | 143.3 | 164.8 | 163.9 | 166.2 | 165.2 | 166.3 | 165.0 | 142.6 | 164.1 | 163.1 | 165.5 | 164.5 | 165.6 | 164.2 |
| Fruit juices other than frozen (12/77 = 100) | 155.5 | 165.2 | 165.7 | 165.3 | 165.1 | 168.0 | 166.8 | 154.6 | 164.3 | 164.8 | 164.1 | 163.9 | 167.1 | 165.7 |
| Canned and dried fruits (12/77 = 100) | 153.2 | 159.6 | 161.2 | 161.5 | 159.3 | 159.2 | 158.7 | 153.5 | 159.9 | 161.4 | 161.8 | 159.5 | 159.3 | 158.8 |



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## 20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

| General summary | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| Fruits and vegetables—Continued | | | | | | | | | | | | | | |
| Processed vegetables (12/77 = 100) | 141.8 | 146.5 | 147.2 | 148.1 | 146.9 | 146.5 | 146.1 | 140.7 | 145.3 | 146.0 | 146.9 | 145.7 | 145.3 | 145.0 |
| Frozen vegetables (12/77 = 100) | 151.8 | 155.6 | 155.1 | 157.0 | 156.2 | 157.1 | 156.9 | 153.4 | 157.2 | 156.7 | 158.6 | 157.7 | 158.9 | 158.7 |
| Cut corn and canned beans except lima (12/77 = 100) | 143.2 | 150.7 | 152.3 | 153.1 | 150.9 | 149.8 | 149.7 | 140.8 | 148.0 | 149.7 | 150.5 | 148.3 | 147.2 | 147.1 |
| Other canned and dried vegetables (12/77 = 100) | 136.0 | 139.8 | 140.6 | 141.2 | 140.2 | 139.4 | 138.9 | 134.5 | 138.1 | 138.9 | 139.5 | 138.6 | 137.8 | 137.3 |
| Other foods at home | 343.4 | 352.1 | 353.1 | 354.0 | 355.1 | 356.1 | 355.0 | 344.2 | 352.5 | 353.5 | 354.3 | 355.4 | 356.5 | 355.3 |
| Sugar and sweets | 376.0 | 391.2 | 391.8 | 392.6 | 393.7 | 393.3 | 390.9 | 375.7 | 390.5 | 391.1 | 391.9 | 393.1 | 392.8 | 390.5 |
| Candy and chewing gum (12/77 = 100) | 152.0 | 160.5 | 161.3 | 161.6 | 162.1 | 161.3 | 161.6 | 151.8 | 160.3 | 161.0 | 161.3 | 161.8 | 161.2 | 161.5 |
| Sugar and artificial sweeteners (12/77 = 100) | 170.4 | 172.4 | 171.0 | 171.0 | 172.3 | 172.5 | 170.3 | 171.7 | 173.6 | 172.2 | 172.3 | 173.5 | 173.7 | 171.5 |
| Other sweets (12/77 = 100) | 151.7 | 158.3 | 159.4 | 160.1 | 159.7 | 160.2 | 158.0 | 149.5 | 155.8 | 157.0 | 157.6 | 157.2 | 157.7 | 155.5 |
| Fats and oils (12/77 = 100) | 275.4 | 285.4 | 291.4 | 295.4 | 295.1 | 294.9 | 293.0 | 275.5 | 284.9 | 291.0 | 295.0 | 294.6 | 294.4 | 292.5 |
| Margarine | 268.9 | 285.6 | 293.2 | 296.0 | 296.6 | 297.5 | 292.9 | 267.1 | 283.2 | 291.1 | 293.6 | 294.3 | 295.0 | 290.6 |
| Nondairy substitutes and peanut butter (12/77 = 100) | 151.8 | 152.3 | 153.2 | 154.9 | 156.3 | 157.5 | 157.3 | 150.1 | 150.5 | 151.3 | 153.1 | 154.2 | 155.3 | 155.3 |
| Other fats, oils, and salad dressings (12/77 = 100) | 143.8 | 149.1 | 152.7 | 155.2 | 154.2 | 153.3 | 152.7 | 144.5 | 149.4 | 153.2 | 155.7 | 154.7 | 153.8 | 153.2 |
| Nonalcoholic beverages | 435.2 | 442.3 | 442.7 | 441.5 | 444.0 | 446.8 | 445.5 | 437.3 | 443.7 | 444.0 | 442.8 | 445.2 | 448.2 | 446.7 |
| Cola drinks, excluding diet cola | 315.7 | 317.1 | 315.1 | 313.3 | 316.8 | 319.8 | 317.3 | 313.2 | 314.5 | 312.4 | 310.7 | 314.1 | 317.0 | 314.4 |
| Carbonated drinks, including diet cola (12/77 = 100) | 149.4 | 150.1 | 150.5 | 149.2 | 149.4 | 149.9 | 148.8 | 147.5 | 147.6 | 148.1 | 147.0 | 147.1 | 147.7 | 146.6 |
| Roasted coffee | 355.4 | 372.8 | 374.8 | 375.9 | 376.3 | 377.7 | 376.0 | 350.2 | 367.1 | 369.0 | 369.9 | 370.2 | 371.5 | 369.8 |
| Freeze dried and instant coffee | 352.4 | 363.5 | 366.9 | 369.6 | 369.2 | 371.9 | 372.7 | 351.6 | 362.9 | 366.3 | 368.9 | 368.2 | 371.2 | 371.9 |
| Other noncarbonated drinks (12/77 = 100) | 141.8 | 146.2 | 147.4 | 147.6 | 148.3 | 148.9 | 150.5 | 142.1 | 146.4 | 147.7 | 147.9 | 148.7 | 149.3 | 150.8 |
| Other prepared foods | 277.9 | 285.3 | 285.4 | 286.9 | 287.3 | 287.8 | 287.5 | 279.4 | 286.9 | 287.0 | 288.5 | 288.7 | 289.3 | 288.8 |
| Canned and packaged soup (12/77 = 100) | 142.0 | 144.6 | 145.6 | 146.4 | 146.4 | 146.5 | 148.1 | 143.9 | 146.4 | 147.6 | 148.4 | 148.2 | 148.3 | 149.8 |
| Frozen prepared foods (12/77 = 100) | 156.4 | 160.4 | 159.1 | 162.0 | 161.6 | 162.9 | 162.6 | 155.7 | 159.6 | 158.3 | 161.2 | 160.4 | 162.0 | 161.5 |
| Snacks (12/77 = 100) | 158.6 | 165.1 | 166.0 | 166.5 | 166.9 | 167.8 | 167.4 | 160.7 | 167.4 | 168.3 | 168.8 | 169.2 | 170.0 | 169.7 |
| Seasonings, olives, pickles, and relish (12/77 = 100) | 160.7 | 163.8 | 163.8 | 164.4 | 165.6 | 166.2 | 164.9 | 159.9 | 163.0 | 162.9 | 163.5 | 164.7 | 165.2 | 164.0 |
| Other condiments (12/77 = 100) | 155.4 | 158.4 | 160.0 | 159.9 | 159.5 | 159.3 | 158.8 | 157.2 | 160.2 | 161.9 | 161.7 | 161.4 | 161.2 | 160.7 |
| Miscellaneous prepared foods (12/77 = 100) | 152.8 | 156.0 | 154.9 | 155.5 | 155.9 | 155.9 | 155.6 | 153.0 | 156.2 | 154.9 | 155.6 | 155.9 | 156.0 | 155.6 |
| Other canned and packaged prepared foods (12/77 = 100) | 147.0 | 152.1 | 151.6 | 152.1 | 152.8 | 151.9 | 152.1 | 148.2 | 153.2 | 152.8 | 153.2 | 153.9 | 153.0 | 153.1 |
| Food away from home | 324.8 | 333.1 | 334.4 | 335.5 | 335.8 | 336.6 | 337.7 | 328.0 | 336.3 | 337.7 | 338.8 | 339.0 | 339.8 | 340.9 |
| Lunch (12/77 = 100) | 157.1 | 160.7 | 161.5 | 161.9 | 162.4 | 162.8 | 163.2 | 158.7 | 162.3 | 163.0 | 163.5 | 163.9 | 164.3 | 164.7 |
| Dinner (12/77 = 100) | 156.2 | 160.3 | 161.0 | 161.7 | 161.8 | 162.2 | 162.8 | 157.9 | 162.0 | 162.8 | 163.5 | 163.6 | 163.9 | 164.6 |
| Other meals and snacks (12/77 = 100) | 160.8 | 165.3 | 165.5 | 166.0 | 165.7 | 166.0 | 166.5 | 161.2 | 165.8 | 166.0 | 166.5 | 166.3 | 166.6 | 167.1 |
| **Alcoholic beverages** | 218.6 | 222.4 | 222.5 | 222.9 | 223.1 | 224.2 | 223.8 | 221.5 | 225.6 | 225.8 | 226.2 | 226.4 | 227.5 | 227.1 |
| Alcoholic beverages at home (12/77 = 100) | 140.9 | 142.8 | 142.8 | 142.9 | 142.8 | 143.7 | 143.2 | 143.0 | 145.0 | 145.0 | 145.1 | 145.1 | 145.8 | 145.4 |
| Beer and ale | 225.9 | 231.2 | 231.5 | 231.1 | 231.5 | 232.7 | 231.9 | 225.2 | 230.2 | 230.6 | 230.3 | 230.5 | 231.7 | 230.7 |
| Whiskey | 152.9 | 153.8 | 153.5 | 154.0 | 153.8 | 154.6 | 154.3 | 153.4 | 154.1 | 153.9 | 154.3 | 154.1 | 154.9 | 154.6 |
| Wine | 234.8 | 234.0 | 232.5 | 234.2 | 231.8 | 234.8 | 233.0 | 242.3 | 241.8 | 240.1 | 241.6 | 239.5 | 242.5 | 241.3 |
| Other alcoholic beverages (12/77 = 100) | 121.5 | 122.5 | 122.7 | 122.6 | 123.4 | 123.2 | 123.5 | 121.5 | 122.4 | 122.4 | 122.4 | 123.2 | 122.9 | 123.3 |
| Alcoholic beverages away from home (12/77 = 100) | 149.9 | 154.8 | 155.5 | 156.4 | 157.2 | 157.7 | 158.2 | 150.9 | 155.9 | 156.6 | 157.8 | 158.6 | 159.1 | 159.5 |
| **HOUSING** | 327.0 | 336.2 | 338.1 | 339.5 | 341.4 | 341.2 | 340.9 | 324.5 | 326.2 | 328.7 | 334.2 | 336.8 | 335.5 | 334.4 |
| **Shelter (CPI–U)** | 351.1 | 360.2 | 362.7 | 364.6 | 366.5 | 367.8 | 368.9 | .... | .... | .... | .... | .... | .... | .... |
| Renters' costs | 105.0 | 108.2 | 108.9 | 109.6 | 110.2 | 110.7 | 110.9 | .... | .... | .... | .... | .... | .... | .... |
| Rent, residential | 241.3 | 248.4 | 249.7 | 251.1 | 252.4 | 253.8 | 254.8 | .... | .... | .... | .... | .... | .... | .... |
| Other renters' costs | 359.8 | 371.5 | 375.7 | 380.7 | 384.3 | 382.6 | 379.1 | .... | .... | .... | .... | .... | .... | .... |
| Homeowners' costs | 373.0 | 106.8 | 107.6 | 108.1 | 108.7 | 109.1 | 109.4 | .... | .... | .... | .... | .... | .... | .... |
| Owners' equivalent rent | 106.1 | 106.8 | 107.7 | 108.1 | 108.7 | 109.1 | 109.4 | .... | .... | .... | .... | .... | .... | .... |
| Household insurance | 160.4 | 106.6 | 106.7 | 108.0 | 108.6 | 108.7 | 108.8 | .... | .... | .... | .... | .... | .... | .... |
| Maintenance and repairs | 353.4 | 358.9 | 360.3 | 360.1 | 362.7 | 361.6 | 362.9 | .... | .... | .... | .... | .... | .... | .... |
| Maintenance and repair services | 398.5 | 409.8 | 411.6 | 412.3 | 414.3 | 414.4 | 412.6 | .... | .... | .... | .... | .... | .... | .... |
| Maintenance and repair commodities | 262.3 | 262.2 | 263.1 | 262.2 | 264.8 | 262.9 | 266.5 | .... | .... | .... | .... | .... | .... | .... |
| **Shelter (CPI–W)** | .... | .... | .... | .... | .... | .... | .... | 347.1 | 344.6 | 347.9 | 356.1 | 359.3 | 358.3 | 357.7 |
| Rent, residential | .... | .... | .... | .... | .... | .... | .... | 240.7 | 247.7 | 249.0 | 250.3 | 251.7 | 253.1 | 254.0 |
| Other renters' costs | .... | .... | .... | .... | .... | .... | .... | 357.3 | 370.8 | 375.1 | 380.2 | 383.6 | 381.9 | 378.7 |
| Lodging while out of town | .... | .... | .... | .... | .... | .... | .... | 370.9 | 393.9 | 400.6 | 407.6 | 404.8 | 399.8 | 394.8 |
| Tenants' insurance (12/77 = 100) | .... | .... | .... | .... | .... | .... | .... | 159.4 | 160.1 | 160.4 | 162.6 | 163.4 | 163.4 | 163.3 |
| Homeownership | .... | .... | .... | .... | .... | .... | .... | 384.9 | 378.8 | 382.7 | 393.4 | 397.2 | 395.5 | 394.4 |
| Home purchase | .... | .... | .... | .... | .... | .... | .... | 300.0 | 291.7 | 294.9 | 299.8 | 302.5 | 302.4 | 301.0 |
| Financing, taxes, and insurance | .... | .... | .... | .... | .... | .... | .... | 499.2 | 490.6 | 496.5 | 519.0 | 524.9 | 520.5 | 519.5 |
| Property insurance | .... | .... | .... | .... | .... | .... | .... | 438.0 | 441.5 | 441.6 | 441.8 | 442.4 | 443.2 | 446.6 |
| Property taxes | .... | .... | .... | .... | .... | .... | .... | 239.6 | 245.9 | 246.4 | 248.9 | 251.4 | 252.2 | 252.9 |
| Contracted mortgage interest costs | .... | .... | .... | .... | .... | .... | .... | 632.2 | 616.0 | 624.9 | 658.4 | 666.4 | 659.3 | 657.1 |
| Mortgage interest rates | .... | .... | .... | .... | .... | .... | .... | 208.6 | 209.3 | 210.1 | 217.4 | 218.6 | 216.8 | 216.9 |
| Maintenance and repairs | .... | .... | .... | .... | .... | .... | .... | 349.1 | 356.0 | 357.3 | 357.4 | 359.4 | 358.9 | 358.5 |
| Maintenance and repair services | .... | .... | .... | .... | .... | .... | .... | 393.3 | 403.1 | 405.2 | 405.4 | 407.9 | 408.1 | 406.6 |
| Maintenance and repair commodities | .... | .... | .... | .... | .... | .... | .... | 255.9 | 257.2 | 257.1 | 256.9 | 258.1 | 256.2 | 257.8 |
| Paint and wallpaper, supplies, tools, and equipment (12/77 = 100) | .... | .... | .... | .... | .... | .... | .... | 147.3 | 148.0 | 147.2 | 147.4 | 147.8 | 147.0 | 149.1 |
| Lumber, awnings, glass, and masonry (12/77 = 100) | .... | .... | .... | .... | .... | .... | .... | 123.8 | 124.1 | 123.1 | 123.3 | 123.5 | 123.1 | 122.4 |
| Plumbing, electrical, heating, and cooling supplies (12/77 = 100) | .... | .... | .... | .... | .... | .... | .... | 139.1 | 142.5 | 142.1 | 142.8 | 142.7 | 141.5 | 142.0 |
| Miscellaneous supplies and equipment (12/77 = 100) | .... | .... | .... | .... | .... | .... | .... | 144.0 | 143.0 | 146.3 | 144.2 | 146.7 | 144.0 | 145.5 |



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## 20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

| General summary | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| **Fuel and other utilities** | 371.3 | 390.0 | 393.9 | 395.5 | 397.0 | 392.4 | 387.5 | 372.8 | 391.4 | 395.4 | 396.9 | 398.4 | 393.6 | 388.7 |
| Fuels | 468.1 | 490.7 | 496.5 | 498.6 | 500.1 | 492.1 | 482.6 | 467.8 | 490.4 | 496.1 | 498.2 | 499.8 | 491.4 | 482.1 |
| Fuel oil, coal, and bottled gas | 623.9 | 646.0 | 637.4 | 625.5 | 622.1 | 626.8 | 626.9 | 626.4 | 648.4 | 640.0 | 628.1 | 624.5 | 629.4 | 629.3 |
| Fuel oil | 631.5 | 656.2 | 646.2 | 632.4 | 628.4 | 633.6 | 633.0 | 633.9 | 658.6 | 648.8 | 635.1 | 630.8 | 636.3 | 635.6 |
| Other fuels (6/78 = 100) | 191.4 | 194.1 | 193.7 | 193.3 | 193.1 | 193.7 | 194.9 | 192.4 | 194.8 | 194.4 | 193.9 | 193.6 | 194.3 | 195.4 |
| Gas (piped) and electricity | 428.2 | 450.6 | 459.1 | 463.9 | 466.4 | 456.0 | 444.7 | 427.5 | 449.7 | 458.2 | 463.0 | 465.5 | 454.7 | 443.7 |
| Electricity | 331.8 | 358.6 | 368.7 | 374.3 | 374.9 | 361.0 | 350.9 | 330.8 | 358.7 | 369.0 | 374.8 | 375.5 | 360.8 | 350.5 |
| Utility (piped) gas | 576.3 | 585.9 | 589.7 | 592.2 | 598.4 | 597.1 | 584.9 | 574.0 | 581.6 | 585.1 | 587.1 | 593.2 | 592.1 | 580.9 |
| Other utilities and public services | 217.3 | 229.4 | 230.6 | 231.3 | 232.7 | 232.9 | 234.4 | 218.4 | 230.4 | 231.7 | 232.4 | 233.7 | 233.9 | 235.3 |
| Telephone services | 175.4 | 187.1 | 188.1 | 188.4 | 189.8 | 190.0 | 191.1 | 176.0 | 187.6 | 188.7 | 189.1 | 190.4 | 190.5 | 191.6 |
| Local charges (12/77 = 100) | 143.8 | 160.1 | 162.3 | 163.3 | 165.3 | 165.5 | 166.9 | 144.4 | 160.8 | 163.1 | 164.0 | 166.0 | 166.1 | 167.4 |
| Interstate toll calls (12/77 = 100) | 121.5 | 118.5 | 116.2 | 116.1 | 116.1 | 116.3 | 116.2 | 121.9 | 118.9 | 116.6 | 116.5 | 116.5 | 116.6 | 116.6 |
| Intrastate toll calls (12/77 = 100) | 119.8 | 124.8 | 125.9 | 124.9 | 124.8 | 124.8 | 125.4 | 119.8 | 124.6 | 125.7 | 124.8 | 124.6 | 124.6 | 125.2 |
| Water and sewerage maintenance | 363.6 | 374.6 | 376.6 | 378.9 | 380.2 | 380.5 | 382.8 | 367.8 | 378.9 | 381.0 | 383.2 | 384.5 | 384.8 | 386.8 |
| **Household furnishings and operations** | 239.9 | 242.3 | 241.9 | 242.2 | 244.1 | 244.3 | 244.2 | 236.7 | 238.9 | 238.3 | 238.6 | 240.6 | 240.7 | 240.6 |
| Housefurnishings | 198.4 | 199.1 | 197.9 | 198.1 | 200.6 | 200.5 | 200.2 | 196.4 | 196.9 | 195.6 | 195.9 | 198.3 | 198.2 | 197.6 |
| Textile housefurnishings | 229.6 | 234.7 | 232.9 | 238.6 | 245.6 | 242.7 | 240.5 | 233.0 | 238.4 | 236.4 | 242.0 | 249.9 | 247.1 | 244.6 |
| Household linens (12/77 = 100) | 135.7 | 138.2 | 136.6 | 143.1 | 146.8 | 147.1 | 145.2 | 136.4 | 139.4 | 137.7 | 144.1 | 148.1 | 148.8 | 146.6 |
| Curtains, drapes, slipcovers, and sewing materials (12/77 = 100) | 151.1 | 154.9 | 154.2 | 154.7 | 159.8 | 155.8 | 154.9 | 155.6 | 159.5 | 158.6 | 158.8 | 164.8 | 160.2 | 159.4 |
| Furniture and bedding | 220.1 | 223.3 | 222.1 | 220.8 | 225.5 | 228.2 | 227.4 | 217.1 | 219.5 | 218.7 | 217.9 | 222.2 | 224.5 | 223.4 |
| Bedroom furniture (12/77 = 100) | 152.6 | 154.1 | 151.5 | 151.7 | 156.6 | 160.2 | 160.7 | 149.5 | 149.6 | 148.1 | 148.4 | 153.5 | 155.9 | 156.3 |
| Sofas (12/77 = 100) | 119.8 | 121.3 | 121.9 | 120.6 | 121.7 | 121.6 | 122.2 | 120.0 | 121.6 | 122.1 | 120.7 | 121.6 | 121.8 | 122.0 |
| Living room chairs and tables (12/77 = 100) | 125.6 | 126.8 | 126.3 | 127.1 | 126.8 | 128.1 | 127.5 | 126.6 | 127.6 | 127.2 | 128.1 | 127.8 | 129.0 | 127.9 |
| Other furniture (12/77 = 100) | 141.4 | 144.8 | 144.7 | 142.2 | 146.9 | 148.1 | 145.9 | 137.1 | 140.4 | 140.2 | 138.4 | 142.1 | 143.5 | 141.4 |
| Appliances including TV and sound equipment | 151.0 | 148.8 | 147.2 | 147.2 | 147.7 | 147.1 | 146.0 | 151.6 | 150.1 | 148.4 | 148.5 | 149.4 | 148.8 | 148.0 |
| Television and sound equipment | 105.0 | 102.0 | 101.3 | 101.0 | 100.8 | 100.4 | 99.9 | 104.1 | 101.0 | 100.2 | 100.0 | 99.8 | 99.5 | 98.9 |
| Television | 98.8 | 95.9 | 94.5 | 94.1 | 93.5 | 92.5 | 92.1 | 97.4 | 94.5 | 93.0 | 92.7 | 92.2 | 91.1 | 90.7 |
| Sound equipment (12/77 = 100) | 111.6 | 108.4 | 108.2 | 108.1 | 108.3 | 108.4 | 107.7 | 110.7 | 107.4 | 107.2 | 107.1 | 107.2 | 107.4 | 106.6 |
| Household appliances | 189.2 | 189.7 | 187.1 | 187.5 | 189.4 | 188.4 | 186.7 | 190.1 | 191.0 | 188.4 | 188.9 | 190.9 | 190.2 | 189.2 |
| Refrigerators and home freezers | 193.0 | 196.8 | 194.2 | 194.6 | 196.8 | 197.6 | 197.3 | 198.9 | 202.5 | 199.8 | 200.6 | 202.6 | 203.5 | 203.2 |
| Laundry equipment | 144.1 | 145.0 | 145.5 | 145.4 | 146.9 | 147.7 | 148.1 | 145.2 | 145.8 | 146.0 | 146.3 | 147.6 | 148.0 | 149.1 |
| Other household appliances (12/77 = 100) | 125.9 | 125.4 | 123.2 | 123.6 | 124.8 | 123.5 | 121.8 | 124.6 | 124.2 | 121.4 | 121.7 | 123.2 | 121.7 | 119.9 |
| Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100) | 125.8 | 127.0 | 121.7 | 123.6 | 127.5 | 124.4 | 122.4 | 124.6 | 125.8 | 120.0 | 121.6 | 125.5 | 122.6 | 120.6 |
| Office machines, small electric appliances, and air conditioners (12/77 = 100) | 126.2 | 124.4 | 124.9 | 123.9 | 122.8 | 122.9 | 121.5 | 124.6 | 122.4 | 122.9 | 121.8 | 120.6 | 120.6 | 119.0 |
| Other household equipment (12/77 = 100) | 142.1 | 142.2 | 142.1 | 141.7 | 141.9 | 141.2 | 142.8 | 139.7 | 139.6 | 139.5 | 138.9 | 139.1 | 138.5 | 139.8 |
| Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100) | 147.3 | 147.8 | 147.0 | 147.7 | 146.7 | 147.9 | 148.4 | 138.8 | 138.8 | 137.8 | 137.3 | 136.2 | 138.2 | 137.8 |
| Clocks, lamps, and decor items (12/77 = 100) | 135.5 | 134.3 | 135.5 | 134.3 | 137.1 | 135.6 | 137.4 | 131.0 | 129.7 | 130.7 | 129.8 | 132.8 | 130.8 | 132.6 |
| Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100) | 146.2 | 147.9 | 147.2 | 147.0 | 145.5 | 143.5 | 147.6 | 142.4 | 143.9 | 143.3 | 143.1 | 141.5 | 139.8 | 143.4 |
| Lawn equipment, power tools, and other hardware (12/77 = 100) | 136.6 | 134.6 | 135.2 | 134.4 | 135.5 | 135.5 | 134.8 | 141.8 | 140.0 | 140.7 | 139.8 | 141.4 | 141.1 | 140.2 |
| Housekeeping supplies | 297.0 | 303.0 | 303.8 | 304.2 | 304.9 | 305.4 | 306.2 | 293.9 | 300.1 | 301.0 | 301.1 | 302.0 | 302.5 | 303.5 |
| Soaps and detergents | 296.7 | 299.3 | 299.8 | 298.8 | 299.1 | 299.9 | 302.3 | 292.7 | 294.8 | 295.3 | 294.2 | 294.8 | 295.4 | 297.6 |
| Other laundry and cleaning products (12/77 = 100) | 151.5 | 155.1 | 154.9 | 154.9 | 155.8 | 156.6 | 157.1 | 150.2 | 153.8 | 153.6 | 153.4 | 154.3 | 155.1 | 155.7 |
| Cleansing and toilet tissue, paper towels and napkins (12/77 = 100) | 148.2 | 152.9 | 153.7 | 153.6 | 155.2 | 156.5 | 156.1 | 148.3 | 152.9 | 153.7 | 153.4 | 155.2 | 156.4 | 155.8 |
| Stationery, stationery supplies, and gift wrap (12/77 = 100) | 140.9 | 143.5 | 143.7 | 144.2 | 144.2 | 144.8 | 145.5 | 144.0 | 146.7 | 147.1 | 147.7 | 147.9 | 148.4 | 149.1 |
| Miscellaneous household products (12/77 = 100) | 155.5 | 160.1 | 161.2 | 162.0 | 162.2 | 161.7 | 162.1 | 150.0 | 154.7 | 155.9 | 156.6 | 156.7 | 156.2 | 156.7 |
| Lawn and garden supplies (12/77 = 100) | 143.0 | 144.7 | 144.9 | 145.7 | 144.8 | 143.5 | 143.4 | 136.0 | 138.7 | 138.7 | 139.1 | 138.3 | 137.1 | 137.5 |
| Housekeeping services | 322.3 | 327.0 | 327.6 | 328.2 | 329.4 | 330.2 | 330.3 | 322.3 | 327.5 | 328.2 | 328.8 | 330.0 | 330.8 | 330.9 |
| Postage | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 | 337.5 |
| Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100) | 168.1 | 173.7 | 174.5 | 174.6 | 175.9 | 176.3 | 176.0 | 168.2 | 174.1 | 174.9 | 175.1 | 176.4 | 176.8 | 176.4 |
| Appliance and furniture repair (12/77 = 100) | 146.2 | 150.2 | 150.9 | 152.2 | 153.4 | 154.7 | 155.4 | 144.3 | 148.2 | 148.9 | 150.0 | 151.0 | 152.2 | 152.9 |
| **APPAREL AND UPKEEP** | 200.7 | 197.4 | 196.6 | 200.1 | 204.2 | 205.7 | 205.2 | 199.7 | 196.1 | 195.3 | 199.0 | 203.3 | 204.8 | 204.2 |
| **Apparel commodities** | 188.6 | 184.0 | 183.0 | 186.6 | 191.2 | 192.6 | 191.9 | 188.2 | 183.3 | 182.4 | 186.1 | 190.9 | 192.3 | 191.6 |
| Apparel commodities less footwear | 185.2 | 179.8 | 178.9 | 183.1 | 187.8 | 189.2 | 188.3 | 184.5 | 178.7 | 177.9 | 182.2 | 187.3 | 188.7 | 187.8 |
| Men's and boys' | 193.0 | 190.3 | 189.8 | 192.6 | 195.6 | 197.6 | 197.8 | 193.4 | 190.3 | 189.9 | 193.0 | 196.2 | 198.1 | 198.6 |
| Men's (12/77 = 100) | 121.6 | 120.0 | 119.3 | 121.2 | 123.2 | 124.3 | 124.5 | 122.2 | 120.3 | 119.6 | 121.7 | 123.9 | 125.0 | 125.4 |
| Suits, sport coats, and jackets (12/77 = 100) | 114.8 | 113.0 | 113.2 | 113.5 | 115.6 | 116.4 | 115.7 | 107.7 | 105.8 | 106.2 | 106.8 | 108.9 | 109.7 | 109.2 |
| Coats and jackets | 105.5 | 96.2 | 96.1 | 100.9 | 105.7 | 107.9 | 106.6 | 108.8 | 99.4 | 99.6 | 104.0 | 109.0 | 111.1 | 109.9 |
| Furnishings and special clothing (12/77 = 100) | 147.3 | 148.0 | 145.6 | 147.6 | 150.9 | 151.8 | 152.0 | 143.6 | 143.8 | 141.8 | 143.3 | 146.6 | 147.7 | 147.8 |
| Shirts (12/77 = 100) | 125.2 | 126.9 | 125.6 | 127.3 | 128.2 | 129.5 | 129.4 | 127.8 | 129.2 | 127.7 | 130.0 | 131.0 | 132.1 | 132.2 |
| Dungarees, jeans, and trousers (12/77 = 100) | 113.9 | 111.4 | 111.3 | 113.7 | 114.5 | 115.5 | 117.6 | 120.1 | 117.5 | 117.2 | 120.0 | 120.9 | 122.0 | 124.3 |
| Boys' (12/77 = 100) | 125.2 | 123.0 | 124.1 | 125.5 | 126.9 | 128.6 | 128.5 | 123.8 | 121.6 | 122.7 | 124.3 | 125.7 | 127.2 | 127.1 |
| Coats, jackets, sweaters, and shirts (12/77 = 100) | 119.9 | 118.2 | 120.8 | 125.5 | 127.0 | 126.8 | 125.9 | 122.1 | 120.4 | 123.1 | 128.0 | 129.8 | 129.2 | 128.3 |
| Furnishings (12/77 = 100) | 137.6 | 137.1 | 136.5 | 134.7 | 135.8 | 136.8 | 138.9 | 133.3 | 132.7 | 132.2 | 130.5 | 131.8 | 132.7 | 134.4 |
| Suits, trousers, sport coats, and jackets (12/77 = 100) | 124.4 | 121.2 | 121.8 | 121.8 | 123.3 | 126.7 | 126.4 | 121.6 | 118.4 | 119.0 | 119.1 | 120.4 | 123.8 | 123.7 |



