Monthly Labor Review

U.S. Department of Labor
Bureau of Labor Statistics
June 1993

In this issue:

U.S. Department of Labor
Robert B. Reich, *Secretary*

Bureau of Labor Statistics

The *Monthly Labor Review* is published by the Bureau of Labor Statistics of the U.S. Department of Labor. Communications on editorial matters should be addressed to the Editor-in-Chief, *Monthly Labor Review*, Bureau of Labor Statistics, Washington, DC 20212. Phone: (202) 606-5900.

Subscription price per year—$25 domestic; $31.25 foreign. Single copy, $7 domestic; $8.75 foreign. Subscription prices and distribution policies for the *Monthly Labor Review* (ISSN 0098-1818) and other Government publications are set by the Government Printing Office, an agency of the U.S. Congress. Send correspondence on circulation and subscription matters (including address changes) to Superintendent of Documents, Government Printing Office, Washington, DC 20402.

Make checks payable to Superintendent of Documents.

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

Information from the *Monthly Labor Review* will be available to sensory impaired individuals upon request. Voice phone: (202) 606-STAT. TDD phone: (202) 606-5897. TDD message referral phone: 1-800-326-2577.

June cover:

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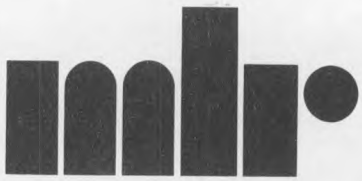

Monthly Labor Review

June 1993
Volume 116, Number 6

Deborah P. Klein, *Editor-in-Chief*
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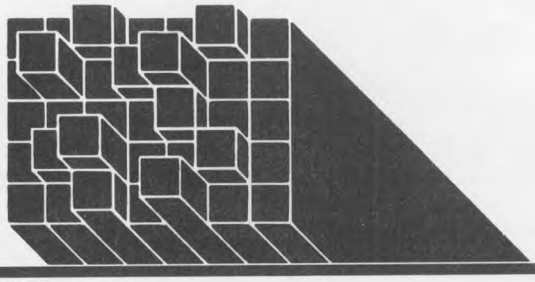
Articles

Reports

Departments

Labor month in review



WOMEN IN THEIR FORTIES. By age 40, most women have completed some important lifetime events such as schooling and childbearing. But many women in their forties are actively participating in the labor force and face a number of labor market and marital status decisions, which often are interrelated.

Significant differences exist for these women in their labor force attachment and marital status by race and education. In particular, women in their forties who were high school dropouts worked substantially fewer weeks than their more educated counterparts, were less likely to be in the labor force at age 40 and at age 49, and also were less likely to be married at age 40 and at age 49.

Data from the National Longitudinal Survey of Mature Women were used to track the experiences of women as they aged from 40 to 49 during the 1967–86 period. Information in this report is from a sample of women who were between the ages of 30 and 45 in 1967 and who have been interviewed regularly since. The sample is restricted to women between the ages of 40 and 49 for whom there is complete information. Consequently, the data reported here refer to the experiences of women born between 1927 and 1936 and who aged from 40 to 49 during the 1967-86 period.

Participation. About two-thirds of women in their forties were in the same labor force status at age 49 as age 40. About 38 percent were in the labor force at both ages, and about 29 percent were out of the labor force. Approximately a third of the women changed labor force participation status. About 13 percent of the women out of the labor force at age 40 were in the labor force at age 49. Overall, about 26 percent of those who were in the labor force at age 40 were out at age 49, and about 41 percent who were out of the labor force at age 40 were participants at age 49.

Nonwhite women were more likely than white women to be in the labor force at age 40 and at age 49. They also were more likely to move from in the labor force at age 40 to out of the labor force at 49. They were less likely than white women to move from out of the labor force at age 40 to in the labor force at age 49, and to be out of the labor force at age 40 and at age 49.

Approximately 46 percent of college educated women were in the labor force at ages 40 and 49—more than any other educational group. In contrast, about 33 percent of high school dropouts and 40 percent of high school graduates were in the labor force at both ages. Also, about a third of high school dropouts were out of the labor force at both ages—the highest proportion of the educational groups.

There is no definitive pattern in labor force participation rates by birth year. However, women in their forties born after 1930 were more likely to be in the labor force at age 40 and age 49 and less likely to be out of the labor force at both ages than were women born between 1927 and 1930.

Weeks worked. More than 85 percent of women in their forties worked and, on average, they worked 289 weeks over the 10-year period; if they had worked "full year" each year, they would have worked about 480–520 weeks. Only 1 of 7 (14.3 percent) of the women did not work at all between ages 40 and 49; 1 of 4 (23.5 percent) worked 480 weeks or more.

Among women in their forties, nonwhite women worked about 12 weeks more than did white women, on average. This difference appears to occur primarily because a higher percentage of white women of these ages did not work at all during the period, while a greater percentage of their nonwhite counterparts worked full year. College-educated women worked more weeks than did women without a college education, on average, and women without a high school diploma worked fewer weeks than women in all other educational groups. College-educated women worked about 88 weeks more than did high school dropouts. Women with less than a high school education were less likely to work full year throughout their forties, and more apt not to work at all, than women in other educational groups.

Women born after 1930 averaged more weeks worked (about 300) than those born between 1927 and 1930 (270 weeks). This difference appears to have occurred because a higher proportion of women born after 1930 worked 240 weeks or more.

Marital status. The majority of women (72.2 percent) were married at age 40 and age 49 (although not necessarily to the same husband). Nearly 14 percent of the women were single at both ages. Ten percent changed marital status from married at age 40 to single at age 49; 3.9 percent changed from single to married.

While more than 75 percent of white women were married at age 40 and age 49, less than half of nonwhite women were married at both ages. Compared to white women, nonwhite women were more likely to be single at both ages and to have changed marital status.

Although a definitive pattern does not appear in marital status transitions by educational category, women with less than a high school education were the least likely to be married at age 40 and age 49. High school dropouts were the most likely to be single at both ages.

Women who were born in later years were slightly less likely to be married at age 40 and age 49 than those born in earlier years. More than 74 percent of women born in 1927 and 1928 were married at both ages, compared with about 70 percent of women born in 1935 and 1936.

THE STUDY, *Work and Family: Women in their Forties,* BLS Report 843, is available from the Bureau of Labor Statistics, Office of Publications and Special Studies, Washington, DC 20212-00001. □

Geographic concentration of trade-sensitive employment

Manufacturing industries that are greatly involved in international trade are more geographically concentrated than those that are not, with export-sensitive industries generally located in different regions than import-sensitive industries; trade-related displacements are also geographically concentrated

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and
Robert W. Bednarzik

U.S. manufacturing activity, both in general and for specific industries, has a tendency to concentrate in certain geographic areas. The phenomenon was described as early as 1900 and 1905 in the Census of Manufactures.[1] An implication of such clustering is that reemployment is likely to be more difficult when a worker loses a job in an industry that is geographically concentrated.

This article provides some estimates of geographic clustering by industrial sector and shows how certain industry characteristics are related to geographic concentration. It also discusses some uses for the estimates in understanding labor market adjustment problems in industries that are intensively involved in international trade.

Methodology and data

We estimated geographic concentration of employment by industry using a Gini coefficient, a useful summary measure of the degree of concentration of a variable.[2] If employment in a sector is located in each State in the exact proportion to total State employment, then there is no tendency toward concentration in that sector, and the Gini coefficient is given a value of zero. If, however, all of the employment in an industry is located within one State, then the Gini would approach its upper limit of 1. The employment pattern in most industries falls somewhere in between these two extremes; thus, the Gini will be somewhere between 0 and 1. (See the appendix for how the Gini index we used was actually derived.)

The Gini coefficients were estimated using State employment data from the Employment and Wages (ES-202) program of the Bureau of Labor Statistics' Office of Employment and Unemployment Statistics. For the classification of industrial sectors, the Standard Industrial Classification (SIC), 1987 revision, was used. Calculations were made at the three-digit SIC level for 416 sectors and at the four-digit SIC level for 1,012 sectors. These represent the most comprehensive estimates available.[3]

Factors affecting concentration

To reveal how the basic pattern of geographic concentration is influenced by commodity characteristics, the two-digit SIC sectors are grouped into four major industrial divisions: agriculture (SIC's 01 to 09), mining (SIC's 10 to 14), manufacturing (SIC's 20 to 39), and services and construction (SIC's 15 to 17 and 40 to 99). The mean Gini coefficient for each grouping, using three- and four-digit SIC subgroupings, is presented in the following tabulation:

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	Mean Gini index	
	Three-digit	*Four-digit*
Agriculture	.582	.707
Mining	.797	.813
Manufacturing	.522	.607
Services and construction	.307	.351

The general pattern among the groups is similar, regardless of the level of aggregation; however, at the four-digit level, all of the groups exhibit more geographic concentration (that is, values closer to 1). As expected, mining is the most concentrated group: geological deposits are highly localized, and mining industries must be situated according to the pattern of those deposits. Agriculture has slightly more flexibility in regard to location, but weather, soils, and other environmental factors certainly constrain the placement of most crops to fairly limited areas. What is more interesting, however, is the degree to which manufacturing is concentrated. Although there are certainly manufacturing industries that are constrained to specific locations in order to have low-cost access to inputs that are dependent on environmental or geological factors, most manufacturers have a great deal of flexibility as regards location. Yet the degree of concentration in manufacturing is only slightly less than that found in agriculture or mining. The service and construction group is significantly less concentrated than the rest of U.S. industry. The appellation by which this group is generally known—the nontraded sector—explains to a large degree its lack of concentration. Usually, nontraded products must be provided at the location of consumption, and consumption is highly diffused throughout the economy. Nevertheless, as the expansion of services in the balance of payments demonstrates, changes in communication technology are allowing services to be transported more easily, and this trend could lead to increases in concentration of the industry in the future. Several service sectors, such as securities and commodities brokers (SIC 62), have Gini coefficients higher than the average for manufacturing. (See the appendix for average Gini indexes for all two-digit SIC industries.)

Michael Porter has suggested that geographic clustering is associated with global competitiveness;[4] therefore, we examined the relationship between competitiveness in international trade and geographic concentration. We used four measures to assess the extent of an industry's international trade activity:

$M/(M+S)$	(import penetration)
X/S	(export penetration)
$X-M$	(trade competitiveness)
$X+M$	(tradeability index)

where

M = U.S. imports
X = U.S. exports
S = U.S. product shipments
$M+S$ = new supply

Because Porter observed geographic concentrations of industries that were successful at exporting, we begin with an analysis of U.S. exports. Based on the value of U.S. exports and domestic product shipments in 1987, we placed 50 four-digit SIC manufacturing industries with the highest export penetration rates into an export-intensive group.[5] Similarly, we put the 50 four-digit manufacturing industries with the highest import penetration rates into an import-intensive group.

We then calculated the average Gini coefficient for the export-intensive group and found it to be .671. A similar calculation for the import-intensive group yielded an almost identical .679. If trade competitiveness is now defined as the difference between export penetration and import penetration, its correlation with the Gini coefficient is slightly negative. These findings suggest that there is no correspondence between trade competitiveness and geographic concentration.

More interesting, both the top 50 export-intensive and the top 50 import-intensive groups have Gini coefficients above the average for all manufacturing. In fact, there is a significant positive correlation between the Gini coefficient and both the import intensity and the export intensity variables. If we now define a tradeability variable as the sum of import penetration and export penetration, we find that the average Gini coefficient for the top 100 four-digit SIC manufacturing industries, based on tradeability, is .653, and that for the bottom 100 four-digit SIC manufacturing industries is .531. (Weighted by 1990 employment in each four-digit SIC category, the figures are .619 for the top 100 and .404 for the bottom 100.) Clearly, those industries with a high penetration of exports, imports, or both are significantly more geographically concentrated than those industries which are not involved with trade. So just as the traded sectors are more highly concentrated geographically than the nontraded sectors, the trade-intensive manufacturing sectors are more highly concentrated geographically than manufacturing sectors that are not as extensively involved with trade. In general, then, there appears to be something about tradeability that is associated with geographic concentration.

Although we do not know why industries intensively involved with trade cluster, we offer a few conjectures. As noted, Porter suggested that industries which are highly competitive internationally (industries successful at exporting) have a tendency to cluster geographically. However, our

findings show that import-sensitive industries cluster as well. This suggests that there are certain industry characteristics which cause industries to cluster geographically within a nation and which also appear to be operating at a global level. International trade appears to result when firms cluster in only a few areas (countries), assuming that demand is fairly evenly distributed geographically. Thus, the correlation between domestic concentration of production and a high level of tradeability merely mimics a more global phenomenon.

Because the employment-weighted averages for both the top 100 and the bottom 100 four-digit SIC manufacturing industries have Gini coefficients that are lower than the corresponding nonweighted averages, it is apparent that the sectors with larger employment have lower Gini coefficients. Larger employment may be due to a larger number of establishments, a larger average establishment size, or both. To control for these effects, we performed a multiple regression with the Gini coefficient as the dependent variable and the total number of establishments, average establishment size, import intensity, and export intensity as the independent variables. The results are presented in the following tabulation, with all the estimated coefficients significant at the 99-percent level:

	Estimated value of parameter	t-*statistic*
Number of firms	−0.00003	8.09
Mean size of firm	.00044	7.81
Exports-shipment ratio	.13809	2.71
Imports-new supply ratio	.16455	3.55

Thus, the larger the number of establishments there are in a four-digit SIC industry, the smaller is the degree of concentration, a result that is to be expected in view of the law of large numbers. In contrast, the larger the average number of employees per establishment, the greater is the degree of concentration. This may be due in part to the fact that the variance in establishment size increases with average size, thus contributing to concentration; however, there is still a definite tendency for the number of establishments to concentrate with average size. If Gini coefficients are calculated using the number of establishments instead of total employment and are then regressed on the same set of variables, average establishment size remains significant. Hence, the number of establishments, their average size, and their involvement in trade are significantly related to the degree of geographic concentration in an industry.

The issue of geographic concentration may turn out to be important in regard to how the production structure of a nation is altered by trade agreements. Paul Krugman has found that the manufacturing industry in the European Community, viewed as one region, is less geographically concentrated than the same industry is in the United States.[6] Numerous industry studies, such as that of the automobile industry by Philip Jones and John North, reach a similar conclusion.[7] If Krugman is correct, the comparison seems to suggest that economic integration leads to increased geographic concentration of industries. In addition, David Greenaway and Robert Hine provide some evidence that the increased integration of the world economy during the 1980's resulted in production patterns within the member countries of the Organisation for Economic Co-operation and Development becoming more regionally specialized.[8] The question therefore arises as to whether further trade liberalization will increase the geographic concentration of industries.[9] Currently, there are ongoing negotiations in the General Agreement on Tariffs and Trade (GATT) to liberalize the global economy further, as well as several efforts, such as the proposed North American Free Trade Agreement (NAFTA) and the 1992 Single Market program in the European Community, to promote regional trading blocs. More open trading arrangements will lead to increased economic integration and, perhaps, increased geographic concentration of industry. This in turn is likely to increase the amount of interindustry trade, which may then create labor adjustment problems for job losers.[10]

Adjusting to trade liberalization

The Gini coefficient for geographic concentration not only may be associated with the tradeability of an industry, but also may provide information about potential trade adjustment problems resulting from trade agreements. For example, Marie Howland and George E. Peterson found that the strength of the local economy was important in minimizing the financial losses of displaced workers employed in declining industries.[11] Specifically, a growing local economy reduced the financial losses of displaced white-collar workers, but not those of blue-collar workers. Also, a depressed local economy led to large financial losses among all displaced workers, even those who were young and well educated. We argue that a downturn in an industry that is highly concentrated could severely weaken the local economy, which in turn would weaken the reemployment prospects of displaced workers.

Identifying trade-sensitive industries. A recent study identified import- and export-sensitive manufacturing industries at the four-digit SIC level, based on the level and growth of their trading activity between 1982 and 1987.[12] The study con-

cluded that a number of import-sensitive manufacturing industries, especially low-wage apparel and leather and high-wage machinery, could be adversely affected by a more open international trading environment. In contrast, it also found that the export-sensitive food, chemicals, and electrical equipment industries could benefit from such an environment. Analysis of worker characteristics revealed that those most vulnerable to import competition—women, youth, blacks, Hispanics, and the less educated—would also have the greatest difficulty relocating.

The following tabulation reports average Gini measures of geographic concentration for selected manufacturing industry groups, both those that are trade sensitive and those that are not:

	Average Gini
Import sensitive	.658
Export sensitive	.680
Not sensitive to trade	.602

Separating out any industry found in both the import- and export-sensitive groups yields the following:

	Average Gini
Import sensitive only	.629
Export sensitive only	.674
Import and export sensitive	.696

Table 1. **Distribution of employment in trade-sensitive manufacturing industries, by region, 1990**

[Percent]

Region[1]	All manufacturing	Industries sensitive to—		
		Imports only	Exports only	Both imports and exports
Employment (thousands)	19,143.3	1,391.9	2,117.6	412.9
Percent	100.0	100.0	100.0	100.0
New England	6.4	8.2	8.7	11.7
Mid-Atlantic	14.3	19.7	10.9	18.4
South Atlantic	16.4	16.1	10.5	11.4
Lakes	22.1	16.8	15.3	33.2
Deep South	7.5	9.9	3.7	4.4
Heartland	7.4	7.6	7.0	8.3
Oil States	8.2	6.5	12.1	4.6
Mountain	3.4	3.3	5.5	1.4
Pacific	14.4	12.0	26.5	6.7

[1] Regions:
New England—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut.
Mid-Atlantic—New York, New Jersey, Pennsylvania.
South Atlantic—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida.
Lakes—Ohio, Indiana, Illinois, Michigan, Wisconsin.
Deep South—Kentucky, Tennessee, Alabama, Mississippi.
Heartland—Iowa, Minnesota, Missouri, North Dakota, South Dakota, Nebraska, Kansas.
Oil States—Arkansas, Louisiana, Oklahoma, Texas.
Mountain—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada.
Pacific—Washington, Oregon, California, Alaska, Hawaii.

NOTE: The regions listed are the standard Census Bureau regions with the following name changes: East North Central—Lakes; East South Central—Deep South; West North Central—Heartland; West South Central—Oil States.

SOURCE: Special tabulation from BLS Employment and Wage (ES–202) program.

Although these results are similar to earlier ones in that there is a high degree of geographic concentration among industries more actively engaging in trade, export-sensitive industries show a slightly higher degree of concentration than do import-sensitive industries. This is even more noticeable in the case of those trade-sensitive industries that are import sensitive only or export sensitive only: the gap between the Gini coefficients widens. While the difference is not large, it does provide an indication that the gains from trade liberalization may be more concentrated than the losses. However, as noted earlier, the concentration of import-sensitive industries relative to that of all manufacturing and that of the service sector is quite high, which could lead to reemployment difficulties for those displaced.

Regional view. Because employment in trade-sensitive manufacturing industries exhibits geographic concentration, it would be useful for policymakers to know where it may be concentrated. Of course, the existence of a concentration of total employment and manufacturing employment in a certain region will increase the likelihood that there is also a concentration of trade-sensitive employment in that region. Table 1 shows that in 1990 total manufacturing employment was concentrated in the Lakes region of the Nation and also in the South Atlantic region, followed by the Pacific and Mid-Atlantic regions. The Lakes region had more than 20 percent of U.S. manufacturing employment, the other three regions near 15 percent each. Although this distribution helps account for the regional distribution of employment in trade-sensitive industries, that distribution is even more concentrated.

In addition to finding that tradeability is associated with geographic concentration, we found that the locations of the concentrations are related to the type of trade activity involved. For example, there is a heavy geographic concentration of industries that are both import and export sensitive in the Lakes region. Export-sensitive industries were concentrated in the west, especially the Pacific region, while import-sensitive industries were concentrated in the east, particularly the Mid-Atlantic and New England regions. The Deep South also had a disproportionate share of import-sensitive industries.

Those regions with a high percentage of employment in import-sensitive industries also recorded a high percentage of employment in nondurable goods manufacturing, and those regions with a high percentage of employment in export-sensitive industries recorded a high percentage of employment in durable goods manufacturing. For example, almost half of employment in the apparel industry (SIC 23) and three-fourths of that in the

Table 2. **Distribution of average annual employment in manufacturing, by two-digit SIC industry level, 1990[1]**

Region[2]	All manufacturing	Food and kindred products (SIC 20)	Textile mill products (SIC 22)	Apparel and other textile products (SIC 23)	Lumber and wood products (SIC 24)	Furniture and fixtures (SIC 25)	Paper and allied products (SIC 26)	Printing and publishing (SIC 27)	Chemicals and allied products (SIC 28)
Employment:									
Number	19,143,306	1,665,766	700,030	1,039,591	736,897	509,958	699,713	1,569,511	1,091,617
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New England	6.4	2.8	5.0	3.0	3.6	2.7	8.3	6.6	4.2
Mid-Atlantic	14.3	12.4	8.9	20.8	7.1	9.7	15.4	19.4	22.2
South Atlantic	16.4	14.9	67.3	24.7	19.2	27.7	16.8	14.8	20.6
Lakes	22.1	18.0	2.2	6.3	13.5	20.3	22.6	20.2	19.8
Deep South	7.5	7.2	11.2	17.5	11.9	13.4	8.9	4.9	6.6
Heartland	7.4	12.9	.6	3.6	6.0	5.6	8.7	9.7	5.2
Oil States	8.2	11.0	1.7	8.3	9.1	5.9	7.9	6.9	11.1
Mountain	3.4	4.5	.3	1.6	5.9	2.2	1.3	4.4	2.2
Pacific	14.4	16.3	2.8	14.2	23.7	12.5	10.1	13.2	8.1

Region[2]	Petroleum and coal products (SIC 29)	Rubber and miscellaneous plastics products (SIC 30)	Leather and leather products (SIC 31)	Stone, clay, glass, and concrete products (SIC 32)	Primary metal industries (SIC 33)	Fabricated metal products (SIC 34)	Industrial machinery and computer equipment (SIC 35)	Electronic and other electrical equipment (SIC 36)	Transportation equipment (SIC 37)	Measuring and controlling equipment (SIC 38)	Miscellaneous manufactures (SIC 39)
Employment:											
Number	158,540	892,165	133,885	557,815	758,384	1,422,503	2,096,640	1,679,291	2,000,307	1,002,227	377,864
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
New England	1.3	6.1	17.1	3.6	4.2	7.0	8.0	8.8	6.8	12.0	14.6
Mid-Atlantic	15.2	12.4	18.4	17.1	17.3	13.3	13.2	13.9	6.2	20.9	21.1
South Atlantic	4.3	14.4	8.9	18.8	10.6	9.5	10.4	13.5	10.3	10.4	8.5
Lakes	17.1	31.7	15.5	19.8	38.0	32.9	29.5	20.4	29.9	12.8	18.0
Deep South	5.3	8.4	8.9	7.1	8.4	7.0	5.3	6.5	5.7	2.1	6.9
Heartland	4.3	6.9	14.0	6.5	4.2	7.6	9.3	6.1	7.8	6.8	6.4
Oil States	30.1	7.8	9.8	10.1	6.2	9.2	8.4	8.6	7.6	5.1	6.6
Mountain	2.8	2.1	2.0	4.6	2.5	2.2	3.5	4.8	3.7	4.8	5.4
Pacific	19.5	10.1	5.5	12.4	8.7	11.2	12.2	17.4	22.1	24.9	12.5

[1] For reasons of nondisclosure of the data, the tobacco products industry (SIC 21) is left out of the table. Employment totals and totals for the region, however, include data for the industry.

[2] See table 1 for list of States in each region.

SOURCE: Special tabulation from Bureau of Labor Statistics Employment and Wage (ES–202) program.

textile industry (SIC 22) are located in the Atlantic regions, where more than a third of import-sensitive industries are located. (See table 2.) Similarly, a considerable share of employment in measuring and controlling equipment (SIC 38), lumber and wood products (SIC 24), and transportation equipment (SIC 37) (especially aircraft) is located in the export-oriented Pacific region. The largest share of trade-sensitive employment is found in the Lakes region, where 30 or more percent of employment in the following industries are located: primary metals (SIC 33), fabricated metals (SIC 34), transportation equipment (SIC 37), machinery (SIC 35), and rubber and plastic products (SIC 30).

Workers in import-sensitive industries are more vulnerable than those in other industries to job loss from a more open international trading environment. Trade Adjustment Assistance is the primary U.S. employment program serving workers displaced because of trade. It would be useful to know the geographic distribution of both recipients of such assistance and displaced workers in general. For example, examining the geographic distribution of Trade Adjustment Assistance certifications relative to the geographic distribution of displaced workers will give some indication of the extent to which job losers are served by the program. Also, if the program is serving its target population, one would expect to find a concentration of Trade Adjustment Assistance recipients in regions with a large share of import-sensitive industries. For example, table 3 shows the number and distribution of factory workers receiving Trade Adjustment Assistance and the number and distribution of displaced factory workers, by region, from 1987 to 1992. The regional distribution of factory workers receiving such assistance parallels fairly closely (Pearson correlation coefficient of .877) the regional distribution of employment in import-sensitive manufacturing industries given in table 1. In particular, the regions with the highest and lowest distributions are the same in

both cases. This result both suggests that the Trade Adjustment Assistance program is well targeted and, if certification is viewed as another measure of import sensitivity, supports our finding that employment in import-sensitive industries is geographically concentrated.

Not surprisingly, factory worker displacements are distributed geographically in the same relative proportions as the distribution of total manufacturing employment, a clear exception being the disproportionate share of displaced manufacturing workers in New England. Examining the two percent distribution columns in table 3 reveals that disproportionate trade-related displacements occurred in the Mid-Atlantic, Lakes, Deep South, and Oil States regions. Each of these had a higher share of Trade Adjustment Assistance certifications than of displacements. Moreover, all of them except the Lakes region had a higher share of certifications than of total manufacturing employment. These findings indicate that trade-related job losses were indeed geographically concentrated during the period in question. Importantly, from a labor market adjustment standpoint, the duration of unemployment was longer in regions where trade displacements were concentrated. Also, according to the January 1992 BLS Displaced Worker Survey, the percentage of displaced manufacturing workers reemployed at the time of the survey was lower in regions with a high concentration of trade-related displacements.[13]

Table 3. **Factory workers receiving Trade Adjustment Assistance and displaced factory workers, by region, 1987–92**

Region[1]	Factory workers receiving Trade Adjustment Assistance		Displaced factory workers[2]	
	Number[3]	Percent distribution	Number	Percent distribution
Total	314,916	100.0	1,955,000	100.0
New England	25,262	8.0	168,000	8.6
Mid-Atlantic	66,967	21.3	299,000	15.3
South Atlantic	49,075	15.6	352,000	18.0
Lakes	60,961	19.4	354,000	18.1
Deep South	39,133	12.4	123,000	6.3
Heartland	19,314	6.1	137,000	7.0
Oil States	29,645	9.4	125,000	6.4
Mountain	9,308	3.0	79,000	4.0
Pacific	15,251	4.8	318,000	16.3

[1] See table 1 for list of States in each region.

[2] Persons with 3 or more years of tenure who lost or left a job between January 1987 and January 1992 because of plant closings, slack work, or the abolishment of their positions or shifts.

[3] Administrative cumulative count of worker certifications under the Trade Adjustment Assistance program from Jan. 1, 1987, to Dec. 7, 1992.

SOURCES: Special tabulation, Office of Trade Adjustment Assistance, Employment and Training Administration; BLS January 1992 Displaced Worker Supplement to Current Population Survey.

An examination of the distribution of Trade Adjustment Assistance certifications by two-digit SIC manufacturing industries for each region provides some insight into the disproportionate regional distribution of trade-related displacements. The situation in the Mid-Atlantic and Lakes regions, for example, is due in large part to their generally greater shares of employment in industries sensitive to imports that are located there. The situation in the Deep South and Oil States regions is not as straightforward, because those regions do not have a large share of import-sensitive industries, although the share in the Deep South is disproportionate, with a large number of workers in the apparel industry (SIC 23). There was a large concentration of job losses in that industry during the 1987–92 period, and nearly 60 percent of the Trade Adjustment Assistance certifications in the region were in the apparel industry. In fact, based on the number of certifications over the period, the apparel industry in nearly every region was hit hard by imports: 30 percent of all Trade Adjustment Assistance certifications in the manufacturing industry from 1987 to 1992 were in the apparel industry. This figure was followed by 15 percent in the transportation equipment industry (SIC 37). Trade-related displacements, denoted by the number and share of Trade Adjustment Assistance certifications, in these two industries in the Oil States region accounted for that region's disproportionate trade-related displacement. (See table 4.) Other noteworthy concentrations of certifications—an indication of where trade-related job losses occurred—were leather (SIC 31) in the Heartland region, lumber and wood products (SIC 24) in the Pacific region, machinery (SIC 35) in the Mountain and Pacific regions, transportation equipment in the Lakes and Heartland regions, and apparel in the two Atlantic regions.

North American Free Trade Agreement (NAFTA). The prospect of the signing of the North American Free Trade Agreement has focused attention on Mexico's trade pattern with the United States. Currently, Mexico ranks third behind Canada and Japan in trade volume with the United States. U.S. imports from Mexico increased at an annual rate of 12 percent from 1986 to 1991, while U.S. exports to Mexico increased by 22 percent per year over the same period.

Much attention has been directed toward the employment effects of the proposed agreement with Mexico.[14] Which industries will gain jobs? Which will lose jobs? Will there be adequate support for the job losers? Will some regions benefit or be hurt more than others? Because of the large difference in income and wages between the two countries, some have expressed concerns about the possibility of a surge in U.S. imports from

Table 4. **Percent distribution of Trade Adjustment Assistance certifications by two-digit SIC manufacturing industry, by region, cumulative from January 1, 1992, to December 7, 1992**

SIC	Industry	Total	New England	Mid-Atlantic	South Atlantic	Lakes	Deep South	Heartland	Oil States	Mountain	Pacific
	All manufacturing										
	Number	314,916	25,262	66,967	49,075	60,961	39,133	19,314	29,645	9,308	15,251
	Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
20	Food and kindred products	.8	.3	.5	.4	.2	—	—	—	—	11.7
21	Tobacco products	—	—	—	—	—	—	—	—	—	—
22	Textile mill products	2.9	7.3	2.7	8.8	.6	1.6	—	.1	—	.6
23	Apparel and other textile products	30.0	16.8	34.4	50.4	4.7	57.1	15.4	37.5	14.8	12.2
24	Lumber and wood products, except furniture	1.0	.5	—	—	.2	.1	—	1.0	1.8	15.8
25	Furniture and fixtures	2.1	1.0	3.0	2.7	.8	1.5	.5	1.7	—	8.1
26	Paper and allied products	.6	2.2	1.1	—	.3	—	—	—	—	2.9
27	Printing and publishing	.4	.7	.3	.6	.7	—	.3	—	—	.3
28	Chemicals and allied products	1.5	.2	2.9	.2	.8	.2	1.8	.9	9.6	4.2
29	Petroleum and coal products	.2	—	—	.2	.2	.1	—	1.0	—	—
30	Rubber and miscellaneous plastics products	3.8	4.9	4.3	6.3	4.8	2.5	.8	1.8	1.2	—
31	Leather and leather products	7.2	16.0	7.4	7.6	3.2	5.8	25.6	2.1	.8	1.3
32	Stone, clay, glass, and concrete products	1.4	1.7	1.3	2.6	1.6	.6	.2	1.5	—	1.1
33	Primary metal industries	2.7	2.1	4.1	.8	5.3	1.6	.7	.9	3.3	2.6
34	Fabricated metal products, except machinery and transportation equipment	4.6	8.3	3.6	2.4	11.4	.4	2.4	3.0	1.0	1.3
35	Industrial machinery and computer equipment	8.5	11.8	10.8	.7	14.5	1.0	7.8	2.0	23.2	18.4
36	Electronic and electrical equipment, except computer equipment	12.8	16.9	12.4	8.3	12.2	14.0	14.9	14.2	28.8	7.1
37	Transportation equipment	15.2	.8	5.3	6.4	35.2	10.6	24.8	28.9	10.5	7.2
38	Measuring and controlling equipment	2.3	4.2	2.2	.3	3.3	1.4	2.9	3.1	3.0	2.6
39	Miscellaneous manufactures	1.9	4.3	3.6	1.3	.5	1.5	2.0	.3	2.0	2.7

NOTE: See table 1 for list of States in each region. Dash indicates less than .05 percent or no observations.

SOURCE: Special tabulation, Office of Trade Adjustment Assistance, Employment and Training Administration.

Mexico that are priced below U.S.-produced goods, as well as a potent exodus of U.S. firms to Mexico to take advantage of the lower wage base there.

With regard to the concentration issue, there are two major concerns. First, as noted before, the proposed agreement itself could lead to greater geographic concentrations of industry in each country as the two economies integrate. Second, if the industries that are adversely affected by the agreement are geographically concentrated, the adjustment process for the job losers could be more difficult than if those industries are not geographically concentrated.

Employing and expanding upon the methodology used by Bednarzik in an earlier *Monthly Labor Review* article to identify trade-sensitive industries,[15] we developed a preliminary list of U.S. manufacturing industries (at the four-digit SIC level) with a history of conducting trade with Mexico from 1982 to 1987. We established four criteria—two based on the level of trade and two based on the growth of trade—to determine which U.S. industries had a history of importing from or exporting to Mexico. A broad measure of import penetration considers the trend and level of U.S. imports from Mexico, by industry, as a percentage of new supply (domestic production plus imports), and a narrow measure considers imports from Mexico as a percentage of all U.S. imports. Exports are examined in a similar fashion.[16] The following tabulation gives the average Gini coefficient for those industries deemed import sensitive or export sensitive with respect to U.S. trade with Mexico from 1982 to 1987:

	Total manufacturing	*Import sensitive*	*Export sensitive*
Number of jobs	19,111,000	539,900	720,400
Average Gini index	.607	.619	.600
Weighted Gini index	.543	.593	.511

Comparing the average and weighted Gini coefficients of import-sensitive versus export-sensitive

manufacturing industries pertaining to U.S. trade with Mexico reveals that the import-sensitive industries are slightly more concentrated. They are also slightly more concentrated than manufacturing generally. Workers in geographically concentrated import-sensitive industries could face a prolonged search for a comparable job if they become unemployed.

Conclusions and implications

There has been a tendency for similar economic activities to cluster together geographically; this article shows how that tendency is related to industry characteristics. Geographic clustering is most prevalent in the mining sector, less so, but still significant, in the agriculture and manufacturing industries, and not very evident in the services sector. Manufacturing industries that are intensively involved in international trade, either as importers or as exporters, are significantly more geographically concentrated than manufacturing industries with less involvement in trade. Geographic concentration is also positively related to average establishment size and negatively related to the overall number of establishments in an industry.

Among the labor market implications of the geographic concentration of trade-sensitive industries is the prospect that a downturn in an industry that is highly concentrated geographically could weaken the local economy and the ability of displaced workers to find alternative employment. Conversely, trade agreements that open markets favoring specific product lines are likely to benefit the regions that manufacture those products. Average Gini coefficients show that both export- and import-sensitive industries are geographically concentrated, export-sensitive industries slightly more so. That import-sensitive industries are concentrated geographically is supported by the regional distribution of Trade Adjustment Assistance certifications. Unfortunately, from a labor market adjustment standpoint, job gains are not likely to be in the same region as job losses. Concentrations of export-sensitive industries are in the Pacific region, while import-sensitive industries are concentrated in the Atlantic regions. Industries that are both import and export sensitive are in the Lakes region. Historical trading patterns show that U.S. industries trading with Mexico also tend to be concentrated geographically, although not to the extent of trade-sensitive industries generally. □

Footnotes

ACKNOWLEDGMENT: The authors thank Michael B. Buso, Office of Employment and Unemployment Statistics, and Barbara P. Athey, Office of Technology and Survey Processing, both of the Bureau of Labor Statistics, for the preparation of data appearing in this article.

[1] Joseph Lewis, "The Localization of Industries," *Manufactures: 1905* (Washington, Bureau of the Census, 1907).

[2] See Robert C. Shelburne and Robert W. Bednarzik, *The Geographical Concentration of Employment and Its Implications for Trade and Adjustment* (Washington, Bureau of International Labor Affairs, 1992), originally presented at the Southwestern Economics Association in San Antonio in March 1992. In this paper, we included average Ginis for all two-, three-, and four-digit SIC industries. Geographic Gini indexes are used by Paul Krugman, in *Geography and Trade* (Cambridge, MA, MIT Press, 1991).

[3] Unlike Krugman's results, which were based on a data set that was incomplete because of confidentiality concerns, the results presented here are based on a complete data set. The Bureau of Labor Statistics does not release data on industries when it would be possible to determine firm-specific information from them. This can occur when there are only a few firms in a given geographic area. The problem was avoided by providing the Bureau with the requisite computer programs and allowing its staff to compute the desired estimates. Firm-specific information cannot be derived from Gini coefficients.

[4] Michael Porter, *The Competitive Advantage of Nations* (New York: The Free Press, 1990). As early as 1919, Alfred Marshall, in *Industry and Trade* (London, McMillan, 1919), suggested that clustering was an attempt to reap technological spillovers from other firms. This factor is likely to be most important in industries characterized by sophisticated and rapidly changing technology. We divided the manufacturing sector into three groups—industries characterized by new products requiring significant inputs of research and development and human capital, industries that produce standardized commodities with established technology, and industries that are resource intensive—and calculated the Gini index for each group. The results failed to reveal the presence of any technological factor in geographic concentration among these industries. (Their Gini indexes were similar.)

[5] The variables for the ratio of imports to new supply and exports to shipments have been calculated by the Industry Statistics Division of the U.S. Dept. of Commerce; the most recent data available are for 1987.

[6] Krugman, *Geography and Trade*. Krugman makes this assessment using several criteria; for instance, the manufacturing production structures of the United Kingdom, West Germany, France, and Italy are more similar to each other than are the production structures of the four major U.S. regions.

[7] Philip Jones and John North, "Japanese Motor Industry Transplants: The West European Dimension," *Economic Geography*, April 1991, pp. 105–23.

[8] David Greenaway and Robert Hine, "Intra-Industry Specialization, Trade Expansion and Adjustment in the European Economic Space," *Journal of Common Market Studies*, December 1991.

[9] A theoretical discussion of this issue can be found in Paul Krugman and Anthony Venables, "Integration and the Competitiveness of Peripheral Industry," in Christopher Bliss and Jorge Braga de Macedo, *Unity with Diversity in the European*

Economy: The Community's Southern Frontier (Cambridge, U.K., Cambridge University Press, 1990), pp. 56–75.

[10] The costs of adjustment associated with the geographic-concentrating effects of the Single Market program have been an important issue within the European Community. See Harry Flam, "Products and 1992: Full Integration, Large Gains?" *Journal of Economic Perspectives*, Vol. 6, No. 4, Fall 1992, pp. 7–30.

[11] Marie Howland and George E. Peterson, "Labor Market Conditions and the Reemployment of Displaced Workers," *Industrial and Labor Relations Review*, October 1988, pp. 109–22.

[12] "Robert W. Bednarzik, "An analysis of U.S. industries sensitive to foreign trade, 1982–87," *Monthly Labor Review*, February 1993, pp. 15–31. Trade sensitivity considers the trend as well as the level of activity over a 6-year period, 1982–87. Also, it is based on 1972 SIC's. That is, it does not include any new four-digit SIC industries that may have been included in the trade-intensive group.

[13] We cannot be sure, however, whether the longer jobless duration was a result of the geographic concentration of the displacements or of the fact that the displacements were trade related. The literature is clear that the duration of unemployment is longer and postdisplacement wage losses are larger for workers displaced by trade than for comparable unemployed groups. (See, for example, Walter Corson, Paul Decker, Phillip Gleason, and Walter Nicholson, *International Trade and Worker Dislocation: Evaluation of the Trade Adjustment Assistance Program* (Princeton, NJ, Mathematica Policy Research, Inc., April 1993).

[14] For a review of many of the studies on NAFTA, see Gregory Schoepfle and Jorge Perez-Lopez, *U.S. Employment Effects of a North American Free Trade Agreement: A Survey of Issues and Estimated Employment Effects*, Economic Discussion Paper 40 (Bureau of International Labor Affairs, July 1992).

[15] Bednarzik, "U.S. industries sensitive to foreign trade."

[16] Specifically, import sensitivity was measured as the percentage of total U.S. new supply, by industry, imported from Mexico and as the percentage of total U.S. imports, by industry, imported from Mexico. The following thresholds were established for the level and the growth of import activity over the 1982–87 period: average share of shipments of 2 percent or more; average annual increase in share of shipments of 1 percent or more; average share of imports of 20 percent or more; and annual average increase in share of imports of 2 percent or more. Industries that reached or exceeded two or more of these thresholds were deemed import sensitive.

Export sensitivity was measured as the percentage of total U.S. shipments, by industry, exported to Mexico and as the percentage of total U.S. exports, by industry, exported to Mexico. The following thresholds were established for the level and the growth of export activity over the 1982–87 period: average share of shipments of 2 percent or more; average annual increase in share of shipments of 1 percent or more; average share of exports of 20 percent or more; and annual average increase in share of exports of 2 percent or more. Industries that reached or exceeded two or more of these thresholds were deemed export sensitive.

APPENDIX: Deriving the Gini index

To estimate geographic concentration by industry, we employ the technique of Paul Krugman and calculate locational Gini coefficients. The Gini coefficient, which has been used extensively in analyzing income distributions, is a summary measure derived from the Lorenz distribution. For each state i, we have data for employment (E) in each sector j, which we define as E_{ij}. We define each State's share of total U.S. employment as

$$S_i = \sum_j E_{ij} / \sum_i \sum_j E_{ij}$$

and each State's share of employment in each sector as

$$S_{ij} = E_{ij} / \sum_i E_{ij}.$$

For each sector, we take the ratio $R_{ij} = S_{ij}/S_i$ and then rank the resulting values in ascending order. A continuous cumulation of S_{ij} and S_i is maintained, with the totals plotted after the figure for each State is added to the running totals. This allows us to plot a Lorenz curve, such as that shown in chart A–1, page 13, for each sector. The vertical axis represents the cumulative share of the sector (that is, the running total of S_{ij}), the horizontal axis the cumulative share of total employment (that is, the running total of S_i). A point such as B on the curve signifies that only 20 percent of employment in the given sector is located in States that account for 40 percent of total employment. Alternatively, we could say that 80 percent of employment in this sector is located in States that account for 60 percent of total employment.

If employment in a sector is located in each State exactly in proportion to total employment in that State, then the Lorenz curve will correspond to the 45-degree diagonal line. That is, the State's share of industry employment is the same as its share of national employment. The more geographically concentrated a sector is, the more curved the Lorenz curve will be. Thus, the size of the region between the diagonal line and the Lorenz curve is a measure of the amount of geographic concentration of a sector. The Gini coefficient is defined as the proportion of the area below the diagonal that is between the diagonal and the Lorenz curve. Hence, the Gini coefficient can vary from 0, when the Lorenz curve coincides with the diagonal, to 1, when all of the sector's employment is in a small area.

For the geographic regions, States have been used, although a smaller region would be more desirable. Using States presents three additional problems. First, an industry that is clustered on both sides of a State border will have a lower Gini index than if it were concentrated entirely within one of the States. Second, the fact that States are of unequal sizes will bias the Gini measure. For example, an industry concentrated in California will appear less concentrated than if it were concentrated in a similarly sized region in Wyoming. Finally, because each State represents a significant portion of total employment, the upper limit of the Gini index will approach, but never reach, 1, even when employment is all in a single State.

Table A–1 lists four-digit average Gini indexes calculated for all two-digit SIC industries.

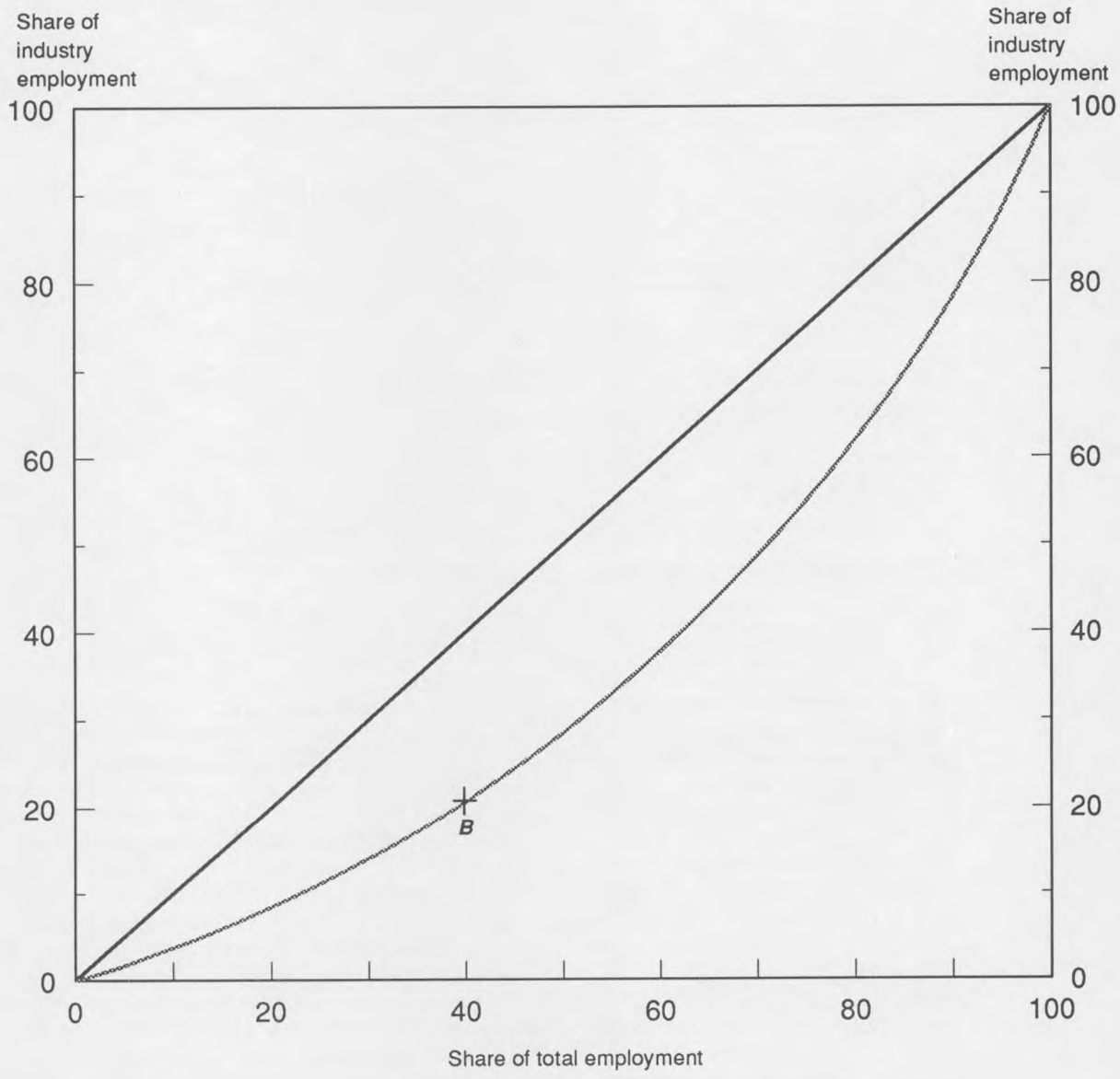
Table A–1. **Four-digit average Gini indexes for two-digit SIC industries**

SIC	Industry	Gini	SIC	Industry	Gini
01	Agricultural crops	0.778	47	Transportation services	0.446
02	Agricultural livestock	.678	48	Communications	.313
07	Agricultural services	.403[1]	49	Electric, gas, and sanitary services	.579
08	Forestry	.776			
09	Fishing, hunting, and trapping	.762	50	Wholesale trade: durables	.235
			51	Wholesale trade: nondurables	.313
10	Metal mining	.944	52	Building and garden materials	.191
12	Coal mining	.890	53	General merchandise stores	.204
13	Oil and gas extraction	.833	54	Food stores	.267
14	Nonmetallic minerals	.691	55	Auto dealers and gas stations	.225
15	General building contractors	.274[1]	56	Apparel stores	.184
16	Heavy construction	.305	57	Furniture stores	.172
17	Special trade contractors	.204	58	Eating and drinking places	.074[1]
			59	Miscellaneous retail	.249
20	Food and kindred products	.623			
21	Tobacco products	.904	60	Depository institutions	.507
22	Textile mill products	.819	61	Nondepository institutions	.376
23	Apparel and other textile products	.635	62	Security and commodity brokers	.644
24	Lumber and wood products, except furniture	.570	63	Insurance carriers	.390
			64	Insurance agents	.110
25	Furniture and fixtures	.537	65	Real estate	.283[1]
26	Paper and allied products	.530	67	Holding and investment offices	.542
27	Printing and publishing	.396			
28	Chemicals and allied products	.650	70	Hotels	.374
29	Petroleum and coal products	.518	72	Personal services	.151[1]
			73	Business services	.294
30	Rubber and miscellaneous plastic products	.480	75	Auto repair and services	.227
			76	Miscellaneous repair services	.200
31	Leather and leather products	.707	78	Motion pictures	.443
32	Stone, clay, glass, and concrete products	.557	79	Amusement and recreation	.313
33	Primary metal industries	.638			
34	Fabricated metal products, except machinery and transportation equipment	.542	80	Health services	.268
			81	Legal services	.181
			82	Educational services	.273
35	Industrial machinery and computer equipment	.613	83	Social services	.204
			84	Museums, gardens, and zoos	.373
36	Electronic and electrical equipment, except computer equipment	.607	86	Membership organizations	.341
			87	Engineering and management services	.309
37	Transportation equipment	.700	88	Private households	.290
38	Measuring and controlling equipment	.561	89	Services, n.e.c.	.296
39	Miscellaneous manufactures	.599			
			91	Executive and legislative government	.700
40	Railroad transportation	.837	92	Justice and safety	.465
41	Local passenger transit	.427	93	Taxation and monetary policy	.254
42	Trucking and warehousing	.370	94	Human resources	.462
43	U.S. Postal Service	.091	95	Government environmental and housing	.411
44	Water transportation	.686	96	Administration of economic programs	.469
45	Air transportation	.390	97	Security and international affairs	.673
46	Pipelines, not natural gas	.736	99	Nonclassified establishments	.678

[1] Calculated at the three-digit level because not all States report data for this industry at the four-digit level.

NOTE: n.e.c. = not elsewhere classified.

Chart A-1. **Lorenz Curve**



Recession swells count of displaced workers

Like all recessionary periods, the weak economy of the early 1990's increased the number of displaced workers; while a disproportionately large share were in goods-producing industries, displacements were much more widespread across industries than was the case a decade earlier

Jennifer M. Gardner

During the mid- to late 1980's, the United States experienced 7 years of uninterrupted economic growth, during which roughly 20 million persons were added to the employment rolls. Even during this booming period, however, many workers were losing jobs, as businesses failed or were forced to cut the size of their work forces. But it is obviously during recessions, such as the one that started in mid-1990, that the problem of job loss becomes most acute.

Between January 1987 and January 1992, a period including the 1990–91 recession, the number of workers who lost jobs due to plant closings, company failures, or other curtailments in employment totaled 5.6 million, according to the Current Population Survey (CPS)[1]. This compares with 4.3 million during the 5 years ending in January 1990, a period of sustained employment growth.[2] When the most recent data were collected in January 1992, it was found that nearly two-thirds of the workers who had lost their jobs during the preceding 5 years were once again working.

Interest in workers who lose their jobs when plants close or businesses severely cut back their operations heightened in the early 1980's, when two back-to-back recessions (in 1980 and 1981–82) displaced many workers from long-held jobs. In January 1984, the U.S. Department of Labor's Employment and Training Administration sponsored a supplement to the CPS to measure the extent of this problem and to see how the workers affected by displacements had adjusted.[3] This special supplement has been conducted biennially ever since, and is always retrospective over the preceding 5 years. The most recent data were collected in January 1992, covering the 5-year period beginning January 1987. While data were collected on all job displacements, regardless of the worker's length of service in the affected job, the data used for this analysis are restricted to workers with at least 3 years of tenure with their previous employer. Displaced workers are those who lost or left jobs due to plant or company closings or moves, slack work, or the abolishment of their positions or shifts. It should also be mentioned that only workers aged 20 and older were questioned about possible job losses.

Reasons for job loss

The most common reason for worker displacement was plant or company closings or moves. (See table 1.) In the January 1984 and 1986 surveys, these shutdowns accounted for about half of displacements; the share was slightly higher in the subsequent three surveys. Nevertheless, the type of displacement that grows at the fastest rate during the survey periods that include recessions is that attributable to slack work (that is, insufficient

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demand for a product or service). The proportion of displaced workers who attributed their job loss to the fact that their position or shift was abolished increased slightly during the 1980's and early 1990's, but still accounted for less than one-fifth of all job losses in January 1992.

Demographic characteristics

Eight of every ten workers identified in the January 1992 survey as having been displaced over the preceding 5 years were aged 25 to 54. The same proportion of displaced workers were found in this age group in the 1990 survey, but their share had been trending upward since the early 1980's, reflecting the steadily rising share of baby-boomers in this age group. (By 1990, that entire generation fell within the 25-to-54 age group.) Although the rate of displacement[4] for workers in this group had been declining during the 1980's, it was found to have increased, from 6.7 to 8.1 percent, between the January 1990 and January 1992 surveys. The overall displacement rate followed the same trend, increasing to 7.9 percent for the most recent survey from 6.4 percent in the prior survey. (See tables 2 and 3.)

Both younger and older workers—that is, those aged 20 to 24 and those 55 and older—also were more likely to have been displaced during the 5 years preceding the January 1992 survey than in the period covered by the January 1990 survey. The displacement rate for the youngest workers increased from 3.7 to 5.9 percent, but remained well below the 7.9-percent figure posted in the January 1984 survey. Among workers aged 55 and older, 7.9 percent were found to have permanently lost jobs in the January 1992 survey, up from 6.5 percent in the 1990 study.

Among the race and ethnic groups, Hispanic workers had the highest likelihood of displacement; 11.8 percent had lost jobs prior to the January 1992 survey for the reasons cited above. This was the highest rate of displacement ever registered by this group since the surveys were begun in 1984. For whites and blacks, in contrast, the respective displacement rates of 7.9 and 8.8 percent found in the January 1992 survey, while higher than those recorded for the 1990 survey period, were not as high as those posted in the January 1979–84 survey timespan.

Reflecting their predominance in such high-displacement industries as construction and durable goods manufacturing, men were 1–1/2 times more likely than women to have been displaced sometime during the most recent survey period. Over the past decade, women nevertheless have accounted for a growing proportion of the displaced, reflecting both their expanding share of the work force, as well as the fact that an increas-

Table 1. **Displaced workers by reason for job loss, age, and sex, January 1992**

Age and sex	Total displaced (thousands)	Percent distribution by reason for job loss		
		Plant or company closed down or moved	Slack work	Position or shift abolishment
Total, 20 years and older	5,584	52.1	31.6	16.3
20 to 24 years	203	44.8	48.3	7.4
25 to 54 years	4,416	51.4	31.2	17.4
25 to 34 years	1,447	50.2	37.7	12.1
35 to 44 years	1,742	52.8	27.7	19.5
45 to 54 years	1,227	50.7	28.6	20.7
55 years and older	964	57.4	29.6	13.3
55 to 64 years	750	56.5	29.3	14.3
65 years and older	214	60.3	30.4	9.8
Men, 20 years and older	3,447	49.4	34.7	15.9
Women, 20 years and older	2,137	56.6	26.4	17.0

NOTE: Data refer to persons with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or the abolishment of their positions or shifts.

Table 2. **Displaced workers by age, sex, race, Hispanic origin, and employment status in January 1992**

Age , sex, race, and Hispanic origin	Total displaced (thousands)	Percent distribution by employment status		
		Employed	Unemployed	Not in the labor force
TOTAL				
Total, 20 years and older	5,584	64.9	22.2	12.9
20 to 24 years	203	62.0	23.1	14.9
25 to 54 years	4,416	69.4	22.7	7.9
25 to 34 years	1,447	70.0	22.5	7.5
35 to 44 years	1,742	72.1	22.2	5.7
45 to 54 years	1,227	64.8	23.8	11.4
55 years and older	964	45.2	19.5	35.3
55 to 64 years	750	52.0	21.7	26.3
65 years and older	214	21.3	11.9	66.8
Men, 20 years and older	3,447	66.6	24.5	8.9
Women, 20 years and older	2,137	62.2	18.6	19.2
White				
Total, 20 years and older	4,828	65.7	21.2	13.0
Men	3,003	67.6	23.3	9.1
Women	1,825	62.7	17.8	19.2
Black				
Total, 20 years and older	626	58.7	28.6	12.7
Men	356	58.9	33.4	7.7
Women	270	58.5	22.2	19.3
Hispanic origin				
Total, 20 years and older	511	60.4	27.4	12.3
Men	323	64.6	27.2	8.2
Women	188	53.0	27.7	19.3

NOTE: Data refer to persons with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or the abolishment of their positions or shifts.

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.

Table 3. **Displacement rates[1] by age, sex, race, and Hispanic origin, 1979–83, 1985–89, and 1987–91**

[In percent]

Age, sex, race, and Hispanic origin	1979–83	1985–89	1987–91
Total, 20 years and older	8.5	6.4	7.9
20 to 24 years	7.9	3.7	5.9
25 to 54 years	8.8	6.7	8.1
25 to 34 years	10.8	6.6	7.8
35 to 44 years	8.5	7.0	8.4
45 to 54 years	6.9	6.3	8.2
55 years and older	7.6	6.5	7.9
55 to 64 years	7.6	6.5	7.9
65 years and older	7.7	6.4	7.9
Men, 20 years and older	9.2	6.7	8.5
Women, 20 years and older	7.4	6.1	7.2
White			
Total, 20 years and older	8.3	6.4	7.9
Men	8.9	6.6	8.4
Women	7.3	6.2	7.2
Black			
Total, 20 years and older	10.5	6.7	8.8
Men	12.1	7.2	10.0
Women	8.8	6.1	7.6
Hispanic origin[2]			
Total, 20 years and older	9.4	8.7	11.8
Men	9.7	9.1	12.3
Women	8.6	8.1	11.2

[1] See text footnote 4 for an explanation of the displacement rate calculation.

[2] Displacement rates for Hispanic-origin workers for 1979–83 are based on data for 1980–83; data for 1979 are not available.

NOTE: The displacement rates for the 1979–83 and 1985–89 survey periods may differ slightly from previously published estimates due to updated job tenure data.

ing share of job loss has been occurring in the service-producing sector, in which the great majority of women work.

Concentration of displacement

Like the earlier studies, the January 1992 survey found the likelihood of displacement to be highest for workers in goods-producing jobs. Also, there were large *increases* from the prior survey period in the rate of displacement among the three goods-producing industries—mining, construction, and manufacturing. (See tables 4 and 5.)

The displacement rate was very high for workers in mining—nearly one-third lost their jobs between January 1987 and January 1992. In fact, mining workers have had a higher likelihood of displacement than any other industry/worker group in each of the five surveys conducted since January 1984. Construction workers were much more likely to lose jobs between January 1987 and January 1992 than during the period covered by the prior survey. Their displacement rate increased from 10.9 percent to 15.6 percent over the two survey periods, but still did not reach the level reported in the January 1984 survey covering the recessions of the early 1980's (19.2 percent).

While more than 1 in 8 manufacturing workers were displaced during the 5 years prior to the January 1992 survey, this displacement rate is lower than those measured in the first two surveys, conducted in January of 1984 and 1986. (Undoubtedly, some of the workers who lost their jobs in the most recent survey period were displaced due to cutbacks in defense-related industries.[5]) The decline in the risk of losing factory jobs in the January 1992 survey period—resulting primarily from overall restructuring and downsizing in manufacturing since 1989, as well as the increase in the incidence of displacement in other industries—has led to a reduction in the proportion of displaced workers who had lost manufacturing jobs. In the January 1984 survey nearly one-half of the displacements were reported by workers who had lost such jobs. According to the January 1992 survey, this proportion had declined to only one-third. However, this estimate still represented nearly 2 million workers.

The displacements found in the January 1992 survey were more widely distributed across industries than those found in the first survey conducted in January 1984. During the period covered by that first survey, 65 percent of all workers displaced from private nonagricultural wage and salary jobs had lost positions in goods-producing industries. Nearly a decade later, the January 1992 survey showed the proportion having lost goods-producing jobs to be only half of the total, as the service sector was more affected than in the past.

Among the service-producing industries, wholesale and retail trade had the highest rate of displacement, with nearly 1 out of every 10 workers losing jobs during the January 1992 survey period. The likelihood of job loss was slightly lower for those who worked in the finance, insurance, and real estate industry. However, major developments affecting this industry, including the failure of many savings and loan institutions and the stock market crash of October 1987, put these workers at a far greater risk of job loss in the late 1980's and early 1990's than in earlier years.

Workers in the services industry were the least likely to have lost jobs. Their displacement rate of 5.8 percent in the January 1992 survey was much higher than that found in the prior survey (4.4 percent), and was close to the rate measured for the January 1984 survey period. The displacement rate for the transportation and public utilities industry, 7.5 percent, had edged up from the January 1990 survey estimate. How-

ever, it still was lower than its high point posted in the 1986 survey covering the January 1981–86 period, during which 1 in 10 workers had lost jobs.

In terms of occupations, the greatest *increase* in the risk of displacement between the January 1990 and January 1992 surveys was among executives and managers, technicians, mechanics, and construction trades workers. Still, blue-collar occupations had the highest *proportion* displaced.[6] The gap between rates of white-collar and blue-collar displacement has narrowed over the past decade, however, reflecting the more widespread nature of job loss; displacement rates for the major white-collar occupations were higher in the January 1992 survey than in the January 1984 study, while those for blue-collar workers were lower. The growing share of displacements borne by white-collar workers also reflects their steadily rising proportion of total employment.

The reemployed

Nearly two-thirds of the workers displaced in the 5 years prior to January 1992 were working at the time they were surveyed. Displaced workers 35 to 44 years old reported the highest proportion reemployed among the various age groups; black and Hispanic workers were less likely to be working at a new job than were whites. The overall reemployment rate—the proportion of displaced workers who had found a new job when surveyed—had been trending upward during the periods covered by the first four surveys, reaching a high of 72.3 percent in the January 1990 study. Many of those who were working when surveyed in January 1992 had found jobs in the same industry from which they had been displaced. However, about half of the reemployed had taken lower-paying jobs.

Full-time wage and salary workers. The vast majority (91 percent) of the workers displaced during the January 1992 survey period had been working at full-time jobs, earning a wage or salary. As shown in chart 1, just over half of these workers reported being reemployed in new full-time wage and salary jobs; another third were either unemployed or had dropped out of the labor force; and the remainder had found new jobs working either part time, in a self-owned business, or as an unpaid family worker.

Median weeks without work. The length of time it takes a displaced worker to find a new job is a critical measure of how well the labor market is working. In the most recent survey, the median time for a displaced worker who eventually found a new job to do so was 8.3 weeks. The same length of time was reported in the January 1990 and 1988 surveys.[7] (These weeks-without-work data apply only to persons who had been displaced and had worked since losing their jobs.)

In the most recent survey, displaced workers in their late twenties and early thirties who had found new jobs had the shortest spell of unemployment (6.2 weeks), as shown below:

	Median weeks without work		
Age	*Total*	*Men*	*Women*
Total, 20 years and older	8.3	8.1	9.4
25 to 54 years	8.2	8.0	9.3
25 to 34 years	6.2	4.2	9.1
35 to 44 years	8.4	8.3	8.4
45 to 54 years	9.3	8.4	10.4
55 years and older	10.4	8.5	12.4

Workers aged 55 and older had the longest spell of job search—10.4 weeks—before finding new work. The duration of men's job search was found

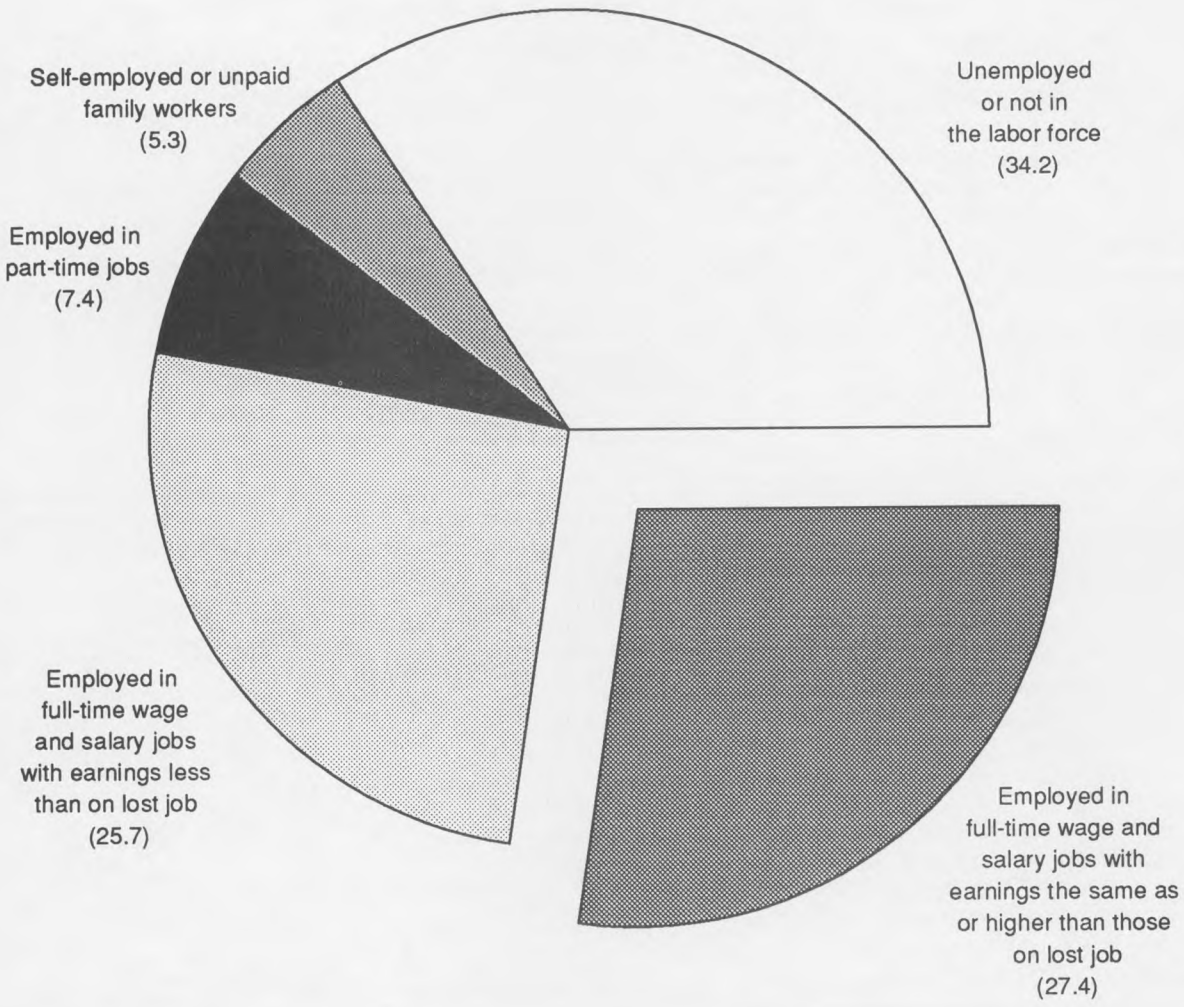
Table 4. **Displaced workers by class of worker and industry of lost job, 1979–83, 1985–89, and 1987–91**

Industry of lost job	Number of displaced workers, 1987–91 (in thousands)	Percent distribution		
		1979–83	1985–89	1987–91
Total, 20 years and older[1]	5,584	100.0	100.0	100.0
Nonagricultural private wage and salary workers	5,188	92.3	92.4	92.9
Mining	154	2.9	3.1	2.8
Construction	501	7.9	7.2	9.0
Manufacturing	1,925	48.8	37.6	34.5
Durable goods	1,243	32.9	24.4	22.3
Nondurable goods	682	15.9	13.2	12.2
Transportation and public utilities	337	6.6	6.3	6.0
Transportation	257	5.5	4.6	4.6
Communications and other public utilities	80	1.1	1.7	1.4
Wholesale and retail trade	1,047	14.4	19.5	18.8
Wholesale trade	268	4.6	5.0	4.8
Retail trade	778	9.8	14.5	13.9
Finance, insurance, and real estate	395	1.8	5.9	7.1
Services	827	9.9	12.9	14.8
Professional services	382	3.7	5.7	6.8
Other service industries	445	6.2	7.1	8.0
Agricultural wage and salary workers	73	2.0	1.3	1.3
Government workers	161	4.9	2.7	2.9
Self-employed and unpaid family workers	49	.5	1.1	.9

[1] Includes a small number of persons who did not report industry or class of worker.