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## 20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

| General summary | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| Women's and girls' | 167.0 | 157.9 | 156.2 | 163.1 | 170.5 | 172.2 | 170.4 | 168.6 | 159.2 | 157.4 | 164.1 | 172.1 | 173.8 | 171.9 |
| Women's (12/77 = 100) | 110.9 | 105.2 | 103.7 | 108.6 | 114.4 | 115.0 | 113.4 | 112.4 | 106.2 | 104.8 | 109.5 | 115.8 | 116.4 | 114.9 |
| Coats and jackets | 173.3 | 154.6 | 156.8 | 167.7 | 181.1 | 181.7 | 181.9 | 177.4 | 159.1 | 162.4 | 176.1 | 185.2 | 186.3 | 186.0 |
| Dresses | 171.9 | 172.1 | 163.7 | 172.0 | 178.3 | 179.9 | 175.8 | 158.0 | 160.5 | 153.1 | 159.9 | 165.5 | 165.8 | 162.4 |
| Separates and sportswear (12/77 = 100) | 102.0 | 91.1 | 88.2 | 92.9 | 102.5 | 104.3 | 103.6 | 102.4 | 91.4 | 88.6 | 93.1 | 102.9 | 104.7 | 104.1 |
| Underwear, nightwear, and hosiery (12/77 = 100) | 136.1 | 137.0 | 136.7 | 138.0 | 139.4 | 138.5 | 138.5 | 135.7 | 136.6 | 136.2 | 137.5 | 138.9 | 138.0 | 138.1 |
| Suits (12/77 = 100) | 85.7 | 71.3 | 74.4 | 85.1 | 93.5 | 94.1 | 87.6 | 105.8 | 85.8 | 97.1 | 96.5 | 112.1 | 114.0 | 106.6 |
| Girls' (12/77 = 100) | 111.8 | 104.3 | 104.6 | 107.7 | 108.6 | 112.3 | 112.7 | 110.8 | 104.3 | 104.0 | 107.5 | 108.6 | 112.0 | 111.8 |
| Coats, jackets, dresses, and suits (12/77 = 100) | 106.2 | 95.0 | 99.7 | 101.0 | 98.6 | 106.2 | 106.8 | 103.3 | 93.7 | 98.4 | 100.4 | 98.3 | 105.0 | 105.8 |
| Separates and sportswear (12/77 = 100) | 107.6 | 99.0 | 96.9 | 103.1 | 106.7 | 108.2 | 107.7 | 108.3 | 100.7 | 96.7 | 103.5 | 107.5 | 108.9 | 106.9 |
| Underwear, nightwear, hosiery, and accessories (12/77 = 100) | 128.7 | 129.3 | 127.1 | 127.4 | 128.3 | 130.0 | 131.6 | 127.5 | 127.8 | 125.7 | 126.0 | 127.0 | 128.7 | 130.2 |
| Infants' and toddlers' | 288.7 | 278.3 | 281.2 | 288.7 | 291.3 | 291.6 | 290.2 | 298.1 | 289.2 | 292.0 | 298.9 | 303.2 | 302.5 | 302.1 |
| Other apparel commodities | 216.6 | 217.7 | 218.0 | 216.3 | 216.5 | 216.0 | 215.4 | 205.2 | 205.7 | 206.0 | 204.9 | 205.0 | 204.0 | 203.1 |
| Sewing materials and notions (12/77 = 100) | 118.6 | 122.4 | 122.5 | 123.8 | 122.8 | 120.6 | 120.1 | 116.8 | 120.9 | 120.7 | 122.3 | 121.5 | 119.0 | 118.4 |
| Jewelry and luggage (12/77 = 100) | 149.2 | 148.5 | 148.8 | 146.7 | 147.3 | 147.7 | 147.4 | 140.0 | 138.5 | 138.9 | 137.1 | 137.6 | 137.8 | 137.2 |
| Footwear | 209.1 | 209.6 | 208.0 | 207.7 | 211.1 | 212.9 | 212.9 | 209.1 | 210.0 | 208.7 | 208.5 | 211.6 | 213.2 | 213.1 |
| Men's (12/77 = 100) | 135.8 | 136.7 | 137.5 | 137.4 | 138.0 | 138.3 | 138.4 | 137.6 | 138.7 | 139.6 | 139.4 | 139.8 | 140.1 | 140.2 |
| Boys' and girls' (12/77 = 100) | 131.8 | 132.1 | 131.0 | 131.9 | 133.5 | 136.0 | 136.3 | 134.0 | 134.5 | 133.7 | 134.8 | 136.3 | 138.7 | 139.0 |
| Women's (12/77 = 100) | 126.7 | 126.7 | 124.2 | 123.4 | 127.0 | 128.0 | 127.6 | 122.9 | 123.2 | 120.8 | 119.9 | 123.3 | 124.1 | 123.6 |
| **Apparel services** | 296.2 | 304.4 | 305.1 | 307.5 | 307.6 | 309.5 | 310.8 | 294.3 | 302.4 | 303.0 | 305.5 | 305.6 | 307.4 | 308.8 |
| Laundry and drycleaning other than coin operated (12/77 = 100) | 177.0 | 182.9 | 183.4 | 184.1 | 184.3 | 185.5 | 186.3 | 175.4 | 181.2 | 181.7 | 182.3 | 182.6 | 183.8 | 184.4 |
| Other apparel services (12/77 = 100) | 154.5 | 157.0 | 157.2 | 159.9 | 159.7 | 160.4 | 161.1 | 155.6 | 158.3 | 158.5 | 161.3 | 161.0 | 161.7 | 162.5 |
| **TRANSPORTATION** | 306.3 | 313.1 | 312.9 | 312.9 | 313.7 | 315.5 | 316.1 | 308.2 | 315.5 | 315.2 | 315.2 | 316.0 | 317.8 | 318.3 |
| **Private** | 301.7 | 308.1 | 307.5 | 307.5 | 308.4 | 310.2 | 310.8 | 304.9 | 311.7 | 311.2 | 311.1 | 312.1 | 313.9 | 314.4 |
| New cars | 206.2 | 207.7 | 208.1 | 208.1 | 208.2 | 209.6 | 211.4 | 205.7 | 207.1 | 207.6 | 207.6 | 207.6 | 209.0 | 210.8 |
| Used cars | 356.1 | 382.0 | 383.2 | 383.8 | 384.2 | 384.6 | 383.6 | 356.1 | 382.0 | 383.2 | 383.8 | 384.2 | 384.6 | 383.6 |
| Gasoline | 378.1 | 374.9 | 369.8 | 365.9 | 368.8 | 370.3 | 369.2 | 380.1 | 376.4 | 376.4 | 367.4 | 369.4 | 371.7 | 370.5 |
| Automobile maintenance and repair | 335.2 | 340.7 | 341.6 | 342.7 | 344.2 | 345.3 | 345.8 | 335.6 | 341.5 | 342.3 | 343.4 | 344.9 | 346.2 | 346.7 |
| Body work (12/77 = 100) | 169.5 | 172.6 | 172.6 | 173.5 | 174.7 | 175.6 | 175.8 | 168.2 | 171.3 | 171.6 | 172.1 | 173.1 | 174.1 | 174.3 |
| Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100) | 163.4 | 166.2 | 166.5 | 167.2 | 168.1 | 169.2 | 169.6 | 167.2 | 170.2 | 170.6 | 171.3 | 172.2 | 173.4 | 173.8 |
| Maintenance and servicing (12/77 = 100) | 152.7 | 154.6 | 155.3 | 155.9 | 156.3 | 156.5 | 156.8 | 151.9 | 153.8 | 154.5 | 155.0 | 155.5 | 155.8 | 156.1 |
| Power plant repair (12/77 = 100) | 160.2 | 163.4 | 163.5 | 163.9 | 164.7 | 164.9 | 164.9 | 159.5 | 163.1 | 163.2 | 163.5 | 164.3 | 164.6 | 164.6 |
| Other private transportation | 265.6 | 271.5 | 272.4 | 274.9 | 275.9 | 278.7 | 280.7 | 266.6 | 272.4 | 273.4 | 275.8 | 277.0 | 279.8 | 281.9 |
| Other private transportation commodities | 209.2 | 202.0 | 200.6 | 200.8 | 201.2 | 199.0 | 201.0 | 211.7 | 204.5 | 202.9 | 203.2 | 203.4 | 201.0 | 203.5 |
| Motor oil, coolant, and other products (12/77 = 100) | 152.9 | 154.1 | 154.3 | 153.6 | 155.1 | 153.2 | 155.3 | 151.7 | 153.5 | 153.8 | 153.2 | 154.5 | 152.6 | 154.4 |
| Automobile parts and equipment (12/77 = 100) | 132.7 | 127.3 | 126.2 | 126.4 | 126.5 | 125.1 | 126.4 | 134.6 | 129.0 | 127.8 | 128.1 | 128.0 | 126.5 | 128.1 |
| Tires | 183.1 | 172.0 | 169.6 | 170.4 | 170.9 | 168.3 | 170.2 | 187.0 | 175.5 | 173.0 | 174.0 | 174.2 | 171.5 | 174.0 |
| Other parts and equipment (12/77 = 100) | 133.0 | 134.1 | 134.7 | 133.9 | 133.3 | 133.2 | 134.1 | 132.9 | 133.9 | 134.1 | 133.3 | 132.7 | 132.5 | 133.5 |
| Other private transportation services | 283.1 | 292.5 | 294.1 | 297.2 | 298.4 | 302.5 | 304.6 | 283.7 | 293.0 | 294.6 | 297.5 | 299.1 | 303.3 | 305.3 |
| Automobile insurance | 312.8 | 324.2 | 324.8 | 325.2 | 326.9 | 332.3 | 335.9 | 312.1 | 323.1 | 323.9 | 324.2 | 325.9 | 331.3 | 334.9 |
| Automobile finance charges (12/77 = 100) | 159.1 | 164.1 | 166.2 | 168.7 | 169.9 | 172.0 | 172.2 | 158.7 | 163.5 | 165.7 | 168.2 | 169.5 | 171.7 | 171.9 |
| Automobile rental, registration, and other fees (12/77 = 100) | 147.3 | 151.1 | 152.0 | 156.8 | 156.4 | 157.6 | 158.0 | 148.3 | 152.4 | 153.1 | 157.4 | 157.7 | 158.9 | 159.2 |
| State registration | 195.4 | 199.4 | 199.8 | 209.7 | 212.2 | 213.5 | 213.5 | 195.2 | 199.6 | 200.0 | 208.8 | 211.7 | 212.9 | 212.9 |
| Drivers' licenses (12/77 = 100) | 154.5 | 157.8 | 161.0 | 161.3 | 163.7 | 163.7 | 163.7 | 154.8 | 158.1 | 161.2 | 161.5 | 164.1 | 164.1 | 164.1 |
| Vehicle inspection (12/77 = 100) | 139.8 | 139.9 | 139.9 | 139.9 | 139.9 | 140.0 | 142.2 | 140.5 | 140.4 | 140.4 | 140.5 | 140.5 | 140.5 | 142.3 |
| Other vehicle-related fees (12/77 = 100) | 160.5 | 165.1 | 166.5 | 170.0 | 166.4 | 168.3 | 169.1 | 167.7 | 172.6 | 173.8 | 176.4 | 173.8 | 176.0 | 176.7 |
| **Public** | 370.3 | 385.2 | 389.3 | 390.8 | 389.5 | 391.1 | 391.8 | 359.9 | 377.4 | 380.7 | 381.6 | 380.4 | 381.6 | 382.4 |
| Airline fare | 431.6 | 442.0 | 450.1 | 454.1 | 450.1 | 453.5 | 455.4 | 427.2 | 438.2 | 446.6 | 450.5 | 445.4 | 448.8 | 450.6 |
| Intercity bus fare | 416.0 | 426.2 | 438.9 | 441.1 | 442.2 | 445.3 | 447.0 | 416.9 | 425.8 | 438.7 | 441.3 | 442.6 | 445.4 | 447.8 |
| Intracity mass transit | 324.3 | 346.5 | 346.6 | 345.7 | 346.5 | 346.6 | 345.9 | 322.5 | 346.5 | 346.6 | 345.8 | 346.5 | 346.6 | 345.9 |
| Taxi fare | 304.7 | 309.7 | 310.4 | 310.4 | 310.8 | 311.1 | 311.3 | 313.5 | 319.0 | 319.7 | 319.7 | 319.8 | 320.0 | 320.1 |
| Intercity train fare | 364.8 | 381.5 | 381.9 | 381.9 | 381.9 | 382.0 | 383.5 | 365.6 | 381.9 | 382.1 | 382.2 | 382.2 | 382.2 | 383.8 |
| **MEDICAL CARE** | 364.9 | 378.0 | 380.3 | 381.9 | 383.1 | 385.5 | 387.5 | 362.9 | 376.3 | 378.5 | 380.1 | 381.2 | 383.7 | 385.6 |
| **Medical care commodities** | 228.9 | 239.4 | 240.7 | 241.6 | 242.4 | 244.1 | 245.6 | 229.1 | 239.5 | 240.7 | 241.5 | 242.3 | 244.1 | 245.6 |
| Prescription drugs | 226.8 | 233.5 | 234.9 | 236.6 | 238.0 | 240.2 | 242.2 | 222.1 | 234.9 | 236.3 | 237.9 | 239.4 | 241.7 | 243.8 |
| Anti-infective drugs (12/77 = 100) | 159.1 | 164.9 | 166.1 | 167.7 | 168.4 | 170.5 | 171.0 | 161.5 | 167.3 | 168.3 | 170.0 | 171.0 | 173.3 | 173.8 |
| Tranquilizers and sedatives (12/77 = 100) | 186.9 | 204.0 | 205.1 | 207.6 | 208.7 | 212.7 | 216.2 | 186.7 | 204.0 | 205.1 | 207.5 | 208.6 | 212.7 | 216.3 |
| Circulatories and diuretics (12/77 = 100) | 159.9 | 169.0 | 170.4 | 171.3 | 171.7 | 172.8 | 174.4 | 159.7 | 168.3 | 169.5 | 170.4 | 170.9 | 172.1 | 173.7 |
| Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100) | 204.0 | 214.7 | 216.2 | 218.1 | 220.7 | 222.3 | 223.8 | 206.1 | 217.0 | 218.4 | 220.4 | 223.2 | 224.7 | 226.1 |
| Pain and symptom control drugs (12/77 = 100) | 180.5 | 188.3 | 189.7 | 191.0 | 192.0 | 192.7 | 194.4 | 182.4 | 190.3 | 191.7 | 192.8 | 193.8 | 194.7 | 196.3 |
| Supplements, cough and cold preparations, and respiratory agents (12/77 = 100) | 164.7 | 174.5 | 175.9 | 175.5 | 176.1 | 176.9 | 178.3 | 165.1 | 176.1 | 176.5 | 176.2 | 176.9 | 177.7 | 179.0 |
| Nonprescription drugs and medical supplies (12/77 = 100) | 157.9 | 163.5 | 164.3 | 164.4 | 164.5 | 165.4 | 166.0 | 158.8 | 164.4 | 165.1 | 165.2 | 165.3 | 166.3 | 166.9 |
| Eyeglasses (12/77 = 100) | 137.8 | 140.0 | 140.6 | 140.5 | 141.4 | 141.9 | 142.2 | 136.6 | 138.8 | 139.5 | 139.3 | 140.4 | 140.8 | 141.2 |
| Internal and respiratory over-the-counter drugs | 256.4 | 268.2 | 269.5 | 269.4 | 269.5 | 271.3 | 271.5 | 257.7 | 269.3 | 270.6 | 270.4 | 270.5 | 272.4 | 272.7 |
| Nonprescription medical equipment and supplies (12/77 = 100) | 152.7 | 156.4 | 157.0 | 157.9 | 157.1 | 157.7 | 159.8 | 154.1 | 157.9 | 158.4 | 159.4 | 158.6 | 159.1 | 161.5 |



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## 20. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

| General summary | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| **Medical care services** | 395.0 | 408.4 | 410.9 | 412.7 | 413.9 | 416.5 | 418.5 | 392.3 | 406.1 | 408.6 | 410.4 | 411.5 | 414.1 | 416.1 |
| Professional services | 331.7 | 345.8 | 347.0 | 348.2 | 349.8 | 351.8 | 353.1 | 332.0 | 346.2 | 347.4 | 348.6 | 350.1 | 352.1 | 353.4 |
| Physicians' services | 360.5 | 377.1 | 378.1 | 379.5 | 380.8 | 382.2 | 383.0 | 364.3 | 381.1 | 382.1 | 383.6 | 384.8 | 386.2 | 387.0 |
| Dental services | 312.9 | 326.2 | 327.9 | 329.1 | 331.9 | 334.8 | 336.6 | 310.7 | 324.0 | 325.7 | 326.8 | 329.5 | 332.4 | 334.3 |
| Other professional services (12/77 = 100) | 155.9 | 159.9 | 160.1 | 160.3 | 160.0 | 160.8 | 161.5 | 152.5 | 156.1 | 156.4 | 156.6 | 156.2 | 157.1 | 157.8 |
| Other medical care services | 471.5 | 484.1 | 488.3 | 490.7 | 491.5 | 494.7 | 497.7 | 467.9 | 480.9 | 485.2 | 487.7 | 488.4 | 491.7 | 494.6 |
| Hospital and other medical services (12/77 = 100) | 201.0 | 208.4 | 210.9 | 212.5 | 213.0 | 215.0 | 217.2 | 199.0 | 206.3 | 208.9 | 210.4 | 210.9 | 212.9 | 214.7 |
| Hospital room | 641.9 | 662.0 | 672.9 | 678.1 | 679.5 | 687.1 | 691.3 | 633.9 | 654.4 | 664.6 | 669.5 | 670.8 | 677.3 | 680.8 |
| Other hospital and medical care services (12/77 = 100) | 197.1 | 205.2 | 207.0 | 208.5 | 209.1 | 210.7 | 213.6 | 195.4 | 203.4 | 205.4 | 206.8 | 207.4 | 209.3 | 211.7 |
| **ENTERTAINMENT** | 249.5 | 254.5 | 255.3 | 256.4 | 257.3 | 258.3 | 259.0 | 245.7 | 250.7 | 251.4 | 252.5 | 253.4 | 254.2 | 254.8 |
| **Entertainment commodities** | 249.0 | 252.4 | 253.3 | 254.5 | 254.8 | 255.9 | 256.0 | 243.4 | 246.9 | 247.8 | 248.8 | 249.2 | 249.6 | 250.2 |
| Reading materials (12/77 = 100) | 162.9 | 163.7 | 164.5 | 166.0 | 166.3 | 167.7 | 167.8 | 162.3 | 163.3 | 164.0 | 165.4 | 165.6 | 167.0 | 167.2 |
| Newspapers | 307.7 | 313.3 | 315.0 | 315.2 | 315.4 | 317.5 | 319.2 | 307.8 | 313.4 | 315.1 | 315.3 | 315.6 | 317.7 | 319.4 |
| Magazines, periodicals, and books (12/77 = 100) | 170.2 | 168.7 | 169.4 | 172.5 | 173.0 | 174.7 | 174.1 | 170.4 | 168.7 | 169.3 | 172.4 | 172.8 | 174.6 | 173.7 |
| Sporting goods and equipment (12/77 = 100) | 134.7 | 137.5 | 137.8 | 138.3 | 138.7 | 138.8 | 140.0 | 128.7 | 131.2 | 131.4 | 131.9 | 132.3 | 132.2 | 133.6 |
| Sport vehicles (12/77 = 100) | 137.8 | 142.2 | 142.9 | 143.9 | 144.4 | 144.5 | 146.0 | 128.5 | 132.2 | 132.6 | 133.7 | 134.0 | 133.9 | 135.8 |
| Indoor and warm weather sport equipment (12/77 = 100) | 118.1 | 117.7 | 117.7 | 117.9 | 117.3 | 117.2 | 118.2 | 116.0 | 116.0 | 115.9 | 115.9 | 115.5 | 115.3 | 116.4 |
| Bicycles | 198.6 | 201.1 | 200.2 | 198.3 | 198.9 | 198.8 | 198.1 | 199.3 | 202.0 | 201.2 | 199.4 | 200.3 | 200.0 | 199.1 |
| Other sporting goods and equipment (12/77 = 100) | 134.5 | 134.2 | 134.3 | 134.8 | 135.5 | 135.6 | 137.3 | 134.4 | 134.0 | 134.2 | 134.0 | 135.0 | 135.1 | 136.5 |
| Toys, hobbies, and other entertainment (12/77 = 100) | 139.1 | 141.1 | 141.7 | 141.9 | 142.0 | 141.9 | 141.8 | 137.8 | 140.1 | 140.7 | 141.0 | 141.1 | 263.4 | 140.9 |
| Toys, hobbies, and music equipment (12/77 = 100) | 136.7 | 138.8 | 139.3 | 138.6 | 138.3 | 138.2 | 138.1 | 132.8 | 135.5 | 135.9 | 135.2 | 135.1 | 165.0 | 134.8 |
| Photographic supplies and equipment (12/77 = 100) | 131.7 | 133.7 | 134.2 | 135.0 | 135.2 | 135.1 | 134.9 | 132.7 | 135.0 | 135.6 | 136.3 | 136.4 | 156.1 | 136.2 |
| Pet supplies and expenses (12/77 = 100) | 148.8 | 150.5 | 151.4 | 153.1 | 153.7 | 153.5 | 153.4 | 149.9 | 151.6 | 152.7 | 154.2 | 153.6 | 154.7 | 154.5 |
| **Entertainment services** | 250.5 | 258.1 | 258.5 | 259.7 | 261.3 | 262.8 | 263.8 | 251.0 | 258.5 | 258.8 | 260.1 | 262.0 | 263.4 | 264.0 |
| Fees for participant sports (12/77 = 100) | 156.4 | 159.7 | 159.7 | 160.1 | 162.3 | 163.6 | 165.1 | 157.7 | 160.7 | 160.4 | 161.0 | 163.2 | 165.0 | 166.2 |
| Admissions (12/77 = 100) | 146.6 | 155.3 | 156.0 | 157.3 | 156.9 | 157.2 | 156.8 | 145.6 | 154.3 | 155.0 | 156.1 | 155.7 | 156.1 | 155.6 |
| Other entertainment services (12/77 = 100) | 133.3 | 135.1 | 135.3 | 136.1 | 136.2 | 137.0 | 136.7 | 134.4 | 135.7 | 136.0 | 136.8 | 137.1 | 137.6 | 137.0 |
| **OTHER GOODS AND SERVICES** | 298.1 | 304.4 | 306.5 | 307.2 | 314.6 | 315.8 | 316.5 | 295.5 | 302.1 | 304.5 | 305.3 | 310.9 | 311.9 | 312.6 |
| **Tobacco products** | 299.9 | 308.1 | 313.2 | 313.9 | 314.1 | 314.6 | 314.7 | 299.7 | 307.8 | 312.9 | 313.5 | 313.7 | 314.2 | 314.3 |
| Cigarettes | 308.2 | 316.3 | 322.0 | 322.6 | 322.8 | 323.3 | 323.4 | 307.3 | 315.3 | 320.9 | 321.5 | 321.7 | 322.2 | 322.2 |
| Other tobacco products and smoking accessories (12/77 = 100) | 152.7 | 158.9 | 159.3 | 159.7 | 159.9 | 160.0 | 160.6 | 152.7 | 159.0 | 159.4 | 159.8 | 159.9 | 160.1 | 160.6 |
| **Personal care** | 265.6 | 270.6 | 271.8 | 272.6 | 273.6 | 274.7 | 276.3 | 263.7 | 268.5 | 269.7 | 270.5 | 271.6 | 272.4 | 274.0 |
| Toilet goods and personal care appliances | 265.7 | 268.5 | 270.2 | 270.6 | 271.6 | 272.0 | 273.4 | 266.6 | 269.3 | 270.9 | 271.4 | 272.5 | 272.6 | 274.0 |
| Products for the hair, hairpieces, and wigs (12/77 = 100) | 154.5 | 154.8 | 156.1 | 156.2 | 156.1 | 155.9 | 156.9 | 153.6 | 154.1 | 155.1 | 155.3 | 155.3 | 155.0 | 156.2 |
| Dental and shaving products (12/77 = 100) | 166.7 | 166.5 | 167.2 | 167.6 | 167.9 | 168.2 | 170.9 | 165.1 | 164.7 | 165.2 | 165.6 | 165.8 | 166.0 | 168.9 |
| Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100) | 148.9 | 153.0 | 154.0 | 153.2 | 154.5 | 154.9 | 154.9 | 150.1 | 154.0 | 155.1 | 154.5 | 155.9 | 155.9 | 155.8 |
| Other toilet goods and small personal care appliances (12/77 = 100) | 150.5 | 151.7 | 152.7 | 154.2 | 155.0 | 155.4 | 155.5 | 154.1 | 155.5 | 156.4 | 158.0 | 158.7 | 159.0 | 159.1 |
| Personal care services | 266.6 | 273.4 | 274.3 | 275.4 | 276.4 | 278.0 | 279.9 | 261.1 | 268.2 | 269.0 | 270.0 | 271.1 | 272.6 | 274.4 |
| Beauty parlor services for women | 269.8 | 276.4 | 277.3 | 278.4 | 279.2 | 281.2 | 283.1 | 262.9 | 269.3 | 270.2 | 271.2 | 272.0 | 274.0 | 275.8 |
| Haircuts and other barber shop services for men (12/77 = 100) | 147.5 | 151.7 | 152.1 | 152.8 | 153.6 | 154.0 | 155.0 | 146.3 | 150.5 | 150.9 | 151.6 | 152.4 | 152.8 | 153.8 |
| **Personal and educational expenses** | 351.3 | 357.9 | 358.6 | 359.3 | 381.9 | 384.0 | 384.1 | 352.9 | 360.7 | 361.3 | 362.1 | 384.1 | 386.0 | 386.2 |
| Schoolbooks and supplies | 308.8 | 318.5 | 318.8 | 319.2 | 331.5 | 333.7 | 333.8 | 313.0 | 323.1 | 323.4 | 323.8 | 336.4 | 338.6 | 338.7 |
| Personal and educational services | 361.0 | 367.1 | 367.9 | 368.7 | 393.1 | 295.2 | 395.4 | 362.6 | 370.1 | 370.8 | 371.6 | 395.6 | 397.4 | 397.6 |
| Tuition and other school fees | 182.9 | 184.5 | 184.8 | 185.0 | 200.7 | 201.3 | 201.3 | 183.3 | 185.4 | 185.6 | 185.8 | 201.4 | 202.3 | 202.3 |
| College tuition (12/77 = 100) | 182.7 | 184.8 | 185.2 | 185.3 | 200.1 | 201.4 | 201.4 | 182.6 | 185.7 | 186.0 | 186.1 | 201.1 | 202.3 | 202.3 |
| Elementary and high school tuition (12/77 = 100) | 183.9 | 183.9 | 183.9 | 184.3 | 201.1 | 201.3 | 201.3 | 184.9 | 185.0 | 185.0 | 185.4 | 202.6 | 202.8 | 202.8 |
| Personal expenses (12/77 = 100) | 194.6 | 204.2 | 205.0 | 206.4 | 207.3 | 208.5 | 208.9 | 195.2 | 204.8 | 205.6 | 207.0 | 207.9 | 208.8 | 209.2 |
| **Special indexes:** | | | | | | | | | | | | | | |
| Gasoline, motor oil, coolant, and other products | 373.7 | 370.7 | 365.9 | 362.4 | 364.3 | 366.6 | 365.6 | 375.5 | 372.2 | 367.3 | 363.8 | 365.7 | 367.9 | 366.8 |
| Insurance and finance | .... | .... | .... | .... | .... | .... | .... | 419.8 | 417.7 | 422.0 | 437.3 | 441.6 | 440.3 | 440.4 |
| Utilities and public transportation | 340.7 | 358.0 | 362.9 | 365.6 | 367.0 | 362.8 | 358.5 | 339.4 | 357.1 | 362.0 | 364.6 | 366.1 | 361.5 | 357.1 |
| Housekeeping and home maintenance services | 364.2 | 370.0 | 370.9 | 371.6 | 373.0 | 373.7 | 373.7 | 370.4 | 378.4 | 379.9 | 380.3 | 382.3 | 382.7 | 381.9 |



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## 21. 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) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1984 | | | 1984 | | | 1984 | | | 1984 | | |
| | June | Aug. | Oct. | June | Aug. | Oct. | June | Aug. | Oct. | June | Aug. | Oct. |
| | Northeast | | | | | | | | | | | |
| **EXPENDITURE CATEGORY** | | | | | | | | | | | | |
| All items | 161.2 | 162.6 | 163.5 | 167.2 | 168.9 | 170.0 | 171.7 | 173.7 | 175.3 | 167.2 | 167.2 | 169.8 |
| Food and beverages | 153.0 | 154.2 | 153.7 | 151.0 | 152.0 | 152.6 | 156.0 | 157.5 | 156.1 | 152.6 | 152.7 | 152.0 |
| Housing | 165.9 | 167.4 | 168.2 | 177.3 | 180.6 | 180.9 | 184.0 | 187.7 | 190.1 | 173.4 | 172.3 | 177.4 |
| Apparel and upkeep | 122.2 | 125.7 | 128.2 | 125.5 | 125.6 | 129.0 | 131.1 | 131.1 | 139.0 | 136.4 | 138.5 | 141.4 |
| Transportation | 171.4 | 172.0 | 172.0 | 176.2 | 175.6 | 176.9 | 175.5 | 176.2 | 176.3 | 175.1 | 175.7 | 176.2 |
| Medical care | 174.0 | 176.8 | 178.3 | 179.2 | 181.0 | 182.7 | 177.7 | 178.9 | 182.7 | 183.0 | 184.9 | 188.7 |
| Entertainment | 146.6 | 149.7 | 150.9 | 143.8 | 148.2 | 149.9 | 152.3 | 153.9 | 155.3 | 153.6 | 153.6 | 154.8 |
| Other goods and services | 171.1 | 172.3 | 178.1 | 170.0 | 172.0 | 177.4 | 172.5 | 176.6 | 180.7 | 174.6 | 175.6 | 181.1 |
| **COMMODITY AND SERVICE GROUP** | | | | | | | | | | | | |
| Commodities | 154.2 | 154.9 | 155.3 | 159.8 | 159.8 | 161.0 | 159.8 | 160.2 | 160.9 | 159.1 | 158.7 | 159.1 |
| Commodities less food and beverages | 154.6 | 154.6 | 156.1 | 163.7 | 163.1 | 164.7 | 161.5 | 161.0 | 162.8 | 160.8 | 161.0 | 162.2 |
| Services | 169.8 | 172.0 | 173.4 | 178.2 | 182.3 | 183.3 | 190.4 | 195.0 | 198.0 | 179.1 | 179.1 | 185.2 |
| | North Central Region | | | | | | | | | | | |
| **EXPENDITURE CATEGORY** | | | | | | | | | | | | |
| All items | 171.3 | 172.3 | 173.4 | 167.7 | 168.1 | 168.9 | 164.7 | 166.6 | 167.2 | 164.8 | 166.6 | 167.5 |
| Food and beverages | 149.0 | 150.2 | 150.0 | 148.5 | 149.4 | 149.2 | 149.1 | 150.7 | 150.2 | 156.9 | 158.4 | 157.8 |
| Housing | 190.7 | 192.0 | 192.2 | 176.7 | 177.3 | 178.1 | 171.6 | 175.3 | 175.8 | 166.4 | 170.0 | 171.3 |
| Apparel and upkeep | 117.8 | 120.2 | 122.9 | 130.8 | 131.7 | 134.4 | 128.3 | 130.2 | 132.0 | 124.6 | 124.9 | 128.7 |
| Transportation | 172.3 | 171.9 | 174.0 | 174.1 | 173.4 | 173.9 | 176.2 | 175.1 | 176.7 | 174.7 | 174.9 | 175.1 |
| Medical care | 178.5 | 180.0 | 181.5 | 179.4 | 182.0 | 183.0 | 172.7 | 175.2 | 175.6 | 184.0 | 185.1 | 185.6 |
| Entertainment | 145.7 | 146.4 | 148.3 | 140.7 | 139.6 | 140.3 | 152.9 | 153.9 | 153.4 | 140.5 | 142.5 | 143.3 |
| Other goods and services | 166.8 | 168.7 | 172.9 | 180.5 | 180.6 | 184.7 | 164.3 | 167.1 | 169.4 | 177.4 | 178.4 | 181.4 |
| **COMMODITY AND SERVICE GROUP** | | | | | | | | | | | | |
| Commodities | 158.0 | 158.6 | 159.4 | 157.5 | 157.2 | 157.7 | 155.4 | 155.8 | 156.4 | 155.6 | 156.3 | 156.4 |
| Commodities less food and beverages | 162.2 | 162.4 | 164.0 | 161.1 | 160.2 | 161.1 | 158.3 | 157.9 | 159.1 | 155.0 | 155.3 | 155.7 |
| Services | 190.7 | 192.3 | 193.7 | 184.1 | 185.3 | 186.7 | 179.6 | 183.6 | 184.3 | 179.2 | 182.8 | 184.7 |
| | South | | | | | | | | | | | |
| **EXPENDITURE CATEGORY** | | | | | | | | | | | | |
| All items | 167.6 | 168.7 | 170.2 | 169.1 | 170.6 | 171.9 | 167.1 | 168.6 | 169.5 | 168.4 | 168.7 | 170.1 |
| Food and beverages | 152.6 | 157.3 | 157.2 | 155.3 | 157.2 | 157.5 | 152.5 | 154.0 | 153.9 | 156.1 | 157.8 | 158.3 |
| Housing | 174.5 | 175.4 | 176.9 | 174.7 | 176.5 | 177.0 | 172.6 | 174.1 | 174.2 | 176.4 | 177.0 | 177.1 |
| Apparel and upkeep | 132.2 | 131.5 | 137.6 | 128.3 | 127.8 | 132.8 | 126.4 | 127.4 | 131.5 | 113.6 | 110.8 | 117.4 |
| Transportation | 173.9 | 175.6 | 176.7 | 178.0 | 179.0 | 180.2 | 176.0 | 177.5 | 179.0 | 174.3 | 173.8 | 174.8 |
| Medical care | 179.1 | 180.6 | 182.2 | 180.4 | 183.5 | 184.9 | 188.0 | 188.6 | 191.0 | 193.4 | 193.4 | 197.7 |
| Entertainment | 144.7 | 147.7 | 148.7 | 160.0 | 161.9 | 162.7 | 152.8 | 153.4 | 154.1 | 150.7 | 151.7 | 152.8 |
| Other goods and services | 170.8 | 172.5 | 176.7 | 173.0 | 174.8 | 179.9 | 172.1 | 174.5 | 177.6 | 169.9 | 171.3 | 174.5 |
| **COMMODITY AND SERVICE GROUP** | | | | | | | | | | | | |
| Commodities | 159.1 | 159.4 | 160.7 | 160.6 | 161.3 | 162.6 | 158.0 | 159.2 | 160.0 | 158.2 | 158.5 | 159.8 |
| Commodities less food and beverages | 160.2 | 160.0 | 162.2 | 162.7 | 162.7 | 164.5 | 160.5 | 161.6 | 162.9 | 159.0 | 158.4 | 160.2 |
| Services | 179.1 | 181.3 | 183.1 | 181.6 | 184.2 | 185.5 | 181.2 | 182.9 | 184.2 | 183.5 | 184.1 | 185.6 |
| | West | | | | | | | | | | | |
| **EXPENDITURE CATEGORY** | | | | | | | | | | | | |
| All items | 168.6 | 170.3 | 172.2 | 169.1 | 169.5 | 170.6 | 160.9 | 161.4 | 162.7 | 167.2 | 167.8 | 170.1 |
| Food and beverages | 154.6 | 156.5 | 156.8 | 158.8 | 159.8 | 159.7 | 154.5 | 155.4 | 155.8 | 161.6 | 163.0 | 164.2 |
| Housing | 176.3 | 179.3 | 180.5 | 174.3 | 174.7 | 175.0 | 158.7 | 159.9 | 161.1 | 167.3 | 167.8 | 172.2 |
| Apparel and upkeep | 121.4 | 126.5 | 129.3 | 127.2 | 130.5 | 131.2 | 122.7 | 122.5 | 127.7 | 142.9 | 145.1 | 147.1 |
| Transportation | 179.5 | 177.6 | 181.0 | 180.5 | 178.6 | 181.2 | 176.3 | 174.5 | 176.3 | 173.5 | 172.6 | 172.7 |
| Medical care | 183.3 | 185.7 | 188.0 | 181.5 | 182.7 | 183.6 | 187.5 | 189.5 | 190.5 | 186.6 | 188.2 | 188.7 |
| Entertainment | 194.9 | 144.8 | 145.7 | 148.9 | 148.8 | 152.6 | 154.8 | 157.9 | 154.0 | 162.0 | 163.2 | 165.9 |
| Other goods and services | 171.5 | 173.7 | 182.7 | 173.0 | 174.7 | 179.3 | 169.4 | 170.1 | 174.4 | 175.3 | 176.0 | 179.3 |
| **COMMODITY AND SERVICE GROUP** | | | | | | | | | | | | |
| Commodities | 155.7 | 155.8 | 158.0 | 159.7 | 159.5 | 160.3 | 157.6 | 157.1 | 158.2 | 157.0 | 157.6 | 158.7 |
| Commodities less food and beverages | 156.3 | 155.3 | 158.7 | 159.9 | 159.0 | 160.4 | 158.8 | 157.2 | 158.6 | 154.6 | 154.7 | 155.8 |
| Services | 185.0 | 188.4 | 190.1 | 181.8 | 182.7 | 184.2 | 164.6 | 166.5 | 168.0 | 182.2 | 182.8 | 186.7 |



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## 22. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

| Area[1] | All Urban Consumers | | | | | | | Urban Wage Earners and Clerical Workers | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1983 | 1984 | | | | | | 1983 | 1984 | | | | | |
| | Nov. | June | July | Aug. | Sept. | Oct. | Nov. | Nov. | June | July | Aug. | Sept. | Oct. | Nov. |
| U.S. city average[2] | 303.1 | 310.7 | 311.7 | 313.0 | 314.5 | 315.3 | 315.3 | 301.4 | 306.2 | 307.5 | 310.3 | 312.1 | 312.2 | 311.9 |
| *Anchorage, Alaska (10/67 = 100)* | 295.4 | . . . | 275.5 | . . . | 277.9 | . . . | 303.2 | 264.0 | . . . | 266.8 | . . . | 270.9 | . . . | 270.9 |
| Atlanta, Ga. | . . . | 314.0 | . . . | 315.9 | . . . | 317.8 | . . . | . . . | 310.9 | . . . | 315.0 | . . . | 318.2 | . . . |
| Baltimore, Md. | 304.7 | . . . | 313.0 | . . . | 316.4 | . . . | 315.3 | 302.4 | . . . | 311.6 | . . . | 316.4 | . . . | 315.1 |
| Boston, Mass. | 294.7 | . . . | 304.9 | . . . | 307.4 | . . . | 307.8 | 293.2 | . . . | 300.8 | . . . | 305.3 | . . . | 306.5 |
| Buffalo, N.Y. | . . . | 292.5 | . . . | 294.5 | . . . | 296.1 | . . . | . . . | 287.3 | . . . | 288.6 | . . . | 292.0 | . . . |
| Chicago, Ill.–Northwestern Ind. | 305.9 | 310.0 | 310.8 | 313.4 | 315.1 | 314.1 | 313.9 | 295.7 | 298.3 | 299.0 | 301.2 | 304.3 | 301.8 | 302.6 |
| Cincinnati, Ohio–Ky.–Ind. | 316.8 | . . . | 323.3 | . . . | 325.2 | . . . | 325.4 | 316.0 | . . . | 314.4 | . . . | 320.9 | . . . | 319.3 |
| Cleveland, Ohio | . . . | 336.7 | . . . | 337.3 | . . . | 340.1 | . . . | . . . | 321.9 | . . . | 328.1 | . . . | 324.4 | . . . |
| Dallas-Ft. Worth, Tex. | . . . | 325.7 | . . . | 329.8 | . . . | 333.7 | . . . | . . . | 318.7 | . . . | 324.8 | . . . | 328.2 | . . . |
| Denver-Boulder, Colo. | 339.8 | . . . | 349.9 | . . . | 351.3 | . . . | 349.4 | 338.4 | . . . | 347.1 | . . . | 346.1 | . . . | 345.1 |
| Detroit, Mich. | 299.9 | 306.3 | 307.7 | 308.0 | 311.6 | 311.9 | 308.7 | 301.8 | 297.0 | 298.3 | 298.9 | 301.3 | 302.9 | 299.8 |
| Honolulu, Hawaii | . . . | 284.7 | . . . | 286.0 | . . . | 287.4 | . . . | . . . | 290.9 | . . . | 293.6 | . . . | 294.5 | . . . |
| Houston, Tex. | . . . | 330.5 | . . . | 332.0 | . . . | 334.4 | . . . | . . . | 329.5 | . . . | 333.6 | . . . | 334.4 | . . . |
| Kansas City, Mo.–Kansas | . . . | 310.8 | . . . | 311.2 | . . . | 314.1 | . . . | . . . | 299.9 | . . . | 304.5 | . . . | 307.7 | . . . |
| Los Angeles-Long Beach, Anaheim, Calif. | 296.5 | 305.6 | 305.9 | 308.6 | 310.2 | 311.9 | 311.8 | 297.8 | 303.4 | 300.3 | 305.1 | 304.2 | 302.6 | 304.3 |
| Miami, Fla. (11/77 = 100) | 164.0 | . . . | 167.0 | . . . | 167.9 | . . . | 168.3 | 164.9 | . . . | 168.0 | . . . | 169.7 | . . . | 169.6 |
| Milwaukee, Wis. | 312.5 | . . . | 321.3 | . . . | 324.0 | . . . | 324.3 | 328.9 | . . . | 341.6 | . . . | 347.9 | . . . | 342.7 |
| Minneapolis-St. Paul, Minn.–Wis. | . . . | 324.1 | . . . | 324.8 | . . . | 328.0 | . . . | . . . | 328.9 | . . . | 332.5 | . . . | 327.0 | . . . |
| New York, N.Y.–Northeastern N.J. | 293.9 | 301.6 | 302.9 | 305.0 | 306.9 | 306.6 | 308.0 | 287.3 | 293.0 | 294.7 | 297.1 | 299.9 | 300.4 | 301.2 |
| Northeast, Pa. (Scranton) | 288.5 | . . . | 297.3 | . . . | 298.2 | . . . | 301.1 | 290.9 | . . . | 295.9 | . . . | 297.7 | . . . | 300.6 |
| Philadelphia, Pa.–N.J. | 291.7 | 300.0 | 301.4 | 302.9 | 303.9 | 303.7 | 306.0 | 294.8 | 302.7 | 304.3 | 306.1 | 308.5 | 308.7 | 309.2 |
| Pittsburgh, Pa. | . . . | 319.7 | . . . | 319.1 | . . . | 321.1 | . . . | . . . | 301.4 | . . . | 303.3 | . . . | 304.2 | . . . |
| Portland, Oreg.–Wash. | 293.9 | . . . | 300.9 | . . . | 302.5 | . . . | 304.8 | 289.6 | . . . | 294.6 | . . . | 293.7 | . . . | 295.7 |
| St. Louis, Mo.–Ill. | 299.6 | . . . | 308.7 | . . . | 311.4 | . . . | 309.1 | 299.3 | . . . | 301.4 | . . . | 308.0 | . . . | 307.1 |
| San Diego, Calif. | 342.3 | . . . | 351.3 | . . . | 357.1 | . . . | 363.7 | 323.7 | . . . | 324.6 | . . . | 330.7 | . . . | 328.8 |
| San Francisco-Oakland, Calif. | . . . | 318.7 | . . . | 323.4 | . . . | 327.5 | . . . | . . . | 315.1 | . . . | 322.7 | . . . | 319.3 | . . . |
| Seattle-Everett, Wash. | 301.7 | . . . | 314.3 | . . . | 316.5 | . . . | 318.1 | 297.0 | . . . | 303.2 | . . . | 305.3 | . . . | 305.5 |
| Washington, D.C.–Md.–Va. | 298.9 | . . . | 308.3 | . . . | 313.0 | . . . | 315.8 | 303.0 | . . . | 310.8 | . . . | 317.9 | . . . | 319.8 |

[1]The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is used for New York and Chicago.