NOTE: Data refer to persons with 3 years of tenure or more who lost or left a job between January 1979–84, January 1985–90, or January 1987–92 because of plant or company closings or moves, slack work, or position or shift abolishment.

Chart 1. Percent distribution of displaced workers who lost full-time wage and salary jobs between January 1987 and January 1992, by labor force status in January 1992



to be either slightly shorter than, or the same as, that of women in prior surveys; in the January 1992 survey, the median for men, 8.1 weeks, was considerably below the 9.4 weeks reported for women.

Characteristics of new jobs. Reflecting the slowdown of the economy, the proportion of displaced workers who had found new jobs when surveyed in January 1992 was considerably lower across all the major industry groups than was the case in the January 1990 survey. (See table 6.) This was particularly true for workers who had lost jobs in services, construction, and durable goods manufacturing.

Reemployment rates for workers who lost jobs in the services industry have typically been very high; in fact, in the previous survey, about 8 in 10 had new jobs in January 1990. However, the rate plummeted to 66 percent in the January 1992 survey.

In the construction industry, the proportion reemployed declined 10 percentage points, to 61 percent, between the January 1990 and January

1992 surveys. The rate for durable goods manufacturing, 62 percent, also declined substantially, with the largest drops occurring in electrical and electronic equipment, and in nonautomobile-related transportation.

Despite this recent deterioration in prospects of being rehired, the reemployment rates across most of the major industry groups were still considerably higher in January 1992 than they had been after the recessions of the early 1980's. This is of particular interest because of the timing of the recessions in each of the survey periods and the rate of subsequent employment growth. In the January 1984 survey, the endpoint of the 1981–82 recession was slightly more than a year before the survey date. The period following this downturn was characterized by rapid employment growth, during which many displaced workers were able to find new jobs. In contrast, the postrecessionary period immediately preceding the January 1992 survey did not yield a substantial recovery in employment. The higher reemployment rate found in the 1992 survey thus is consistent with many other labor market measures indicating that, over the official period of the most recent recession—July 1990 to March 1991—the downturn was considerably milder than that experienced a decade earlier.

In fact, the only group of workers with a lower probability of reemployment in January 1992 than in January 1984 were those who had lost jobs in the troubled finance, insurance, and real estate industry: 67 percent had found jobs in the most recent period, compared with 79 percent in the earlier survey.

Switching industries. After displacement, the transition to a new job is likely to be easiest when reemployment is in the same industry. Many displaced workers, however, must enter entirely new lines of work to obtain a new job. Indeed, just over half of all displaced workers who had lost private nonagricultural wage and salary jobs, and who were reemployed in January 1992, had found jobs in different major industries.[8] However, the incidence of industry switching actually had been slightly higher in the January 1988 and January 1990 surveys, and had been higher still in the first two survey periods, during which about 6 workers in 10 switched industries.

Reemployed women are slightly more likely to switch industries than are their male counterparts. When they change industries, women most often switch from one service-producing industry to another—for example, from retail trade to services. This probably reflects the predominance of women in service-producing industries, as they would be more likely than men to have held a service-type job to begin with, and to then find a new job in the expanding service-producing sector. Men, in contrast, are more likely to change from a goods-producing industry, such as manufacturing, to a service-producing job. So, although men have a lower incidence of industry switching, they more often make drastic job changes.

Table 5. **Displacement rates[1] by class of worker, industry, and occupation of lost job, 1979–83, 1985–89, and 1987–91**

[In percent]

Characteristic	1979–83	1985–89	1987–91
Total, 20 years and older	8.5	6.4	7.9
Industry and class of worker			
Nonagricultural private wage and salary workers	11.2	8.4	10.5
Mining	26.6	22.7	29.7
Construction	19.2	10.9	15.6
Manufacturing	16.7	11.3	13.4
Durable goods	18.4	12.1	14.3
Nondurable goods	14.0	10.2	12.1
Transportation and public utilities	8.8	6.4	7.5
Wholesale and retail trade	8.4	8.4	9.9
Finance, insurance, and real estate	2.9	6.4	9.3
Services	5.6	4.4	5.8
Agricultural wage and salary workers	13.0	6.6	8.1
Government workers	2.1	1.0	1.3
Self-employed and unpaid family workers	.4	.7	.6
Occupation			
Managerial and professional specialty	4.4	4.4	5.7
Executive, administrative, and managerial	5.9	5.8	8.0
Professional specialty	3.1	3.1	3.5
Technical, sales, and administrative support	6.6	6.1	7.5
Technicians and related support	7.3	6.1	8.5
Sales occupations	7.9	6.4	7.2
Administrative support, including clerical	5.7	5.9	7.5
Service occupations	4.3	3.6	4.7
Protective services	3.1	1.2	3.2
Other service occupations	4.6	4.1	5.2
Precision production, craft, and repair	12.7	7.9	11.2
Mechanics and repairers	(2)	6.1	9.1
Construction trades	(2)	6.8	11.2
Other precision production occupations	(2)	10.8	13.4
Operators, fabricators, and laborers	16.9	11.2	12.4
Machine operators, assemblers, and inspectors	19.8	13.5	15.3
Transportation and material moving occupations	11.3	8.6	8.9
Handlers, equipment cleaners, helpers, and laborers	16.9	9.1	10.7
Farming, forestry, and fishing	2.6	2.4	3.1

[1] See text footnote 4 for an explanation of the displacement rate calculation.
[2] Data not available.

NOTE: The displacement rates for the 1979–83 and 1985–89 survey periods may differ slightly from previously published estimates due to updated job tenure data.

Table 6. **Reemployment rates[1] by industry of lost job, 1979–83, 1985–89, and 1987–91**

[In percent]

Industry of lost job	1979–83	1985–89	1987–91
Total, 20 years and older	60.1	72.3	64.9
Nonagricultural private wage and salary workers	59.8	72.9	65.2
Mining	60.4	77.0	72.1
Construction	55.0	70.7	60.7
Manufacturing	58.5	70.8	63.5
Durable goods[2]	58.2	71.6	62.2
Primary metal industries	45.7	69.4	60.3
Fabricated metal products	62.0	68.1	68.4
Machinery, except electrical	62.3	75.2	69.5
Electrical machinery, equipment, and supplies	48.2	70.7	53.5
Transportation equipment	62.6	71.9	58.9
Automobiles	62.9	61.8	60.4
Other transportation equipment	62.1	82.2	57.8
Nondurable goods[2]	59.1	69.6	66.0
Food and kindred products	52.5	68.8	65.4
Apparel and other finished textile products	63.0	66.0	63.3
Printing and publishing	58.0	73.4	67.4
Chemicals and allied products	64.0	[3]	71.1
Transportation and public utilities	57.9	72.0	65.3
Transportation	58.8	70.4	65.8
Communications and other public utilities	[3]	[3]	63.8
Wholesale and retail trade	61.4	73.4	68.3
Wholesale trade	69.6	70.5	68.3
Retail trade	57.6	74.2	68.4
Finance, insurance, and real estate	78.5	73.2	66.8
Services	65.0	78.8	65.9
Professional services	64.0	81.8	67.0
Other service industries	65.6	76.9	64.9

[1] Number of displaced workers who were reemployed at the time they were surveyed, as a percent of the total number displaced in the industry.
[2] Includes other industries not shown separately.
[3] Data not shown where base is less than 75,000.

Earnings. Workers who find new jobs after being displaced presumably suffer less hardship than those who remain jobless or who drop out of the labor force altogether. Yet, many of the reemployed have to take jobs paying much less than they had earned previously. In the January 1992 survey, nearly half of all workers who lost full-time wage and salary jobs and were reemployed in such jobs reported a drop in earnings on the new job. This share was slightly higher than that found in the four previous surveys, in large part because the proportion of reemployed workers who had *much* lower earnings—at least 20 percent less than they had earned on the lost job—was larger than in any of the prior surveys. The following tabulation shows, for selected surveys, the distribution of reemployed workers by relationship of current earnings to those on the lost job:

	Survey date		
	January 1984	*January 1990*	*January 1992*
Current earnings:			
20 percent or more below	30.4	25.1	32.0
Below, but within 20 percent	15.6	18.1	16.4
Equal to or above, but within 20 percent	27.9	27.5	26.6
20 percent or more above	26.1	29.3	25.0

The median weekly earnings on the new job, compared to those on the lost job, were found to be lower for all the major industry groups in the January 1992 survey. (See table 7.) While this is the typical pattern for displaced workers, the percentage declines in earnings in the January 1992 survey were much larger than those in the January 1990 survey for most of the major industry groups. In the most recent survey, reemployed workers who had lost mining jobs suffered the largest percentage decline in earnings. Sizable drops also occurred for those who had lost jobs in finance, insurance, and real estate; manufacturing; transportation and public utilities; and services.

Unemployment insurance recipients

Many displaced workers receive unemployment insurance benefits following their job loss to help compensate for lost income. About 62 percent of the displaced workers were found to have received financial support in this form at some time during the 5 years covered by the January 1992 survey. The share receiving benefits was the highest (76 percent) among those who were unemployed at the time of the survey.

More than 4 in 10 displaced workers who had received unemployment insurance had exhausted their benefits by the time they were surveyed in January 1992. As shown in table 8, this proportion was highest for workers who were not in the labor force (those neither working nor looking for work) when the survey was taken.

Health insurance coverage

Given the sharp rise in health care costs in recent years, health insurance coverage has become one of the most important nonwage benefits for U.S. workers. Such coverage is often lost when a worker is displaced from a job. And, even if the worker is subsequently reemployed, coverage may not always be regained.

About two-thirds of all displaced workers who had had health insurance on their lost jobs were

covered by some group health insurance (their own or family members') in January 1992. (See table 9.) This proportion had been increasing during the 1980's, from 64 percent in the January 1984 survey to a high of 76 percent in the January 1990 study.

The decline in the share of previously covered displaced workers who were still covered by some health insurance when surveyed in 1992 may be explained largely by the lower reemployment rate. Also, the poor job market may have forced a growing share of displaced workers to take jobs with fewer benefits than they had enjoyed on their previous jobs, including jobs that provide no health insurance coverage.

Geographic distribution

The magnitude and timing of employment growth and decline typically vary from one region to another throughout the United States. In the late 1980's and early 1990's, for example, the unemployment rates for the New England States rose rapidly, while the rates changed little in the Midwestern States. Areas of slow growth or decline often have relatively large shares of displaced workers; indeed, in the January 1992 survey, the New England States were found to have had a disproportionately large share of displacements.[9]

Among the three reasons for displacement—plant or company closings or moves, slack work, or position or shift abolishment—the first was more often the cause of job loss in the Midwest and South than in the Northeast or West.[10] (See table 10.) In contrast, the latter two regions had larger proportions of displacements resulting from slack work. Job losses due to position or shift abolishment were found to have varied slightly among the four regions of the country in the January 1992 survey, but made up the highest proportion of displacements in the Midwest.

The chance of finding a new job was the greatest for workers who were displaced in the West North Central States—about 8 in 10 were reemployed in January 1992. This group of States also had a relatively low unemployment rate during the last 2 years of the 1992 survey period. The two lowest reemployment rates were found among workers who had lost jobs in the New England and Middle Atlantic States; only slightly more than half had found new jobs when surveyed in January 1992, as the Northeast region was the first and hardest hit by the 1990–91 recession.

The reemployment rate among workers who had lost jobs in New England was lower in January 1992 than in January 1984—56 versus 66 percent—reflecting the severity of the recession in that area of the country. Elsewhere, the proportion of displaced workers who were reemployed was at least as high as that recorded in the January 1984 survey.[11]

Table 8. **Displaced workers by receipt of unemployment benefits and by employment status in January 1992**

Characteristic	Number (thousands)	Percent
Total, 20 years and older	5,584	100.0
Received benefits	3,456	61.9
Exhausted benefits	1,525	44.1
Employed	3,626	100.0
Received benefits	2,078	57.3
Exhausted benefits	848	40.8
Unemployed	1,240	100.0
Received benefits	945	76.2
Exhausted benefits	385	40.7
Not in the labor force	718	100.0
Received benefits	433	60.3
Exhausted benefits	291	67.2

NOTE: Data refer to persons with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or the abolishment of their positions or shifts.

Table 7. **Median weekly earnings of displaced workers on lost job and present job by industry of lost job, January 1992**

Industry of lost job	Earnings on lost job[1]	Earnings on job held in January 1992	Change	
			Level	Percent
Total, 20 years and older	$431	$369	$ – 62	– 14.4
Nonagricultural private wage and salary workers	432	368	– 64	– 14.8
Mining	626	408	– 218	– 34.8
Construction	450	431	– 19	– 4.2
Manufacturing	428	345	– 83	– 19.4
Durable goods	458	399	– 59	– 12.9
Nondurable goods	367	303	– 64	– 17.4
Transportation and public utilities	529	454	– 75	– 14.2
Transportation	498	461	– 37	– 7.4
Communications and other public utilities	685	438	– 247	– 36.1
Wholesale and retail trade	351	327	– 24	– 6.8
Wholesale trade	430	413	– 17	– 4.0
Retail trade	327	307	– 20	– 6.1
Finance, insurance, and real estate	600	491	– 109	– 18.2
Services	412	366	– 46	– 11.2
Professional services	397	403	6	1.5
Other service industries	434	348	– 86	– 19.8

[1] These earnings data are restricted to those displaced workers who were reemployed in January 1992.

NOTE: Data refer to persons with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or abolishment of their positions or shifts.

Table 9. **Displaced workers by incidence of group health insurance coverage on lost job and current coverage under any group plan,[1] January 1992**

[Numbers in thousands]

Sex, race, and employment status in January 1992	Total	Covered by a group health insurance plan on lost job			Not covered on lost job[3]
		Total	Percent covered by any group health insurance[2]		
			Yes	No	
Total, 20 years and older	5,584	4,196	68.8	29.9	1,362
Employed	3,626	2,819	78.7	20.5	793
Unemployed	1,240	916	45.3	51.9	320
Not in the labor force	718	461	55.3	43.4	249
Men, 20 years and older	3,447	2,741	67.7	30.9	693
Women, 20 years and older	2,137	1,456	70.7	27.9	669
White					
Total, 20 years and older	4,828	3,613	70.9	27.7	1,193
Men	3,003	2,397	69.3	29.3	598
Women	1,825	1,217	74.2	24.6	596
Black					
Total, 20 years and older	626	480	53.5	45.2	142
Men	356	273	54.6	44.7	79
Women	270	207	52.2	45.9	63
Hispanic origin					
Total, 20 years and older	511	347	52.4	44.1	162
Men	323	239	54.4	42.3	82
Women	188	109	48.6	47.7	80

[1] Excludes health insurance coverage in the form of medicare and medicaid.
[2] Percents will not sum to 100 because of a small number who did not know about current coverage.
[3] Includes a small number who did not know about health insurance coverage on their lost job.

NOTE: Data refer to persons with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or abolishment of their positions or shifts.

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.

Table 10. **Regional distribution of displaced workers by reason for job loss and employment status in January 1992**

Census designation	Total (thousands)	Percent distribution					
		Reason for job loss			Employment status		
		Plant or company closed or moved	Slack work	Position or shift abolished	Employed	Unemployed	Not in the labor force
Total United States	5,584	52.1	31.6	16.3	64.9	22.2	12.9
Northeast	1,349	45.8	37.5	16.7	56.5	29.1	14.5
New England	463	43.2	38.0	18.8	56.4	33.0	10.8
Middle Atlantic	886	47.2	37.2	15.6	56.5	27.0	16.5
Midwest	1,284	56.2	24.9	18.9	66.2	20.8	13.0
East North Central	913	54.9	27.9	17.2	60.6	25.4	14.0
West North Central	371	59.3	17.5	23.2	80.1	9.4	10.5
South	1,848	56.6	29.0	14.4	70.0	18.1	12.0
South Atlantic	1,007	55.4	30.2	14.4	70.3	18.5	11.3
East South Central	260	64.6	25.8	9.6	66.5	18.1	15.8
West South Cental	581	55.1	28.4	16.5	71.1	17.6	11.4
West	1,102	47.8	36.4	15.9	65.3	22.3	12.3
Mountain	286	49.3	31.8	19.2	71.3	14.0	14.7
Pacific	816	47.3	38.0	14.7	63.2	25.2	11.4

NOTE: Data refer to persons 20 years and older with tenure of 3 years or more who lost or left a job between January 1987 and January 1992 because of plant or company closings or moves, slack work, or position or shift abolishment.

For a listing of the States that compose the Census regions and divisions see text footnote 10.

THE WEAK ECONOMY of the early 1990's increased the number of displaced workers relative to levels posted in the 1980's. Between January 1987 and January 1992, a total of 5.6 million workers with 3 or more years of tenure with the same employer were displaced from their jobs. This was an increase of 1.3 million over the number found in the preceding survey, which covered the 5 years prior to January 1990. While a disproportionately large share of displaced workers had lost jobs in the goods-producing industries, job losses were much more widespread across industries in the January 1992 survey than when the first survey of displacement was conducted in January 1984. And by most measures, including reemployment rates, earnings, and health insurance coverage, workers displaced prior to the most recent survey were worse off, on average, than those losing jobs during the expansionary years of the mid- to late 1980's. □

Footnotes

[1] The Current Population Survey is a survey of about 60,000 households conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics to collect demographic, social, and economic information about the working-age population.

[2] These data relate to workers who have been displaced from jobs at which they had worked for at least 3 years.

[3] See Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979–83: how well have they fared?" *Monthly Labor Review*, June 1985, pp. 3–16, for a more detailed explanation of the concepts and measurements of displaced workers.

[4] Displacement rates were calculated by dividing the number of displaced workers in a specified worker group by a tenure-adjusted estimate of employment in the same worker group. Employment estimates for each year of the survey period were adjusted to include only those workers with 3 years of tenure of more; a 5-year average was then computed using those employment estimates for the years covered by the survey. The rates in this article may differ slightly from those previously published due to updated job tenure data. Displacement rates were used to make comparisons between groups of different sizes.

[5] For a more detailed look at the effects of defense spending cuts, see Norman C. Saunders, "Employment effects of the rise and fall in defense spending," *Monthly Labor Review*, April 1993, pp. 3–10. See also Thomas Nardone and others, "1992: job market in the doldrums," *Monthly Labor Review*, February 1993, pp. 3–14.

[6] The Bureau of Labor Statistics no longer routinely publishes data using white- and blue-collar occupational classifications. For the purposes of this article, two occupational groups—managerial and professional specialty and technical, sales, and administrative support—are combined to represent white-collar occupations; precision production, craft, and repair, and operators, fabricators, and laborers are summed to represent blue-collar occupations.

[7] In the first two displaced worker surveys, data on weeks without work were collected from all workers. In the later surveys, the number of weeks without work was collected only for those who had found a new job. Thus, only data for the January 1988, 1990, and 1992 surveys are comparable.

[8] For most of this analysis, major industry divisions were used. More detailed industry levels were studied for manufacturing (durable goods and nondurable goods) and services (professional and other service industries).

[9] A comparison was made between the percent of all displaced workers found in the January 1992 survey who had lost a job in the New England States and the number employed in that division as a percent of total employment in the United States. To be consistent with the displaced worker data, the employment estimates for each geographic division were an average of the 5 years covered by the survey, 1987 to 1991.

[10] The four census regions of the United States are Northeast, South, Midwest, and West. Within the Northeast, the New England division includes Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; and the Middle Atlantic division includes New Jersey, New York, and Pennsylvania. Within the South, the South Atlantic division includes Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, and West Virginia; the East South Central division includes Alabama, Kentucky, Mississippi, and Tennessee; and the West South Central division includes Arkansas, Louisiana, Oklahoma, and Texas. Within the Midwest, the East North Central division includes Illinois, Indiana, Michigan, Ohio, and Wisconsin; and the West North Central division includes Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota. Within the West, the Mountain division includes Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming; and the Pacific division includes Alaska, California, Hawaii, Oregon, and Washington.

[11] For more detailed analysis of regional labor market conditions, see Mary C. Dzialo and others, "Atlantic and Pacific coasts' labor markets hit hard in early 1990's," *Monthly Labor Review*, February 1993, pp. 32–39.

Productivity in aircraft manufacturing

Owing in part to a strong performance in 1991, productivity rose an average of 3.2 percent during the 1972–91 period; however, the average rate of growth in the industry during the 1980's was substantially lower

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Lately, the news has not been good for aircraft manufacturers. Because of the financial turmoil in the airline industry, production rates for new civilian aircraft have fallen in the face of decreases in new orders and cancellations and postponements of orders already on the books. The military sector is heading toward a potentially historic downturn that may significantly depress demand in the long run. Plants are closing, some companies are leaving the aircraft business altogether, and others have gone bankrupt. Tens of thousands of employees have lost their jobs, and many thousands more are at risk.[1] Even in international trade, the usually good news is somewhat moderated. Published analyses have been pointing out that, while U.S. aircraft manufacturers maintain a very strong trade balance, the percent of the U.S. market share of free world production has slipped steadily since the mid-1980's, due to the entrance of Airbus and other foreign competitors into the market.[2] Now, a new BLS study shows that the industry's productivity performance has also been mixed.[3] As measured by output divided by employee hours, productivity increased 3.2 percent per year over the 19-year period from 1972 to 1991. The performance is clouded, however, by the fact that the long-term rate was made up of two very different periods, 1973–79, when productivity rose 3.8 percent annually, and 1979–90, when it rose, on average, just 0.3 percent annually. (These periods were selected because the years 1973, 1979, and 1990 were all peak years of business cycles, as determined by the National Bureau of Economic Research.) The following are compound average annual rates of change for the aircraft industry from 1972 to 1991:

	Productivity	*Output*	*Employee hours*
1972–91	3.2	4.4	1.2
1973–79	3.8	6.1	2.2
1979–90	.3	1.4	1.2
1990–91	16.8	9.1	– 6.6

Analysis indicates that the lower rate of productivity posted in the latter period was due largely to an unexpected downswing in demand in the early 1980's, interacting with the quasi-fixed nature of labor in aircraft manufacturing, meaning that labor is not easy to downsize in the short term without incurring significant risk.[4] Looking ahead, the certainty of declining demand in the near term has removed much of that risk, so that productivity rates are expected to rise, despite the possibility that output levels may not. Indeed, in the last year for which data are available, 1991, aircraft manufacturing productivity posted a 16.8-percent jump, which exceeded the productivity performance of any published BLS industry for that year.

The aircraft productivity measure was derived by dividing an industry output index series

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by a corresponding BLS-based employee hours index series. The output series was developed from value-of-shipments data reported by the Bureau of the Census. Price changes were removed from the shipments data using price indexes that specifically reflect the price movements of the industry's products over time.[5] Once the annual deflated values or constant-dollar estimates for the industry's product classes were obtained, each was indexed (referenced to a base year) and then multiplied by employee hour weights to derive the overall industry constant-dollar value-of-shipments index series. Finally, the shipments series was adjusted to reflect the net changes in inventories, in order to arrive at a final industry output series.[6]

The reason that aircraft labor appears to be a quasi-fixed factor of production when, normally, labor in manufacturing industries is thought of as a variable factor is embedded in the industry's production processes. One of the ironies about the aircraft industry is that while it makes a high-tech product, it does not rely heavily on high technology for aircraft assembly. As will be explained, this characteristic is unavoidable, given the nature of aircraft manufacturing, which creates several disincentives to the acquisition of labor-saving technology. In addition to the general absence of such technology, the industry combines the quantitative needs of a large manufacturing operation, namely, a massive labor force for production, with the qualitative requirements of a small handcraft shop, which depends on the skill and experience of its workers. The percent of the industry's workers involved in craft and technical jobs is significantly higher than for manufacturing in general, and maintaining enough qualified employees in these positions is one of the industry's chief challenges.

When an aircraft manufacturer hires new workers—sometimes many thousands—it must devote time and money to training them on the numerous complexities involved in building an aircraft and, in the case of the military sector, to obtaining security clearances for some of them. This can amount to a considerable investment. Thus, when a downturn in business occurs, companies tend to be reluctant to reduce their work force immediately. The result is that employment in the industry takes on the characteristics of a quasi-fixed factor in the short run. That is, labor cannot easily be scaled down in the near term without considerable risk, just as is true with such commonly recognized "fixed factors" as machinery or plant capacity. Therefore, downward adjustments in the number of employees and employee hours tend to come slowly, making the natural swings in employee hours lag in the downward direction.

Industry structure

The U.S aircraft industry has four major sectors: the civilian sector, which includes the manufacture of large jet transports and smaller commercial aircraft, known as general-aviation aircraft (jet and propeller-driven planes for business and personal use); the military aircraft sector; a category of establishments that modify, convert, and overhaul used military and civilian aircraft; and a sector that includes those companies which provide research and development and other aerospace services. Historically, the first two sectors have generally accounted for more than 80 percent of the total industry value of shipments.

The industry is characterized by huge capital requirements. Also, in the case of military aircraft, the Department of Defense rates prospective military contractors on the basis of whether they are deemed most capable of meeting its exacting standards, so that applicants lacking significant track records are at a severe disadvantage.[7] Combined, these create formidable barriers to new entrants and promote a high degree of concentration among existing companies. Accordingly, there are only two U.S. manufacturers currently engaged in the production of large commercial jet transports, and while general aviation and the military sector have more companies in them, they are dominated by only a handful of major producers. In 1987, the latest year for which data are available, the four largest aircraft companies accounted for 72 percent of total industry shipments, the largest eight 92 percent. Indeed, 99 percent of the value of all shipments in 1987 was accounted for by the top 20 companies in an industry of approximately 140 companies.[8]

This concentration does not ease competition among the fewer firms, however. Competition in the industry is very fierce, owing both to the billions of dollars that often are at stake with an aircraft contract and to the fact that the industry has relatively few customers. This is particularly true in the military sector, where the U.S. Government is the dominant customer, consuming about 80 percent of domestic military aircraft production. Foreign military sales through the Department of Defense and direct military exports from U.S. producers account for the remaining 20 percent of production.[9]

Behind these relatively few dominant firms is a vast web of subcontractors, both inside and outside the industry, that supply 50 percent or more of the individual components in most military and commercial airframes. Literally thousands of contractors participate in major programs, with the aircraft manufacturer coordinating the supplies and assembling the final product. Not only are small parts such as rivets and spools of wire supplied,

but also, entire sections of the aircraft and most of its complicated avionics are often manufactured by suppliers. This large supplier network (3,000 subcontractors for one airframe) contributes to relatively long lead times required between the placement of an order and its delivery. These long lead times often create substantial backlogs that can push delivery dates years into the future, contributing, as will be seen, to various production problems and to burdensome swings in aircraft demand that are characteristic of the industry.

Production methods

As mentioned earlier, although the industry assembles a high-tech product, its assembly process is fairly labor intensive, with relatively little reliance on high-tech production techniques. Several factors account for this. First, the industry assembles a complex and highly customized product. Most commercial aircraft models can be converted into at least three different types: one for passenger service alone, one for a combination of freight and passenger service, and one for freight service alone. Moreover, airlines usually request customized cabin and cockpit configurations and individual paint schemes and may choose different equipment, such as various kinds of engines.[10] This necessitates constant adjustments and retooling on the shop floor, which significantly limits the possibility for substantial automation.

Second, the unit volume of production is very low relative to most manufacturing industries. Total jet transport shipments averaged just 323 units per year during the 1972–91 period. Military shipments averaged 1,246 units.[11] Such a low volume of production makes the automation of many manufacturing processes prohibitively expensive. Even in tedious and repetitive jobs, the justification for investing in a costly robot is often short lived. An example from the early 1980's is a robot one plant considered purchasing to paint aircraft wheel wells for one of its airframes. The plant had only a wing-drilling robot in operation, but the addition of this new robot seemed well justified. The area where the wheel wells were to be painted was cramped, and because it quickly became fogged with paint, a human operator could work only for short periods of time. But while the company was contemplating introducing the device, demand for the airframe slowed, from an already low eight per month to only one or two, and justification for the robot evaporated.[12] These low unit volume levels are a major disincentive to acquiring labor-saving machinery.

Finally, the complexity of the product creates further disincentives to the acquisition of labor-saving machinery. In other manufacturing industries, engineering tolerances might allow fitting errors of as much as one-eighth of an inch or more; similarly, while a surface may require an attractive application of paint, the need for an absolutely consistent coat might be absent. But in a high-performance fighter aircraft, tolerance limits can approach one one-thousandth of an inch, and surfaces must be burnished or painted to perfection. For the fabrication of airplane parts made of composite materials, each layer of the fabriclike material must be laid by hand in a precise pattern over the last, or the structural strength of the part will be compromised. Such demanding tolerances cannot yet be duplicated by a machine without a huge expense, which in most instances would not be cost effective.[13]

Manufacturers are also cautious about the expensive damage that could be caused by a malfunctioning machine. Presently, the entire fuselage of a completed commercial aircraft is polished, first by laborers with power buffers who work an area over and over and then by hand with cheesecloth. This is another laborious process that would clearly benefit from a robot. But the risk of costly damage is too high. If a painting or welding robot on an automobile assembly line malfunctions, the cost of damage done to even several vehicles is small relative to total production. But if a robot punches a hole in a single aircraft fuselage, the expense for rework and repair would be enormous, and even a few small accidents could easily erase the benefit otherwise derived from the machine.[14]

The consequence of these disincentives is that there are only a few industrywide labor-saving technologies currently in place. Wing-drilling/riveting machines are common in the industry, as are conventional numeric control and direct numeric control milling equipment for fabricating some parts. Also, from plant to plant, there are "smaller" technologies that perform various limited functions. For example, in one plant, a computer-operated machine shapes metal hydraulic tubing. In another, a small robot fills empty connector holes in wire harness terminals with plastic insulating plugs. But overall, hand and power tools predominate in an assembly process that requires highly developed production skills from its work force.

Although the plant size of a typical commercial or military aircraft manufacturer is gigantic, the assembly line is, for the most part, not matched by similarly oversized machines. Instead, one sees power drills, wrenches, flashlights, and screwdrivers. Workers stand on scaffolding and bunch around, crouch under, and sit inside the aircraft and its component parts at all stages along the stationary assembly line. (Planes are typically moved to new positions on the shop floor at night.) The

production process requires expertise in reading blueprints, proficiency in the use of several different tools, and the ability to anticipate and solve various assembly problems to meet demanding technical standards. Many employees are involved in managing and inspecting the work. For these personnel, well-developed technical skills are essential. Such workers are highly trained and experienced people who cannot easily be replaced.

In addition, the industry requires many more technical nonproduction workers than are typical for manufacturing in general. Experienced engineers in particular are key to firms whose product must attract customers in the highly competitive aircraft market. Like the production workers on the shop floor, these nonproduction workers have skills that are not easily replaced and whose loss could damage a firm's capability of winning contracts in the future.

Employment characteristics

The reliance on a highly skilled work force is reflected in the industry's employment characteristics. Average hourly earnings of production workers in the aircraft industry were significantly above the average of all manufacturing industries over the period measured, ranging from 20 percent higher in 1972 to an estimated 40 percent higher in 1991.[15] These higher earnings support the idea that the skill levels of the workers in this industry are somewhat more advanced than in manufacturing as a whole.

Data on occupations corroborates this idea further. Although occupational data for the aircraft industry alone are not available, data on occupations exist at a somewhat broader level of aggregation, namely, the aircraft and parts group.[16] Precision production, craft, and repair workers accounted for 29 percent of this group in 1990, compared with 21 percent in all manufacturing, while professional and technical workers made up 26 percent of the group, in contrast to total manufacturing's 10 percent. Further, less skilled jobs, such as operators, fabricators, and laborers, accounted for a substantially lower proportion of total employment in the aircraft and parts group, 18 percent, versus the all-manufacturing average of 44 percent.

Total employment in the industry grew at a rate of 1.2 percent from 1972 to 1991. In terms of numbers of employees, this represented a rise from 287,200 to 357,300. Employment peaked in 1989 at 382,200 workers. The number of production workers grew 0.3 percent over the period, while the number of nonproduction workers increased at an average annual rate of 1.9 percent. The proportion of nonproduction workers to total employment moved from 49 percent in 1972 to 57 percent in 1991.

Labor as a quasi-fixed factor

The reliance of the industry on technically skilled employees for production has an impact on productivity at both ends of the industry's demand cycle, but especially during slumps. On the upside of a cycle, less than optimal production levels are initially experienced when the industry hires a relatively new and inexperienced work force to meet increased demand. Long training periods and time on the shop floor are required for the acquisition of the specific skills and knowledge necessary to build the technically advanced aircraft in the industry's commercial and military inventories. A similar result can occur when a company undertakes the assembly of a new airframe. Each airframe assembly requires unique processes and tooling, and workers need time to familiarize themselves with these new techniques.[17]

This situation can be very burdensome to specific plants or sectors of the industry. (It is often the case in the aircraft industry that one sector, such as civilian production, may be growing, while another, such as military production, is in contraction, complicating some industry generalizations.) Much has been written in recent years on various production snags in the commercial sector, on shortcomings in quality that have required costly rework and repair, and on delivery delays caused by rapidly expanding numbers of new hires in the late 1980's.[18] One aircraft company doubled the number of workers in its ranks,[19] while another's labor force increased 86 percent in 5 years.[20] At the time, some analysts even hinted that the production problems brought on by this new work force might torpedo the very recovery that had fueled the massive hiring in the first place.[21]

These are among the reasons that aircraft companies are reluctant to scale down their work forces significantly during a slump. And besides the reduced efficiency resulting from such downsizing, firms must contend with the many assembly errors a novice work force is prone to, which can be very costly for manufacturers in terms of employee hours. For example, a seasoned work force assembling an established model might put only 10 percent of its total employee hours into reworking mistakes or problems, whereas a newly hired staff can expend as much as 60 percent of its total hours in this nonadditive labor.[22] (Even with an experienced work force, reworking is often the chief driver in employee-hour costs for a new model.)[23] Accordingly, a plant that scales down its work force too quickly during a slump risks losing skilled employees and may experience production

slowdowns that, given the industry's highly competitive environment, can adversely affect its ability to win customers.[24] In sum, aircraft manufacturing is a long-term proposition. Particular models of military and, especially, commercial aircraft may be in production for many years, with the life of the aircraft continuing a company's involvement with a production program for still more years or even decades. Thus, manufacturers would be hurt, rather than helped, if they reacted to short-term cycles.[25]

In addition, by immediately reacting to a softening of demand by downsizing their work forces, manufacturers risk the often considerable investment of the time and money spent to train new employees. Training periods can last as long as 5 weeks for some jobs. In the case of a company that is doubling its work force, this represents a significant financial investment that would probably be lost if workers were laid off quickly and en masse, as they sometimes are in other manufacturing industries.[26]

With regard to the military sector, there is the additional investment of gaining security clearances for workers on certain programs. Security clearances are difficult to obtain and require manufacturers to undergo a laborious process in getting them. Any number of factors can delay or invalidate a worker's clearance, making it hard for manufacturers to maintain an adequate pool of "cleared" employees. As a consequence, military firms will move these employees around in the short run, even into jobs not directly related to manufacturing, in order to retain them. Even a layoff of short duration often requires the company to start the security clearance process over again when the employee is called back. Thus, airframe painters might be shifted to painting areas of the plant, and skilled assemblers, while retaining their high salaries, might be assigned to plant maintenance tasks. One military aircraft company reports that it is very conservative in hiring maintenance workers for this very reason: to have a function, albeit a nonmanufacturing one, for its production workers during short-term slowdowns.[27]

The result of all these factors is that labor in the industry tends to be a quasi-fixed factor in the short run, as costly to reduce as such "fixed factors" of production as machinery and plant capacity.[28] Like one of these fixed factors, skilled labor becomes an investment that manufacturers can adjust downward in the short term only at a considerable cost.[29]

The aircraft market

The tendency for adjustments to the aircraft labor force to lag in the downward direction is exacerbated by the nature of the industry's market. The aircraft market is extremely volatile. It responds slowly to changes in the general economy and is characterized by sudden and often unpredictable swings in demand.[30] In the military sector of the industry, demand is shaped by the confluence of world events, evolving military strategies, economic factors, and a changeable political climate. In the jet transport sector, wide swings in demand are built into the market, because of an imbalance between passenger demand and available airplane seats. Passenger demand grows at a certain rate, while the number of available seats at any particular time is fixed. Consequently, airlines faced with too little capacity will order new planes, often creating more available seats than the current passenger demand warrants. New orders then slow, and the market tips in the other direction until the volume of traffic catches up and airline capacity once again is exceeded.[31]

In the commercial sector, this swing in demand can be multiplied by the long lead times often required for delivery of commercial aircraft. When the sector as a whole enters a period during which passenger demand either exceeds or is expected to exceed capacity, a frenzy of buying can occur, as individual companies fear being locked out by their competitors.[32] (For example, an airline ordering a plane in 1990, in the midst of the last buying frenzy, would have had to wait as long as 7 years for delivery.) The result of a buying frenzy is that, with all the airlines suddenly ordering new planes, the skies become glutted with available seats—especially if passenger growth falls short of estimates—and future aircraft output then suffers. This is why, in the commercial market, a feast in new demand is traditionally followed by famine, which is what happened between 1979 and 1990. Coupled with the quasi-fixed nature of labor in aircraft manufacturing, the feast and famine cycle helps explain why productivity growth averaged only 0.3 percent during that period.

The 1979–90 period[33]

At the end of the 1970's, demand for fuel-efficient aircraft and published projections of airline-passenger growth rates of 6.6 percent a year started a scramble for new aircraft that swelled manufacturers' order books. A then-record number of 516 aircraft were ordered in 1978.[34] By 1979, when output jumped 24.6 percent, production lines were rolling, and 376 large transports were delivered, a number that was up 135 units from the 241 delivered the previous year.[35] Projections remained optimistic, and the commercial sector was gearing up for a bright future. But a sluggish world economy at the start of 1980 caused the growth in the number of passengers to slow, and the skies suddenly filled with excess capacity. An estimated equiva-

lent of 21 empty wide-body aircraft flew the Atlantic each day during the summer of 1980. The next year, more than 20 completed aircraft were delivered directly into storage because an immediate need for their use no longer existed. In this suddenly chilled economic environment, falling fuel prices withered aircraft demand further by removing the stimulus for more fuel-efficient planes, and airline deregulation brought on the additional burden of uncertainty. Anxious airlines put unwanted aircraft for sale onto the world market and began canceling orders. After the delivery of 387 large transports to customers in 1980, production fell every year through 1984, when only 185 new planes were delivered.

General aviation, another segment of the civilian sector, encountered similar unexpected problems that sent it spiraling. Like those in the large-transport sector, manufacturers of general-aviation aircraft were optimistic about the near future at the start of the 1980's. In 1978, a record 17,817 general-aviation airplanes were produced. But a series of product liability suits resulting from crashes of general-aviation aircraft in the late 1970's all but bankrupted the production of light, piston-driven aircraft. The average cost of product liability insurance rocketed upward, from roughly $51 per plane in 1962 to $100,000 for each aircraft in 1988. Part of this cost had to be passed on to the individual consumers who purchase airplanes, making the product too expensive for many customers and causing them to look to foreign manufacturers. As a result, U.S. production rates plummeted. From the 17,817 general-aviation aircraft produced in 1978, production fell to 9,457 units in 1981. That year, imports of general-aviation aircraft exceeded exports for the first time, making general aviation the only segment of the aerospace industry with a trade deficit. The slide continued. In 1988, when the general-aviation trade imbalance grew to $1 billion, only 1,143 units were sold, and today, it is estimated that barely more than 800 general-aviation aircraft are in production in U.S. plants. Foreign companies are liable under U.S. tort law, but only for those planes sold to the United States, and, because the foreign airplane fleet is significantly newer than the U.S.-produced fleet, insurance rates are usually much lower for foreign manufacturers. (Manufacturers are responsible for all of their aircraft in flight in the United States; in the case of U.S. producers, these include aircraft as old as 30 years.)

The downward pressures on the civilian sector were evident in industry statistics starting in 1981, when output fell 1.2 percent. The downturn continued in 1982, with a drop of 10.2 percent, then in 1983, with a drop of 14.8 percent, and finally, in 1984, with a 4.9-percent decline. The military sector fared much better during this period, but because of the high cost of jet transports, changes in commercial production rates have a greater impact on industry output trends than do similar changes in the military sector, so industry trends tend to be led by the commercial sector.[36]

For most of the 1979–90 period, and especially during the downturn in the early 1980's, employee hour movements characteristic of a quasi-fixed factor of production are evident. The year that starts the period, 1979, saw output rise 24.6 percent from the previous year. Employment rose 15.6 percent and employee hours increased 16.0 percent, leading to a productivity growth of 7.5 percent. In 1980, output grew again, by 2.2 percent, but employee hours grew more, making it the first year in the period when productivity fell (–1.9 percent) and perhaps illustrating the initial increase in hours that can occur when the industry brings in many new employees. (From 1978 to 1980, employment grew by 61,000.) When, in 1981, output took its first dip, employment and hours also dropped, and productivity advanced 0.9 percent. But thereafter, the reductions in employees and hours never kept pace with the declining output. (See table 1.) When output fell 10.2 percent in 1982, employee hours shrank a smaller 7.5 percent. When the industry's output fell a further 14.8 percent the next year, hours again fell, but by a far lesser 4.9 percent, leading to a 10.4-percent drop in productivity, the worst performance in aircraft manufacturing of any year in the study. Manufacturers, remaining optimistic that an upswing was soon coming, did not want to scale back quickly on the large investment in new workers that they had made only a few years earlier. Then, in 1984, the number of new orders began to rise. Because of the long lead times required, manufacturers started to gear up for the future. So, even though output for that year fell almost 5 percent, employment and employee hours edged up, resulting in a 5.8-percent decline in productivity. The next year, 1985, output jumped 18 percent, employee hours rose 6.7 percent, and productivity registered a 10.7-percent gain.

The earlier period, 1973 to 1979, showed similar movements. Output fell 3.2 percent in 1975 and 6.0 percent in 1976. Like the downswing in the 1980's, employee hours at first matched the drop in output, shrinking 3.5 percent in 1975. The result was a slight, 0.2-percent increase in productivity that year. But during the following year, even though output dropped 6.0 percent, orders were beginning to pick up. Manufacturers could not afford to cut employment by amounts dictated by a purely short-term analysis. Consequently, employee hours dropped 4.2 percent, and productivity suffered, slipping almost 2 percent. The next year, 1977, output bounced back 7.2 percent, and productivity grew nearly 11 percent.

Overall, output fell seven times in aircraft manufacturing during the period covered by the study. In 5 of those years, productivity suffered, either because employee hours fell by less than output or, in the case of 1984, when manufacturers were gearing up for the future, because employee hours actually rose. By contrast, in the total manufacturing sector, output fell four times in the 1972–88 period (1988 is the last year for which comparable data are available), and productivity registered gains in each case, as employee hours always fell by a greater percentage than output.

Outlook

On the surface, the early 1990's appear to be moving toward a repeat of the slow growth in productivity during the 1980's. Like the early 1980's, the early 1990's were preceded by a burst in the number of orders of jet transports and a swelling confidence about the future. And like the 1979–90 period, after significant investments in labor, the early 1990's have seen new orders wither and old orders disappear in a wave of cancellations and delivery delays, while the general assessment of long-term commercial growth remains positive. The recent scaling back of the military sector also appears in some ways an echo of that earlier period. So, given the quasi-fixed nature of aircraft labor, is the future likely to see another stretch of poor productivity performance in aircraft manufacturing? Evidence suggests that the answer is no.

Table 1. **Productivity and related indexes for the aircraft industry, 1972–91**

[1982 = 100]

Year	Outper per employee hour	Output	All employee hours	Production worker hours	Nonproduction worker hours
1972	69.3	61.7	89.0	95.4	83.7
1973	83.1	77.4	93.1	100.3	87.0
1974	84.8	81.1	95.6	103.8	88.7
1975	85.0	78.5	92.3	98.1	87.5
1976	83.5	73.8	88.4	92.0	85.4
1977	92.5	79.1	85.5	88.1	83.3
1978	96.9	88.6	91.4	95.3	88.1
1979	104.2	110.4	106.0	118.6	95.5
1980	102.2	112.8	110.4	122.7	100.2
1981	103.1	111.4	108.1	116.5	101.1
1982	100.0	100.0	100.0	100.0	100.0
1983	89.6	85.2	95.1	90.7	98.9
1984	84.4	81.0	96.0	89.2	101.5
1985	93.4	95.6	102.4	95.0	108.5
1986	93.4	100.2	107.3	104.3	109.8
1987	101.2	114.2	112.9	113.2	112.6
1988	104.1	121.4	116.6	115.0	117.8
1989	107.9	129.6	120.1	117.1	122.6
1990	107.4	129.2	120.3	116.2	123.8
1991	125.4	140.9	112.4	106.9	117.0

First, it is commonly assumed that the downsizing of the military sector will be of a sustained and substantial magnitude. With the breakup of the Soviet Union, the military sector's primary preoccupation is with streamlining. The era of large military buildups appears over. Business survival in the decade ahead will be measured by how successfully firms can build down.[37] The short-term risk in laying off employees is outweighed by the near certainty of this downward long-term trend. As a result, the lagging characteristics of aircraft labor in the downward direction have not been observed recently in the military sector. Starting in early 1990, when 55,000 employees were released, manufacturers of military aircraft continued shedding workers. Some companies were holding onto employees while one particularly large contract was under competition. But when it was awarded, the companies that lost the contract immediately announced layoffs amounting to several thousand workers.[38] There is now a general acceptance among military aircraft manufacturers that the historically "cyclical defense-spending upturns" are over.[39] As a result, with many fixed assets being closed, the hesitation to cut employees will be greatly reduced, and whatever negative impact it had on past productivity performance in the military sector should be minimized.

Similarly, general-aviation productivity should not suffer from any reluctance to reduce labor ranks for the same reasons: manufacturers' diminished expectations for the future are relatively certain. Product liability problems continue to cripple piston-engine production. As a result, the general-aviation product mix has shifted, and more than 90 percent of the dollar value for U.S.-manufactured fixed-wing aircraft is for turboprop and turbofan business aircraft. In this area at least, the improving economy might eventually lead to an increase in demand as corporate fleets grow.[40] But it is unlikely that this potential stimulus would increase production rates significantly. In any case, the impact on total industry productivity would be negligible: today, general-aviation production has become so small a part of the industry, that it affects industry productivity trends only slightly.

So, as was true in the 1980's, it appears that the future of productivity in the aircraft industry rests primarily with what happens in the commercial sector. One of the most worrisome factors in regard to aircraft labor's tendency to be slow to adjust downward is that commercial production is facing a sharp dichotomy between prospects for strong output growth in the long run and weakened demand in the near term.

There are different reasons for this situation. First, many industry analysts predict that upwards

of 300 planes a year will be retired during the 1990's because of their age or to meet noise restrictions that go into effect by the year 2000. Currently, this affects nearly one-half of the world's fleet of planes, with one-half of those used by U.S. companies.

Second, demand is also expected to get a boost from the growth in airline traffic from the Pacific rim. Worldwide, the top three growth markets for the 1990's are Asian related, with an average passenger growth rate of 10.6 percent.[41] This rate should lead to a doubling of air travel by the year 2000 and a quadrupling 15 years later.[42] One estimate has it that, by the year 2000, 40 percent of all airline passengers will fly on Asian carriers.[43] It is predicted that, taken together, the dual pressures of the aging U.S. airline fleet and ever-growing passenger traffic will require the production of more than 11,000 new aircraft, most wide bodied, over the next 20 years.[44] This is why, observed one analyst early last year, the "world's civil aircraft manufacturers are keeping design teams and production lines busy, even in hard times."[45]

This holding the line is possible, in part, because commercial manufacturers are intent not to repeat the mistake of expanding output so quickly. Hence, despite the flood of new orders they received in the late 1980's, they chose to allow backlogs to grow, focusing on establishing an efficient production rate that could carry them through a potential future downswing.[46]

Nevertheless, manufacturers of jet transports, like their counterparts in military and general aviation production, now realize that the near future will likely be lean. A recent study[47] suggests that it will be close to the turn of the century before the industry returns to its 1991 level of business and that the industry will not bottom out until 1996. Given this projection, jet transport manufacturers, too, have shown less hesitation than in the past to cut employees and trim employee hours.[48] As a result, the number of employees dropped 6 percent and employee hours dropped almost 7 percent in 1991, the second largest drop for both over the period covered by the study. (The largest drop occurred in 1982, in the midst of the industry's recession.) It appears that, with some of the uncertainty removed about the direction of aircraft demand in the next several years, labor may be taking on the characteristics of a variable factor, at least in the near term.

Because of this shift, with the entrance of some computer-aided technology, the industry should post strong productivity gains in the decade ahead. Already, it has registered a 16.8-percent gain in productivity in 1991. The diffusion of computer-aided design technology, perhaps more descriptively called "paperless design," may also affect productivity gains. Given the fact that nearly a million separate sheets of blueprint paper accompany the design and production of a conventional aircraft, this new application of computer-aided design technology may revolutionize the way planes are designed and initially constructed.[49] First used on a full scale in the design of the B–2 stealth bomber, paperless design allowed manufacturers to go directly from the computerized "drawing board" to the first flyable plane, without all of the many intervening models and mockups that would have had to be made in the past. All but 3 percent of the computer-aided manufactured parts fit perfectly the first time, compared with the best ever 50 percent achieved by the same company using conventional pen-and-paper methods. It is claimed that there was a 6-to-1 reduction in engineering changes during the B–2's design evolution, and those changes were made 5 times faster and could be inputted into both manual and computerized numeric-control milling machines 40 percent more efficiently.[50] The technology is now being adopted in the commercial sector, and if it lives up to expectations, it will save the thousands of hours of labor that go into the old pen-and-paper design of new airframes and the construction of wood and metal life-size mockups.

The value of paperless design to production later on in an airframe's life may be less dramatic.[51] Nevertheless, the estimated savings of 60 percent of the engineering changes in an industry with a high proportion of engineers and related nonproduction workers will certainly contribute to productivity gains. □

Footnotes

[1] See Jeffery Cole, "Boeing Gets New Demand from United Seeking Change in Delivery of Jetliners," *Aviation Week & Space Technology*, Feb. 11, 1993, p. A3; John D. Morrocco, "Aspin to Chart Defense Draw Down," *Aviation Week & Space Technology*, Jan. 4, 1993, p. 28; Jeff Cole, "GPA Wins Pact on Order Cuts from Jet Firms," *The Wall Street Journal*, Jan. 25, 1993, pp. A3, A5; Jeff Cole, "McDonnell to Cut 10% of Work Force, Many at Its Commercial Aircraft Unit," *The Wall Street Journal*, Jan. 25, 1993, p. A5; Richard M. Weintraub, "Boeing, Pratt & Whitney Plan Huge Job Cutbacks," *The Washington Post*, Jan. 27, 1993, pp. F1, F3; and Jeff Cole, "Boeing Reduces Its Production of All Jetliners," *The Wall Street Journal*, Jan. 27, 1993, pp. A3, A5.

[2] See *Standard and Poor's Industry Surveys*, "Aerospace and Air Transportation: Basic Analysis," July 25, 1992, p. A15; and International Trade Administration, U.S. Department of Commerce, *1993 U.S. Industrial Outlook* (Washington, U.S. Government Printing Office, January 1993), pp. 20–27.

[3] The aircraft industry is designated by the Office of Management and Budget as SIC 3721 in the 1987 *Standard In-*

dustrial Classification Manual. This industry comprises establishments engaged primarily in the manufacture of completed aircraft. Establishments engaged primarily in manufacturing engines and other aircraft parts and auxiliary equipment are classified into SIC's 3724 and 3728.

The average annual rates of change in the text are computed using the compound rate formula. These rates reflect the average rates of growth between beginning and ending years. For comparisons among periods, peak years in the business cycle were chosen as the beginning and ending years.

Extensions of the indexes will appear annually in the BLS bulletin, *Productivity Measures for Selected Industries and Government Services*. A technical note describing the methods used to develop the indexes is available from the Bureau's Office of Productivity and Technology, Division of Industry Productivity and Technology Studies.

[4] Walter Y. Oi, "Labor as a Quasi-Fixed Factor," *Journal of Political Economy*, December 1962, pp. 538–55.

[5] The price indexes for the aircraft industry's products were developed from data from three different government agencies. For years prior to 1987, the indexes were constructed from data from the Bureau of Labor Statistics, Bureau of Economic Analysis, and Federal Aviation Administration. For years since 1987, the indexes were derived from information from the Bureau of Labor Statistics alone. Depending upon each agency's objectives and the use to which they envisioned that their data would be employed, different methodologies were used to develop measures of price change. For example, there were differences in such price-defining characteristics as production-run size, production rate, position on learning curve, and differential-cost structures among producers.

[6] See appendix for a fuller discussion of the methodology.

[7] *Standard and Poor's Industry Surveys*, "Aerospace and Air Transportation: Basic Analysis," July 25, 1992, p. A17.

[8] *1987 Census of Manufactures, Concentration Ratios in Manufacturing*, MC87–S–6 (U.S. Department of Commerce, Bureau of the Census, February 1992), pp. 6–39.

[9] International Trade Administration, *1993 U.S. Industrial Outlook*, pp. 20–29.

[10] Bruce A. Smith, "Douglas Speeds MD–11 Production with New Management System," *Aviation Week & Space Technology*, Sept. 9, 1991, p. 42.

[11] International Trade Administration, *1993 U.S. Industrial Outlook*, pp. 20–28.

[12] Richard G. O'Lone, "Boeing Approaches Robots Cautiously," *Aviation Week & Space Technology*, Aug. 2, 1982, p. 60.

[13] Industry source.

[14] O'Lone, "Boeing Approaches," p. 60.

[15] Current data on average hourly earnings for production workers are not available for the aircraft industry (SIC 3721). Consequently, data for the aircraft and parts industry (SIC 372) have been used for the 1991 estimate.

[16] *BLS Industry-Occupational Employment Matrix, 1990*, "Projected 2005 Alternatives," pp. 160–69, 498–504; *Outlook 1990-2005*, Bulletin 2402 (Bureau of Labor Statistics, May 1992); and unpublished data.

[17] Richard G. O'Lone, "U.S. Manufacturers Expect Strong Long-Range Demand," *Aviation Week & Space Technology*, Mar. 19, 1990, p. 105; and industry sources.

[18] See Richard W. Stevenson, "Battling the Lethargy at Douglas," *New York Times*, July 22, 1990, Section 3, pp. 1–6; "How Boeing Does It," *Business Week*, July 9, 1990, p. 50; Anthony Ramirez, "Boeing's Happy, Harrowing Times," *Fortune*, July 17, 1989, pp. 40–48; "Boeing Sets Delivery Plan," *New York Times*, May 10, 1989, p. D42; James Ellis, "McDonnell Douglas: An Order Boom, but an Operating Loss," Maria Shao, "Boeing: A Backlog Strains Its Assembly Line," and Stewart Toy and John Templeman, "Airbus: Still in the Red Despite Subsidies," all in "Planemakers Have It So Good, It's Bad," *Business Week*, May 8, 1989, pp. 34–36; Ronald Henkoff, "Bumpy Flight at McDonnell Douglas," *Fortune*, Aug. 28, 1989, pp. 79–80; and Bruce A. Smith, "Douglas Grapples with Delays in Three Transport Programs," *Aviation Week & Space Technology*, Apr. 10, 1989, pp. 88–89.

[19] Ellis, "McDonnell Douglas," p. 34.

[20] Shao, "Boeing," p. 36.

[21] Ellis, "McDonnell Douglas," pp. 34–35; Shao, "Boeing," pp. 35–36; and Toy and Templeman, "Airbus," p. 36.

[22] Industry sources.

[23] Richard G. O'Lone, "777 Revolutionizes Boeing Aircraft Development Process," *Aviation Week & Space Technology*, June 3, 1991, p. 35.

[24] See Jeffery M. Lenorovitz, "Airbus Expects to Boost Market Share to 30%," *Aviation Week & Space Technology*, Mar. 19, 1990, p. 123; and Lawrence M. Fisher, "Boeing Challenged by Its Backlog," *New York Times*, Dec. 7, 1988, p. D5.

[25] Bruce A. Smith, "Boeing to Rely on Proven Strategies while Facing Prospect of Lower Earnings," *Aviation Week & Space Technology*, May 25, 1992, p. 65.

[26] Oi, "Labor as Quasi-Fixed," p. 542.

[27] Industry sources.

[28] Oi, "Labor as Quasi-Fixed," pp. 538–45.

[29] Virginia Lopez, ed., *Productivity in the U.S. Aerospace Industry: 1960–1978* (Washington, The Aerospace Research Center, Aerospace Industries Association of America, Inc., December 1980), p. 36.

[30] See U.S. Department of Commerce, International Trade Administration, *1977 U.S. Industrial Outlook* (Washington, U.S. Government Printing Office, 1977), p. 184; and *Standard and Poor's Industry Surveys*, "Aerospace and Air Transportation," Dec. 1, 1983, p. A16.

[31] Ramirez, "Boeing's Times," p. 40.

[32] Richard G. O'Lone, "Commercial Airframe Makers Take Conservative Approach," *Aviation Week & Space Technology*, Mar. 20, 1989, pp. 197–99.

[33] Unless otherwise specified, the information in this section was derived from the chapter on the aerospace industry in the annual *U.S. Industrial Outlook*, published by the U.S. Department of Commerce, International Trade Administration (Washington, U.S. Government Printing Office, 1980 through 1993 editions).

[34] Aerospace Industries Association, *Net New Firm Orders Booked for U.S. Civilian Jet Transport Aircraft, 1971–1981*, unpublished.

[35] *Aerospace Facts & Figures, 1992–93* (Washington, Aerospace Industries Association, 1992), p. 32.

[36] Industry sources.

[37] See John D. Morrocco, "Uncertain U.S. Military Needs Hamper Industry Restructuring," *Aviation Week & Space Technology*, June 17, 1991, pp. 62–66; and "Cheney's 25% Force Reduction Plan Could Spur Further Spending Cuts," *Aviation Week & Space Technology*, June 25, 1990, pp. 24–25; see also Janice Castro, "Biting the Bullets," *Time*, Apr. 30, 1990, pp. 69–71; and "Victims of Peace," *The Economist*, June 10, 1989, pp. 61–62.

[38] "Recession, Military Reductions Force U.S. Aerospace Firms to Cut Payrolls," *Aviation Week & Space Technology*, Mar. 4, 1991, pp. 52–55.

[39] Anthony L. Velocci, Jr., "Survival Strategies for the 1990s," *Aviation Week & Space Technology*, May 25, 1992, p. 38.

[40] *Standard and Poor's Industrial Surveys*, "Aerospace and Air Transportation," June 25, 1992, p. A22.

[41] Richard G. O'Lone, "Boeing Expects War, Economic Dip to Have Minimal Impact on World Transport Market," *Aviation Week & Space Technology*, Mar. 4, 1991, p. 33.

[42] Anthony L. Velocci, Jr., "Industry May Endure a Decade of Hardship," *Aviation Week & Space Technology*, Nov. 23, 1992, p. 27.

[43] Paul Proctor, "Growing Economies, New Airports Stoke Pacific Rim Transport Boom," *Aviation Week & Space Technology*, June 17, 1991, pp. 117–20.

[44] Velocci, "Survival Strategies," p. 38.

[45] Richard G. O'Lone, "U.S. Airframe Outlook Bright despite Gloomy 1991 Results," *Aviation Week & Space Technology*, Mar. 16, 1992, p. 53.

[46] Smith, "Boeing to Rely on Proven Strategies," pp. 63–66.

[47] Quoted in Velocci, "Industry May Endure," p. 26.

[48] Cole, "Boeing Reduces Its Production," pp. A3–A5; and "Boeing Cuts Rates Again," *Aviation Week & Space Technology*, Nov. 30, 1992, p. 32.

[49] See David Hughes, "Growing Use of CAD/CAM Workstations Leading to Paperless Design Process," *Aviation Week & Space Technology*, Aug. 19, 1991, pp. 44–46; Bruce D. Nordwall, "McDonnell Will Replace Workstations to Gain Flexibility and Solid Models," *Aviation Week & Space Technology*, Aug. 19, 1991, pp. 49–50; and "Aerospace Manufacturers Exploit Workstation Network Capabilities," *Aviation Week & Space Technology*, Aug. 19, 1991, pp. 47–48; and Breck W. Henderson, "Workstation Performance Expands as Technology Pushes Prices Lower," *Aviation Week & Space Technology*, Aug. 19, 1991, pp. 51–53; and "Smart Factories: America's Turn?" *Business Week*, May 8, 1989, pp. 142–48.

[50] "Computer System Design Reflects B–2's Complexity," *Aviation Week & Space Technology*, Nov. 28, 1988, pp. 26–27.

[51] "Plane Geometry," *Scientific American*, March 1991, pp. 110–11.

APPENDIX: Measurement techniques and limitations

Indexes of output per employee hour measure changes in the relation between the output of an industry and the employee hours expended in producing that output. An index of output per employee hour is derived by dividing an index of output by an index of industry employee hours.

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

In the absence of a comprehensive set of unit employee hour weights, or equivalently, unit values, the output index for the aircraft manufacturing industry was developed using a deflated value technique. The values of shipments of the various product classes were adjusted for price changes by appropriate price indexes from a variety of sources, including (1) Producer Price Indexes from the Bureau of Labor Statistics; (2) indexes from the Price Change of Defense Purchases program, a project of the Bureau of Economic Analysis; and (3) unpublished data from the Federal Aviation Administration. These estimates of real or constant dollars for product categories were then indexed and, in turn, combined with employee hour weights to derive the overall industry output measure. The result is a final output index that is conceptually close to the preferred output measure.

The annual output index series was than adjusted (by linear interpolation) to the index levels of the benchmark output series. This benchmark series incorporates more comprehensive, but less frequently collected, economic census data.

The employment and employee hours indexes used to measure labor input were derived from data published by the Bureau of Labor Statistics. Employees and employee hours are each considered homogeneous and additive and thus do not reflect changes in qualitative aspects of labor, such as skill and experience. The indexes of output per employee hour do not measure any specific contributions, such as those of labor or capital. Rather, they reflect the joint effect of such factors as changes in technology, capital investment, capacity utilization, plant design and layout, skill and effort of the work force, managerial ability, and labor-management relations.

Negotiated wage changes in government, 1992

The smallest wage changes ever were recorded for State and local government employees as bargainers negotiated contracts in a sluggish economy, amid budget deficits and declining revenues

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Public sector negotiators faced a troubled economic climate in 1992 that often dictated the bargaining outcome. As a result, major collective bargaining settlements in State and local government provided the smallest average wage rate change since the Bureau of Labor Statistics series began in 1984. In addition, the changes were smaller, on average, than those specified in the contracts being replaced. [1]

The economy

Record budget deficits and declining revenues were among the lingering economic difficulties from the 1990–91 recession that forced several State and local government negotiators to try to freeze salaries, require employees to pay a greater share of health insurance, and consider furlough days and layoffs to balance government budgets, which is a constitutional requirement in many States and localities. To union negotiators, job security, pay, and health insurance were among the most important bargaining issues.

Because of these economic conditions, many agreements negotiated in 1992 called for salary freezes in the first part of the contract term, followed by subsequent pay raises, or included just one pay raise over the contract term. In addition, many agreements contained health care cost control and cost-sharing arrangements, such as managed health-care programs, higher employee premium payments, and higher deductibles and employee copayments.

Wage changes in 1992 settlements

Major settlements (those covering 1,000 workers or more) in 1992 provided changes in wage rates that averaged an increase of 1.1 percent in the first year and 2.1 percent annually over the term of the contract. (See tables 1 and 2.) These were the lowest rates recorded since the series started in 1984. (See table 3.) The Bureau of Labor Statistics measure of rate changes under collective bargaining agreements excludes potential changes under cost-of-living adjustments (COLA's) and lump-sum payments. The average change is the net effect of decisions to increase, decrease, and not change wages.