[2]Average of 85 cities.



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## 23. Producer Price Indexes, by stage of processing

[1967 = 100]

| Commodity grouping | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| **FINISHED GOODS** | | | | | | | | | | | | | | |
| Finished goods | 285.2 | 287.2 | 289.5 | 290.6 | 291.4 | 291.2 | 291.1 | 290.9 | 292.3 | r291.3 | 289.8 | 291.6 | 292.3 | 292.4 |
| Finished consumer goods | 284.6 | 286.3 | 288.9 | 290.1 | 291.1 | 290.3 | 290.3 | 290.1 | 291.6 | r290.4 | 288.9 | 290.3 | 291.1 | 291.3 |
| Finished consumer foods | 261.8 | 264.3 | 272.2 | 274.7 | 276.6 | 274.3 | 271.7 | 270.8 | 275.3 | r274.0 | 273.4 | 271.8 | 272.3 | 274.4 |
| Crude | 258.7 | 266.0 | 306.9 | 313.6 | 323.7 | 299.0 | 270.7 | 258.9 | 270.8 | r274.6 | 274.7 | 277.2 | 265.5 | 270.8 |
| Processed | 260.0 | 262.0 | 266.9 | 269.0 | 270.2 | 269.9 | 269.6 | 269.7 | 273.4 | r271.7 | 271.0 | 269.1 | 270.7 | 272.5 |
| Nondurable goods less foods | 335.3 | 335.2 | 335.0 | 336.1 | 336.7 | 336.4 | 338.9 | 339.2 | 339.2 | r336.9 | 336.9 | 337.7 | 339.1 | 337.2 |
| Durable goods | 233.1 | 235.9 | 235.9 | 236.1 | 236.6 | 236.7 | 236.6 | 236.4 | 236.6 | r236.7 | 232.5 | 237.9 | 238.4 | 238.8 |
| Consumer nondurable goods less food and energy | 231.5 | 234.0 | 236.0 | 236.5 | 237.1 | 237.9 | 238.7 | 238.7 | 240.1 | r240.1 | 240.9 | 240.4 | 241.3 | 241.1 |
| Capital equipment | 287.2 | 290.4 | 291.6 | 292.3 | 292.3 | 294.5 | 293.9 | 293.9 | 294.6 | r294.6 | 292.9 | 296.0 | 296.3 | 296.4 |
| **INTERMEDIATE MATERIALS** | | | | | | | | | | | | | | |
| Intermediate materials, supplies, and components | 312.3 | 315.7 | 316.3 | 317.6 | 319.7 | 320.3 | 320.9 | 321.6 | 321.7 | 321.1 | 320.3 | 319.9 | 320.5 | 319.8 |
| Materials and components for manufacturing | 293.4 | 297.6 | 298.9 | 299.8 | 301.8 | 302.9 | 303.3 | 303.4 | 303.2 | r302.5 | 301.7 | 301.2 | 301.8 | 301.1 |
| Materials for food manufacturing | 258.4 | 262.9 | 268.6 | 268.3 | 269.6 | 271.4 | 276.0 | 275.2 | 276.4 | r272.4 | 269.9 | 267.2 | 269.2 | 268.4 |
| Materials for nondurable manufacturing | 280.0 | 285.7 | 286.6 | 287.0 | 290.3 | 291.8 | 292.8 | 292.8 | 292.7 | r291.3 | 291.1 | 290.3 | 290.1 | 289.3 |
| Materials for durable manufacturing | 319.4 | 322.8 | 323.4 | 325.6 | 328.2 | 329.1 | 327.2 | 326.9 | 325.4 | r325.1 | 323.2 | 321.9 | 323.2 | 321.8 |
| Components for manufacturing | 280.4 | 283.5 | 284.5 | 285.2 | 285.6 | 286.2 | 287.0 | 287.5 | 287.9 | r288.4 | 288.5 | 289.2 | 289.8 | 289.7 |
| Materials and components for construction | 301.8 | 304.9 | 305.5 | 307.8 | 309.6 | 310.5 | 309.8 | 310.3 | 310.9 | r312.0 | 311.3 | 311.6 | 311.6 | 312.3 |
| Processed fuels and lubricants | 564.8 | 561.7 | 556.4 | 561.3 | 567.8 | 562.9 | 567.2 | 575.2 | 576.6 | r569.2 | 567.6 | 564.2 | 566.2 | 561.1 |
| Manufacturing industries | 479.0 | 478.8 | 474.2 | 477.9 | 483.4 | 480.6 | 485.5 | 490.4 | 491.4 | r484.7 | 485.0 | 483.6 | 485.8 | 482.9 |
| Nonmanufacturing industries | 640.0 | 634.0 | 628.0 | 634.1 | 641.4 | 634.5 | 638.2 | 649.1 | 650.9 | 643.0 | 639.6 | 634.1 | 636.0 | 628.9 |
| Containers | 286.6 | 289.9 | 292.3 | 294.8 | 297.3 | 299.4 | 300.9 | 301.8 | 303.0 | 304.1 | 304.7 | 307.9 | 309.4 | 309.3 |
| Supplies | 277.1 | 281.6 | 282.6 | 282.2 | 283.0 | 284.2 | 284.3 | 283.9 | 283.2 | r284.1 | 283.3 | 283.1 | 283.1 | 283.1 |
| Manufacturing industries | 269.9 | 273.3 | 274.5 | 276.0 | 276.4 | 277.8 | 278.4 | 279.0 | 279.2 | r280.9 | 280.3 | 281.0 | 281.9 | 282.2 |
| Nonmanufacturing industries | 281.1 | 286.1 | 287.0 | 285.7 | 286.7 | 287.8 | 287.6 | 286.7 | 285.6 | r286.0 | 285.1 | 284.5 | 284.0 | 283.8 |
| Feeds | 225.9 | 243.9 | 243.7 | 227.7 | 232.2 | 233.5 | 229.2 | 221.6 | 211.7 | r208.3 | 202.9 | 195.4 | 192.4 | 191.1 |
| Other supplies | 292.8 | 295.5 | 296.6 | 298.0 | 298.4 | 299.5 | 300.0 | 300.5 | 301.0 | r302.2 | 302.1 | 302.8 | 302.8 | 302.8 |
| **CRUDE MATERIALS** | | | | | | | | | | | | | | |
| Crude materials for further processing | 323.6 | 327.5 | 333.5 | 332.6 | 338.8 | 339.4 | 338.0 | 333.0 | 334.1 | r328.9 | 326.7 | 320.0 | 323.7 | 323.1 |
| Foodstuffs and feedstuffs | 252.2 | 256.0 | 264.0 | 260.5 | 269.9 | 269.7 | 266.4 | 260.3 | 263.6 | r256.5 | 253.1 | 245.5 | 253.4 | 253.7 |
| Nonfood materials | 477.4 | 481.6 | 483.4 | 488.1 | 487.5 | 490.1 | 492.3 | 489.6 | 486.4 | r485.0 | 485.1 | 480.2 | 475.4 | 473.0 |
| Nonfood materials except fuel | 372.2 | 379.1 | 380.1 | 385.5 | 387.8 | 388.8 | 389.9 | 386.1 | 380.9 | r376.8 | 379.8 | 374.8 | 369.4 | 367.2 |
| Manufacturing industries | 381.9 | 389.4 | 390.4 | 395.5 | 398.8 | 399.5 | 400.2 | 395.7 | 390.1 | r386.1 | 389.1 | 384.0 | 377.9 | 375.4 |
| Construction | 270.6 | 272.7 | 273.7 | 280.3 | 276.5 | 279.2 | 282.7 | 283.5 | 282.0 | r277.6 | 280.2 | 276.4 | 276.2 | 276.2 |
| Crude fuel | 931.5 | 921.1 | 926.1 | 926.6 | 910.6 | 920.8 | 928.4 | 932.6 | 940.2 | r953.1 | 938.8 | 935.0 | 934.1 | 930.9 |
| Manufacturing industries | 1,094.5 | 1,079.0 | 1,086.5 | 1,086.3 | 1,064.8 | 1,079.6 | 1,088.1 | 1,094.5 | 1,103.5 | r1,120.1 | 1,101.4 | 1,097.6 | 1,095.8 | 1,091.1 |
| Nonmanufacturing industries | 816.3 | 810.1 | 813.2 | 814.2 | 802.6 | 809.1 | 816.1 | 818.4 | 825.1 | r835.1 | 824.3 | 820.4 | 820.3 | 818.3 |
| **SPECIAL GROUPINGS** | | | | | | | | | | | | | | |
| Finished goods excluding foods | 290.8 | 292.6 | 292.9 | 293.6 | 294.0 | 294.6 | 295.3 | 295.4 | 295.7 | r294.8 | 292.9 | 295.9 | 296.7 | 296.1 |
| Finished consumer goods excluding foods | 291.4 | 292.5 | 292.5 | 293.1 | 293.6 | 293.5 | 294.9 | 294.9 | 295.0 | r293.8 | 291.9 | 294.8 | 295.7 | 294.9 |
| Finished consumer goods less energy | 249.9 | 252.6 | 256.1 | 257.2 | 258.2 | 257.8 | 257.1 | 256.7 | 258.9 | r258.5 | 257.2 | 258.2 | 258.9 | 259.6 |
| Intermediate materials less foods and feeds | 317.1 | 320.2 | 320.6 | 322.3 | 324.4 | 325.0 | 325.4 | 326.4 | 326.7 | 326.3 | 325.7 | 325.6 | 326.1 | 325.5 |
| Intermediate materials less energy | 295.2 | 299.4 | 300.5 | 301.5 | 303.3 | 304.4 | 304.6 | 304.7 | 304.7 | r304.7 | 304.0 | 303.8 | 304.3 | 304.0 |
| Intermediate foods and feeds | 247.9 | 256.9 | 260.7 | 255.1 | 257.5 | 259.1 | 260.8 | 257.8 | 255.3 | r251.4 | 248.0 | 243.8 | 244.1 | 243.1 |
| Crude materials less agricultural products | 538.6 | 543.2 | 546.3 | 552.0 | 550.0 | 553.0 | 554.0 | 552.5 | 549.8 | r548.8 | 547.3 | 542.3 | 536.6 | 533.4 |
| Crude materials less energy | 246.5 | 252.0 | 258.3 | 257.3 | 265.1 | 265.4 | 263.3 | 257.6 | 258.5 | r251.9 | 250.1 | 243.0 | 248.3 | 248.3 |

[1]Data for August 1984 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.

r = revised.



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## 24. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

| Code | Commodity group and subgroup | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| | **All commodities** | 303.1 | 306.1 | 308.0 | 308.9 | 311.0 | 311.3 | 311.5 | 311.3 | 311.9 | r310.7 | 309.5 | 309.4 | 310.4 | 309.9 |
| | **All commodities (1957–59 = 100)** | 321.5 | 324.8 | 326.8 | 327.7 | 330.0 | 330.3 | 330.5 | 330.3 | 330.9 | r329.7 | 328.4 | 328.3 | 329.3 | 328.8 |
| | ***Farm products and processed foods and feeds*** | 253.9 | 257.9 | 264.4 | 263.4 | 267.9 | 267.3 | 265.8 | 262.8 | 264.9 | r261.4 | 259.6 | 255.8 | 258.4 | 259.2 |
| | **Industrial commodities** | 315.7 | 318.4 | 319.1 | 320.6 | 321.9 | 322.6 | 323.2 | 323.8 | 323.9 | r323.3 | 322.3 | 323.2 | 323.8 | 323.0 |
| | **FARM PRODUCTS AND PROCESSED FOODS AND FEEDS** | | | | | | | | | | | | | | |
| 01 | Farm products | 248.2 | 254.0 | 263.4 | 261.6 | 267.4 | 265.4 | 260.8 | 257.1 | 258.7 | r253.3 | 249.7 | 240.1 | 245.5 | 245.7 |
| 01–1 | Fresh and dried fruits and vegetables | 262.1 | 276.1 | 291.2 | 312.2 | 308.0 | 263.8 | 251.9 | 273.7 | 281.9 | r293.7 | 289.7 | 266.8 | 251.0 | 251.7 |
| 01–2 | Grains | 240.4 | 243.6 | 245.5 | 235.3 | 250.9 | 262.1 | 256.2 | 257.8 | 248.9 | 236.9 | 231.4 | 219.0 | 219.7 | 212.5 |
| 01–3 | Livestock | 243.1 | 238.2 | 250.7 | 251.9 | 260.8 | 260.8 | 254.8 | 250.0 | 260.1 | 253.7 | 244.9 | 233.9 | 247.7 | 252.3 |
| 01–4 | Live poultry | 206.5 | 241.2 | 252.6 | 251.3 | 258.4 | 240.8 | 240.6 | 227.7 | 259.2 | 218.6 | 239.7 | 219.2 | 247.1 | 231.7 |
| 01–5 | Plant and animal fibers | 227.0 | 244.1 | 229.3 | 232.7 | 250.3 | 252.3 | 259.1 | 252.7 | 235.8 | 211.3 | 210.3 | 202.8 | 201.4 | 203.0 |
| 01–6 | Fluid milk | 282.0 | 281.4 | 279.1 | 275.7 | 274.2 | 272.7 | 271.7 | 271.8 | 273.9 | 276.8 | 282.1 | 286.7 | 287.6 | 287.5 |
| 01–7 | Eggs | (2) | (2) | 282.4 | 280.7 | (2) | 264.4 | 201.0 | 177.9 | 184.9 | 181.2 | 177.6 | 179.9 | 176.0 | 187.5 |
| 01–8 | Hay, hayseeds, and oilseeds | 246.8 | 282.2 | 287.3 | 265.4 | 281.4 | 282.1 | 297.0 | 272.4 | 245.8 | 242.6 | 228.4 | 219.1 | 227.3 | 227.4 |
| 01–9 | Other farm products | 282.1 | 276.9 | 280.2 | 278.9 | 277.7 | 279.7 | 288.2 | 279.1 | 277.4 | r284.3 | 296.1 | 293.8 | 295.2 | 293.8 |
| 02 | Processed foods and feeds | 255.9 | 259.0 | 263.8 | 263.4 | 267.1 | 267.2 | 267.5 | 264.8 | 267.3 | r264.8 | 264.0 | 263.3 | 264.4 | 265.5 |
| 02–1 | Cereal and bakery products | 261.0 | 265.1 | 266.6 | 267.1 | 267.4 | 268.3 | 268.7 | 271.4 | 272.3 | r271.7 | 272.0 | 272.7 | 272.6 | 273.7 |
| 02–2 | Meats, poultry, and fish | 249.0 | 242.3 | 255.8 | 254.6 | 264.4 | 261.7 | 257.1 | 247.4 | 258.7 | r252.2 | 251.0 | 247.2 | 252.5 | 258.8 |
| 02–3 | Dairy products | 250.6 | 248.9 | 248.4 | 248.4 | 248.8 | 248.9 | 248.9 | 249.6 | 251.4 | r251.2 | 255.2 | 256.7 | 257.4 | 255.9 |
| 02–4 | Processed fruits and vegetables | 277.4 | 282.9 | 287.7 | 292.8 | 295.4 | 295.1 | 297.7 | 298.2 | 296.2 | r295.7 | 292.0 | 295.5 | 291.7 | 292.6 |
| 02–5 | Sugar and confectionery | 292.8 | 297.5 | 299.9 | 300.5 | 301.1 | 301.9 | 303.8 | 304.1 | 305.0 | r303.7 | 302.7 | 300.2 | 297.1 | 296.3 |
| 02–6 | Beverages and beverage materials | 263.6 | 266.5 | 268.7 | 270.2 | 269.9 | 271.4 | 273.5 | 272.8 | 273.9 | r274.6 | 274.7 | 276.8 | 276.2 | 275.9 |
| 02–7 | Fats and oils | 238.8 | 271.7 | 278.3 | 273.3 | 286.2 | 293.4 | 328.5 | 328.1 | 312.7 | r305.9 | 297.2 | 302.2 | 310.9 | 297.6 |
| 02–8 | Miscellaneous processed foods | 254.8 | 266.2 | 266.8 | 275.4 | 275.2 | 276.3 | 276.2 | 279.9 | 281.3 | r280.4 | 280.8 | 282.2 | 282.0 | 282.2 |
| 02–9 | Prepared animal feeds | 228.8 | 245.6 | 245.2 | 231.1 | 235.3 | 236.3 | 232.3 | 225.5 | 216.7 | r213.9 | 209.0 | 202.4 | 199.7 | 198.8 |
| | **INDUSTRIAL COMMODITIES** | | | | | | | | | | | | | | |
| 03 | Textile products and apparel | 205.1 | 207.8 | 208.2 | 209.6 | 209.9 | 209.9 | 210.5 | 210.2 | 210.5 | r210.1 | 210.6 | 209.6 | 210.0 | 209.8 |
| 03–1 | Synthetic fibers (12/75 = 100) | 156.7 | 158.1 | 159.2 | 161.4 | 160.7 | 160.7 | 160.6 | 160.5 | 160.1 | 159.9 | 159.2 | 158.2 | 157.5 | 157.4 |
| 03–2 | Processed yarns and threads (12/75 = 100) | 138.5 | 142.9 | 142.3 | 144.0 | 144.0 | 143.6 | 144.3 | 143.8 | 143.7 | 142.1 | 142.2 | 141.3 | 140.9 | 140.7 |
| 03–3 | Gray fabrics (12/75 = 100) | 147.0 | 152.0 | 151.1 | 152.8 | 153.2 | 153.0 | 153.7 | 154.3 | 154.5 | 154.4 | 154.5 | 154.7 | 154.7 | 153.7 |
| 03–4 | Finished fabrics (12/75 = 100) | 123.1 | 124.8 | 124.8 | 126.3 | 127.0 | 126.9 | 127.3 | 127.1 | 126.9 | r127.1 | 127.0 | 126.2 | 126.1 | 125.8 |
| 03–81 | Apparel | 197.4 | 199.0 | 200.1 | 200.5 | 200.7 | 200.7 | 201.3 | 200.8 | 201.6 | r201.0 | 202.3 | 200.5 | 201.6 | 201.8 |
| 03–82 | Textile housefurnishings | 235.1 | 235.3 | 236.0 | 236.6 | 237.6 | 238.1 | 238.8 | 239.0 | 239.1 | r240.0 | 240.5 | 242.4 | 241.4 | 241.3 |
| 04 | Hides, skins, leather, and related products | 271.1 | 277.3 | 279.1 | 283.3 | 286.7 | 286.8 | 288.5 | 290.1 | 288.9 | r298.7 | 290.3 | 288.9 | 283.2 | 282.9 |
| 04–2 | Leather | 330.7 | 344.1 | 346.2 | 362.0 | 378.0 | 386.7 | 390.7 | 387.8 | 383.2 | r378.1 | 372.6 | 368.9 | 360.1 | 353.1 |
| 04–3 | Footwear | 250.1 | 250.3 | 250.9 | 252.5 | 253.5 | 251.6 | 251.5 | 250.5 | 250.1 | 250.9 | 252.1 | 252.2 | 249.1 | 249.6 |
| 04–4 | Other leather and related products | 252.7 | 255.6 | 257.2 | 257.3 | 257.3 | 258.1 | 259.8 | 267.9 | 267.2 | r267.7 | 271.7 | 272.4 | 272.1 | 271.0 |
| 05 | Fuels and related products and power | 664.7 | 658.0 | 652.1 | 656.0 | 658.7 | 654.7 | 660.6 | 665.9 | 665.0 | r657.9 | 654.8 | 654.5 | 655.3 | 648.9 |
| 05–1 | Coal | 537.4 | 543.9 | 541.4 | 544.7 | 546.2 | 542.0 | 547.4 | 544.3 | 548.1 | r550.0 | 549.6 | 543.7 | 546.4 | 548.2 |
| 05–2 | Coke | 444.6 | 415.4 | 418.3 | 437.9 | 438.9 | 442.8 | 441.6 | 442.9 | 441.9 | 437.3 | 435.4 | 432.4 | 432.8 | 435.0 |
| 05–3 | Gas fuels[3] | 1,146.9 | 1,120.4 | 1,123.0 | 1,107.8 | 1,091.0 | 1,102.1 | 1,104.1 | 1,109.1 | 1,110.8 | r1,116.9 | 1,119.1 | 1,113.1 | 1,110.1 | 1,101.8 |
| 05–4 | Electric power | 417.9 | 417.3 | 420.5 | 424.4 | 426.7 | 431.5 | 433.1 | 446.7 | 453.5 | r456.7 | 456.8 | 445.8 | 443.4 | 441.2 |
| 05–61 | Crude petroleum[4] | 681.4 | 674.4 | 675.6 | 675.6 | 675.6 | 673.9 | 673.9 | 673.3 | 672.6 | r671.1 | 672.0 | 670.8 | 658.5 | 652.6 |
| 05–7 | Petroleum products, refined[5] | 684.3 | 678.3 | 663.2 | 669.8 | 680.2 | 667.0 | 677.6 | 679.7 | 673.3 | r654.8 | 647.5 | 655.7 | 661.8 | 652.5 |
| 06 | Chemicals and allied products | 293.0 | 297.7 | 298.1 | 296.5 | 300.1 | 302.0 | 302.7 | 302.2 | 302.6 | r301.1 | 301.4 | 301.0 | 301.6 | 301.0 |
| 06–1 | Industrial chemicals[6] | 342.9 | 349.2 | 347.4 | 337.6 | 344.7 | 345.4 | 345.3 | 345.4 | 345.6 | r340.9 | 338.1 | 336.4 | 334.7 | 335.2 |
| 06–21 | Prepared paint | 264.7 | 264.9 | 265.6 | 267.3 | 267.3 | 268.7 | 270.0 | 270.9 | 274.0 | 276.4 | 277.4 | 278.1 | 277.0 | 277.3 |
| 06–22 | Paint materials | 305.8 | 315.5 | 316.6 | 314.2 | 317.9 | 328.7 | 337.6 | 337.4 | 334.8 | r334.3 | 333.5 | 332.3 | 334.1 | 334.6 |
| 06–3 | Drugs and pharmaceuticals | 226.1 | 230.9 | 232.9 | 234.4 | 237.6 | 239.8 | 240.1 | 237.3 | 240.5 | r240.7 | 242.8 | 245.2 | 247.7 | 245.4 |
| 06–4 | Fats and oils, inedible | 285.6 | 318.8 | 334.2 | 349.0 | 366.7 | 383.2 | 399.2 | 414.3 | 378.8 | r350.1 | 359.4 | 365.4 | 378.7 | 376.2 |
| 06–5 | Agricultural chemicals and chemical products | 280.5 | 281.9 | 278.5 | 285.9 | 288.1 | 288.4 | 286.8 | 286.5 | 285.0 | r283.0 | 285.1 | 284.7 | 281.8 | 282.6 |
| 06–6 | Plastic resins and materials | 291.5 | 301.5 | 305.2 | 305.0 | 306.2 | 307.8 | 310.6 | 311.1 | 310.6 | r310.3 | 311.3 | 308.9 | 308.8 | 307.2 |
| 06–7 | Other chemicals and allied products | 273.6 | 273.6 | 274.9 | 273.3 | 275.2 | 277.0 | 277.2 | 275.9 | 277.3 | r278.3 | 278.7 | 278.4 | 281.2 | 280.4 |
| 07 | Rubber plastic products | 243.2 | 243.8 | 244.8 | 246.2 | 246.4 | 247.3 | 247.5 | 247.6 | 247.5 | r247.7 | 247.9 | 248.1 | 247.7 | 247.5 |
| 07–1 | Rubber and rubber products | 266.0 | 264.6 | 266.6 | 266.8 | 265.5 | 267.2 | 266.3 | 266.5 | 266.5 | r267.6 | 268.1 | 267.6 | 266.7 | 267.1 |
| 07–11 | Crude rubber | 280.8 | 282.2 | 282.9 | 282.8 | 283.0 | 282.3 | 277.7 | 277.2 | 275.6 | r273.0 | 273.5 | 271.5 | 270.3 | 272.2 |
| 07–12 | Tires and tubes | 245.3 | 242.3 | 244.1 | 243.7 | 241.7 | 243.5 | 243.2 | 243.0 | 243.5 | r243.7 | 244.7 | 245.8 | 243.9 | 243.7 |
| 07–13 | Miscellaneous rubber products | 284.8 | 284.6 | 287.1 | 288.4 | 287.4 | 289.8 | 289.3 | 290.5 | 290.0 | r293.7 | 293.5 | 291.3 | 292.0 | 292.7 |
| 07–2 | Plastic products (6/78 = 100) | 135.3 | 136.8 | 136.9 | 138.4 | 139.4 | 139.4 | 140.2 | 140.2 | 140.2 | r139.7 | 139.7 | 140.2 | 140.2 | 139.8 |
| 08 | Lumber and wood products | 307.1 | 308.7 | 309.1 | 315.7 | 316.8 | 315.1 | 308.5 | 307.1 | 304.4 | r304.7 | 303.4 | 300.2 | 301.1 | 303.3 |
| 08–1 | Lumber | 352.6 | 351.3 | 352.6 | 364.9 | 370.5 | 369.4 | 355.6 | 350.5 | 342.6 | 342.3 | 338.4 | 334.4 | 336.8 | 339.6 |
| 08–2 | Millwork | 302.3 | 308.5 | 308.6 | 308.8 | 309.9 | 307.2 | 304.2 | 305.3 | 306.8 | r307.2 | 307.0 | 306.6 | 309.8 | 312.5 |
| 08–3 | Plywood | 244.1 | 247.2 | 248.2 | 249.5 | 248.6 | 243.6 | 235.4 | 236.3 | 237.2 | r245.9 | 243.4 | 240.1 | 235.0 | 235.8 |
| 08–4 | Other wood products | 230.6 | 230.6 | 230.0 | 230.8 | 231.8 | 233.3 | 234.7 | 235.0 | 235.2 | 236.5 | 235.9 | 236.5 | 236.6 | 238.8 |