In addition, 1992 was the second consecutive year in which current settlements provided wage rate changes over the contract term that were considerably lower than in the agreements they replaced. In most years from 1987 to 1990, the average rate change under current settlements was lower than under replaced contracts, but the difference was never greater than 0.5 percentage point. In 1991 and 1992, the difference was 2.3 percentage points. The following tabulation shows the average annual wage rate change (in percent) over the contract term, 1987–92:

Michael Cimini, Joan Borum, Eric Johnson, and John Lacombe are economists in the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics.

	Current settlements	*Replaced agreements*
1987	5.3	5.8
1988	5.3	5.7
1989	5.7	5.3
1990	5.0	5.1
1991	2.6	4.9
1992	2.0	4.3

Settlements in State and local government in 1992 covered 45 percent, or 1.2 million, of the 2.7 million workers under all major collective bargaining agreements in State and local government. About 77 percent (918,000) of the workers covered under 1992 settlements will receive wage increases during the term of the contract; 21 percent (247,200), typically education workers in local government, will not receive a wage change; and 2 percent (27,100), will experience wage cuts. This is in marked contrast to the 1984–90 period, when wages were increased for 94 percent to 99 percent of workers under settlements and were cut for few, if any, workers. The following shows the percent of workers with wage rate changes over the 1984–92 period:

	Increased	*Decreased*	*Unchanged*
1984	94	0	6
1985	99	0	1
1986	98	0	2
1987	96	0	4
1988	99	*	1
1989	99	0	1
1990	99	0	1
1991	77	0	23
1992	77	2	21

* Less than 0.5 percent.

Table 1. **Average (mean) rate changes [1] in wages and compensation in State and local government collective bargaining settlements, 1992**

[In percent]

Measure	First-year changes[2]	Annual change over life of contracts[3]	Number of workers (thousands)
Wage changes (settlements covering 1,000 workers or more):			
All State and local government	1.1	2.1	1,192
State government	.5	2.0	556
Local government	1.7	2.1	636
Government function:			
General government and administration	1.0	2.2	433
Education	1.4	1.8	478
Primary and secondary	1.5	1.8	409
Colleges and universities	.6	1.6	69
Protective services	.6	2.3	94
Health services	1.0	2.4	107
Transportation	.6	2.4	63
Other[4]	2.1	3.0	18
Compensation changes (settlements covering 5,000 workers or more):			
All State and local government	.6	1.9	654
State government	.2	2.0	442
Local government	1.4	1.6	211
Government function:			
General government and administration[5]	.5	2.1	304
Education	.8	1.4	198
Other[5]	.4	2.2	152

[1] Changes include net increases, decreases, and zero change; exclude lump-sum payments and potential changes from COLA clauses.
[2] Changes under settlements reached in the period and effective within 12 months of the effective date of the contract.
[3] Changes under settlements reached in the period expressed as an average annual (compound) rate over life of contract.
[4] Includes units in food services and construction.
[5] Includes units in food services, protective services, transportation, and construction.

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

Back-loaded contracts. One method negotiators use to contain labor costs in a multiyear agreement is to delay all or most of a wage rate increase until after the first contract year, or "back-load" the agreement. Between 1986 and 1990, settlements in State and local government, on average, provided roughly the same wage rate increases in the first year as they did annually over the life of the contract. In 1991, the average annual change over the contract term exceeded the average first-year change by 0.5 percentage point. In 1992, when back-loaded agreements were more prevalent, the difference between the change in the first year and over the life was 1 percentage point.

Under 1992 settlements, 52 percent of workers were covered by back-loaded contracts, 11 percent by front-loaded contracts, and the remaining 37 percent by 1-year or multiyear contracts with the same rate of change in the first year and annually over the contract term. Back-loaded settlements averaged a wage rate increase of 0.5 percent for the first contract year and 2.6 percent annually over the life of the contract. Front-loaded settlements called for wage rate changes averaging an increase of 3.7 percent in the first year and 2.5 percent annually over the contract term. Back-loaded agreements were more prevalent in State government than in local government, and more prevalent in transportation, protective services, and health services than in general administration or education. The following tabulation presents the number and percent of workers under back-loaded contracts in 1992:

	Number	Percent
All government	617,200	52
State government	402,500	72
Local government	214,700	34
Transportation	66,800	88
Protective services	73,600	79
Health services	77,500	72
General administration	271,100	63
Education	175,800	37

Level of government and function. Local government employed approximately 636,000, or 53 percent of the 1.2 million workers covered by 1992 settlements. Wage rate changes in local government averaged a 2.1-percent annual increase over the contract term, about the same as the 2.0 percent change in State government (556,000 workers). In most years since 1984, the average change in wage rates over the contract term has been higher in local government than in State government. (See table 3.)

Settlements in education—primarily for teachers, but also for administrators and service employees—covered 40 percent (478,000) of the workers under contracts negotiated in 1992. They provided wage rate changes averaging an increase of 1.8 percent a year over the contract term. Settlements in general administration covered 433,000 workers and called for a 2.2-percent average wage rate increase; health services, 107,000 workers and a 2.4-percent increase; and protective services, 94,000 workers and a 2.3-percent increase. Unlike settlements reached before 1991, wage rate changes in education were smaller than in the rest of government in 1992, as illustrated below (data are not available for 1984):

	Percentage wage rate change in—	
	Education	All government, except education
1985	5.7	4.8
1986	6.3	5.3
1987	5.6	4.6
1988	5.7	5.0
1989	5.9	4.6
1990	5.5	4.4
1991	2.1	3.2
1992	1.8	2.3

Table 2. **Average first-year and over the life rate changes[1] in wages in State and local government collective bargaining settlements covering 1,000 workers or more, 1992**

Measure	First year[2]			Over the life of contract[3]		
	All State and local government	State government	Local government	All State and local government	State government	Local government
Total number of workers (in thousands)	1,192	556	636	1,192	556	636
Percent of workers under all settlements	100	100	100	100	100	100
With no wage changes	64	90	41	21	19	22
With wage decreases	([4])	([4])	([4])	2	0	4
With wage increases	34	10	55	77	81	73
Of less than 4 percent	19	2	35	62	75	51
Of 4 percent and less than 6 percent	12	7	16	13	6	19
Of 6 percent and less than 8 percent	2	([5])	3	2	0	3
Of 8 percent and more	1	1	2	1	1	1
Changes (in percent):						
Mean change	1.1	.5	1.7	2.1	2.0	2.1
Median change	0	0	2.0	2.3	2.3	2.1
Mean increase	3.7	4.9	3.5	2.9	2.5	3.2
Median increase	3.0	5.0	3.0	2.3	2.3	3.0
Mean decrease	–5.2	–.4	–5.6	– 6.1	—	– 6.1
Median decrease	–3.0	–.4	–3.0	– 4.0	—	– 4.0

[1] Includes net increases, decreases, and zero change. Excludes lump-sum payments and potential changes from COLA clauses.
[2] Changes under settlements reached in the period and effective within 12 months of the effective date of contract.
[3] Changes under settlements reached in the period expressed as an average annual (compound) rate over the life of the contract.
[4] Data do not meet publication standards.
[5] Less than 0.5 percent.

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

Table 3. **Average wage and compensation rate changes[1] in State and local government settlements, 1984–92**

[In percent]

Measure	1984	1985	1986	1987	1988	1989	1990	1991	1992
Wage changes (1,000 workers or more)[1]									
All State and local government:									
First year[2]	4.8	4.6	5.7	4.9	5.1	5.1	4.9	2.3	1.1
Annual over the life[3]	5.1	5.4	5.7	5.1	5.3	5.1	5.0	2.8	2.1
State government									
First year[2]	3.6	4.8	6.3	4.1	5.3	5.0	4.7	2.0	.5
Annual over the life[3]	3.8	4.9	6.0	4.2	5.0	4.7	4.2	3.0	2.0
Local government:									
First year[2]	5.4	4.4	5.3	5.3	5.0	5.2	5.0	2.5	1.7
Annual over the life[3]	5.9	5.7	5.6	5.5	5.5	5.4	5.2	2.7	2.1
Compensation changes (5,000 workers or more)[1]									
All State and local government:									
First year[2]	5.2	4.2	6.2	4.9	5.4	5.1	5.1	1.8	.6
Annual over the life[3]	5.4	5.1	6.0	4.8	5.3	4.9	5.1	2.9	1.9
State government:									
First year[2]	4.3	4.8	6.8	4.3	5.3	4.9	4.4	1.9	.2
Annual over the life[3]	4.0	4.8	6.0	4.3	4.9	4.6	3.9	2.8	2.0
Local government:									
First year[2]	6.0	3.7	5.6	5.4	5.5	5.6	5.4	1.6	1.2
Annual over the life[3]	6.6	5.5	6.0	5.1	5.8	5.5	5.8	2.9	1.5

[1] Changes include net increases, decreases, and zero change; excludes lump-sum payments and potential changes from COLA clauses.
[2] Changes under settlements reached in the period and effective within 12 months of the contract effective date.
[3] Changes under settlements reached in the period expressed as an average annual (compound) rate over life of contract.

Duration. State and local government settlements negotiated in 1992 had a longer average duration than the agreements they replaced—26.5 months compared with 26.1 months. (See table 5.) The average duration also was longer in 1992 than in most previous years because of the comparatively large proportions of workers covered by 1992 agreements with a duration of 36 months or longer. Forty-one percent of workers (493,000) covered by settlements in 1992 were under such contracts. Settlements with a duration of 3 years or longer called for wage changes averaging an increase of 2.4 percent a year, compared with 1.8 percent a year for shorter term contracts. The lower average wage change in shorter term contracts reflects, in part, the influence of settlements in education.

Changes in compensation rates and costs

Wages are only part of the economic package that may be affected by a settlement; benefits also may change. A comparison of changes in compensation (wages and benefits) in current settlements with changes in replaced contracts and in settlements over time provides a more comprehensive analysis than a comparison based on changes in wages only. The data on compensation changes relate to major collective bargaining settlements covering 5,000 workers or more.

Compensation rate changes. The average change in compensation rates in 1992 settlements for 5,000 workers or more, which covered 55 percent of workers under all major settlements in 1992, was an increase of 0.6 percent in the first year and 1.9 percent annually over the contract term. (See table 6.) These were the lowest compensation rate changes recorded since the series began in 1984. (See table 3.) In addition, the last time the parties bargained, usually in 1990 or 1991, the settlements provided higher changes in compensation rates—4.8 percent in the first year and 4.4 percent annually over the contract term.

Compensation rate changes in State government settlements in 1992 averaged an increase of 2.0 percent annually over the contract term, compared with 1.6 percent for local government settlements. This marks a departure from the past when the average change in compensation rates over the contract term typically has been higher in local government than in State government. The change in this pattern is due to two factors: a large proportion of State government workers was covered by settlements with larger than average wage and wage-related benefit increases, which pushed up their annual average increase, and a large proportion of local government workers was covered by settlements that froze or cut wages, which reduced their annual average increase.

Compensation cost changes. The measure of change in compensation *rates* covers wages and benefits, but excludes lump-sum payments, which are not part of the ongoing rate. A second measure of change in compensation, the change in compensation *costs*, is compiled for State and local government settlements covering at least 5,000 workers. It includes lump-sum payments and accounts for the length of time that changes in wages and benefits are in effect during the contract. Under settlements involving 5,000 or more workers, the change in compensation cost over the contract term averaged an annual increase of 0.9 percent. (See table 7.) This was the lowest compensation cost increase recorded since the Bureau began measuring compensation cost changes in 1988. The following shows the percent change in compensation costs, 1988–92:

	State and local government		
	Total	*State*	*Local*
1988	3.7	3.4	4.2
1989	3.8	3.2	4.7
1990	4.2	2.6	5.1
1991	2.1	2.4	1.4
1992	.9	.9	.8

Settlements in State government, which covered 442,000 workers, averaged an increase of 0.9 percent a year, compared with 0.8 percent under settlements in local government (211,000 workers). The relatively small average increases reflected compensation cost freezes or decreases for slightly more than one-fifth of State government workers and slightly more than one-third of local government workers under 1992 settlements.

Changes in employer costs for cash payments to workers (including wages and lump-sum payments) averaged an increase of 1.0 percent a year over the life of the contract, and changes in wage costs alone averaged an increase of 0.9 percent. (Typically, relatively few State and local government workers are covered under settlements with lump-sum provisions. About 138,000 State and local government workers were covered by 1992 settlements that specified lump-sum payments. Nearly two-thirds of these workers were employed by New York State and Iowa.) Changes in benefit costs averaged an increase of 0.7 percent a year over the contract term. Following is the percentage change in compensation costs, 1988–92:

	1988	*1989*	*1990*	*1991*	*1992*
Compensation	3.7	3.8	4.2	2.1	0.9
Total cash payments	3.8	3.9	4.0	1.4	1.0
Wages only	3.7	3.8	4.0	1.4	.9
Benefits	3.5	3.3	4.4	2.2	.7

Total wage rate changes

Workers under all major collective bargaining agreements in the public sector may receive changes in their wage rates from one or more possible sources in any year: settlements that occurred in the year, settlements negotiated in earlier years, and COLA clauses. (COLA clauses call for changes in wages based on a formula typically tied to changes in the Consumer Price Index.)

For the 2.7 million workers under all major contracts in effect in State and local government in 1992, the average change in wage rates was an increase of 1.9 percent—0.8 percent from settlements reached in 1992, 1.1 percent from agreements reached earlier, and less than 0.05 percent from cost-of-living adjustments. (See table 8.) This was the lowest wage rate change under all agreements since the series began in 1984 and reflected a substantial decline from 1984–90, when the annual wage rate change ranged from 4.6 percent to 5.7 percent. (See table 4.)

The average wage change in 1992 resulted from substantial drops in wage changes brought about by settlements negotiated in previous years and very modest wage rate changes specified in current settlements. The small contribution of current settlements reflects the relatively high percentage of workers not receiving an increase in the first year of their contracts in 1992, compared with earlier years. Following is the percent of workers not receiving a first-year wage increase:

	Percent
1984	19
1985	16
1986	10
1987	7
1988	7
1989	6
1990	6
1991	37
1992	64

In addition, the contribution from settlements reached in earlier years was only 1.1 percent, the lowest rate since 1984, when the series was first tabulated. (See table 4.) Because of the low prevalence of COLA provisions in State and local government agreements, the contribution from COLA's was minimal in 1992 and in earlier years. (About 58,100 workers had COLA reviews in 1992. Of these, only 22,000 had COLA increases, averaging 2.7 percent.)

Wage rate changes for workers in local government averaged an increase of 2.1 percent, compared with a 1.6-percent increase for workers in State government. (Except for 1990, the average wage rate change since 1987 for local government employees has exceeded the average change for State government employees.) The change for lo-

cal government employees was larger than for State government workers in 1992. This primarily reflected the effects of current settlements—a 1.1-percent increase for local government employees, compared with a 0.3-percent increase for State government employees.

Several factors play a role in the size of the average wage rate change. The proportion of workers receiving a wage increase and the size of the increase push up the average wage rate change. The proportion of workers with no change in wages, and the proportion whose wages decrease, coupled with the size of the decrease, moderate the overall wage rate change.

Approximately 1.1 million workers, or 42 percent of the 2.7 million workers covered by major contracts in State and local government, received increases averaging 4.4 percent, the lowest level since the data were first tabulated in 1984. (See table 4.) (This measure reflects only contracts in which the net effect of increases and decreases from all sources is a wage rate increase.) About 1.5 million, or 57 percent of workers covered by major contracts in State and local government, did not receive a wage change in 1992. Wages decreased for slightly more than 29,100 employees—1 percent of workers covered by major contracts.

As typically occurs, the average wage rate change for local government workers was higher, at 4.6 percent, than wage rate changes for State government workers, at 4.0 percent.

Specific settlements

The preceding statistics summarize wage changes in public sector collective bargaining contracts negotiated in 1992. However, the data mask the problems confronting the negotiators, as well as the variety of solutions offered as they attempted to compromise on contract terms in light of budget deficits and declining revenues. The following discussion of selected settlements in State and local governments highlights the negotiated wage

Table 4. **Average (mean) rate changes in State and local government collective bargaining settlements covering 1,000 workers or more, 1984–92**

[In percent]

Measure	1984	1985	1986	1987	1988	1989	1990	1991	1992
Average wage change[1]									
All State and local government	5.0	5.7	5.5	4.9	4.7	5.1	4.6	2.6	1.9
Source of change:									
Current settlements	1.9	4.1	2.4	2.7	2.3	2.5	2.0	.6	.8
Prior agreement	3.1	1.6	3.0	2.2	2.4	2.6	2.6	1.8	1.1
COLA provisions	(2)	(2)	(2)	(2)	(2)	(2)	(2)	.1	(2)
State government	5.4	4.5	5.6	4.3	4.1	4.0	4.7	2.5	1.6
Source of change:									
Current settlements	1.2	2.8	2.3	1.5	1.8	2.0	1.0	.3	.3
Prior agreements	4.2	1.7	3.3	2.8	2.4	2.0	3.6	1.9	1.2
COLA provisions	(2)	(2)	(2)	(2)	(2)	0.0	0.0	.3	(2)
Local government	4.7	6.5	5.4	5.3	5.1	5.9	4.6	2.6	2.1
Source of change:									
Current settlements	2.3	4.9	2.5	3.5	2.6	2.8	2.6	.8	1.1
Prior agreements	2.4	1.6	2.9	1.9	2.4	3.0	1.9	1.8	1.0
COLA provisions	(2)	(2)	(2)	(2)	(2)	(2)	.1	(2)	(2)
Average wage increase[3]**:**									
All State and local government	6.6	6.8	6.0	5.7	5.6	6.1	5.5	4.8	4.4
Source of change:									
Current settlements	6.6	6.9	6.7	6.0	6.2	6.3	6.3	3.7	4.4
Prior agreements	6.6	5.6	5.0	4.9	5.0	5.3	4.8	4.5	4.3
COLA provisions	1.4	1.7	1.0	1.2	1.4	1.5	1.8	2.1	2.8
State government	6.2	5.4	6.0	4.9	4.8	5.4	5.2	4.3	4.0
Source of change:									
Current settlements	4.6	4.9	6.8	4.3	5.2	5.0	6.8	2.0	6.2
Prior agreements	6.9	5.3	4.7	4.7	4.4	4.7	4.7	3.9	3.6
COLA provisions	(2)	.7	.2	.8	(2)	.0	.0	2.2	3.6
Local government	7.0	7.7	6.0	6.3	6.2	6.4	5.7	5.2	4.6
Source of change:									
Current settlements	7.7	8.1	6.7	6.9	6.8	7.3	6.2	4.8	4.2
Prior agreements	6.3	5.8	5.4	5.2	5.5	5.7	4.8	5.2	5.0
COLA provisions	1.4	2.0	1.4	1.3	1.4	1.5	1.8	1.7	2.3

[1] Changes include net increases, decreases, and zero change in work stoppages stemming from current settlements, agreements reached in prior years, and COLA clauses.
[2] Value less than 0.05 percent.
[3] Reflects only contracts in which the net effect of increases and decreases from all sources is a wage rate increase.

Table 5. **Average (mean) rate changes[1] in wages under State and local government collective bargaining settlements covering 1,000 workers or more by duration of contract, 1992**

Measure	All settlements	12 months or fewer	More than 12 months and fewer than 24 months	24 months	More than 24 months and fewer than 36 months	36 months	More than 36 months
Number of settlements	324	113	48	57	19	64	23
Number of workers (in thousands)	1,192	344	114	182	61	263	230
Average duration (months)	26.5	11.6	14.4	24.0	25.2	36.0	46.2
Percent wage change in:							
First contract year	1.1	.8	1.3	2.9	1.2	.9	.4
Second contract year[2]	2.9	—	.7	4.0	4.3	4.5	1.1
Third contract year[3]	2.6	—	—	—	—	2.4	3.5
Average annual percent wage change over life of contract	2.1	.8	1.7	3.5	2.6	2.5	2.3

[1] Includes net increases, decreases, and zero change. Excludes lump-sum payments and potential changes from COLA clauses.
[2] Average is based only on settlements with a duration greater than 12 months.
[3] Average is based only on settlements with a duration greater than 24 months.

terms and briefly explains important events affecting the negotiations.

California. The State approved 3-year contracts calling for an 18-month salary freeze and the establishment of a program designed to avoid mandatory unpaid furloughs over the term of the contract. Under the "personal leave bank" program, State employees bank 1 day a month for 18 months and do not receive pay for these days while the program is in effect. In addition, salaries were increased 5 percent in January 1994, and 3 percent to 5 percent in January 1995; merit salary adjustment language was retained; and the State's contributions to health care premiums were frozen at current levels. The contracts covered 128,000 State employees in 21 different bargaining units. (See *Monthly Labor Review*, January 1993, p. 31, for additional details of the terms of the contract.)

Prior to this negotiated settlement, the State had approved a fiscal year 1993 budget that imposed contract provisions as part of an effort to close a $10.7-billion spending gap without raising taxes, ending a year-long impasse with its unions. The unionized employees sued to halt the State's attempts to reduce pay and benefits; the court ruled against the cuts, but upheld the State's right to adjust its contributions to health care without obtaining legislative approval.

Florida. Almost 75,000 employees were under contracts that expired in June: 26,500 professional employees, 25,000 clerical and administrative employees, 10,200 human service employees, and 8,000 operational service employees, all represented by the American Federation of State, County and Municipal Employees (AFSCME); and 4,700 nurses, represented by the Florida Nurses Association (Ind.). The two unions and the State agreed to 3-year contracts calling for a wage and benefit freeze in the first year, and reopeners on wages and benefits in the second and third years.

An additional 19,600 workers—2,700 police officers, 13,800 correction officers, and 3,200 graduate teaching assistants—were covered by contracts which reopened in June for wage and benefit negotiations. Their unions agreed to forgo wage and benefit improvements in fiscal year 1992–93 (June 1992–June 1993).

The 1992 negotiations were conducted during a particularly severe economic downturn in Florida. In the fiscal year ended in June 1992, Florida had a revenue shortfall of $641 million. The State cut government expenditures by $533 million to meet a constitutional amendment requiring a balanced budget. Also, both State and local governments were hard hit by declines in revenues from sales tax and property tax because of severe drops in tourism and values of residential property. Tax bases also were strained by providing health services for a large population of older citizens and general government services for an influx of new residents and immigrants.

Massachusetts. About 40,000 State employees represented primarily by the National Association of Government Employees and AFSCME continued to work under a contract that expired in 1989. A labor agreement reached in December 1990 was not funded by the Massachusetts legislature;

hence, the agreement was not implemented. The incoming governor refused to honor the contract because it had been negotiated during the term of the previous governor. The unions then sued the State to enforce funding of the contract; the court decided for the State. At the end of 1992, the parties were still negotiating.

New York. Members of the Civil Service Employees Association, an affiliate of AFSCME, ratified a new 4-year agreement covering 110,000 State employees in administrative services, institutional services, and operational services bargaining units. State employees had been without a contract for 15 months—one of the longest impasses in the parties' bargaining history—and without a negotiated wage increase since April 1990.

Because of the financial difficulties of the State, negotiators agreed to a wage freeze in the first 2 years (1991 and 1992) of the 4-year contract. The accord provided for:

- wage increases of 4 percent in April of 1993 and 1994, and 1.25 percent in October 1994;
- lump-sum payments in December 1993 and September 1994 equal to the amount of about one and a half days' pay;
- a $5.2-million increase in the State's annual payment to the union's drug, dental, and optical benefits fund; and
- tighter restrictions on the use of workers' compensation; and the elimination of a supplemental compensation payment program.

(See *Monthly Labor Review*, August 1992, p. 60, for additional details of the terms of the contract.)

Court professional employees (3,700) and corrections officers (22,000) represented by AFSCME agreed to essentially the same contract terms as did the administrative, institutional, and operational employees, except they will not receive lump-sum payments. In addition, the correctional officers resolved a controversial "lag payroll" issue when the State agreed to give back 5 days of pay that previously had been withheld until workers ended employment with the State.

State university system professors (21,000) represented by the United University Professions, an American Federation of Teachers (AFT) affiliate, ratified a 4-year agreement retroactive to July 1991. The contract provided pay raises of 4 percent in July of 1993 and 1994, and 1.25 percent in January 1995.

At the end of 1992, the State still was negotiating with the Public Employees Federation for a contract covering 53,000 professional and technical employees. The dispute was sent to factfinding following a failed attempt at mediation.

Ohio. The State of Ohio and AFSCME signed a 25-month agreement for about 35,000 administrative, correctional, human services, mental health and retardation, transportation department, and regulatory employees. The accord came with the assistance of a factfinder, who decided some 50 major and minor economic issues.

The contract provided for only one wage increase, 5 percent in July 1993, in exchange for the retention of step and longevity increases, which

Table 6. **Average annual rate changes[1] in compensation in State and local government collective bargaining settlements covering 5,000 workers or more, 1992**

Measure	All State and local government	State government	Local government
Total number of workers (in thousands)	654	442	211
First-year changes [2]			
Percent of workers under all settlements:	100	100	100
With no wage changes	71	91	30
With wage decreases	2	0	8
With wage increases	26	9	62
Of less than 4 percent	22	5	59
Of 4 percent and less than 6 percent	3	4	0
Of 6 percent and less than 8 percent	1	0	3
Of 8 percent and more	0	0	0
Wage change (in percent):			
Mean change	.6	.2	1.4
Median change	.0	.0	2.0
Mean increase	2.7	2.4	2.9
Median increase	2.8	.2	2.8
Mean decrease	−4.9	—	−4.9
Median decrease	−4.9	—	−4.9
Annual changes averaged over life of contract [3]			
Percent of workers under all settlements	100	100	100
With no wage changes	23	22	24
With wage decreases	2	0	8
With wage increases	75	78	68
Of less than 2 percent	6	0	18
Of 2 percent and less than 4 percent	60	73	33
Of 4 percent and less than 6 percent	7	4	14
Of 6 percent and more	1	0	3
Changes (in percent):			
Mean change	1.9	2.0	1.6
Median change	2.3	2.3	2.0
Mean increase	2.7	2.6	2.9
Median increase	2.5	2.5	2.6
Mean decrease	−4.9	—	−4.9
Median decrease	−4.9	—	−4.9

[1] Changes include net increases, decreases, and zero change; exclude lump-sum payments and potential changes from COLA clauses.

[2] Changes under settlements reached in the period and effective within 12 months of the effective date of the contract.

[3] Changes under settlements reached in the period expressed as an average annual (compound) rate over life of contract.

NOTE: Because of rounding, sums of individual items may not equal totals. Average denotes mean, unless otherwise specified.

Table 7. **Distribution of workers under State and local government collective bargaining settlements covering 5,000 workers or more, by annual (mean) change[1] in compensation costs over the life of the contract[2] and in the costs of components, 1992**

Measure	All State Local government	State government	Local government
Total workers (in thousands)	654	442	211
Percent change in compensation cost	.9	.9	.8
Percent of workers under all settlements	100	100	100
With no wage change	22	22	20
With wage decreases	5	0	16
With wage increases	73	78	64
Of less than 2 percent	62	73	39
Of 2 percent and more	11	4	25
Percent change in cost of components of compensation:			
Cash payments to workers[3]	1.0	.9	1.1
Wages	.9	.9	1.1
Benefits	.7	.7	.7

[1] Change include net increases, decreases, and zero change; exclude lump-sum payments and potential changes from contingent pay provisions.

[2] Changes under settlements reached in the period expressed as an average annual (compound) rate over the life of contract.

[3] Cash payments include wages and lump-sum payments.

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

the State had sought to eliminate. Other terms included enhanced job security, changes in the health plan, increases in the State's contributions to health care premiums, a longer waiting period before eligibility for disability benefits, and expanded sick leave eligibility to include caring for family members living in the employee's home. Other terms were similar to the AFSCME agreement. (See *Monthly Labor Review*, May 1992, p. 52, for additional terms of the contract.)

A 23-month contract for about 4,000 health care and social services employees represented by the Service Employees International Union provided one wage increase of 5 percent in July 1993. Other contract terms were similar to the AFSCME agreement.

Local governments. Following is an account of highlights of bargaining activity in several local governments.

Chicago. The Chicago Board of Education and the American Federation of Teachers voluntarily reopened their contract (which was scheduled to expire in July 1993) and negotiated a salary adjustment for 30,000 teachers. The board had requested the reopening in 1991 to renegotiate wage increases scheduled for the 1991–92 school year (in 1990, the parties had agreed to wage increases of 7 percent in September of 1990, 1991, and 1992). As a result of the reopener, the teachers (who already had received the 1990 increase) accepted a 3-percent increase retroactive to December 1991 and deferred for 6 weeks the 7-percent increase scheduled for September 1992. (See *Monthly Labor Review*, May 1992, p. 52, for additional details of the terms of the contract.)

The Chicago Board of Education and the Service Employees International Union did not settle on a contract for 4,000 clerical and custodial employees. The contract had expired December 31, 1991.

Chicago and AFSCME signed a 42-month agreement for 7,000 white-collar employees. Terms called for wage increases of 3 percent retroactive to January 1992, 3 percent in January of 1993 and 1994, and 1.5 percent in January 1995; enhancements in life insurance benefits; several changes in health-care coverage, including cost-containment measures; and a program allowing employees to pay for day-care expenses from pretax income. (See *Monthly Labor Review*, January 1993, p. 33, for additional details of the terms of the contract.)

Also, the city did not reach agreements with six other unions, representing nearly 27,000 employees, whose contracts expired December 31, 1991. The Fraternal Order of Police bargained for 10,300 police officers; the Fire Fighters, for 4,500 firefighters; the Service Employees, for 4,000 clerical and custodial workers; and three other unions, for 7,500 blue-collar employees and school crossing guards. The city and the Amalgamated Transit Union began negotiations on a contract that was to expire December 31, 1992, for 10,000 Chicago Transit Authority employees.

Los Angeles County. The county and the Service Employees negotiated new agreements covering 27,000 clerical workers, supervisors, social services workers, technical personnel, paramedics, artisans, and blue-collar employees. The 2-year contracts provided wage increases of 2 percent in July 1992 and August 1993, and froze other economic and health care benefits during the contract term.

The County began negotiations on a contract that was to expire December 31, 1992, covering 1,550 firefighters represented by the Fire Fighters. Also, under a wage reopener, the County started negotiating wage terms for 2,200 deputy probation officers represented by AFSCME.

Los Angeles County was hit hard by the economic downturn that affected California in 1992. Also, the county's economy, already reeling from massive cuts in defense spending that created significant job losses in southern California, was dealt an additional blow from the April riots. In addition, the softening of the tourist and film industries—two economic mainstays of the region—contributed to the county's economic problems in 1992.

New York City. The city's Metropolitan Transportation Authority reached a 38-month agreement with the Transport Workers Union for some 32,000 workers. The contract provided:

- wage increases of 2 percent retroactive to May 1991, 2.5 percent in September 1992, and 2 percent in May 1993;
- a modified wage progression schedule for new hires;
- contract language to apply cost savings from the new progression schedule to health and welfare coverage;
- health and welfare coverage at existing benefit levels; and
- an immediate cash payment by the Transportation Authority of $5 million to the union's health and welfare fund so the fund could meet current obligations.

(See *Monthly Labor Review*, August 1992, p. 60, for additional details of the terms of the contract.)

New York City began negotiations with the United Federation of Teachers, representing 86,100 public school employees who had worked without a contract for more than a year. The union was bargaining to gain salary parity with teachers in other school districts in the metropolitan region. In addition, the city and a coalition of public employee unions bargained to replace expired contracts that cover approximately 200,000 clerical, blue-collar, administrative, social service, skilled trades, and institutional service employees. The parties did not reach a settlement in 1992.

In 1991, when the majority of contract talks between the city and its unions began, negotiators faced budget deficits, declining tax revenues, layoffs and furloughs, and cutbacks in city services. The difficult economic conditions continued into 1992, affecting the pace and outcome of negotiations for some 320,000 city workers.

Philadelphia, PA, area. The city of Philadelphia and AFSCME negotiated a settlement for 15,000 white- and blue-collar workers. The 4-year contract froze wages for 33 months; reduced paid sick leave for new hires to 15 days (formerly, 20 days); increased the city's flexibility in contracting out services; increased input by the city in the administration of the union's health plan; and reduced "significantly" the city's contributions to the health care plan. (See *Monthly Labor Review*, January 1993, p. 32, for additional details of the terms of the contracts.)

Prior to the agreement, the financially beleaguered city had imposed on the AFSCME-represented workers a 4-year contract that attempted to save $1.1 billion over 5 years by freezing wages for the first 2 years, followed by wage increases of 2 percent in the third year and 4 percent in the fourth; taking over the union-run health plan; and cutting paid sick leave and holidays.

Less than an hour before a strike deadline, the Philadelphia Teachers Federation, an AFT affiliate, ratified a 2-year contract with the city for 13,000 teachers and 7,000 paraprofessional and other nonprofessional workers. The contract called for a 16-month pay freeze, followed by a 3-percent wage increase in January 1994; and provided $19 million over the contract term to maintain existing health and welfare benefits.

The Southeastern Pennsylvania Transportation Authority and the Transport Workers approved an agreement covering 5,150 transit employees. Terms included wage increases of 3.5 percent in July of 1993 and 1994, and in Decem-

Table 8. **Average (mean) rate changes in State and local government collective bargaining agreements covering 1,000 workers or more, 1992**

[In percent]

Characteristic	Average wage increase[1]	Average wage change[2]
All State and local government	4.4	1.9
Source of wage change:		
Current settlements	4.5	.8
Prior agreements	4.3	1.1
COLA provisions	2.7	([3])
Government function:		
General government and administration	4.2	1.9
Education	4.4	2.0
Primary and secondary[4]	4.5	2.1
Colleges and universities[5]	3.6	1.1
Protective services	4.3	1.2
Health services	5.2	1.9
Transportation	4.7	3.4
Other[6]	3.8	.7
State government	4.0	1.6
Source of wage change:		
Current settlements	6.2	.3
Prior agreements	3.6	1.2
COLA provisions	3.6	([3])
Local government	4.6	2.1
Source of wage change:		
Current settlements	4.2	1.1
Prior agreements	5.0	1.0
COLA provisions	2.3	([3])

[1] Reflects only contracts where the net effect of increases and decreases from all sources is a wage rate increase.

[2] Includes net increases, decreases, and no change in wages stemming from current settlements, agreements reached in a prior period, and COLA clauses. Because of rounding and compounding, sums of individual items may not equal totals.

[3] Value less than 0.05 percent.

[4] All are in local government except for one contract covering Hawaii's Board of Education and the State primary and secondary school teachers.

[5] All are in State government except for one contract covering Los Angeles County and employees of Los Angeles Community College.

[6] Includes units in construction, libraries, and building cleaning and maintenance services.

ber 1994; a lump-sum payment of $500 in May 1992; a modified pension formula; and increases in sick leave pay, disability pensions, and dental benefits. (See *Monthly Labor Review*, July 1992, p. 38, for additional details of the terms of the contract.)

An additional 9,500 city employees—2,500 represented by the Fire Fighters and 7,000 by the Fraternal Order of Police—negotiated with the city to replace contracts that expired June 30, 1992. After reaching an impasse, the parties submitted the two disputes to arbitration. □

Footnotes

[1] Data on private industry settlements reached in 1992 were published in "Collective bargaining agreements in 1992," *Monthly Labor Review*, May 1993, pp. 22–33.

Comparisons between major collective bargaining settlements for State and local government with those for private industry should note differences in occupational mix, bargaining practices, and settlement characteristics. Professional and other white-collar employees, for example, make up a much larger proportion of the workers covered by government than by private industry settlements. Lump-sum payments and cost-of-living adjustment clauses, on the other hand, are less common in government than private industry settlements. Also, State and local government bargaining frequently excludes items such as pension benefits and holidays that are prescribed by law; these items are typical bargaining issues in private industry. (For a more detailed description of how occupational mix and industry activity affect the comparison, see Richard E. Schumann, "State and local government pay increases outpace five-year rise in private industry," *Monthly Labor Review*, February 1987, pp. 18–20.)

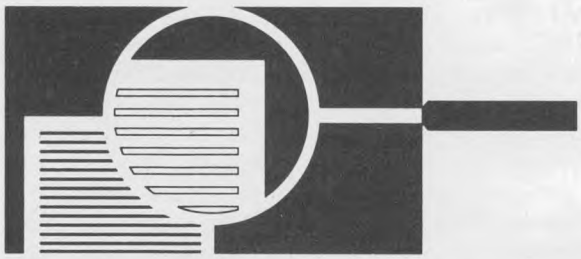
What's in a name?

The first requirement for a resuscitation of industrial relations is a name change. Although the term industrial relations has a long and honored history, in recent years it has acquired an overly narrow and out-of-date meaning that is an increasing handicap for the field. The most attractive replacement is employment relations. The virtues of this term are that it continues to emphasize the field's emphasis on relations between employers and employees but at the same time broadens the focus of the field from the industrial sector of the economy to the totality of employment relations.

—Bruce E. Kaufman

The Origins and Evolution of the Field of Industrial Relations in the United States, (Ithaca, NY, Cornell University, School of Industrial Relations, ILR Press, 1993), p. 167.

Research summaries



Employer and occupational tenure: 1991 update

Steven R. Maguire

Median tenure for workers in the same occupation (occupational tenure) was 6.5 years in January 1991, according to a supplement to the Current Population Survey. Median tenure with the same employer (employer tenure) was 4.5 years in January 1991. The greater occupational tenure compared with employer tenure implies that those in the labor force are more willing, and perhaps more able, to switch employers than occupations. However, these two kinds of tenure are not strictly comparable because of measurement differences. Employer tenure is the continuous number of years a person had worked for his or her current employer. Occupational tenure is the cumulative number of years a person had worked in his or her current occupation, regardless of number of employers, interruptions in employment, or time spent in other occupations.

Although cumulative occupational tenure is inherently longer than continuous employer tenure, they mirror each other in most variables. Regardless of the measure used, tenure increased steadily with age. Generally, men had more tenure than women; whites, more than blacks and Hispanics; and college graduates, more than individuals with less education. In addition, self-employed individuals had more tenure than wage and salary workers, and full-time workers had more than those on part-time schedules. (See table 1.)

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Factors affecting tenure

Tenure, long or short, is a reflection of labor force demographics, nature of work, the economy in general, and to a lesser degree, job satisfaction. Intuitively, longer tenure would suggest high worker satisfaction, a stable economy, and a strong relationship between worker and job. Conversely, shorter tenure would suggest low job satisfaction, a volatile economy, or weak employee-job relationships. More tangible factors influencing tenure include age, gender, industry or occupational growth, immigration, educational attainment and training, and compensation. The following discussion examines these variables as they affect both tenure with employer and tenure in occupation.

Age. Median employer tenure ranged from 1.2 years for workers aged 16-24 to 12.4 years for workers aged 55–64. Median occupational tenure ranged from 2 years to 17.4 years for workers in these age groups. Young workers have short tenure because they have had little time in the labor force and are more likely to change jobs frequently. Most workers tend to settle into career paths, however, and the increase in tenure with age indicates an unwillingness or an inability to switch jobs mid-career and perhaps lose accrued benefits. Interestingly, median employer tenure dips for workers age 65 and older, whereas median occupational tenure continues to increase. The difference may result from some workers retiring from one organization, then joining another organization without changing occupations.

Employment trends. In general, for workers in industries and occupations with rapidly growing employment, median tenure is low, whereas for those in industries and occupations in which employment is growing slowly or decreasing, median tenure is high. Industries with declining employment, such as manufacturing and mining, do not need new workers to replace all employees who resign or retire. In fact, workers with the shortest employer tenure in a declining industry generally are the first to be laid off during a reduction of work force, while the workers who are retained are likely to be the ones with the greatest seniority. Consequently, the average tenure of workers in declining industries tends to be high. By contrast, many new workers are added to the payrolls of industries with increasing employment, such as business services and health services, which tends to keep average tenure low.

Two specific industries illustrate the effect employment growth has on tenure: computer and data processing, and blast furnaces and basic steel products. The median employer tenure was 2.9 years for workers in computer and data processing services, compared with 12.5 years for workers in blast furnaces and basic steel products. During the 1975–90 period, the intense demand for specialized programming and software was behind the 12-percent annual employment growth in the computer services industry, making it one of the fastest growing industries in the U.S. economy. In contrast, during the same period, employment in the steel industry declined 4.5 percent annually, as foreign competition forced firms to increase productivity by investing in laborsaving technology and closing inefficient plants.

Workers in occupations that have experienced rapid employment growth or declines also have tenure reflecting these trends. In fact, workers with the greatest average tenure generally are in occupations that have experienced declining employment, but are appealing enough to encourage continued worker attachment—examples are farmers, locomotive operators, and barbers. At the same

time, other occupations with strong worker attachment have about average or below average tenure because they are relatively new and are growing fast—computer systems analysts and paralegals, for example.

Education and training. Tenure increases as the level of educational attainment increases. The more time and resources a worker has invested in education for a specific occupation, the less likely he or she is to switch to another field, because the change could mean a loss of earnings and other benefits. Workers who have made very large investments in education, such as physicians and lawyers, usually remain in their occupations until retirement, although they may change employers. Occupational attachment also tends to be strong in skilled crafts that require several years of on-the-job or apprenticeship training, such as plumbers and machinists.

Workers with 4 years of college or more had much longer occupational and employer tenure than those with less than a high school education. For example, median occupational tenure for college graduates was 7.9 years, compared with 5.2 years for workers with less than a high school education. Workers with 1 to 3 years of college, however, had slightly less occupational and employer tenure than those with just a high school diploma, probably because many of the former were still attending college and had part-time jobs for a short time.

Compensation and benefits. In general, the greater the compensation, the longer the employer or occupational tenure. Pay increases encourage a worker to remain with an employer. However, higher wages are not always the reason for long tenure—a low-paid worker who lacks education and skills may stay with an employer for job security and fringe benefits. Nevertheless, among workers with comparable levels of education and skill, those with the greatest tenure usually have the highest wages.

Part-time workers exemplify the effect earnings have on employer tenure. Some part-time jobs require minimal training and skills, have low pay, and provide little opportunity for advancement. Examples of occupations with large numbers of part-timers are food counter workers, cashiers, and stock handlers and baggers. Because workers in these occupations frequently are students and others who might want only short-term employment and are not difficult to replace when they resign, their employers have little incentive to offer higher pay and other benefits to retain them. As a group, part-time workers had median employer tenure of 2.4 years, less than one-half the average for full-time workers.

Sex, race, and ethnicity. Men had longer occupational and employer tenure than had women. Both men and women had about the same tenure at young ages, but the difference increased with age. At ages 25-34, for example, median employer tenure was between 3 years and 4 years for both sexes; however, at ages 55-64, tenure was 15.5 years for men, compared with 10.4 years for women. Men have been in their jobs longer than have women on average, because many women currently in the labor force had interrupted their careers for extended periods for home and family responsibilities.

Median employer tenure was 3.2 years both for men and women of Hispanic origin; 4.4 years for black men and 4.3 years for black women; and 5.3 years for white men and 3.8 years for white women. The pattern was similar for occupational tenure.

Many Hispanics are recent immigrants, whose potential for tenure with American employers obviously is lower than that of lifetime residents. Other reasons for the short tenure of Hispanic workers are the comparatively young age of their cohort and their disproportionately large representation in low-paying service occupations. While employer tenure was the same for Hispanic men and women, the men had higher median occupational tenure than the

Table 1. **Employer and occupational tenure of employed persons by selected characteristics, January 1991**

Category	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Total	114,979	4.5	6.5
Age			
16-24	17,357	1.2	2.0
25-34	32,808	3.5	5.1
35-44	30,718	6.0	9.9
45-54	19,721	10.0	13.2
55-64	11,193	12.4	17.4
65 and older	3,183	11.1	18.1
Men	62,396	5.1	7.7
White	54,651	5.3	8.8
Black	5,754	4.4	6.0
Hispanic[1]	5,122	3.2	4.7
Women	52,583	3.8	5.5
White	44,901	3.8	5.5
Black	6,004	4.3	5.7
Hispanic	3,482	3.2	3.9
Class of worker			
Self-employed	13,101	8.0	12.1
Wage and salary	101,879	4.1	5.9
Education			
Less than 4 years of high school	16,065	3.2	5.2
Four years of high school	45,348	4.6	6.4
One to 3 years of college	25,358	4.0	5.9
Four years of college or more	28,208	5.4	7.9

[1] People of Hispanic origin may be of any race.

Text continues on page 52

Table 2. **Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Total	114,979	4.5	6.5
Executive, administrative, and managerial occupations	14,829	6.3	8.3
Officials and administrators, public administration	554	11.4	9.0
Administrators and officials, public administration	516	11.4	9.0
Executives, officials, and managers except public administration	10,354	6.5	8.8
Financial managers	519	5.7	8.1
Personnel and labor relations managers	126	6.2	6.4
Purchasing managers	99	11.4	9.5
Managers, marketing, advertising, and public relations	528	5.3	6.1
Administrators, education and related fields	545	10.4	8.6
Managers, medicine and health	197	8.5	10.2
Managers, properties and real estate	476	4.7	7.0
Managers and administrators n.e.c.	7,742	6.5	9.2
Management-related occupations	3,921	5.3	6.9
Accountants and auditors	1,452	5.0	8.1
Underwriters	107	4.7	5.0
Other financial officers	710	6.1	8.0
Management analysts	216	4.7	6.6
Personnel, training, and labor relations specialists	369	4.9	5.2
Buyers, wholesale and retail trade, except farm products	227	5.1	5.6
Purchasing agents and buyers n.e.c.	244	6.9	5.5
Construction inspectors	53	5.9	6.1
Inspectors and compliance officers except construction	205	8.3	8.9
Management-related occupations n.e.c.	317	4.4	6.1
Professional speciality occupations	15,999	5.7	9.7
Engineers, architects, and surveyors	1,967	6.8	9.8
Architect	136	4.8	9.6
Engineers	1,799	7.1	9.9
Aerospace engineers	95	7.2	10.4
Chemical engineers	72	6.4	12.6
Civil engineers	284	7.4	13.2
Electrical and electronic engineers	524	8.9	10.3
Industrial engineers	161	7.2	6.9
Mechanical engineers	305	7.7	9.2
Engineers n.e.c.	277	4.6	7.5
Mathematical and computer scientists	974	4.6	6.6
Computer systems analysts and scientists	720	4.0	6.7
Operations and systems researchers and analysts	195	6.4	5.7
Natural scientists	441	5.9	10.4
Chemists except biochemists	127	5.7	7.6
Geologists and geodesists	60	7.3	12.3
Biological and life scientists	75	5.7	11.0
Medical scientists	51	5.1	8.8
Health diagnosing occupations	828	7.8	11.7
Physicians	559	6.5	10.7
Dentists	136	13.7	15.1
Veterinarians	66	10.2	14.0
Health assessment and treating occupations	2,334	4.9	10.2
Registered nurses	1,692	5.2	10.6
Pharmacists	182	5.8	12.7
Dietitians	72	2.9	10.3
Therapists	325	3.2	7.7
Inhalation therapists	79	4.3	8.5
Physical therapists	94	3.1	7.7
Speech therapists	53	3.9	9.7
Therapists n.e.c.	67	3.3	5.3
Physicians assistants	62	4.6	5.7
Teachers, college and university	773	6.0	11.3
Health specialties teachers	50	11.4	15.1
English teachers	62	5.8	11.0
Postsecondary teachers, subject not specified	262	3.8	5.7
Teachers except college and university	4,230	7.2	11.0
Teachers, prekindergarten and kindergarten	452	3.5	6.6
Teachers, elementary school	1,592	8.4	12.0
Teachers, secondary school	1,392	9.5	14.1
Teachers, special education	267	6.3	10.6
Teachers n.e.c.	528	4.8	6.6

See footnotes at end of table.

Table 2. **Continued—Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Counselors, educational and vocational	177	6.3	9.4
Librarians, archivists, and curators	218	7.3	7.4
Librarians	207	7.3	7.0
Social scientists and urban planners	381	4.4	6.9
Economists	115	3.3	4.3
Psychologists	227	4.3	8.5
Social, recreation, and religious workers	1,148	4.7	7.3
Social workers	636	4.9	5.6
Recreation workers	74	6.0	5.7
Clergy	341	4.2	11.2
Religious workers n.e.c.	96	5.0	6.1
Lawyers and judges	694	6.1	10.3
Lawyers	680	6.1	10.4
Writers, artists, entertainers, and athletes	1,836	4.1	7.2
Authors	89	3.2	10.5
Technical writers	65	4.3	4.4
Designers	505	4.2	7.9
Musicians and composers	143	5.4	15.2
Actors and directors	85	3.8	8.0
Painters, sculptors, craft-artists, and artist printmakers	193	5.5	10.3
Photographers	131	3.7	8.4
Artists, performers, and related workers n.e.c.	68	4.6	6.2
Editors and reporters	262	4.3	6.0
Public relations specialists	151	3.6	4.3
Announcers	59	1.8	4.3
Athletes	74	2.6	5.6
Technicians and related support occupations	3,844	4.3	7.2
Health technologists and technicians	1,384	4.0	8.3
Clinical laboratory technologists and technicians	331	5.4	7.5
Dental hygienists	75	3.3	10.6
Radiologic technicians	149	3.2	10.1
Licensed practical nurses	450	4.2	10.5
Health technologists and technicians n.e.c.	333	3.5	5.1
Technologists and technicians except health	2,459	4.4	6.7
Engineering and related technologists and technicians	962	4.5	7.1
Electrical and electronic technicians	334	6.0	7.4
Engineering technicians n.e.c.	235	6.1	6.7
Drafting occupations	299	3.3	7.8
Surveying and mapping technicians	71	3.5	6.7
Science technicians	234	4.6	5.2
Biological technicians	52	3.9	4.0
Chemical technicians	101	6.1	6.8
Science technicians n.e.c.	82	3.7	4.1
Technicians except health, engineering, and science	1,263	4.3	6.7
Airplane pilots and navigators	116	4.5	12.2
Computer programmers	584	4.0	6.2
Paralegals	190	4.4	6.6
Technicians n.e.c.	292	4.2	5.5
Sales occupations	13,906	3.4	5.1
Supervisors and proprietors, sales occupations	3,827	6.1	7.6
Sales representatives, finance and business services	2,224	3.9	6.2
Insurance sales occupations	579	5.3	9.0
Real estate sales occupations	665	4.1	6.3
Securities and financial services sales occupations	295	3.6	6.2
Advertising and related sales occupations	132	3.1	6.1
Sales occupations, other business services	553	3.5	4.9
Sales representatives, commodities except retail (including sales engineers)	1,634	4.3	7.6
Sales representatives: mining, manufacturing, and wholesale	1,608	4.3	7.5
Sales workers, retail and personal services	6,150	2.0	3.2
Sales workers, motor vehicles and boats	285	2.5	6.9
Sales workers, apparel	469	1.6	2.9
Sales workers, shoes	119	1.0	2.7
Sales workers, furniture and home furnishings	175	2.6	7.6
Sales workers, radio, television, hi-fi, and appliances	191	2.6	5.1
Sales workers, hardware and building supplies	219	4.0	5.2
Sales workers, parts	145	3.1	7.2
Sales workers, other commodities	1,431	2.0	3.0

See footnotes at end of table.

Table 2. **Continued—Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Sales counter clerks	208	2.5	3.7
Cashiers	2,447	1.7	2.8
Street and door-to-door sales workers	329	2.0	2.6
News vendors	133	1.8	2.1
Sales-related occupations	71	4.2	4.5
Administrative support occupations, including clerical	18,260	4.2	5.4
Supervisors, administrative support occupations	791	8.9	7.2
Supervisors, general office	469	9.8	7.4
Supervisors, financial records processing	97	6.8	6.0
Supervisors, distribution, scheduling, and adjusting clerks	198	9.5	8.2
Computer equipment operators	745	4.3	4.8
Computer operators	740	4.3	4.8
Secretaries, stenographers, and typists	4,277	3.9	7.4
Secretaries	3,647	4.1	7.9
Typists	607	3.0	4.8
Information clerks	1,445	2.6	3.3
Interviewers	142	2.9	3.8
Hotel clerks	90	2.2	2.5
Transportation ticket and reservation agents	124	5.7	5.7
Receptionists	845	2.3	3.2
Information clerks n.e.c.	243	2.3	2.7
Records processing occupations except financial	858	3.4	3.3
Order clerks	183	4.4	4.2
Personnel clerks except payroll and timekeeping	53	5.0	4.3
Library clerks	144	2.5	3.3
File clerks	308	2.4	2.5
Records clerks	148	4.4	4.2
Financial records processing occupations	2,555	5.0	7.2
Bookkeepers and accounting and auditing clerks	2,011	5.1	7.9
Payroll and timekeeping clerks	179	7.6	8.1
Billing clerks	219	3.8	4.3
Cost and rate clerks	99	2.7	5.3
Duplicating, mail, and other office machine operators	66	3.0	2.9
Communications equipment operators	189	5.9	5.4
Telephone operators	182	5.9	5.4
Mail and message distributing occupations	1,014	6.4	5.9
Postal clerks except mail carriers	343	6.7	6.1
Mail carriers, postal service	362	10.4	10.6
Mail clerks except postal service	164	2.7	2.6
Messengers	144	2.9	2.7
Material recording, scheduling, and distribution clerks n.e.c.	1,928	4.5	4.5
Dispatchers	233	4.0	4.6
Production coordinators	195	9.3	6.1
Traffic, shipping, and receiving clerks	603	4.3	5.1
Stock and inventory clerks	609	4.0	3.7
Meter readers	53	6.1	5.5
Weighers, measurers, and checkers	69	4.9	5.6
Expediters	132	3.6	3.3
Adjusters and investigators	1,188	3.5	4.5
Insurance adjusters, examiners, and investigators	353	3.9	6.1
Investigators and adjusters except insurance	579	3.4	4.2
Eligibility clerks, social welfare	90	4.9	5.5
Bill and account collectors	165	2.5	2.8
Miscellaneous administrative support occupations	3,205	3.8	4.1
General office clerks	725	4.9	5.1
Bank tellers	509	2.6	3.1
Data-entry keyers	451	2.7	3.8
Statistical clerks	60	4.7	4.8
Teachers' aides	502	4.2	4.2
Administrative support occupations n.e.c.	941	5.0	4.2
Private household occupations	737	2.7	3.8
Child-care workers, private household	305	1.4	2.5
Private household cleaners and servants	389	3.5	5.0
Service workers except private household	14,868	2.9	4.5
Protective service occupations	2,048	4.9	6.1
Supervisors, protective service occupations	182	14.1	12.9
Supervisors, firefighting and fire prevention occupations	65	20.3	15.0
Supervisors, police and detectives	69	15.1	12.9

See footnotes at end of table.

Table 2. **Continued—Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Firefighting and fire prevention occupations	204	10.2	10.6
Firefighting occupations	188	8.6	10.3
Police and detectives	876	6.2	6.8
Police and detectives, public service	465	7.6	8.2
Sheriffs, bailiffs, and other law enforcement officers	130	6.9	7.6
Correctional institution officers	281	4.1	4.6
Guards	786	2.6	3.8
Guards and police except public service	708	2.7	4.1
Food preparation and service occupations	5,159	1.9	3.3
Supervisors, food preparation and service occupations	307	3.1	4.3
Bartenders	283	2.2	4.4
Waiters and waitresses	1,226	1.8	4.1
Cooks except short order	1,756	2.2	3.9
Short-order cooks	79	1.1	2.6
Food counter, fountain, and related occupations	293	1.3	1.8
Kitchen workers, food preparation	128	0.8	1.8
Waiters' and waitresses' assistants	397	1.3	1.9
Miscellaneous food preparation occupations	689	2.0	2.9
Health service occupations	2,083	2.9	5.4
Dental assistants	185	2.5	5.4
Health aides except nursing	473	3.6	4.6
Nursing aides, orderlies, and attendants	1,425	2.8	5.7
Cleaning and building service occupations except private household	3,117	3.6	4.9
Supervisors, cleaning and building service workers	172	6.0	8.1
Maids and house workers	712	2.9	4.3
Janitors and cleaners	2,197	3.7	4.9
Personal service occupations	2,461	3.2	4.8
Supervisors, personal service occupations	63	6.5	7.1
Barbers	111	11.0	27.2
Hairdressers and cosmetologists	721	4.1	10.2
Attendants, amusement and recreation facilities	136	2.1	3.2
Public transportation attendants	60	8.2	12.5
Welfare service aides	85	2.7	3.6
Child-care workers except private household	1,008	2.3	2.9
Personal service occupations n.e.c.	187	3.0	4.0
Farming, forestry, and fishing occupations	2,876	6.9	10.7
Farm operators and managers	1,210	18.8	20.6
Farmers except horticultural	1,037	20.2	21.8
Managers, farms, except horticultural	145	8.9	11.6
Farm occupations except managerial	825	3.3	5.9
Farm workers	741	3.1	5.9
Related agricultural occupations	705	3.5	5.1
Supervisors, related agricultural occupations	58	6.3	9.0
Groundskeepers and gardeners except farm	514	3.1	4.3
Animal caretakers except farm	120	4.6	6.3
Forestry and logging occupations	100	3.5	10.3
Timber cutting and logging occupations	68	3.5	11.5
Precision production, craft, and repair occupations	13,089	5.5	10.1
Mechanics and repairers	4,464	5.7	10.2
Supervisors, mechanics and repairers	224	7.8	8.2
Mechanics and repairers except supervisors	4,239	5.6	10.3
Vehicle and mobile equipment mechanics and repairers	1,806	4.6	10.7
Automobile mechanics	868	3.9	10.5
Bus, truck, and stationary engine mechanics	311	5.6	10.6
Aircraft engine mechanics	112	5.9	9.5
Small engine repairers	72	5.3	7.4
Automobile body and related repairers	202	3.1	12.1
Heavy equipment mechanics	158	6.7	13.7
Industrial machinery repairers	523	8.6	10.7
Electrical and electronic equipment repairers	707	9.6	10.1
Electronic repairers, communication and industrial equipment	179	6.6	8.4
Data processing equipment repairers	161	4.2	4.2
Telephone line installers and repairers	77	16.3	10.6
Telephone installers and repairers	193	16.5	12.9
Miscellaneous electrical and electronic equipment repairers	53	11.4	14.0

See footnotes at end of table

Table 2. **Continued—Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Heating, air conditioning, and refrigeration mechanics	235	5.0	10.1
Miscellaneous mechanics and repairers	944	5.2	8.3
Office machine repairers	68	6.3	9.3
Millwrights	79	6.2	12.5
Specified mechanics and repairers n.e.c.	429	5.0	6.9
Not specified mechanics and repairers	248	5.4	8.1
Construction trades	4,705	4.4	10.4
Supervisors, construction occupations	614	6.8	11.6
Supervisors n.e.c.	533	6.6	11.2
Construction trades except supervisors	4,091	4.0	10.2
Brickmasons and stonemasons	160	5.1	12.6
Carpet installers	108	3.5	6.9
Carpenters	1,208	3.3	8.9
Drywall installers	107	2.6	8.1
Electricians	718	4.9	12.3
Electrical power installers and repairers	128	12.5	12.6
Painters, construction and maintenance	507	3.7	6.8
Plumbers, pipefitters, and steamfitters	427	5.5	13.1
Concrete and terrazzo finishers	51	3.0	6.8
Roofers	155	4.9	10.2
Structural metal workers	52	1.1	12.4
Construction trades n.e.c.	191	3.0	6.0
Extractive occupations	156	7.1	8.9
Precision production occupations	3,764	7.0	8.8
Supervisors, production occupations	1,230	11.2	8.3
Precision metal working occupations	920	6.5	11.3
Tool and die makers	125	12.6	15.1
Machinists	526	6.6	12.3
Sheet metal workers	111	3.2	9.2
Precision woodworking occupations	90	3.6	6.2
Cabinet makers and bench carpenters	53	2.7	6.5
Precision textile, apparel, and furnishings machine workers	210	4.6	10.7
Dressmakers	106	4.1	10.1
Upholsterers	53	8.2	11.0
Precision workers, assorted materials	495	4.1	6.7
Optical goods workers	56	3.6	10.1
Dental laboratory and medical appliance technicians	59	5.5	12.9
Electrical and electronic equipment assemblers	291	4.2	5.6
Precision food production occupations	407	3.3	6.3
Butchers and meat cutters	240	4.1	6.6
Bakers	126	2.2	6.3
Precision inspectors, testers, and related workers	156	5.8	6.2
Inspectors, testers, and graders	147	5.8	6.0
Plant and system operators	258	8.8	10.2
Water and sewage treatment plant operators	73	8.6	9.6
Stationary engineers	120	11.8	15.4
Machine operators, assemblers, and inspectors	7,668	5.0	5.7
Machine operators and tenders except precision	5,079	5.0	5.7
Metalworking and plastic working machine operators	417	8.1	7.2
Punching and stamping press machine operators	123	7.2	4.9
Grinding, abrading, buffing, and polishing machine operators	115	7.3	10.2
Metal and plastic processing machine operators	164	4.3	5.0
Molding and casting machine operators	113	4.2	4.9
Woodworking machine operators	130	4.3	4.6
Sawing machine operators	78	3.5	3.7
Printing machine operators	500	5.6	8.3
Printing machine operators	352	6.4	8.6
Photoengravers and lithographers	50	3.6	7.0
Typesetters and compositors	64	5.5	8.1
Textile, apparel, and furnishings machine operators	1,199	4.2	6.1
Winding and twisting machine operators	82	11.7	10.0
Textile sewing machine operators	644	4.2	6.8
Pressing machine operators	94	2.5	3.2
Laundering and dry cleaning machine operators	228	4.2	5.5
Miscellaneous textile machine operators	59	4.4	4.4
Machine operators, assorted materials	2,654	5.1	5.1
Packaging and filling machine operators	435	3.4	3.6
Mixing and blending machine operators	61	4.0	4.7

See footnotes at end of table.

Table 2. **Continued—Median employer and occupational tenure by detailed occupation, January 1991**

Occupation[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Separating, filtering, and clarifying machine operators	82	10.8	10.3
Painting and paint spraying machine operators	175	4.2	5.7
Furnace, kiln, and oven operators except food	93	10.3	10.4
Slicing and cutting machine operators	169	4.9	4.4
Photographic process machine operators	120	4.5	4.6
Miscellaneous machine operators n.e.c.	976	6.0	5.7
Machine operators, not specified	359	5.8	4.9
Fabricators, assemblers, and handworking occupations	1,848	4.9	5.9
Welders and cutters	550	4.6	10.2
Assemblers	1,070	5.0	5.0
Miscellaneous hand working occupations	74	5.4	5.7
Production inspectors, testers, samplers, and weighers	741	5.7	5.8
Production inspectors, checkers, and examiners	590	6.0	6.1
Production testers	55	10.0	9.5
Graders and sorters except agricultural	91	3.2	4.6
Transportation and material moving occupations	4,648	4.5	6.9
Motor vehicle operators	3,410	3.8	6.1
Supervisors, motor vehicle operators	91	6.1	6.1
Truckdrivers, heavy	1,741	3.9	8.8
Truckdrivers, light	681	2.4	3.4
Driver-sales workers	204	4.0	5.9
Bus drivers	489	5.3	6.5
Taxi cab drivers and chauffeurs	155	4.2	5.2
Transportation occupations except motor vehicle	185	17.7	17.6
Rail transportation occupations	147	18.5	17.6
Railroad conductors and yardmasters	56	18.8	15.2
Locomotive operating occupations	58	19.7	19.8
Material moving equipment operators	1,053	5.8	9.1
Operating engineers	247	5.7	12.0
Crane and tower operators	77	6.1	13.7
Excavating and loading machine operators	80	5.6	9.6
Grader, dozer, and scraper operators	77	5.7	11.1
Industrial truck and tractor equipment operators	464	5.5	6.0
Miscellaneous material moving equipment operators	66	8.0	5.7
Handlers, equipment cleaners, helpers and laborers	4,256	2.7	3.2
Helpers, construction and extractive occupations	109	1.3	2.9
Helpers, construction trades	108	1.3	2.9
Construction laborers	516	2.9	5.1
Production helpers	61	5.5	5.9
Freight, stock, and material movers, hand	1,667	2.5	2.7
Stock handlers and baggers	860	1.8	2.2
Machine feeders and offbearers	119	3.6	3.4
Freight, stock, and material movers, hand, n.e.c.	621	3.7	3.9
Garage- and service station-related occupations	234	1.8	2.5
Vehicle washers and equipment cleaners	182	2.1	2.3
Hand packers and packagers	247	2.8	3.5
Laborers except construction	1,218	3.3	3.7

[1] Includes only occupations with 50,000 or more workers.
[2] n.e.c. = not elsewhere classified.

women. Although the reason for this difference is not clear, it may result from immigrants counting occupational tenure in the country of origin, where women may have been less likely to have worked outside the home.

Although white men had been with their employers longer than black men at every age, the differences were not great—for example, among men aged 55-64, median tenure was 15.1 years for blacks and 15.6 years for whites. In contrast, among women in the same age group, the median was 13.9 years for blacks and 10.2 years for whites. Historically, continuous employment has been more the pattern for black women than for white women.

Self-employed workers. Self-employed persons had been in their jobs much longer than other workers. Median occupational tenure for self-employed workers was 8.0 years; almost twice as long as for wage and salary workers. Median tenure was very high in occupations in which more than two-thirds of workers were self-employed, such as dentists (15.1 years) and barbers (27.2 years). Contributing to the longer occupational tenure of self-employed workers is the age factor. Before becoming self-employed, a person may have spent years in their occupation working for another employer. After the initial stage of "learning the business," self-employed workers are somewhat older than the typical labor force participant.[1] In addition, self-employed workers have greater flexibility in adjusting their work schedules to suit their needs, and thus, are more likely than others to work beyond age 65.

Text continues on page 56

Table 3. **Median employer and occupational tenure by detailed industry, January 1991**

Industry[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Total	114,979	4.5	6.5
Agriculture, forestry, and fisheries	2,944	7.2	10.9
Agricultural production crops	748	8.7	13.7
Agricultural production livestock	1,328	10.5	15.1
Agricultural services except horticultural	302	3.7	5.4
Horticultural services	417	3.7	5.8
Mining	76	6.3	10.1
Coal mining	147	9.8	10.4
Crude petroleum and natural gas	417	5.5	10.2
Nonmetallic mining and quarrying	112	8.3	10.3
Construction	6,623	4.3	10.0
Manufacturing	20,811	5.8	6.9
Manufacturing, nondurable goods	8,652	5.3	6.2
Food and kindred products	1,814	4.8	5.5
Meat products	441	3.3	3.5
Dairy products	178	5.4	4.3
Canned and preserved fruits and vegetables	198	5.4	5.9
Grain mill products	180	6.2	6.8
Bakery products	224	6.9	8.0
Sugar and confectionery products	127	5.4	5.5
Beverage industries	247	4.9	6.8
Miscellaneous food preparation and kindred products	203	3.9	5.0
Textile mill products	717	6.5	6.5
Yarn, thread, and fabric mills	494	7.4	6.2
Apparel and other finished textile products	1,028	4.6	6.5
Apparel and accessories	874	4.3	6.5
Miscellaneous fabricated textile products	154	6.5	7.1
Paper and allied products	751	8.4	8.0
Pulp, paper, and paperboard mills	334	10.5	8.7
Miscellaneous paper and pulp products	186	6.1	6.0
Paperboard containers and boxes	230	7.8	10.2
Printing, publishing, and allied industries	1,829	4.2	5.8
Newspaper publishing or publishing and printing	558	4.2	5.1
Printing and publishing except newspapers	1,270	4.3	6.1
Chemicals and allied products	1,372	6.2	7.8
Plastics and synthetic resins	164	4.5	7.5
Drugs	301	4.5	5.4
Soaps and cosmetics	184	5.4	5.5
Industrial and miscellaneous chemicals	608	9.0	9.7
Petroleum and coal products	189	8.9	7.5
Petroleum refining	157	9.4	8.5
Rubber and miscellaneous plastics products	719	5.3	5.5
Other rubber products and plastic footwear and belting	146	5.8	5.8
Miscellaneous plastic products	487	4.4	4.8
Leather and leather products	162	3.9	5.1
Manufacturing, durable goods	12,158	6.4	7.4
Lumber and wood products except furniture	685	4.2	5.3
Sawmills, planing mills and millwork	400	4.6	5.9
Miscellaneous wood products	135	2.7	2.9
Furniture and fixtures	611	4.8	5.4
Stone, clay, glass, and concrete products	552	7.0	8.6
Glass and glass products	167	7.8	7.9
Concrete, gypsum, and plaster products	177	5.8	10.6
Miscellaneous nonmetal mineral stone products	133	10.3	8.6
Metal industries	2,071	7.5	9.1
Blast furnaces, steelworks, and rolling and finishing mills	396	12.5	12.5
Iron and steel foundries	116	7.6	8.2
Primary aluminum industries	143	11.4	10.3
Other primary metal industries	167	6.9	7.4
Cutlery, hand tools, and general hardware	148	7.4	7.6
Fabricated structural metal products	501	5.2	10.1
Metal forgings and stampings	111	10.1	8.7
Miscellaneous fabricated metal products	319	5.6	7.0
Machinery except electrical	2,549	6.5	8.0
Farm machinery and equipment	121	4.9	7.3

See footnotes at end of table.

Table 3. **Continued—Median employer and occupational tenure by detailed industry, January 1991**

Industry[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Construction machines	280	10.4	9.0
Metalworking machinery	267	5.7	7.9
Electronic computing equipment	631	6.3	6.9
Machinery, except electrical, n.e.c.	1,099	6.1	8.5
Electrical machinery, equipment, and supplies	2,067	6.0	6.6
Household appliances	152	11.1	8.0
Radio, T.V., and communication equipment	377	5.4	7.4
Electrical machinery, equipment, and supplies n.e.c.	1,527	5.8	6.1
Transportation equipment	2,423	8.3	8.0
Motor vehicle and motor vehicle equipment	1,035	12.2	8.0
Aircraft and parts	608	6.9	9.0
Ship and boat building and repair	296	5.3	7.3
Guided missiles and space vehicles and parts	389	7.1	7.9
Professional and photographic equipment and watches	748	5.6	6.7
Scientific and controlling instruments	274	6.0	8.6
Optical and health service supplies	354	4.6	5.7
Photographic equipment and supplies	116	10.7	7.8
Toys and amusement and sporting goods	100	3.8	5.1
Miscellaneous manufacturing industries	336	3.9	5.9
Transportation, communication, and other public utilities	8,181	6.8	8.1
Transportation	4,963	5.8	7.7
Railroads	313	18.4	16.3
Bus service and urban transit	471	5.8	6.5
Trucking services	1,753	3.9	6.9
Warehousing and storage	134	3.2	4.4
U.S. Postal Service	958	9.8	7.8
Water transportation	199	7.7	11.9
Air transportation	709	5.8	8.0
Services incidental to transportation	326	3.5	5.6
Communications	1,543	10.6	7.8
Radio and television broadcasting	248	4.3	6.1
Telephone (wire and radio)	1,096	13.5	8.9
Telegraph and miscellaneous communication services	200	4.0	5.1
Utilities and sanitary services	1,674	9.8	9.0
Electric light and power	747	10.8	10.1
Gas and steam supply systems	196	10.8	9.6
Electric and gas and other combinations	158	11.4	8.8
Water supply and irrigation	244	8.0	7.1
Sanitary services	318	4.8	6.9
Wholesale and retail trade	23,382	2.9	4.5
Wholesale trade	4,308	4.4	6.5
Wholesale trade, durable goods	2,356	4.5	6.7
Motor vehicles and equipment	214	5.8	7.4
Lumber and construction materials	141	3.7	5.8
Electrical goods	308	3.8	7.0
Hardware, plumbing, and heating supplies	227	5.3	7.9
Machinery equipment and supplies	1,015	4.5	7.1
Scrap and waste materials	188	3.5	4.7
Wholesale trade, nondurable goods	1,952	4.2	6.2
Paper and paper products	127	4.6	6.8
Drugs, chemicals, and allied products	250	4.4	6.4
Apparel, fabrics, and notions	104	3.4	5.5
Groceries and related products	719	4.3	6.1
Petroleum products	125	5.2	7.8
Alcoholic beverages	113	5.1	7.0
Farm supplies	118	3.5	5.8
Miscellaneous wholesale nondurable goods	287	3.7	4.8
Retail trade	19,075	2.7	4.0
Lumber and building materials retailing	505	4.7	5.9
Hardware stores	212	4.6	5.0
Department stores	2,194	2.7	3.6
Variety stores	140	3.7	5.6
Miscellaneous general merchandise stores	137	3.6	5.5
Grocery stores	2,713	2.9	3.7
Retail bakeries	163	3.2	4.5
Food stores n.e.c.	190	3.3	4.4
Motor vehicle dealers	1,057	3.0	8.0
Auto and home supply stores	368	3.2	6.2
Gasoline service stations	564	3.3	5.4

See footnotes at end of table.

Table 3. **Continued—Median employer and occupational tenure by detailed industry, January 1991**

Industry[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Apparel, accessory stores except shoe	843	2.4	3.9
Shoe stores	156	1.4	3.3
Furniture and home furnishings stores	566	3.7	6.6
Household appliance, T.V., and radio stores	531	2.7	4.7
Eating and drinking places	5,327	1.8	3.1
Drug stores	563	3.5	4.3
Liquor stores	130	2.9	3.7
Sporting goods, bicycles, and hobby stores	385	2.9	3.4
Book and stationery stores	219	2.6	2.8
Jewelry stores	205	4.5	5.9
Mail order houses	142	3.3	3.7
Direct selling establishments	275	3.5	4.4
Fuel and ice dealers	145	6.5	10.1
Retail florists	170	3.7	6.7
Miscellaneous retail stores	772	2.9	4.8
Finance, insurance, and real estate	7,926	4.1	5.8
Finance	3,367	4.1	5.5
Banking	2,108	4.4	5.8
Savings and loan associations	133	4.7	4.8
Credit agencies n.e.c.	541	2.9	4.0
Security, commodity brokerage, investment companies	585	4.3	5.9
Insurance	2,536	4.8	6.4
Real estate	2,023	3.5	5.9
Services	38,737	4.1	6.7
Business and repair services	7,193	3.1	5.6
Advertising	280	3.4	8.1
Services to dwellings and other buildings	761	3.1	4.5
Commercial research, development, and testing laboratories	273	4.4	5.9
Personnel supply services	583	1.1	3.8
Business management and consulting services	584	3.5	5.6
Computer and data processing services	831	2.9	5.6
Detective and protective services	442	2.2	4.0
Business services n.e.c.	1,431	2.8	4.5
Automotive services except repair	347	2.7	3.3
Automotive repair shops	1,023	3.9	10.5
Electrical repair shops	119	7.4	10.3
Miscellaneous repair services	517	5.4	9.2
Personal services	4,603	3.1	4.9
Private households	930	2.4	3.6
Hotels and motels	1,361	2.7	4.1
Lodging places except hotels and motels	441	2.7	3.6
Laundry, cleaning, and garment services	509	3.3	5.0
Beauty shops	778	3.9	9.6
Barber shops	107	10.7	27.3
Miscellaneous personal services	334	3.2	4.8
Entertainment and recreation services	1,358	3.6	5.6
Theaters and motion pictures	442	3.8	6.7
Miscellaneous entertainment and recreation services	855	3.4	4.9
Professional and related services	25,582	4.8	7.6
Offices of physicians	1,081	5.0	8.9
Offices of dentists	560	3.8	7.9
Offices of chiropractors	111	3.7	5.3
Hospitals	4,773	5.1	8.0
Nursing and personal care facilities	1,520	3.1	5.7
Health services n.e.c.	1,348	3.7	6.1
Legal services	1,164	4.3	9.0
Elementary and secondary schools	6,398	7.3	10.1
Colleges and universities	2,614	4.4	6.0
Libraries	171	4.4	4.1
Educational services n.e.c.	198	4.6	8.1
Job training and vocational rehabilitation services	178	5.3	5.4
Child day care services	766	2.7	3.9
Residential care facilities without nursing	416	2.8	4.8
Social services n.e.c.	912	3.9	5.2
Religious organizations	815	4.8	10.1
Membership organizations	398	4.6	6.0
Engineering, architectural and surveying services	822	3.9	8.6
Accounting, auditing, and bookkeeping services	654	4.8	8.1

See footnotes at end of table.

Table 3. **Continued—Median employer and occupational tenure by detailed industry, January 1991**

Industry[1]	Total employed (thousands)	Median years of tenure—	
		With employer	In occupation
Noncommercial education and scientific research	130	5.4	9.4
Miscellaneous professional and related services	238	4.9	10.5
Public administration	5,609	7.3	7.7
Executive and legislative offices	160	5.5	6.6
General government n.e.c.	581	6.1	9.3
Justice, public order and safety	2,060	6.1	7.2
Public finance, taxation, and monetary policy	396	7.8	6.8
Administration of human resources programs	706	10.3	7.4
Administration of environmental quality and housing programs	295	8.6	7.9
Administration of economic programs	602	9.0	8.2
National security and international affairs	808	9.0	10.0

[1] Includes only industries with 100,000 or more workers.
[2] n.e.c. = Not elsewhere classified.

Data interpretations

Comparing median occupational and employer tenure provides useful insights into the behavior of workers in differing industries and occupations. Worker mobility can be inferred through analysis of detailed occupations and industries by median occupational and employer tenure. For example, when median employer tenure exceeds median occupational tenure, the typical worker may have changed occupations, rather than employers. This may indicate that the worker has advanced to a better occupation, moved up the career ladder, or simply changed jobs within the same organization. Conversely, if median occupational tenure exceeds median employer tenure, more common than the former, the worker may have worked for more than one employer without changing occupations.

Representative of the two phenomena are firefighting and fire prevention supervisors, who had median employer tenure of 20.3 years and median occupational tenure of 15.0 years, and registered nurses, who had median employer tenure of 5.2 years and median occupational tenure of 10.6 years. Firefighting and fire prevention supervisors are restricted or limited as to type of employer—almost all of them work for municipal fire departments. Career advancement in fire departments usually occurs from within the organization, so firefighters who become supervisors usually already have many years of tenure with their employer before being promoted, and continue to accumulate tenure until retirement because mobility between different fire departments is limited. By contrast, registered nurses tend to find new employers more frequently. Moreover, recent demand for nurses in the labor market has forced hospitals and other organizations to compete for their share of these workers by increasing salaries and benefits, thus contributing to movement between employers. Table 2 presents median employer tenure and median occupational tenure for detailed occupations that had 50,000 or more workers in January 1991.

Just as the comparison between employer and occupational tenure can be interpreted for occupations, characteristics of some industries can be inferred. Industries in which workers have more employer tenure than occupational tenure usually are characterized by large firms and large plants, which may mean a greater variety of potential occupations for employees. Employer tenure was longer than occupational tenure in several manufacturing industries, including motor vehicles and equipment, photographic equipment and supplies, pulp and paper, and aluminum. Employer tenure also was longer in telephone communications, railroads, electric light and power, and the postal service. In contrast, employer tenure was comparatively low in the construction industry because fluctuations in building activity result in workers, such as carpenters and bricklayers, frequently changing employers. Table 3 presents median employer tenure and median occupational tenure for detailed industries that had 100,000 or more workers in January 1991.

MEDIAN EMPLOYER AND OCCUPATIONAL TENURE is expected to lengthen gradually as a result of an aging work force and a slower increase in the labor force participation of women.[2] The median age of all workers, which rose only from 35.8 years to 36.6 years between 1975 and 1990, is projected to rise to 40.6 years in 2005, which means that workers will have had the opportunity to be in their jobs longer.

Over the past 15 years, the data show that women had a rapid increase in labor force participation; this movement into the labor market contributed to lower average tenure because many of those entering jobs had no previous experience in their occupation and had interruptions in their worklife (to attend to family responsibilities, for example). However, the labor force participation rate for women, which increased from 46.3 percent in 1975 to 57.5 percent in 1990, is projected to rise slower over the next 15 years to 63 percent in 2005, thus the average tenure for women will be less affected by the addition of new workers. □

Footnotes

[1]See George Silvestri, "Who Are the Self-employed? Employment Profiles and Recent Trends," *Occupational Outlook Quarterly*, Spring 1991, pp. 26–36.

[2]For projections of the labor force by sex, see Howard N Fullerton, Jr., "Labor force projections: the baby-boom moves on," *Monthly Labor Review*, November 1991, pp. 31–45.

Lump-sum benefits available from savings and thrift plans

Michael Bucci

Vastly different lump-sum benefit amounts were available to participants in employer-sponsored savings and thrift plans in 1991. The size of the account balance depended on the length of employee participation in the plan, the level of contributions made to the plan, and the rate of interest earned by the plan's assets. Such differences could occur even if participants had similar earnings during the entire period of plan participation.

This report presents the results of a study of provisions of savings and thrift plans included in the Bureau of Labor Statistics 1991 Employee Benefits Survey.[1] The survey designed a savings and thrift model to use these provisions to formulate estimates of the lump-sum benefits that employees can expect to receive upon retirement.[2] The data presented in this report were derived by aggregating provision data collected by the survey and comparing those data to a series of assumptions about worker salary and service and investment results.[3] This report also provides the results of recalculations of previously published lump-sum distribution estimates based on the 1989 survey.[4]

With a constant 6-percent return on plan assets and $35,000 final annual earnings in 1991, the lump-sum benefit available to a typical savings and thrift plan participant ranges from $41,000 for an employee with 10 years of plan participation to $98,000 for an employee with 25 years of participation. The difference in the final lump-sum benefit becomes even more marked as the length of plan participation increases beyond 25 years.

Retirement plans

Of the two basic types of pension plans—defined benefit and defined contribution—defined benefit pension plans are the more traditional. These plans include specific formulas for determining the employee's benefit upon retirement. The formulas are usually stated as a flat dollar amount or a percentage of final earnings multiplied by years of service. In contrast, defined contribution plans specify the level of the employer's annual contribution to the plan rather than the final benefit available to the employee. The amount of the final benefit depends on various factors, including total plan contributions, investment earnings, and the length of plan participation.

The extent of coverage under the more traditional defined benefit pension plans has declined in recent years. In 1985, four-fifths of full-time employees in medium and large private establishments participated in an employer-sponsored defined benefit plan; by 1989, this proportion had fallen to about two-thirds, and, by 1991, to three-fifths.[5] Unlike defined benefit plans, the incidence of defined contribution plan participation has remained relatively constant in recent years; nearly one-half of full-time employees in medium and large establishments participated in such plans in 1989 and 1991.

Many types of defined contribution plans are available, including profit sharing, money purchase pension, employee stock-ownership, and savings and thrift plans. Since the Employee Benefits Survey began tabulating participation in defined contribution plans in 1985, savings and thrift plans have been the most prevalent: this was again the case in 1991, as three-tenths of full-time employees participated in such plans.

Savings and thrift plans. Savings and thrift plans permit employees to allot a portion of their annual income to an individual plan account. In nearly all cases, the employee's contribution is made on a pretax basis: the amount of income deferred is not subject to income taxes until the time it is withdrawn. The amount of the allowable contribution is restricted, either by the employer or, in the case of pretax deferrals, by the Internal Revenue Service. A portion of the employee's contribution is matched by the employer, based on a stated formula, and employer and employee contributions are then invested.

Exhibit 1. ABC Company savings and thrift plan

Eligibility requirement:
Age—21 years
Service—12 months

Employee contributions:
Minimum—1 percent of earnings
Maximum—15 percent of earnings

Pretax status of employee contributions:
At option of the employee, all contributions may be pretax

Employer matching formula:
Employee contributions up to 6 percent of earnings are matched at the rate of 50 percent

Investment options:
Equity account
Money market fund
Company stock

Vesting schedule for employer contributions:

Length of service	Vesting percentages
1 year	20 percent
2 years	40 percent
3 years	60 percent
4 years	80 percent
5 years	100 percent

Loans:
Allowed, with restrictions

Withdrawals:
Financial hardship reasons only

Distribution upon termination or retirement:
Lump sum
Installments

The employee typically becomes vested in the portion of the account contributed by the employer based on a length of service schedule; employee contributions are always fully vested.[6] Provisions for loans and withdrawals may be included in the savings and thrift plan. Distribution of funds from the plan account usually takes the form of a lump-sum payment at retirement. Exhibit 1, above,

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Table 1. **Average lump-sum benefit available at retirement to full-time participants in savings and thrift plans by years of plan participation, selected final annual earnings levels, and selected rates of interest, medium and large private establishments, 1991 and (revised) 1989**

Interest rates and annual earnings	Years of participation						
	10	15	20	25	30	35	40
1991							
6 percent interest							
$15,000	$17,733	$26,259	$34,330	$42,256	$50,663	$60,214	$70,681
20,000	23,613	34,969	45,722	56,280	67,486	80,231	94,195
25,000	29,492	43,679	57,113	70,315	84,328	100,256	117,733
35,000	41,239	61,081	79,870	98,343	117,953	140,254	164,727
45,000	52,896	78,385	102,520	126,255	151,458	180,108	211,557
55,000	64,131	95,260	124,742	153,731	184,511	219,529	257,968
10 percent interest							
$15,000	21,939	35,740	51,470	70,076	93,871	126,409	169,292
20,000	29,214	47,595	68,553	93,337	125,054	168,472	225,686
25,000	36,489	59,451	85,634	116,627	156,287	210,548	282,159
35,000	51,022	83,137	119,758	163,124	218,628	294,602	394,878
45,000	65,454	106,709	153,749	209,469	280,802	378,407	507,260
55,000	79,394	129,777	187,238	255,292	342,410	461,711	619,208
12 percent interest							
$15,000	24,431	41,892	63,676	91,883	131,393	190,518	275,759
20,000	32,532	55,788	84,811	122,386	175,049	253,944	367,675
25,000	40,634	69,685	105,945	152,932	218,785	317,383	459,732
35,000	56,818	97,450	148,165	213,911	306,071	444,125	643,456
45,000	72,894	125,091	190,234	274,709	393,152	570,513	826,649
55,000	88,438	152,184	231,759	334,934	479,588	696,374	1,009,446
1989 (revised) [1]							
6 percent interest							
$15,000	$17,450	$25,527	$33,306	$41,116	$49,764	$59,447	$69,822
20,000	23,212	33,963	44,316	54,711	66,244	79,115	92,947
25,000	28,952	42,362	55,282	68,260	82,628	98,730	116,028
35,000	40,372	59,078	77,101	95,203	115,257	137,730	161,858
45,000	51,697	75,680	98,792	122,008	147,744	176,583	207,565
55,000	62,754	92,021	120,225	148,560	179,972	215,171	252,985
10 percent interest							
$15,000	21,535	34,616	49,782	68,127	92,604	125,564	168,000
20,000	28,645	46,058	66,243	90,659	123,242	167,128	223,704
25,000	35,729	57,449	82,638	113,120	153,786	208,599	279,354
35,000	49,823	80,120	115,260	157,776	214,535	291,039	389,731
45,000	63,806	102,652	147,713	202,241	275,082	373,258	499,985
55,000	77,486	124,890	179,877	246,431	335,335	455,160	609,830
12 percent interest							
$15,000	23,950	40,506	61,513	89,331	129,972	189,844	274,128
20,000	31,858	53,896	81,854	118,880	172,981	252,698	365,067
25,000	39,737	67,226	102,115	148,339	215,862	315,427	455,960
35,000	55,412	93,757	142,428	206,902	301,146	440,112	636,131
45,000	70,967	120,132	182,546	265,236	386,182	564,515	816,217
55,000	86,199	146,196	222,359	323,284	470,901	688,557	995,759

[1] Because of an error in the methodology used, data for 1989 were recalculated and may differ from previously published data in this series.

Note: Data assume that the employee contributes to the plan at the midpoint level and receives the corresponding employer-matching contribution. The midpoint is derived by averaging the employee's minimum and maximum allowable contributions to the plan.

presents vesting and other criteria for a hypothetical savings and thrift plan.

Lump sums at retirement

Because savings and thrift plans require employers to specify an annual contribution to the plan rather than specify the final benefit, the lump-sum benefit depends on a variety of factors, including years of plan participation, annual contributions, and investment earnings. Table 1 shows the average lump sum benefit available at retirement to full-time participants in savings and thrift plans given various years of plan participation, final annual earnings levels, and rates of interest. The results are not surprising. As the level of the participant's final annual earnings increases, the amount of the lump sum benefit increases. Likewise, as a participant's length of service increases, so does the value of his or her account. Similar results are seen as returns on investments increase.

The combination of these three vari-

Table 2. **Average funds in a savings and thrift plan account for an individual with final year earnings of $35,000, by source and selected interest rates, medium and large private establishments, 1991 and (revised) 1989**

Interest rate and source of funds	Years of participation						
	10	15	20	25	30	35	40
1991							
6 percent interest							
Lump-sum	$41,239	$61,081	$79,870	$98,343	$117,953	$140,254	$164,727
Percent contributed by:							
Employee	52	46	41	37	33	29	26
Employer	21	19	17	15	14	12	11
Accrued interest	27	35	42	48	53	59	63
8 percent interest							
Lump-sum	$45,851	$71,142	$97,445	$125,851	$158,991	$200,373	$250,219
Percent contributed by:							
Employee	47	39	34	29	24	21	17
Employer	19	16	14	12	10	8	7
Accrued interest	34	45	52	59	66	71	76
10 percent interest							
Lump-sum	$51,022	$83,137	$119,758	$163,124	$218,628	$294,602	$394,878
Percent contributed by:							
Employee	42	34	27	22	18	14	11
Employer	17	12	11	9	7	6	4
Accrued interest	41	54	62	69	75	80	85
12 percent interest							
Lump-sum	$56,818	$97,450	$148,165	$213,911	$306,071	$444,125	$643,456
Percent contributed by:							
Employee	38	29	22	17	13	9	7
Employer	15	12	9	7	5	4	3
Accrued interest	47	59	69	76	82	87	90
15 percent interest							
Lump-sum	$66,848	$124,292	$206,157	$327,352	$521,491	$853,444	$1,400,202
Percent contributed by:							
Employee	32	23	16	11	7	5	3
Employer	13	9	7	5	3	2	1
Accrued interest	55	68	77	84	90	93	96
1989 (revised)[1]							
6 percent interest							
Lump-sum	$40,372	$59,078	$77,101	$95,203	$115,257	$137,730	$161,858
Percent contributed by:							
Employee	52	46	41	37	33	29	26
Employer	21	19	17	15	14	12	11
Accrued interest	27	35	42	48	53	59	63
8 percent interest							
Lump-sum	$44,831	$68,682	$93,917	$121,759	$155,649	$197,334	$246,435
Percent contributed by:							
Employee	47	40	34	29	24	20	17
Employer	19	16	14	12	10	8	7
Accrued interest	34	44	52	59	66	72	76
15 percent interest							
Lump sum	$65,067	$119,305	$197,890	$316,787	$515,315	$849,278	$1,386,303
Percent contributed by:							
Employee	32	23	16	11	7	5	3
Employer	13	9	7	5	3	2	1
Accrued interest	55	68	77	84	90	93	96

[1] Because of an error in the methodology used, data for 1989 were recalculated and may differ from previously published data in this series.

NOTE: Data assume that the employee contributes to the plan at the midpoint level and receives the corresponding employer-matching contribution.The midpoint is derived by averaging the employee's minimum and maximum allowable contributions to the plan.

ables—the interest rate, an employee's salary, and the amount of time an employee has participated in a plan—can result in very different lump-sum payments upon an employee's retirement. For example, lower paid employees with lengthy participation in a plan can receive benefits similar to those received by more highly paid employees who have not participated for such long periods. (See table 1.) To illustrate this point: two employees participate in a plan in which the assets earn a constant 6-percent return during the period of plan participation. One employee retires with final annual earnings of $35,000 after 25 years of participation and receives a lump-sum benefit of $98,343; the other employee retires with final earnings of $55,000 after 15 years of participation and receives a lump-sum of $95,260.

Of the three variables, the interest rate has the greatest effect on the amount of the final lump sum benefit. As the interest rate increases, the proportion of the final benefit that is derived from accrued interest becomes more evident. (See table 2.) At an interest rate of 6 percent, the contributions of an employee with annual earnings of $35,000 make up 52 percent of the fund balance at 10 years of participation; accrued interest accounts for 27 percent; and the employer's matching contributions, 21 percent. However, at a 10-percent interest rate, the employee contribution and accrued interest rate are virtually the same, 42 percent and 41 percent. At an interest rate of 15 percent, accrued interest makes up a majority of the fund balance—even after just 10 years of plan participation. □

Footnotes

[1] The Employee Benefits Survey studies the incidence and characteristics of benefits provided by employers in the workplace. Three separate surveys are conducted: small private establishments (1-99 employees) and State and local governments are surveyed in even numbered years and larger private establishments (100 or more employees) are surveyed in odd numbered years. The data discussed in this article are published in greater detail in *Employee Benefits in Medium and Large Private Establishments, 1991*, Bulletin 2422, (Bureau of Labor Statistics, May 1993).

[2] The model also is used to derive the average allowable annual employee and employer contributions to savings and thrift plans. These data are presented in *Employee Benefits in Medium and Large Private Establishments.*

[3] For a detailed description of the model, see Michael Bucci, "Contributions to savings and thrift plans," *Monthly Labor Review*, November 1990, pp. 28-36.

[4] See Bucci, "Contributions to savings and thrift plans." Data on savings and thrift plans were introduced in that article. An error in some of the methodology used required tables 4 and 5 to be revised. Revised data for 1989 are presented in tables 1 and 2 of this report. These revised tables should be used in comparing 1989 and 1991 survey results. This series on provisions in savings and thrift plans will appear as a regular part of the Bureau's biennial survey of medium and large private establishments.

[5] Some of the observed decline between 1985 and 1989 may be the result of a change in survey scope. Before 1988, the BLS survey of medium and large private establishments excluded most of the service industries and included only establishments with at least 250 workers in the mining, construction, retail trade, and some manufacturing and transportation industries. Beginning in 1988, the scope of the survey was expanded to include all private sector establishments employing more than 100 workers in all industries.

[6] Vesting refers to the number of years of plan participation required before an employee's benefits become nonforfeitable.

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, DC 20212-0001.

Major agreements expiring next month

This list of collective bargaining agreements that expire in July is based on information collected by the Bureau's Office of Compensation and Working Conditions. It includes agreements covering 1,000 workers or more. Private industry is arranged in order of Standard Industrial Classification. Labor organizations listed are affiliated with the AFL-CIO, except where noted as independent (Ind.).

Private sector

Mining

Cleveland Cliffs, Inc., Ishpeming, MI; Steelworkers, 1,800 workers

Construction

Air Conditioning Contractors of Arizona, statewide, except Tucson; Sheet Metal Workers, 1,000 workers

Association of Mechanical Contractors, Atlanta, GA; Plumbers, 1,200 workers

Independent employers, southern Illinois; Carpenters, 3,700 workers

National Electrical Contractors Association, White Plains, NY; Electrical Workers (IBEW), 1,650 workers

Northern California Drywall Contractors Association, Santa Clara and northern California; Painters, 1,000 workers

Painting and Decorating Contractors of America—central coast agreement, central California; Painters, 1,500 workers

Pipeline Contractors Association, interstate; Laborers, 8,000 workers

Pipeline Contractors Association, interstate; Operating Engineers, 6,000 workers

Pipeline Contractors Association, interstate; Teamsters, 3,000 workers

Sheet Metal and Air Conditioning Contractors Association, New York, NY; Sheet Metal Workers, 3,000 workers

Southern Illinois Contractors Association and Southern Illinois Builders Association, southern Illinois; Operating Engineers, 1,800 workers

Southern Illinois Contractors and Builders, southern Illinois; Laborers, 4,000 workers

Food and kindred products

Amalgamated Sugar Co., interstate; Grain Millers, 1,500 workers

Bay Area Soft Drink Bottlers Association, California; Teamsters, 1,250 workers

E.J. Brach & Sons, Inc., Chicago, IL; Teamsters, 2,200 workers

Joseph E. Seagram and Sons—brewery workers master agreement, Indiana, Kentucky, Maryland, Ohio, and Pennsylvania; Distillery Workers, 1,000 workers

Primary metal industries

Bethlehem Steel Corp., interstate; Steelworkers, 20,500 workers

Inland Steel Co., Indiana Harbor Works, interstate; Steelworkers, 11,000 workers

National Steel Corp., interstate; Steelworkers, 7,000 workers

Electrical and electronic equipment

Allen-Bradley Co., Milwaukee, WI; Electrical Workers (UE-Ind.), 1,800 workers

Leviton Manufacturing Co., Inc., New York, NY; Electrical Workers (IBEW), 1,000 workers

Transportation equipment

Pemco Aeroplex, Birmingham, AL; Auto Workers, 1,350 workers

Transportation

Pacific Maritime Association, California, Oregon, and Washington; Longshoremen and Warehousemen, 8,683 workers

United Parcel Service, Illinois; Teamsters, 10,000 workers

United Parcel Service—master agreement, interstate; Teamsters, 140,000 workers

Communications

GTE MTO, Inc., Marion, Ohio; Communications Workers, 1,720 workers

Public utilities

Pennsylvania Electric Co., west central Pennsylvania; Electrical Workers (IBEW), 1,938 workers

Wholesale and retail trade

Greater St. Louis Automotive Association, Inc., St. Louis, MO; Machinists, 1,700 workers

Services

Alliance of Motion Picture and Television Producers, Los Angeles, CA; Theatrical Stage Employees, 17,000 workers

San Francisco Maintenance Contractors Association, San Francisco, CA; Service Employees, 2,700 workers

Public sector

Education

Cook County Community College (faculty), Cook County, IL; Cook County College Teachers (AFT), 1,150 workers

Edmonds School District 15 (teachers and related professionals), Edmonds, WA; Education (NEA-Ind.), 1,100 workers

Kansas City public schools (teachers), Kansas City, KS; Education (NEA-Ind.), 1,600 workers

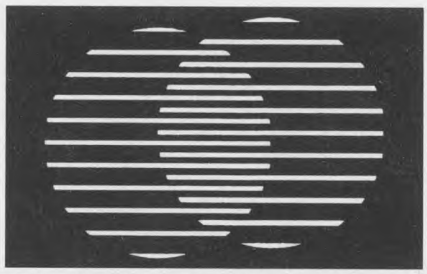
Lansing School District (teachers and related personnel), Lansing, MI; Education (NEA-Ind.), 1,500 workers

Manatee County public schools (teachers), Manatee County, FL; Teachers (AFT), 1,700 workers

Protective services

San Jose (peace officers), San Jose, CA; San Jose Police Officers Association (Ind.), 1,050 workers □

Developments in industrial relations



Four glassmakers settle

Negotiators for the Glass, Molders, Pottery, Plastics and Allied Workers Union and four major glass manufacturers—Owens-Brockway Packaging, Inc.; Anchor Glass Container Corp.; Ball Corp.; and the Foster Forbes Division of American National Can Co.—signed similar 3-year collective bargaining agreements covering about 26,000 production and maintenance workers nationwide.

The pacts called for general wage increases of 35 cents retroactive to April 1, 1993, and 30 cents an hour on April 1, 1994 and 1995, as well as an additional 20- to 35-cent-an-hour skill adjustment for some employees, including those in maintenance crews. After the first general wage increase takes effect, wage rates would range from $10 to $20 per hour.

The parties also made several changes in benefits. They increased the monthly pension rate by $6 over the term of the agreement, to $28 per year of credited service. They raised the companies' payments to retirees' health care funds by 40 cents an hour worked in plants covered by the contract, to 75 cents an hour. Weekly sickness and accident benefits were increased by $20, to $230-$240, and life insurance coverage by $3,000 over the term, to $22,000-$24,000. The parties also maintained active employees' health care benefit levels and continued the employee copayment of $7 a month for family coverage.

Accord reached at Jewel Food

Members of Local 881 of the United Food and Commercial Workers ratified a 3-year collective bargaining agreement covering 22,000 grocery clerks at 283 Jewel Food Stores in the Chicago, IL, metropolitan area. The major sticking point in the dispute focused on health care benefits for part-time workers, who constitute about 80 percent of Jewel's work force.

The pact called for wage increases ranging from 90 cents to $1.50 an hour over the term of the contract. Senior clerks and most department heads, for example, would receive hourly wage increases of 30 cents retroactive to September 27, 1992, 40 cents on October 3, 1993, and 50 cents on October 2, 1994. Some department heads would receive wage increases totaling $1.50 an hour over the term.

Other terms retained full health care coverage for full-time employees and their dependents, as well as for part-time employees who work at least 12 hours per week; increased, from 21 to 23 hours a week, the minimum hours that senior employees must be scheduled in a week; and increased holiday pay, based on the number of hours an employee worked in the week preceding the holiday.

Contract signed with Super Fresh

Super Fresh Food Markets, Inc. and Local 1776 of the United Food and Commercial Workers signed a 4-year contract that provides a first-year wage freeze in exchange for enhanced job security provisions. The pact covers 2,500 grocery employees in the Philadelphia metropolitan area and in Allentown and Bethlehem, PA.

Terms of the contract called for hourly raises of 40 cents in the second year and 45 cents in the third and fourth years for department heads and full-time and part-time employees at the top of their wage progression. Base rates for new hires were set at $5.25 an hour retroactive to March 16, 1993 (advancing to $9.50 after 48 months), and $5.50 an hour effective April 1, 1995 (advancing to $10.25 after 48 months). At the expiration of the previous contract, top rated employees earned $13.80 an hour.

Negotiators enhanced several job security provisions, including implementing division-wide seniority in layoffs, store closings, or major reductions in hours; restoring full-time status for 100 employees who were reduced to part-time status; and guaranteeing full-time status for the contract term for all full-time employees with at least four years of service.

The parties made several changes in pensions. They increased full timers' monthly pension rates to $24 per year of credited service for pre-1985 service, to $30 per year of credited service for post-1985 service, and to $40 for each year of future service. Negotiators boosted monthly pension rates to $16 for part-time workers for past service and to $20 for future service. They also agreed to one-time payments and permanent increases equal to 10 percent of the annual payment to all disability retirees and all other retirees 65 or older with 15 years service and 5 percent of the annual reimbursement for all disability retirees and other retirees aged 65 or older with 10 to 15 years of service.

Other terms called for a day-care benefit of $6 daily, advancing to $10 in 1995, for employees with children at approved day-care centers; maintained current health care benefits with no premium costs to employees and maximum out-of-pocket expenses of $2,000; increased annual wellness benefits to $300 for single coverage and $500 for family coverage; increased the reimbursement for educational expenses, from $600 to $1,000 a year, effective in 1995; and extended educational expenses, up to $300 a

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"Developments in Industrial Relations" is prepared by Michael H. Cimini and Susan L. Behrmann of the Division of Developments in Labor-Management Relations, Bureau of Labor Statistics, and is based largely on information from secondary sources.

year, to bargaining unit employees' unmarried dependents, retroactive to January 1993.

Southern California Edison

Negotiators for Southern California Edison and the International Brotherhood of Electrical Workers and the Utility Workers of America reached agreement on a 2-year contract covering approximately 7,200 electrical and utility workers in the Los Angeles metropolitan area.

The contract calls for annual wage increases of 3.25 percent; 10-cent-an hour increases over the term of the contract in the leadworker differential (to $1.10 an hour), the swing shift differential (to 95 cents an hour), and the graveyard shift differential (to $1.10 an hour); and 50-cent increases over the term in each of the meal allowances (to $6.50 for breakfast, $7.25 for lunch, and $12.50 for dinner).

Negotiators made several changes in job security provisions, agreeing to include all previous periods of employment when calculating an employee's company seniority after the employee completes 1 year of re-employment. If layoffs are called for, negotiators provided up to 26 weeks of pay (3 weeks pay for 3 years or less of seniority and 1 additional week for each full year's service after 3 years) and health care coverage for up to 3 months (1 month for employees with less than 5 years of service and 3 months for those with 5 or more years of service), and coverage for an additional 18 months under the health continuation provisions of the Comprehensive Omnibus Budget Reconciliation Act of 1985.

Other terms established a compressed work week, in which employees work longer hours for 9 days in a 2-week period; provided uniforms for all garage employees (the previous policy was 25 percent reimbursement for uniform cleaning expenses); called for single room accommodations for employees entitled to lodging while on temporary base assignment; extended to 1 year (formerly 6 months) the time for which transfer requests remain valid; and provided rain wear to workers in certain crews.

Hotel agreement reached in Chicago

Members of locals 1 and 450 of the Hotel Employees and Restaurant Employees Union ratified a 5-year collective bargaining agreement covering about 8,500 waiters, waitresses, bartenders, housekeepers, cooks, and other employees working in hotels in the Chicago, IL, metropolitan area. The Hotel Employers Labor Relations Association represented hotels involved in the negotiations.

The contract provided general wage increases over the term of 80 cents an hour for nontipped employees and 40 cents an hour for tipped employees; retained the 17-percent commission for eligible employees; increased the time period for new hires to reach the regular rate, from 9 to 12 months; and established the minimum wage rate (currently $4.35 an hour) as the rate for employees attending employer meetings outside of their regular work shift.

Negotiators made several changes in benefit-related provisions. They increased employers' contributions over the term of the contract to the union's health and welfare trust fund by $109.17 per month (to $254.08) for each regular and banquet employee and by nearly 64 cents an hour (to $1.47) for each extra, or casual, employee. Employers also increased their contributions to the union's pension trust fund by $5.19 per month (to $45.03) for each regular and banquet employee and by 3 cents an hour (to 26 cents) for each extra employee, and to the prepaid legal fund by $3.46 per month (to $13.84) for each regular and banquet employee and by 2 cents an hour for each extra employee. In addition, the parties retained the employer's monthly contribution of $13 for each employee for the dental plan and agreed to an unspecified increase in the employee copayment for dependent health care benefits (formerly, $75 per month).

Other terms established a comprehensive drug testing policy; changed leaves of absence from "reasonable periods" to a set maximum period of 1 year or the employee's length of service, whichever is shorter; substituted Martin Luther King, Jr.'s birthday holiday for the Martin Luther King, Jr. Memorial Day holiday in April; permitted annual wage reopeners if member hotels' vacancy rates average at least 72 percent in the year; and required the union to bargain with financially troubled hotel members seeking relief from providing free meals to employees.

First contracts at Choctaw Maid

The Retail, Wholesale and Department Store Union signed separate but similar collective bargaining agreements covering about 1,075 workers at Choctaw Maid's poultry processing plants in Carthage and Pelahatchie, MS. The contracts—a 4-year accord for workers in Carthage and a 3-year agreement for workers in Pelahatchie—are the first negotiated agreements since the union was certified to represent the employees in April and July of 1992.

The pacts provide a wage increase of 80 cents an hour over the term: 45 cents an hour in the first year, 20 cents in the second, and 15 cents in the third for employees at the Pelahatchie plant; and 25 cents an hour in the first year, 20 cents in the second, 15 cents in the third, and 20 cents in the fourth for employees at the Carthage plant. After the first wage increase takes effect, the base wage rate at the two plants would rise to $5.95 an hour.

Negotiators reduced the share of medical insurance premiums paid by employees, from $33.65-$53.50 per week for family coverage, with the rate depending on the coverage level (basic, intermediate, or high), to $6 per week for basic coverage and $26.08 for high coverage. The contract also calls for a safe and healthy workplace and establishment of a joint safety and health committee. Other terms addressed typical issues, such as grievance and arbitration procedures, paid vacation, reporting pay, and health and welfare benefits.

Strike ends at Illinois hospital

The St. Joseph's Medical Center in Joliet, IL, and the Illinois Nurses Association ended a 2-month strike, the longest nurses job action ever in Illinois, with agreement on their first contract, a 3-year pact covering 600 nurses. The major stumbling block to settlement involved patient care issues.

The contract established a joint pa-

tient care committee to review patient care and nursing practice issues. Seven representatives of each side would join the committee, which would be headed by the hospital's vice-president for nursing services.

Other terms eliminated the practice of "floating" staff assignments unrelated to the employees' ability, skills, and qualifications; provided 3-percent annual wage increases; extended nonexempt employees' health care and pension benefits to the nurses; and required 2 weeks advance posting of nurses' schedules, with modifications only with "sufficient notice."

Worker–management panel formed

Secretary of Labor Robert B. Reich and Secretary of Commerce Ronald H. Brown announced the establishment of a 10-member commission to develop methods to improve the productivity and global competitiveness of the American workplace. The commission will investigate worker–management relations and recommend changes that may be needed to improve productivity through increased worker–management cooperation and employee involvement in the workplace.

The Commission is charged with reporting to the two cabinet secretaries on the following:

1. What, if any, new methods or institutions should be encouraged or required to enhance workplace productivity through labor-management cooperation and employee participation?
2. What, if any, changes should be made in the legal framework and practices of collective bargaining to enhance cooperative behavior, improve productivity, and reduce conflict and delay?
3. What, if anything, should be done to increase the extent to which workplace problems are resolved directly by the parties, rather than through recourse to State and Federal courts and government regulatory agencies?

The panel, which has a March 1994 deadline to report its findings, will be headed by John T. Dunlop, Lamont University Professor, emeritus, Harvard University, and Secretary of Labor (1975–76). Other commission members include Paul A. Allaire, Xerox Corp.; Douglas A. Fraser, Wayne State University, and former President of the United Auto Workers; Richard Freeman, Harvard University; William Benjamin Gould IV, Stanford University; Tom Kochan, Massachusetts Institute of Technology; Juanita Kreps, Duke University, and Secretary of Commerce (1977–79); Ray Marshall, University of Texas, and Secretary of Labor (1977–81); William J. Usery, Bill Usery Associates, Inc., and Secretary of Labor (1976–77); and Paula Voos, University of Wisconsin. □

Book reviews

Immigrants, families, workers

Mass Immigration and the National Interest. By Vernon M. Briggs, Jr. New York, M.E. Sharpe, Inc., 1992. 275 pp. $49.95, cloth; $19.95, paper.

Immigration Act of 1990: An Employer's Handbook. By Monte B. Lake. Washington, DC, Employment Policy Foundation, 1992. 354 pp. $50, paper.

Our immigrant heritage began in an era vastly different from our own: the unpopulated frontier is no more, factories are closing, unskilled jobs are fading away. Yet the number of often low-skilled immigrants who are now coming to the United States are breaking historical records. How many should we admit? Should Federal immigration policy unite families or favor those with special skills?

To answer these questions, Vernon M. Briggs, Jr., in *Mass Immigration and the National Interest*, draws on Federal immigration legislation, its political genesis and outcomes, as well as a brief appraisal of research, and a projection of a mismatch in future U.S. labor needs. This is not his first foray into immigration issues, nor is it the first time he has demonstrated concern for low skilled U.S. workers. Briggs presents a cogent analysis of how we got where we are, and argues that labor force needs should govern U.S. immigration policy.

By the 1920's, three successive waves of mass immigration had created "the world's first multi-racial, -religious and -ethnic society." The third wave swamped the rural labor force, putting U.S. workers at risk. Because of the Great Depression, it is impossible to know if the numerical restrictions of the National Origins Act of 1924 would have improved U.S. working conditions. Nevertheless, the law's admissions guidelines, which proscribed immigrants not of West European origin, ultimately clashed with American ideals.

Congress attempted to change ethnic and racial selectivity with the Immigration and Nationality Act of 1952. Restrictions on Asian immigration were eliminated, but quotas prescribed by the law continued to favor immigrants from European nations, and the level of immigration remained low.

Amendments to the 1952 law, enacted in 1965 and incorporating the values of President Lyndon B. Johnson's Great Society programs, abolished selectively applied origin-based admissions. Ironically, Congress expected that because most U.S. residents who sponsored immigrants were of European extraction, family-based admissions would continue to favor immigrants from Europe. Instead, family reunification led to multiplier effects and launched a fourth wave of mass immigration dominated by Hispanics and Asians.

Briggs argues that several reasons help explain this unanticipated outcome: legislation was drawn up hastily by the congressional judiciary committees, and attorneys adopt ad hoc principles replete with Byzantine legal codes to regulate immigrant admissions. For example, politics guide refugee law, leaving in limbo immigrants who are not fleeing communist regimes. Gamesmanship underlies the unsuccessful effort by the Immigration Reform and Control Act of 1986 to curb the employment of unauthorized workers. Special interests successfully bartered for amnesty for illegal residents, yet the law lacks teeth to deter the average employer from hiring unauthorized workers. In addition, the Immigration Act of 1990 gave a nod toward skills-based admissions, but in reality expanded the principal of "nepotistic" family relations as the cornerstone of legal admission.

As a result, the number of immigrants—admitted legally and illegally with no regard to their skills—will continue to mount. Briggs is concerned because low-skilled workers are losing ground as the service economy demands more educated employees. Large numbers of immigrants, particularly those who are admitted solely because of family ties, will compete with the increasingly marginalized low-skilled work force. Our concern might be alleviated by most contemporary research that finds little adverse effect of immigration on U.S. workers. However, Briggs contends that the ahistorical method of econometric research cannot address what would have happened if, for example, black Americans did not have to compete for jobs with the influx of immigrants to the cities.

Briggs concludes by calling for adoption of a policy that admits immigrants on economic principles. For example, this would require policymakers to reduce the number of immigrants and to target those with skills that are considered to be in the national interest. Unfortunately, such policy synchronization is difficult to achieve. We also might ask what would happen if immigrants did not benefit from the support of family networks many of us take for granted.

To accomplish this complicated task, Briggs would transfer responsibility from the Immigration and Naturalization Service to an agency that is responsible for human resource development and labor law. The obvious choice is the U.S. Department of Labor, which had this responsibility before World War II.

This book provides a valuable overview of the political and economic history of immigration, and sharpens the terms of the debate for those who are already familiar with the subject. In depth consideration of economic research and workable policy choices will require further reading.

In contrast, *Immigration Act of 1990: An Employer's Handbook* by Monte B. Lake guides the employer through the arcane legal code by which immigrant work permits are obtained. Two-thirds of the book contain relevant sections from the *Federal Register*, and provide examples of the appropriate paperwork. Of more general interest is Lake's discussion of changes in the Act and its pilot programs, including brief evaluations of how these programs function, and their levels of success.

—B. Lindsay Lowell

Immigration Policy and Research
Bureau of International Labor Affairs
U.S. Department of Labor

A practical guide to benchmarking

The Benchmarking Book. By Michael Spendolini. New York, AMACOM, a division of the American Management Association, 1992. 209 pp. $26.95.

Benchmarking is a cornerstone of Total Quality Management (TQM), a management theory in which the goal of a customer-driven organization strives for continuous improvement. In the 1970's manufacturing firms such as the Xerox Corp. led the way in developing this plan of evaluating and adopting "best practices." This approach has since spread nationally beyond manufacturing to firms in service industries and, more recently, to government and academia.

Defined simply, benchmarking is the systematic process of recognizing the "best" management practices and applying it to an organization. As simple as that sounds, the process may be complicated.

The idea behind benchmarking is not new, although its applications were limited before TQM. Manufacturing engineers and professionals in the field of human resources use a form of benchmarking regularly. Just as engineers in the electronics industry disassemble samples of rivals' products to evaluate the competition, human resources professionals conduct wage and benefit plan surveys routinely to measure their compensation packages against the labor market.

Corporations such as Xerox, where author Michael Spendolini worked, expanded on this methodology by taking a fresh look at all their internal processes. These corporate officials extended the approach to cover not only manufacturing but also administrative areas such as customer service.

Firms committed to benchmarking have evolved guidelines and benchmarking plans that specifically meet their needs. Their search generally begins by looking at their immediate competition for new ideas, and for some this remains the primary focus of their efforts.

Developing individual benchmarking procedures has resulted in a myriad of models with some yielding less than expected results. In most cases, models vary more in their details than in their overall objectives. Recognizing this, Spendolini has developed a generic benchmarking plan.

For the book, Spendolini began with a list of 54 companies that have successful benchmarking plans in place, and narrowed his focus to 24 firms that were successful with benchmarking. He spoke with company representatives about their key concepts and took note of the pitfalls common during the process. In essence, he took a benchmarking approach to benchmarking.

Beginning with the need to define the basic target of a benchmarking process, his model is a generic, cross-industry, five-step procedure designed to serve the needs of any organization. The book is well organized with each chapter outlining one stage in the process. Beginning with the first chapter that defines the goals of benchmarking, the book takes the reader through the identifying objectives, forming a benchmarking team, collecting and analyzing data, and acting on the results.

Spendolini includes discussions on realistic approaches to problems of time management and the struggle of introducing the benchmarking concept to an organization. He has even devoted a chapter to the ethical and legal concerns of measuring competitors' practices, particularly when operating cooperatively. Each chapter is written clearly and is well illustrated with appropriate charts.

Unlike some books on this subject, this is not the history of a single firm's experience with benchmarking. Nor does it argue for the concept of benchmarking. It is instead a practical guide to benchmarking for those interested in the subject. As Spendolini outlines in his preface, the book may be used as a guide for the beginner in benchmarking and be useful as a type of self-audit for the experienced practitioner. Interestingly, total Quality Management is not referred to specifically in the book.

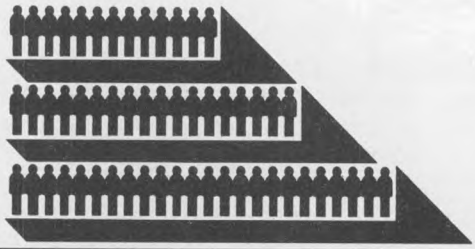
Not all management theories have staying power. Concepts such as Zero Based Budgeting and Management By Objectives were once put forward as models, but their popularity faded slowly. Regardless of TQM's future, benchmarking as its own process will probably outline TQM.

In an increasing competitive world, recognizing and applying the best practices available is the key to organizational survival. Many of the best organizations recognize that they can survive only by living on a continual learning curve where practice must be updated constantly using a process such as benchmarking.

—Michael Wald

Economist, Bureau of Labor Statistics,
Atlanta regional office

Current labor statistics



Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

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

Seasonally adjusted data appear in tables 1–9, 12–14, 16–17, 44, and 48. Seasonally adjusted labor force data in tables 1 and 4–9 were revised in the February 1993 issue of the *Review* and reflect the experience through 1992. Seasonally adjusted establishment survey data shown in tables 12–14 and 16–17 were revised in the July 1992 *Review* and reflect the experience through March 1992. A brief explanation of the seasonal adjustment methodology appears in "Notes on the data."

Revisions in the productivity data in table 44 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month-to-month and quarter-to-quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All-Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the "real" earnings shown in table 14—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 1982 = 100, the hourly rate expressed in 1982 dollars is $2 ($3/150 x 100 = $2). The $2 (or any other resulting values) are described as "real," "constant," or "1982" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule appearing on cover 3 of this issue. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. Additional data from the household survey are published in the data book, *Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2307. More national data from the establishment survey appear in the data book, *Employment, Hours, and Earnings, United States,* and an annual bulletin. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Compensation and Working Conditions*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published biennially by the Bureau. BLS bulletins are issued covering productivity, injury and illness, and other data in this section. Finally, the *Monthly Labor Review* carries analytical articles on annual and longer term developments in labor force, employment, and unemployment; employee compensation and collective bargaining; prices; productivity; international comparisons; and injury and illness data.

Symbols

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

Comparative Indicators

Tables (1–3)

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

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

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

(output per hour of all persons) are provided for major sectors.

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

Notes on the data

Definitions of each series and notes on the data are contained in later sections of these notes describing each set of data. For detailed descriptions of each data series, see *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review's* "Notes on Current Labor Statistics." Users may also wish to consult *Major Programs of the Bureau of Labor Statistics*, Report 793 (Bureau of Labor Statistics, 1991).

Employment and Unemployment Data

(Tables 1; 4–20)

Household survey data

Description of the series

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 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 those who worked for pay any time during the week which includes the 12th day of the month or who worked unpaid for 15 hours or more in a family-operated enterprise and (2) those who were temporarily absent from their regular jobs because of illness, vacation, industrial dispute, or similar reasons. A person working at more than one job is counted only in the job at which he or she worked the greatest number of hours.

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

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population. 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 **civilian 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. The **civilian labor force participation** rate is the proportion of the civilian noninstitutional population that is in the labor force. The **employment-population ratio** is employment as a percent of the civilian noninstitutional population.

Notes on the data

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

Labor force data in tables 1 and 4–9 are seasonally adjusted based on the experience through December 1992. Since January 1980, national labor force data have been seasonally adjusted with a procedure called X-11 ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method previously used by BLS. A detailed description of the procedure appears in the *X-11 ARIMA Seasonal Adjustment Method*, by Estela Bee Dagum (Statistics Canada, Catalogue No. 12-564E, January 1983).

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

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992), and for additional data, *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989). Historical unadjusted data from 1948 to 1987 are available in *Labor Force Statistics Derived from the Current Population Survey*, Bulletin 2307 (Bureau of Labor Statistics, 1988). Historical seasonally adjusted data are available from the Bureau of Labor Statistics upon request.

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

Establishment survey data

Description of the series

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by more than 359,000 establishments representing all industries except agriculture. Industries are classified in accordance with the *1987 Standard Industrial Classification (SIC) Manual*. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

An **establishment** is an economic unit which produces goods or services (such as a factory or store) at a single location and is engaged in one type of economic activity.

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

Production workers in manufacturing include working supervisors and nonsuper-

visory workers closely associated with production operations. Those workers mentioned in tables 11–16 include production workers in manufacturing and mining; construction workers in construction; and nonsupervisory workers in the following industries: transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. These groups account for about four-fifths of the total employment on private nonagricultural payrolls.

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

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

The Diffusion Index represents the percent of industries in which employment was rising over the indicated period, plus one-half of the industries with unchanged employment; 50 percent indicates an equal balance between industries with increasing and decreasing employment. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. Data are centered within the span. Table 17 provides an index on private nonfarm employment based on 356 industries, and a manufacturing index based on 139 industries. These indexes are useful for measuring the dispersion of economic gains or losses and are also economic indicators.

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employment (called "benchmarks"). The latest adjustment, which incorporated March 1991 benchmarks, was made with the release of May 1992 data, published in the July 1992 issue of the *Review*. Coincident with the benchmark adjustments, seasonally adjusted data were revised to reflect the experience through March 1992. Unadjusted data from April 1991 forward and seasonally adjusted data from January 1988 forward are subject to revision in future benchmarks.

The BLS also uses the X-11 ARIMA methodology to seasonally adjust establishment survey data. Beginning in June 1989, projected seasonal adjustment factors are calculated and published twice a year. The change makes the procedure used for the establishment survey data more parallel to that used in adjusting the household survey data. Revisions of historical data are made once a year coincident with the benchmark revisions.

In the establishment survey, estimates for the most recent 2 months are based on incomplete returns and are published as preliminary in the tables (12 to 17 in the *Review*). When all returns have been received, the estimates are revised and published as "final" (prior to any benchmark revisions) in the third month of their appearance. Thus, December data are published as preliminary in January and February and as final in March. For the same reasons, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, fourth-quarter data are published as preliminary in January and February and as final in March.

Additional sources of information

Detailed national data from the establishment survey are published monthly in the BLS periodical, *Employment and Earnings*. Historically comparable unadjusted and seasonally adjusted data are published in *Employment, Hours, and Earnings, United States, 1909–90*, Bulletin 2370 (Bureau of Labor Statistics, 1991) and an annual bulletin. For a detailed discussion of the methodology of the survey, see *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992). For additional data, see *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989).

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

Unemployment data by State

Description of the series

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

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

Notes on the data

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

Additional sources of information

Information on the concepts, definitions, and technical procedures used to develop labor force data for States and sub-State areas as well as additional data on sub-States are provided in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*, and the annual report, *Geographic Profile of Employment and Unemployment* (Bureau of Labor Statistics). See also *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992).

Compensation and Wage Data

(Tables 1–3; 21–30)

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

Employment Cost Index

Description of the series

The **Employment Cost Index** (ECI) is a quarterly measure of the rate of change in compensation per hour worked and includes wages, salaries, and employer costs of employee benefits. It uses a fixed market basket of labor—similar in concept to the Consumer Price Index's fixed market basket of goods and services—to measure change over

time in employer costs of employing labor.

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

The Employment Cost Index probability sample consists of about 4,400 private nonfarm establishments providing about 23,000 occupational observations and 1,000 State and local government establishments providing 6,000 occupational observations selected to represent total employment in each sector. On average, each reporting unit provides wage and compensation information on five well-specified occupations. Data are collected each quarter for the pay period including the 12th day of March, June, September, and December.

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

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992); *Employment Cost Indexes and Levels, 1975–92*, Bulletin 2413 (Bureau of Labor Statistics, 1992); and the following *Monthly Labor Review* articles: "Estimation procedures for the Employment Cost Index," May 1982; and "Introducing new weights for the Employment Cost Index," June 1985.

Data on the ECI are also available in BLS quarterly press releases issued in the month following the reference months of March, June, September, and December; and from the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989).

Employee Benefits Survey

Description of the series

Employee benefits data are obtained from the Employee Benefits Survey, an annual survey of the incidence and provisions of selected benefits provided by employers. The survey collects data from a sample of approximately 6,000 private sector and State and local government establishments. The data are presented as a percentage of employees who participate in a certain benefit, or as an average benefit provision (for example, the average number of paid holidays provided to employees per year). Selected data from the survey are presented in table 25.

The survey covers paid leave benefits such as lunch and rest periods, holidays and vacations, and personal, funeral, jury duty, military, parental, and sick leave; sickness and accident, long-term disability, and life insurance; medical, dental, and vision care plans; defined benefit and defined contribution plans; flexible benefits plans; reimbursement accounts; and unpaid parental leave.

Also, data are tabulated on the incidence of several other benefits, such as severance pay, child-care assistance, wellness programs, and employee assistance programs.

Definitions

Employer-provided benefits are benefits that are financed either wholly or partly by the employer. They may be sponsored by a union or other third party, as long as there is some employer financing. However, some benefits that are fully paid for by the employee also are included. For example, long-term care insurance and postretirement life insurance paid entirely by the employee are included because the guarantee of insurability and availability at group premium rates are considered a benefit.

Participants are workers who are covered by a benefit, whether or not they use that benefit. If the benefit plan is financed wholly by employers and requires employees to complete a minimum length of service for eligibility, the workers are considered participants whether or not they have met the requirement. If workers are required to contribute towards the cost of a plan, they are considered participants only if they elect the plan and agree to make the required contributions.

Defined benefit pension plans use predetermined formulas to calculate a retirement benefit, and obligate the employer to provide those benefits. Benefits are generally based on salary, years of service, or both.

Defined contribution plans generally specify the level of employer and employee contributions to a plan, but not the formula for determining eventual benefits. Instead, individual accounts are set up for participants, and benefits are based on amounts credited to these accounts.

Tax-deferred savings plans are a type of defined contribution plan that allow participants to contribute a portion of their salary to an employer-sponsored plan and defer income taxes until withdrawal.

Flexible benefit plans allow employees to choose among several benefits, such as life insurance, medical care, and vacation days, and among several levels of care within a given benefit.

Notes on the data

Surveys of employees in medium and large establishments conducted over the 1979–86 period included establishments that employed at least 50, 100, or 250 workers, depending on the industry (most service industries were

excluded). The survey conducted in 1987 covered only State and local governments with 50 or more employees. The surveys conducted in 1988 and 1989 included medium and large establishments with 100 workers or more in private industries. All surveys conducted over the 1979–89 period excluded establishments in Alaska and Hawaii, as well as part-time employees.

Beginning in 1990, surveys of State and local governments and small establishments are conducted in even-numbered years and surveys of medium and large establishments are conducted in odd-numbered years. The small establishment survey includes all private nonfarm establishments with fewer than 100 workers, while the State and local government survey includes all governments, regardless of the number of workers. All three surveys include full- and part-time workers, and workers in all 50 States and the District of Columbia.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992).

The most recent data from the Employee Benefits Survey appear in the following Bureau of Labor Statistics bulletins: *Employee Benefits in Medium and Large Firms*; *Employee Benefits in Small Private Establishments; and Employee Benefits in State and Local Governments*. Additionally, articles using data from the Employee Benefits Survey are published periodically in the *Monthly Labor Review*.

Collective bargaining settlements

Description of the series

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

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

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

Definitions

Wage rate changes are calculated by dividing newly negotiated wages by the average straight-time hourly wage rate plus shift premium at the time the agreement is reached.

Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

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

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

Notes on the data

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

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992). Comprehensive data are published in press releases issued quarterly (in January, April, July, and October) for private industry, and semiannually (in February and August) for State and local government. Historical data and additional detailed tabulations for the prior calendar year appear in the March or April issue of the BLS periodical, *Compensation and Working Conditions*.

Work stoppages

Description of the series

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

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

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

Data for each calendar year are reported in a BLS press release issued in the first quarter of the following year. Monthly and historical data appear in the BLS periodical, *Compensation and Working Conditions*. Historical

data appear in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989).

Other compensation data

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

Occupational Compensation Surveys. The Bureau restructured its Area Wage Survey program to provide the data needed under the Federal Employees Comparability Act of 1990 (5 U.S.C. 5304). Implementation of this act requires surveying pay rates for nonfederal employees in various localities across the country.

In place of studies of 90 metropolitan areas (32 areas on an annual basis and two groups of 29 areas in alternate years), the new program is covering approximately 85 publishable areas during the period of September 1991 through May 1993.

Detailed information is provided on salary levels and distributions for the types of private industry and State and local government jobs published in the survey. Although the definitions of the jobs surveyed reflect the duties and responsibilities in private industry and State and local government, they are designed to match specific pay grades of Federal white- and blue-collar employees under the General Schedule pay systems. Accordingly, this survey provides the legally required information for comparing the pay of salaried employees in the Federal civil service with pay in private industry.

Bulletins titled *Occupational Compensation Survey: Pay and Benefits,* or *Occupational Compensation Survey: Pay Only* are issued throughout the year as the surveys are completed.

Price Data

(Tables 2; 31–43)

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

Consumer Price Indexes

Description of the series

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

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

Data collected from more than 19,000 retail establishments and 57,000 housing units in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 15 major urban centers are presented in table 32. The areas listed are as indicated in footnote 1 to the table. The area indexes measure only the average change in prices for each area since the base period, and do not indicate differences in the level of prices among cities.

Notes on the data

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

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992). The recent change in the measurement of homeownership costs is discussed in Robert Gillingham and Walter Lane, "Changing the treatment of shelter costs for homeowners in the CPI," *Monthly Labor Review*, July 1982, pp. 9–14. An overview of the recently introduced revised CPI, reflecting 1982–84 expenditure patterns, is contained in *The Consumer Price Index: 1987 Revision*, Report 736 (Bureau of Labor Statistics, 1987).

Additional detailed CPI data and regular analyses of consumer price changes are provided in the *CPI Detailed Report*, a monthly publication of the Bureau. Historical data for the overall CPI and for selected groupings may be found in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989).

Producer Price Indexes

Description of the series

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

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

Since January 1987, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1982.

The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

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

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

Additional sources of information

For a discussion of the methodology for computing Producer Price Indexes, see BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992).

Additional detailed data and analyses of price changes are provided monthly in *Producer Price Indexes*. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989).

International Price Indexes

Description of the series

The BLS **International Price Program** produces quarterly export and import price indexes for nonmilitary goods traded between the United States and the rest of the world. The export price index provides a measure of price change for all products sold by U.S. residents to foreign buyers. ("Residents" is defined as in the national income accounts; it includes corporations, businesses, and individuals, but does not require the organizations to be U.S. owned nor the individuals to have U.S. citizenship.) The import price index provides a measure of price change for goods purchased from other countries by U.S. residents. With publication of an all-import index in February 1983 and an all-export index in February 1984, all U.S. merchandise imports and exports now are represented in these indexes. The reference period for the indexes is 1985=100, unless otherwise indicated.

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

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

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

Notes on the data

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

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

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

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

Additional sources of information

For a discussion of the general method computing International Price Indexes, see BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992).

Additional detailed data and analyses of international price developments are presented in the Bureau's quarterly publication, *U.S. Import and Export Price Indexes* and in occasional *Monthly Labor Review* articles prepared by BLS analysts. Selected historical data may be found in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989). For further information on the foreign currency indexes, see "BLS publishes average exchange rate and foreign currency price indexes," *Monthly Labor Review*, December 1987, pp. 47–49.

Productivity Data

(Tables 2: 44–47)

Business sector and major sectors

Description of the series

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

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

Definitions

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

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

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

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

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

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

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

Combined units of labor and capital inputs are derived by combining changes in labor and capital input 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

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

The productivity and associated cost measures in tables 44–47 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input.