See footnotes at end of table.



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## 24. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

| Code | Commodity group and subgroup | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| | **INDUSTRIAL COMMODITIES—Continued** | | | | | | | | | | | | | | |
| 09 | Pulp, paper, and allied products | 298.1 | 304.0 | 309.1 | 312.0 | 314.0 | 316.3 | 317.7 | 318.4 | 319.8 | r321.3 | 321.2 | 322.6 | 323.8 | 323.2 |
| 09–1 | Pulp, paper,and products,excluding building paper and board | 271.4 | 277.4 | 280.8 | 285.0 | 288.3 | 291.5 | 292.7 | 293.3 | 295.7 | 296.3 | 297.2 | 298.3 | 299.4 | 298.4 |
| 09–11 | Woodpulp | 346.9 | 355.5 | 366.2 | 374.2 | 378.6 | 401.1 | 407.9 | 410.3 | 410.6 | r410.2 | 409.5 | 399.5 | 398.4 | 392.7 |
| 09–12 | Wastepaper | (2) | 211.5 | 211.5 | 229.3 | 242.9 | 258.8 | 259.3 | 257.3 | 254.7 | 254.5 | 249.6 | 235.6 | 221.4 | 206.0 |
| 09–13 | Paper | 282.0 | 289.3 | 294.2 | 296.6 | 299.8 | 300.4 | 301.3 | 301.6 | 307.7 | r307.0 | 306.7 | 308.0 | 308.2 | 307.1 |
| 09–14 | Paperboard | 250.9 | 260.9 | 262.2 | 271.8 | 275.6 | 277.1 | 277.8 | 279.1 | 279.1 | r285.1 | 288.2 | 291.8 | 293.4 | 292.4 |
| 09–15 | Converted paper and paperboard products | 265.3 | 268.0 | 270.6 | 273.7 | 276.5 | 279.1 | 280.1 | 280.6 | 282.1 | 282.4 | 283.8 | 285.8 | 288.1 | 288.0 |
| 09–2 | Building paper and board | 250.0 | 250.4 | 251.9 | 255.1 | 258.6 | 263.8 | 265.2 | 265.1 | 262.9 | r259.8 | 258.1 | 257.3 | 253.5 | 253.6 |
| 10 | Metals and metal products | 307.2 | 311.9 | 312.9 | 314.8 | 316.8 | 317.9 | 317.4 | 317.3 | 316.1 | r316.2 | 315.3 | 315.4 | 316.2 | 315.3 |
| 10–1 | Iron and steel | 343.4 | 350.9 | 353.8 | 356.2 | 356.5 | 356.5 | 357.3 | 357.0 | 357.4 | r357.4 | 357.6 | 358.9 | 357.7 | 357.4 |
| 10–17 | Steel mill products | 352.8 | 360.0 | 362.5 | 363.6 | 363.6 | 364.2 | 364.7 | 365.4 | 367.6 | r368.1 | 367.9 | 368.9 | 368.1 | 368.0 |
| 10–2 | Nonferrous metals | 276.1 | 278.2 | 276.8 | 280.2 | 286.1 | 289.1 | 284.1 | 282.8 | 277.0 | r275.3 | 271.3 | 266.1 | 269.5 | 265.6 |
| 10–3 | Metal containers | 335.4 | 340.3 | 344.1 | 344.8 | 345.4 | 345.3 | 348.0 | 348.0 | 348.0 | r352.0 | 352.6 | 358.0 | 357.5 | 357.5 |
| 10–4 | Hardware | 290.7 | 293.5 | 293.3 | 294.0 | 294.4 | 294.6 | 295.3 | 296.2 | 297.1 | r298.0 | 297.3 | 299.0 | 299.1 | 300.2 |
| 10–5 | Plumbing fixtures and brass fittings | 289.3 | 294.0 | 293.9 | 296.4 | 299.9 | 301.5 | 301.6 | 302.4 | 302.8 | r304.6 | 299.0 | 300.6 | 301.4 | 302.7 |
| 10–6 | Heating equipment | 243.6 | 245.7 | 247.3 | 248.1 | 248.5 | 250.3 | 252.4 | 252.7 | 255.2 | 255.5 | 257.5 | 258.2 | 256.3 | 256.4 |
| 10–7 | Fabricated structural metal products | 303.5 | 306.0 | 306.5 | 307.0 | 308.3 | 309.3 | 310.6 | 311.2 | 311.7 | 312.3 | 312.1 | 314.0 | 313.0 | 313.2 |
| 10–8 | Miscellaneous metal products | 283.6 | 289.6 | 290.3 | 291.1 | 292.1 | 293.1 | 293.4 | 294.3 | 294.1 | 295.0 | 295.6 | 297.7 | 301.3 | 301.6 |
| 11 | Machinery and equipment | 286.4 | 288.8 | 289.7 | 290.2 | 291.0 | 292.2 | 292.6 | 293.1 | 294.0 | r294.1 | 294.5 | 295.0 | 295.7 | 295.6 |
| 11–1 | Agricultural machinery and equipment | 326.3 | 330.1 | 331.0 | 331.4 | 332.9 | 335.5 | 338.2 | 337.8 | 338.6 | r338.8 | 337.9 | 338.0 | 337.2 | 337.6 |
| 11–2 | Construction machinery and equipment | 351.9 | 353.6 | 354.2 | 355.9 | 355.3 | 357.5 | 357.8 | 358.1 | 358.3 | r356.9 | 359.0 | 359.1 | 360.1 | 358.2 |
| 11–3 | Metalworking machinery and equipment | 326.5 | 328.7 | 329.2 | 330.2 | 330.6 | 332.6 | 333.5 | 333.4 | 334.2 | r334.7 | 335.5 | 336.2 | 337.8 | 338.2 |
| 11 4 | General purpose machinery and equipment | 308.2 | 309.8 | 310.7 | 310.9 | 311.7 | 313.1 | 313.2 | 314.0 | 315.2 | r315.5 | 315.8 | 316.1 | 316.5 | 316.5 |
| 11–6 | Special industry machinery and equipment | 337.1 | 342.0 | 342.0 | 343.2 | 344.6 | 346.8 | 348.2 | 348.6 | 351.9 | r352.8 | 350.3 | 350.5 | 351.0 | 351.8 |
| 11–7 | Electrical machinery and equipment | 240.1 | 243.8 | 244.7 | 245.7 | 246.7 | 247.7 | 248.1 | 249.1 | 249.4 | r249.4 | 249.3 | 250.4 | 251.2 | 251.5 |
| 11–9 | Miscellaneous machinery | 274.1 | 273.9 | 275.5 | 274.3 | 274.5 | 274.6 | 273.7 | 273.9 | 274.2 | r274.1 | 276.6 | 276.3 | 276.9 | 275.7 |
| 12 | Furniture and household durables | 214.0 | 215.7 | 216.8 | 217.2 | 217.4 | 218.2 | 219.1 | 219.1 | 219.2 | r219.2 | 218.9 | 219.0 | 219.6 | 219.7 |
| 12–1 | Household furniture | 234.7 | 237.2 | 237.9 | 239.1 | 240.0 | 240.8 | 241.5 | 242.3 | 242.2 | r242.7 | 243.0 | 243.9 | 244.9 | 245.4 |
| 12–2 | Commercial furniture | 286.3 | 289.5 | 293.4 | 294.7 | 294.7 | 296.1 | 297.4 | 297.0 | 298.1 | 298.4 | 298.5 | 298.0 | 301.0 | 299.8 |
| 12–3 | Floor coverings | 185.4 | 189.4 | 188.2 | 188.4 | 188.3 | 188.2 | 191.7 | 192.7 | 192.7 | r192.6 | 191.4 | 192.7 | 189.2 | 189.3 |
| 12–4 | Household appliances | 206.9 | 208.5 | 209.8 | 210.7 | 210.9 | 210.9 | 210.8 | 211.1 | 211.5 | r211.9 | 211.8 | 211.9 | 211.8 | 212.0 |
| 12–5 | Home electronic equipment | 86.1 | 84.5 | 84.4 | 84.1 | 84.0 | 84.9 | 84.5 | 83.9 | 84.2 | r83.8 | 83.5 | 81.8 | 83.1 | 82.7 |
| 12–6 | Other household durable goods | 313.1 | 315.2 | 318.0 | 316.8 | 316.7 | 319.1 | 321.6 | 319.9 | 318.6 | r316.8 | 315.9 | 317.0 | 319.2 | 320.1 |
| 13 | Nonmetallic mineral products | 325.2 | 328.9 | 330.1 | 332.2 | 333.4 | 335.8 | 337.6 | 338.3 | 339.8 | r340.8 | 340.4 | 339.6 | 339.5 | 339.9 |
| 13–11 | Flat glass | 229.7 | 229.9 | 229.5 | 229.9 | 229.1 | 230.2 | 226.1 | 226.3 | 226.3 | r219.6 | 217.9 | 218.0 | 217.4 | 218.1 |
| 13–2 | Concrete ingredients | 313.3 | 314.6 | 315.6 | 319.9 | 324.2 | 324.3 | 328.0 | 326.7 | 327.1 | r328.4 | 328.8 | 328.0 | 329.5 | 329.3 |
| 13–3 | Concrete products | 302.0 | 304.2 | 304.9 | 305.9 | 306.3 | 308.8 | 309.4 | 310.0 | 310.6 | 311.3 | 311.4 | 311.5 | 311.4 | 312.1 |
| 13–4 | Structural clay products, excluding refractories | 277.8 | 284.2 | 284.3 | 283.7 | 284.3 | 285.0 | 285.6 | 286.2 | 286.4 | r288.2 | 288.7 | 288.8 | 288.4 | 289.0 |
| 13–5 | Refractories | 341.3 | 353.3 | 353.9 | 356.0 | 361.1 | 361.8 | 361.8 | 361.8 | 361.8 | r361.6 | 362.7 | 362.7 | 366.6 | 366.6 |
| 13–6 | Asphalt roofing | 384.0 | 384.2 | 385.0 | 392.3 | 385.6 | 396.2 | 398.7 | 394.2 | 394.5 | r408.4 | 406.7 | 410.3 | 410.6 | 412.0 |
| 13–7 | Gypsum products | 286.0 | 322.6 | 328.6 | 339.4 | 339.6 | 353.0 | 360.9 | 360.3 | 359.7 | r359.5 | 356.1 | 339.4 | 332.3 | 329.3 |
| 13–8 | Glass containers | 352.4 | 350.4 | 350.6 | 350.6 | 351.6 | 358.0 | 361.9 | 365.0 | 366.3 | r366.1 | 364.6 | 364.8 | 364.9 | 364.1 |
| 13–9 | Other nonmetallic minerals | 480.2 | 486.8 | 486.4 | 488.1 | 490.8 | 491.3 | 494.9 | 499.2 | 507.1 | r511.4 | 510.1 | 507.4 | 505.5 | 507.2 |
| 14 | Transportation equipment (12/68 = 100) | 256.7 | 260.7 | 261.5 | 262.2 | 262.4 | 263.4 | 262.5 | 262.2 | 262.5 | r262.3 | 257.4 | 264.8 | 265.2 | 265.4 |
| 14–1 | Motor vehicles and equipment | 256.8 | 260.6 | 261.1 | 261.2 | 261.5 | 261.9 | 261.5 | 261.1 | 261.4 | r261.1 | 254.6 | 263.3 | 263.6 | 263.9 |
| 14–4 | Railroad equipment | 350.2 | 350.5 | 351.5 | 351.5 | 352.0 | 380.8 | 354.4 | 354.4 | 356.5 | r357.7 | 364.6 | 364.6 | 358.8 | 358.8 |
| 15 | Miscellaneous products | 289.6 | 292.8 | 294.5 | 294.9 | 294.9 | 294.6 | 294.3 | 295.7 | 297.3 | r298.2 | 296.4 | 297.0 | 297.0 | 297.1 |
| 15–1 | Toys, sporting goods, small arms, ammunition | 225.2 | 225.3 | 227.4 | 227.8 | 227.6 | 226.5 | 226.8 | 226.5 | 226.5 | r226.5 | 226.9 | 227.2 | 227.4 | 227.5 |
| 15–2 | Tobacco products | 365.4 | 377.1 | 389.4 | 390.3 | 390.4 | 390.4 | 390.6 | 400.2 | 408.7 | 406.7 | 406.7 | 406.8 | 407.1 | 406.9 |
| 15–3 | Notions | 280.1 | 280.1 | 281.4 | 282.2 | 282.2 | 283.0 | 283.9 | 283.9 | 283.9 | 283.9 | 283.9 | 283.5 | 283.5 | 283.6 |
| 15–4 | Photographic equipment and supplies | 215.7 | 216.8 | (2) | 217.9 | 212.7 | 213.6 | 213.6 | 213.6 | 213.8 | r215.5 | 215.5 | 215.5 | 212.8 | 212.9 |
| 15–5 | Mobile homes (12/74 = 100) | 163.4 | 165.1 | 162.2 | 162.4 | 162.5 | 163.8 | 163.7 | 162.7 | 162.9 | r163.2 | 163.3 | 163.2 | 164.8 | 164.7 |
| 15–9 | Other miscellaneous products | 351.8 | 353.2 | 350.8 | 350.5 | 354.2 | 351.9 | 350.4 | 350.0 | 350.1 | r353.2 | 346.6 | 348.2 | 349.3 | 349.3 |

[1] Data for August 1984 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

[2] Not available.

[3] Prices for natural gas are lagged 1 month.

[4] Includes only domestic production.

[5] Most prices for refined petroleum products are lagged 1 month.

[6] Some prices for industrial chemicals are lagged 1 month.

r = revised.



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## 25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

| Commodity grouping | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| **All commodities—less farm products** | 306.6 | 309.4 | 310.7 | 311.9 | 313.6 | 314.2 | 314.7 | 314.8 | 315.3 | r314.4 | 313.4 | 314.1 | 314.7 | 314.3 |
| **All foods** | 257.5 | 260.2 | 268.3 | 270.2 | 272.9 | 270.6 | 268.9 | 267.5 | 271.7 | r269.6 | 268.9 | 267.2 | 267.9 | 269.5 |
| **Processed foods** | 258.7 | 260.4 | 266.2 | 267.0 | 271.2 | 270.9 | 271.4 | 269.0 | 272.8 | r270.0 | 269.5 | 269.1 | 270.9 | 272.4 |
| Industrial commodities less fuels | 279.3 | 282.9 | 284.3 | 285.5 | 286.7 | 287.8 | 287.8 | 288.0 | 288.2 | r288.3 | 287.5 | 288.5 | 289.1 | 288.9 |
| Selected textile mill products (Dec. 1975 = 100) | 138.2 | 140.1 | 140.0 | 141.3 | 141.7 | 141.7 | 142.7 | 142.7 | 142.7 | r142.9 | 142.7 | 142.6 | | 141.7 |
| Hosiery | 144.7 | 145.6 | 145.8 | 147.3 | 147.4 | 147.4 | 147.4 | 147.4 | 147.9 | r148.1 | 147.9 | 148.1 | 148.1 | 147.9 |
| Underwear and nightwear | 223.8 | 225.4 | 228.6 | 229.8 | r230.9 | 229.8 | 230.9 | 228.8 | 230.2 | r230.3 | 230.2 | 230.3 | 229.9 | 230.5 |
| Chemicals and allied products, including synthetic rubber and fibers and yarns | 283.5 | 287.4 | 287.6 | 286.2 | 289.1 | 290.6 | 291.1 | 290.5 | 291.3 | r290.2 | 290.2 | 289.7 | 290.0 | 289.6 |
| Pharmaceutical preparations | 224.8 | 231.8 | 233.9 | 235.9 | 238.8 | 241.5 | 241.9 | 240.6 | 244.6 | r245.1 | 245.7 | 249.0 | 252.2 | 250.8 |
| Lumber and wood products, excluding millwork | 321.2 | 321.4 | 322.6 | 331.4 | 334.9 | 332.5 | 320.4 | 317.2 | 312.2 | r315.0 | 311.4 | 307.6 | 307.5 | 309.7 |
| Steel mill products, including fabricated wire products | 351.2 | 357.8 | 360.1 | 361.1 | 361.2 | 361.8 | 362.4 | 363.1 | 365.2 | r365.8 | 365.6 | 366.7 | 366.0 | 365.8 |
| Finished steel mill products, excluding fabricated wire products | 351.5 | 359.2 | 361.7 | 363.2 | 363.1 | 363.6 | 364.1 | 364.8 | 367.0 | r367.5 | 367.2 | 368.4 | 367.6 | 367.4 |
| Finished steel mill products, including fabricated wire products | 349.9 | 356.9 | 359.2 | 360.5 | 360.5 | 361.0 | 361.6 | 362.4 | 364.4 | r365.0 | 364.8 | 366.7 | 365.3 | 365.1 |
| Special metals and metal products | 292.6 | 297.0 | 297.8 | 299.0 | 300.3 | 301.2 | 300.8 | 300.6 | 300.0 | r299.9 | 296.7 | 300.4 | 301.0 | 300.6 |
| Fabricated metal products | 294.3 | 298.4 | 299.3 | 300.0 | 301.1 | 301.9 | 302.9 | 303.6 | 303.9 | r305.0 | 305.0 | 307.3 | 308.1 | 308.5 |
| Copper and copper products | 196.6 | 185.0 | 182.1 | 185.1 | 192.9 | 199.4 | 191.8 | 189.5 | 184.4 | r183.3 | 182.1 | 176.6 | 183.4 | 179.3 |
| Machinery and motive products | 279.8 | 283.0 | 283.9 | 284.5 | 285.0 | 286.2 | 285.9 | 286.1 | 286.8 | r286.8 | 284.7 | 288.3 | 288.9 | 289.0 |
| Machinery and equipment, except electrical | 313.6 | 315.3 | 316.3 | 316.5 | 317.1 | 318.5 | 318.8 | 319.2 | 320.3 | r320.6 | 321.1 | 321.3 | 322.0 | 321.7 |
| Agricultural machinery, including tractors | 341.5 | 346.4 | 347.1 | 347.5 | 349.3 | 352.9 | 357.0 | 356.5 | 357.2 | r357.5 | 356.0 | 355.5 | 354.3 | 354.7 |
| Metalworking machinery | 357.1 | 358.2 | 359.3 | 362.1 | 361.6 | 363.0 | 363.2 | 363.3 | 364.6 | r365.1 | 366.5 | 368.6 | 370.6 | 371.4 |
| Total tractors | r369.7 | 373.8 | 374.0 | 374.5 | 376.1 | 384.1 | 386.8 | 386.7 | 386.9 | r385.7 | 386.4 | 386.2 | 381.6 | 379.7 |
| Agricultural machinery and equipment less parts | 330.0 | 334.2 | 335.2 | 335.7 | 337.4 | 340.4 | 343.6 | 343.0 | 344.0 | r344.3 | 343.0 | 342.7 | 341.7 | 342.1 |
| Farm and garden tractors less parts | 347.2 | 352.0 | 352.2 | 352.9 | 355.1 | 362.1 | 365.8 | 365.7 | 366.0 | r367.0 | 364.8 | 364.6 | 357.6 | 358.0 |
| Agricultural machinery, excluding tractors less parts | 337.1 | 342.2 | 343.3 | 343.4 | 344.9 | 345.7 | 350.1 | 349.2 | 350.4 | r350.1 | 349.2 | 348.5 | 351.7 | 352.2 |
| Construction materials | 297.7 | 301.3 | 302.3 | 305.0 | 306.6 | 307.1 | 306.2 | 306.3 | 306.7 | r307.6 | 306.7 | 307.1 | 306.6 | 307.3 |

[1] Data for August 1984 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.

r = revised.

## 26. Producer Price Indexes, by durability of product

[1967 = 100]

| Commodity grouping | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| Total durable goods | 286.7 | 290.1 | 291.0 | 292.2 | 293.2 | 294.2 | 293.8 | 293.8 | 293.8 | 293.9 | 292.5 | 294.2 | 294.8 | 294.8 |
| Total nondurable goods | 315.7 | 318.4 | 321.2 | 321.9 | 324.8 | 324.7 | 325.3 | 324.9 | 326.0 | r323.7 | 322.6 | 321.0 | 322.3 | 321.5 |
| Total manufactures | 295.7 | 298.8 | 300.0 | 301.2 | 302.8 | 303.2 | 303.8 | 303.9 | 304.3 | r303.3 | 302.1 | 303.0 | 303.9 | 303.5 |
| Durable | 287.3 | 290.5 | 291.3 | 292.4 | 293.3 | 294.3 | 293.9 | 294.0 | 294.2 | 294.5 | 293.0 | 294.8 | 295.5 | 295.5 |
| Nondurable | 304.4 | 307.5 | 309.1 | 310.4 | 312.7 | 312.5 | 314.1 | 314.2 | 314.8 | r312.6 | 311.7 | 311.5 | 312.5 | 311.8 |
| Total raw or slightly processed goods | 339.8 | 341.8 | 348.4 | 347.6 | 352.4 | 352.4 | 350.1 | 348.0 | 349.6 | r346.9 | 345.8 | 339.9 | 341.6 | 340.7 |
| Durable | 249.3 | 263.3 | 267.4 | 275.2 | 278.7 | 280.6 | 277.9 | 273.3 | 264.5 | 259.6 | 260.6 | 255.9 | 254.1 | 252.1 |
| Nondurable | 345.4 | 346.5 | 353.3 | 351.8 | 356.7 | 356.5 | 354.3 | 352.3 | 354.7 | r352.2 | 351.0 | 345.0 | 347.0 | 346.1 |

[1] Data for August 1984 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.

r = revised.