Although these measures relate output to hours and capital services, they do not measure the contributions of labor, capital, or any other specific factor of production. Rather, they reflect the joint effect of many influences, including changes in technology; capital investment; level of output; utilization of capacity, energy, and materials; the organization of production; managerial skill; and the characteristics and efforts of the work force.

Additional sources of information

Descriptions of methodology underlying the measurement of output per hour and multifactor productivity are found in the BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992). Historical data are provided in *Handbook of Labor Statistics,* Bulletin 2340 (Bureau of Labor Statistics, 1989).

Industry productivity measures

Description of the series

The BLS industry productivity data supplement the measures for the business economy and major sectors with annual measures of labor productivity for selected industries at the three- and four-digit levels of the Standard Industrial Classification system. The industry measures differ in methodology and data sources from the productivity measures for the major sectors because the industry measures are developed independently of the National Income and Product Accounts framework used for the major sector measures.

Definitions

Output per employee hour is derived by dividing an index of industry output by an index of aggregate hours of all employees. Output indexes are based on quantifiable units of products or services, or both, combined with fixed-period weights. Whenever possible, physical quantities are used as the unit of measurement for output. If quantity data are not available for a given industry, data on the constant-dollar value of production are used.

The labor input series consist of the hours of all employees (production and nonproduction workers), the hours of all persons (paid employees, partners, proprietors, and unpaid family workers), or the number of employees, depending upon the industry.

Notes on the data

The industry measures are compiled from data produced by the Bureau of Labor Statistics, the Departments of Commerce, Interior, and Agriculture, the Federal Reserve Board, regulatory agences, trade associations, and other sources.

For most industries, the productivity indexes refer to the output per hour of all employees. For some transportation industries, only indexes of output per employee are prepared. For some trade and service industries, indexes of output per hour of all persons (including self-employed) are constructed.

Additional sources of information

For a listing of available industry productivity indexes and their components, see *Productivity Measures for Selected Industries and Government Services*, Bulletin 2421 (Bureau of Labor Statistics, 1993). For additional information about the methodology for computing the industry productivity measures, see the BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992).

International Comparisons

(Tables 48–50)

Labor force and unemployment

Description of the series

Tables 48 and 49 present comparative measures of the labor force, employment, and unemployment—approximating U.S. concepts—for the United States, Canada, Australia, Japan, and several European countries. The unemployment statistics (and, to a lesser extent, employment statistics) published by other industrial countries are not, in most cases, comparable to U.S. unemployment statistics. Therefore, the Bureau adjusts the figures for selected countries, where necessary, for all known major definitional differences. Although precise comparability may not be achieved, these adjusted figures provide a better basis for international comparisons than the figures regularly published by each country.

Definitiions

For the principal U.S. definitions of the **labor force**, **employment**, and **unemployment**, see the Notes section on **Employment and Unemployment Data:** Household Survey Data.

Notes on the data

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

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

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

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

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

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

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B, and Supplements to Appendix B. The statistics are also analyzed periodically in the *Monthly Labor Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989) and are available in statistical supplements to Bulletin 1979.

Manufacturing productivity and labor costs

Description of the series

Table 50 presents comparative measures of manufacturing labor productivity, hourly compensation costs, and unit labor costs for the United States, Canada, Japan, and nine European countries. These measures are limited to trend comparisons—that is, intercountry series of changes over time—rather than level comparisons because reliable international comparisons of the levels of manufacturing output are unavailable.

Definitions

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

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

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

Notes on the data

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

The figures for one or more recent years are generally based on current indicators of

manufacturing output, employment, hours, and hourly compensation and are considered preliminary until the national accounts and other statistics used for the long-term measures becomes available.

Additional sources of information

For additional information, see BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992), and periodic *Monthly Labor Review* articles. Historical data are provided in the *Handbook of Labor Statistics*, Bulletin 2340 (Bureau of Labor Statistics, 1989). The statistics are issued twice per year—in a news release (generally in June) and in a *Monthly Labor Review* article.

Occupational Injury and Illness Data

(Table 51)

Description of the series

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

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

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

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

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

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

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

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

Additional sources of information

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

The definitions of occupational injuries and illnesses and lost workdays are from *Recordkeeping Requirements under the Occupational Safety and Health Act of 1970*. For additional data, see *Occupational Injuries and Illnesses in the United States, by Industry*, annual Bureau of Labor Statistics bulletin; BLS *Handbook of Methods*, Bulletin 2414 (Bureau of Labor Statistics, 1992); *Handbook of Labor Statistics* Bulletin 2340 (Bureau of Labor Statistics, 1989), pp. 411–14; annual reports in the *Monthly Labor Review*; and annual U.S. Department of Labor press releases. □

1. Labor market indicators

Selected indicators	1991	1992	1991			1992				1993
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey):[1]										
Labor force participation rate	66.0	66.3	66.2	65.9	66.0	66.1	66.4	66.4	66.2	66.0
Employment-population ratio	61.6	61.4	61.7	61.5	61.4	61.3	61.4	61.4	61.4	61.4
Unemployment rate	6.7	7.4	6.7	6.7	7.0	7.3	7.5	7.5	7.3	7.0
Men	7.0	7.8	7.1	7.2	7.2	7.7	7.9	7.9	7.6	7.3
16 to 24 years	14.3	15.3	14.4	14.7	14.7	15.4	15.6	15.3	14.7	14.5
25 years and over	5.7	6.4	5.7	5.7	5.9	6.3	6.5	6.5	6.3	5.9
Women	6.3	6.9	6.3	6.2	6.7	6.7	6.9	7.1	6.9	6.7
16 to 24 years	12.4	13.0	12.2	12.3	13.2	12.4	13.0	13.4	12.9	13.1
25 years and over	5.1	5.7	5.1	5.0	5.3	5.6	5.7	5.8	5.8	5.4
Unemployment rate, 15 weeks and over	1.9	2.6	1.8	1.9	2.2	2.5	2.6	2.8	2.8	2.5
Employment, nonfarm (payroll data), in thousands:[1]										
Total	108,310	108,437	108,223	108,250	108,193	108,147	108,432	108,525	108,656	109,087
Private sector	89,930	89,858	89,846	89,868	89,765	89,672	89,890	89,879	89,992	90,402
Goods-producing	23,830	23,420	23,844	23,779	23,634	23,528	23,516	23,372	23,271	23,311
Manufacturing	18,455	18,190	18,445	18,427	18,359	18,284	18,263	18,163	18,059	18,097
Service-producing	84,480	85,017	84,379	84,471	84,559	84,619	84,916	85,153	85,385	85,776
Average hours:										
Private sector	34.3	34.4	34.3	34.3	34.4	34.5	34.4	34.4	34.5	34.4
Manufacturing	40.7	41.0	40.5	40.8	40.9	41.0	41.1	41.0	41.2	41.4
Overtime	3.6	3.8	3.5	3.7	3.7	3.7	4.0	3.7	3.9	4.0
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	4.3	3.5	1.0	1.2	.6	1.2	.6	1.1	.6	1.2
Private industry workers	4.4	3.5	1.2	1.1	.6	1.3	.7	.8	.7	1.3
Goods-producing[2]	4.6	3.8	1.2	1.1	.8	1.4	.7	.9	.7	1.6
Service-producing[2]	4.3	3.2	1.2	1.1	.5	1.1	.7	.7	.7	1.0
State and local government workers	3.6	3.7	.2	1.7	.4	.7	.4	1.9	.6	.6
Workers by bargaining status (private industry):										
Union	4.6	4.3	1.2	1.2	.9	1.8	.8	1.1	.6	1.6
Nonunion	4.3	3.2	1.2	1.0	.6	1.1	.6	.8	.7	1.1

[1] Quarterly data seasonally adjusted.
[2] Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

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

Selected measures	1991	1992	1991			1992				1993
			II	III	IV	I	II	III	IV	I
Compensation data: [1], [2]										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	4.3	3.5	1.0	1.2	0.6	1.2	0.6	1.1	0.6	1.2
Private nonfarm	4.4	3.5	1.2	1.1	.6	1.3	.7	.8	.7	1.3
Employment Cost Index--wages and salaries										
Civilian nonfarm	3.6	2.7	.8	1.0	.5	.8	.5	.8	.5	.8
Private nonfarm	3.7	2.6	1.0	.8	.6	.8	.6	.5	.6	.9
Price data:[1]										
Consumer Price Index (All urban consumers): All items	3.1	2.9	.7	.9	.5	1.0	.6	.8	.4	1.2
Producer Price Index:										
Finished goods	-.1	1.6	.8	-.4	.4	.2	1.4	-.5	.4	.6
Finished consumer goods	-.9	1.6	.9	-.4	.1	.1	1.8	-.3	.0	.7
Capital equipment	2.5	1.7	.2	-.2	1.4	.7	.0	-.6	1.6	.5
Intermediate materials, supplies, components	-2.6	1.0	.1	.3	-.8	-.1	1.6	.3	-.9	1.0
Crude materials	-11.6	3.3	-1.4	-1.8	-.3	.2	4.3	.3	-1.5	1.7
Productivity data:[3]										
Output per hour of all persons:										
Business sector	.3	2.9	1.6	1.9	3.3	3.9	1.0	3.3	4.3	.1
Nonfarm business sector	.5	2.7	1.7	1.9	2.5	3.7	1.7	2.9	4.1	-.1
Nonfinancial corporations [4]	1.8	3.3	2.1	2.1	4.2	2.3	2.5	5.1	5.7	-

[1] Annual changes are December-to-December change. Quarterly changes are calculated using the last month of each quarter. Compensation and price data are not seasonally adjusted and the price data are not compounded.
[2] Excludes Federal and private household workers.
[3] Annual rates of change are computed by comparing annual averages. Quarterly percent changes reflect annual rates of change in quarterly indexes. The data are seasonally adjusted.
[4] Output per hour of all employees.
- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly average						Four quarters ended--					
	1991	1992				1993	1991	1992				1993
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:[1]												
All persons, business sector	3.5	4.0	1.9	4.5	4.5	3.8	4.1	4.2	3.3	3.5	3.7	3.7
All persons, nonfarm business sector	3.1	3.8	2.4	4.2	4.5	3.3	4.2	4.1	3.3	3.4	3.7	3.6
Employment Cost Index--compensation:												
Civilian nonfarm [2]	.6	1.2	.6	1.1	.6	1.2	4.3	4.0	3.6	3.5	3.5	3.5
Private nonfarm	.6	1.3	.7	.8	.7	1.3	4.4	4.2	3.7	3.4	3.5	3.5
Union	.9	1.8	.8	1.1	.6	1.6	4.6	5.2	4.8	4.6	4.3	4.2
Nonunion	.6	1.1	.6	.8	.7	1.1	4.3	4.0	3.4	3.1	3.2	3.3
State and local governments	.4	.7	.4	1.9	.6	.6	3.6	3.0	3.3	3.5	3.7	3.6
Employment Cost Index--wages and salaries:												
Civilian nonfarm[2]	.5	.8	.5	.8	.5	.8	3.6	3.2	2.9	2.7	2.7	2.7
Private nonfarm	.6	.8	.6	.5	.6	.9	3.7	3.4	3.0	2.7	2.6	2.7
Union	.8	.8	.9	.8	.5	.7	3.6	3.4	3.5	3.4	3.1	3.0
Nonunion	.5	.8	.5	.5	.6	.9	3.7	3.3	2.9	2.5	2.5	2.6
State and local governments	.4	.5	.4	1.5	.6	.5	3.5	2.9	3.0	2.7	3.0	3.0
Total effective wage adjustments[3]	.7	.6	1.0	1.0	.4	.5	3.6	3.5	3.4	3.2	3.1	2.9
From current settlements	.3	.1	.2	.3	.2	.1	1.1	1.1	.9	.9	.8	.8
From prior settlements	.3	.4	.7	.6	.2	.3	1.9	2.0	2.0	1.9	1.9	1.8
From cost-of-living provision	.1	.1	.1	.1	.1	.1	.5	.4	.4	.4	.4	.4
Negotiated wage adjustments from settlements:[3]												
First-year adjustments	3.7	3.1	2.8	2.9	1.8	2.8	3.6	3.5	3.2	3.1	2.7	2.7
Annual rate over life of contract	3.2	3.1	3.0	3.1	2.6	3.1	3.2	3.2	3.1	3.1	3.0	3.0
Negotiated wage and benefit adjustments from settlements:[4]												
First-year adjustment	3.6	2.7	3.6	3.3	1.4	3.1	4.1	4.0	3.6	3.5	3.0	3.0
Annual rate over life of contract	2.9	3.5	3.6	3.0	2.7	3.1	3.4	3.4	3.2	3.2	3.1	3.1

[1] Seasonally adjusted.
[2] Excludes Federal and household workers.
[3] Limited to major collective bargaining units of 1,000 workers or more. The most recent data are preliminary.
[4] Limited to major collective bargaining units of 5,000 workers or more. The most recent data are preliminary.

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

(Numbers in thousands)

Employment status	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
TOTAL															
Civilian noninstitutional population[1]	189,765	191,576	191,168	191,307	191,455	191,622	191,790	191,947	192,131	192,316	192,509	192,644	192,786	192,959	193,126
Civilian labor force	125,303	126,982	126,743	127,039	127,298	127,350	127,404	127,274	127,066	127,365	127,591	127,083	127,327	127,429	127,341
Participation rate	66.0	66.3	66.3	66.4	66.5	66.5	66.4	66.3	66.1	66.2	66.3	66.0	66.0	66.0	65.9
Employed	116,877	117,598	117,518	117,580	117,510	117,722	117,780	117,724	117,687	118,064	118,311	118,071	118,451	118,565	118,416
Employment-population ratio[2]	61.6	61.4	61.5	61.5	61.4	61.4	61.4	61.3	61.3	61.4	61.5	61.3	61.4	61.4	61.3
Unemployed	8,426	9,384	9,225	9,459	9,788	9,628	9,624	9,550	9,379	9,301	9,280	9,013	8,876	8,864	8,925
Unemployment rate	6.7	7.4	7.3	7.4	7.7	7.6	7.6	7.5	7.4	7.3	7.3	7.1	7.0	7.0	7.0
Not in labor force	64,462	64,593	64,425	64,268	64,157	64,272	64,386	64,673	65,065	64,951	64,918	65,561	65,459	65,530	65,785
Men, 20 years and over															
Civilian noninstitutional population[1]	83,806	84,891	84,671	84,755	84,842	84,944	85,010	85,075	85,159	85,259	85,369	85,445	85,554	85,664	85,731
Civilian labor force	64,822	65,638	65,572	65,844	65,813	65,782	65,857	65,805	65,811	65,740	65,785	65,624	65,734	65,901	65,819
Participation rate	77.3	77.3	77.4	77.7	77.6	77.4	77.5	77.3	77.3	77.1	77.1	76.8	76.8	76.9	76.8
Employed	60,714	61,019	61,033	61,087	61,027	61,070	61,104	61,125	61,088	61,206	61,326	61,423	61,479	61,466	61,579
Employment-population ratio[2]	72.4	71.9	72.1	72.1	71.9	71.9	71.9	71.8	71.7	71.8	71.8	71.9	71.9	71.8	71.8
Agriculture	2,358	2,355	2,351	2,366	2,366	2,359	2,363	2,382	2,378	2,326	2,371	2,340	2,299	2,248	2,273
Nonagricultural industries	58,356	58,664	58,682	58,721	58,661	58,711	58,741	58,743	58,710	58,880	58,955	59,083	59,180	59,218	59,305
Unemployed	4,109	4,619	4,539	4,757	4,786	4,712	4,753	4,680	4,723	4,534	4,459	4,201	4,255	4,435	4,240
Unemployment rate	6.3	7.0	6.9	7.2	7.3	7.2	7.2	7.1	7.2	6.9	6.8	6.4	6.5	6.7	6.4
Women, 20 years ond over															
Civilian noninstitutional population[1]	92,584	93,524	93,320	93,416	93,479	93,562	93,635	93,703	93,771	93,849	93,960	94,007	94,088	94,148	94,214
Civilian labor force	53,563	54,594	54,534	54,468	54,682	54,834	54,773	54,611	54,578	54,832	55,010	54,733	54,742	54,779	54,704
Participation rate	57.9	58.4	58.4	58.3	58.5	58.6	58.5	58.3	58.2	58.4	58.5	58.2	58.2	58.2	58.1
Employed	50,535	51,181	51,136	51,104	51,233	51,307	51,247	51,141	51,182	51,435	51,494	51,246	51,466	51,668	51,433
Employment-population ratio[2]	54.6	54.7	54.8	54.7	54.8	54.8	54.7	54.6	54.6	54.8	54.8	54.5	54.7	54.9	54.6
Agriculture	642	627	648	619	665	617	619	594	584	616	613	608	551	618	576
Nonagricultural industries	49,893	50,553	50,488	50,485	50,568	50,690	50,628	50,547	50,598	50,819	50,881	50,638	50,915	51,050	50,856
Unemployed	3,028	3,413	3,398	3,364	3,449	3,527	3,526	3,470	3,396	3,397	3,516	3,486	3,276	3,111	3,271
Unemployment rate	5.7	6.3	6.2	6.2	6.3	6.4	6.4	6.4	6.2	6.2	6.4	6.4	6.0	5.7	6.0
Both sexes, 16 to 19 years															
Civilian noninstitutional population[1]	13,376	13,161	13,177	13,136	13,134	13,116	13,145	13,169	13,200	13,208	13,181	13,191	13,143	13,147	13,181
Civilian labor force	6,918	6,751	6,637	6,727	6,803	6,734	6,774	6,858	6,677	6,793	6,796	6,726	6,851	6,749	6,819
Participation rate	51.7	51.3	50.4	51.2	51.8	51.3	51.5	52.1	50.6	51.4	51.6	51.0	52.1	51.3	51.7
Employed	5,628	5,398	5,349	5,389	5,250	5,345	5,429	5,458	5,417	5,423	5,491	5,401	5,506	5,431	5,405
Employment-population ratio[2]	42.1	41.0	40.6	41.0	40.0	40.8	41.3	41.4	41.0	41.1	41.7	40.9	41.9	41.3	41.0
Agriculture	233	225	207	201	213	231	236	245	207	267	278	243	266	216	211
Nonagricultural industries	5,395	5,174	5,142	5,188	5,037	5,114	5,193	5,213	5,210	5,156	5,213	5,158	5,240	5,215	5,194
Unemployed	1,290	1,352	1,288	1,338	1,553	1,389	1,345	1,400	1,260	1,370	1,305	1,325	1,345	1,318	1,414
Unemployment rate	18.6	20.0	19.4	19.9	22.8	20.6	19.9	20.4	18.9	20.2	19.2	19.7	19.6	19.5	20.7
White															
Civilian noninstitutional population[1]	161,511	162,658	162,398	162,483	162,575	162,682	162,791	162,891	163,013	163,132	163,259	163,343	163,429	163,543	163,649
Civilian labor force	107,486	108,526	108,412	108,551	108,671	108,783	108,707	108,606	108,483	108,723	108,946	108,729	108,754	108,998	108,589
Participation rate	66.6	66.7	66.8	66.8	66.8	66.9	66.8	66.7	66.5	66.6	66.7	66.6	66.5	66.6	66.4
Employed	101,039	101,479	101,479	101,530	101,307	101,558	101,524	101,412	101,458	101,816	102,043	101,987	102,109	102,339	102,035
Employment-population ratio[2]	62.6	62.4	62.5	62.5	62.3	62.4	62.4	62.3	62.2	62.4	62.5	62.4	62.5	62.6	62.3
Unemployed	6,447	7,047	6,933	7,021	7,364	7,225	7,183	7,194	7,025	6,907	6,903	6,742	6,645	6,659	6,554
Unemployment rate	6.0	6.5	6.4	6.5	6.8	6.6	6.6	6.6	6.5	6.4	6.3	6.2	6.1	6.1	6.0
Black															
Civilian noninstitutional population[1]	21,615	21,958	21,882	21,909	21,937	21,966	21,997	22,027	22,061	22,096	22,131	22,157	22,184	22,217	22,249
Civilian labor force	13,542	13,891	13,756	13,869	14,001	13,995	14,106	13,981	13,948	13,894	13,935	13,822	14,018	13,834	13,872
Participation rate	62.6	63.3	62.9	63.3	63.8	63.7	64.1	63.5	63.2	62.9	63.0	62.4	63.2	62.3	62.4
Employed	11,863	11,933	11,857	11,858	11,971	11,979	12,098	12,033	11,984	11,948	11,960	11,853	12,186	11,962	11,959
Employment-population ratio[2]	54.9	54.3	54.2	54.1	54.6	54.5	55.0	54.6	54.3	54.1	54.0	53.5	54.9	53.8	53.7
Unemployed	1,679	1,958	1,899	2,011	2,030	2,016	2,008	1,948	1,964	1,946	1,975	1,969	1,832	1,871	1,913
Unemployment rate	12.4	14.1	13.8	14.5	14.5	14.4	14.2	13.9	14.1	14.0	14.2	14.2	13.1	13.5	13.8

See footnotes at end of table.

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

(Numbers in thousands)

Employment status	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Hispanic origin															
Civilian noninstitutional population[1]	14,770	15,244	15,145	15,184	15,224	15,263	15,303	15,342	15,382	15,421	15,461	15,500	15,540	15,585	15,635
Civilian labor force	9,762	10,131	10,032	10,092	10,126	10,150	10,116	10,213	10,210	10,211	10,351	10,225	10,280	10,343	10,210
Participation rate	66.1	66.5	66.2	66.5	66.5	66.5	66.1	66.6	66.4	66.2	66.9	66.0	66.1	66.4	65.3
Employed	8,799	8,971	8,987	8,951	8,927	8,955	8,969	9,028	9,011	8,990	9,145	9,043	9,108	9,166	9,148
Employment-population ratio[2]	59.6	58.9	59.3	59.0	58.6	58.7	58.6	58.8	58.6	58.3	59.1	58.3	58.6	58.8	58.5
Unemployed	963	1,160	1,045	1,141	1,199	1,195	1,147	1,185	1,199	1,221	1,206	1,182	1,171	1,177	1,062
Unemployment rate	9.9	11.4	10.4	11.3	11.8	11.8	11.3	11.6	11.7	12.0	11.7	11.6	11.4	11.4	10.4

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

5. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Employed, 16 years and over	116,877	117,598	117,518	117,580	117,510	117,722	117,780	117,724	117,687	118,064	118,311	118,071	118,451	118,565	118,416
Men	63,593	63,805	63,777	63,830	63,751	63,830	63,901	63,976	63,924	64,043	64,194	64,186	64,338	64,332	64,356
Women	53,284	53,793	53,741	53,750	53,759	53,892	53,879	53,748	53,763	54,021	54,117	53,885	54,114	54,233	54,060
Married men, spouse present	40,423	40,303	40,317	40,408	40,345	40,252	40,318	40,292	40,324	40,487	40,639	40,607	40,903	40,902	41,002
Married women, spouse present	29,773	30,136	30,052	30,160	30,303	30,269	30,212	30,108	30,030	30,244	30,403	30,298	30,515	30,669	30,171
Women who maintain families	6,457	6,582	6,549	6,565	6,579	6,565	6,641	6,639	6,626	6,585	6,548	6,555	6,615	6,792	6,942
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,673	1,696	1,747	1,682	1,701	1,712	1,698	1,694	1,656	1,685	1,735	1,661	1,614	1,568	1,632
Self-employed workers	1,442	1,398	1,366	1,400	1,396	1,392	1,417	1,397	1,405	1,370	1,397	1,404	1,363	1,377	1,324
Unpaid family workers	118	113	100	101	128	111	103	108	118	163	106	145	136	130	105
Nonagricultural industries:															
Wage and salary workers	104,520	105,540	105,494	105,634	105,365	105,619	105,697	105,643	105,863	105,913	105,978	105,883	106,163	106,447	106,055
Government	17,901	18,086	17,699	17,934	18,184	18,275	18,378	18,505	18,371	18,216	18,065	18,481	18,507	18,536	18,471
Private industries	86,619	87,454	87,795	87,700	87,181	87,344	87,319	87,138	87,492	87,697	87,913	87,402	87,655	87,911	87,583
Private households	994	1,116	1,102	1,085	1,139	1,232	1,116	1,158	1,102	1,109	1,091	1,061	1,071	1,143	1,113
Other	85,625	86,338	86,693	86,615	86,042	86,112	86,203	85,980	86,390	86,588	86,822	86,341	86,584	86,769	86,470
Self-employed workers	8,899	8,619	8,491	8,586	8,595	8,663	8,642	8,662	8,558	8,700	8,668	8,793	9,065	8,832	8,950
Unpaid family workers	225	232	247	245	253	250	242	217	189	220	221	250	226	206	234
PERSONS AT WORK PART TIME[1]															
All industries:															
Part time for economic reasons	6,046	6,385	6,343	6,486	6,100	6,342	6,352	6,362	6,434	6,493	6,349	6,113	6,461	6,194	6,458
Slack work	3,201	3,220	3,115	3,314	3,289	3,283	3,254	3,171	3,160	3,161	3,206	2,994	3,150	3,039	3,128
Could only find part-time work	2,534	2,867	2,865	2,863	2,592	2,740	2,849	2,879	2,988	3,060	2,865	2,887	2,991	2,855	3,000
Voluntary part time	15,024	14,759	14,853	14,589	15,223	14,945	15,082	14,805	14,726	14,834	14,895	14,788	14,698	14,799	14,529
Nonagricultural industries:															
Part time for economic reasons	5,767	6,116	6,030	6,181	5,921	6,069	6,099	6,096	6,151	6,230	6,063	5,887	6,242	5,965	6,238
Slack work	3,011	3,037	2,852	3,107	3,138	3,123	3,121	3,001	2,993	2,984	3,024	2,800	2,990	2,887	2,963
Could only find part-time work	2,455	2,792	2,782	2,783	2,519	2,659	2,756	2,826	2,905	2,998	2,793	2,849	2,931	2,781	2,904
Voluntary part time	14,584	14,329	14,432	14,135	14,819	14,491	14,721	14,358	14,324	14,413	14,476	14,364	14,282	14,319	14,129

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

6. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CHARACTERISTIC															
Total, all workers	6.7	7.4	7.3	7.4	7.7	7.6	7.6	7.5	7.4	7.3	7.3	7.1	7.0	7.0	7.0
Both sexes, 16 to 19 years	18.6	20.0	19.4	19.9	22.8	20.6	19.9	20.4	18.9	20.2	19.2	19.7	19.6	19.5	20.7
Men, 20 years and over	6.3	7.0	6.9	7.2	7.3	7.2	7.2	7.1	7.2	6.9	6.8	6.4	6.5	6.7	6.4
Women, 20 years and over	5.7	6.3	6.2	6.2	6.3	6.4	6.4	6.4	6.2	6.2	6.4	6.4	6.0	5.7	6.0
White, total	6.0	6.5	6.4	6.5	6.8	6.6	6.6	6.6	6.5	6.4	6.3	6.2	6.1	6.1	6.0
Both sexes, 16 to 19 years	16.4	17.1	16.5	16.7	19.9	17.6	16.9	17.3	15.5	17.1	16.2	16.5	16.8	16.3	17.0
Men, 16 to 19 years	17.5	18.4	17.8	18.4	21.2	18.8	18.5	18.7	15.9	17.7	17.2	18.1	17.9	16.5	19.2
Women, 16 to 19 years	15.2	15.7	15.0	14.9	18.4	16.3	15.2	15.8	15.1	16.4	15.1	14.9	15.6	16.0	14.5
Men, 20 years and over	5.7	6.3	6.2	6.4	6.5	6.4	6.4	6.4	6.3	6.1	6.0	5.8	5.8	6.0	5.7
Women, 20 years and over	4.9	5.4	5.4	5.2	5.5	5.6	5.6	5.6	5.5	5.3	5.6	5.5	5.2	5.0	5.1
Black, total	12.4	14.1	13.8	14.5	14.5	14.4	14.2	13.9	14.1	14.0	14.2	14.2	13.1	13.5	13.8
Both sexes, 16 to 19 years	36.3	39.8	39.5	42.5	41.0	40.5	37.4	42.2	42.2	41.3	39.6	38.7	38.0	43.9	46.8
Men, 16 to 19 years	36.5	42.0	43.2	43.0	45.1	42.3	42.7	44.3	44.2	44.8	42.2	39.0	37.4	45.4	47.9
Women, 16 to 19 years	36.1	37.2	35.7	42.1	36.4	38.4	31.8	39.8	39.8	37.5	36.5	38.5	38.6	42.0	45.3
Men, 20 years and over	11.5	13.4	12.8	13.8	13.6	13.6	13.8	13.5	13.7	13.0	13.3	13.0	11.9	13.1	12.7
Women, 20 years and over	10.5	11.7	11.8	11.9	12.2	12.1	11.9	11.0	11.3	11.8	11.9	12.5	11.2	10.4	10.9
Hispanic origin, total	9.9	11.4	10.4	11.3	11.8	11.8	11.3	11.6	11.7	12.0	11.7	11.6	11.4	11.4	10.4
Married men, spouse present	4.4	5.0	4.8	5.0	5.1	5.2	5.3	5.2	5.1	4.9	4.8	4.5	4.5	4.7	4.5
Married women, spouse present	4.5	5.0	5.0	5.0	5.2	5.2	5.0	5.0	5.1	5.0	5.0	4.9	4.4	4.3	4.8
Women who maintain families	9.1	9.9	10.0	9.9	10.1	10.3	10.3	9.1	9.3	10.4	10.3	10.6	10.2	9.0	9.6
Full-time workers	6.5	7.1	7.0	7.1	7.4	7.3	7.3	7.2	7.1	7.0	6.9	6.7	6.6	6.6	6.6
Part-time workers	8.3	9.2	8.9	9.3	9.3	9.2	9.1	9.5	9.2	9.2	9.7	9.3	9.1	8.9	9.7
Unemployed 15 weeks and over	1.9	2.6	2.4	2.6	2.7	2.8	2.8	2.8	2.8	2.7	2.8	2.6	2.5	2.4	2.3
Labor force time lost[1]	7.6	8.3	8.2	8.3	8.4	8.4	8.4	8.3	8.3	8.3	8.1	7.9	7.9	7.9	7.8
INDUSTRY															
Nonagricultural private wage and salary workers	7.0	7.7	7.6	7.7	7.9	7.8	7.9	7.8	7.8	7.5	7.5	7.3	7.2	7.2	7.2
Mining	7.7	7.9	7.3	8.5	9.0	9.9	10.6	7.2	8.3	5.3	5.5	7.8	7.1	5.5	8.6
Construction	15.4	16.7	16.6	16.9	17.4	17.0	17.0	17.4	16.1	14.5	15.7	14.3	13.7	15.3	14.5
Manufacturing	7.2	7.8	7.6	7.7	8.1	8.2	8.0	8.1	8.2	8.0	7.2	7.3	7.2	7.3	7.2
Durable goods	7.5	8.0	7.6	7.8	8.1	8.4	8.3	8.4	8.9	8.5	7.5	7.3	6.9	7.0	7.2
Nondurable goods	6.8	7.5	7.6	7.6	8.1	8.0	7.4	7.7	7.3	7.3	6.9	7.2	7.5	7.6	7.3
Transportation and public utilities	5.3	5.5	4.7	5.1	5.5	5.7	5.4	5.7	5.8	6.1	5.6	4.9	4.6	4.9	5.0
Wholesale and retail trade	7.6	8.4	8.3	8.4	8.6	8.5	9.0	8.5	8.1	7.9	8.0	7.9	7.8	7.9	8.3
Finance and service industries	5.4	6.1	6.0	6.2	6.1	6.0	6.1	6.0	6.4	6.1	6.5	6.3	6.1	5.7	5.7
Government workers	3.2	3.5	3.5	3.5	3.5	3.4	3.4	3.4	3.0	3.8	3.6	3.6	3.6	3.6	3.4
Agricultural wage and salary workers	11.6	12.3	10.9	13.3	12.8	13.8	11.4	14.3	12.5	13.5	12.2	11.6	13.1	12.1	11.2

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

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

(Civilian workers)

Sex and age	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total, 16 years and over	6.7	7.4	7.3	7.4	7.7	7.6	7.6	7.5	7.4	7.3	7.3	7.1	7.0	7.0	7.0
16 to 24 years	13.4	14.2	13.8	14.3	15.1	14.5	14.3	14.4	13.6	14.1	13.9	14.0	14.0	13.6	14.0
16 to 19 years	18.6	20.0	19.4	19.9	22.8	20.6	19.9	20.4	18.9	20.2	19.2	19.7	19.6	19.5	20.7
16 to 17 years	20.9	23.0	22.5	23.6	26.4	23.6	21.5	23.8	22.1	23.8	21.8	24.0	21.3	24.3	22.9
18 to 19 years	17.2	18.1	17.4	17.9	20.6	18.7	18.5	18.3	16.8	17.9	17.8	16.2	18.3	16.4	19.4
20 to 24 years	10.8	11.3	11.0	11.6	11.2	11.6	11.5	11.4	11.0	11.1	11.3	11.1	11.2	10.6	10.6
25 years and over	5.4	6.1	6.0	6.1	6.3	6.2	6.2	6.2	6.2	6.0	6.0	5.8	5.6	5.7	5.7
25 to 54 years	5.7	6.3	6.2	6.3	6.5	6.4	6.4	6.4	6.4	6.3	6.3	6.0	5.8	5.9	5.9
55 years and over	3.9	4.8	4.7	4.8	5.2	5.3	5.2	5.0	4.9	4.7	4.6	4.5	4.3	4.2	4.1
Men, 16 years and over	7.0	7.8	7.6	7.9	8.2	7.9	8.0	7.9	7.8	7.6	7.5	7.1	7.2	7.4	7.3
16 to 24 years	14.3	15.3	15.1	15.5	16.1	15.5	15.2	15.1	14.4	15.1	14.7	14.7	14.5	14.4	15.5
16 to 19 years	19.8	21.5	20.9	21.2	24.4	21.9	21.8	21.8	19.5	21.1	20.5	20.9	20.6	20.2	23.2
16 to 17 years	21.6	24.4	23.9	25.5	28.5	24.9	23.7	24.5	22.6	25.1	22.6	26.0	23.0	24.1	24.4
18 to 19 years	18.6	19.5	18.9	19.2	22.1	20.0	20.4	19.9	17.8	18.5	19.3	16.7	18.9	17.7	22.3
20 to 24 years	11.7	12.2	12.2	12.8	12.0	12.4	12.0	11.7	11.9	12.2	11.8	11.8	11.4	11.5	11.5
25 years and over	5.7	6.4	6.3	6.5	6.7	6.5	6.6	6.5	6.6	6.3	6.2	5.8	5.9	6.1	5.8
25 to 54 years	5.9	6.6	6.5	6.7	6.8	6.7	6.8	6.8	6.8	6.5	6.4	6.0	6.1	6.3	6.0
55 years and over	4.3	5.2	5.1	5.2	5.8	5.6	5.5	5.4	5.5	5.0	5.1	4.6	4.5	4.8	4.5
Women, 16 years and over	6.3	6.9	6.9	6.9	7.1	7.1	7.1	7.0	6.9	6.9	7.0	7.0	6.7	6.4	6.6
16 to 24 years	12.4	13.0	12.3	12.9	13.9	13.5	13.2	13.6	12.7	12.9	13.0	13.1	13.4	12.7	12.4
16 to 19 years	17.4	18.5	17.7	18.4	21.0	19.2	17.7	18.8	18.2	19.1	17.7	18.5	18.6	18.8	18.0
16 to 17 years	20.1	21.4	21.0	21.5	24.1	22.2	19.2	23.0	21.6	22.4	21.0	21.7	19.4	24.6	21.2
18 to 19 years	15.8	16.5	15.8	16.6	18.8	17.3	16.3	16.5	15.8	17.2	16.2	15.6	17.6	15.0	16.1
20 to 24 years	9.8	10.2	9.7	10.2	10.3	10.7	10.9	11.1	10.0	9.8	10.6	10.4	10.8	9.7	9.6
25 years and over	5.1	5.7	5.7	5.7	5.8	5.8	5.8	5.8	5.7	5.7	5.8	5.8	5.3	5.1	5.4
25 to 54 years	5.4	6.0	6.0	5.8	6.0	6.0	6.0	6.0	5.9	5.9	6.2	6.0	5.5	5.4	5.7
55 years and over	3.4	4.2	4.0	4.3	4.5	4.9	4.8	4.5	4.3	4.3	3.9	4.3	4.0	3.4	3.7

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

(Numbers in thousands)

Reason for unemployment	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Job losers	4,608	5,291	5,219	5,430	5,535	5,462	5,414	5,438	5,492	5,207	5,138	4,847	4,648	4,812	4,821
On layoff	1,279	1,246	1,227	1,211	1,312	1,296	1,255	1,335	1,265	1,195	1,204	1,029	1,049	1,076	1,036
Other job losers	3,329	4,045	3,992	4,219	4,223	4,166	4,159	4,103	4,227	4,012	3,934	3,818	3,599	3,735	3,785
Job leavers	979	975	1,009	992	1,017	1,003	1,009	963	913	977	972	821	1,046	1,096	1,007
Reentrants	2,087	2,228	2,137	2,194	2,266	2,273	2,246	2,274	2,206	2,194	2,237	2,346	2,299	2,047	2,172
New entrants	753	890	853	863	999	958	941	944	784	930	930	960	887	930	940
PERCENT OF UNEMPLOYED															
Job losers	54.7	56.4	56.6	57.3	56.4	56.3	56.3	56.5	58.5	55.9	55.4	54.0	52.3	54.2	53.9
On layoff	15.2	13.3	13.3	12.8	13.4	13.4	13.1	13.9	13.5	12.8	13.0	11.5	11.8	12.1	11.6
Other job losers	39.5	43.1	43.3	44.5	43.0	43.0	43.3	42.7	45.0	43.1	42.4	42.5	40.5	42.0	42.3
Job leavers	11.6	10.4	10.9	10.5	10.4	10.3	10.5	10.0	9.7	10.5	10.5	9.1	11.8	12.3	11.3
Reentrants	24.8	23.7	23.2	23.1	23.1	23.4	23.4	23.6	23.5	23.6	24.1	26.1	25.9	23.0	24.3
New entrants	8.9	9.5	9.3	9.1	10.2	9.9	9.8	9.8	8.3	10.0	10.0	10.7	10.0	10.5	10.5
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.7	4.2	4.1	4.3	4.3	4.3	4.2	4.3	4.3	4.1	4.0	3.8	3.7	3.8	3.8
Job leavers	.8	.8	.8	.8	.8	.8	.8	.8	.7	.8	.8	.6	.8	.9	.8
Reentrants	1.7	1.8	1.7	1.7	1.8	1.8	1.8	1.8	1.7	1.7	1.8	1.8	1.8	1.6	1.7
New entrants	.6	.7	.7	.7	.8	.8	.7	.7	.6	.7	.7	.8	.7	.7	.7

9. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Less than 5 weeks	3,380	3,270	3,269	3,362	3,512	3,373	3,289	3,281	3,192	3,120	3,042	3,272	3,232	3,102	3,355
5 to 14 weeks	2,724	2,760	2,706	2,663	2,783	2,776	2,846	2,847	2,666	2,835	2,688	2,481	2,487	2,566	2,496
15 weeks and over	2,323	3,354	3,072	3,349	3,432	3,547	3,547	3,522	3,564	3,446	3,605	3,317	3,143	3,073	2,926
15 to 26 weeks	1,225	1,424	1,303	1,405	1,363	1,459	1,502	1,427	1,475	1,438	1,540	1,407	1,236	1,259	1,276
27 weeks and over	1,098	1,930	1,769	1,944	2,069	2,088	2,045	2,095	2,089	2,008	2,065	1,910	1,907	1,814	1,650
Mean duration in weeks	13.8	17.9	17.2	17.9	18.2	18.3	18.3	18.5	19.2	18.4	19.2	18.7	18.3	17.5	17.4
Median duration in weeks	6.9	8.8	8.6	8.8	8.7	8.6	8.9	9.3	9.3	9.4	9.4	8.5	8.2	8.3	8.5

10. Unemployment rates by State, data not seasonally adjusted

State	Mar. 1992	Mar. 1993[p]	State	Mar. 1992	Mar. 1993[p]
Alabama	7.6	8.1	Montana	7.3	7.3
Alaska	10.1	8.3	Nebraska	2.8	3.2
Arizona	8.4	7.5	Nevada	6.9	7.3
Arkansas	7.0	6.5	New Hampshire	7.5	8.7
California	8.7	9.7	New Jersey	7.5	8.5
Colorado	6.3	6.4	New Mexico	7.6	7.4
Connecticut	7.4	7.2	New York	8.5	7.6
Delaware	6.4	5.5	North Carolina	6.4	5.5
District of Columbia	8.3	8.3	North Dakota	5.3	5.5
Florida	8.1	6.7	Ohio	7.8	7.3
Georgia	6.3	6.5	Oklahoma	6.8	6.2
Hawaii	3.5	4.7	Oregon	8.5	7.7
Idaho	7.7	8.4	Pennsylvania	7.6	7.2
Illinois	8.2	8.6	Rhode Island	8.9	8.6
Indiana	6.3	5.5	South Carolina	7.1	6.4
Iowa	5.4	5.1	South Dakota	4.0	4.0
Kansas	3.6	5.0	Tennessee	7.0	6.4
Kentucky	7.0	6.9	Texas	7.4	6.7
Louisiana	6.9	7.1	Utah	5.0	3.9
Maine	8.5	9.6	Vermont	7.1	7.9
Maryland	7.4	6.2	Virginia	6.8	5.2
Massachusetts	10.0	7.6	Washington	8.4	8.2
Michigan	10.0	7.1	West Virginia	12.9	11.8
Minnesota	6.3	5.8	Wisconsin	5.7	5.0
Mississippi	8.1	6.9			
Missouri	5.6	6.7	Wyoming	7.5	6.3

[p] = preliminary
NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

11. Employment of workers on nonfarm payrolls by State, data not seasonally adjusted

(In thousands)

State	Mar. 1992	Feb. 1993	Mar. 1993[p]	State	Mar. 1992	Feb. 1993	Mar. 1993[p]
Alabama	1,654.0	1,685.5	1,689.8	Nebraska	738.3	738.3	743.3
Alaska	238.1	237.9	241.1	Nevada	627.5	647.1	651.1
Arizona	1,512.4	1,545.3	1,555.9	New Hampshire	473.4	483.9	483.4
Arkansas	950.7	968.3	975.4				
California	12,173.8	11,935.8	11,973.3	New Jersey	3,412.0	3,367.2	3,376.3
				New Mexico	590.4	596.9	601.1
Colorado	1,568.9	1,604.3	1,614.0	New York	7,658.9	7,595.5	7,643.6
Connecticut	1,515.5	1,485.4	1,489.0	North Carolina	3,084.5	3,162.8	3,173.4
Delaware	333.5	340.0	341.5	North Dakota	271.1	277.6	278.4
District of Columbia	672.3	673.2	675.5				
Florida	5,386.2	5,440.8	5,485.5	Ohio	4,771.7	4,787.2	4,816.4
				Oklahoma	1,210.1	1,211.3	1,219.6
Georgia	2,939.2	3,014.2	3,025.3	Oregon	1,243.6	1,264.6	1,273.0
Hawaii	546.5	537.2	540.2	Pennsylvania	5,013.0	5,031.7	5,045.5
Idaho	403.1	413.0	413.7	Rhode Island	412.9	415.8	416.1
Illinois	5,145.1	5,148.8	5,175.8				
Indiana	2,504.6	2,525.7	2,534.3	South Carolina	1,511.5	1,536.2	1,551.4
				South Dakota	299.1	304.3	306.0
Iowa	1,232.3	1,234.6	1,243.6	Tennessee	2,217.6	2,220.2	2,237.1
Kansas	1,102.2	1,118.6	1,125.4	Texas	7,187.3	7,360.4	7,382.5
Kentucky	1,484.8	1,509.2	1,515.2	Utah	754.8	778.8	787.5
Louisiana	1,608.9	1,616.4	1,618.7				
Maine	490.7	501.3	499.2	Vermont	248.3	252.2	250.9
				Virginia	2,803.0	2,819.6	2,826.3
Maryland	2,053.3	2,038.9	2,046.2	Washington	2,184.9	2,198.7	2,212.7
Massachusetts	2,755.3	2,733.8	2,736.3	West Virginia	625.4	632.7	638.4
Michigan	3,855.9	3,910.2	3,912.8	Wisconsin	2,288.0	2,331.6	2,339.9
Minnesota	2,131.7	2,179.3	2,186.6				
Mississippi	945.9	977.0	977.4	Wyoming	197.4	196.4	197.7
Missouri	2,300.0	2,302.7	2,321.2	Puerto Rico	848.0	847.5	847.7
Montana	306.6	314.7	316.6	Virgin Islands	44.6	45.9	46.2

[p] = preliminary
NOTE: Some data in this table may differ from data published elsewhere because of the continual updating of the database.

12. Employment of workers on nonfarm payrolls by industry, monthly data seasonally adjusted

(In thousands)

Industry	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
TOTAL	108,310	108,437	108,377	108,496	108,423	108,594	108,485	108,497	108,571	108,646	108,752	108,865	109,203	109,194	109,313
PRIVATE SECTOR	89,930	89,858	89,835	89,950	89,885	89,988	89,803	89,847	89,948	89,961	90,067	90,201	90,511	90,494	90,601
GOODS-PRODUCING	23,830	23,420	23,530	23,548	23,470	23,459	23,362	23,296	23,270	23,280	23,263	23,267	23,374	23,293	23,214
Mining	691	635	646	641	634	633	626	620	623	622	619	616	605	607	603
Construction	4,685	4,595	4,605	4,632	4,600	4,584	4,591	4,574	4,601	4,590	4,582	4,559	4,657	4,598	4,588
General building contractors	1,152	1,103	1,108	1,101	1,093	1,096	1,100	1,097	1,098	1,093	1,084	1,086	1,100	1,088	1,094
Manufacturing	18,455	18,190	18,279	18,275	18,236	18,242	18,145	18,102	18,046	18,068	18,062	18,092	18,112	18,088	18,023
Production workers	12,467	12,345	12,412	12,410	12,378	12,392	12,307	12,270	12,235	12,274	12,284	12,342	12,351	12,338	12,291
Durable goods	10,602	10,339	10,409	10,398	10,371	10,347	10,298	10,271	10,231	10,247	10,238	10,265	10,274	10,246	10,198
Production workers	6,988	6,859	6,903	6,896	6,876	6,867	6,828	6,809	6,789	6,819	6,822	6,867	6,869	6,850	6,819
Lumber and wood products	679	687	688	687	684	683	682	683	689	695	697	696	704	702	694
Furniture and fixtures	472	465	467	467	469	470	465	461	461	461	462	463	467	466	465
Stone, clay, and glass products	524	519	520	522	521	521	520	520	518	518	519	517	524	521	518
Primary metal industries	726	703	708	707	706	702	701	699	695	695	693	694	694	692	688
Blast furnaces and basic steel products	264	254	257	256	255	253	252	252	250	248	245	244	245	244	243
Fabricated metal products	1,359	1,335	1,341	1,343	1,338	1,335	1,334	1,330	1,323	1,323	1,323	1,331	1,335	1,335	1,331
Industrial machinery and equipment	2,007	1,946	1,949	1,959	1,954	1,947	1,941	1,943	1,935	1,935	1,933	1,936	1,932	1,930	1,930
Electronic and other electrical equipment	1,598	1,549	1,557	1,554	1,549	1,545	1,536	1,538	1,534	1,537	1,537	1,540	1,545	1,548	1,544
Transportation equipment	1,891	1,827	1,859	1,842	1,836	1,829	1,816	1,797	1,782	1,790	1,788	1,805	1,791	1,770	1,748
Motor vehicles and equipment	789	812	821	813	814	818	814	803	802	818	823	874	843	832	817
Instruments and related products	980	943	952	949	946	943	938	935	930	927	921	920	917	915	914
Miscellaneous manufacturing industries	366	366	368	368	368	372	365	365	364	366	365	363	365	367	366
Nondurable goods	7,852	7,851	7,870	7,877	7,865	7,895	7,847	7,831	7,815	7,821	7,824	7,827	7,838	7,842	7,825
Production workers	5,479	5,486	5,509	5,514	5,502	5,525	5,479	5,461	5,446	5,455	5,462	5,475	5,482	5,488	5,472
Food and kindred products	1,672	1,670	1,677	1,678	1,671	1,685	1,672	1,661	1,661	1,664	1,664	1,671	1,675	1,676	1,664
Tobacco products	49	49	50	49	49	49	51	50	49	47	49	49	48	48	48
Textile mill products	672	678	682	679	680	682	675	677	672	675	678	676	678	676	678
Apparel and other textile products	1,010	1,018	1,023	1,026	1,023	1,034	1,013	1,007	1,004	1,006	1,004	1,004	1,004	1,003	997
Paper and allied products	688	688	689	691	689	689	687	692	688	688	686	685	685	685	683
Printing and publishing	1,541	1,521	1,521	1,522	1,520	1,522	1,521	1,523	1,520	1,518	1,520	1,515	1,520	1,520	1,519
Chemicals and allied products	1,072	1,071	1,072	1,073	1,073	1,070	1,072	1,069	1,069	1,069	1,068	1,068	1,065	1,066	1,067
Petroleum and coal products	159	155	157	156	155	154	153	152	152	152	151	152	152	151	151
Rubber and misc. plastics products	864	879	876	880	883	884	880	877	877	880	883	887	891	896	898
Leather and leather products	125	123	123	123	122	126	123	123	123	122	121	120	120	121	120
SERVICE-PRODUCING	84,480	85,017	84,847	84,948	84,953	85,135	85,123	85,201	85,301	85,366	85,489	85,598	85,829	85,901	86,099
Transportation and public utilities	5,772	5,742	5,746	5,745	5,745	5,742	5,729	5,738	5,731	5,732	5,742	5,763	5,771	5,770	5,768
Transportation	3,512	3,520	3,523	3,522	3,524	3,524	3,514	3,520	3,516	3,517	3,531	3,550	3,560	3,559	3,560
Communications and public utilities	2,260	2,222	2,223	2,223	2,221	2,218	2,215	2,218	2,215	2,215	2,211	2,213	2,211	2,211	2,208
Wholesale trade	6,069	5,983	5,993	5,993	5,988	5,972	5,964	5,957	5,969	5,976	5,970	5,995	6,002	6,009	6,008
Retail trade	19,259	19,138	19,177	19,150	19,156	19,184	19,106	19,122	19,146	19,116	19,162	19,227	19,361	19,342	19,363
General merchandise stores	2,426	2,309	2,338	2,334	2,318	2,306	2,296	2,296	2,285	2,262	2,255	2,228	2,261	2,252	2,233
Food stores	3,204	3,178	3,194	3,188	3,192	3,179	3,169	3,176	3,170	3,165	3,168	3,176	3,189	3,189	3,183
Automotive dealers and service stations	1,996	2,011	2,007	2,007	2,011	2,012	2,013	2,012	2,017	2,023	2,034	2,041	2,055	2,060	2,067
Eating and drinking places	6,465	6,485	6,470	6,462	6,473	6,502	6,463	6,494	6,513	6,536	6,579	6,621	6,653	6,664	6,691
Finance, insurance, and real estate	6,678	6,672	6,682	6,681	6,672	6,660	6,661	6,669	6,680	6,669	6,677	6,682	6,681	6,680	6,697
Finance	3,211	3,232	3,230	3,234	3,232	3,228	3,227	3,238	3,244	3,243	3,251	3,264	3,261	3,265	3,277
Insurance	2,163	2,139	2,149	2,144	2,138	2,135	2,133	2,132	2,133	2,129	2,124	2,116	2,115	2,116	2,117
Real estate	1,305	1,301	1,303	1,303	1,302	1,297	1,301	1,299	1,303	1,297	1,302	1,302	1,305	1,299	1,303
Services	28,323	28,903	28,707	28,833	28,854	28,971	28,981	29,065	29,152	29,188	29,253	29,267	29,322	29,400	29,551
Business services	5,087	5,290	5,233	5,278	5,292	5,300	5,319	5,322	5,406	5,427	5,458	5,445	5,479	5,517	5,565
Health services	8,177	8,464	8,412	8,437	8,446	8,478	8,488	8,506	8,535	8,561	8,580	8,589	8,615	8,625	8,662
Government	18,380	18,579	18,542	18,546	18,538	18,606	18,682	18,650	18,623	18,685	18,685	18,664	18,692	18,700	18,712
Federal	2,966	2,969	2,986	2,984	2,972	2,957	2,959	2,967	2,942	2,940	2,971	2,943	2,943	2,935	2,927
State	4,346	4,371	4,360	4,367	4,357	4,388	4,383	4,401	4,390	4,384	4,389	4,394	4,398	4,401	4,411
Local	11,067	11,239	11,196	11,195	11,209	11,261	11,340	11,282	11,291	11,361	11,325	11,327	11,351	11,364	11,374

[p] = preliminary

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

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

Industry	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.p	Apr.p
PRIVATE SECTOR	34.3	34.4	34.3	34.6	34.3	34.3	34.6	34.3	34.5	34.6	34.3	34.5	34.4	34.3	34.4
MINING	44.4	44.0	44.2	44.3	43.4	43.7	44.4	43.8	44.0	44.3	43.7	44.3	43.8	43.4	43.9
MANUFACTURING	40.7	41.0	41.1	41.3	41.0	41.0	41.0	40.9	41.1	41.2	41.2	41.4	41.5	41.2	41.5
Overtime hours	3.6	3.8	3.9	4.1	3.8	3.8	3.7	3.5	3.8	3.9	3.9	4.0	4.2	3.9	4.3
Durable goods	41.1	41.5	41.5	41.9	41.5	41.6	41.6	41.2	41.6	41.8	41.8	42.0	42.2	41.9	42.2
Overtime hours	3.5	3.7	3.8	4.1	3.8	3.8	3.7	3.4	3.8	3.9	3.9	4.1	4.4	4.1	4.6
Lumber and wood products	40.0	40.6	40.6	40.8	40.1	40.8	40.5	40.3	40.7	40.9	40.4	40.5	41.0	40.4	40.6
Furniture and fixtures	38.9	39.7	40.0	40.0	39.8	40.1	39.4	39.2	39.7	40.1	39.9	40.2	40.4	40.1	40.2
Stone, clay, and glass products	41.7	42.2	42.4	42.5	42.3	42.5	42.3	42.5	42.4	42.3	42.1	42.2	42.5	42.1	42.5
Primary metal industries	42.2	43.0	43.2	43.6	43.2	43.1	43.1	42.7	42.8	43.0	43.4	43.7	44.0	43.8	44.2
Blast furnaces and basic steel products	42.7	43.5	44.0	44.1	43.8	43.8	43.9	42.4	42.8	43.1	43.6	44.0	44.6	44.5	44.7
Fabricated metal products	41.2	41.6	41.3	41.9	41.6	41.9	41.6	41.1	41.7	41.8	41.8	42.0	42.2	41.8	42.0
Industrial machinery and equipment	41.7	42.2	42.1	42.6	42.2	42.1	42.2	42.0	42.5	42.8	42.6	42.9	42.9	42.8	43.2
Electronic and other electrical equipment	40.7	41.2	41.0	41.5	41.1	41.3	41.2	41.0	41.3	41.6	41.5	41.7	41.9	41.5	42.0
Transportation equipment	41.9	41.8	41.8	42.2	41.9	41.5	42.2	40.9	41.5	41.8	42.4	42.6	42.8	42.8	42.8
Motor vehicles and equipment	42.3	42.4	43.2	43.1	42.6	42.5	42.9	41.0	41.5	42.3	43.5	43.7	44.4	44.5	44.7
Instruments and related products	41.0	41.1	40.9	41.4	41.2	41.1	41.2	41.0	41.3	41.3	41.1	41.4	40.9	41.1	41.5
Miscellaneous manufacturing	39.6	39.9	39.9	40.0	40.0	40.1	39.7	39.5	40.0	40.0	39.8	39.8	39.9	39.7	40.4
Nondurable goods	40.2	40.4	40.6	40.5	40.4	40.3	40.3	40.5	40.4	40.5	40.5	40.7	40.7	40.3	40.6
Overtime hours	3.7	3.8	4.1	4.1	3.9	3.8	3.8	3.8	3.9	3.9	3.9	3.9	4.1	3.8	4.0
Food and kindred products	40.6	40.6	40.7	40.5	40.3	40.3	40.5	40.8	40.9	40.8	40.6	40.6	40.8	40.5	40.6
Textile mill products	40.6	41.1	41.4	41.4	41.3	41.0	40.8	41.8	40.8	41.1	41.5	41.8	41.9	40.0	42.0
Apparel and other textile products	37.0	37.2	37.2	37.3	37.2	37.2	37.2	37.4	37.4	37.6	37.4	37.6	37.6	37.2	37.1
Paper and allied products	43.3	43.6	44.0	43.8	43.7	43.5	43.5	43.9	43.4	43.4	43.4	43.5	43.8	43.4	43.6
Printing and publishing	37.7	38.1	38.0	38.2	38.1	38.0	38.0	38.1	38.2	38.1	38.0	38.2	38.1	38.1	38.5
Chemicals and allied products	42.9	43.1	43.1	43.4	43.2	43.1	43.1	42.9	42.8	42.9	42.9	43.0	43.0	42.9	42.9
Rubber and miscellaneous plastics products	41.1	41.7	42.3	41.9	41.8	41.6	41.7	41.5	41.5	41.8	41.9	42.2	42.2	41.9	41.8
Leather and leather products	37.5	38.0	38.0	38.2	38.0	38.4	37.9	37.8	38.4	39.2	38.6	39.5	39.6	39.0	39.0
TRANSPORTATION AND PUBLIC UTILITIES	38.7	38.8	38.2	38.8	38.6	38.8	39.3	38.9	38.9	39.5	39.1	39.5	39.4	39.6	39.3
WHOLESALE TRADE	38.1	38.2	38.3	38.3	38.1	38.0	38.5	38.0	38.1	38.5	38.0	38.2	38.1	37.9	38.1
RETAIL TRADE	28.6	28.8	28.6	28.8	28.6	28.5	28.9	28.9	28.9	29.0	28.7	28.8	28.8	28.2	28.7
SERVICES	32.4	32.5	32.4	32.6	32.4	32.4	32.7	32.1	32.5	32.6	32.3	32.4	32.3	32.4	32.4

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

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

Industry	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.p	Apr.p
PRIVATE SECTOR (in current dollars)	$10.33	$10.59	$10.52	$10.56	$10.58	$10.58	$10.66	$10.63	$10.65	$10.71	$10.69	$10.73	$10.76	$10.79	$10.79
Mining	14.18	14.51	14.46	14.49	14.52	14.50	14.55	14.54	14.59	14.67	14.46	14.54	14.48	14.60	14.74
Construction	13.99	14.11	14.03	14.09	14.20	14.11	14.21	14.07	14.15	14.20	14.16	14.12	14.14	14.26	14.24
Manufacturing	11.18	11.45	11.42	11.44	11.44	11.45	11.51	11.51	11.51	11.54	11.57	11.60	11.64	11.64	11.71
Excluding overtime	10.71	10.94	10.93	10.92	10.93	10.95	11.00	11.03	10.98	11.02	11.04	11.09	11.09	11.11	11.13
Transportation and public utilities	13.24	13.49	13.43	13.44	13.47	13.43	13.53	13.56	13.56	13.65	13.57	13.58	13.57	13.72	13.65
Wholesale trade	11.15	11.40	11.29	11.37	11.38	11.38	11.51	11.44	11.48	11.53	11.47	11.59	11.59	11.60	11.68
Retail trade	6.95	7.14	7.09	7.12	7.11	7.14	7.16	7.18	7.18	7.19	7.20	7.22	7.25	7.25	7.26
Finance, insurance, and real estate	10.40	10.82	10.68	10.76	10.76	10.76	10.96	10.84	10.92	11.09	11.00	11.10	11.11	11.13	11.14
Services	10.22	10.54	10.46	10.49	10.53	10.53	10.61	10.59	10.61	10.68	10.66	10.73	10.74	10.76	10.73
PRIVATE SECTOR (in constant (1982) dollars)	7.45	7.43	7.41	7.43	7.43	7.41	7.45	7.42	7.40	7.43	7.40	7.40	7.40	7.40	–

– Data not available.
p = preliminary
NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

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

Industry	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
PRIVATE SECTOR	$10.33	$10.59	$10.54	$10.55	$10.53	$10.53	$10.56	$10.66	$10.69	$10.73	$10.71	$10.78	$10.78	$10.80	$10.81
MINING	14.18	14.51	14.52	14.45	14.51	14.47	14.45	14.57	14.44	14.58	14.55	14.69	14.57	14.66	14.80
CONSTRUCTION	13.99	14.11	14.02	14.05	14.09	14.05	14.20	14.18	14.25	14.20	14.23	14.16	14.07	14.23	14.21
MANUFACTURING	11.18	11.45	11.41	11.44	11.45	11.46	11.44	11.53	11.49	11.54	11.63	11.61	11.61	11.63	11.71
Durable goods	11.75	12.02	11.95	12.02	12.04	12.03	12.04	12.09	12.07	12.12	12.22	12.19	12.20	12.20	12.26
Lumber and wood products	9.24	9.43	9.35	9.40	9.41	9.46	9.49	9.48	9.52	9.49	9.50	9.45	9.50	9.48	9.46
Furniture and fixtures	8.76	9.00	8.91	8.95	8.99	9.00	9.04	9.09	9.10	9.08	9.18	9.14	9.10	9.11	9.14
Stone, clay, and glass products	11.37	11.64	11.60	11.65	11.66	11.68	11.68	11.83	11.74	11.71	11.68	11.67	11.71	11.73	11.84
Primary metal industries	13.34	13.67	13.64	13.65	13.69	13.77	13.74	13.93	13.73	13.76	13.82	13.76	13.83	13.78	13.97
Blast furnaces and basic steel products	15.37	15.89	15.88	15.77	15.89	15.97	15.97	16.31	15.98	16.03	16.11	15.99	16.24	16.14	16.43
Fabricated metal products	11.19	11.41	11.40	11.43	11.43	11.39	11.41	11.43	11.42	11.47	11.59	11.53	11.54	11.53	11.63
Industrial machinery and equipment	12.16	12.43	12.30	12.38	12.44	12.49	12.45	12.49	12.51	12.57	12.66	12.61	12.64	12.61	12.68
Electronic and other electrical equipment	10.71	11.01	10.98	10.99	11.06	11.05	11.03	11.05	11.04	11.06	11.14	11.14	11.11	11.11	11.19
Transportation equipment	14.74	15.16	14.97	15.17	15.18	15.12	15.21	15.27	15.28	15.36	15.50	15.43	15.47	15.58	15.60
Motor vehicles and equipment	15.19	15.33	15.20	15.48	15.44	15.28	15.37	15.39	15.38	15.40	15.61	15.52	15.57	15.76	15.78
Instruments and related products	11.65	11.93	11.88	11.86	11.90	11.93	11.93	12.03	12.04	12.10	12.16	12.13	12.14	12.19	12.25
Miscellaneous manufacturing	8.85	9.14	9.13	9.10	9.12	9.11	9.08	9.13	9.19	9.23	9.32	9.33	9.31	9.27	9.33
Nondurable goods	10.44	10.71	10.71	10.69	10.69	10.73	10.70	10.82	10.74	10.81	10.87	10.86	10.85	10.88	11.00
Food and kindred products	9.90	10.19	10.20	10.23	10.21	10.18	10.13	10.22	10.12	10.30	10.36	10.30	10.28	10.32	10.45
Tobacco products	16.68	16.69	17.25	17.52	18.13	18.38	16.20	16.02	15.73	17.33	16.00	15.55	16.13	16.90	17.56
Textile mill products	8.30	8.60	8.56	8.58	8.60	8.60	8.62	8.68	8.66	8.70	8.77	8.80	8.82	8.76	8.91
Apparel and other textile products	6.77	6.95	6.98	6.96	6.97	6.94	6.96	7.00	6.98	6.97	7.04	7.05	7.04	7.05	7.10
Paper and allied products	12.73	13.09	13.02	13.05	13.03	13.13	13.07	13.35	13.16	13.20	13.29	13.18	13.20	13.24	13.43
Printing and publishing	11.49	11.75	11.64	11.66	11.67	11.76	11.79	11.93	11.87	11.85	11.89	11.85	11.84	11.87	11.88
Chemicals and allied products	14.02	14.45	14.39	14.39	14.38	14.49	14.47	14.64	14.57	14.64	14.72	14.69	14.71	14.66	14.81
Petroleum and coal products	17.03	17.87	17.92	17.78	17.62	17.70	17.72	17.93	18.05	18.21	18.06	18.34	18.36	18.72	18.82
Rubber and miscellaneous plastics products	10.07	10.37	10.33	10.33	10.36	10.39	10.38	10.46	10.44	10.45	10.54	10.55	10.54	10.50	10.64
Leather and leather products	7.18	7.40	7.47	7.41	7.41	7.28	7.36	7.35	7.36	7.42	7.48	7.46	7.46	7.50	7.58
TRANSPORTATION AND PUBLIC UTILITIES	13.24	13.49	13.43	13.39	13.40	13.43	13.50	13.61	13.59	13.65	13.60	13.61	13.62	13.69	13.65
WHOLESALE TRADE	11.15	11.40	11.34	11.35	11.33	11.38	11.43	11.46	11.46	11.53	11.53	11.61	11.62	11.60	11.72
RETAIL TRADE	6.95	7.14	7.12	7.12	7.10	7.10	7.10	7.21	7.19	7.21	7.19	7.26	7.26	7.26	7.27
FINANCE, INSURANCE, AND REAL ESTATE	10.40	10.82	10.75	10.76	10.70	10.73	10.84	10.84	10.91	11.06	11.04	11.14	11.20	11.17	11.20
SERVICES	10.22	10.54	10.50	10.47	10.42	10.41	10.45	10.61	10.63	10.72	10.75	10.81	10.82	10.80	10.77

[p] = preliminary
NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

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

Industry	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.p	Apr.p
PRIVATE SECTOR															
Current dollars	$354.32	$364.30	$360.47	$362.92	$364.34	$364.34	$369.60	$365.64	$368.81	$371.26	$369.50	$366.52	$368.68	$367.20	$369.70
Seasonally adjusted	–	–	360.84	365.38	362.89	362.89	368.84	364.61	367.43	370.57	366.67	370.19	370.14	370.10	371.18
Constant (1982) dollars	255.64	255.47	254.39	255.58	255.68	255.14	258.10	254.62	255.94	257.28	256.06	253.12	253.91	252.20	–
MINING	629.59	638.44	633.07	634.36	635.54	625.10	643.03	641.08	641.14	651.73	646.02	647.83	635.25	630.38	642.32
CONSTRUCTION	533.02	536.18	535.56	546.55	548.10	546.55	553.80	526.08	555.75	532.50	529.36	511.18	514.96	532.20	535.72
MANUFACTURING															
Current dollars	455.03	469.45	460.96	470.18	471.74	466.42	470.18	472.73	474.54	480.06	487.30	477.17	477.17	475.67	478.94
Constant (1982) dollars	328.30	329.21	325.31	331.11	331.05	326.62	328.34	329.20	329.31	332.68	337.70	329.54	328.63	326.70	–
Durable goods	482.93	498.83	489.95	501.23	503.27	495.64	499.66	496.90	504.53	510.25	520.57	508.32	508.74	508.74	510.02
Lumber and wood products	369.60	382.86	377.74	385.40	383.93	384.08	389.09	382.04	389.37	386.24	387.60	376.11	382.85	381.10	381.24
Furniture and fixtures	340.76	357.30	347.49	354.42	358.70	357.30	360.70	358.15	364.91	364.11	377.30	363.77	360.36	361.67	363.77
Stone, clay, and glass products	474.13	491.21	488.36	497.46	499.05	498.74	501.07	508.69	505.99	498.85	491.73	478.47	484.79	485.62	498.46
Primary metal industries	562.95	587.81	581.06	591.05	595.52	593.49	590.82	601.78	589.02	595.81	605.32	599.94	601.61	598.05	609.09
Blast furnaces and basic steel products	656.30	691.22	687.60	690.73	700.75	702.68	701.08	724.16	687.14	695.70	708.84	701.96	712.94	708.55	724.56
Fabricated metal products	461.03	474.66	465.12	477.77	478.92	470.41	474.66	468.63	479.64	484.03	494.89	480.80	481.22	478.50	480.32
Industrial machinery and equipment	507.07	524.55	511.68	523.67	526.21	520.83	521.66	518.34	531.68	540.51	553.24	540.97	540.99	539.71	540.17
Electronic and other electrical equipment	435.90	453.61	444.69	452.79	456.78	448.63	452.23	450.84	457.06	465.63	475.68	464.54	462.18	459.95	462.15
Transportation equipment	617.61	633.69	615.27	641.69	643.63	621.43	637.30	626.07	641.76	646.66	666.50	649.60	652.83	662.15	653.64
Motor vehicles and equipment	642.54	649.99	629.28	673.38	673.18	640.23	656.30	637.15	655.19	652.96	680.60	662.70	672.62	690.29	678.54
Instruments and related products	477.65	490.32	482.33	486.26	491.47	481.97	487.94	490.82	496.05	504.57	511.94	500.97	497.74	501.01	502.25
Miscellaneous manufacturing	350.46	364.69	359.72	362.18	364.80	358.02	362.29	359.72	372.20	375.66	376.53	367.60	367.75	368.02	371.33
Nondurable goods	419.69	432.68	425.19	430.81	432.95	430.27	434.42	441.46	437.12	442.13	446.76	438.74	436.17	435.20	441.10
Food and kindred products	401.94	413.71	404.94	412.27	411.46	409.24	416.34	424.13	416.94	426.42	427.87	415.09	411.20	411.77	415.91
Tobacco products	652.19	644.23	655.50	669.26	716.14	700.28	633.42	619.97	605.61	656.81	633.60	600.23	601.65	606.71	621.62
Textile mill products	336.98	353.46	343.26	354.35	359.48	350.88	356.87	360.22	356.79	361.05	365.71	363.44	362.50	346.02	367.09
Apparel and other textile products	250.49	258.54	250.58	258.91	261.38	256.78	260.30	256.90	263.15	264.16	266.11	262.97	262.59	260.85	257.73
Paper and allied products	551.21	570.72	561.16	567.68	569.41	568.53	567.24	591.41	575.09	579.48	588.75	573.33	571.56	569.32	581.52
Printing and publishing	433.17	447.68	436.50	439.58	439.96	443.35	451.56	460.50	454.62	456.23	460.14	449.12	448.74	453.43	453.82
Chemicals and allied products	601.46	622.80	620.21	620.21	621.22	618.72	619.32	635.38	622.14	633.91	643.26	631.67	629.59	627.45	635.35
Petroleum and coal products	751.02	782.71	779.52	791.21	768.23	768.18	769.05	785.33	808.64	817.63	792.83	808.79	806.00	814.32	839.37
Rubber and miscellaneous plastics products	413.88	432.43	426.63	432.83	436.16	427.03	431.81	435.14	435.35	438.90	446.90	443.10	441.63	436.80	444.75
Leather and leather products	269.25	281.20	274.90	282.32	287.51	280.28	281.89	277.10	283.36	290.12	292.47	290.94	290.94	288.75	291.83
TRANSPORTATION AND PUBLIC UTILITIES	512.39	523.41	513.03	518.19	521.26	526.46	533.25	532.15	530.01	539.18	533.12	529.43	532.54	536.65	535.08
WHOLESALE TRADE	424.82	435.48	433.19	434.71	432.81	434.72	440.06	436.63	437.77	442.75	440.45	440.02	440.40	438.48	445.36
RETAIL TRADE	198.77	205.63	203.63	204.34	205.90	208.03	210.16	209.09	206.35	206.93	209.95	203.28	204.73	201.83	207.20
FINANCE, INSURANCE, AND REAL ESTATE	371.28	387.36	383.78	383.06	380.92	381.99	393.49	384.82	388.40	400.37	394.13	397.70	399.84	396.54	398.72
SERVICES	331.13	342.55	339.15	339.23	338.65	340.41	344.85	341.64	344.41	349.47	347.23	347.00	349.49	348.84	347.87

– Data not available.
p = preliminary
NOTE: See "Notes on the data" for a description of the most recent benchmark revision.

17. Diffusion indexes of employment change, seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Private nonfarm payrolls, 356 industries											
Over 1-month span:												
1991	37.9	37.6	36.1	41.3	50.7	45.1	48.7	51.4	50.0	47.1	46.8	46.9
1992	43.5	47.9	47.5	58.4	51.4	45.2	49.6	42.6	49.9	50.1	49.7	53.7
1993	55.1	61.5	48.0	51.8	–	–	–	–	–	–	–	–
Over 3-month span:												
1991	31.3	28.7	31.7	38.3	41.0	45.6	48.0	51.4	48.5	46.3	44.4	42.7
1992	44.8	44.1	53.2	54.9	54.4	47.6	41.6	44.4	44.1	48.2	51.8	55.2
1993	62.4	59.3	55.9	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1991	27.9	29.2	28.2	33.0	38.9	44.0	47.2	46.3	46.9	46.1	44.0	43.4
1992	47.8	50.6	49.7	51.1	47.3	49.3	42.8	42.0	46.2	47.6	57.2	56.7
1993	57.3	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1991	27.4	28.5	28.1	29.9	32.2	33.4	35.7	39.0	42.8	46.3	47.6	47.8
1992	49.2	44.1	45.2	43.8	44.9	45.6	47.6	54.5	51.7	50.0	–	–
1993	–	–	–	–	–	–	–	–	–	–	–	–
	Manufacturing payrolls, 139 industries											
Over 1-month span:												
1991	35.6	33.5	30.6	40.6	46.0	43.9	49.6	50.7	42.8	46.4	45.3	46.0
1992	39.6	43.9	43.2	57.6	46.4	42.4	51.4	36.7	45.7	39.2	51.1	48.9
1993	52.2	56.8	43.9	40.3	–	–	–	–	–	–	–	–
Over 3-month span:												
1991	23.4	21.6	21.6	32.4	36.3	43.5	52.2	49.6	46.4	42.4	42.1	37.4
1992	37.8	36.3	48.9	49.3	50.4	46.4	35.6	36.7	31.7	40.6	43.2	52.2
1993	56.8	55.4	45.0	–	–	–	–	–	–	–	–	–
Over 6-month span:												
1991	17.3	20.5	21.9	25.9	34.9	40.6	45.3	44.6	45.3	39.9	36.0	36.0
1992	41.4	43.2	41.4	47.8	41.7	42.4	29.9	30.9	33.1	35.3	49.3	50.4
1993	50.7	–	–	–	–	–	–	–	–	–	–	–
Over 12-month span:												
1991	17.6	19.4	18.0	19.4	24.1	25.2	25.9	28.8	37.4	40.6	41.4	38.1
1992	42.8	32.4	34.9	30.6	32.4	33.8	35.3	43.5	40.3	36.7	–	–
1993	–	–	–	–	–	–	–	–	–	–	–	–

– Data not available.

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

18. Annual data: Employment status of the population

(Numbers in thousands)

Employment status	1984	1985	1986	1987	1988	1989	1990	1991	1992
Civilian noninstitutional population	176,383	178,206	180,587	182,753	184,613	186,393	188,049	189,765	191,576
Civilian labor force	113,544	115,461	117,834	119,865	121,669	123,869	124,787	125,303	126,982
Labor force participation rate	64.4	64.8	65.3	65.6	65.9	66.5	66.4	66.0	66.3
Employed	105,005	107,150	109,597	112,440	114,968	117,342	117,914	116,877	117,598
Employment-population ratio	59.5	60.1	60.7	61.5	62.3	63.0	62.7	61.6	61.4
Agriculture	3,321	3,179	3,163	3,208	3,169	3,199	3,186	3,233	3,207
Nonagricultural industries	101,685	103,971	106,434	109,232	111,800	114,142	114,728	113,644	114,391
Unemployed	8,539	8,312	8,237	7,425	6,701	6,528	6,874	8,426	9,384
Unemployment rate	7.5	7.2	7.0	6.2	5.5	5.3	5.5	6.7	7.4
Not in labor force	62,839	62,744	62,752	62,888	62,944	62,523	63,262	64,462	64,593

19. Annual data: Employment levels by industry

(In thousands)

Industry	1984	1985	1986	1987	1988	1989	1990	1991	1992
Total employment	94,496	97,519	99,525	102,200	105,536	108,329	109,782	108,310	108,437
Private sector	78,472	81,125	82,832	85,190	88,150	90,550	91,478	89,930	89,858
Goods-producing	24,727	24,859	24,558	24,708	25,173	25,322	24,960	23,830	23,420
Mining	966	927	777	717	713	693	710	691	635
Construction	4,383	4,673	4,816	4,967	5,110	5,187	5,133	4,685	4,595
Manufacturing	19,378	19,260	18,965	19,024	19,350	19,442	19,117	18,455	18,190
Service-producing	69,769	72,660	74,967	77,492	80,363	83,007	84,822	84,480	85,017
Transportation and public utilities	5,159	5,238	5,255	5,372	5,527	5,644	5,808	5,772	5,742
Wholesale trade	5,574	5,736	5,774	5,865	6,055	6,221	6,200	6,069	5,983
Retail trade	16,526	17,336	17,909	18,462	19,077	19,549	19,677	19,259	19,138
Finance, insurance, and real estate	5,689	5,955	6,283	6,547	6,649	6,695	6,729	6,678	6,672
Services	20,797	21,999	23,053	24,235	25,669	27,120	28,103	28,323	28,903
Government	16,024	16,394	16,693	17,010	17,386	17,779	18,304	18,380	18,579
Federal	2,807	2,875	2,899	2,943	2,971	2,988	3,085	2,966	2,969
State	3,734	3,832	3,893	3,967	4,076	4,182	4,305	4,346	4,371
Local	9,482	9,687	9,901	10,100	10,339	10,609	10,914	11,067	11,239

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

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

Industry	1984	1985	1986	1987	1988	1989	1990	1991	1992
Private sector:									
Average weekly hours	35.2	34.9	34.8	34.8	34.7	34.6	34.5	34.3	34.4
Average hourly earnings (in dollars)	8.32	8.57	8.76	8.98	9.28	9.66	10.01	10.33	10.59
Average weekly earnings (in dollars)	292.86	299.09	304.85	312.50	322.02	334.24	345.35	354.32	364.30
Mining:									
Average weekly hours	43.3	43.4	42.2	42.4	42.3	43.0	44.1	44.4	44.0
Average hourly earnings (in dollars)	11.63	11.98	12.46	12.54	12.80	13.26	13.68	14.18	14.51
Average weekly earnings (in dollars)	503.58	519.93	525.81	531.70	541.44	570.18	603.29	629.59	638.44
Construction:									
Average weekly hours	37.8	37.7	37.4	37.8	37.9	37.9	38.2	38.1	38.0
Average hourly earnings (in dollars)	12.13	12.32	12.48	12.71	13.08	13.54	13.77	13.99	14.11
Average weekly earnings (in dollars)	458.51	464.46	466.75	480.44	495.73	513.17	526.01	533.02	536.18
Manufacturing:									
Average weekly hours	40.7	40.5	40.7	41.0	41.1	41.0	40.8	40.7	41.0
Average hourly earnings (in dollars)	9.19	9.54	9.73	9.91	10.19	10.48	10.83	11.18	11.45
Average weekly earnings (in dollars)	374.03	386.37	396.01	406.31	418.81	429.68	441.86	455.03	469.45
Transportation and public utilities:									
Average weekly hours	39.4	39.5	39.2	39.2	38.8	38.9	38.9	38.7	38.8
Average hourly earnings (in dollars)	11.12	11.40	11.70	12.03	12.26	12.60	12.97	13.24	13.49
Average weekly earnings (in dollars)	438.13	450.30	458.64	471.58	475.69	490.14	504.53	512.39	523.41
Wholesale trade:									
Average weekly hours	38.5	38.4	38.3	38.1	38.1	38.0	38.1	38.1	38.2
Average hourly earnings (in dollars)	8.88	9.15	9.34	9.59	9.98	10.39	10.79	11.15	11.40
Average weekly earnings (in dollars)	341.78	351.08	357.57	365.38	380.24	394.82	411.10	424.82	435.48
Retail trade:									
Average weekly hours	29.8	29.4	29.2	29.2	29.1	28.9	28.8	28.6	28.8
Average hourly earnings (in dollars)	5.85	5.94	6.03	6.12	6.31	6.53	6.75	6.95	7.14
Average weekly earnings (in dollars)	174.47	174.81	175.80	178.70	183.62	188.72	194.40	198.77	205.63
Finance, insurance, and real estate:									
Average weekly hours	36.5	36.4	36.4	36.3	35.9	35.8	35.8	35.7	35.8
Average hourly earnings (in dollars)	7.63	7.94	8.36	8.73	9.06	9.53	9.97	10.40	10.82
Average weekly earnings (in dollars)	278.04	289.20	304.49	316.90	325.25	341.17	356.93	371.28	387.36
Services:									
Average weekly hours	32.6	32.5	32.5	32.5	32.6	32.6	32.5	32.4	32.5
Average hourly earnings (in dollars)	7.59	7.90	8.18	8.49	8.88	9.38	9.83	10.22	10.54
Average weekly earnings (in dollars)	247.25	256.49	265.93	275.93	289.49	305.79	319.48	331.13	342.55

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

(June 1989=100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
Civilian workers [2]	109.1	110.2	111.5	112.2	113.5	114.2	115.4	116.1	117.5	1.2	3.5
Workers, by occupational group:											
White-collar workers	109.8	110.8	112.1	112.8	113.9	114.6	115.8	116.6	117.9	1.1	3.5
Professional specialty and technical	111.0	111.7	113.5	114.4	115.4	116.2	118.2	119.1	120.1	.8	4.1
Executive, administrative, and managerial	109.4	110.6	111.8	112.5	113.0	113.4	114.3	115.0	116.9	1.7	3.5
Administrative support, including clerical	109.2	110.2	111.4	112.2	113.9	114.6	115.9	116.8	118.3	1.3	3.9
Blue-collar workers	108.0	109.2	110.3	111.1	112.6	113.5	114.4	115.2	116.7	1.3	3.6
Service occupations	109.4	110.4	112.3	113.1	114.1	114.7	116.2	116.7	117.9	1.0	3.3
Workers, by industry division:											
Goods-producing	108.6	109.9	111.0	111.9	113.5	114.3	115.3	116.2	118.0	1.5	4.0
Manufacturing	108.6	110.0	111.2	112.2	114.0	114.7	115.7	116.5	118.6	1.8	4.0
Service-producing	109.5	110.4	111.8	112.4	113.5	114.2	115.4	116.2	117.2	.9	3.3
Services	111.5	112.0	113.8	114.6	115.5	116.3	118.2	119.2	120.1	.8	4.0
Health services	112.6	113.2	115.0	116.1	117.5	118.4	120.2	121.3	122.3	.8	4.1
Hospitals	112.2	112.9	114.7	115.9	117.3	118.1	119.8	121.0	122.0	.8	4.0
Educational services	112.3	112.4	114.9	115.4	115.7	116.1	118.9	119.7	120.1	.3	3.8
Public administration [3]	110.8	110.9	112.2	112.6	114.0	114.6	115.8	116.3	117.6	1.1	3.2
Nonmanufacturing	109.4	110.3	111.7	112.3	113.3	114.1	115.3	116.0	117.1	.9	3.4
Private industry workers	108.5	109.8	111.0	111.7	113.1	113.9	114.8	115.6	117.1	1.3	3.5
Excluding sales occupations	108.6	109.8	111.1	112.0	113.3	114.1	115.1	115.9	117.5	1.4	3.7
Workers, by occupational group:											
White-collar workers	109.0	110.3	111.4	112.2	113.4	114.2	115.1	115.9	117.4	1.3	3.5
Excluding sales occupations	109.2	110.4	111.8	112.7	113.8	114.6	115.8	116.6	118.3	1.5	4.0
Professional specialty and technical occupations	110.1	111.1	112.8	113.9	115.3	116.4	118.0	119.0	120.4	1.2	4.4
Executive, administrative, and managerial occupations	108.9	110.3	111.5	112.3	112.7	113.1	113.9	114.5	116.5	1.7	3.4
Sales occupations	108.0	109.8	109.8	109.6	111.6	112.2	111.8	112.6	112.9	.3	1.2
Administrative support occupations, including clerical	108.6	109.9	111.0	111.9	113.6	114.4	115.5	116.4	118.1	1.5	4.0
Blue-collar workers	107.9	109.0	110.2	111.0	112.5	113.4	114.3	115.0	116.6	1.4	3.6
Precision production, craft, and repair occupations	108.0	109.2	110.5	111.0	112.2	113.1	114.3	115.0	116.6	1.4	3.9
Machine operators, assemblers, and inspectors	108.3	109.4	110.5	111.6	113.9	114.6	115.0	115.8	117.8	1.7	3.4
Transportation and material moving occupations	106.3	107.6	108.3	109.0	110.4	111.4	112.5	113.0	113.9	.8	3.2
Handlers, equipment cleaners, helpers, and laborers	108.1	109.3	110.4	111.4	112.6	113.4	114.6	115.3	116.8	1.3	3.7
Service occupations	108.3	109.9	111.5	112.4	113.5	114.2	115.4	115.9	117.2	1.1	3.3
Production and nonsupervisory occupations[4]	108.4	109.6	110.8	111.5	113.0	113.8	114.8	115.5	116.9	1.2	3.5
Workers, by industry division:											
Goods-producing	108.5	109.8	111.0	111.9	113.5	114.3	115.3	116.1	118.0	1.6	4.0
Excluding sales occupations	108.4	109.8	110.9	111.8	113.4	114.1	115.2	115.9	117.8	1.6	3.9
White-collar occupations	108.8	110.1	111.2	112.3	113.6	114.5	115.5	116.7	118.6	1.6	4.4
Excluding sales occupations	108.5	110.0	111.1	112.2	113.2	113.9	115.1	116.2	118.1	1.6	4.3
Blue-collar occupations	108.4	109.7	110.8	111.6	113.4	114.1	115.1	115.8	117.6	1.6	3.7
Service occupations	107.9	109.3	110.5	112.1	113.8	115.5	116.9	117.5	120.0	2.1	5.4
Construction	107.4	108.5	109.3	109.9	110.6	111.7	113.1	113.8	114.9	1.0	3.9
Manufacturing	108.6	110.0	111.2	112.2	114.0	114.7	115.7	116.5	118.6	1.8	4.0
White-collar occupations	108.8	110.2	111.3	112.4	113.6	114.6	115.5	116.6	118.7	1.8	4.5
Excluding sales occupations	108.3	109.9	111.1	112.2	113.0	113.8	115.0	115.9	118.0	1.8	4.4
Blue-collar occupations	108.5	109.8	111.1	112.0	114.2	114.8	115.7	116.4	118.5	1.8	3.8
Service occupations	107.8	109.2	110.3	112.1	113.9	115.4	117.0	117.6	120.3	2.3	5.6
Durables	108.5	109.9	111.2	112.1	114.1	114.8	115.8	116.7	119.0	2.0	4.3
Nondurables	108.8	110.1	111.2	112.3	113.8	114.7	115.4	116.3	117.9	1.4	3.6
Service-producing	108.5	109.8	111.0	111.6	112.8	113.6	114.4	115.2	116.4	1.0	3.2
Excluding sales occupations	108.7	109.9	111.3	112.1	113.2	114.0	115.1	115.9	117.3	1.2	3.6
White-collar occupations	109.1	110.4	111.5	112.1	113.4	114.1	114.9	115.7	116.9	1.0	3.1
Excluding sales occupations	109.5	110.6	112.1	113.0	114.1	114.9	116.1	116.8	118.4	1.4	3.8
Blue-collar occupations	106.6	107.6	108.7	109.4	110.4	111.6	112.4	113.2	114.3	1.0	3.5
Service occupations	108.4	109.9	111.6	112.5	113.4	114.1	115.2	115.7	116.8	1.0	3.0
Transportation and public utilities	106.0	107.7	109.0	109.7	111.1	111.9	112.9	113.5	114.8	1.1	3.3
Transportation	105.2	106.8	107.8	108.6	109.9	110.5	111.7	111.8	112.8	.9	2.6
Public utilities	107.0	108.8	110.4	111.2	112.6	113.7	114.4	115.6	117.4	1.6	4.3
Communications	106.0	108.0	109.9	110.7	111.8	112.7	113.4	114.7	116.5	1.6	4.2
Electric, gas, and sanitary services	108.3	109.8	111.0	111.7	113.7	115.0	115.9	116.7	118.6	1.6	4.3
Wholesale and retail trade	107.4	109.2	110.3	110.7	111.4	112.5	113.0	113.7	114.7	.9	3.0
Excluding sales occupations	107.7	109.1	110.1	110.8	111.5	112.7	113.5	114.1	115.4	1.1	3.5
Wholesale trade	107.8	109.6	110.7	111.1	112.5	113.5	113.2	114.4	115.3	.8	2.5
Excluding sales occupations	108.2	109.6	110.3	111.2	112.5	113.5	114.1	114.9	116.0	1.0	3.1
Retail trade	107.3	109.0	110.1	110.5	110.8	112.1	112.9	113.4	114.5	1.0	3.3
Food stores	107.5	109.3	110.3	111.7	112.6	113.6	114.2	115.1	115.9	.7	2.9
General merchandise stores	108.3	110.1	111.2	111.1	111.7	112.9	113.3	113.3	114.1	.7	2.1

See footnotes at end of table.

21. Continued—Employment Cost Index, compensation,[1] by occupation and industry group

(June 1989=100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
Finance, insurance, and real estate	108.3	109.5	109.7	110.0	111.7	110.8	111.1	111.3	112.6	1.2	0.8
Excluding sales occupations	108.6	109.5	110.6	111.4	112.5	112.2	112.5	113.0	114.9	1.7	2.1
Banking, savings and loan, and other credit agencies	107.4	107.0	107.5	107.4	110.2	110.0	111.0	111.4	114.6	2.9	4.0
Insurance	107.4	109.5	109.5	110.7	113.2	114.7	114.9	115.2	114.3	–.8	1.0
Services	110.8	111.5	113.1	114.0	115.3	116.4	117.8	118.9	120.1	1.0	4.2
Business services	110.3	110.4	110.0	111.1	112.5	113.6	115.2	115.9	116.5	.5	3.6
Health services	112.6	113.5	115.3	116.5	117.9	118.9	120.6	121.8	123.0	1.0	4.3
Hospitals	112.2	113.2	114.9	116.1	117.7	118.5	120.2	121.6	122.7	.9	4.2
Educational services	111.9	111.5	114.9	115.7	115.8	116.3	119.3	120.0	120.5	.4	4.1
Colleges and universities	111.3	112.0	115.5	116.3	116.8	117.4	120.3	120.8	121.5	.6	4.0
Nonmanufacturing	108.5	109.7	110.9	111.5	112.7	113.5	114.4	115.1	116.3	1.0	3.2
White-collar occupations	109.1	110.4	111.5	112.1	113.4	114.1	114.9	115.7	117.0	1.1	3.2
Excluding sales occupations	109.5	110.6	112.1	112.9	114.1	114.9	116.0	116.9	118.5	1.4	3.9
Blue-collar occupations	107.2	108.2	109.2	109.8	110.7	111.8	112.8	113.4	114.6	1.1	3.5
Service occupations	108.4	109.9	111.7	112.5	113.4	114.1	115.2	115.7	116.8	1.0	3.0
State and local government workers	111.8	112.0	113.9	114.4	115.2	115.7	117.9	118.6	119.3	.6	3.6
Workers, by occupational group:											
White-collar workers	112.2	112.3	114.2	114.6	115.4	115.8	118.1	118.9	119.5	.5	3.6
Professional specialty and technical	112.3	112.4	114.5	115.0	115.5	116.0	118.5	119.2	119.6	.3	3.5
Executive, administrative, and managerial	112.2	112.0	113.3	113.7	115.0	115.2	116.8	117.8	119.0	1.0	3.5
Administrative support, including clerical	111.8	111.7	113.5	114.0	115.4	115.7	117.5	118.5	119.2	.6	3.3
Blue-collar workers	110.4	110.9	112.4	112.9	114.2	115.3	116.9	117.8	118.3	.4	3.6
Workers, by industry division:											
Services	112.4	112.6	114.8	115.3	115.8	116.2	118.8	119.6	120.0	.3	3.6
Services excluding schools[5]	112.2	111.7	113.7	114.4	115.1	115.6	117.5	118.6	119.6	.8	3.9
Health services	112.6	112.2	113.9	114.9	115.9	116.8	118.6	119.4	120.2	.7	3.7
Hospitals	112.2	112.1	114.1	115.2	115.9	116.7	118.6	119.4	120.0	.5	3.5
Educational services	112.4	112.6	114.9	115.3	115.7	116.1	118.9	119.7	120.0	.3	3.7
Schools	112.5	112.9	115.2	115.6	116.0	116.4	119.2	119.9	120.2	.3	3.6
Elementary and secondary	112.9	113.0	115.7	116.2	116.6	117.1	119.9	120.7	120.7	.0	3.5
Colleges and universities	111.3	112.5	113.4	113.5	114.0	114.1	116.9	117.2	118.4	1.0	3.9
Public administration[3]	110.8	110.9	112.2	112.6	114.0	114.6	115.8	116.3	117.6	1.1	3.2

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

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

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

[4] This series has the same industry and occupational coverage as the Hourly Earnings Index, which was discontinued in January 1989.

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

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

(June 1989=100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
Civilian workers [1]	108.0	108.9	110.0	110.6	111.5	112.1	113.0	113.6	114.5	0.8	2.7
Workers, by occupational group:											
White-collar workers	108.7	109.6	110.8	111.3	112.2	112.8	113.7	114.5	115.4	.8	2.9
Professional specialty and technical	109.9	110.4	112.3	113.0	113.6	114.4	116.0	116.7	117.5	.7	3.4
Executive, administrative, and managerial	108.5	109.6	110.8	111.5	111.9	112.2	112.8	113.5	115.0	1.3	2.8
Administrative support, including clerical	107.9	108.8	109.9	110.6	111.8	112.5	113.4	114.2	115.3	1.0	3.1
Blue-collar workers	106.6	107.4	108.2	108.9	109.8	110.6	111.3	111.9	112.7	.7	2.6
Service occupations	107.8	108.9	110.6	111.3	111.9	112.4	113.4	113.8	114.5	.6	2.3
Workers, by industry division:											
Goods-producing	107.0	108.0	108.8	109.7	110.7	111.4	112.2	112.9	113.8	.8	2.8
Manufacturing	107.4	108.4	109.3	110.3	111.5	112.2	112.9	113.7	114.7	.9	2.9
Service-producing	108.4	109.3	110.6	111.0	111.8	112.4	113.3	114.0	114.8	.7	2.7
Services	110.2	110.7	112.4	113.0	113.7	114.3	115.9	116.7	117.4	.6	3.3
Health services	111.1	111.8	113.4	114.5	115.4	116.2	117.7	118.6	119.5	.8	3.6
Hospitals	110.8	111.5	113.1	114.3	115.2	115.7	117.1	118.0	118.9	.8	3.2
Educational services	111.1	111.1	113.6	114.0	114.1	114.4	116.9	117.5	117.9	.3	3.3
Public administration [2]	109.1	109.5	110.6	110.9	111.9	112.4	113.1	113.6	114.4	.7	2.2
Nonmanufacturing	108.1	109.0	110.2	110.7	111.5	112.0	113.0	113.6	114.4	.7	2.6
Private industry workers	107.3	108.4	109.3	110.0	110.9	111.6	112.2	112.9	113.9	.9	2.7
Excluding sales occupations	107.4	108.4	109.4	110.2	111.1	111.8	112.5	113.2	114.2	.9	2.8
Workers, by occupational group:											
White-collar workers	107.9	109.1	110.1	110.7	111.7	112.3	112.9	113.7	114.7	.9	2.7
Excluding sales occupations	108.2	109.2	110.5	111.3	112.1	112.8	113.7	114.4	115.7	1.1	3.2
Professional specialty and technical occupations	108.6	109.5	111.1	112.0	113.0	114.0	115.3	116.0	117.1	.9	3.6
Executive, administrative, and managerial occupations	108.2	109.4	110.6	111.4	111.6	112.0	112.5	113.2	114.7	1.3	2.8
Sales occupations	106.8	108.5	108.2	107.9	109.7	110.1	109.7	110.7	110.5	-.2	.7
Administrative support occupations, including clerical	107.6	108.6	109.6	110.4	111.6	112.4	113.2	114.0	115.2	1.1	3.2
Blue-collar workers	106.4	107.3	108.0	108.8	109.7	110.4	111.1	111.6	112.5	.8	2.6
Precision production, craft, and repair occupations	106.3	107.0	107.8	108.4	109.3	110.1	111.0	111.5	112.4	.8	2.8
Machine operators, assemblers, and inspectors	107.1	108.0	108.7	109.8	110.9	111.6	111.7	112.4	113.2	.7	2.1
Transportation and material moving occupations	104.5	105.6	106.1	106.7	107.4	108.3	109.3	109.7	110.0	.3	2.4
Handlers, equipment cleaners, helpers, and laborers	107.3	108.5	109.2	109.9	110.6	111.3	112.1	112.6	113.6	.9	2.7
Service occupations	106.9	108.3	109.8	110.6	111.2	111.6	112.5	112.9	113.5	.5	2.1
Production and nonsupervisory occupations [3]	107.0	108.1	109.0	109.6	110.6	111.3	112.0	112.6	113.4	.7	2.5
Workers, by industry division:											
Goods-producing	107.0	108.0	108.7	109.7	110.7	111.4	112.1	112.8	113.8	.9	2.8
Excluding sales occupations	106.9	107.9	108.7	109.7	110.5	111.2	112.0	112.6	113.5	.8	2.7
White-collar occupations	107.4	108.5	109.5	110.4	111.7	112.5	113.2	114.2	115.4	1.1	3.3
Excluding sales occupations	107.2	108.5	109.5	110.5	111.3	112.0	112.9	113.7	114.9	1.1	3.2
Blue-collar occupations	106.8	107.6	108.3	109.2	110.1	110.7	111.4	111.9	112.8	.8	2.5
Service occupations	106.0	106.7	107.8	109.4	110.1	111.0	112.2	113.1	113.9	.7	3.5
Construction	105.1	105.9	106.3	106.8	107.2	107.9	108.7	108.9	109.5	.6	2.1
Manufacturing	107.4	108.4	109.3	110.3	111.5	112.2	112.9	113.7	114.7	.9	2.9
White-collar occupations	107.6	108.8	109.8	110.7	111.9	112.9	113.6	114.6	116.0	1.2	3.7
Excluding sales occupations	107.2	108.6	109.7	110.7	111.4	112.2	113.0	114.0	115.3	1.1	3.5
Blue-collar occupations	107.3	108.2	109.0	110.0	111.1	111.7	112.4	113.1	113.9	.7	2.5
Service occupations	105.8	106.5	107.7	109.3	110.1	111.0	112.3	113.4	114.3	.8	3.8
Durables	107.3	108.3	109.2	110.2	111.2	111.8	112.7	113.4	114.4	.9	2.9
Nondurables	107.6	108.6	109.4	110.6	111.8	112.8	113.2	114.3	115.5	1.0	3.3
Service-producing	107.5	108.7	109.7	110.2	111.1	111.7	112.3	113.0	113.9	.8	2.5
Excluding sales occupations	107.7	108.7	110.0	110.7	111.5	112.2	113.0	113.7	114.8	1.0	3.0
White-collar occupations	108.1	109.3	110.3	110.7	111.7	112.2	112.8	113.6	114.5	.8	2.5
Excluding sales occupations	108.5	109.5	110.9	111.6	112.4	113.1	114.0	114.7	116.0	1.1	3.2
Blue-collar occupations	105.6	106.5	107.3	107.8	108.7	109.7	110.3	111.0	111.9	.8	2.9
Service occupations	107.0	108.4	110.0	110.7	111.3	111.7	112.6	112.9	113.5	.5	2.0
Transportation and public utilities	105.4	106.6	107.7	108.4	109.7	110.6	111.2	111.8	112.9	1.0	2.9
Transportation	104.3	105.5	106.6	107.0	108.3	109.2	109.8	109.9	110.8	.8	2.3
Public utilities	106.9	108.0	109.0	110.0	111.4	112.4	113.0	114.1	115.4	1.1	3.6
Communications	106.5	107.6	108.5	109.6	110.8	111.7	112.2	113.5	114.7	1.1	3.5
Electric, gas, and sanitary services	107.3	108.6	109.5	110.5	112.2	113.3	114.2	114.8	116.3	1.3	3.7

See footnotes at end of table.

22.Continued— Employment Cost Index, wages and salaries, by occupation and industry group

(June 1989=100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
Wholesale and retail trade	106.6	108.4	109.4	109.6	109.9	111.2	111.5	112.3	113.0	0.6	2.8
Excluding sales occupations	106.8	108.3	109.2	109.6	110.1	111.4	112.1	112.6	113.6	.9	3.2
Wholesale trade	107.3	109.2	110.4	110.3	111.4	112.5	111.9	113.5	113.9	.4	2.2
Excluding sales occupations	107.9	109.2	109.8	110.5	111.5	112.7	113.3	114.1	114.7	.5	2.9
Retail trade	106.2	108.0	109.0	109.2	109.3	110.6	111.3	111.8	112.6	.7	3.0
Food stores	106.9	108.7	109.4	110.4	110.9	112.3	112.9	113.7	114.6	.8	3.3
General merchandise stores	107.8	110.0	110.9	110.6	111.1	111.7	111.7	111.8	112.4	.5	1.2
Finance, insurance, and real estate	107.0	108.1	108.0	108.4	109.5	108.2	108.2	108.3	109.3	.9	-.2
Excluding sales occupations	107.6	108.4	109.5	110.4	110.6	109.9	109.9	110.2	112.0	1.6	1.3
Banking, savings and loan, and other credit agencies	106.6	105.9	106.4	106.3	108.2	107.7	108.6	109.0	112.1	2.8	3.6
Insurance	105.7	107.8	107.5	108.6	111.2	112.7	112.7	112.7	111.2	-1.3	.0
Services	109.5	110.0	111.5	112.2	113.2	114.0	115.2	116.1	117.0	.8	3.4
Business services	109.6	109.5	108.9	110.0	111.0	111.7	113.3	113.9	114.2	.3	2.9
Health services	111.1	111.9	113.5	114.6	115.6	116.3	117.9	118.9	119.8	.8	3.6
Hospitals	110.8	111.6	113.2	114.4	115.4	115.9	117.3	118.3	119.3	.8	3.4
Educational services	110.3	109.7	113.0	113.7	113.4	113.6	116.5	117.1	117.5	.3	3.6
Colleges and universities	109.6	110.2	113.7	114.2	114.2	114.5	117.3	117.6	118.0	.3	3.3
Nonmanufacturing	107.3	108.4	109.3	109.8	110.7	111.3	111.9	112.6	113.4	.7	2.4
White-collar occupations	108.0	109.2	110.2	110.6	111.6	112.1	112.8	113.5	114.4	.8	2.5
Excluding sales occupations	108.5	109.4	110.7	111.5	112.3	113.0	113.9	114.6	115.8	1.0	3.1
Blue-collar occupations	105.5	106.3	107.1	107.5	108.2	109.1	109.7	110.2	111.1	.8	2.7
Service occupations	107.1	108.4	110.0	110.7	111.3	111.7	112.6	112.9	113.4	.4	1.9
State and local government workers	110.6	110.9	112.8	113.2	113.8	114.2	115.9	116.6	117.2	.5	3.0
Workers, by occupational group:											
White-collar workers	111.0	111.2	113.1	113.5	114.0	114.3	116.2	116.9	117.5	.5	3.1
Professional specialty and technical	111.5	111.7	113.8	114.2	114.5	114.8	117.0	117.6	118.1	.4	3.1
Executive, administrative, and managerial	110.6	110.7	112.0	112.3	113.3	113.5	114.7	115.5	116.5	.9	2.8
Administrative support, including clerical	109.4	109.7	111.4	111.8	112.7	112.9	114.1	114.9	115.4	.4	2.4
Blue-collar workers	109.1	110.0	111.1	111.6	112.5	113.7	115.0	115.6	116.2	.5	3.3
Workers, by industry division:											
Services	111.3	111.5	113.7	114.1	114.4	114.7	116.9	117.5	118.1	.5	3.2
Services excluding schools[4]	111.4	111.4	113.5	114.2	114.8	115.2	116.4	117.4	118.4	.9	3.1
Health services	111.1	111.7	113.0	114.0	114.9	115.7	116.7	117.4	118.1	.6	2.8
Hospitals	110.7	111.3	112.9	114.1	114.5	115.2	116.5	117.1	117.6	.4	2.7
Educational services	111.3	111.5	113.8	114.1	114.3	114.6	116.9	117.6	118.0	.3	3.2
Schools	111.2	111.5	113.7	114.0	114.3	114.6	117.0	117.5	117.9	.3	3.1
Elementary and secondary	111.6	111.7	114.3	114.7	114.9	115.3	117.9	118.5	118.7	.2	3.3
Colleges and universities	110.2	111.0	112.0	112.0	112.3	112.3	114.1	114.3	115.5	1.0	2.8
Public administration [2]	109.1	109.5	110.6	110.9	111.9	112.4	113.1	113.6	114.4	.7	2.2

[1] Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.
[2] Consists of legislative, judicial, administrative, and regulatory activities.
[3] This series has the same industry and occupational coverage as the Hourly Earnings Index, which was discontinued in January 1989.
[4] Includes, for example, library, social and health services.

23. Employment Cost Index, benefits, private industry workers by occupation and industry group

(June 1989 = 100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
Private industry workers	111.6	113.5	115.2	116.2	118.6	119.7	121.2	122.2	125.2	2.5	5.6
Workers, by occupational group:											
White-collar workers	112.1	113.8	115.3	116.4	118.4	119.4	121.0	122.0	124.7	2.2	5.3
Blue-collar workers	111.0	112.8	114.9	115.7	118.7	119.7	121.2	122.2	125.5	2.7	5.7
Workers, by industry group:											
Goods-producing	111.9	113.9	115.8	116.7	119.7	120.6	122.3	123.4	127.3	3.2	6.3
Service-producing	111.4	113.0	114.6	115.7	117.7	118.8	120.4	121.2	123.4	1.8	4.8
Manufacturing	111.2	113.3	115.3	116.1	119.3	120.1	121.5	122.6	126.8	3.4	6.3
Nonmanufacturing	111.9	113.5	115.1	116.2	118.2	119.4	121.0	122.0	124.2	1.8	5.1

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

(June 1989=100)

Series	1991				1992				1993	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1993	
COMPENSATION											
Workers, by bargaining status[1]											
Union	107.5	108.8	110.1	111.1	113.1	114.0	115.2	115.9	117.8	1.6	4.2
Goods-producing	107.9	109.2	110.3	111.3	114.0	114.6	115.7	116.4	118.7	2.0	4.1
Service-producing	107.1	108.3	109.8	110.9	111.9	113.2	114.6	115.2	116.7	1.3	4.3
Manufacturing	108.1	109.5	110.6	111.7	114.8	115.2	116.1	116.9	119.8	2.5	4.4
Nonmanufacturing	107.1	108.3	109.7	110.6	111.8	113.1	114.5	115.1	116.3	1.0	4.0
Nonunion	108.8	110.1	111.2	111.9	113.1	113.8	114.7	115.5	116.8	1.1	3.3
Goods-producing	108.8	110.1	111.3	112.2	113.3	114.1	115.1	116.0	117.7	1.5	3.9
Service-producing	108.8	110.1	111.2	111.8	113.0	113.7	114.4	115.2	116.3	1.0	2.9
Manufacturing	108.8	110.2	111.5	112.4	113.6	114.5	115.5	116.4	118.1	1.5	4.0
Nonmanufacturing	108.8	110.1	111.2	111.7	112.9	113.5	114.3	115.1	116.3	1.0	3.0
Workers, by region [1]											
Northeast	109.4	110.6	111.7	112.5	113.9	114.5	115.5	116.4	117.8	1.2	3.4
South	108.4	109.8	110.7	111.2	112.5	113.3	114.1	114.8	116.2	1.2	3.3
Midwest (formerly North Central)	108.5	109.7	111.2	112.2	113.8	114.6	115.3	116.1	117.9	1.6	3.6
West	107.5	108.9	110.0	110.9	111.9	112.9	114.1	114.9	116.2	1.1	3.8
Workers, by area size [1]											
Metropolitan areas	108.5	109.8	111.0	111.8	113.1	113.9	114.8	115.6	117.1	1.3	3.5
Other areas	108.4	109.9	110.7	111.2	113.1	113.7	114.8	115.6	117.0	1.2	3.4
WAGES AND SALARIES											
Workers, by bargaining status [1]											
Union	106.2	107.1	108.0	108.9	109.8	110.8	111.7	112.3	113.1	.7	3.0
Goods-producing	106.2	107.1	107.7	108.7	109.6	110.2	111.1	111.7	112.2	.4	2.4
Service-producing	106.1	107.0	108.4	109.2	110.1	111.5	112.5	113.1	114.2	1.0	3.7
Manufacturing	106.7	107.5	108.3	109.4	110.4	110.9	111.7	112.5	113.2	.6	2.5
Nonmanufacturing	105.8	106.7	107.9	108.6	109.4	110.7	111.7	112.2	113.0	.7	3.3
Nonunion	107.6	108.7	109.7	110.3	111.2	111.8	112.4	113.1	114.1	.9	2.6
Goods-producing	107.3	108.3	109.2	110.1	111.2	111.9	112.6	113.3	114.4	1.0	2.9
Service-producing	107.8	108.9	109.9	110.4	111.2	111.7	112.3	113.0	113.8	.7	2.3
Manufacturing	107.7	108.8	109.7	110.7	111.9	112.7	113.4	114.2	115.4	1.1	3.1
Nonmanufacturing	107.6	108.7	109.6	110.1	110.9	111.4	112.0	112.7	113.5	.7	2.3
Workers, by region [1]											
Northeast	108.3	109.4	110.3	110.9	111.7	112.2	113.0	113.7	114.6	.8	2.6
South	107.4	108.5	109.2	109.6	110.8	111.5	112.0	112.7	113.6	.8	2.5
Midwest (formerly North Central)	106.9	107.7	108.9	109.9	110.7	111.3	111.8	112.5	113.5	.9	2.5
West	106.4	107.6	108.6	109.4	110.2	111.1	112.2	112.8	113.6	.7	3.1
Workers, by area size[1]											
Metropolitan areas	107.3	108.4	109.3	110.1	110.9	111.6	112.3	112.9	113.9	.9	2.7
Other areas	107.2	108.4	109.0	109.4	110.7	111.2	112.0	112.8	113.5	.6	2.5

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

25. Percent of full-time employees participating in employer-provided benefit plans, 1980-91

Item	Medium and large private establishments[1]										Small private establishments[2]	State and local governments[3]	
	1980	1981	1982	1983	1984	1985	1986	1988	1989	1991	1990	1987	1990
Time-off plans													
Participants with:													
Paid lunch time	10	10	9	11	9	10	10	11	10	8	8	[4] 17	11
Average minutes per day	–	–	25	25	26	27	27	29	26	30	37	34	36
Paid rest time	75	75	76	74	73	72	72	72	71	67	48	[4] 58	56
Average minutes per day	–	–	25	25	26	26	26	26	26	26	27	29	29
Paid funeral leave	–	–	–	–	–	88	88	85	84	80	47	56	63
Average days per occurrence	–	–	–	–	–	3.2	3.2	3.2	3.3	3.3	2.9	3.7	3.7
Paid holidays	99	99	99	99	99	98	99	96	97	92	84	81	74
Average days per year	10.1	10.2	10.0	9.8	9.8	10.1	10.0	9.4	9.2	10.2	9.5	10.9	13.6
Paid personal leave	20	23	24	25	23	26	25	24	22	21	11	38	39
Average days per year	–	–	3.8	3.7	3.6	3.7	3.7	3.3	3.1	3.3	2.8	2.7	2.9
Paid vacations	100	99	99	100	99	99	100	98	97	96	88	72	67
Paid sick leave	62	65	67	67	67	67	70	69	68	67	47	97	95
Unpaid maternity leave	–	–	–	–	–	–	–	33	37	37	17	57	51
Unpaid paternity leave	–	–	–	–	–	–	–	16	18	26	8	30	33
Insurance plans													
Participants in medical care plans	97	97	97	96	97	96	95	90	92	83	69	93	93
Participants with coverage for:													
Home health care	–	–	–	37	46	56	66	76	75	81	79	76	82
Extended care facilities	58	60	62	58	62	67	70	79	80	80	83	78	79
Mental health care	98	99	99	99	99	99	99	98	97	98	98	98	99
Alcohol abuse treatment	–	–	50	53	61	68	70	80	97	97	97	87	99
Drug abuse treatment	–	–	37	43	52	61	66	74	96	96	94	86	98
Participants with employee contribution required for:													
Self coverage	26	27	27	33	36	36	43	44	47	51	42	35	38
Average monthly contribution	–	–	–	$10.13	$11.93	$12.05	$12.80	$19.29	$25.31	$26.60	$25.13	$15.74	$25.53
Family coverage	46	49	51	54	58	56	63	64	66	69	67	71	65
Average monthly contribution[5]	–	–	–	$32.51	$35.93	$38.33	$41.40	$60.07	$72.10	$96.97	$109.34	$71.89	$117.59
Participants in life insurance plans	96	96	96	96	96	96	96	92	94	94	64	85	88
Participants with:													
Accidental death and dismemberment insurance	69	72	72	72	74	73	72	76	71	71	78	67	67
Survivor income benefits	–	–	–	–	–	13	10	8	7	6	1	1	1
Retiree protection available	–	64	64	66	64	62	59	49	42	44	19	55	45
Participants in long-term disability insurance plans	40	41	43	45	47	48	48	42	45	40	19	31	27
Participants in sickness and accident insurance plans	54	50	51	49	51	52	49	46	43	45	26	14	21
Retirement plans													
Participants in defined benefit pension plans[6]	84	84	84	82	82	80	76	63	63	59	20	93	90
Participants with:													
Normal retirement prior to age 65	55	56	58	64	63	67	64	59	62	55	54	92	89
Early retirement available	98	98	97	97	97	97	98	98	97	98	95	90	88
Ad hoc pension increase in last 5 years	–	–	–	51	47	41	35	26	22	7	7	33	16
Terminal earnings formula	53	50	52	54	54	57	57	55	64	56	58	100	100
Benefit coordinated with Social Security	45	43	45	55	56	61	62	62	63	54	49	18	8
Participants in defined contribution plans	–	–	–	–	–	[7] 53	[7] 60	45	48	48	31	9	9
Participants in plans with tax-deferred savings arrangements	–	–	–	–	–	26	33	36	41	44	17	28	45
Other benefits													
Employees eligible for:													
Flexible benefits plans	–	–	–	–	–	–	2	5	9	10	1	5	5
Reimbursement accounts	–	–	–	–	–	–	5	12	23	36	8	5	31

[1] From 1979 to 1986, data were collected in private sector establishments with a minimum employment varying from 50 to 250 employees, depending upon industry. In addition, coverage in service industries was limited. Beginning in 1988, data were collected in all private sector establishments employing 100 workers or more in all industries.

[2] Includes private sector establishments with fewer than 100 workers.

[3] In 1987, coverage excluded local governments employing fewer than 50 workers. In 1990, coverage included all State and local governments.

[4] Data exclude college teachers.

[5] Data for 1983 refer to the average monthly employee contribution for dependent coverage, excluding the employee. Beginning in 1984, data refer to the average monthly employee contribution for family coverage, which includes the employee.

[6] Prior to 1985, data on participation in defined benefit pension plans included a small percentage of workers participating in money purchase pension plans. Beginning in 1985, these workers were classified as participating in defined contribution plans.

[7] Includes employees who participated in Payroll-based Employee Stock Ownership Plans. Beginning in 1987, these plans were no longer available.

NOTE: Dash indicates data were not collected in this year.

26. Specified compensation and wage rate changes from contract settlements, and wage rate changes under all agreements, private industry collective bargaining agreements covering 1,000 workers or more (in percent)

Measure	Annual average		Quarterly average							
	1990	1991	1991			1992				1993
			II	III	IV	I	II	III	IV	I
Changes under settlements:										
Total compensation [1] changes, [2] settlements covering 5,000 workers or more:										
First year of contract	4.6	4.1	4.8	3.7	3.6	2.7	3.6	3.3	1.4	3.1
Annual average over life of contract	3.2	3.4	3.9	3.2	2.9	3.5	3.6	3.0	2.7	3.1
Wage changes, settlements covering 1,000 workers or more:										
First year of contract	4.0	3.6	3.6	3.2	3.7	3.1	2.8	2.9	1.8	2.8
Annual average over life of contract	3.2	3.2	3.5	3.0	3.2	3.1	3.0	3.1	2.6	3.1
Wage changes under all agreements:										
Average wage change [3]	3.5	3.6	1.0	1.1	.7	.6	1.0	1.0	.4	.5
Source:										
Current settlements	1.3	1.1	.4	.3	.3	.1	.2	.3	.2	.1
Prior settlements	1.5	1.9	.6	.7	.3	.4	.7	.6	.2	.3
COLA provisions	.7	.5	.1	.1	.1	.1	.1	.1	.1	.1

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.
[2] Changes are the net result of increases, decreases, and zero change in compensation or wages.
[3] Because of rounding, total may not equal sum of parts.

27. Average specified compensation and wage rate changes, private industry collective bargaining settlements covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--							
	1991			1992				1993
	II	III	IV	I	II	III	IV	I
Specified total compensation changes, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.4	4.3	4.1	4.0	3.6	3.5	3.0	3.0
Annual average over life of contract	3.1	3.3	3.4	3.4	3.2	3.2	3.1	3.1
Specified wage changes, settlements covering 1,000 workers or more:								
All industries:								
First year of contract	3.8	3.7	3.6	3.5	3.2	3.1	2.7	2.7
Contracts with COLA clauses	3.4	3.3	3.4	3.3	3.0	3.1	2.7	3.0
Contracts without COLA clauses	4.1	3.9	3.7	3.5	3.2	3.1	2.7	2.6
Annual average over life of contract	3.0	3.1	3.2	3.2	3.1	3.1	3.0	3.0
Contracts with COLA clauses	2.1	2.2	3.0	3.0	2.6	2.6	2.5	2.8
Contracts without COLA clauses	3.7	3.4	3.3	3.3	3.2	3.2	3.1	3.0
Manufacturing:								
First year of contract	3.7	3.9	3.9	3.5	3.1	3.0	2.6	2.9
Contracts with COLA clauses	[1]	[1]	3.2	3.2	2.7	2.2	1.6	2.5
Contracts without COLA clauses	[1]	[1]	4.8	4.0	3.7	3.6	3.4	3.3
Annual average over life of contract	2.1	2.7	3.1	3.0	2.7	2.7	2.6	2.8
Contracts with COLA clauses	[1]	[1]	2.7	2.7	2.1	1.8	1.9	2.6
Contracts without COLA clauses	[1]	[1]	3.7	3.5	3.3	3.3	3.2	3.0
Nonmanufacturing:								
First year of contract	3.9	3.6	3.4	3.4	3.2	3.1	2.7	2.6
Contracts with COLA clauses	[1]	[1]	3.9	3.8	3.8	3.8	3.6	3.6
Contracts without COLA clauses	[1]	[1]	3.4	3.4	3.2	3.0	2.6	2.5
Annual average over life of contract	3.7	3.4	3.3	3.3	3.2	3.2	3.0	3.0
Contracts with COLA clauses	[1]	[1]	4.1	4.1	3.7	3.3	3.0	3.0
Contracts without COLA clauses	[1]	[1]	3.2	3.3	3.2	3.2	3.0	3.0
Construction:								
First year of contract	3.1	2.2	2.2	2.3	2.3	2.0	2.0	1.9
Contracts with COLA clauses	[2]	[2]	[2]	[2]	[1]	[1]	[1]	[1]
Contracts without COLA clauses	[2]	[2]	[2]	2.3	[1]	[1]	[1]	[1]
Annual average over life of contract	3.6	2.9	2.9	3.0	2.7	2.5	2.4	2.4
Contracts with COLA clauses	[2]	[2]	[2]	[2]	[1]	[1]	[1]	[1]
Contracts without COLA clauses	[2]	[2]	[2]	3.0	[1]	[1]	[1]	[1]

[1] Data do not meet publication standards.
[2] None of the settlements included COLA provisions.

28. Average wage rate changes, private industry collective bargaining agreements covering 1,000 workers or more during 4-quarter periods (in percent)

Measure	Average for four quarters ending--						
	1991		1992				1993
	III	IV	I	II	III	IV	I
Average wage change[1]	3.5	3.6	3.5	3.4	3.2	3.1	2.9
Source:							
Current settlements	1.1	1.1	1.1	.9	.9	.8	.8
Prior settlements	1.8	1.9	2.0	2.0	1.9	1.9	1.8
COLA provisions	.6	.5	.4	.4	.4	.4	.4
Average wage increase	4.1	4.0	3.8	3.9	3.8	3.7	3.6
Source:							
Current settlements	3.8	4.2	4.0	3.9	3.6	3.6	3.5
Prior settlements	3.6	3.7	3.7	3.7	3.7	3.8	3.7
COLA provisions	2.4	2.0	1.8	1.9	2.1	2.0	2.0

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

29. Specified compensation and wage rate changes from contract settlements, and wage rate changes under all agreements, State and local government collective bargaining agreements covering 1,000 workers or more (in percent)

Measure	Annual average		
	1990	1991	1992
Changes under settlements:			
Total compensation [1] changes, [2] settlements covering 5,000 workers or more:			
First year of contract	5.1	2.1	.6
Annual average over life of contract	5.1	2.7	1.9
Wage changes, settlements covering 1,000 workers or more:			
First year of contract	4.9	2.6	1.1
Annual average over life of contract	5.0	2.6	2.1
Wage changes under all agreements:			
Average wage change [3]	4.6	1.0	1.9
Source:			
Current settlements	2.0	.2	.8
Prior settlements	2.6	.7	1.1
COLA provisions	([4])	.1	([4])

[1] Compensation includes wages, salaries, and employers' cost of employee benefits when contract is negotiated.
[2] Changes are the net result of increases, decreases, and zero change in compensation or wages.
[3] Because of rounding, total may not equal sum of parts.
[4] Less than 0.05 percent.

30. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.[p]	Apr.[p]
Number of stoppages:															
Beginning in period	40	35	4	6	6	1	3	8	5	0	0	2	1	4	2
In effect during period	45	41	9	11	12	5	6	14	9	3	2	3	3	7	7
Workers involved:															
Beginning in period (in thousands)	392.0	363.8	15.2	9.6	242.6	3.8	56.8	16.2	14.5	.0	.0	220	50	122	130
In effect during period (in thousands)	412.0	388.0	34.7	23.5	258.7	11.5	63.8	80.0	23.5	7.0	2.6	236	76	215	210
Days idle:															
Number (in thousands)	4,583.6	3,988.6	414.5	321.8	741.2	157.0	213.9	578.4	280.6	98.6	48.2	564	1,394	1,129	1,123
Percent of estimated working time[1]	.02	.01	.02	.01	.03	.01	.01	.02	.01	.01	.01	1	1	1	1

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

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	136.2	140.3	139.5	139.7	140.2	140.5	140.9	141.3	141.8	142.0	141.9	142.6	143.1	143.6	144.0
All items (1967=100)	408.0	420.3	417.9	418.6	419.9	420.8	422.0	423.2	424.7	425.3	425.2	427.0	428.7	430.1	431.2
Food and beverages	136.8	138.7	138.8	138.3	138.3	138.1	138.8	139.3	139.2	139.1	139.5	140.5	140.7	140.9	141.4
Food	136.3	137.9	138.1	137.4	137.4	137.2	138.0	138.5	138.3	138.3	138.7	139.8	139.9	140.1	140.6
Food at home	135.8	136.8	137.4	136.2	136.1	135.7	136.9	137.4	137.2	137.0	137.5	139.1	139.1	139.4	140.0
Cereals and bakery products	145.8	151.5	150.6	150.7	151.6	152.4	153.1	152.6	152.8	152.7	153.3	153.4	154.9	154.6	155.4
Meats, poultry, fish, and eggs	132.6	130.9	130.3	130.0	130.2	130.1	130.8	131.5	131.5	131.8	132.1	133.5	133.2	134.5	135.6
Dairy products	125.1	128.5	127.4	127.0	127.8	128.3	129.2	129.7	130.1	129.4	129.1	129.5	128.8	128.8	128.0
Fruits and vegetables	155.8	155.4	162.0	155.1	151.9	149.4	153.7	155.5	153.7	154.0	156.2	160.9	159.4	159.1	160.8
Other foods at home	127.3	128.8	128.6	128.9	129.2	128.7	129.1	129.0	129.2	128.2	128.3	129.4	130.3	130.2	129.9
Sugar and sweets	129.3	133.1	133.0	132.9	133.3	133.8	133.8	133.7	133.7	133.0	132.1	133.1	133.3	132.8	133.2
Fats and oils	131.7	129.8	129.6	130.4	130.2	129.9	129.5	129.9	129.9	128.5	128.4	130.2	130.7	130.2	130.2
Nonalcoholic beverages	114.1	114.3	114.4	114.5	115.0	113.9	114.1	114.2	114.1	112.4	112.3	113.5	115.1	114.8	114.2
Other prepared foods	137.1	140.1	139.5	140.0	140.1	139.8	140.8	140.4	140.9	140.6	141.2	142.1	142.7	143.0	142.8
Food away from home	137.9	140.7	140.2	140.4	140.7	140.8	141.0	141.2	141.3	141.5	141.6	142.0	142.2	142.4	142.7
Alcoholic beverages	142.8	147.3	147.2	147.4	147.5	147.7	147.6	148.0	148.2	148.2	148.1	148.7	149.1	149.4	149.7
Housing	133.6	137.5	136.5	136.7	137.7	138.3	138.6	138.4	138.5	138.5	138.5	139.3	139.7	140.2	140.4
Shelter	146.3	151.2	150.2	150.2	151.1	151.8	152.3	151.9	152.5	152.4	152.5	153.7	154.4	154.8	155.0
Renters' costs (12/82=100)	155.6	160.9	160.1	159.5	161.0	162.8	163.5	161.7	161.7	160.6	160.2	162.5	164.4	165.2	164.9
Rent, residential	143.3	146.9	146.2	146.3	146.6	147.0	147.0	147.2	148.0	148.6	148.6	148.9	149.1	149.1	149.7
Other renters' costs	174.6	184.8	183.7	180.9	186.2	192.0	194.7	186.9	184.2	178.3	176.7	184.9	191.6	195.0	191.9
Homeowners' costs (12/82=100)	150.2	155.3	154.2	154.4	155.0	155.5	155.8	156.0	156.8	157.2	157.5	158.2	158.5	158.7	159.2
Owners' equivalent rent (12/82=100)	150.4	155.5	154.4	154.6	155.3	155.7	156.1	156.3	157.1	157.5	157.8	158.5	158.8	159.0	159.5
Household insurance (12/82=100)	138.4	142.2	141.1	141.4	142.0	142.6	142.9	143.1	143.3	143.5	144.3	144.1	144.7	144.9	145.2
Maintenance and repairs	126.3	128.6	128.0	128.1	128.5	128.8	128.1	128.5	129.4	129.5	129.3	129.7	130.5	131.5	131.8
Maintenance and repair services	130.3	133.1	132.2	131.9	133.1	133.4	133.1	133.1	134.7	134.8	135.2	135.1	135.2	135.8	134.9
Maintenance and repair commodities	121.0	122.4	122.4	123.0	122.3	122.6	121.3	122.2	122.2	122.2	121.3	122.5	124.0	125.8	127.7
Fuel and other utilities	115.3	117.8	115.8	116.8	119.0	119.4	119.4	119.8	118.5	118.3	118.7	119.2	118.4	119.5	119.6
Fuels	106.7	108.1	105.1	106.5	110.2	110.4	110.3	111.1	108.7	108.2	108.9	109.2	107.5	108.6	108.8
Fuel oil, coal, and bottled gas	94.6	90.7	89.9	89.8	90.1	90.0	89.7	89.7	91.4	92.1	91.8	92.3	92.5	92.8	92.6
Gas (piped) and electricity	112.6	114.8	111.3	113.0	117.4	117.6	117.5	118.5	115.4	114.8	115.6	115.9	113.8	115.1	115.3
Other utilities and public services	137.9	142.5	142.2	142.4	142.2	143.1	143.3	143.0	143.4	143.7	143.6	144.3	145.3	146.3	146.2
Household furnishings and operations	116.0	118.0	118.0	117.9	118.2	118.4	118.3	118.3	118.4	118.5	118.2	118.2	118.6	118.7	119.2
Housefurnishings	107.5	109.0	109.7	109.2	109.1	109.4	109.0	108.8	109.0	109.1	108.7	108.6	108.9	109.3	109.7
Housekeeping supplies	128.9	129.6	129.0	129.5	129.8	130.1	130.1	129.8	129.9	130.2	129.5	130.0	130.6	129.6	130.6
Housekeeping services	127.5	132.1	130.5	131.0	132.6	132.6	133.0	133.8	133.9	134.0	134.3	134.1	134.5	134.6	135.0
Apparel and upkeep	128.7	131.9	133.3	133.1	131.0	129.2	130.2	133.3	135.0	134.5	131.4	129.7	133.4	136.2	136.9
Apparel commodities	126.4	129.4	131.1	130.9	128.4	126.5	127.6	130.8	132.7	132.1	128.7	126.8	130.9	133.9	134.5
Men's and boys' apparel	124.2	126.5	127.8	127.5	126.2	124.2	124.1	126.8	128.8	128.8	127.1	124.2	126.5	128.7	129.0
Women's and girls' apparel	127.6	130.4	133.1	132.6	128.2	125.1	127.5	132.6	135.1	134.3	129.1	125.7	133.1	138.4	138.6
Infants' and toddlers' apparel	128.9	129.3	131.3	130.3	129.6	128.3	128.8	130.1	130.6	131.9	130.7	127.9	127.0	125.9	126.5
Footwear	120.9	125.0	125.6	126.0	125.4	124.4	124.9	126.3	127.1	126.0	125.1	124.4	125.2	126.3	127.1
Other apparel commodities	137.7	142.6	141.5	142.8	142.7	144.2	143.9	143.6	144.3	142.7	138.9	145.7	145.2	144.6	148.3
Apparel services	142.9	147.9	146.7	146.8	148.6	148.5	148.6	148.8	149.3	149.7	149.7	149.7	150.2	150.6	150.8
Transportation	123.8	126.5	125.2	126.3	126.9	127.2	126.9	126.8	128.0	129.2	129.0	129.1	129.2	129.0	129.4
Private transportation	121.9	124.6	122.9	124.3	125.4	125.5	125.4	125.4	126.1	127.0	126.7	126.6	126.5	126.3	126.8
New vehicles	126.0	129.2	129.1	129.2	129.1	128.6	128.5	128.3	129.1	130.6	131.3	131.8	132.0	132.0	132.2
New cars	125.3	128.4	128.2	128.4	128.2	127.8	127.6	127.4	128.2	129.7	130.5	130.9	130.9	130.9	131.1
Used cars	118.1	123.2	117.9	120.5	123.1	124.8	126.4	127.7	129.1	129.9	129.0	127.4	126.0	126.6	128.7
Motor fuel	99.4	99.0	95.0	99.4	102.9	102.8	101.7	101.7	101.6	102.2	100.2	98.6	98.0	97.3	98.4
Gasoline	99.2	99.0	94.8	99.4	103.0	102.9	101.8	101.8	101.5	102.2	100.1	98.5	97.8	97.1	98.2
Maintenance and repair	136.0	141.3	140.5	140.8	141.2	141.4	141.6	142.2	142.5	142.8	143.2	143.4	144.3	144.7	145.2
Other private transportation	149.1	153.2	152.4	152.5	152.6	153.0	153.1	152.7	154.4	155.3	155.5	156.5	156.8	156.3	156.1
Other private transportation commodities	104.1	104.8	104.8	104.8	104.6	104.4	104.6	104.8	104.5	104.7	104.7	105.0	104.5	103.9	103.9
Other private transportation services	159.2	164.2	163.2	163.2	163.5	164.0	164.1	163.5	165.8	166.8	167.1	168.2	168.8	168.3	168.1
Public transportation	148.9	151.4	154.7	151.6	145.3	148.3	146.7	145.6	152.9	157.4	158.2	161.6	164.1	163.5	162.8
Medical care	177.0	190.1	188.1	188.7	189.4	190.7	191.5	192.3	193.3	194.3	194.7	196.4	198.0	198.6	199.4
Medical care commodities	176.8	188.1	187.9	187.6	188.0	188.6	188.9	189.5	189.8	190.4	191.1	191.8	193.2	193.9	193.7
Medical care services	177.1	190.5	188.1	188.9	189.7	191.1	192.2	192.9	194.2	195.2	195.6	197.5	199.1	199.7	200.7
Professional services	165.7	175.8	174.1	174.7	175.4	176.3	177.1	177.7	178.4	179.1	179.4	180.7	181.7	182.3	183.0
Hospital and related services	196.1	214.0	210.3	211.4	212.3	214.6	216.2	217.1	219.4	221.0	221.4	224.2	227.0	227.4	229.1
Entertainment	138.4	142.3	142.0	142.0	142.0	142.4	142.6	143.2	143.5	143.7	143.8	144.3	144.5	144.8	145.3
Entertainment commodities	128.6	131.3	131.4	131.2	131.3	131.6	131.6	131.3	131.6	132.2	131.9	132.8	132.9	133.1	133.2
Entertainment services	150.6	155.9	155.2	155.3	155.3	155.7	156.2	157.7	158.0	157.8	158.3	158.4	158.7	159.0	159.9
Other goods and services	171.6	183.3	180.3	181.3	181.5	182.3	183.9	187.0	187.9	188.0	189.1	191.0	191.5	192.0	192.4
Tobacco products	202.7	219.8	214.5	219.3	219.2	220.5	221.5	224.0	225.6	225.0	228.9	234.6	235.6	236.3	237.3
Personal care	134.9	138.3	138.5	138.0	137.8	138.8	138.7	138.6	138.7	139.0	139.6	139.8	139.6	140.7	140.6
Toilet goods and personal care appliances	132.8	136.5	137.0	136.1	135.7	137.5	137.3	137.0	136.8	136.9	137.8	137.7	137.0	138.4	138.1
Personal care services	137.0	140.0	139.8	139.8	139.9	140.0	140.1	140.1	140.5	141.1	141.3	141.9	142.2	142.9	143.2
Personal and educational expenses	183.7	197.4	193.9	194.0	194.6	195.2	197.7	202.6	203.6	203.9	204.2	205.4	206.0	206.3	206.7
School books and supplies	180.3	190.3	188.7	188.4	189.1	189.3	189.7	193.0	193.8	193.9	193.8	195.5	195.6	195.7	195.8
Personal and educational services	184.2	198.1	194.5	194.7	195.2	195.8	198.6	203.5	204.6	204.9	205.3	206.4	207.0	207.3	207.8

See footnotes at end of table.