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## 27. Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

| 1972 SIC code | Industry description | Annual average 1983 | 1983 | 1984 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Dec. | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug.[1] | Sept. | Oct. | Nov. | Dec. |
| | **MINING** | | | | | | | | | | | | | | |
| 1011 | Iron ores (12/75 = 100) | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 | 177.1 |
| 1092 | Mercury ores (12/75 = 100) | 269.7 | 277.0 | 275.8 | 245.4 | 250.0 | 267.9 | 273.7 | 271.6 | 264.6 | 249.1 | 257.1 | 271.6 | 276.6 | 267.9 |
| 1311 | Crude petroleum and natural gas | 921.4 | 909.4 | 914.3 | 913.0 | 902.7 | 909.2 | 914.1 | 918.4 | 921.6 | r928.3 | 919.4 | 917.1 | 908.6 | 904.4 |
| | **MANUFACTURING** | | | | | | | | | | | | | | |
| 2067 | Chewing gum | 326.8 | 327.5 | 328.0 | 328.1 | 328.7 | 328.8 | 328.9 | 328.9 | 329.1 | 329.2 | 329.2 | 329.2 | 329.1 | 329.2 |
| 2074 | Cottonseed oil mills | 204.1 | 223.3 | 229.2 | 201.7 | 212.7 | 222.6 | 245.3 | 243.1 | 223.2 | r210.2 | 205.0 | 172.9 | 166.9 | 177.7 |
| 2083 | Malt | 234.1 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 241.6 | 234.5 | 234.5 |
| 2091 | Canned and cured seafoods (12/73 = 100) | 174.1 | 169.7 | 169.0 | 168.8 | 168.6 | 167.0 | 169.3 | 169.0 | 167.9 | 167.9 | 167.1 | 167.0 | 166.9 | 167.4 |
| 2098 | Macaroni and spaghetti | 256.8 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 261.9 | 258.6 |
| 2298 | Cordage and twine (12/77 = 100) | 139.3 | 139.0 | 139.0 | 139.2 | 139.2 | 139.3 | 139.4 | 139.4 | 138.6 | r138.5 | 137.4 | 137.4 | 138.6 | 138.6 |
| 2361 | Children's dresses and blouses (12/77 = 100) | 116.6 | 117.0 | 118.2 | 117.8 | 117.8 | 118.6 | 118.6 | 118.6 | 118.6 | 118.6 | 117.8 | 116.7 | 116.7 | 116.7 |
| 2381 | Fabric dress and work gloves | 293.3 | 297.6 | 295.2 | 299.1 | 302.3 | 304.8 | 315.6 | 315.6 | 315.6 | 315.6 | 315.6 | 315.6 | 315.6 | 315.6 |
| 2394 | Canvas and related products (12/77 = 100) | 147.0 | 147.8 | 150.6 | 150.6 | 150.6 | 150.6 | 150.6 | 150.6 | 150.6 | r150.6 | 152.9 | 152.9 | 152.9 | 152.9 |
| 2448 | Wood pallets and skids (12/75 = 100) | 149.2 | 153.6 | 154.0 | 156.0 | 157.9 | 161.6 | 165.1 | 165.4 | 168.6 | r168.6 | 166.4 | 166.0 | 168.2 | 168.5 |
| 2521 | Wood office furniture | 281.3 | 283.6 | 285.1 | 289.1 | 289.1 | 289.2 | 289.2 | 289.2 | 289.1 | r289.2 | 292.2 | 292.3 | 296.3 | 299.8 |
| 2654 | Sanitary food containers | 266.1 | 269.0 | 269.1 | 273.4 | 278.4 | 280.6 | 280.6 | 280.7 | 280.6 | r280.7 | 282.9 | 283.0 | 283.2 | 283.1 |
| 2655 | Fiber cans, drums, and similar products (12/75 = 100) | 186.5 | 189.6 | 189.6 | 189.7 | 191.4 | 193.1 | 193.1 | 193.1 | 194.7 | 194.7 | 194.7 | 194.7 | 197.8 | 197.7 |
| 2911 | Petroleum refining (6/76 = 100) | 253.8 | 249.7 | 244.4 | 246.7 | 249.8 | 244.9 | 248.1 | 248.8 | 246.5 | r240.1 | 238.3 | 241.0 | 242.8 | 239.4 |
| 3251 | Brick and structural clay tile | 332.3 | 339.9 | 340.2 | 339.9 | 341.1 | 342.6 | 343.8 | 345.0 | 345.3 | r345.3 | 348.7 | 348.9 | 349.1 | 349.3 |
| 3253 | Ceramic wall and floor tile (12/75 = 100) | 146.0 | 149.6 | 149.6 | 149.6 | 149.6 | 149.6 | 149.6 | 149.6 | 149.6 | r153.4 | 150.5 | 150.5 | 150.5 | 150.5 |
| 3255 | Clay refractories | 355.6 | 366.5 | 367.2 | 367.7 | 369.3 | 371.5 | 371.5 | 371.7 | 371.6 | r371.4 | 373.4 | 373.4 | 380.9 | 380.8 |
| 3259 | Structural clay products, n.e.c. | 230.2 | 235.0 | 235.0 | 232.1 | 232.4 | 232.4 | 232.4 | 232.4 | 232.4 | r232.3 | 232.9 | 233.0 | 233.0 | 233.0 |
| 3261 | Vitreous plumbing fixtures | 278.1 | 285.4 | 285.6 | 287.0 | 290.1 | 290.4 | 290.8 | 292.5 | 293.1 | 293.9 | 295.5 | 297.6 | 297.5 | 298.0 |
| 3263 | Fine earthenware food utensils | 366.5 | 368.5 | 383.6 | 384.0 | 375.9 | 382.6 | 376.5 | 372.1 | 373.3 | r374.0 | 372.8 | 373.1 | 376.3 | 380.9 |
| 3269 | Pottery products, n.e.c. (12/75 = 100) | 187.1 | 189.9 | 191.9 | 192.2 | 191.9 | 192.2 | 192.2 | 186.3 | 187.6 | r187.6 | 189.0 | 195.1 | 195.3 | 195.4 |
| 3274 | Lime (12/75 = 100) | 185.7 | 182.5 | 182.8 | 184.4 | 183.9 | 184.1 | 184.2 | 183.3 | 180.3 | r179.6 | 187.3 | 180.7 | 182.2 | 183.1 |
| 3297 | Nonclay refractories (12/74 = 100) | 205.2 | 212.8 | 213.1 | 215.4 | 220.6 | 220.1 | 220.1 | 220.1 | 219.9 | 219.9 | 220.3 | 220.0 | 220.2 | 220.3 |
| 3482 | Small arms ammunition (12/75 = 100) | 180.5 | 181.6 | 190.3 | 190.3 | 190.3 | 190.3 | 190.3 | 190.3 | 190.3 | r190.3 | 196.6 | 196.6 | 196.6 | 196.6 |
| 3623 | Welding apparatus, electric (12/72 = 100) | 243.6 | 244.7 | 246.0 | 246.7 | 247.2 | 248.7 | 248.8 | 250.4 | 250.7 | r250.8 | 245.9 | 247.3 | 247.5 | 248.0 |
| 3648 | Lighting equipment, n.e.c. (12/75 = 100) | 172.8 | 172.6 | 173.5 | 173.5 | 184.9 | 185.0 | 185.6 | 185.7 | 186.3 | r188.1 | 188.3 | 194.3 | 196.9 | 196.9 |
| 3671 | Electron tubes, receiving type | 435.4 | 469.8 | 490.6 | 490.8 | 490.8 | 490.9 | 490.9 | 491.3 | 491.6 | r491.6 | 491.6 | 492.0 | 527.2 | 527.2 |
| 3942 | Dolls (12/75 = 100) | 137.5 | 137.7 | 137.6 | 137.8 | 137.7 | 131.6 | 133.4 | 133.6 | 133.6 | r133.6 | 133.3 | 133.3 | 133.3 | 133.3 |
| 3944 | Games, toys, and children's vehicles | 238.7 | 236.2 | 239.3 | 240.6 | 240.1 | 239.7 | 239.1 | 239.2 | 239.2 | r239.1 | 234.8 | 235.0 | 234.9 | 234.9 |
| 3955 | Carbon paper and inked ribbons (12/75 = 100) | 139.2 | 139.3 | 144.3 | 149.0 | 149.0 | 149.1 | 149.1 | 149.1 | 146.7 | 146.7 | 146.7 | 139.7 | 139.7 | 139.7 |
| 3995 | Burial caskets (6/76 = 100) | 153.5 | 156.0 | 156.0 | 157.2 | 157.3 | 158.8 | 158.8 | 158.8 | 158.8 | 158.8 | 158.5 | 158.5 | 158.5 | 158.5 |
| 3996 | Hard surface floor coverings (12/75 = 100) | 161.5 | 163.5 | 165.2 | 165.2 | 165.2 | 166.3 | 166.4 | 166.4 | 168.7 | r168.8 | 168.8 | 169.7 | 169.7 | 169.7 |

[1]Data for August 1984 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.

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# PRODUCTIVITY DATA

PRODUCTIVITY DATA are compiled by the Bureau of Labor Statistics from establishment data and from measures of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

## Definitions

**Output** is the constant dollar gross product produced by the particular sector. **Output per hour of all persons** (labor productivity) measures the value of goods and services in constant prices produced per hour of labor. **Output per unit of capital services** (capital productivity) measures the value of goods and services in constant dollars per unit of capital services input.

**Multifactor productivity** measures the output per unit of combined labor and capital input. The traditional measure of output per hour reflects changes in capital per hour and a combination of other factors—such as, changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. The multifactor productivity measure differs from the familiar BLS measure of output per hour of all persons in that it excludes the effects of the substitution of capital for 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 costs** measure the labor compensation costs required to produce a 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 current dollar gross product and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and the value of inventory adjustments per unit of output.

The **implicit price deflator** is the price index for the gross product of the sector reported. It is derived by dividing the current dollar gross product by the constant dollar figures.

**Hours of all persons** measures the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all employee hour** describes labor productivity in nonfinancial corporations where there are no self-employed. The **capital services** input index used in the multifactor productivity computation is developed by BLS from measures of the net stock of physical assets—equipment, structures, land, and inventories—weighted by rental prices for each type of asset. **Combined units of labor and capital input** are computed by combining changes in labor and capital inputs with weights which represent each component's share of total output. The indexes for capital services and combined units of labor and capital are based on changing weights which are averages of the shares in the current and preceding year (the Tornquist index-number formula).

## Notes on the data

In the business sector and the nonfarm business sector, the output measure employed in the computation of output per hour is constructed from Gross Domestic Product rather than Gross National Product. Multifactor productivity measures (table 28) for the *private* business and *private* nonfarm business sectors differ from the business and nonfarm business sector measures used in the traditional labor productivity indexes (tables 29–32) in that they exclude the activities of government enterprises. There is no difference in the sector definition for manufacturing.

Output measures for the business sectors are derived from data supplied by the Bureau of Economic Analysis, U.S. Department of Commerce, and the Federal Reserve Board. Quarterly manufacturing output indexes are adjusted by the Bureau of Labor Statistics to annual estimates of output (gross product originating) from the Bureau of Economic Analysis. Compensation and hours data are from the Bureau of Labor Statistics and the Bureau of Economic Analysis.

The productivity and associated cost measures in the tables describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force. For a more complete description of the methodology underlying the multifactor productivity measures, see Bulletin 2178, "Trends in Multifactor Productivity, 1948–81" (September 1983).



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## 28. Annual indexes of multifactor productivity and related measures, selected years, 1950–83

[1977 = 100]

| Item | 1950 | 1960 | 1970 | 1973 | 1974 | 1975 | 1976 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **PRIVATE BUSINESS SECTOR** | | | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | | | |
| Output per hour of all persons | 49.7 | 64.8 | 86.1 | 94.8 | 92.5 | 94.5 | 97.6 | 100.5 | 99.3 | 98.7 | 100.6 | 100.8 | 103.7 |
| Output per unit of capital services | 98.6 | 98.5 | 98.5 | 103.0 | 96.5 | 92.0 | 96.1 | 101.8 | 100.3 | 95.6 | 94.1 | 89.6 | 92.3 |
| Multifactor productivity | 63.6 | 75.4 | 90.2 | 97.5 | 93.8 | 93.6 | 97.1 | 101.0 | 99.7 | 97.6 | 98.3 | 96.8 | 99.6 |
| Output | 39.5 | 53.3 | 78.3 | 91.8 | 89.9 | 88.0 | 93.7 | 105.5 | 107.9 | 106.4 | 109.2 | 106.3 | 111.1 |
| Inputs: | | | | | | | | | | | | | |
| Hours of all persons | 79.4 | 82.2 | 90.8 | 96.8 | 97.2 | 93.1 | 95.9 | 105.0 | 108.6 | 107.8 | 108.5 | 105.4 | 107.2 |
| Capital services | 40.1 | 54.1 | 79.4 | 89.1 | 93.1 | 95.7 | 97.5 | 103.6 | 107.5 | 111.4 | 116.0 | 118.7 | 120.3 |
| Combined units of labor and capital input | 62.1 | 70.7 | 86.7 | 94.1 | 95.8 | 94.0 | 96.5 | 104.5 | 108.2 | 109.0 | 111.0 | 109.8 | 111.5 |
| Capital per hour of all persons | 50.4 | 65.8 | 87.4 | 92.0 | 95.9 | 102.8 | 101.6 | 98.7 | 98.9 | 103.3 | 106.9 | 112.6 | 112.3 |
| **PRIVATE NONFARM BUSINESS SECTOR** | | | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | | | |
| Output per hour of all persons | 55.6 | 68.0 | 86.8 | 95.3 | 92.9 | 94.8 | 97.8 | 100.6 | 99.0 | 98.2 | 99.6 | 99.9 | 103.5 |
| Output per unit of capital services | 98.2 | 98.4 | 98.6 | 103.2 | 96.5 | 91.7 | 96.1 | 101.9 | 100.1 | 95.2 | 93.2 | 88.7 | 91.9 |
| Multifactor productivity | 68.1 | 77.6 | 90.7 | 97.9 | 94.1 | 93.6 | 97.2 | 101.0 | 99.4 | 97.2 | 97.4 | 95.9 | 99.3 |
| Output | 38.3 | 52.3 | 77.8 | 91.7 | 89.7 | 87.6 | 93.6 | 105.7 | 108.0 | 106.4 | 108.7 | 105.9 | 111.3 |
| Inputs: | | | | | | | | | | | | | |
| Hours of all persons | 69.0 | 77.0 | 89.7 | 96.2 | 96.5 | 92.4 | 95.7 | 105.1 | 109.1 | 108.4 | 109.1 | 106.0 | 107.6 |
| Capital services | 39.0 | 53.2 | 78.9 | 88.8 | 93.0 | 95.6 | 97.4 | 103.7 | 107.9 | 111.7 | 116.6 | 119.4 | 121.2 |
| Combined units of labor and capital input | 56.2 | 67.4 | 85.9 | 93.6 | 95.3 | 93.5 | 96.3 | 104.6 | 108.7 | 109.5 | 111.6 | 110.4 | 112.0 |
| Capital per hour of all persons | 56.6 | 69.1 | 88.0 | 92.4 | 96.3 | 103.4 | 101.8 | 98.7 | 98.9 | 103.1 | 106.8 | 112.6 | 112.6 |
| **MANUFACTURING** | | | | | | | | | | | | | |
| Productivity: | | | | | | | | | | | | | |
| Output per hour of all persons | 49.4 | 60.0 | 79.2 | 93.0 | 90.8 | 93.4 | 97.6 | 100.9 | 101.6 | 101.7 | 104.9 | 107.1 | 111.6 |
| Output per unit of capital services | 94.5 | 88.0 | 91.8 | 108.2 | 99.6 | 89.4 | 96.1 | 101.5 | 99.5 | 90.7 | 89.9 | 82.9 | 87.6 |
| Multifactor productivity | 59.9 | 67.0 | 82.3 | 96.8 | 93.1 | 92.2 | 97.1 | 101.1 | 101.0 | 98.8 | 100.8 | 100.3 | 104.9 |
| Output | 38.6 | 50.7 | 77.0 | 95.9 | 91.9 | 85.4 | 93.6 | 105.3 | 108.2 | 103.5 | 106.1 | 99.3 | 104.4 |
| Inputs: | | | | | | | | | | | | | |
| Hours of all persons | 78.2 | 84.4 | 97.3 | 103.1 | 101.2 | 91.4 | 95.9 | 104.4 | 106.5 | 101.7 | 101.1 | 92.7 | 93.5 |
| Capital services | 40.9 | 57.5 | 83.9 | 88.6 | 92.2 | 95.5 | 97.4 | 103.8 | 108.8 | 114.1 | 118.0 | 119.8 | 119.2 |
| Combined units of labor and capital input | 64.5 | 75.6 | 93.5 | 99.0 | 98.7 | 92.6 | 96.3 | 104.2 | 107.1 | 104.8 | 105.2 | 99.0 | 99.5 |
| Capital per hour of all persons | 52.3 | 68.2 | 86.2 | 85.9 | 91.1 | 104.5 | 101.6 | 99.4 | 102.1 | 112.2 | 116.7 | 129.2 | 127.5 |

## 29. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950–83

[1977 = 100]

| Item | 1950 | 1955 | 1960 | 1965 | 1970 | 1975 | 1976 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 50.4 | 58.3 | 65.2 | 78.3 | 86.2 | 94.6 | 97.6 | 100.5 | 99.3 | 98.8 | 100.7 | 100.9 | 103.7 |
| Compensation per hour | 20.0 | 26.4 | 33.9 | 41.7 | 58.2 | 85.6 | 92.9 | 108.5 | 118.7 | 131.1 | 143.4 | 155.0 | 161.7 |
| Real compensation per hour | 50.5 | 59.7 | 69.5 | 80.1 | 90.8 | 96.4 | 98.9 | 100.8 | 99.1 | 96.4 | 95.5 | 97.3 | 98.4 |
| Unit labor costs | 39.8 | 45.2 | 52.1 | 53.3 | 67.5 | 90.5 | 95.1 | 108.0 | 119.5 | 132.6 | 142.4 | 153.6 | 156.0 |
| Unit nonlabor payments | 43.4 | 47.6 | 50.6 | 57.6 | 63.2 | 90.4 | 94.0 | 106.7 | 112.8 | 119.3 | 136.7 | 136.8 | 145.5 |
| Implicit price deflator | 41.0 | 46.0 | 51.6 | 54.7 | 66.0 | 90.4 | 94.7 | 107.5 | 117.2 | 128.1 | 140.4 | 147.9 | 152.4 |
| Nonfarm business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 56.3 | 62.8 | 68.3 | 80.5 | 86.8 | 94.8 | 97.8 | 100.6 | 99.0 | 98.3 | 99.8 | 100.0 | 103.4 |
| Compensation per hour | 21.9 | 28.3 | 35.7 | 42.8 | 58.7 | 86.1 | 93.0 | 108.6 | 118.4 | 130.6 | 143.1 | 154.5 | 162.0 |
| Real compensation per hour | 55.1 | 64.0 | 73.1 | 82.3 | 91.5 | 96.9 | 99.0 | 100.8 | 98.8 | 96.0 | 95.3 | 97.0 | 98.6 |
| Unit labor costs | 38.8 | 45.1 | 52.3 | 53.2 | 67.6 | 90.8 | 95.1 | 108.0 | 119.5 | 132.8 | 143.5 | 154.5 | 156.6 |
| Unit nonlabor payments | 42.7 | 47.8 | 50.4 | 58.0 | 63.8 | 88.5 | 93.5 | 105.3 | 110.4 | 118.6 | 135.0 | 136.9 | 147.0 |
| Implicit price deflator | 40.1 | 46.0 | 51.6 | 54.8 | 66.3 | 90.0 | 94.6 | 107.1 | 116.5 | 128.1 | 140.6 | 148.6 | 153.4 |
| Nonfinancial corporations: | | | | | | | | | | | | | |
| Output per hour of all persons | (1) | (1) | 68.0 | 82.0 | 87.4 | 95.5 | 98.2 | 100.8 | 100.6 | 99.7 | 101.6 | 102.6 | 106.1 |
| Compensation per hour | (1) | (1) | 37.0 | 43.9 | 59.4 | 86.1 | 92.9 | 108.4 | 118.6 | 130.8 | 143.1 | 154.6 | 161.0 |
| Real compensation per hour | (1) | (1) | 75.8 | 84.3 | 92.7 | 97.0 | 98.9 | 100.7 | 99.0 | 96.2 | 95.3 | 97.0 | 97.9 |
| Unit labor costs | (1) | (1) | 54.4 | 53.5 | 68.0 | 90.2 | 94.6 | 107.5 | 117.8 | 131.2 | 140.9 | 150.6 | 151.8 |
| Unit nonlabor payments | (1) | (1) | 54.6 | 60.8 | 63.1 | 90.8 | 95.0 | 104.2 | 106.9 | 117.4 | 135.1 | 138.1 | 149.1 |
| Implicit price deflator | (1) | (1) | 54.5 | 56.1 | 66.3 | 90.4 | 94.7 | 106.4 | 114.1 | 126.4 | 138.9 | 146.3 | 150.9 |
| Manufacturing: | | | | | | | | | | | | | |
| Output per hour of all persons | 49.4 | 56.4 | 60.0 | 74.6 | 79.2 | 93.4 | 97.6 | 100.9 | 101.6 | 101.7 | 104.9 | 107.1 | 111.6 |
| Compensation per hour | 21.5 | 28.8 | 36.7 | 42.8 | 57.6 | 85.5 | 92.3 | 108.3 | 118.8 | 132.7 | 145.2 | 158.0 | 163.4 |
| Real compensation per hour | 54.0 | 65.1 | 75.1 | 82.3 | 89.8 | 96.2 | 98.3 | 100.6 | 99.2 | 97.6 | 96.8 | 99.2 | 99.4 |
| Unit labor costs | 43.4 | 51.0 | 61.1 | 57.5 | 72.7 | 91.5 | 94.6 | 107.3 | 117.0 | 130.5 | 138.4 | 147.6 | 146.4 |
| Unit nonlabor payments | 54.3 | 58.6 | 61.1 | 69.4 | 65.1 | 87.3 | 93.9 | 102.7 | 99.9 | 97.9 | 111.6 | 110.5 | 128.8 |
| Implicit price deflator | 46.6 | 53.2 | 61.1 | 61.0 | 70.5 | 90.3 | 94.4 | 106.0 | 112.0 | 120.9 | 130.6 | 136.7 | 141.2 |

[1] Not available.