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
All items	136.2	140.3	139.5	139.7	140.2	140.5	140.9	141.3	141.8	142.0	141.9	142.6	143.1	143.6	144.0
Commodities	126.6	129.1	128.8	129.1	129.2	129.0	129.3	129.9	130.3	130.5	130.1	130.4	130.9	131.4	131.9
Food and beverages	136.8	138.7	138.8	138.3	138.3	138.1	138.8	139.3	139.2	139.1	139.5	140.5	140.7	140.9	141.4
Commodities less food and beverages	120.4	123.2	122.5	123.4	123.5	123.3	123.4	124.1	124.8	125.1	124.3	124.1	124.9	125.5	126.1
Nondurables less food and beverages	123.5	126.5	125.6	126.9	127.0	126.6	126.8	128.0	128.8	128.8	127.4	126.9	128.3	129.2	129.9
Apparel commodities	126.4	129.4	131.1	130.9	128.4	126.5	127.6	130.8	132.7	132.1	128.7	126.8	130.9	133.9	134.5
Nondurables less food, beverages, and apparel	124.8	127.9	125.7	127.9	129.2	129.6	129.3	129.6	129.7	130.1	129.6	129.9	130.0	129.8	130.5
Durables	116.0	118.6	118.2	118.4	118.5	118.6	118.5	118.5	119.2	120.0	120.1	120.0	120.0	120.2	120.6
Services	146.3	152.0	150.8	150.9	151.7	152.5	153.0	153.2	153.7	154.0	154.2	155.2	155.8	156.2	156.5
Rent of shelter (12/82=100)	152.1	157.3	156.3	156.2	157.1	158.0	158.5	158.0	158.6	158.6	158.7	159.9	160.6	161.0	161.2
Household services less rent of' shelter (12/82=100)	126.7	130.2	128.2	129.1	131.4	131.8	131.9	132.4	131.2	131.0	131.4	131.8	131.2	132.2	132.3
Transportation services	151.2	155.7	155.7	155.1	153.9	154.9	154.7	154.3	157.2	158.8	159.2	160.6	161.7	161.4	161.3
Medical care services	177.1	190.5	188.1	188.9	189.7	191.1	192.2	192.9	194.2	195.2	195.6	197.5	199.1	199.7	200.7
Other services	159.8	168.5	166.6	166.7	167.1	167.5	168.9	171.6	172.3	172.4	172.8	173.3	173.8	174.1	174.7
Special indexes:															
All items less food	136.1	140.8	139.7	140.1	140.7	141.1	141.4	141.8	142.4	142.7	142.5	143.1	143.7	144.2	144.6
All items less shelter	133.5	137.3	136.6	136.9	137.2	137.3	137.7	138.4	138.9	139.2	139.1	139.5	140.0	140.5	140.9
All items less homeowners' costs (12/82=100)	137.8	141.9	141.1	141.3	141.8	142.0	142.4	142.9	143.3	143.5	143.4	144.0	144.7	145.2	145.6
All items less medical care	133.8	137.5	136.7	136.9	137.4	137.6	138.0	138.4	138.8	139.0	138.9	139.5	140.0	140.4	140.8
Commodities less food	121.3	124.2	123.5	124.4	124.5	124.3	124.3	125.1	125.7	126.1	125.3	125.1	125.8	126.4	127.0
Nondurables less food	124.5	127.6	126.8	128.0	128.1	127.8	127.9	129.1	129.8	129.8	128.5	128.1	129.4	130.3	130.9
Nondurables less food and apparel	125.7	128.9	127.0	128.9	130.1	130.5	130.2	130.5	130.6	130.9	130.5	130.8	130.9	130.9	131.5
Nondurables	130.3	132.8	132.4	132.8	132.8	132.5	133.0	133.8	134.2	134.2	133.6	133.9	134.7	135.3	135.8
Services less rent of' shelter (12/82=100)	150.9	157.6	156.0	156.3	157.1	157.8	158.3	159.2	159.7	160.3	160.7	161.6	162.0	162.5	162.8
Services less medical care	143.3	148.4	147.2	147.3	148.1	148.8	149.2	149.4	149.9	150.1	150.3	151.2	151.7	152.1	152.3
Energy	102.5	103.0	99.5	102.4	105.9	106.0	105.4	105.9	104.5	104.5	103.9	103.4	102.2	102.5	103.1
All items less energy	140.9	145.4	144.9	144.9	145.0	145.3	145.8	146.2	146.9	147.1	147.1	147.9	148.7	149.1	149.5
All items less food and energy	142.1	147.3	146.6	146.7	146.9	147.3	147.7	148.1	149.0	149.3	149.2	149.9	150.8	151.4	151.7
Commodities less food and energy	128.8	132.5	132.4	132.6	132.2	132.0	132.2	133.1	133.9	134.2	133.6	133.6	134.7	135.5	136.0
Energy commodities	99.1	98.3	94.6	98.6	101.6	101.6	100.5	100.5	100.6	101.2	99.4	98.1	97.6	97.0	98.0
Services less energy	149.8	155.9	154.8	154.8	155.3	156.1	156.6	156.8	157.7	158.0	158.2	159.3	160.1	160.5	160.7
Purchasing power of the consumer dollar:															
1982-84=$1.00	73.4	71.3	71.7	71.6	71.3	71.2	71.0	70.8	70.5	70.4	70.5	70.1	69.9	69.7	69.5
1967=$1.00	24.5	23.8	23.9	23.9	23.8	23.8	23.7	23.6	23.5	23.5	23.5	23.4	23.3	23.3	23.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	134.3	138.2	137.3	137.6	138.1	138.4	138.8	139.1	139.6	139.8	139.8	140.3	140.7	141.1	141.6
All items (1967=100)	399.9	411.5	408.9	409.9	411.4	412.1	413.3	414.5	415.8	416.5	416.3	417.8	419.2	420.4	421.6
Food and beverages	136.5	138.3	138.5	137.9	137.9	137.8	138.5	138.9	138.8	138.8	139.1	140.1	140.2	140.5	140.9
Food	136.0	137.5	137.7	137.1	137.1	136.9	137.7	138.1	138.0	138.0	138.3	139.4	139.4	139.7	140.2
Food at home	135.5	136.4	136.9	135.8	135.6	135.3	136.5	136.9	136.7	136.6	137.0	138.5	138.5	138.8	139.3
Cereals and bakery products	145.6	151.3	150.5	150.6	151.4	152.2	152.9	152.5	152.6	152.5	153.0	153.1	154.6	154.3	155.1
Meats, poultry, fish, and eggs	132.7	130.8	130.2	130.1	130.2	130.2	130.7	131.6	131.4	131.8	132.1	133.4	133.1	134.4	135.4
Dairy products	124.8	128.2	127.1	126.6	127.4	127.9	128.9	129.5	129.8	129.2	128.9	129.2	128.4	128.5	127.7
Fruits and vegetables	155.6	154.8	161.4	154.4	151.5	149.2	153.4	154.6	152.8	153.3	155.3	159.7	158.1	157.9	159.5
Other foods at home	127.2	128.8	128.5	128.8	129.1	128.6	129.0	129.0	129.1	128.2	128.2	129.4	130.3	130.2	129.9
Sugar and sweets	129.2	132.8	132.6	132.6	133.1	133.5	133.5	133.4	133.3	132.8	131.9	132.9	133.1	132.5	132.9
Fats and oils	131.5	129.7	129.5	130.4	130.1	129.9	129.3	129.8	129.7	128.4	128.3	130.1	130.6	130.1	130.1
Nonalcoholic beverages	114.4	114.6	114.8	114.9	115.4	114.2	114.4	114.6	114.5	112.8	112.7	114.0	115.6	115.3	114.6
Other prepared foods	137.0	140.0	139.4	139.8	139.9	139.6	140.6	140.3	140.7	140.5	141.0	142.0	142.5	142.9	142.7
Food away from home	137.8	140.6	140.1	140.3	140.5	140.7	140.8	141.1	141.2	141.4	141.6	141.8	142.1	142.2	142.5
Alcoholic beverages	142.6	147.0	147.1	147.3	147.4	147.5	147.3	147.7	148.0	147.8	147.7	148.3	148.8	149.0	149.3
Housing	131.2	135.0	133.9	134.1	135.1	135.7	135.9	135.8	135.9	136.0	136.1	136.7	137.0	137.4	137.7
Shelter	142.5	147.2	146.2	146.3	147.0	147.8	148.2	147.9	148.5	148.5	148.7	149.6	150.2	150.5	150.8
Renters' costs (12/84=100)	136.9	141.3	140.6	140.2	141.1	142.3	142.8	141.8	142.0	141.6	141.4	142.8	143.9	144.3	144.3
Rent, residential	142.9	146.5	145.8	145.9	146.1	146.6	146.7	146.9	147.7	148.2	148.2	148.5	148.7	148.7	149.3
Other renters' costs	175.0	185.3	184.2	181.3	186.3	192.7	195.2	187.1	184.5	178.6	176.9	185.0	191.4	194.4	191.6
Homeowners' costs (12/84=100)	136.9	141.5	140.4	140.7	141.3	141.8	142.2	142.2	142.9	143.2	143.5	144.2	144.5	144.7	145.1
Owners' equivalent rent (12/84=100)	137.1	141.8	140.7	140.9	141.6	142.0	142.4	142.4	143.2	143.5	143.8	144.4	144.8	144.9	145.3
Household insurance (12/84=100)	126.7	130.2	129.2	129.5	130.1	130.5	130.9	131.1	131.3	131.3	132.0	131.9	132.3	132.5	132.9
Maintenance and repairs	127.8	129.9	129.6	129.4	129.4	130.2	128.9	129.3	130.1	130.8	129.8	130.0	131.2	131.9	132.1
Maintenance and repair services	133.4	136.8	135.7	134.9	136.6	137.1	136.5	136.5	138.7	138.8	139.0	138.8	139.0	139.9	138.1
Maintenance and repair commodities	119.8	120.4	121.1	121.5	119.7	120.8	118.7	119.6	118.8	120.1	118.0	118.7	120.9	121.3	123.7
Fuel and other utilities	114.9	117.5	115.5	116.5	118.7	119.1	119.1	119.5	118.2	118.0	118.4	118.9	118.2	119.2	119.3
Fuels	106.1	107.5	104.5	105.9	109.7	109.8	109.8	110.7	108.1	107.7	108.4	108.7	106.9	108.0	108.2
Fuel oil, coal, and bottled gas	94.4	90.6	89.7	89.7	89.9	89.9	89.6	89.6	91.3	91.9	91.7	92.2	92.3	92.7	92.5
Gas (piped) and electricity	112.1	114.3	110.8	112.5	116.9	117.0	117.0	118.1	114.8	114.3	115.1	115.4	113.3	114.6	114.8
Other utilities and public services	138.4	143.1	142.7	142.9	142.7	143.7	143.8	143.5	144.0	144.3	144.2	144.9	145.9	147.0	146.9
Household furnishings and operations	115.2	116.9	117.0	116.9	117.0	117.2	117.0	117.1	117.3	117.5	117.2	117.2	117.6	117.5	118.1
Housefurnishings	106.5	107.8	108.4	108.0	107.8	108.1	107.7	107.6	107.8	107.9	107.7	107.7	107.9	108.1	108.6
Housekeeping supplies	129.4	130.2	129.6	130.1	130.3	130.7	130.7	130.4	130.4	130.9	130.0	130.5	131.3	130.0	131.1
Housekeeping services	129.0	133.7	132.3	132.6	133.8	133.7	134.2	135.4	135.4	135.6	135.9	135.7	136.2	136.3	136.5

See footnotes at end of table.

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1992									1993			
	1991	1992	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Apparel and upkeep	127.4	130.7	132.1	131.8	129.8	128.1	129.5	132.1	133.8	133.4	130.4	128.4	132.0	134.8	135.2
Apparel commodities	125.2	128.3	129.9	129.6	127.3	125.5	127.0	129.8	131.5	131.1	127.8	125.8	129.5	132.5	132.9
Men's and boys' apparel	123.1	125.6	126.8	126.5	125.1	123.3	123.5	125.9	128.0	128.2	126.4	123.8	126.1	127.7	128.0
Women's and girls' apparel	126.0	128.9	131.5	130.8	126.6	123.8	127.0	131.1	133.4	132.7	127.6	123.8	130.5	136.5	136.3
Infants' and toddlers' apparel	131.3	131.6	133.3	132.6	131.8	130.2	130.8	132.8	133.5	134.6	133.1	130.8	129.6	128.3	128.3
Footwear	121.4	125.4	125.9	126.5	125.6	124.8	125.3	126.5	127.5	126.6	125.6	124.7	125.8	126.5	127.3
Other apparel commodities	133.7	140.4	139.5	140.2	141.2	142.5	141.7	141.5	142.1	141.0	137.3	143.7	144.3	143.7	146.9
Apparel services	142.2	147.6	146.5	146.5	148.2	148.1	148.2	148.5	148.9	149.3	149.2	149.1	149.7	150.2	150.4
Transportation	123.1	125.8	124.1	125.5	126.5	126.7	126.5	126.5	127.5	128.5	128.2	128.0	128.0	127.8	128.4
Private transportation	121.7	124.4	122.4	124.1	125.3	125.4	125.3	125.4	126.1	127.0	126.6	126.3	126.1	125.9	126.6
New vehicles	126.2	129.6	129.5	129.5	129.4	129.0	128.9	128.7	129.6	130.9	131.7	132.1	132.4	132.4	132.6
New cars	125.1	128.1	127.9	128.1	127.9	127.5	127.3	127.2	128.0	129.5	130.1	130.6	130.5	130.5	130.7
Used cars	118.1	123.6	118.1	120.9	123.5	125.3	126.9	128.2	129.7	130.5	129.7	128.0	126.6	127.2	129.4
Motor fuel	99.6	99.0	95.1	99.5	102.9	102.7	101.6	101.6	101.5	102.0	99.9	98.4	97.7	97.1	98.4
Gasoline	99.4	99.0	94.9	99.6	103.1	102.9	101.7	101.8	101.5	102.1	99.9	98.2	97.6	96.9	98.2
Maintenance and repair	136.4	141.8	141.1	141.4	141.7	141.9	142.1	142.8	143.2	143.5	143.9	144.1	145.0	145.4	146.0
Other private transportation	146.4	149.9	149.5	149.5	149.5	149.7	149.6	149.1	150.8	151.6	151.9	152.8	153.0	152.4	152.1
Other private transportation commodities	103.5	104.2	104.1	104.2	104.0	103.8	104.1	104.2	104.0	104.1	104.0	104.4	103.8	103.2	103.2
Other private transportation services	156.6	160.9	160.3	160.3	160.3	160.7	160.5	159.8	162.0	163.1	163.5	164.5	164.9	164.3	164.0
Public transportation	146.6	150.0	152.8	150.3	145.0	147.3	146.2	145.2	151.4	154.9	155.5	158.0	160.8	160.6	159.5
Medical care	176.5	189.6	187.6	188.2	188.9	190.2	191.2	191.9	193.0	193.8	194.3	196.0	197.6	198.2	199.0
Medical care commodities	175.4	186.5	186.3	186.2	186.5	187.2	187.4	188.0	188.3	188.7	189.4	190.0	191.4	192.1	192.0
Medical care services	176.7	190.3	187.9	188.6	189.4	190.9	192.0	192.8	194.0	195.0	195.4	197.3	199.0	199.6	200.6
Professional services	166.1	176.3	174.5	175.2	175.9	176.8	177.7	178.3	179.0	179.7	180.0	181.3	182.3	183.0	183.6
Hospital and related services	193.7	211.5	208.0	208.9	209.8	212.1	213.6	214.6	216.8	218.4	218.9	221.7	224.4	225.0	226.4
Entertainment	136.9	140.8	140.5	140.5	140.5	141.0	141.2	141.6	141.9	142.2	142.2	142.7	142.8	143.1	143.5
Entertainment commodities	128.0	130.7	130.8	130.6	130.8	131.3	131.2	130.9	131.1	131.7	131.5	132.3	132.3	132.5	132.7
Entertainment services	150.4	155.7	155.0	155.2	155.0	155.4	156.0	157.5	157.9	157.6	158.1	158.0	158.4	158.6	159.5
Other goods and services	171.7	183.3	180.3	181.6	181.8	182.7	184.2	186.7	187.7	187.7	189.0	191.2	191.6	192.2	192.8
Tobacco products	202.5	219.7	214.2	219.1	219.0	220.4	221.6	224.1	225.6	225.1	229.0	234.8	235.5	236.1	237.2
Personal care	134.7	138.6	138.8	138.2	138.1	139.1	138.9	138.8	139.0	139.2	139.9	139.9	139.8	140.8	140.8
Toilet goods and personal care appliances	132.9	137.2	137.7	136.7	136.4	138.2	137.9	137.6	137.5	137.5	138.6	138.3	137.7	139.1	138.7
Personal care services	136.7	140.0	139.9	139.8	140.0	140.0	139.9	140.0	140.5	141.0	141.3	141.8	142.2	142.8	143.1
Personal and educational expenses	181.8	194.3	191.1	191.2	191.8	192.3	195.0	199.0	200.0	200.3	200.5	201.5	202.2	202.6	203.1
School books and supplies	180.2	190.6	188.5	188.2	188.9	189.0	189.9	194.1	194.9	195.0	194.9	196.7	196.9	197.0	197.1
Personal and educational services	182.2	194.9	191.6	191.7	192.4	192.9	195.7	199.7	200.7	201.1	201.2	202.2	202.9	203.4	203.9
All items	134.3	138.2	137.3	137.6	138.1	138.4	138.8	139.1	139.6	139.8	139.8	140.3	140.7	141.1	141.6
Commodities	126.2	128.7	128.1	128.6	128.8	128.6	129.0	129.6	130.0	130.2	129.8	130.0	130.4	130.9	131.4
Food and beverages	136.5	138.3	138.5	137.9	137.9	137.8	138.5	138.9	138.8	138.8	139.1	140.1	140.2	140.5	140.9
Commodities less food and beverages	119.8	122.7	121.7	122.8	123.1	123.0	123.2	123.9	124.5	124.9	124.1	123.8	124.4	125.0	125.6
Nondurables less food and beverages	123.2	126.2	125.1	126.7	126.9	126.6	126.9	127.9	128.6	128.7	127.3	126.8	128.0	128.8	129.5
Apparel commodities	125.2	128.3	129.9	129.6	127.3	125.5	127.0	129.8	131.5	131.1	127.8	125.8	129.5	132.5	132.9
Nondurables less food, beverages, and apparel	125.1	128.1	125.6	128.2	129.7	130.0	129.7	130.0	130.1	130.5	129.9	130.2	130.2	130.0	130.8
Durables	114.1	116.8	116.1	116.4	116.8	116.9	117.0	117.2	117.9	118.6	118.7	118.5	118.4	118.5	119.2
Services	144.6	150.0	148.8	149.0	149.8	150.5	150.9	151.1	151.6	151.9	152.1	153.0	153.5	153.9	154.1
Rent of shelter (12/84=100)	137.0	141.6	140.7	140.7	141.4	142.1	142.5	142.2	142.8	142.9	143.0	143.9	144.5	144.8	145.0
Household services less rent of shelter (12/84=100)	116.6	119.7	117.9	118.7	120.8	121.2	121.3	121.8	120.5	120.4	120.8	121.2	120.6	121.6	121.6
Transportation services	149.8	154.3	154.2	153.9	153.1	153.7	153.4	153.1	155.5	156.7	157.2	158.2	159.2	158.9	158.7
Medical care services	176.7	190.3	187.9	188.6	189.4	190.9	192.0	192.8	194.0	195.0	195.4	197.3	199.0	199.6	200.6
Other services	157.8	166.1	164.3	164.4	164.8	165.1	166.5	168.8	169.5	169.7	169.9	170.4	170.9	171.3	171.9
Special indexes:															
All items less food	133.8	138.2	137.1	137.6	138.2	138.6	138.9	139.3	139.8	140.1	140.0	140.3	140.9	141.3	141.7
All items less shelter	132.3	135.9	135.0	135.5	135.9	136.0	136.4	137.0	137.4	137.7	137.6	137.9	138.4	138.8	139.3
All items less homeowners' costs (12/84=100)	126.7	130.3	129.5	129.8	130.3	130.5	130.9	131.3	131.7	131.9	131.8	132.2	132.6	133.1	133.5
All items less medical care	132.2	135.7	134.8	135.2	135.6	135.9	136.2	136.6	137.0	137.2	137.2	137.6	138.0	138.4	138.8
Commodities less food	120.7	123.7	122.7	123.8	124.1	124.0	124.1	124.8	125.4	125.8	125.0	124.7	125.4	125.9	126.5
Nondurables less food	124.2	127.4	126.3	127.8	128.0	127.8	128.0	129.0	129.6	129.7	128.4	128.0	129.1	129.9	130.5
Nondurables less food and apparel	125.9	129.0	126.9	129.1	130.5	130.8	130.5	130.8	130.9	131.2	130.7	131.0	131.1	130.9	131.7
Nondurables	130.1	132.5	132.0	132.5	132.7	132.4	132.9	133.6	133.9	134.0	133.4	133.7	134.3	134.9	135.4
Services less rent of shelter (12/84=100)	135.3	141.0	139.6	139.9	140.7	141.3	141.7	142.4	142.7	143.2	143.5	144.3	144.6	145.0	145.3
Services less medical care	141.7	146.5	145.3	145.5	146.3	146.9	147.3	147.5	147.9	148.1	148.4	149.2	149.5	149.9	150.1
Energy	102.2	102.6	99.1	102.1	105.7	105.6	105.0	105.5	104.2	104.2	103.5	102.8	101.7	101.9	102.6
All items less energy	138.9	143.2	142.6	142.7	142.8	143.1	143.6	144.0	144.6	144.9	144.9	145.6	146.2	146.7	147.0
All items less food and energy	139.6	144.7	143.9	144.1	144.3	144.7	145.1	145.5	146.4	146.7	146.6	147.2	148.0	148.5	148.8
Commodities less food and energy	127.3	131.2	130.9	131.2	130.9	130.8	131.3	132.1	132.9	133.2	132.7	132.6	133.5	134.3	134.8
Energy commodities	99.4	98.5	94.9	98.9	102.0	101.9	100.8	100.8	100.9	101.4	99.5	98.1	97.5	97.0	98.1
Services less energy	148.2	154.0	153.0	153.1	153.5	154.2	154.7	154.8	155.7	156.1	156.3	157.2	158.0	158.3	158.5
Purchasing power of the consumer dollar:															
1982-84=$1.00	74.5	72.4	72.9	72.7	72.4	72.3	72.1	71.9	71.6	71.5	71.5	71.3	71.1	70.9	70.6
1967=$1.00	25.0	24.3	24.5	24.4	24.3	24.3	24.2	24.1	24.0	24.0	24.0	23.9	23.9	23.8	23.7

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

(1982-84=100, unless otherwise indicated)

Area[1]	Pricing schedule[2]	All Urban Consumers							Urban Wage Earners						
		1992			1993				1992			1993			
		Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.	Apr.	May	Dec.	Jan.	Feb.	Mar.	Apr.
U.S. city average	M	139.5	139.7	141.9	142.6	143.1	143.6	144.0	137.3	137.6	139.8	140.3	140.7	141.1	141.6
Region and area size[3]															
Northeast urban	M	146.3	146.3	148.9	149.7	150.4	150.9	151.1	144.2	144.3	146.9	147.6	148.2	148.7	148.9
Size A - More than 1,200,000	M	146.8	146.7	149.4	150.3	150.9	151.6	151.7	143.6	143.7	146.6	147.3	147.8	148.4	148.5
Size B - 500,000 to 1,200,000	M	145.8	145.9	147.6	148.0	148.9	149.3	150.1	144.1	144.1	145.7	146.2	147.0	147.3	148.0
Size C - 50,000 to 500,000	M	144.3	144.7	147.2	148.5	149.1	149.1	149.2	146.3	146.7	149.0	150.2	150.7	150.7	150.9
North Central urban	M	135.1	135.5	137.7	138.1	138.6	139.0	139.4	132.6	133.1	135.1	135.4	135.8	136.2	136.6
Size A - More than 1,200,000	M	136.3	136.8	138.9	139.1	139.6	140.1	140.5	132.8	133.4	135.5	135.6	136.1	136.5	136.9
Size B - 360,000 to 1,200,000	M	133.8	133.9	136.3	137.3	137.3	137.3	137.7	131.0	131.2	133.1	134.1	134.0	134.1	134.6
Size C - 50,000 to 360,000	M	136.4	136.9	139.2	139.3	140.1	140.4	140.7	134.5	135.0	137.1	137.2	138.0	138.2	138.6
Size D - Nonmetropolitan (less than 50,0000	M	130.3	130.4	132.8	133.0	133.6	134.7	134.8	129.7	129.9	132.2	132.3	132.7	133.8	133.9
South urban	M	135.9	136.2	137.9	138.4	139.1	139.7	140.2	134.5	135.0	136.8	137.2	137.6	138.3	138.8
Size A - More than 1,200,000	M	136.1	136.5	138.0	138.9	139.8	140.4	140.8	134.6	135.1	136.6	137.2	138.0	138.5	138.8
Size B - 450,000 to 1,200,000	M	137.4	137.7	139.8	139.9	140.3	141.6	141.9	134.2	134.6	136.8	136.8	136.9	138.2	138.6
Size C - 50,000 to 450,000	M	135.1	135.7	137.2	137.8	138.1	138.6	139.3	134.9	135.7	137.4	137.9	138.1	138.5	139.3
Size D - Nonmetropolitan (less than 50,000)	M	134.1	134.0	136.4	136.4	136.7	137.0	137.7	134.2	134.2	136.7	136.6	136.8	137.0	137.8
West urban	M	141.3	141.4	143.9	144.7	145.2	145.2	145.7	139.0	139.2	141.5	142.2	142.7	142.7	143.2
Size A - More than 1,250,000	M	143.2	143.5	145.8	146.7	147.2	147.2	147.7	139.3	139.7	141.8	142.6	143.1	143.0	143.5
Size C - 50,000 to 330,000	M	138.7	137.9	142.1	142.7	143.1	143.8	144.2	137.1	136.5	140.2	140.8	141.3	141.8	142.4
Size classes:															
A (12/86=100)	M	126.8	127.0	129.0	129.7	130.3	130.6	130.9	126.0	126.3	128.3	128.8	129.3	129.7	130.0
B	M	138.8	138.9	141.1	141.5	141.9	142.5	143.0	136.7	136.9	138.9	139.3	139.5	140.1	140.6
C	M	137.7	138.1	140.4	140.9	141.5	141.8	142.3	137.3	137.8	140.0	140.5	141.0	141.3	141.8
D	M	134.8	134.8	137.1	137.3	137.7	138.3	138.7	134.3	134.4	136.8	137.0	137.3	137.8	138.3
Selected local areas															
Chicago, IL-Northwestern IN	M	139.8	140.5	142.9	143.2	143.6	144.1	144.7	135.4	136.2	138.5	138.9	139.1	139.5	140.3
Los Angeles-Long Beach, Anaheim, CA	M	145.8	146.0	148.2	149.2	150.0	149.8	149.9	141.3	141.4	143.5	144.4	145.0	144.8	144.9
New York, NY-Northeastern NJ	M	149.2	148.9	151.9	153.0	153.6	154.1	154.0	145.9	145.8	149.1	149.9	150.3	150.7	150.7
Philadelphia, PA-NJ	M	145.4	145.7	147.5	147.5	148.5	149.3	149.6	145.1	145.5	147.4	147.4	148.6	149.0	149.4
San Francisco-Oakland, CA	M	141.6	141.9	144.3	145.1	145.5	145.7	146.8	139.6	140.1	142.3	143.0	143.5	143.8	144.8
Baltimore, MD	1	–	139.5	–	142.0	–	142.6	–	–	138.9	–	141.3	–	141.8	–
Boston, MA	1	–	147.5	–	151.8	–	153.9	–	–	146.8	–	151.0	–	153.8	–
Cleveland, OH	1	–	136.1	–	137.5	–	138.8	–	–	129.6	–	130.8	–	131.8	–
Miami, FL	1	–	133.7	–	137.8	–	139.2	–	–	131.6	–	135.9	–	137.1	–
St. Louis, MO-IL	1	–	134.0	–	135.9	–	136.1	–	–	133.6	–	135.4	–	135.5	–
Washington, DC-MD-VA	1	–	143.2	–	147.8	–	148.5	–	–	141.6	–	145.6	–	146.2	–
Dallas-Ft. Worth, TX	2	132.5	–	134.6	–	135.4	–	137.0	131.5	–	134.1	–	134.8	–	136.3
Detroit, MI	2	135.3	–	137.1	–	138.3	–	138.7	131.7	–	133.1	–	134.4	–	134.6
Houston, TX	2	128.7	–	129.3	–	131.7	–	131.8	128.4	–	129.2	–	131.3	–	131.3
Pittsburgh, PA	2	135.1	–	137.3	–	139.2	–	139.6	129.4	–	131.4	–	133.2	–	133.6

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

[2] Foods, fuels, and several other items priced every month in all areas; most other goods and services priced as indicated:.
M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

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

– Data not available.

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

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

(1982-84=100)

Series	1984	1985	1986	1987	1988	1989	1990	1991	1992
Consumer Price Index for All Urban Consumers:									
All items:									
Index	103.9	107.6	109.6	113.6	118.3	124.0	130.7	136.2	140.3
Percent change	4.3	3.6	1.9	3.6	4.1	4.8	5.4	4.2	3.0
Food and beverages:									
Index	103.2	105.6	109.1	113.5	118.2	124.9	132.1	136.8	138.7
Percent change	3.7	2.3	3.3	4.0	4.1	5.7	5.8	3.6	1.4
Housing:									
Index	103.6	107.7	110.9	114.2	118.5	123.0	128.5	133.6	137.5
Percent change	4.1	4.0	3.0	3.0	3.8	3.8	4.5	4.0	2.9
Apparel and upkeep:									
Index	102.1	105.0	105.9	110.6	115.4	118.6	124.1	128.7	131.9
Percent change	1.9	2.8	.9	4.4	4.3	2.8	4.6	3.7	2.5
Transportation:									
Index	103.7	106.4	102.3	105.4	108.7	114.1	120.5	123.8	126.5
Percent change	4.4	2.6	-3.9	3.0	3.1	5.0	5.6	2.7	2.2
Medical care:									
Index	106.8	113.5	122.0	130.1	138.6	149.3	162.8	177.0	190.1
Percent change	6.2	6.3	7.5	6.6	6.5	7.7	9.0	8.7	7.4
Entertainment:									
Index	103.8	107.9	111.6	115.3	120.3	126.5	132.4	138.4	142.3
Percent change	3.7	3.9	3.4	3.3	5.2 4.3		4.7	2.8 4.5	
Other goods and servicesD									
Index	107.9	114.5	121.4	128.5	137.0	147.7	159.0	171.6	183.3
Percent change	6.7	6.1	6.0	5.8	6.6	7.8	7.7	7.9	6.8
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	103.3	106.9	108.6	112.5	117.0	122.6	129.0	134.3	138.2
Percent change	3.5	3.5	1.6	3.6	4.0	4.8	5.2	4.1	2.9

34. Producer Price Indexes, by stage of processing

(1982=100)

Grouping	Annual average		1992								1993			
	1991	1992	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Finished goods	121.7	123.2	123.2	123.9	123.7	123.6	123.3	124.4	124.0	123.8	124.0	124.3	124.6	125.3
Finished consumer goods	120.5	121.7	121.7	122.6	122.4	122.2	122.2	122.9	122.4	122.2	122.3	122.6	123.0	123.9
Finished consumer foods	124.1	123.3	123.1	123.1	122.8	123.4	123.3	123.8	123.4	124.2	123.8	124.0	124.6	126.3
Finished consumer goods excluding foods	118.7	120.8	120.9	122.1	122.0	121.5	121.4	122.3	121.7	121.1	121.4	121.8	122.1	122.6
Nondurable goods less food	115.0	117.3	117.5	119.5	119.2	118.6	119.3	118.9	118.1	117.2	117.7	118.0	118.4	119.1
Durable goods	123.9	125.7	125.6	125.2	125.4	125.1	123.4	127.1	127.1	126.9	127.1	127.6	127.5	127.8
Capital equipment	126.7	129.1	129.0	128.9	128.8	128.9	128.1	130.2	130.2	130.2	130.4	130.9	130.9	130.9
Intermediate materials, supplies, and components	114.4	114.7	114.5	115.4	115.5	115.5	115.8	115.4	115.0	114.8	115.3	115.5	115.9	116.2
Materials and components for manufacturing	118.1	117.9	117.9	118.2	118.3	118.3	118.4	118.1	118.0	118.0	118.4	118.7	118.7	119.0
Materials for food manufacturing	115.3	113.9	114.8	115.5	114.8	114.0	114.5	112.9	112.8	113.3	113.2	112.6	113.2	114.6
Materials for nondurable manufacturing	116.7	115.4	115.0	115.6	115.8	115.9	116.1	116.0	116.0	115.5	115.7	115.9	115.6	116.0
Materials for durable manufacturing	117.2	117.2	117.3	117.6	117.9	118.2	118.1	117.1	116.7	117.1	117.9	119.0	119.7	119.6
Components for manufacturing	121.0	122.0	122.0	121.9	122.0	122.0	122.1	122.2	122.2	122.3	122.6	122.8	122.7	122.8
Materials and components for construction	124.5	126.5	126.8	126.5	126.3	126.4	126.8	126.7	126.9	127.8	129.1	130.7	132.5	132.8
Processed fuels and lubricants	85.3	84.5	83.6	88.1	88.2	88.0	89.0	87.2	85.0	83.5	83.7	83.3	83.7	84.2
Containers	128.1	127.7	127.7	127.6	127.7	127.6	127.7	127.8	127.8	127.7	127.8	126.9	127.0	126.8
Supplies	121.4	122.7	122.7	122.7	122.7	122.7	123.0	123.2	123.3	123.6	123.9	124.1	124.2	124.6
Crude materials for further processing	101.2	100.4	101.2	102.1	101.7	100.6	102.4	101.9	101.8	100.9	101.4	101.1	102.6	103.6
Foodstuffs and feedstuffs	105.5	105.1	108.4	107.4	105.0	103.7	102.9	103.7	102.8	104.6	105.2	105.6	108.2	110.1
Crude nonfood materials	94.6	93.5	92.8	94.8	95.7	94.8	98.0	96.8	97.2	94.6	95.1	94.4	95.1	95.5
Special groupings:														
Finished goods, excluding foods	120.9	123.1	123.1	124.0	123.8	123.5	123.2	124.5	124.1	123.6	123.9	124.3	124.5	124.9
Finished energy goods	78.1	77.8	77.8	81.0	80.4	80.2	80.8	80.0	78.4	76.4	76.6	76.9	77.6	78.2
Finished goods less energy	129.1	131.1	131.1	131.0	131.0	130.9	130.4	132.0	131.9	132.3	132.4	132.7	132.9	133.6
Finished consumer goods less energy	130.0	131.8	131.8	131.8	131.8	131.6	131.3	132.6	132.5	133.0	133.1	133.4	133.6	134.6
Finished goods less food and energy	131.1	134.2	134.2	134.1	134.2	133.8	133.2	135.2	135.2	135.4	135.7	136.2	136.2	136.4
Finished consumer goods less food and energy	133.7	137.3	137.5	137.3	137.5	136.8	136.4	138.2	138.3	138.6	139.0	139.4	139.4	139.8
Consumer nondurable goods less food and energy	140.8	145.8	146.3	146.4	146.6	145.6	146.3	146.4	146.6	147.3	147.9	148.2	148.2	148.8
Intermediate materials less foods and feeds	114.6	114.9	114.7	115.6	115.7	115.8	116.1	115.7	115.2	115.1	115.5	115.9	116.2	116.5
Intermediate foods and feeds	111.1	110.7	111.5	112.3	111.2	110.3	111.0	109.7	109.6	110.7	110.8	109.7	109.7	111.1
Intermediate energy goods	85.1	84.3	83.4	87.8	88.0	87.8	88.7	87.0	84.9	83.4	83.6	83.2	83.7	84.1
Intermediate goods less energy	120.8	121.3	121.3	121.4	121.4	121.5	121.7	121.5	121.5	121.7	122.2	122.6	123.0	123.2
Intermediate materials less foods and energy	121.4	122.0	121.9	122.0	122.1	122.2	122.4	122.3	122.3	122.4	122.9	123.5	123.8	124.0
Crude energy materials	80.4	78.8	77.4	80.1	81.0	79.7	83.8	82.9	83.8	79.8	79.2	77.2	77.8	77.3
Crude materials less energy	110.9	110.7	113.5	112.6	111.1	110.3	109.7	109.7	108.7	110.7	112.3	113.5	115.7	117.9
Crude nonfood materials less energy	128.2	128.4	129.7	129.2	130.0	130.8	130.4	128.2	127.1	129.7	133.9	137.3	138.4	141.6

35. Producer Price indexes, by durability of product

(1982=100)

Grouping	Annual average		1992								1993			
	1991	1992	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total durable goods	122.9	124.4	124.4	124.3	124.3	124.4	124.1	125.0	124.8	125.1	125.5	126.1	126.3	126.6
Total nondurable goods	111.7	112.0	112.0	113.3	113.1	112.7	113.5	113.1	112.6	112.2	112.5	112.5	113.1	113.8
Total manufactures	119.0	120.1	120.3	120.6	120.5	120.4	120.4	120.9	120.8	120.5	120.9	121.4	121.8	122.3
Durable	122.7	124.3	124.2	124.2	124.2	124.3	124.0	125.0	124.9	125.1	125.4	126.0	126.3	126.6
Nondurable	115.2	115.8	116.3	117.0	116.7	116.4	116.8	116.8	116.6	116.0	116.4	116.9	117.3	118.1
Total raw or slightly processed goods	104.4	103.8	103.1	105.5	105.6	105.1	106.4	105.2	104.1	103.9	104.2	103.4	104.2	104.6
Durable	132.2	128.0	130.2	129.1	130.4	131.6	129.2	125.7	123.4	125.4	129.9	131.9	129.9	127.6
Nondurable	103.0	102.5	101.7	104.2	104.3	103.8	105.2	104.1	103.0	102.8	102.9	102.0	102.8	103.4

36. Producer price indexes for the net output of major industry groups

(December 1984=100, unless otherwise indicated)

Industry	SIC	Annual average		1992								1993			
		1991	1992	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
Total mining industries	76.9	78.4		75.1	76.4	78.2		80.8	79.7	82.0	78.9	78.8	75.8	75.7	75.4
Metal mining	10	82.2	76.6	76.2	77.3	79.3	81.4	79.2	77.4	74.3	74.6	73.5	72.5	70.2	68.4
Anthracite mining (12/85 =100)	11	105.5	105.6	104.9	104.9	105.1	105.2	105.9	105.9	105.6	105.6	105.5	105.6	105.6	105.6
Bituminous coal and lignite mining (12/85=100)	12	96.3	94.0	94.7	94.4	94.2	94.2	93.6	93.9	93.7	94.1	93.1	93.5	93.4	92.9
Oil and gas extraction (12/85=100)	13	77.9	76.5	73.9	75.5	78.1	76.9	81.8	80.3	83.7	79.4	79.5	75.2	75.3	75.0
Mining and quarrying of nonmetallic minerals, except fuels	14	116.3	117.5	117.7	117.7	117.8	117.8	117.6	117.4	117.3	118.0	118.2	117.9	118.0	118.5
Total manufacturing industries		115.9	117.4	117.6	117.9	117.8	117.6	117.6	118.3	118.2	117.9	118.3	118.8	119.2	119.6
Food and kindred products	20	116.5	116.9	117.3	117.5	117.2	117.1	117.2	117.0	116.8	117.2	117.4	117.5	117.7	118.5
Tobacco manufactures	21	207.5	230.2	236.2	236.3	236.4	222.8	230.3	230.4	232.3	239.3	244.7	244.8	244.8	248.3
Textile mill products	22	112.5	113.6	113.8	114.0	113.8	113.8	113.8	113.8	113.7	113.6	113.6	113.5	113.5	113.6
Apparel and other finished products made from fabrics and similar materials	23	116.0	118.0	117.5	117.6	118.0	118.2	118.3	118.5	118.7	118.7	119.0	119.1	119.0	119.0
Lumber and wood products, except furniture	24	119.4	129.7	130.1	129.1	128.4	129.0	131.5	131.3	131.8	135.1	139.0	144.9	151.1	153.0
Furniture and fixtures	25	121.6	122.9	122.9	122.5	123.0	123.2	123.3	123.1	123.5	123.6	123.8	124.4	124.6	124.6
Paper and allied products	26	121.1	121.2	122.0	121.8	121.5	121.5	121.8	121.5	121.5	121.1	120.6	120.8	121.0	121.1
Printing, publishing, and allied industries	27	136.4	140.8	140.6	140.4	140.7	140.9	141.3	142.0	142.1	142.4	143.6	144.2	144.9	145.0
Chemicals and allied products	28	124.4	125.8	125.5	126.0	126.5	126.5	126.6	126.8	126.9	126.6	127.1	127.3	127.0	127.4
Petroleum refining and related products	29	83.1	80.3	81.9	85.7	84.2	83.5	84.5	84.6	83.1	77.5	77.2	78.1	79.8	81.3
Rubber and miscellaneous plastic products	30	113.7	114.2	114.0	114.1	114.3	114.3	114.5	114.7	114.8	114.8	116.0	116.0	115.1	115.2
Leather and leather products	31	124.8	127.0	126.8	127.4	126.8	127.7	127.2	127.1	127.1	127.7	128.6	128.2	128.4	128.7
Stone, clay, glass, and concrete products	32	112.3	112.8	112.5	112.6	112.7	113.0	113.0	113.0	113.2	113.3	113.7	114.1	114.4	114.9
Primary metal industries	33	113.1	111.7	111.9	112.2	112.5	112.6	112.0	111.2	110.6	110.6	110.7	111.0	110.9	110.8
Fabricated metal products, except machinery and transportation equipment	34	116.6	117.2	117.2	117.1	117.2	117.3	117.3	117.5	117.5	117.6	117.6	117.6	117.8	117.9
Machinery, except electrical	35	116.4	116.7	116.9	116.7	116.5	116.6	116.6	116.5	116.6	116.7	116.9	117.1	116.9	116.8
Electrical and electronic machinery, equipment, and supplies	36	110.1	110.8	110.8	110.8	110.8	110.8	110.8	110.9	111.0	111.1	111.2	111.6	111.6	111.8
Transportation equipment	37	119.8	123.0	122.7	122.6	122.7	122.3	120.5	124.8	124.8	124.7	124.9	125.5	125.6	125.7
Measuring and controlling instruments; photographic, medical, optical goods; watches, clocks	38	116.8	118.7	118.3	118.5	118.6	118.8	118.9	119.4	119.7	119.7	119.9	120.6	120.7	120.8
Miscellaneous manufacturing industries (12/85=100)	39	117.5	119.6	119.4	119.5	119.6	119.8	120.1	120.3	120.0	120.0	120.7	120.7	120.7	121.1
Service industries:															
Pipelines, except natural gas (12/86=100)	46	96.1	96.4	96.4	96.5	96.6	96.6	96.6	96.5	96.5	96.5	96.5	96.5	96.5	96.5

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

(1982=100)

Index	1984	1985	1986	1987	1988	1989	1990	1991	1992
Finished goods:									
Total	103.7	104.7	103.2	105.4	108.0	113.6	119.2	121.7	123.2
Consumer goods	103.3	103.8	101.4	103.6	106.2	112.1	118.2	120.5	121.7
Capital equipment	105.2	107.5	109.7	111.7	114.3	118.8	122.9	126.7	129.1
Intermediate materials, supplies, and components:									
Total	103.1	102.7	99.1	101.5	107.1	112.0	114.5	114.4	114.7
Materials and components for manufacturing	104.1	103.3	102.2	105.3	113.2	118.1	118.7	118.1	117.9
Materials and components for construction	105.6	107.3	108.1	109.8	116.1	121.3	122.9	124.5	126.5
Processed fuels and lubricants	95.7	92.8	72.7	73.3	71.2	76.4	85.9	85.3	84.5
Containers	105.9	109.0	110.3	114.5	120.1	125.4	127.7	128.1	127.7
Supplies	104.1	104.4	105.6	107.7	113.7	118.1	119.4	121.4	122.7
Crude materials for further processing:									
Total	103.5	95.8	87.7	93.7	96.0	103.1	108.9	101.2	100.4
Foodstuffs and feedstuffs	104.7	94.8	93.2	96.2	106.1	111.2	113.1	105.5	105.1
Nonfood materials except fuel	102.2	96.9	81.6	87.9	85.5	93.4	101.5	94.6	93.5
Fuel	105.1	102.7	92.2	84.1	82.1	85.3	84.8	82.9	84.0

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1990			1991				1992			
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES		113.3	114.3	114.9	115.1	114.7	114.2	114.4	114.9	115.3	115.3	115.0
Food	0	108.8	102.2	99.1	102.4	105.1	104.1	106.6	110.7	107.3	104.9	104.3
Meat and meat preparations	01	123.7	124.3	128.7	129.3	128.0	129.6	125.9	131.7	133.3	131.4	134.0
Fish and crustaceans	03	126.9	129.9	127.5	126.8	122.1	113.5	121.7	131.6	126.5	123.5	116.9
Grain and grain preparations	04	101.8	90.5	84.3	86.9	90.8	90.8	96.3	102.6	98.2	92.8	92.0
Vegetables and fruit	05	115.2	111.5	110.7	128.5	137.2	127.8	118.2	119.8	113.0	113.8	116.6
Animal feeds, excluding unmilled cereals	08	118.4	120.2	124.9	125.6	121.2	127.6	128.5	123.6	123.9	127.3	125.9
Miscellaneous food products	09	110.2	110.0	111.4	110.1	110.8	110.0	110.2	109.5	110.5	111.3	111.6
Beverages and tobacco	1	124.5	125.6	129.0	131.9	132.6	133.4	135.8	136.6	137.6	138.8	140.1
Tobacco and tobacco products	12	124.9	126.0	129.2	132.1	132.8	133.4	135.9	136.6	137.7	139.0	140.3
Crude materials	2	137.3	137.8	134.5	134.3	130.3	125.3	122.4	124.3	127.6	128.4	127.7
Raw hides and skins	21	162.0	150.0	142.3	129.5	125.6	110.4	123.7	121.4	124.5	127.5	133.7
Oilseeds	22	110.4	117.4	117.2	118.0	112.9	111.1	106.3	108.2	111.8	104.7	104.8
Crude rubber	23	115.5	116.4	119.4	122.7	120.3	122.8	120.8	118.7	117.7	119.6	119.5
Wood	24	179.2	173.9	168.5	171.4	171.9	174.1	173.7	184.8	193.4	210.5	219.5
Pulp and waste paper	25	174.3	168.0	167.1	162.3	150.8	137.3	136.6	138.3	143.7	146.5	137.5
Textile fibers	26	124.5	122.2	121.5	126.8	129.7	118.4	108.0	103.2	104.3	99.7	99.1
Crude minerals	27	99.7	100.0	100.1	101.0	100.7	98.2	98.4	99.3	99.3	99.1	95.3
Metal ores and metal scrap	28	142.6	150.7	139.4	137.7	127.2	124.4	117.5	122.5	121.5	122.5	117.1
Fuels and related products	3	88.7	103.3	106.5	91.2	87.5	87.4	88.4	80.8	84.2	85.3	84.2
Coal and coke	32	97.5	97.9	98.0	97.7	96.1	96.1	96.2	95.1	94.3	93.7	94.3
Crude petroleum and petroleum products	33	108.7	146.0	149.8	112.1	103.7	103.9	106.0	89.6	100.0	103.2	99.4
Fats and oils	4	94.6	90.8	92.9	89.6	86.2	86.8	84.3	84.1	87.1	87.5	90.8
Animal oils and fats	41	84.0	76.6	89.6	82.8	80.4	84.4	82.7	82.1	86.1	95.0	97.1
Fixed vegetable oils and fats	42	101.7	100.4	94.3	93.9	89.5	87.2	83.9	83.9	86.2	79.5	84.1
Chemicals and related products	5	115.5	119.1	124.0	122.6	118.1	116.2	115.3	115.1	115.4	115.1	113.5
Organic chemicals	51	118.6	125.6	132.7	127.3	118.2	111.9	111.9	111.8	114.4	116.1	112.7
Dyeing, tanning, and coloring materials	53	119.7	120.6	125.5	127.7	128.8	129.7	128.5	129.3	129.4	132.0	133.2
Medicinal and pharmaceutical products (12/85=100)	54	110.0	110.2	110.9	110.6	110.8	112.6	112.8	114.0	114.7	114.7	114.9
Essential oils, polish, and cleaning preparations	55	126.8	127.1	127.5	127.7	127.9	128.7	128.3	130.4	131.2	129.9	129.8
Fertilizers, manufactured	56	102.8	107.5	114.5	116.2	111.0	108.0	98.8	99.0	94.8	89.9	88.1
Artificial resins, plastics and cellulose	57	115.8	121.4	131.2	126.7	117.6	116.4	116.5	114.4	114.9	115.4	114.1
Chemical materials and products, n.e.s.	58	113.7	115.8	118.4	120.7	119.1	117.9	117.7	118.5	118.6	119.1	119.2
Intermediate manufactured products	6	123.0	123.6	123.4	123.7	123.3	122.9	122.9	123.5	124.0	124.5	124.3
Leather and furskins	61	126.0	125.0	122.8	122.2	118.1	115.9	115.3	113.7	112.7	114.5	113.8
Rubber manufactures	62	114.4	115.6	118.4	120.5	121.5	121.8	122.3	122.1	122.1	122.9	123.3
Paper and paperboard products	64	130.3	131.1	131.4	130.8	130.2	129.1	129.4	129.1	128.8	128.1	127.5
Textiles	65	118.3	118.4	119.5	122.2	123.7	123.1	123.5	125.3	125.5	125.9	126.3
Non-metallic mineral manufactures (9/85=100)	66	126.9	126.8	128.1	128.9	128.9	129.0	130.1	130.4	131.8	132.0	132.3
Iron and steel	67	117.4	117.1	117.8	118.9	119.1	119.2	119.2	118.4	119.2	119.7	120.0
Nonferrous metals	68	132.6	135.9	129.5	123.4	116.5	115.7	112.6	114.8	116.3	116.4	112.6
Metal manufactures, n.e.s.	69	117.1	117.4	118.3	119.9	120.5	120.8	121.3	121.5	121.6	122.4	123.4
Machinery and transport equipment, excluding military and commercial aircraft	7	110.1	110.5	111.1	112.8	113.5	114.0	114.3	114.8	115.2	115.4	115.4
Power generating machinery and equipment	71	117.2	117.6	118.5	121.5	123.0	123.9	124.6	126.4	128.7	128.5	128.9
Machinery specialized for particular industries	72	113.2	114.2	115.7	116.8	117.8	117.9	118.5	119.5	120.4	121.0	121.8
Metalworking machinery	73	121.1	121.2	124.2	126.7	129.4	129.7	130.3	131.9	132.6	132.6	132.4
General industrial machines and parts, n.e.s.	74	118.2	119.0	119.6	122.2	122.9	123.8	123.8	125.6	125.8	126.3	127.0
Office machines and automatic data processing equipment	75	94.6	94.5	93.3	93.5	92.7	91.6	90.6	90.0	89.2	88.5	87.0
Telecommunications, sound recording and reproducing equipment	76	111.2	111.8	112.4	115.1	118.2	119.9	121.0	119.4	120.4	120.8	120.7
Electrical machinery and equipment	77	107.5	107.2	107.5	107.6	108.2	110.1	110.9	112.2	111.4	111.9	111.5
Road vehicles and parts	78	111.0	111.5	112.8	113.7	114.1	114.4	115.2	115.3	115.9	116.1	116.7
Other transport equipment, excluding military and commercial aviation	79	121.3	122.5	124.2	133.5	136.5	137.0	137.0	135.6	137.3	138.6	139.1
Miscellaneous manufactured articles	8	116.4	118.1	120.0	121.4	122.4	122.8	123.5	124.3	124.8	125.0	125.1
Furniture and parts	82	122.2	122.0	124.4	126.6	127.5	127.6	127.3	128.6	128.2	127.7	128.2
Professional, scientific, and controlling instruments and apparatus	87	124.8	127.6	130.4	131.9	133.7	134.0	135.2	136.6	137.2	137.0	137.3
Photographic apparatus and supplies, optical goods, watches, and clocks	88	97.6	99.1	101.6	102.0	101.8	101.6	102.6	102.5	101.5	102.3	102.9
Miscellaneous manufactured articles, n.e.s.	89	112.6	113.3	114.1	116.1	116.3	117.0	116.8	117.3	118.4	119.0	118.7

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1990	1991				1992			
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
ALL COMMODITIES		128.8	124.5	122.4	122.3	123.5	123.1	124.3	125.7	123.8
ALL COMMODITIES, EXCLUDING FUELS		132.6	133.5	131.7	131.3	132.9	133.7	133.4	135.0	133.7
Food and live animals	0	116.2	116.2	116.1	114.8	116.1	118.3	111.0	111.8	111.8
Meat and meat preparations	01	138.9	139.4	144.1	137.8	133.7	132.3	129.5	128.6	126.3
Dairy products and eggs	02	137.7	133.5	131.6	132.1	133.8	133.7	133.6	138.8	131.9
Fish and crustaceans	03	137.3	141.9	140.4	139.1	139.3	140.7	140.7	143.0	139.3
Bakery goods, pasta products, grain, and grain preparations	04	158.8	157.6	148.2	147.7	154.5	153.3	152.6	162.2	154.9
Fruits and vegetables	05	131.1	127.8	132.4	133.0	138.5	156.0	130.1	129.6	126.7
Sugar, sugar preparations, and honey	06	118.4	114.0	113.2	113.4	113.4	113.2	111.6	112.1	108.6
Coffee, tea, cocoa	07	65.7	65.8	62.1	61.7	61.9	56.6	51.5	51.3	60.4
Beverages and tobacco	1	132.9	140.5	142.5	142.3	144.0	145.4	145.9	147.4	145.5
Beverages	11	133.8	142.2	143.8	143.1	144.8	146.1	146.8	148.7	146.3
Crude materials	2	123.9	123.0	123.9	119.2	118.8	123.3	123.8	125.9	125.2
Crude rubber (including synthetic and reclaimed)	23	101.8	103.5	101.1	99.8	99.5	101.7	103.6	105.3	106.0
Cork and wood	24	106.4	108.5	121.0	114.9	117.3	130.0	131.3	133.0	136.5
Pulp and waste paper	25	166.0	152.6	141.1	126.8	123.6	127.6	132.7	138.6	131.9
Textile fibers	26	113.7	105.6	108.7	107.7	–	–	–	–	–
Crude fertilizers and crude minerals	27	98.8	99.6	98.8	94.6	89.8	87.9	87.1	87.3	83.1
Metalliferous ores and metal scrap	28	153.6	153.5	149.2	149.6	148.5	148.1	145.3	147.1	144.5
Crude animal and vegetable materials, n.e.s.	29	114.9	120.8	117.1	116.1	120.3	121.9	121.1	122.9	128.0
Fuels and related products	3	108.2	76.6	72.5	74.1	73.7	66.2	75.5	76.0	71.5
Crude petroleum and petroleum products	33	111.0	77.3	73.5	75.3	74.5	67.0	77.0	77.2	72.1
Fats and oils	4	95.9	97.9	97.3	103.8	120.6	131.6	128.5	122.3	119.3
Fixed vegetable oils and fats (9/87=100)	42	97.5	99.4	98.2	106.1	124.8	137.0	133.6	127.1	123.4
Chemicals and related products	5	123.2	122.9	120.9	120.3	120.7	121.4	122.1	122.9	122.5
Organic chemicals	51	121.0	117.7	114.0	111.1	112.2	112.1	111.9	111.5	109.2
Inorganic chemicals	52	89.0	89.8	88.6	86.8	83.9	84.4	83.2	82.9	87.7
Medicinal and pharmaceutical products	54	158.0	157.3	154.5	157.3	163.4	165.0	165.7	170.4	170.0
Essential oils and perfumes	55	137.3	135.4	135.3	139.2	138.1	141.4	143.0	143.4	143.2
Manufactured fertilizers	56	136.8	143.5	143.0	142.4	138.6	135.6	139.7	137.1	134.4
Artificial resins and plastics and cellulose	58	133.4	136.0	135.9	135.3	134.0	134.7	137.2	136.9	136.3
Chemical materials and products, n.e.s.	59	139.4	138.6	136.1	136.5	139.3	145.3	150.1	156.1	153.1
Intermediate manufactured products	6	136.4	137.0	134.7	133.5	133.8	134.4	134.9	135.9	133.5
Leather and furskins	61	146.6	146.3	142.5	139.6	140.8	140.9	–	–	–
Rubber manufactures, n.e.s.	62	117.1	116.7	116.5	116.1	117.3	118.3	118.2	119.8	119.2
Cork and wood manufactures	63	142.6	140.6	141.8	143.5	144.2	150.4	155.4	159.0	154.5
Paper and paperboard products	64	122.5	125.1	122.0	119.8	119.2	115.5	113.7	114.5	114.4
Textiles	65	130.5	132.7	131.3	133.3	135.4	136.2	135.1	138.9	136.7
Nonmetallic mineral manufactures, n.e.s.	66	162.3	165.2	165.5	165.7	167.2	167.7	169.0	170.6	169.8
Iron and steel	67	126.2	125.8	125.4	124.2	124.6	123.8	123.3	121.6	121.7
Nonferrous metals	68	142.3	139.7	129.3	124.2	120.5	125.4	128.7	128.8	118.9
Metal manufactures	69	137.7	138.8	137.7	136.9	138.9	140.0	140.2	142.8	140.5
Machinery and transport equipment	7	134.5	136.0	133.9	134.0	136.0	136.4	136.4	138.0	136.9
Machinery (including SITC 71-77)	7hyb	133.0	133.6	130.6	130.1	132.1	132.4	132.5	134.7	132.6
Machinery specialized for particular industries	72	171.7	174.4	166.0	165.6	170.3	171.9	172.0	180.7	174.0
Metalworking machinery	73	156.9	158.1	152.5	152.6	156.9	157.3	157.6	161.5	159.4
General industrial machinery and parts, n.e.s.	74	163.5	165.0	159.0	159.2	163.7	164.1	164.2	169.1	166.0
Office machines and automatic data processing equipment	75	116.1	115.0	112.7	111.4	111.7	112.0	110.8	111.2	110.3
Telecommunications, sound recording and reproducing apparatus	76	110.6	109.4	108.7	108.0	108.5	108.1	108.0	108.1	108.5
Electrical machinery and equipment	77	130.8	132.6	130.2	129.5	131.5	131.2	132.2	133.5	131.4
Road vehicles and parts	78	134.9	137.5	136.3	137.1	139.0	139.3	139.0	139.9	140.2
Miscellaneous manufactured articles	8	135.9	136.1	134.2	134.5	136.6	138.1	138.4	140.8	139.1
Plumbing, heating, and lighting fixtures	81	145.8	140.7	140.2	140.1	141.9	143.4	145.2	147.4	145.7
Furniture and parts	82	142.6	142.8	140.3	139.9	140.9	141.7	142.6	144.8	141.4
Travel goods, handbags, and similar goods (6/85=100)	83	121.0	117.7	114.0	111.1	112.2	112.1	111.9	111.5	109.2
Clothing	84	121.6	121.5	120.7	121.3	122.0	123.2	124.3	124.0	123.9
Footwear	85	142.6	142.8	140.3	139.9	140.9	141.7	142.6	144.8	141.4
Professional, scientific, and controlling instruments and apparatus	87	158.2	160.1	152.5	151.9	156.2	156.2	155.9	165.3	160.7
Photographic apparatus and supplies, optical goods, watches, and clocks	88	138.6	139.0	134.7	135.1	138.4	139.3	138.4	143.3	141.1
Miscellaneous manufactured articles, n.e.s.	89	143.5	143.5	142.8	143.1	146.8	149.5	148.5	151.5	150.0

– Data not available.

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

(1985 = 100 unless otherwise indicated)

Category	1990	1991				1992			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Foods, feeds, and beverages	101.4	104.3	105.7	104.7	105.9	109.7	107.6	104.1	103.7
Industrial supplies and materials	123.5	119.9	116.6	114.3	113.6	112.6	114.0	115.5	114.3
Capital goods	111.8	113.7	114.6	115.1	115.3	115.9	116.3	116.4	116.3
Automotive	113.4	114.3	114.9	115.1	116.0	116.5	116.9	117.2	117.8
Consumer goods	121.4	122.9	123.5	124.3	125.1	126.1	126.9	127.5	128.3
Consumer nondurables, manufactured, except rugs	116.1	117.5	118.1	118.5	118.8	119.3	119.6	120.5	121.5
Consumer durables, manufactured	121.7	123.4	124.1	125.2	126.2	127.6	128.6	129.1	129.8
Agricultural (9/88=100)	104.4	106.5	107.9	105.8	106.2	108.5	107.6	105.6	105.7
All exports, excluding agricultural (9/88=100)	116.9	116.7	116.0	115.6	115.8	115.9	116.6	117.1	116.7

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

(1985=100)

Category	1990	1991				1992			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
All imports, excluding petroleum (6/88=100)	132.0	132.9	131.1	130.7	132.3	133.1	132.7	134.3	133.1
Foods, feeds, and beverages	116.3	117.4	117.6	116.9	119.0	121.4	115.2	115.4	114.6
Industrial supplies and materials	118.7	103.8	100.7	100.3	99.9	96.9	101.6	102.2	99.2
Petroleum and petroleum products, excluding natural gas	110.9	77.2	73.2	75.0	74.3	66.7	76.5	76.9	71.6
Industrial supplies and materials, excluding petroleum	125.3	125.6	123.2	120.9	120.8	121.6	122.0	122.8	121.5
Capital goods, except automotive	139.3	140.3	136.8	136.5	139.0	139.4	139.4	142.3	140.2
Automotive vehicles, parts and engines	133.3	135.7	134.4	135.0	136.9	137.1	136.8	138.1	137.4
Consumer goods except automotive	135.5	135.6	134.5	134.9	136.7	138.1	138.5	140.3	139.5
Nondurables, manufactured	135.2	135.2	134.1	134.9	136.4	137.9	138.9	141.3	139.8
Durables, manufactured	132.9	132.5	131.4	131.4	133.6	134.9	135.0	136.0	135.5

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

(1985=100)

Industry group	1990	1991				1992			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products	115.3	113.9	112.1	110.3	113.5	114.5	114.2	115.6	115.7
Lumber and wood products, except furniture	162.5	165.5	167.4	169.1	168.7	179.1	186.4	201.5	209.9
Furniture and fixtures	122.1	124.1	124.4	124.4	124.8	126.4	126.5	126.3	126.6
Paper and allied products	128.9	126.5	123.9	119.4	118.9	119.8	121.5	122.7	118.2
Chemicals and allied products	125.5	124.6	120.1	118.2	117.2	117.3	117.4	117.1	115.2
Petroleum and coal products	118.5	88.3	81.3	81.8	83.8	70.9	77.8	81.3	78.4
Primary metal products	119.7	115.5	111.6	110.6	109.9	109.6	109.6	110.0	108.2
Machinery, except electrical	107.5	108.9	109.2	109.1	108.9	109.5	109.6	109.7	109.4
Electrical machinery	109.0	110.0	111.0	112.5	113.2	113.8	113.4	113.9	113.5
Transportation equipment	118.5	121.9	123.3	123.7	124.6	124.5	125.5	126.2	126.8
Scientific instruments; optical goods; clocks	126.5	127.6	129.0	129.2	130.4	131.9	132.3	132.7	133.3

[1] SIC-based classification.