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## 30. Annual changes in productivity, hourly compensation, unit costs, and prices, 1973–83

| Item | Year | | | | | | | | | | | Annual rate of change | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1973 | 1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1950–83 | 1973–83 |
| Business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 2.6 | −2.4 | 2.2 | 3.3 | 2.4 | 0.5 | −1.2 | −0.5 | 1.9 | 0.2 | 2.7 | 2.2 | 0.9 |
| Compensation per hour | 8.0 | 9.4 | 9.6 | 8.5 | 7.7 | 8.5 | 9.4 | 10.4 | 9.4 | 8.1 | 4.3 | 6.5 | 8.5 |
| Real compensation per hour | 1.6 | −1.4 | 0.5 | 2.6 | 1.2 | 0.8 | −1.7 | −2.7 | −0.9 | 1.9 | 1.1 | 2.0 | 0.1 |
| *Unit labor costs* | 5.3 | 12.1 | 7.3 | 5.1 | 5.1 | 8.0 | 10.7 | 11.0 | 7.3 | 7.9 | 1.6 | 4.2 | 7.6 |
| Unit nonlabor payments | 5.9 | 4.4 | 15.1 | 4.0 | 6.4 | 6.7 | 5.8 | 5.7 | 14.6 | 0.1 | 6.3 | 3.7 | r6.8 |
| Implicit price deflator | 5.5 | 9.5 | 9.8 | 4.7 | 5.6 | 7.5 | 9.0 | 9.3 | 9.6 | 5.3 | 3.0 | 4.1 | r7.3 |
| Nonfarm business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 2.4 | −2.5 | 2.0 | 3.2 | 2.2 | 0.6 | −1.5 | −0.7 | 1.5 | 0.2 | 3.5 | 1.9 | 1.2 |
| Compensation per hour | 7.6 | 9.4 | 9.6 | 8.1 | 7.5 | 8.6 | 9.0 | 10.3 | 9.6 | 8.0 | 4.9 | 6.3 | 8.5 |
| Real compensation per hour | 1.3 | −1.4 | 0.4 | 2.2 | 1.0 | 0.8 | −2.0 | −2.8 | −0.7 | 1.7 | 1.6 | 1.8 | 0.1 |
| Unit labor costs | 5.0 | 12.2 | 7.5 | 4.7 | 5.2 | 8.0 | 10.7 | 11.1 | 8.0 | 7.7 | 1.4 | 4.3 | 7.6 |
| Unit nonlabor payments | 1.3 | 5.9 | 16.7 | 5.7 | 6.9 | 5.3 | 4.8 | 7.4 | 13.8 | 1.4 | 7.4 | 3.8 | 7.5 |
| Implicit price deflator | 3.8 | 10.2 | 10.3 | 5.1 | 5.7 | 7.1 | 8.8 | 10.0 | 9.8 | 5.7 | 3.2 | 4.1 | 7.6 |
| Nonfinancial corporations: | | | | | | | | | | | | | |
| Output per hour of all employees | 2.4 | −3.7 | 2.9 | 2.9 | 1.8 | 0.8 | −0.2 | −0.9 | 1.9 | 1.0 | 3.3 | (1) | 1.1 |
| Compensation per hour | 7.5 | 9.4 | 9.6 | 7.9 | 7.6 | 8.4 | 9.4 | 10.3 | 9.4 | 8.0 | 4.2 | (1) | 8.5 |
| Real compensation per hour | 1.2 | −1.5 | 0.4 | 2.0 | 1.1 | 0.7 | −1.7 | −2.8 | −0.9 | 1.8 | 0.9 | (1) | 0.1 |
| Unit labor costs | 4.9 | 13.6 | 6.5 | 4.9 | 5.7 | 7.5 | 9.6 | 11.3 | 7.4 | 6.9 | 0.8 | (1) | 7.4 |
| Unit nonlabor payments | 1.5 | 7.1 | 20.1 | 4.6 | 5.3 | 4.2 | 2.6 | 9.8 | 15.1 | 2.3 | 7.9 | (1) | 7.1 |
| Implicit price deflator | 3.8 | 11.4 | 10.9 | 4.8 | 5.6 | 6.4 | 7.2 | 10.8 | 9.8 | 5.3 | 3.1 | (1) | 7.3 |
| Manufacturing: | | | | | | | | | | | | | |
| Output per hour of all persons | 5.4 | −2.4 | 2.9 | 4.5 | 2.5 | 0.9 | 0.7 | 0.2 | 3.1 | 2.1 | 4.3 | 2.5 | 1.8 |
| Compensation per hour | 7.2 | 10.6 | 11.9 | 8.0 | 8.3 | 8.3 | 9.7 | 11.7 | 9.4 | 8.8 | 3.4 | 6.3 | 9.0 |
| Real compensation per hour | 0.9 | −0.3 | 2.5 | 2.1 | 1.8 | 0.6 | −1.4 | −1.6 | −0.9 | 2.5 | 0.2 | 1.9 | 0.5 |
| Unit labor costs | 1.7 | 13.3 | 8.8 | 3.4 | 5.7 | 7.3 | 9.0 | 11.5 | 6.1 | 6.6 | −0.8 | 3.8 | 7.0 |
| Unit nonlabor payments | −3.3 | −1.8 | 25.9 | 7.5 | 6.5 | 2.7 | −2.6 | −2.1 | 14.1 | −1.0 | 16.5 | 2.6 | 6.2 |
| Implicit price deflator | 0.3 | 9.0 | 13.1 | 4.6 | 6.0 | 6.0 | 5.7 | 7.9 | 8.0 | 4.7 | 3.3 | 3.4 | 6.8 |

[1] Not available.

r = revised.

## 31. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted

[1977 = 100]

| Item | Annual average | | Quarterly indexes | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1982 | | | | 1983 | | | | 1984 | | |
| | 1982 | 1983 | I | II | III | IV | I | II | III | IV | I | II | III |
| Business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 100.9 | 103.7 | 100.9 | 100.3 | 100.9 | 101.6 | 102.2 | 103.6 | 104.3 | 104.7 | 105.7 | 107.0 | 107.3 |
| Compensation per hour | 155.0 | 161.7 | 151.4 | 153.9 | 156.7 | 158.4 | 160.2 | 161.0 | 161.8 | 164.2 | 166.7 | 167.5 | 169.4 |
| Real compensation per hour | 97.3 | 98.4 | 96.9 | 97.2 | 97.3 | 98.0 | 99.0 | 98.5 | 98.0 | 98.4 | 98.6 | 98.2 | 98.4 |
| Unit labor costs | 153.6 | 156.0 | 150.0 | 153.4 | 155.3 | 155.9 | 156.8 | 155.4 | 155.1 | 156.8 | 157.7 | 156.5 | 157.9 |
| Unit nonlabor payments | 136.8 | 145.5 | 138.0 | 137.0 | 135.8 | 136.5 | 139.8 | 144.6 | 147.9 | 149.1 | 151.6 | 157.2 | 158.3 |
| Implicit price deflator | 147.9 | 152.4 | 145.9 | 147.9 | 148.7 | 149.3 | 151.0 | 151.7 | 152.7 | 154.2 | 155.6 | 156.7 | 158.0 |
| Nonfarm business sector: | | | | | | | | | | | | | |
| Output per hour of all persons | 100.0 | 103.4 | 99.8 | 99.4 | 100.3 | 100.5 | 101.6 | 103.6 | 104.1 | 104.4 | 105.2 | 106.6 | 106.4 |
| Compensation per hour | 154.5 | 162.0 | 151.0 | 153.2 | 156.0 | 157.9 | 160.1 | 161.5 | 162.4 | 164.0 | 166.5 | 168.0 | 169.5 |
| Real compensation per hour | 97.0 | 98.6 | 96.7 | 96.8 | 96.9 | 97.7 | 99.0 | 98.8 | 98.3 | 98.2 | 98.5 | 98.5 | 98.5 |
| Unit labor costs | 154.5 | 156.6 | 151.4 | 154.2 | 155.6 | 157.1 | 157.6 | 155.9 | 155.9 | 157.1 | 158.3 | 157.6 | 159.4 |
| Unit nonlabor payments | 136.9 | 147.0 | 136.9 | 137.5 | 136.8 | 136.4 | 140.6 | 146.4 | 149.4 | 151.4 | 152.2 | 156.8 | 157.8 |
| Implicit price deflator | 148.6 | 153.4 | 146.5 | 148.6 | 149.3 | 150.2 | 151.9 | 152.7 | 153.8 | 155.2 | 156.3 | 157.3 | 158.8 |
| Nonfinancial corporations: | | | | | | | | | | | | | |
| Output per hour of all employees | 102.6 | 106.1 | 102.2 | 102.1 | 103.3 | 103.2 | 104.0 | 105.8 | 107.2 | 107.2 | 108.1 | 108.9 | 108.3 |
| Compensation per hour | 154.6 | 161.0 | 151.1 | 153.5 | 156.2 | 157.7 | 159.2 | 160.6 | 161.8 | 162.6 | 164.8 | 165.8 | 167.2 |
| Real compensation per hour | 97.0 | 97.9 | 96.7 | 97.0 | 97.0 | 97.5 | 98.4 | 98.2 | 98.0 | 97.4 | 97.5 | 97.2 | 97.2 |
| Total unit costs | 154.3 | 155.2 | 151.5 | 154.0 | 154.7 | 157.0 | 156.7 | 155.2 | 154.4 | 154.7 | 155.0 | 155.0 | 157.2 |
| Unit labor costs | 150.6 | 151.8 | 147.9 | 150.3 | 151.3 | 152.9 | 153.1 | 151.7 | 150.9 | 151.7 | 152.5 | 152.3 | 154.4 |
| Unit nonlabor costs | 164.8 | 164.9 | 161.6 | 164.3 | 164.4 | 168.8 | 167.0 | 165.1 | 164.4 | 163.3 | 162.0 | 162.8 | 165.2 |
| Unit profits | 84.6 | 117.2 | 89.4 | 86.8 | 86.6 | 75.6 | 92.5 | 111.8 | 126.6 | 135.9 | 143.2 | 151.1 | 146.5 |
| Implicit price deflator | 146.3 | 150.9 | 144.3 | 146.3 | 146.9 | 147.7 | 149.4 | 150.2 | 151.2 | 152.6 | 153.6 | 154.6 | 156.0 |
| Manufacturing: | | | | | | | | | | | | | |
| Output per hour of all persons | 107.1 | 111.6 | 105.5 | 106.3 | 108.8 | 107.8 | 109.1 | 110.8 | 113.4 | 113.1 | 114.2 | 115.3 | 117.5 |
| Compensation per hour | 158.0 | 163.4 | 154.3 | 157.2 | 159.8 | 161.0 | 162.7 | 163.0 | 163.5 | 164.6 | 167.1 | 168.3 | 169.9 |
| Real compensation per hour | 99.2 | 99.4 | 98.8 | 99.4 | 99.2 | 99.6 | 100.6 | 99.7 | 99.0 | 98.6 | 98.9 | 98.7 | 98.7 |
| Unit labor costs | 147.6 | 146.4 | 146.2 | 148.0 | 146.9 | 149.3 | 149.1 | 147.0 | 144.1 | 145.5 | 146.4 | 146.0 | 144.5 |



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## 32. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate

| Item | Quarterly percent change at annual rate | | | | | | Percent change from same quarter a year ago | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | I 1983 to II 1983 | II 1983 to III 1983 | III 1983 to IV 1983 | IV 1983 to I 1984 | I 1984 to II 1984 | II 1984 to III 1984 | II 1982 to II 1983 | III 1982 to III 1983 | IV 1982 to IV 1983 | I 1983 to I 1984 | II 1983 to II 1984 | III 1983 to III 1984 |
| Business sector: | | | | | | | | | | | | |
| Output per hour of all persons | 5.9 | 2.8 | 1.4 | 4.0 | 4.9 | 0.9 | 3.3 | 3.4 | 3.1 | 3.5 | 3.3 | 2.8 |
| Compensation per hour | 2.2 | 2.0 | 6.1 | 6.2 | 1.9 | 4.5 | 4.6 | 3.3 | 3.7 | 4.1 | 4.0 | 4.7 |
| Real compensation per hour | −2.1 | −2.1 | 1.6 | 1.2 | −1.8 | 0.9 | 1.3 | 0.7 | 0.3 | −0.4 | −0.3 | 0.5 |
| Unit labor costs | −3.5 | −0.8 | 4.6 | 2.1 | −2.9 | 3.6 | 1.3 | −0.1 | 0.6 | 0.6 | 0.7 | 1.8 |
| Unit nonlabor payments | 14.5 | 9.5 | 3.1 | 7.0 | 15.4 | 2.8 | 5.5 | 8.9 | 9.2 | 8.4 | 8.7 | 7.0 |
| Implicit price deflator | 1.9 | 2.5 | 4.1 | 3.7 | 2.9 | 3.3 | 2.6 | 2.7 | 3.3 | 3.0 | 3.3 | 3.5 |
| Nonfarm business sector: | | | | | | | | | | | | |
| Output per hour of all persons | 8.1 | 2.1 | 1.0 | 2.9 | 5.5 | −0.7 | 4.3 | 3.9 | 3.9 | 3.5 | 2.9 | 2.2 |
| Compensation per hour | 3.5 | 2.2 | 4.1 | 6.1 | 3.7 | 3.8 | 5.4 | 4.1 | 3.9 | 4.0 | 4.0 | 4.4 |
| Real compensation per hour | −0.8 | −1.9 | −0.3 | 1.0 | 0.0 | 0.2 | 2.0 | 1.5 | 0.6 | −0.5 | −0.3 | 0.2 |
| Unit labor costs | −4.2 | 0.1 | 3.0 | 3.1 | −1.7 | 4.5 | 1.1 | 0.2 | 0.0 | 0.4 | 1.1 | 2.2 |
| Unit nonlabor payments | 17.8 | 8.4 | 5.3 | 2.3 | 12.5 | 2.5 | 6.5 | 9.2 | 10.9 | 8.3 | 7.1 | 5.6 |
| Implicit price deflator | 2.2 | 2.7 | 3.7 | 2.8 | 2.8 | 3.8 | 2.8 | 3.0 | 3.3 | 2.9 | 3.0 | 3.3 |
| Nonfinancial corporations: | | | | | | | | | | | | |
| Output per hour of all employees | 7.5 | 5.3 | −0.2 | 3.6 | 2.8 | −2.1 | 3.7 | 3.8 | 3.9 | 4.0 | 2.9 | 1.0 |
| Compensation per hour | 3.5 | 3.1 | 2.0 | 5.7 | 2.4 | 3.3 | 4.6 | 3.6 | 3.1 | 3.6 | 3.3 | 3.3 |
| Real compensation per hour | −0.8 | −1.0 | −2.4 | 0.7 | −1.3 | −0.3 | 1.3 | 1.0 | −0.2 | −0.9 | −1.0 | r −0.8 |
| Total units costs | −3.9 | −2.0 | 0.8 | 0.6 | 0.2 | 5.7 | 0.8 | −0.2 | −1.5 | −1.1 | −0.1 | 1.8 |
| Unit labor costs | −3.7 | −2.1 | 2.1 | 2.0 | −0.4 | 5.5 | 0.9 | −0.2 | −0.8 | −0.4 | 0.4 | 2.3 |
| Unit nonlabor costs | −4.5 | −1.7 | −2.6 | −3.2 | 2.0 | 6.2 | 0.5 | 0.0 | −3.2 | −3.0 | −1.4 | 0.5 |
| Unit profits | 112.8 | 64.8 | 32.6 | 23.4 | 23.8 | −11.7 | 28.7 | 46.3 | 79.8 | 54.8 | 35.2 | 15.7 |
| Implicit price deflator | 2.3 | 2.8 | 3.6 | 2.7 | 2.6 | 3.6 | 2.7 | 3.0 | 3.3 | 2.8 | 2.9 | 3.1 |
| Manufacturing: | | | | | | | | | | | | |
| Output per hour of all persons | 6.4 | 9.7 | −1.0 | 3.7 | 4.0 | 7.8 | 4.3 | 4.3 | 4.9 | 4.7 | 4.1 | 3.6 |
| Compensation per hour | 0.6 | 1.3 | 2.9 | 6.2 | 2.9 | 3.6 | 3.6 | 2.3 | 2.2 | 2.7 | 3.3 | 3.9 |
| Real compensation per hour | −3.5 | −2.8 | −1.5 | 1.1 | −0.8 | 0.1 | 0.3 | −0.3 | −1.0 | −1.7 | −1.0 | −0.3 |
| Unit labor costs | −5.5 | −7.7 | 3.9 | 2.3 | −1.1 | −3.8 | −0.6 | −1.9 | −2.6 | −1.9 | −0.7 | 0.3 |

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# WAGE AND COMPENSATION DATA

DATA FOR THE EMPLOYMENT COST INDEX are reported to the Bureau of Labor Statistics by a sample of 2,000 private nonfarm establishments and 750 State and local government units selected to represent total employment in those sectors. On average, each reporting unit provides wage and compensation information on five well-specified occupations.

**Data on negotiated wage and benefit changes** are obtained from contracts on file at the Bureau, direct contact with the parties, and secondary sources.

## Definitions

The **Employment Cost Index** (ECI) is a quarterly measure of the average change in the cost of employing labor. The rate of total compensation, which comprises wages, salaries, and employer costs for employee benefits, is collected for workers performing specified tasks. Employment in each occupation is held constant over time for all series produced in the ECI, except those by region, bargaining status, and area. As a consequence, only changes in compensation are measured. Industry and occupational employment data from the 1970 Census of Population are used in deriving constant weights for the ECI. While holding total industry and occupational employment fixed, in the estimation of indexes by region, bargaining status, and area, the employment in those measures is allowed to vary over time in accord with changes in the sample. The rate of change (in percent) is available for wages and salaries, as well as for total compensation. Data are collected for the pay period including the 12th day of the survey months of March, June, September, and December. The statistics are neither annualized nor adjusted for seasonal influence.

**Wages and salaries** consist of earnings before payroll deductions, excluding premium pay for overtime, work on weekends and holidays, and shift differentials. Production bonuses, incentive earnings, commissions, and cost-of-living adjustments are included; nonproduction bonuses are included with other supplemental pay items in the benefits category; and payments-in-kind, free room and board, and tips are excluded. *Benefits* include supplemental pay, insurance, retirement and savings plans, and hours-related and legally required benefits.

**Data on negotiated wage changes** apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year* wage or compensation changes refer to average negotiated changes for workers covered by settlements reached in the period and implemented within the first 12 months after the effective date of the agreement. *Changes over the life of the agreement* refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

**Effective wage adjustments** reflect all negotiated changes implemented in the reference period, regardless of the settlement date. They include changes from settlements reached during the period, changes deferred from contracts negotiated in an earlier period, and cost-of-living adjustments. The data also reflect contracts providing for no wage adjustment in the period. Effective adjustments and each of their components are prorated over all workers in bargaining units with at least 1,000 workers.

## Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980, to produce a measure of the percent change in employers' cost for employees' total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy.

Data for the broad white-collar, blue-collar, and service worker groups, and the manufacturing, nonmanufacturing, and service industry groups are presented in the ECI. Additional occupation and industry detail are provided for the wages and salaries component of total compensation in the private nonfarm sector. For State and local government units, additional industry detail is shown for both total compensation and its wages and salaries component.

Historical indexes (June 1981 = 100) of the quarterly rates of changes presented in the ECI are also available.

For a more detailed discussion of the ECI, see chapter 11, "The Employment Cost Index," of the BLS *Handbook of Methods* (Bulletin 2134–1), and the *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor,'" July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; and "The Employment Cost Index: recent trends and expansion," May 1982.

Additional data for the ECI and other measures of wage and compensation changes appear in *Current Wage Developments,* a monthly publication of the Bureau.



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## 33. Employment Cost Index, by occupation and industry group

[June 1981 = 100]

| Series | 1982 | | 1983 | | | | 1984 | | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3 months ended | 12 months ended |
| | Sept. | Dec. | March | June | Sept. | Dec. | March | June | Sept. | September 1984 | |
| **Civilian workers**[1] | 110.1 | 111.4 | 113.2 | 114.5 | 116.5 | 117.8 | 119.8 | 120.8 | 122.4 | 1.3 | 5.1 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 110.7 | 111.9 | 113.7 | 114.9 | 117.6 | 118.9 | 120.9 | 122.1 | 124.0 | 1.6 | 5.4 |
| Blue-collar workers | 109.2 | 110.5 | 112.3 | 113.6 | 114.8 | 115.8 | 117.7 | 118.6 | 119.6 | 0.8 | 4.2 |
| Service workers | 110.8 | 112.4 | 114.3 | 115.1 | 116.7 | 119.1 | 122.0 | 122.1 | 124.6 | 2.0 | 6.8 |
| Workers, by industry division | | | | | | | | | | | |
| Manufacturing | 109.3 | 110.4 | 112.5 | 113.5 | 115.0 | 116.0 | 117.9 | 119.1 | 120.4 | 1.1 | 4.7 |
| Nonmanufacturing | 110.5 | 111.8 | 113.5 | 114.9 | 117.2 | 118.6 | 120.7 | 121.6 | 123.3 | 1.4 | 5.2 |
| Services | 113.5 | 115.0 | 116.6 | 117.1 | 121.1 | 122.6 | 125.0 | 125.5 | 128.8 | 2.6 | 6.4 |
| Public administration[2] | 112.8 | 113.6 | 116.2 | 117.0 | 119.8 | 121.4 | 122.9 | 123.7 | 126.9 | 2.6 | 5.9 |
| **Private industry workers** | 109.3 | 110.7 | 112.6 | 113.9 | 115.6 | 117.0 | 119.0 | 120.1 | 121.1 | .8 | 4.8 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 109.5 | 110.8 | 112.8 | 114.2 | 116.5 | 117.9 | 119.9 | 121.4 | 122.4 | .8 | 5.1 |
| Blue-collar workers | 109.0 | 110.3 | 112.1 | 113.5 | 114.6 | 115.7 | 117.5 | 118.4 | 119.3 | .8 | 4.1 |
| Service workers | 109.6 | 111.8 | 113.8 | 114.6 | 115.1 | 117.9 | 121.5 | 121.2 | 123.2 | 1.7 | 7.0 |
| Workers, by industry division | | | | | | | | | | | |
| Manufacturing | 109.3 | 110.4 | 112.5 | 113.5 | 115.0 | 116.0 | 117.9 | 119.1 | 120.4 | 1.1 | 4.7 |
| Nonmanufacturing | 109.3 | 110.8 | 112.6 | 114.2 | 116.0 | 117.5 | 119.6 | 120.7 | 121.6 | .7 | 4.8 |
| **State and local government workers** | 114.3 | 115.1 | 116.5 | 117.1 | 120.8 | 122.0 | 123.9 | 124.4 | 128.8 | 3.5 | 6.6 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 114.9 | 115.8 | 117.0 | 117.5 | 121.5 | 122.6 | 124.5 | 125.0 | 129.7 | 3.8 | 6.7 |
| Blue-collar workers | 112.7 | 113.0 | 114.9 | 115.8 | 118.0 | 119.2 | 121.9 | 122.3 | 125.0 | 2.2 | 5.9 |
| Workers, by industry division | | | | | | | | | | | |
| Services | 114.9 | 115.9 | 116.8 | 117.4 | 121.7 | 122.6 | 124.5 | 125.0 | 129.9 | 3.9 | 6.7 |
| Schools | 114.8 | 115.8 | 116.6 | 116.9 | 121.9 | 122.6 | 124.5 | 124.7 | 130.6 | 4.7 | 7.1 |
| Elementary and secondary | 115.6 | 116.6 | 117.2 | 117.4 | 123.3 | 123.9 | 125.4 | 125.7 | 132.1 | 5.1 | 7.1 |
| Hospitals and other services[3] | 115.3 | 116.0 | 117.5 | 118.8 | 121.1 | 122.6 | 124.4 | 125.7 | 127.9 | 1.8 | 5.6 |
| Public administration[2] | 112.8 | 113.6 | 116.2 | 117.0 | 119.8 | 121.4 | 122.9 | 123.7 | 126.9 | 2.6 | 5.9 |

[1] Excludes farm, household, and Federal workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

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



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

[June 1981 = 100]

| Series | 1982 | | 1983 | | | | 1984 | | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3 months ended | 12 months ended |
| | Sept. | Dec. | March | June | Sept. | Dec. | March | June | Sept. | September 1984 | |
| **Civilian workers**[1] | 109.7 | 110.9 | 112.2 | 113.4 | 115.3 | 116.5 | 117.9 | 118.8 | 120.3 | 1.3 | 4.3 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 110.4 | 111.4 | 113.0 | 114.2 | 116.7 | 117.9 | 119.3 | 120.4 | 122.2 | 1.5 | 4.7 |
| Blue-collar workers | 108.6 | 109.8 | 110.8 | 112.0 | 113.1 | 114.0 | 115.3 | 116.1 | 117.0 | 0.8 | 3.4 |
| Service workers | 110.1 | 111.8 | 113.2 | 113.9 | 115.1 | 117.4 | 120.0 | 119.8 | 122.3 | 2.1 | 6.3 |
| Workers, by industry division | | | | | | | | | | | |
| Manufacturing | 108.8 | 109.8 | 111.0 | 112.0 | 113.3 | 114.5 | 115.7 | 116.8 | 118.0 | 1.0 | 4.1 |
| Nonmanufacturing | 110.1 | 111.3 | 112.7 | 114.0 | 116.1 | 117.4 | 118.9 | 119.7 | 121.3 | 1.3 | 4.5 |
| Services | 113.2 | 114.4 | 115.8 | 116.3 | 120.1 | 121.3 | 123.3 | 123.8 | 127.2 | 2.7 | 5.9 |
| Public administration[2] | 111.9 | 112.6 | 114.6 | 115.4 | 118.2 | 119.4 | 120.4 | 121.3 | 124.4 | 2.6 | 5.2 |
| **Private industry workers** | 109.0 | 110.3 | 111.6 | 112.9 | 114.5 | 115.8 | 117.2 | 118.2 | 119.2 | .8 | 4.1 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 109.4 | 110.6 | 112.2 | 113.6 | 115.9 | 117.2 | 118.5 | 119.9 | 120.9 | .8 | 4.3 |
| Professional and technical workers | 111.8 | 112.9 | 114.8 | 115.9 | 119.9 | 120.4 | 122.2 | 123.8 | 125.2 | 1.1 | 4.4 |
| Managers and administrators | 108.5 | 109.3 | 112.0 | 114.0 | 114.8 | 115.7 | 118.0 | 119.2 | 121.0 | 1.5 | 5.4 |
| Salesworkers | 104.5 | 106.2 | 105.7 | 107.1 | 108.4 | 111.2 | 110.2 | 111.9 | 110.5 | −1.3 | 1.9 |
| Clerical workers | 110.3 | 111.6 | 113.4 | 114.6 | 116.7 | 118.3 | 119.8 | 120.7 | 122.0 | 1.1 | 4.5 |
| Blue-collar workers | 108.5 | 109.7 | 110.7 | 111.9 | 112.9 | 113.9 | 115.1 | 115.9 | 116.7 | .7 | 3.4 |
| Craft and kindred workers | 109.6 | 111.2 | 112.2 | 113.4 | 114.3 | 115.4 | 116.5 | 117.3 | 118.0 | .6 | 3.2 |
| Operatives, except transport | 108.3 | 109.3 | 110.0 | 111.1 | 112.3 | 113.6 | 114.9 | 115.8 | 116.6 | .7 | 3.8 |
| Transport equipment operatives | 106.0 | 106.9 | 108.0 | 110.3 | 110.7 | 110.2 | 111.7 | 112.7 | 113.4 | .6 | 2.4 |
| Nonfarm laborers | 106.5 | 107.8 | 109.0 | 109.8 | 110.8 | 112.1 | 112.9 | 114.1 | 114.7 | .5 | 3.5 |
| Service workers | 109.3 | 111.4 | 112.9 | 113.5 | 113.7 | 116.5 | 119.8 | 119.3 | 121.2 | 1.6 | 6.6 |
| Workers, by industry division | | | | | | | | | | | |
| Manufacturing | 108.8 | 109.8 | 111.0 | 112.0 | 113.3 | 114.5 | 115.7 | 116.8 | 118.0 | 1.0 | 4.1 |
| Durables | 109.0 | 110.3 | 111.1 | 111.8 | 112.9 | 114.4 | 115.7 | 116.6 | 117.7 | .9 | 4.3 |
| Nondurables | 108.5 | 109.1 | 110.9 | 112.3 | 113.9 | 114.6 | 115.8 | 117.1 | 118.6 | 1.3 | 4.1 |
| Nonmanufacturing | 109.1 | 110.5 | 112.0 | 113.4 | 115.2 | 116.5 | 118.0 | 119.0 | 119.9 | .8 | 4.1 |
| Construction | 109.1 | 109.7 | 110.4 | 112.1 | 112.2 | 112.9 | 113.3 | 114.0 | 114.3 | .3 | 1.9 |
| Transportation and public utilities | 109.5 | 111.1 | 112.9 | 114.7 | 115.7 | 116.8 | 118.5 | 119.3 | 119.9 | .5 | 3.6 |
| Wholesale and retail trade | 106.5 | 107.2 | 108.5 | 110.8 | 111.5 | 112.3 | 114.3 | 116.0 | 116.5 | .4 | 4.5 |
| Wholesale trade | 109.0 | 109.8 | 111.8 | 114.1 | 115.7 | 116.5 | 118.2 | 120.0 | 120.7 | .6 | 4.3 |
| Retail trade | 105.5 | 106.1 | 107.2 | 109.4 | 109.9 | 110.6 | 112.8 | 114.4 | 114.9 | .4 | 4.5 |
| Finance, insurance, and real estate | 106.1 | 109.0 | 110.6 | 111.1 | 113.5 | 116.9 | 116.1 | 116.9 | 115.3 | −1.4 | 1.6 |
| Services | 112.5 | 114.3 | 116.0 | 116.6 | 120.4 | 121.9 | 124.2 | 124.7 | 127.1 | 1.9 | 5.6 |
| **State and local government workers** | 113.5 | 114.0 | 115.1 | 115.7 | 119.2 | 120.0 | 121.6 | 122.0 | 126.1 | 3.4 | 5.8 |
| Workers, by occupational group | | | | | | | | | | | |
| White-collar workers | 114.2 | 114.6 | 115.6 | 116.1 | 119.8 | 120.6 | 122.2 | 122.5 | 127.1 | 3.8 | 6.1 |
| Blue-collar workers | 111.5 | 112.0 | 113.3 | 114.3 | 116.4 | 116.9 | 119.1 | 119.6 | 121.9 | 1.9 | 4.7 |
| Workers, by industry division | | | | | | | | | | | |
| Services | 114.2 | 114.6 | 115.5 | 115.9 | 119.8 | 120.6 | 122.2 | 122.5 | 127.2 | 3.8 | 6.2 |
| Schools | 114.2 | 114.5 | 115.2 | 115.4 | 119.9 | 120.6 | 122.2 | 122.3 | 127.8 | 4.5 | 6.6 |
| Elementary and secondary | 114.9 | 115.1 | 115.6 | 115.8 | 121.1 | 121.7 | 122.9 | 123.0 | 129.3 | 5.1 | 6.8 |
| Hospitals and other services[3] | 114.3 | 114.9 | 116.5 | 117.7 | 119.7 | 120.6 | 121.9 | 123.1 | 125.1 | 1.6 | 4.5 |
| Public administration[2] | 111.9 | 112.6 | 114.6 | 115.4 | 118.2 | 119.4 | 120.4 | 121.3 | 124.4 | 2.6 | 5.2 |

[1] Excludes farm, household, and Federal workers.

[2] Consists of legislative, judicial, administrative, and regulatory activities.

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



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## 35. Employment Cost Index, private industry workers, by bargaining status, region, and area size

[June 1981 = 100]

| Series | 1982 | | 1983 | | | | 1984 | | | Percent change | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 3 months ended | 12 months ended |
| | Sept. | Dec. | March | June | Sept. | Dec. | March | June | Sept. | September 1984 | |
| **COMPENSATION** | | | | | | | | | | | |
| Workers, by bargaining status[1] | | | | | | | | | | | |
| Union | 110.6 | 112.3 | 114.5 | 116.0 | 117.8 | 118.8 | 120.6 | 121.7 | 122.6 | 0.7 | 4.1 |
| Manufacturing | 110.3 | 111.8 | 114.0 | 114.8 | 116.3 | 117.2 | 119.3 | 120.5 | 121.6 | .9 | 4.6 |
| Nonmanufacturing | 111.0 | 112.8 | 114.9 | 117.1 | 119.2 | 120.4 | 121.9 | 122.8 | 123.6 | .7 | 3.7 |
| Nonunion | 108.5 | 109.7 | 111.5 | 112.8 | 114.4 | 115.9 | 118.0 | 119.2 | 120.3 | .9 | 5.2 |
| Manufacturing | 108.4 | 109.2 | 111.2 | 112.3 | 113.8 | 114.9 | 116.6 | 117.9 | 119.3 | 1.2 | 4.8 |
| Nonmanufacturing | 108.6 | 109.9 | 111.6 | 113.0 | 114.7 | 116.4 | 118.6 | 119.8 | 120.7 | .8 | 5.2 |
| Workers, by region[1] | | | | | | | | | | | |
| Northeast | ... | 111.7 | 112.6 | 114.3 | 116.0 | 117.5 | 118.9 | 120.7 | 122.4 | 1.4 | 5.5 |
| South | ... | 110.6 | 112.5 | 113.5 | 115.6 | 117.1 | 119.7 | 120.7 | 120.7 | .0 | 4.4 |
| North Central | ... | 108.6 | 110.9 | 112.5 | 113.9 | 114.7 | 117.2 | 117.9 | 119.7 | 1.5 | 5.1 |
| West | ... | 112.9 | 115.4 | 116.6 | 118.0 | 120.0 | 121.0 | 122.2 | 122.5 | .2 | 3.8 |
| Workers, by area size[1] | | | | | | | | | | | |
| Metropolitan areas | 109.4 | 110.9 | 112.9 | 114.2 | 116.0 | 117.4 | 119.4 | 120.6 | 121.5 | .7 | 4.7 |
| Other areas | 108.6 | 109.1 | 110.8 | 112.3 | 113.4 | 114.5 | 116.7 | 117.4 | 119.0 | 1.4 | 4.9 |
| **WAGES AND SALARIES** | | | | | | | | | | | |
| Workers, by bargaining status[1] | | | | | | | | | | | |
| Union | 110.3 | 111.8 | 112.9 | 114.2 | 116.0 | 116.9 | 118.1 | 119.0 | 119.8 | .7 | 3.3 |
| Manufacturing | 109.5 | 110.8 | 111.4 | 112.3 | 113.7 | 114.8 | 116.1 | 117.1 | 118.1 | .9 | 3.9 |
| Nonmanufacturing | 111.1 | 112.7 | 114.3 | 116.0 | 118.3 | 118.9 | 120.1 | 120.7 | 121.3 | .5 | 2.5 |
| Nonunion | 108.3 | 109.5 | 110.9 | 112.2 | 113.7 | 115.2 | 116.7 | 117.8 | 118.8 | .8 | 4.5 |
| Manufacturing | 108.2 | 109.1 | 110.7 | 111.8 | 113.0 | 114.2 | 115.4 | 116.5 | 117.9 | 1.2 | 4.3 |
| Nonmanufacturing | 108.3 | 109.6 | 111.0 | 112.4 | 114.0 | 115.6 | 117.2 | 118.3 | 119.2 | .8 | 4.6 |
| Workers, by region[1] | | | | | | | | | | | |
| Northeast | 109.7 | 111.5 | 112.0 | 113.6 | 115.3 | 116.6 | 117.4 | 118.9 | 120.5 | 1.3 | 4.5 |
| South | 108.8 | 109.8 | 111.4 | 112.5 | 114.3 | 115.7 | 117.9 | 119.0 | 119.0 | .0 | 4.1 |
| North Central | 107.6 | 108.6 | 110.1 | 111.5 | 112.8 | 113.6 | 115.5 | 116.0 | 117.8 | 1.6 | 4.4 |
| West | 110.7 | 112.0 | 114.1 | 114.9 | 116.5 | 118.5 | 118.8 | 119.6 | 120.0 | .3 | 3.0 |
| Workers by area size[1] | | | | | | | | | | | |
| Metropolitan areas | 109.1 | 110.5 | 111.9 | 113.2 | 114.9 | 116.2 | 117.6 | 118.6 | 119.5 | .8 | 4.0 |
| Other areas | 108.3 | 108.8 | 110.1 | 111.4 | 112.3 | 113.4 | 115.1 | 116.0 | 117.5 | 1.3 | 4.6 |

[1]The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see BLS *Handbook of Methods*, Bulletin 1910.



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## 36. Wage and compensation change, major collective bargaining settlements, 1979 to date

[In percent]

| Measure | Annual average | | | | | Quarterly average | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1982 | | 1983 | | | | 1984p | | |
| | 1979 | 1980 | 1981 | 1982 | 1983 | III | IV | I | II | III | IV | I | II | III |
| Total compensation changes, covering 5,000 workers or more, all industries: | | | | | | | | | | | | | | |
| First year of contract | 9.0 | 10.4 | 10.2 | 3.2 | 3.4 | 6.2 | 3.3 | −1.6 | 4.4 | 5.0 | 4.9 | 5.1 | 3.5 | 2.9 |
| Annual rate over life of contract | 6.6 | 7.1 | 8.3 | 2.8 | 3.0 | 4.7 | 4.8 | 1.4 | 3.6 | 4.3 | 3.1 | 4.7 | 3.2 | 3.3 |
| Wage rate changes covering at least 1,000 workers, all industries: | | | | | | | | | | | | | | |
| First year of contract | 7.4 | 9.5 | 9.8 | 3.8 | 2.6 | 5.4 | 3.8 | −1.2 | 2.7 | 3.7 | 4.2 | 2.9 | 2.6 | 2.3 |
| Annual rate over life of contract | 6.0 | 7.1 | 7.9 | 3.6 | 2.8 | 4.5 | 4.8 | 2.2 | 2.8 | 3.6 | 2.8 | 3.2 | 2.7 | 2.7 |
| Manufacturing: | | | | | | | | | | | | | | |
| First year of contract | 6.9 | 7.4 | 7.2 | 2.8 | 0.4 | 5.1 | 4.1 | −3.4 | 1.3 | 3.4 | 2.9 | 2.5 | 2.2 | 2.2 |
| Annual rate over life of contract | 5.4 | 5.4 | 6.1 | 2.6 | 2.1 | 1.7 | 3.9 | 4.5 | .9 | 3.5 | 3.1 | 2.5 | 2.2 | 2.4 |
| Nonmanufacturing (excluding construction): | | | | | | | | | | | | | | |
| First year of contract | 7.6 | 9.5 | 9.8 | 4.3 | 5.0 | 5.5 | 3.6 | 3.3 | 5.9 | 5.8 | 4.8 | 4.4 | 4.3 | 2.4 |
| Annual rate over life of contract | 6.2 | 6.6 | 7.3 | 4.1 | 3.7 | 4.8 | 5.2 | 5.3 | 5.2 | 4.3 | 2.7 | 4.8 | 4.2 | 3.1 |
| Construction: | | | | | | | | | | | | | | |
| First year of contract | 8.8 | 13.6 | 13.5 | 6.5 | 1.5 | 6.3 | 3.4 | .7 | 1.7 | 1.5 | 1.1 | −3.5 | 1.0 | 2.0 |
| Annual rate over life of contract | 8.3 | 11.5 | 11.3 | 6.3 | 2.4 | 5.9 | 2.9 | 2.4 | 2.1 | 2.9 | 2.6 | −2.8 | 1.4 | 2.1 |

p = preliminary.

## 37. Effective wage adjustments in collective bargaining units covering 1,000 workers or more, 1979 to date

| Measure | Year | | | | | Year and quarter | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 1982 | | 1983 | | | | 1984p | | |
| | 1979 | 1980 | 1981 | 1982 | 1983 | III | IV | I | II | III | IV | I | II | III |
| Average percent adjustment (including no change): | | | | | | | | | | | | | | |
| All industries | 9.1 | 9.9 | 9.5 | 6.8 | 4.0 | 2.4 | 1.3 | 0.3 | 1.3 | 1.2 | 1.1 | 0.9 | 1.0 | 1.1 |
| Manufacturing | 9.6 | 10.2 | 9.4 | 5.2 | 2.7 | 1.7 | 1.5 | −.5 | 1.1 | 1.2 | .9 | 1.2 | 1.0 | .9 |
| Nonmanufacturing | 8.8 | 9.7 | 9.5 | 7.9 | 4.8 | 2.9 | 1.2 | .9 | 1.5 | 1.2 | 1.2 | .7 | .9 | 1.3 |
| From settlements reached in period | 3.0 | 3.6 | 2.5 | 1.7 | .8 | .5 | .6 | −.2 | .3 | .2 | .6 | .1 | .1 | .2 |
| Deferred from settlements reached in earlier period | 3.0 | 3.5 | 3.8 | 3.6 | 2.5 | 1.3 | .4 | .4 | 1.0 | .8 | .3 | .4 | .7 | .7 |
| From cost-of-living clauses | 3.1 | 2.8 | 3.2 | 1.4 | .6 | .6 | .3 | .1 | .1 | .2 | .2 | .4 | .2 | .3 |
| Total number of workers receiving wage change (in thousands)[1] | — | — | 8,648 | 7,852 | 6,530 | 3,760 | 3,441 | 2,875 | 3,061 | 3,025 | 2,887 | 2,855 | 2,656 | 2,326 |
| From settlements reached in period | — | — | 2,270 | 1,907 | 2,327 | 620 | 825 | 448 | 561 | 599 | 996 | 293 | 343 | 383 |
| Deferred from settlements reached in earlier period | — | — | 6,267 | 4,846 | 3,260 | 2,400 | 860 | 812 | 1,405 | 1,317 | 669 | 990 | 1,175 | 1,578 |
| From cost-of-living clauses | — | — | 4,593 | 3,830 | 2,327 | 2,251 | 1,970 | 1,938 | 1,299 | 1,218 | 1,290 | 1,616 | 1,301 | 1,172 |
| Number of workers receiving no adjustments (in thousands) | — | — | 145 | 483 | 1,187 | 4,575 | 4,895 | 4,842 | 4,656 | 4,693 | 4,830 | 4,668 | 4,867 | 5,198 |

[1] The total number of workers who received adjustments does not equal the sum of workers that received each type of adjustment, because some workers received more than one type of adjustment during the period.

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## WORK STOPPAGE DATA

WORK STOPPAGES include all known strikes or lockouts involving 1,000 workers or more and lasting a full shift or longer. Data are based largely on newspaper accounts and 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.

Estimates of days idle as a percent of estimated working time measure only the impact of larger strikes (1,000 workers or more). Formerly, these estimates measured the impact of strikes involving 6 workers or more; that is, the impact of virtually *all* strikes. Due to budget stringencies, collection of data on strikes involving fewer than 1,000 workers was discontinued with the December 1981 data.

### 38. Work stoppages involving 1,000 workers or more, 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 (in thousands) | In effect during month (in thousands) | Number (in thousands) | Percent of estimated working time |
| 1947 | 270 | . . . . . | 1,629 | . . . . . | 25,720 | — |
| 1948 | 245 | . . . . . | 1,435 | . . . . . | 26,127 | .22 |
| 1949 | 262 | . . . . . | 2,537 | . . . . . | 43,420 | .38 |
| 1950 | 424 | . . . . . | 1,698 | . . . . . | 30,390 | .26 |
| 1951 | 415 | . . . . . | 1,462 | . . . . . | 15,070 | .12 |
| 1952 | 470 | . . . . . | 2,746 | . . . . . | 48,820 | .38 |
| 1953 | 437 | . . . . . | 1,623 | . . . . . | 18,130 | .14 |
| 1954 | 265 | . . . . . | 1,075 | . . . . . | 16,630 | .13 |
| 1955 | 363 | . . . . . | 2,055 | . . . . . | 21,180 | .16 |
| 1956 | 287 | . . . . . | 1,370 | . . . . . | 26,840 | .20 |
| 1957 | 279 | . . . . . | 887 | . . . . . | 10,340 | .07 |
| 1958 | 332 | . . . . . | 1,587 | . . . . . | 17,900 | .13 |
| 1959 | 245 | . . . . . | 1,381 | . . . . . | 60,850 | .43 |
| 1960 | 222 | . . . . . | 896 | . . . . . | 13,260 | .09 |
| 1961 | 195 | . . . . . | 1,031 | . . . . . | 10,140 | .07 |
| 1962 | 211 | . . . . . | 793 | . . . . . | 11,760 | .08 |
| 1963 | 181 | . . . . . | 512 | . . . . . | 10,020 | .07 |
| 1964 | 246 | . . . . . | 1,183 | . . . . . | 16,220 | .11 |
| 1965 | 268 | . . . . . | 999 | . . . . . | 15,140 | .10 |
| 1966 | 321 | . . . . . | 1,300 | . . . . . | 16,000 | .10 |
| 1967 | 381 | . . . . . | 2,192 | . . . . . | 31,320 | .18 |
| 1968 | 392 | . . . . . | 1,855 | . . . . . | 35,567 | .20 |
| 1969 | 412 | . . . . . | 1,576 | . . . . . | 29,397 | .16 |
| 1970 | 381 | . . . . . | 2,468 | . . . . . | 52,761 | .29 |
| 1971 | 298 | . . . . . | 2,516 | . . . . . | 35,538 | .19 |
| 1972 | 250 | . . . . . | 975 | . . . . . | 16,764 | .09 |
| 1973 | 317 | . . . . . | 1,400 | . . . . . | 16,260 | .08 |
| 1974 | 424 | . . . . . | 1,796 | . . . . . | 31,809 | .16 |
| 1975 | 235 | . . . . . | 965 | . . . . . | 17,563 | .09 |
| 1976 | 231 | . . . . . | 1,519 | . . . . . | 23,962 | .12 |
| 1977 | 298 | . . . . . | 1,212 | . . . . . | 21,258 | .10 |
| 1978 | 219 | . . . . . | 1,006 | . . . . . | 23,774 | .11 |
| 1979 | 235 | . . . . . | 1,021 | . . . . . | 20,409 | .09 |
| 1980 | 187 | . . . . . | 795 | . . . . . | 20,844 | .09 |
| 1981 | 145 | . . . . . | 729 | . . . . . | 16,908 | .07 |
| 1982 | 96 | . . . . . | 656 | . . . . . | 9,061 | .04 |
| 1983 | 81 | . . . . . | 909 | . . . . . | 17,461 | .08 |
| 1983 January | 1 | 3 | 1.6 | 38.0 | 794.8 | .04 |
| February | 5 | 7 | 14.0 | 50.4 | 844.4 | .05 |
| March | 5 | 10 | 10.5 | 54.9 | 1,131.5 | .05 |
| April | 2 | 9 | 2.8 | 52.4 | 789.5 | .04 |
| May | 12 | 17 | 24.9 | 34.2 | 488.5 | .03 |
| June | 16 | 25 | 63.3 | 81.2 | 689.1 | .03 |
| July | 10 | 23 | 64.5 | 99.8 | 1,270.1 | .07 |
| August | 7 | 19 | 615.8 | 669.7 | 8,673.2 | .41 |
| September | 7 | 19 | 20.8 | 49.5 | 567.1 | .03 |
| October | 12 | 19 | 68.4 | 84.7 | 1,143.3 | .06 |
| November | 4 | 12 | 22.8 | 41.5 | 605.0 | .03 |
| December | — | 8 | — | 30.9 | 464.2 | .02 |
| 1984p January | 6 | 12 | 28.9 | 43.0 | 507.3 | .03 |
| February | 2 | 12 | 8.7 | 37.2 | 365.5 | .02 |
| March | 2 | 9 | 3.0 | 14.6 | 284.2 | .01 |
| April | 7 | 13 | 28.5 | 38.1 | 651.0 | .03 |
| May | 5 | 15 | 8.1 | 39.2 | 581.2 | .03 |
| June | 5 | 14 | 23.7 | 45.7 | 754.8 | .04 |
| July | 8 | 20 | 68.4 | 104.1 | 1,221.7 | .06 |
| August | 4 | 18 | 21.5 | 100.9 | 1,623.3 | .07 |
| September | 9 | 17 | 103.6 | 117.9 | 716.4 | .04 |
| October | 4 | 15 | 15.8 | 33.7 | 498.7 | .02 |
| November | 4 | 15 | 12.0 | 30.7 | 482.1 | .02 |
| December | 3 | 13 | 42.7 | 59.2 | 684.9 | .04 |

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Employment in Perspective: Working Women, Third Quarter 1984. Report 715. 3 pp. Describes women's labor force situation in the third quarter and summarizes information about married mothers' work experience for a year.

### BLS Summaries

Occupational Earnings and Benefits, Men's and Boys' Suit and Coat Manufacturing, June 1984. Summary 84-11, 7 pp.

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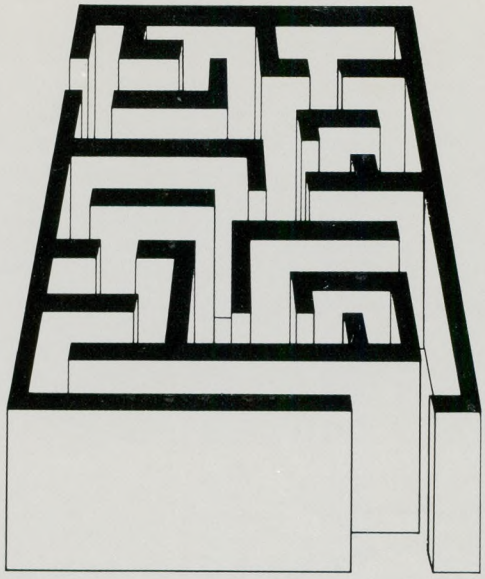

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