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

(1985=100)

Industry group	1990	1991				1992			
	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.
Manufacturing:									
Food and kindred products	122.6	123.8	124.4	123.5	128.0	128.0	126.4	126.5	122.9
Textile mill products	146.8	148.4	146.4	148.9	150.2	152.1	150.7	154.6	151.3
Apparel and related products	122.2	122.1	121.4	122.1	122.8	124.2	125.1	127.5	128.3
Lumber and wood products, except furniture	120.0	120.9	128.7	125.0	127.0	136.4	138.9	140.4	141.5
Furniture and fixtures	136.6	137.2	135.5	135.9	136.7	137.7	138.1	141.0	138.1
Paper and allied products	125.8	126.1	121.6	117.4	116.2	113.9	113.5	115.3	113.7
Chemicals and allied products	124.6	126.7	124.5	123.8	124.4	124.9	124.9	125.5	125.4
Petroleum refining and allied products	203.5	148.9	137.9	138.8	143.2	125.9	138.3	142.0	133.8
Rubber and miscellaneous plastics products	127.4	128.9	127.7	127.8	129.7	131.0	131.7	134.2	133.1
Leather and leather products	135.6	135.9	133.9	133.7	134.4	135.1	136.3	138.3	135.8
Stone, clay, glass, and concrete products	157.8	159.3	158.7	158.5	160.4	161.4	163.6	165.3	166.1
Primary metal products	126.5	124.7	120.5	117.5	116.5	117.6	117.8	117.3	114.0
Fabricated metal products	147.4	148.6	147.0	146.5	148.7	149.4	149.8	152.3	150.1
Machinery, except electrical	149.7	150.5	145.9	145.6	148.5	149.2	148.7	152.9	149.7
Electrical machinery and supplies	118.6	119.0	117.2	116.5	117.7	117.4	117.8	118.8	117.7
Transportation equipment	137.7	140.3	139.1	139.9	142.5	143.0	142.8	144.0	144.7
Scientific instruments; optical goods; clocks	146.5	147.4	141.3	141.3	144.9	146.4	145.9	152.5	149.9
Miscellaneous manufactured commodities	147.6	147.4	147.7	147.9	151.4	154.2	153.3	154.0	152.4

[1] SIC - based classification.

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

(1982=100)

Item	Quarterly Indexes										
	1990			1991				1992			
	II	III	IV	I	II	III	IV	I	II	III	IV
Business:											
Output per hour of all persons	110.2	109.8	109.7	109.3	109.8	110.3	111.2	112.3	112.6	113.5	114.8
Compensation per hour	138.9	141.0	142.9	144.1	146.1	147.5	148.8	150.3	151.0	152.7	154.3
Real compensation per hour	103.5	103.4	103.1	103.0	103.9	104.2	104.3	104.4	104.1	104.6	104.9
Unit labor costs	126.0	128.4	130.3	131.8	133.1	133.7	133.8	133.8	134.1	134.5	134.4
Unit nonlabor payments	140.0	139.1	139.5	141.2	141.8	142.8	144.3	147.0	148.9	147.9	152.4
Implicit price deflator	130.6	131.9	133.3	134.9	136.0	136.7	137.3	138.2	139.0	138.9	140.3
Nonfarm business:											
Output per hour of all persons	108.6	108.1	108.1	107.9	108.4	108.9	109.6	110.6	111.1	111.8	113.1
Compensation per hour	137.5	139.6	141.6	143.0	145.0	146.4	147.5	148.9	149.8	151.4	153.0
Real compensation per hour	102.5	102.4	102.2	102.2	103.1	103.4	103.4	103.5	103.3	103.7	104.0
Unit labor costs	126.6	129.1	131.0	132.5	133.8	134.4	134.6	134.6	134.9	135.3	135.2
Unit nonlabor payments	140.4	139.6	140.6	142.5	142.6	144.0	145.9	148.4	150.6	149.4	153.8
Implicit price deflator	131.1	132.5	134.1	135.7	136.6	137.5	138.3	139.1	139.9	139.9	141.2
Nonfinancial corporations:											
Output per hour of all employees	112.3	111.9	112.6	113.0	113.6	114.2	115.3	116.0	116.7	118.2	–
Compensation per hour	135.6	137.6	139.6	140.8	142.7	144.0	145.2	145.9	146.6	147.9	–
Real compensation per hour	101.1	100.9	100.7	100.7	101.5	101.7	101.7	101.4	101.1	101.3	–
Total unit costs	119.1	121.4	122.7	123.9	124.7	125.3	125.0	124.6	124.4	124.5	–
Unit labor costs	120.8	123.0	124.0	124.6	125.7	126.2	125.9	125.7	125.6	125.2	–
Unit nonlabor costs	114.9	117.4	119.5	122.2	122.1	123.1	122.8	121.7	121.4	122.8	–
Unit profits	176.7	157.2	149.7	151.3	154.5	150.7	155.2	167.7	179.6	179.3	–
Unit nonlabor payments	126.5	124.9	125.2	127.7	128.2	128.3	128.9	130.3	132.4	133.5	–
Implicit price deflator	122.7	123.6	124.4	125.6	126.5	126.9	126.9	127.3	127.8	127.9	–
Manufacturing:											
Output per hour of all persons	124.8	127.2	127.0	126.1	127.5	129.4	129.7	129.4	131.0	132.7	134.1
Compensation per hour	133.0	134.6	136.8	138.5	140.2	141.3	142.8	142.0	143.1	144.6	146.5
Real compensation per hour	99.2	98.7	98.7	99.0	99.7	99.8	100.1	98.7	98.7	99.0	99.6
Unit labor costs	106.6	105.8	107.7	109.9	110.0	109.2	110.1	109.8	109.2	108.9	109.2

– Data not available.

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

(1982=100)

Item	1960	1970	1973	1980	1984	1985	1986	1987	1988	1989	1990
Private business:											
Productivity:											
Output per hour of all persons	65.1	87.0	94.8	99.2	105.1	107.3	109.8	111.1	113.6	113.2	112.8
Output per unit of capital services	128.5	122.2	125.1	109.3	106.8	107.2	106.5	108.0	110.9	110.5	108.4
Multifactor productivity	80.2	96.2	103.0	102.1	105.6	107.3	108.8	110.1	112.8	112.4	111.4
Output	52.1	75.8	88.0	101.0	113.2	118.0	121.6	126.7	133.5	136.3	136.6
Inputs:											
Hours of all persons	80.0	87.2	92.8	101.9	107.7	109.9	110.7	114.1	117.5	120.4	121.0
Capital services	40.5	62.1	70.4	92.5	106.0	110.1	114.2	117.4	120.4	123.3	126.0
Combined units of labor and capital input	65.0	78.8	85.5	99.0	107.1	110.0	111.8	115.1	118.4	121.3	122.6
Capital per hour of all persons	50.6	71.2	75.8	90.7	98.5	100.1	103.1	102.9	102.4	102.5	104.1
Private nonfarm business:											
Productivity:											
Output per hour of all persons	69.8	89.1	96.6	99.9	105.2	106.7	108.9	110.0	112.7	112.1	111.5
Output per unit of capital services	135.1	126.6	128.9	110.5	107.0	106.5	105.7	107.0	110.0	109.3	107.0
Multifactor productivity	84.8	98.5	104.9	102.8	105.7	106.6	107.9	109.1	111.9	111.3	110.1
Output	51.9	76.2	88.6	101.7	113.8	118.3	121.8	127.0	134.3	137.0	137.2
Inputs:											
Hours of all persons	74.4	85.5	91.7	101.8	108.2	110.9	111.8	115.5	119.1	122.2	123.1
Capital services	38.4	60.2	68.7	92.0	106.4	111.0	115.2	118.7	122.0	125.4	128.3
Combined units of labor and capital input	61.2	77.4	84.5	98.9	107.6	110.9	112.8	116.4	120.0	123.1	124.6
Capital per hour of all persons	51.6	70.4	75.0	90.4	98.4	100.1	103.0	102.7	102.4	102.6	104.2
Manufacturing:											
Productivity:											
Output per hour of all persons	58.4	77.2	89.4	96.6	110.0	114.8	120.0	126.4	132.1	133.3	136.6
Output per unit of capital services	136.6	128.0	143.4	113.4	115.7	117.2	118.9	124.9	132.9	132.8	131.3
Multifactor productivity	72.6	87.5	100.5	100.5	111.4	115.4	119.7	126.0	132.4	133.2	135.1
Output	55.0	82.3	100.9	106.2	118.6	122.8	126.6	134.3	144.6	146.4	147.0
Inputs:											
Hours of all persons	94.2	106.5	112.9	109.9	107.8	107.0	105.4	106.2	109.4	109.8	107.6
Capital services	40.3	64.3	70.4	93.6	102.5	104.8	106.5	107.5	108.8	110.3	112.0
Combined units of labor and capital inputs	75.8	94.1	100.5	105.7	106.4	106.4	105.7	106.6	109.2	109.9	108.8
Capital per hour of all persons	42.8	60.3	62.3	85.2	95.1	98.0	101.0	101.2	99.4	100.4	104.1

NOTE: Productivity and output in this table have not been revised for consistency with the December 1991 comprehensive revisions to the National Income and Product Accounts.

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

(1982=100)

Item	1960	1970	1973	1981	1983	1985	1986	1987	1988	1989	1990	1991	1992
Business:													
Output per hour of all persons	65.5	86.9	95.0	99.9	102.2	106.1	108.3	109.4	110.4	109.5	109.7	110.1	113.3
Compensation per hour	21.1	36.7	45.1	93.0	103.7	113.0	118.6	122.7	128.0	132.3	139.7	146.6	152.1
Real compensation per hour	68.7	91.2	98.0	98.7	100.5	101.3	104.4	104.3	104.4	103.0	103.2	103.9	104.6
Unit labor costs	32.2	42.2	47.5	93.1	101.5	106.5	109.5	112.2	116.0	120.9	127.3	133.1	134.2
Unit nonlabor payments	33.6	42.7	52.1	97.5	107.5	120.9	122.1	125.6	130.7	136.8	139.3	142.5	149.1
Implicit price deflator	32.6	42.4	49.0	94.5	103.4	111.2	113.6	116.6	120.8	126.1	131.2	136.2	139.1
Nonfarm business:													
Output per hour of all persons	69.8	88.5	96.3	99.9	102.4	105.4	107.5	108.3	109.2	108.2	108.2	108.7	111.7
Compensation per hour	22.2	37.0	45.4	93.0	103.9	112.6	118.1	122.1	127.2	131.3	138.4	145.4	150.8
Real compensation per hour	72.3	92.0	98.6	98.8	100.7	101.0	104.0	103.7	103.7	102.2	102.2	103.0	103.7
Unit labor costs	31.8	41.8	47.1	93.1	101.5	106.8	109.9	112.8	116.4	121.4	127.9	133.8	135.0
Unit nonlabor payments	33.3	43.0	49.7	96.6	109.2	121.6	123.3	126.6	131.9	137.3	139.9	143.7	150.6
Implicit price deflator	32.3	42.2	47.9	94.2	104.0	111.6	114.2	117.2	121.4	126.5	131.8	137.0	140.0
Nonfinancial corporations:													
Output per hour of all employees	75.2	90.2	94.9	98.7	103.7	106.3	109.0	110.8	112.9	110.9	111.9	113.9	–
Compensation per hour	23.6	38.3	46.5	93.5	103.2	111.8	116.9	120.5	125.4	129.6	136.4	143.1	–
Real compensation per hour	76.9	95.4	101.1	99.2	100.0	100.2	102.9	102.4	102.3	100.8	100.7	101.4	–
Total unit costs	29.5	40.5	46.5	93.7	99.5	103.7	105.9	107.0	109.8	115.7	120.4	124.7	–
Unit labor costs	31.4	42.5	49.0	94.7	99.6	105.2	107.2	108.8	111.1	116.8	121.9	125.6	–
Unit nonlabor costs	24.8	35.5	40.2	91.3	99.3	100.1	102.4	102.5	106.4	112.9	116.7	122.6	–
Unit profits	75.1	69.5	87.9	120.8	135.9	168.1	150.0	172.1	183.5	168.5	162.7	152.9	–
Unit nonlabor payments	34.2	41.9	49.2	96.8	106.2	112.9	111.4	115.6	120.9	123.3	125.4	128.3	–
Implicit price deflator	32.3	42.3	49.1	95.4	101.8	107.7	108.6	111.0	114.3	119.0	123.0	126.5	–
Manufacturing:													
Output per hour of all persons	-	-	-	96.4	102.9	108.0	112.6	117.2	122.0	122.5	125.7	128.1	131.9
Compensation per hour	-	-	-	91.4	102.5	111.0	115.4	118.0	122.6	127.3	133.8	140.6	144.1
Real compensation per hour	-	-	-	97.0	99.3	99.5	101.7	100.2	100.0	99.1	98.8	99.6	99.1
Unit labor costs	-	-	-	94.8	99.6	102.8	102.5	100.6	100.5	103.9	106.4	109.8	109.3
Unit nonlabor payments	-	-	-	94.5	115.1	122.8	133.3	139.0	147.1	151.9	–	-	–
Implicit price deflator	-	-	-	94.8	103.4	107.7	110.1	110.1	112.0	115.7	–	-	–

– Data not available.

47. Annual indexes of output per hour for selected industries

(1982=100)

Industry	SIC	1973	1979	1983	1984	1985	1986	1987	1988	1989	1990	1991
Iron mining, usable ore	1011	125.0	125.2	140.0	172.4	187.2	195.1	245.5	254.5	244.1	221.1	–
Copper mining, recoverable metal	1021	73.9	84.6	112.0	132.5	163.0	191.5	174.3	191.2	187.9	182.2	175.4
Coal mining	12	105.3	83.1	114.3	127.0	129.3	140.3	151.8	168.4	177.5	180.4	186.3
Crude petroleum and natural gas	1311	223.1	141.7	99.2	105.1	106.9	116.6	128.0	129.0	125.1	124.0	125.6
Nonmetallic minerals, except fuels	14	108.9	114.9	110.0	117.7	119.9	120.6	127.6	130.4	130.1	137.9	132.3
Meatpacking plants	2011	74.2	87.4	104.2	107.2	112.1	109.7	110.7	111.3	101.2	100.8	102.6
Sausages and other prepared meats	2013	71.5	98.5	103.1	102.6	101.6	101.5	105.5	111.3	104.3	98.2	–
Poultry dressing and processing	2015	61.6	84.5	104.8	104.1	106.2	101.6	108.2	103.1	108.3	114.8	–
Fluid milk	2026	65.3	85.4	105.3	109.4	112.8	117.8	122.4	127.3	130.6	131.9	135.3
Canned fruits and vegetables	2033	86.8	93.9	105.3	107.5	114.2	123.2	125.4	122.8	114.2	117.5	–
Frozen fruits and vegetables	2037	82.0	88.5	101.3	102.1	98.1	103.9	101.9	99.7	99.8	96.3	–
Flour and other grain mill products	2041	77.4	93.6	105.2	108.5	114.8	116.9	122.6	126.5	126.0	133.1	–
Cereal breakfast foods	2043	84.0	93.2	104.3	114.7	119.6	121.1	122.4	120.7	117.4	124.7	–
Rice milling	2044	78.1	92.4	98.2	88.5	97.1	105.5	125.9	105.4	124.2	134.5	–
Wet corn milling	2046	41.1	76.1	113.1	138.3	143.9	158.1	170.3	162.4	168.1	170.5	–
Prepared feeds for animals and fowls	2047,48	65.7	81.1	101.8	106.0	115.0	112.0	120.2	122.2	120.7	124.5	–
Bakery products	2051,52	90.6	92.1	104.0	104.4	106.4	112.6	111.4	103.3	103.0	104.6	104.8
Raw and refined cane sugar	2061,62	106.7	116.0	112.3	104.7	118.1	117.2	123.0	121.4	117.9	118.0	123.2
Beet sugar	2063	105.4	110.3	99.0	113.3	104.1	114.7	141.9	135.2	124.6	129.2	133.8
Malt beverages	2082	60.2	89.6	108.5	115.3	110.4	130.7	143.8	143.2	142.8	153.0	152.1
Bottled and canned soft drinks	2086	69.3	90.6	106.6	114.7	119.7	128.6	140.5	154.2	167.5	177.8	186.8
Fresh or frozen fish and seafood	2092	93.5	96.3	90.0	89.7	88.1	91.4	98.4	98.6	89.8	86.2	–
Cigarettes, chewing and smoking tobacco	2111,31	89.2	103.0	103.4	104.8	107.8	110.5	116.1	123.9	124.7	131.0	131.5
Cigars	2121	80.3	91.0	101.7	129.0	119.3	123.8	130.5	136.5	141.6	138.7	130.0
Cotton and synthetic broadwoven fabrics	2211,21	68.1	89.6	108.6	107.1	111.1	119.5	118.2	115.9	120.5	125.5	129.6
Hosiery	2251,52	65.2	94.3	103.0	103.9	102.4	103.9	101.2	108.6	109.5	106.8	113.1
Yarn spinning mills	2281	72.0	87.8	108.8	110.3	114.8	120.6	131.3	129.3	135.8	140.5	148.8
Men's and boys' suits and coats	2311	88.4	101.7	94.8	101.7	111.6	112.8	112.5	115.8	117.9	115.4	–
Sawmills and planing mills, general	2421	85.7	90.8	107.4	111.1	115.8	128.0	125.4	128.3	125.7	125.7	128.3
Millwork	2431	118.9	107.2	102.1	103.0	99.6	104.7	112.2	110.6	109.5	110.1	116.3
Wood kitchen cabinets	2434	86.7	95.8	97.9	97.7	92.3	89.8	108.1	106.3	98.8	102.1	–
Hardwood veneer and plywood	2435	79.2	96.3	108.5	102.5	106.7	106.6	130.6	132.7	132.4	124.3	–
Softwood veneer and plywood	2436	75.7	76.4	104.2	106.3	105.6	108.2	120.9	121.0	123.8	131.0	136.1
Wood containers	244	–	74.2	99.9	102.5	99.2	98.0	98.2	101.7	107.4	110.9	–
Wood household furniture	2511,17	105.9	103.6	105.8	107.7	106.9	114.6	114.8	116.0	114.2	112.7	116.8
Upholstered household furniture	2512	78.8	90.7	104.8	98.9	107.7	109.8	109.1	108.9	110.3	107.6	112.2
Metal household furniture	2514	87.7	83.8	101.1	112.2	114.7	118.7	115.4	116.0	115.1	119.7	124.8
Mattresses and bedsprings	2515	84.7	98.4	101.1	99.4	95.9	100.9	112.5	117.5	125.8	129.0	128.2
Wood office furniture	2521	86.6	122.8	104.1	106.4	106.8	103.6	107.8	102.1	101.5	103.3	–
Office furniture, except wood	2522	84.0	89.7	104.9	112.5	110.6	114.4	112.7	107.9	111.4	107.7	–
Pulp, paper, and paperboard mills	2611,21,31	82.2	94.7	107.4	108.7	110.6	120.1	124.0	126.2	127.0	127.9	128.3
Corrugated and solid fiber boxes	2653	77.0	95.5	101.9	106.3	109.5	113.0	110.2	109.6	107.6	110.4	111.0
Folding paperboard boxes	2657	89.0	100.2	101.3	100.5	98.4	101.3	105.2	105.3	107.0	110.7	110.0
Paper and plastic bags	2673,74	98.7	102.8	108.7	112.4	114.4	120.6	119.4	116.6	112.3	110.4	–
Alkalies and chlorine	2812	101.2	107.1	128.7	149.7	154.0	208.2	204.9	208.2	191.5	186.0	–
Inorganic pigments	2816	118.5	108.6	110.8	131.2	135.3	141.0	155.4	158.1	165.1	157.3	–
Industrial inorganic chemicals, not elsewhere classified	2819 pt.	122.0	141.8	108.9	123.8	122.2	124.2	139.8	129.7	120.0	122.3	–
Synthetic fibers	2823,24	76.6	110.7	121.2	120.9	130.8	140.7	151.7	158.7	155.2	150.2	155.5
Soaps and detergents	2841	100.0	103.8	97.4	102.3	104.3	106.2	114.4	117.5	125.8	148.5	–
Cosmetics and other toiletries	2844	104.1	112.1	103.1	102.3	105.0	113.8	118.0	122.9	119.4	118.1	–
Paints and allied products	2851	77.3	98.5	106.5	113.6	117.3	118.8	119.6	123.2	127.3	132.9	133.7
Industrial organic chemicals, not elsewhere classified	2869	103.6	130.2	120.6	130.6	129.1	136.5	150.6	162.5	158.9	147.6	141.4
Nitrogenous fertilizers	2873	80.7	96.5	112.0	133.6	131.4	117.3	138.0	140.4	140.8	148.8	–
Phosphatic fertilizers	2874	100.8	107.3	121.9	136.8	127.0	116.3	144.8	133.5	123.7	149.9	–
Fertilizers, mixing only	2875	105.5	134.2	115.1	124.2	128.4	119.7	127.7	131.2	141.4	139.0	–
Agricultural chemicals, not elsewhere classified	2879	86.7	104.2	101.9	115.6	108.7	109.4	119.2	129.6	128.7	125.3	–
Petroleum refining	2911	117.9	119.5	102.7	116.3	128.8	142.6	143.4	151.9	157.8	157.5	155.4
Tires and inner tubes	3011	74.2	83.6	107.6	117.6	118.9	124.3	134.9	140.7	143.4	146.1	147.4
Rubber and plastics hose and belting	3052	93.9	96.2	111.1	119.2	114.7	116.4	113.1	121.2	109.2	115.1	–
Miscellaneous plastic products, not elsewhere classified	308	85.0	86.0	97.4	100.4	102.7	103.7	117.1	114.9	113.6	117.2	117.1
Footwear	314	92.6	94.2	97.7	99.3	101.0	102.8	100.6	102.8	101.4	92.9	90.8
Glass containers	3221	87.5	96.8	99.3	113.0	108.4	114.3	116.1	117.5	121.8	130.5	131.3
Cement, hydraulic	3241	106.0	102.0	115.2	133.1	136.2	143.8	148.1	152.7	163.0	166.2	149.9
Clay construction products	3251,53,59	87.6	88.5	97.8	106.9	109.1	110.7	116.0	121.2	112.3	116.5	103.4
Clay refractories	3255	93.6	110.2	121.5	115.3	114.1	123.3	124.2	125.8	120.8	123.0	130.8
Concrete products	3271,72	101.6	101.7	107.2	109.3	110.8	116.8	113.8	117.8	123.2	121.9	131.1
Ready-mixed concrete	3273	114.3	110.4	103.7	106.4	107.7	110.8	115.5	115.8	116.7	115.1	118.7
Steel	331	117.3	117.6	128.7	144.3	153.3	156.3	167.6	184.8	179.5	184.8	177.5
Gray and ductile iron foundries	3321	100.8	103.3	104.5	113.1	110.1	113.2	114.7	123.5	118.6	119.0	110.8
Steel foundries	3324,25	114.5	113.1	100.9	111.1	107.4	112.8	108.0	103.5	104.1	103.4	95.2
Primary copper	3331	70.5	88.2	106.4	123.7	158.2	190.3	214.7	222.8	207.8	185.2	189.9
Primary aluminum	3334	96.6	96.8	108.5	121.8	121.8	130.3	129.6	132.6	135.8	138.1	143.6
Copper rolling and drawing	3351	87.9	92.6	114.5	121.1	115.9	124.3	128.0	128.6	121.3	120.7	120.0
Aluminum rolling and drawing	3353,54,55	94.7	101.1	110.9	116.6	116.4	125.0	125.7	124.6	121.7	118.7	–
Metal cans	3411	68.9	87.5	101.9	103.1	105.1	104.8	107.7	115.4	117.0	127.8	135.5

See footnotes at end of table.

47. Continued—Annual indexes of output per hour for selected industries

(1982=100)

Industry	SIC	1973	1979	1983	1984	1985	1986	1987	1988	1989	1990	1991
Hand and edge tools, not elsewhere classified	3423	109.6	112.1	96.4	97.8	98.9	98.7	103.9	105.4	106.0	100.1	–
Heating equipment, except electric	3433	83.1	93.6	90.9	99.5	98.9	102.0	106.4	119.1	109.0	117.0	–
Fabricated structural metal	3441	113.4	102.5	103.4	108.3	118.3	118.3	118.8	118.1	112.3	116.3	–
Metal doors, sash, and trim	3442	95.8	96.6	103.8	107.0	110.6	108.3	107.9	110.4	110.2	106.2	–
Bolts, nuts, rivets, and washers	3452	97.2	103.6	112.8	113.1	118.1	122.3	133.5	129.1	124.0	124.0	–
Automotive stampings	3465	88.7	96.4	114.6	119.7	112.6	114.0	119.1	124.4	124.8	120.0	–
Metal stampings, not elsewhere classified	3469	111.7	113.7	99.7	106.1	100.1	106.4	117.1	116.9	114.6	111.5	–
Valves and pipe fittings	3491,92,94	102.0	104.0	102.4	103.9	103.5	103.2	109.8	111.8	111.3	112.1	–
Fabricated pipe and fittings	3498	123.1	100.7	97.2	109.4	100.7	101.4	83.2	82.7	84.6	88.7	–
Internal combustion engines, not elsewhere classified	3519	111.3	120.0	106.1	122.1	125.9	133.4	134.9	141.9	149.9	143.6	133.7
Farm machinery and equipment	3523	103.3	106.1	99.4	113.0	106.7	103.5	108.1	119.2	130.5	136.6	146.9
Lawn and garden equipment	3524	84.1	106.3	103.5	101.7	104.4	117.9	127.2	124.1	119.4	121.4	–
Construction machinery	3531	105.6	112.7	99.5	116.9	119.1	126.3	123.1	132.3	136.3	140.3	–
Mining machinery	3532	119.4	105.0	100.4	108.7	112.1	115.1	120.4	122.8	130.2	121.2	129.3
Oil and gas field machinery	3533	118.7	113.3	93.1	106.9	103.8	107.0	113.0	112.2	118.3	121.4	–
Metal-cutting machine tools	3541	118.3	115.5	91.7	106.2	110.5	112.7	126.7	119.3	127.0	129.3	134.2
Metal-forming machine tools	3542	134.2	116.7	103.4	110.9	114.5	115.2	124.1	143.9	139.5	127.3	111.7
Machine tool accessories	3545	118.7	113.3	93.1	106.9	103.8	107.0	113.0	112.2	118.3	121.4	–
Pumps and pumping equipment	3561,94	101.2	108.8	106.1	114.3	114.8	117.5	129.7	137.6	133.0	135.5	–
Ball and roller bearings	3562	123.7	127.1	103.6	113.4	110.2	114.5	122.2	124.5	118.1	110.9	112.5
Air and gas compressors	3563	104.7	103.9	103.4	107.9	110.5	114.1	120.5	125.8	127.8	131.3	–
Refrigeration and heating equipment	3585	102.8	101.1	100.9	105.5	103.8	101.6	105.5	109.0	111.8	111.7	–
Carburetors, pistons, rings, and valves	3592	131.0	102.9	108.3	119.9	124.0	120.8	129.3	142.1	154.9	146.9	–
Transformers, except electronic	3612	97.2	108.8	99.6	98.2	99.5	101.3	103.8	106.9	109.0	116.7	120.7
Switchgear and switchboard apparatus	3613	100.3	101.5	104.5	105.7	108.6	108.4	112.5	122.5	122.3	124.5	–
Motors and generators	3621	98.3	97.0	101.1	103.9	105.6	106.7	110.1	114.5	113.9	113.0	114.3
Household cooking equipment	3631	75.4	96.6	104.0	109.8	109.4	123.5	125.5	128.2	135.4	130.2	134.6
Household refrigerators and freezers	3632	82.3	96.7	109.4	109.2	116.9	113.7	112.4	115.3	120.3	120.9	128.6
Household laundry equipment	3633	83.9	102.6	106.8	112.4	113.2	118.4	122.0	130.0	122.8	126.6	125.6
Household appliances, not elsewhere classified	3639	90.1	108.4	110.8	118.8	120.6	125.2	138.9	140.0	136.9	126.7	137.2
Electric lamps	3641	83.2	97.1	114.5	120.8	115.9	119.3	131.0	138.4	149.2	156.1	175.3
Lighting fixtures and equipment	3645,46,47,48	102.9	103.8	105.8	112.5	118.2	126.0	122.7	119.0	117.4	115.4	112.8
Household audio and video equipment	3651	53.7	72.3	121.3	148.6	158.8	179.6	172.9	191.5	212.6	231.9	236.2
Motor vehicles and equipment	371	88.4	100.8	112.7	118.2	123.4	123.1	130.0	133.7	133.3	132.6	127.0
Instruments to measure electricity	3825	76.2	84.2	102.1	112.2	109.5	102.6	111.5	118.8	121.8	120.4	–
Photographic equipment and supplies	3861	83.5	111.4	110.9	114.0	110.7	119.1	122.5	130.0	139.1	134.1	–
Railroad transportation, revenue traffic	4011	83.1	90.4	122.4	131.9	139.7	153.8	178.3	195.3	207.4	218.1	236.2
Bus carriers, class 1	4111,13,14 pts.	107.4	99.5	96.4	92.0	88.3	87.9	91.9	99.2	96.2	–	–
Trucking, except local	4213	89.5	108.0	121.2	125.2	120.6	124.6	128.7	135.7	140.9	–	–
Air transportation	4512,13,22 pts.	74.5	98.5	110.4	114.8	118.8	119.9	126.9	122.5	118.3	113.7	115.3
Petroleum pipelines	4612,13	109.7	114.0	106.5	117.9	118.5	121.0	118.7	124.3	122.4	121.6	117.6
Telephone communications	481	57.7	85.9	112.4	110.8	116.1	125.0	128.7	135.5	141.9	142.4	150.4
Electric utilities	491,493 pt.	98.8	106.6	101.6	105.5	104.5	107.1	112.4	117.9	121.1	123.8	127.1
Gas utilities	492,493 pt.	117.3	116.2	91.2	94.0	92.4	83.3	80.9	85.3	83.7	76.6	75.6
Scrap and waste materials	5093	–	107.6	120.1	118.6	124.3	130.0	133.2	130.9	120.9	141.8	153.9
Hardware stores	5251	90.2	105.1	98.2	103.3	102.0	108.1	106.2	115.7	122.8	118.0	109.0
Department stores	5311	77.2	92.9	106.5	113.0	115.6	121.3	124.0	123.6	120.9	117.9	124.2
Variety stores	5331	106.7	90.6	105.0	107.1	97.6	80.5	75.6	74.1	87.1	102.0	100.7
Grocery stores	5411	103.0	101.1	100.6	101.9	99.9	98.2	94.7	93.3	90.6	89.5	89.6
Retail bakeries	546	121.9	108.9	100.6	92.4	84.5	90.7	97.0	99.8	101.1	105.6	120.0
New and used car dealers	5511	95.8	97.3	109.8	112.2	112.2	114.5	112.5	115.5	116.5	120.4	120.1
Auto and home supply stores	5531	84.2	96.3	109.6	107.8	112.2	111.7	117.8	123.1	123.0	126.4	127.2
Gasoline service stations	5541	77.0	95.9	109.3	112.9	121.4	132.2	129.6	130.7	130.8	125.2	124.7
Men's and boys' clothing stores	5611	88.7	93.1	102.4	107.1	112.3	115.1	114.4	115.4	113.3	110.8	110.4
Women's clothing stores	5621	66.3	81.8	105.6	109.5	111.5	119.7	111.4	109.2	111.6	114.1	115.9
Family clothing stores	5651	77.6	77.0	108.1	107.9	104.7	104.9	101.3	102.4	104.3	102.7	103.6
Shoe stores	5661	91.2	102.5	98.7	101.9	109.9	118.7	112.3	114.7	119.3	117.7	117.0
Furniture and homefurnishings stores	571	98.6	107.5	107.2	117.4	113.9	122.0	120.5	119.5	121.7	124.4	118.4
Household appliance stores	5722	89.3	109.2	107.4	130.5	142.2	159.2	149.7	150.1	156.9	158.2	160.2
Radio, television, and computer stores	573	68.7	79.1	112.2	112.4	125.6	132.1	140.7	166.4	165.2	172.2	176.8
Eating and drinking places	581	106.7	102.6	99.0	95.3	92.6	95.6	96.1	98.3	97.0	97.6	101.0
Drug and proprietary stores	5912	90.0	96.2	104.0	102.2	98.9	98.5	97.5	99.4	100.2	101.7	106.5
Liquor stores	5921	93.3	89.3	94.7	92.5	100.7	92.8	87.3	85.5	87.6	90.9	91.1
Commercial banks	602	102.8	106.6	108.9	112.0	117.8	120.0	124.9	129.3	127.8	135.7	–
Laundry, cleaning, and garment services	721	108.8	107.8	99.6	102.0	98.0	95.4	94.7	93.6	95.8	96.6	–
Beauty shops	7231	93.4	94.9	109.8	104.3	101.8	102.7	106.0	102.6	109.3	108.7	–
Automotive repair shops	753	119.3	114.7	98.0	100.1	108.4	104.8	108.8	114.6	117.2	115.7	–

– Data not available.

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

Country	Annual average		1991			1992			
	1991	1992	II	III	IV	I	II	III	IV
United States	6.7	7.4	6.7	6.7	7.0	7.3	7.5	7.5	7.3
Canada	10.3	–	10.3	10.4	10.3	10.7	11.3	11.5	11.4
Australia	9.6	–	9.5	9.9	10.4	10.5	10.7	10.9	11.3
Japan	2.1	–	2.1	2.2	2.1	2.1	2.1	2.2	2.3
France	9.6	–	9.5	9.7	9.9	10.0	10.2	10.2	10.4
Germany	4.4	–	4.4	4.4	4.4	4.4	4.6	4.8	5.0
Italy[1]	6.9	–	7.0	6.7	6.9	7.0	6.9	6.9	–
Sweden	2.6	–	2.5	2.8	3.2	3.7	5.1	5.0	5.2
United Kingdom	8.8	–	8.6	9.2	9.4	9.6	9.8	10.2	10.6

[1] Quarterly rates are for the first month of the quarter.
– Data not available.

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

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

(Numbers in thousands)

Employment status and country	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Civilian labor force											
United States	108,670	110,204	111,550	113,544	115,461	117,834	119,865	121,669	123,869	124,787	125,303
Canada	11,899	11,926	12,109	12,316	12,532	12,746	13,011	13,275	13,503	13,681	13,757
Australia	6,810	6,910	6,997	7,135	7,300	7,588	7,758	7,974	8,237	8,459	8,534
Japan	56,320	56,980	58,110	58,480	58,820	59,410	60,050	60,860	61,920	63,050	64,280
France	22,950	23,160	23,140	23,300	23,360	23,440	23,550	23,600	23,740	23,860	24,080
Germany	27,540	27,710	27,670	27,800	28,020	28,240	28,390	28,610	28,840	29,440	29,820
Italy	21,320	21,410	21,590	21,670	21,800	22,290	22,350	22,660	22,530	22,660	22,940
Netherlands	6,090	6,150	6,120	6,200	6,250	6,370	6,500	6,530	6,610	6,780	6,870
Sweden	4,327	4,350	4,369	4,385	4,418	4,443	4,480	4,540	4,599	4,642	4,626
United Kingdom	26,590	26,560	26,590	27,010	27,210	27,380	27,720	28,150	28,420	28,540	28,400
Participation rate[1]											
United States	63.9	64.0	64.0	64.4	64.8	65.3	65.6	65.9	66.5	66.4	66.0
Canada	64.8	64.1	64.4	64.8	65.3	65.7	66.2	66.7	67.0	67.0	66.3
Australia	61.9	61.7	61.4	61.5	61.6	62.8	63.0	63.3	64.2	64.7	64.3
Japan	62.6	62.7	63.1	62.7	62.3	62.1	61.9	61.9	62.2	62.6	63.2
France	57.1	57.1	56.6	56.6	56.3	56.1	55.9	55.5	55.3	55.2	55.3
Germany	54.7	54.6	54.3	54.4	54.7	54.9	55.0	55.1	55.2	55.1	55.5
Italy	48.3	47.7	47.5	47.3	47.2	47.8	47.6	47.4	47.3	47.3	47.7
Netherlands	56.7	56.6	55.7	55.7	55.5	55.9	56.3	56.1	56.3	56.8	57.6
Sweden	66.8	66.8	66.7	66.6	66.9	67.0	67.1	67.6	68.0	68.1	67.6
United Kingdom	62.2	61.9	61.6	62.1	62.2	62.2	62.6	63.4	63.8	63.9	63.6
Employed											
United States	100,397	99,526	100,834	105,005	107,150	109,597	112,440	114,968	117,342	117,914	116,877
Canada	11,001	10,618	10,675	10,932	11,221	11,531	11,861	12,245	12,486	12,572	12,340
Australia	6,416	6,415	6,300	6,494	6,697	6,974	7,129	7,398	7,728	7,872	7,713
Japan	55,060	55,620	56,550	56,870	57,260	57,740	58,320	59,310	60,500	61,710	62,920
France	21,200	21,240	21,170	20,980	20,920	20,950	21,020	21,190	21,460	21,680	21,780
Germany	26,450	26,150	25,770	25,830	26,010	26,380	26,590	26,800	27,200	27,970	28,500
Italy	20,280	20,250	20,320	20,390	20,490	20,610	20,590	20,870	20,770	21,070	21,360
Netherlands	5,550	5,520	5,420	5,490	5,650	5,740	5,850	5,920	6,050	6,270	6,390
Sweden	4,219	4,213	4,218	4,249	4,293	4,326	4,396	4,467	4,538	4,572	4,504
United Kingdom	23,800	23,560	23,450	23,830	24,150	24,300	24,860	25,730	26,390	26,580	25,910
Employment-population ratio[2]											
United States	59.0	57.8	57.9	59.5	60.1	60.7	61.5	62.3	63.0	62.7	61.6
Canada	59.9	57.1	56.8	57.5	58.5	59.4	60.4	61.6	62.0	61.5	59.5
Australia	58.4	57.3	55.3	56.0	56.5	57.7	57.9	58.7	60.2	60.2	58.1
Japan	61.2	61.2	61.4	61.0	60.6	60.4	60.1	60.4	60.8	61.3	61.8
France	52.8	52.3	51.8	51.0	50.4	50.2	49.9	49.8	50.0	50.2	50.0
Germany	52.5	51.6	50.6	50.5	50.7	51.3	51.5	51.6	52.0	52.3	53.0
Italy	45.9	45.2	44.7	44.5	44.4	44.2	43.8	43.7	43.6	44.0	44.4
Netherlands	51.7	50.8	49.3	49.3	50.1	50.3	50.7	50.8	51.5	52.6	53.5
Sweden	65.1	64.7	64.4	64.5	65.0	65.2	65.8	66.5	67.1	67.0	65.8
United Kingdom	55.7	54.9	54.3	54.8	55.2	55.2	56.2	57.9	59.2	59.5	58.0
Unemployed											
United States	8,273	10,678	10,717	8,539	8,312	8,237	7,425	6,701	6,528	6,874	8,426
Canada	898	1,308	1,434	1,384	1,311	1,215	1,150	1,031	1,018	1,109	1,417
Australia	394	495	697	641	603	613	629	576	509	587	821
Japan	1,260	1,360	1,560	1,610	1,560	1,670	1,730	1,550	1,420	1,340	1,360
France	1,750	1,920	1,970	2,320	2,440	2,490	2,530	2,410	2,280	2,180	2,300
Germany	1,090	1,560	1,900	1,970	2,010	1,860	1,800	1,810	1,640	1,470	1,320
Italy	1,040	1,160	1,270	1,280	1,310	1,680	1,760	1,790	1,760	1,590	1,580
Netherlands	540	630	700	710	600	630	650	610	560	510	480
Sweden	108	137	151	136	125	117	84	73	61	70	122
United Kingdom	2,790	3,000	3,140	3,180	3,060	3,080	2,860	2,420	2,030	1,960	2,490
Unemployment rate											
United States	7.6	9.7	9.6	7.5	7.2	7.0	6.2	5.5	5.3	5.5	6.7
Canada	7.5	11.0	11.8	11.2	10.5	9.5	8.8	7.8	7.5	8.1	10.3
Australia	5.8	7.2	10.0	9.0	8.3	8.1	8.1	7.2	6.2	6.9	9.6
Japan	2.2	2.4	2.7	2.8	2.6	2.8	2.9	2.5	2.3	2.1	2.1
France	7.6	8.3	8.5	10.0	10.4	10.6	10.7	10.2	9.6	9.1	9.6
Germany	4.0	5.6	6.9	7.1	7.2	6.6	6.3	6.3	5.7	5.0	4.4
Italy	4.9	5.4	5.9	5.9	6.0	7.5	7.9	7.9	7.8	7.0	6.9
Netherlands	8.9	10.2	11.4	11.4	9.6	9.9	10.0	9.3	8.5	7.5	7.0
Sweden	2.5	3.1	3.5	3.1	2.8	2.6	1.9	1.6	1.3	1.5	2.6
United Kingdom	10.5	11.3	11.8	11.8	11.2	11.2	10.3	8.6	7.1	6.9	8.8

[1] Labor force as a percent of the working-age population.
[2] Employment as a percent of the working-age population.

NOTE: See "Notes on the data" for information on breaks in series for Germany, Italy, the Netherlands, and Sweden.

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

(1982=100)

Item and country	1960	1970	1973	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Output per hour															
United States	–	–	–	94.4	96.4	100.0	102.9	105.6	108.0	112.6	117.2	122.0	122.5	125.7	128.1
Canada	51.6	76.9	91.9	99.9	104.8	100.0	107.3	116.3	119.8	117.9	119.0	119.5	119.0	120.1	121.7
Japan	18.6	52.0	66.1	92.1	95.5	100.0	101.9	106.1	112.0	110.3	119.5	126.5	135.2	144.2	146.5
Belgium	24.2	44.3	57.8	87.5	94.2	100.0	110.9	115.8	117.2	118.2	120.1	125.2	131.2	133.9	137.0
Denmark	32.4	57.2	72.7	98.0	99.6	100.0	104.9	104.3	105.0	98.9	98.4	102.1	105.6	106.2	109.3
France	30.7	58.5	68.7	90.6	93.4	100.0	102.5	104.5	108.8	110.8	113.0	121.0	127.9	129.4	129.1
Germany	38.6	67.0	78.5	98.4	100.5	100.0	105.3	108.9	112.9	113.4	111.5	115.5	119.0	122.9	125.4
Italy	29.1	54.6	65.2	95.5	97.8	100.0	105.2	115.7	122.3	123.7	127.2	130.5	135.1	140.6	145.2
Netherlands	26.5	52.9	67.3	93.9	97.5	100.0	106.6	115.0	118.7	119.1	118.7	122.3	126.3	126.6	128.6
Norway	47.8	74.5	86.4	96.3	96.5	100.0	105.2	112.6	116.0	114.6	120.4	119.7	125.9	129.7	133.5
Sweden	36.1	68.9	80.9	96.2	95.7	100.0	106.5	111.7	112.4	114.3	115.3	117.3	120.0	121.0	122.4
United Kingdom	49.4	70.9	84.1	89.9	94.5	100.0	108.5	114.0	118.2	122.9	130.4	137.5	143.5	146.0	149.8
Output															
United States	–	–	–	103.8	105.3	100.0	104.0	113.8	115.5	118.8	124.6	133.4	134.6	135.0	131.9
Canada	44.1	78.5	100.0	110.7	114.8	100.0	106.5	120.2	127.0	127.9	134.1	140.9	141.2	134.0	125.1
Japan	15.1	55.1	71.8	91.5	95.7	100.0	104.3	113.2	121.2	117.9	126.5	138.2	149.3	160.3	165.3
Belgium	37.8	70.9	86.9	96.4	95.8	100.0	105.6	108.4	109.6	108.9	109.0	114.6	121.9	126.4	125.9
Denmark	45.4	75.7	88.5	101.7	98.4	100.0	106.7	111.7	115.3	115.3	110.6	112.3	113.6	113.6	114.5
France	35.1	72.7	87.0	100.6	99.0	100.0	99.9	98.7	99.1	99.1	98.9	104.6	110.5	112.4	110.4
Germany	50.9	86.9	96.4	104.7	103.6	100.0	101.3	104.3	107.9	109.4	107.3	110.7	114.2	119.3	122.5
Italy	28.0	58.4	70.7	103.1	101.1	100.0	100.8	105.4	108.9	111.5	116.3	125.0	129.7	131.8	131.3
Netherlands	42.7	80.3	91.2	101.5	101.5	100.0	101.9	107.9	111.1	113.7	113.9	118.1	123.6	126.5	128.2
Norway	56.0	88.4	101.3	101.7	100.7	100.0	99.3	105.0	108.8	108.8	110.8	105.5	103.8	104.7	103.7
Sweden	51.8	91.0	98.7	102.3	99.6	100.0	105.7	113.7	115.9	117.2	120.1	123.0	125.1	122.4	115.9
United Kingdom	82.3	109.8	121.2	106.1	99.8	100.0	102.9	106.8	109.6	111.1	116.9	125.1	130.4	129.8	123.0
Total hours															
United States	94.2	106.5	112.9	109.9	109.3	100.0	101.2	107.8	107.0	105.4	106.2	109.4	109.8	107.4	103.0
Canada	85.5	102.1	108.8	110.8	109.6	100.0	99.2	103.3	106.0	108.5	112.7	117.9	118.6	111.5	102.8
Japan	81.2	105.9	108.6	99.3	100.2	100.0	102.4	106.6	108.2	106.9	105.8	109.3	110.4	111.1	112.9
Belgium	156.2	159.9	150.3	110.1	101.7	100.0	95.2	93.6	93.5	92.2	90.7	91.5	93.0	94.4	91.9
Denmark	140.0	132.3	121.8	103.7	98.8	100.0	101.7	107.1	109.8	116.6	112.4	110.0	107.6	106.9	104.7
France	114.5	124.1	126.7	111.0	106.0	100.0	97.4	94.4	91.1	89.4	87.5	86.4	86.4	86.9	85.5
Germany	131.9	129.7	122.9	106.3	103.1	100.0	96.2	95.8	95.6	96.5	96.2	95.8	95.9	97.1	97.7
Italy	96.2	107.0	108.3	108.0	103.4	100.0	95.8	91.1	89.0	90.1	91.4	95.8	96.0	93.7	90.4
Netherlands	160.9	152.0	135.6	108.1	104.1	100.0	95.6	93.8	93.6	95.5	95.9	96.6	97.8	99.9	99.7
Norway	117.3	118.6	117.3	105.5	104.3	100.0	94.3	93.2	93.8	94.9	92.1	88.1	82.5	80.8	77.7
Sweden	143.4	132.1	121.9	106.4	104.1	100.0	99.3	101.7	103.1	102.5	104.1	104.9	104.3	101.2	94.7
United Kingdom	166.6	154.9	144.0	118.1	105.6	100.0	94.8	93.7	92.8	90.4	89.7	91.0	90.8	88.9	82.1
Compensation per hour															
United States	–	–	–	83.1	91.4	100.0	102.5	105.7	111.0	115.4	118.0	122.6	127.3	133.8	140.6
Canada	16.4	28.7	35.9	78.6	90.4	100.0	106.1	111.1	116.8	121.3	125.0	130.5	137.4	146.3	156.0
Japan	6.6	25.0	40.7	89.0	95.3	100.0	102.7	105.8	110.1	115.8	118.6	120.6	128.2	138.6	147.1
Belgium	9.1	23.2	35.5	86.3	95.9	100.0	106.0	114.8	121.6	126.3	128.8	131.2	138.1	146.3	154.6
Denmark	7.7	22.3	34.5	83.4	91.9	100.0	106.9	113.0	120.6	123.1	134.6	139.4	148.3	156.1	163.0
France	7.4	17.8	25.5	72.8	84.3	100.0	110.4	120.0	130.4	136.2	141.4	147.1	153.2	159.3	166.2
Germany	13.5	34.5	48.2	89.2	94.9	100.0	105.0	110.0	116.3	121.2	126.9	131.8	138.2	148.0	158.3
Italy	3.9	11.6	17.7	70.2	84.8	100.0	117.0	134.3	150.9	157.1	166.0	173.1	191.1	211.9	232.4
Netherlands	8.9	27.8	43.4	88.5	93.5	100.0	104.5	106.6	111.5	113.9	116.9	117.5	118.1	122.7	127.6
Norway	9.9	24.6	35.3	81.2	90.3	100.0	110.3	120.9	132.2	145.0	165.6	175.7	183.4	193.4	202.2
Sweden	9.3	24.4	34.3	84.4	92.9	100.0	109.7	119.0	130.5	141.3	150.8	160.7	177.4	193.7	206.9
United Kingdom	7.2	14.9	22.6	79.8	91.4	100.0	106.9	114.6	124.2	133.7	142.0	149.8	162.8	180.9	197.1
Unit labor costs: National currency basis															
United States	–	–	–	88.1	94.8	100.0	99.6	100.1	102.8	102.5	100.6	100.5	103.9	106.4	109.8
Canada	31.9	37.3	39.1	78.7	86.3	100.0	98.9	95.5	97.6	102.9	105.0	109.2	115.4	121.8	128.2
Japan	35.3	48.0	61.6	96.7	99.8	100.0	100.8	99.7	98.4	104.9	99.2	95.4	94.8	96.1	100.4
Belgium	37.7	52.2	61.3	98.7	101.7	100.0	95.6	99.1	103.8	106.9	107.3	104.8	105.3	109.2	112.9
Denmark	23.8	39.0	47.4	85.1	92.2	100.0	101.9	108.3	114.9	124.5	136.8	136.5	140.4	146.9	149.0
France	24.0	30.4	37.1	80.3	90.3	100.0	107.6	114.9	119.9	122.8	125.1	121.6	119.8	123.1	128.8
Germany	35.0	51.4	61.5	90.6	94.4	100.0	99.7	101.1	103.0	106.9	113.8	114.1	116.1	120.3	126.3
Italy	13.5	21.3	27.1	73.5	86.8	100.0	111.2	116.1	123.4	127.1	130.5	132.6	141.4	150.7	160.0
Netherlands	33.4	52.7	64.5	94.2	95.9	100.0	98.1	92.7	93.9	95.7	98.4	96.1	93.5	96.9	99.2
Norway	20.6	33.0	40.9	84.3	93.6	100.0	104.8	107.4	114.0	126.5	137.6	146.7	145.6	149.2	151.5
Sweden	25.8	35.4	42.3	87.8	97.1	100.0	103.0	106.5	116.1	123.5	130.7	137.1	147.8	160.1	169.0
United Kingdom	14.6	21.0	26.9	88.7	96.8	100.0	98.6	100.5	105.1	108.8	108.9	108.9	113.5	123.9	131.6
Unit labor costs: U.S. dollar basis															
United States	–	–	–	88.1	94.8	100.0	99.6	100.1	102.8	102.5	100.6	100.5	103.9	106.4	109.8
Canada	40.6	44.1	48.2	83.1	88.9	100.0	99.0	91.0	88.2	91.4	97.8	109.5	120.3	128.8	138.1
Japan	24.4	33.4	56.6	106.7	112.6	100.0	105.7	104.6	102.7	155.2	170.8	185.3	171.1	165.1	185.8
Belgium	34.6	48.2	72.3	154.7	125.8	100.0	85.6	78.6	80.1	109.5	131.4	130.5	122.3	149.6	151.2
Denmark	28.8	43.4	65.7	126.2	107.8	100.0	92.9	87.3	90.4	128.3	166.7	169.0	160.1	198.1	194.2
France	32.2	36.2	55.0	125.2	109.2	100.0	92.9	86.5	87.8	116.7	136.9	134.2	123.6	148.7	150.0
Germany	20.4	34.2	56.4	121.2	101.7	100.0	94.8	86.2	85.0	119.5	153.7	157.7	149.9	180.8	184.6
Italy	29.5	46.0	63.1	116.3	103.2	100.0	99.1	89.5	87.5	115.4	136.3	137.9	139.5	170.2	174.6
Netherlands	23.7	38.9	62.0	126.8	103.0	100.0	91.8	77.2	75.6	104.4	129.8	129.8	117.7	142.1	141.6
Norway	18.7	29.8	46.0	110.2	105.2	100.0	92.7	85.0	85.7	110.4	131.8	145.2	136.0	154.0	150.7
Sweden	31.3	42.8	61.1	130.5	120.5	100.0	84.4	80.9	84.8	108.9	129.4	140.3	143.9	169.9	175.5
United Kingdom	23.4	28.7	37.7	118.1	112.1	100.0	85.5	76.9	78.0	91.3	102.2	111.0	106.3	126.5	133.0

– Data not available.

51. Occupational injury and illness incidence rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]								
	1983	1984	1985	1986	1987	1988	1989[1]	1990	1991
PRIVATE SECTOR[4]									
Total cases	7.6	8.0	7.9	7.9	8.3	8.6	8.6	8.8	8.4
Lost workday cases	3.4	3.7	3.6	3.6	3.8	4.0	4.0	4.1	3.9
Lost workdays	58.5	63.4	64.9	65.8	69.9	76.1	78.7	84.0	86.5
Agriculture, forestry, and fishing[4]									
Total cases	11.9	12.0	11.4	11.2	11.2	10.9	10.9	11.6	10.8
Lost workday cases	6.1	6.1	5.7	5.6	5.7	5.6	5.7	5.9	5.4
Lost workdays	90.8	90.7	91.3	93.6	94.1	101.8	100.9	112.2	108.3
Mining									
Total cases	8.4	9.7	8.4	7.4	8.5	8.8	8.5	8.3	7.4
Lost workday cases	4.5	5.3	4.8	4.1	4.9	5.1	4.8	5.0	4.5
Lost workdays	125.1	160.2	145.3	125.9	144.0	152.1	137.2	119.5	129.6
Construction									
Total cases	14.8	15.5	15.2	15.2	14.7	14.6	14.3	14.2	13.0
Lost workday cases	6.3	6.9	6.8	6.9	6.8	6.8	6.8	6.7	6.1
Lost workdays	118.2	128.1	128.9	134.5	135.8	142.2	143.3	147.9	148.1
General building contractors:									
Total cases	14.4	15.4	15.2	14.9	14.2	14.0	13.9	13.4	12.0
Lost workday cases	6.2	6.9	6.8	6.6	6.5	6.4	6.5	6.4	5.5
Lost workdays	113.0	121.3	120.4	122.7	134.0	132.2	137.3	137.6	132.0
Heavy construction, except building:									
Total cases	15.4	14.9	14.5	14.7	14.5	15.1	13.8	13.8	12.8
Lost workday cases	6.2	6.4	6.3	6.3	6.4	7.0	6.5	6.3	6.0
Lost workdays	122.4	131.7	127.3	132.9	139.1	162.3	147.1	144.6	160.1
Special trade contractors:									
Total cases	14.8	15.8	15.4	15.6	15.0	14.7	14.6	14.7	13.5
Lost workday cases	6.4	7.1	7.0	7.2	7.1	7.0	6.9	6.9	6.3
Lost workdays	119.0	130.1	133.3	140.4	135.7	141.1	144.9	153.1	151.3
Manufacturing									
Total cases	10.0	10.6	10.4	10.6	11.9	13.1	13.1	13.2	12.7
Lost workday cases	4.3	4.7	4.6	4.7	5.3	5.7	5.8	5.8	5.6
Lost workdays	73.5	77.9	80.2	85.2	95.5	107.4	113.0	120.7	121.5
Durable goods:									
Total cases	10.3	11.1	10.9	11.0	12.5	14.2	14.1	14.2	13.6
Lost workday cases	4.3	4.8	4.7	4.8	5.4	5.9	6.0	6.0	5.7
Lost workdays	73.4	79.9	82.0	87.1	96.8	111.1	116.5	123.3	122.9
Lumber and wood products:									
Total cases	18.3	19.6	18.5	18.9	18.9	19.5	18.4	18.1	16.8
Lost workday cases	9.2	9.9	9.3	9.7	9.6	10.0	9.4	8.8	8.3
Lost workdays	163.5	172.0	171.4	177.2	176.5	189.1	177.5	172.5	172.0
Furniture and fixtures:									
Total cases	14.1	15.3	15.0	15.2	15.4	16.6	16.1	16.9	15.9
Lost workday cases	5.7	6.4	6.3	6.3	6.7	7.3	7.2	7.8	7.2
Lost workdays	83.0	101.5	100.4	103.0	103.6	115.7	124.9	139.2	131.2
Stone, clay, and glass products:									
Total cases	13.1	13.6	13.9	13.6	14.9	16.0	15.5	15.4	14.8
Lost workday cases	6.0	6.6	6.7	6.5	7.1	7.5	7.4	7.3	6.8
Lost workdays	112.0	120.8	127.8	126.0	135.8	141.0	149.8	160.5	156.0
Primary metal industries:									
Total cases	12.4	13.3	12.6	13.6	17.0	19.4	18.7	19.0	17.7
Lost workday cases	5.4	6.1	5.7	6.1	7.4	8.2	8.1	8.1	7.4
Lost workdays	103.4	115.3	113.8	125.5	145.8	161.3	168.3	180.2	169.1
Fabricated metal products:									
Total cases	15.1	16.1	16.3	16.0	17.0	18.8	18.5	18.7	17.4
Lost workday cases	6.1	6.7	6.9	6.8	7.2	8.0	7.9	7.9	7.1
Lost workdays	96.5	104.9	110.1	115.5	121.9	138.8	147.6	155.7	146.6
Industrial machinery and equipment:									
Total cases	9.8	10.7	10.8	10.7	11.3	12.1	12.1	12.0	11.2
Lost workday cases	3.6	4.1	4.2	4.2	4.4	4.7	4.8	4.7	4.4
Lost workdays	58.1	65.8	69.3	72.0	72.7	82.8	86.8	88.9	86.6
Electronic and other electrical equipment:									
Total cases	6.3	6.8	6.4	6.4	7.2	8.0	9.1	9.1	8.6
Lost workday cases	2.6	2.8	2.7	2.7	3.1	3.3	3.9	3.8	3.7
Lost workdays	41.4	45.0	45.7	49.8	55.9	64.6	77.5	79.4	83.0
Transportation equipment:									
Total cases	8.4	9.3	9.0	9.6	13.5	17.7	17.7	17.8	18.3
Lost workday cases	3.6	4.2	3.9	4.1	5.7	6.6	6.8	6.9	7.0
Lost workdays	64.5	68.8	71.6	79.1	105.7	134.2	138.6	153.7	166.1
Instruments and related products:									
Total cases	5.2	5.4	5.2	5.3	5.8	6.1	5.6	5.9	6.0
Lost workday cases	2.1	2.2	2.2	2.3	2.4	2.6	2.5	2.7	2.7
Lost workdays	35.6	37.5	37.9	42.2	43.9	51.5	55.4	57.8	64.4
Miscellaneous manufacturing industries:									
Total cases	9.9	10.5	9.7	10.2	10.7	11.3	11.1	11.3	11.3
Lost workday cases	4.0	4.3	4.2	4.3	4.6	5.1	5.1	5.1	5.1
Lost workdays	66.3	70.2	73.2	70.9	81.5	91.0	97.6	113.1	104.0
Nondurable goods:									
Total cases	9.6	9.8	9.6	10.0	11.1	11.4	11.6	11.7	11.5

51. Continued— Occupational injury and illness incidence rates by industry,[1] United States

Industry and type of case[2]	Incidence rates per 100 full-time workers[3]								
	1983	1984	1985	1986	1987	1988	1989[1]	1990	1991
Total workday cases	4.3	4.4	4.4	4.6	5.1	5.4	5.5	5.6	5.5
Total workdays	73.6	74.9	77.6	82.3	93.5	101.7	107.8	116.9	119.7
Food and kindred products:									
Total cases	16.5	16.7	16.7	16.5	17.7	18.5	18.5	20.0	19.5
Lost workday cases	7.9	8.1	8.1	8.0	8.6	9.2	9.3	9.9	9.9
Lost workdays	131.2	131.6	138.0	137.8	153.7	169.7	174.7	202.6	207.2
Tobacco products:									
Total cases	6.5	7.7	7.3	6.7	8.6	9.3	8.7	7.7	6.4
Lost workday cases	3.0	3.2	3.0	2.5	2.5	2.9	3.4	3.2	2.8
Lost workdays	42.8	51.7	51.7	45.6	46.4	53.0	64.2	62.3	52.0
Textile mill products:									
Total cases	7.4	8.0	7.5	7.8	9.0	9.6	10.3	9.6	10.0
Lost workday cases	2.8	3.0	3.0	3.1	3.6	4.0	4.2	4.0	4.4
Lost workdays	51.4	54.0	57.4	59.3	65.9	78.8	81.4	85.1	88.3
Apparel and other textile products:									
Total cases	6.4	6.7	6.7	6.7	7.4	8.1	8.6	8.8	9.2
Lost workday cases	2.4	2.5	2.6	2.7	3.1	3.5	3.8	3.9	4.2
Lost workdays	40.6	40.9	44.1	49.4	59.5	68.2	80.5	92.1	99.9
Paper and allied products:									
Total cases	10.0	10.4	10.2	10.5	12.8	13.1	12.7	12.1	11.2
Lost workday cases	4.5	4.7	4.7	4.7	5.8	5.9	5.8	5.5	5.0
Lost workdays	90.3	93.8	94.6	99.5	122.3	124.3	132.9	124.8	122.7
Printing and publishing:									
Total cases	6.6	6.5	6.3	6.5	6.7	6.6	6.9	6.9	6.7
Lost workday cases	2.9	2.9	2.9	2.9	3.1	3.2	3.3	3.3	3.2
Lost workdays	44.6	46.0	49.2	50.8	55.1	59.8	63.8	69.8	74.5
Chemicals and allied products:									
Total cases	5.5	5.3	5.1	6.3	7.0	7.0	7.0	6.5	6.4
Lost workday cases	2.5	2.4	2.3	2.7	3.1	3.3	3.2	3.1	3.1
Lost workdays	42.3	40.8	38.8	49.4	58.8	59.0	63.4	61.6	62.4
Petroleum and coal products:									
Total cases	5.5	5.1	5.1	7.1	7.3	7.0	6.6	6.6	6.2
Lost workday cases	2.4	2.4	2.4	3.2	3.1	3.2	3.3	3.1	2.9
Lost workdays	46.8	53.5	49.9	67.5	65.9	68.4	68.1	77.3	68.2
Rubber and miscellaneous plastics products:									
Total cases	13.0	13.6	13.4	14.0	15.9	16.3	16.2	16.2	15.1
Lost workday cases	6.2	6.4	6.3	6.6	7.6	8.1	8.0	7.8	7.2
Lost workdays	101.4	104.3	107.4	118.2	130.8	142.9	147.2	151.3	150.9
Leather and leather products:									
Total cases	10.0	10.5	10.3	10.5	12.4	11.4	13.6	12.1	12.5
Lost workday cases	4.4	4.7	4.6	4.8	5.8	5.6	6.5	5.9	5.9
Lost workdays	87.3	94.4	88.3	83.4	114.5	128.2	130.4	152.3	140.8
Transportation and public utilities									
Total cases	8.2	8.8	8.6	8.2	8.4	8.9	9.2	9.6	9.3
Lost workday cases	4.7	5.2	5.0	4.8	4.9	5.1	5.3	5.5	5.4
Lost workdays	94.9	105.1	107.1	102.1	108.1	118.6	121.5	134.1	140.0
Wholesale and retail trade									
Total cases	7.2	7.4	7.4	7.7	7.7	7.8	8.0	7.9	7.6
Lost workday cases	3.1	3.3	3.2	3.3	3.4	3.5	3.6	3.5	3.4
Lost workdays	47.8	50.5	50.7	54.0	56.1	60.9	63.5	65.6	72.0
Wholesale trade:									
Total cases	7.0	7.2	7.2	7.2	7.4	7.6	7.7	7.4	7.2
Lost workday cases	3.2	3.5	3.5	3.6	3.7	3.8	4.0	3.7	3.7
Lost workdays	50.6	55.5	59.8	62.5	64.0	69.2	71.9	71.5	79.2
Retail trade:									
Total cases	7.3	7.5	7.5	7.8	7.8	7.9	8.1	8.1	7.7
Lost workday cases	3.0	3.2	3.1	3.2	3.3	3.4	3.4	3.4	3.3
Lost workdays	46.7	48.4	47.0	50.5	52.9	57.6	60.0	63.2	69.1
Finance, insurance, and real estate									
Total cases	2.0	1.9	2.0	2.0	2.0	2.0	2.0	2.4	2.4
Lost workday cases	.9	.9	.9	.9	.9	.9	.9	1.1	1.1
Lost workdays	12.8	13.6	15.4	17.1	14.3	17.2	17.6	27.3	24.1
Services									
Total cases	5.1	5.2	5.4	5.3	5.5	5.4	5.5	6.0	6.2
Lost workday cases	2.4	2.5	2.6	2.5	2.7	2.6	2.7	2.8	2.8
Lost workdays	37.0	41.1	45.4	43.0	45.8	47.7	51.2	56.4	60.0

[1] Data for 1989 and subsequent years are based on the *Standard Industrial Classification Manual,* 1987 Edition. For this reason, they are not strictly comparable with data for the years 1982-88, which were based on the *Standard Industrial Classification Manual,* 1972 Edition, 1977 Supplement.

[2] Total cases include fatalities.

[3] The incidence rates represent the number of injuries and illnesses or lost workdays per 100 full-time workers and were calculated as:

(N/EH) X 200,000, where:

N = number of injuries and illnesses or lost workdays.

EH = total hours worked by all employees during calendar year.

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year.)

[4] Excludes farms with fewer than 11 employees since 1976.

*U.S. G.P.O.:1993-345-548:80003

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	June 4	May	July 2	June	August 6	July	1; 4–20
Productivity and costs:							
Nonfarm business and manufacturing	June 8	1st quarter					2; 44–47
Nonfinancial corporations					August 10	2nd quarter	2; 44–47
Producer Price Indexes	June 11	May	July 13	June	August 12	July	2; 34–37
Consumer Price Indexes	June 15	May	July 14	June	August 13	July	2; 31–33
Real earnings	June 15	May	July 14	June	August 13	July	13–16
U.S. Import and Export Price Indexes	June 29	May	July 29	June	August 27	July	38–43
Employment Cost Indexes			July 27	2nd quarter			21–24
Major collective bargaining settlements			July 27	2nd quarter			26–29

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Bureau of Labor Statistics
Washington, DC 20212

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ISSN 0098-1818