



Monthly Labor Review

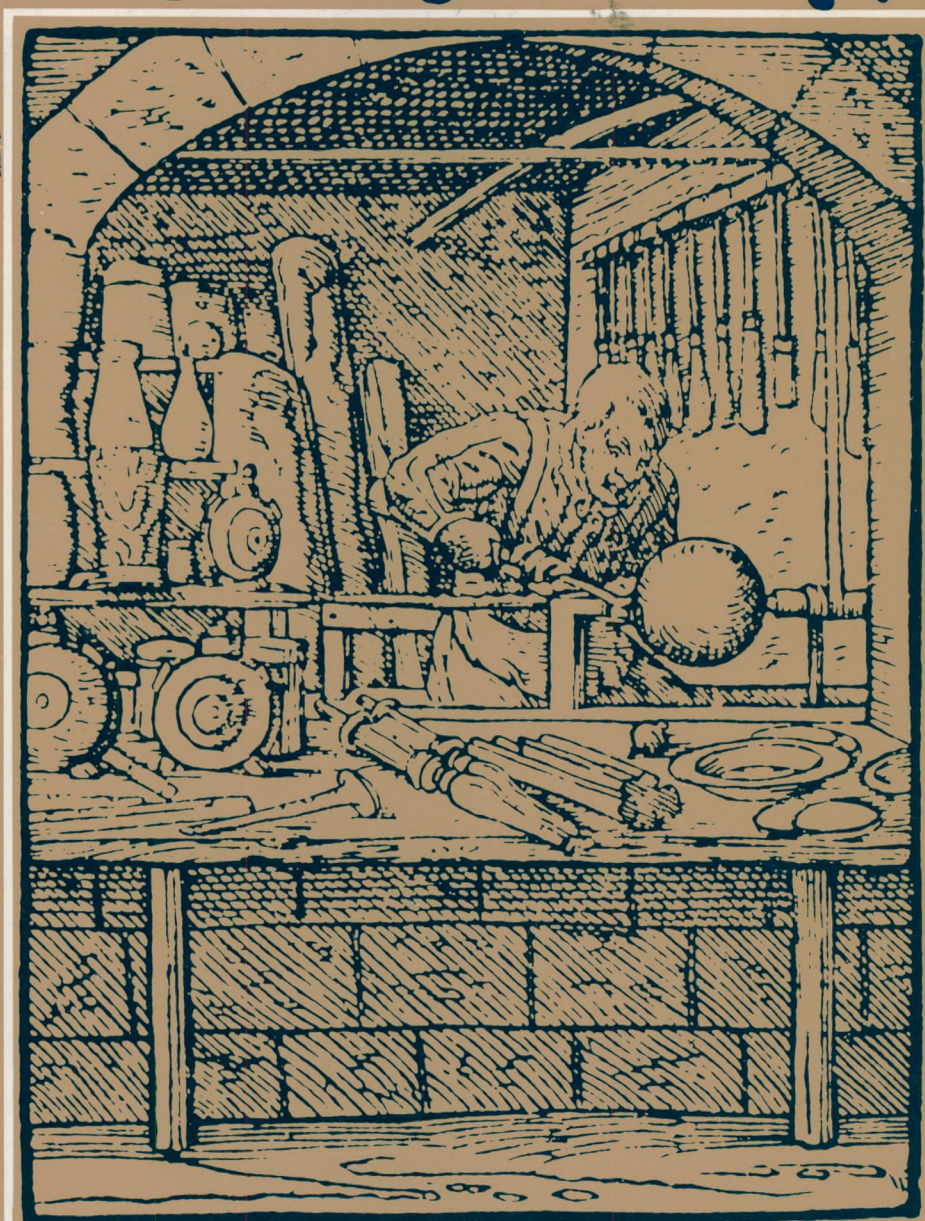
U.S. Department of Labor
Bureau of Labor Statistics
September 1989

In this issue:

Why workers change occupations
Benefits for accidental death and dismemberment
Job hazards in woodworking



Der Holzdrehstler.





U.S. Department of Labor
Elizabeth Dole, *Secretary*

Bureau of Labor Statistics
Janet L. Norwood, *Commissioner*

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Monthly Labor Review

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

Articles

- 3 **Occupational change: pursuing a different kind of work**
More than half of those switching occupations did so because of better pay, working conditions, or advancement opportunities
James P. Markey and William Parks II
- 13 **Compensation for death and dismemberment**
For the first time, the Bureau's Employee Benefits Survey reports details of employer-sponsored accidental death and dismemberment benefits
Cynthia Thompson
- 18 **Job hazards underscored in woodworking study**
Millwood manufacturing is on the upswing; the downside is the industry's persistent safety and health problems
Martin E. Personick and Elyce A. Biddle
- 24 **Collective bargaining and private sector professionals**
Researchers review history and current status of unionism and assess prospects for bargaining among private industry professionals
Sar A. Levitan and Frank Gallo
- 34 **How Poland's Solidarity won freedom of association**
Through 9 years of struggle, Solidarity and its supporters would not compromise on the right to form independent and self-governing unions
Robert A. Senser

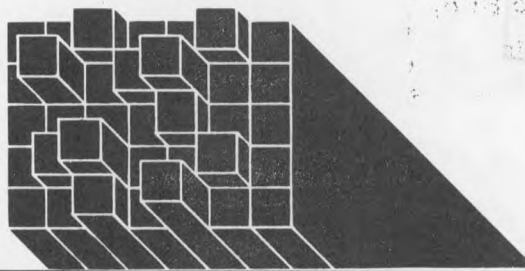
Reports

- 39 Employee representation on U.S., German boards
Everett M. Kassalow

Departments

- 2 Labor month in review
39 Foreign labor developments
43 Major agreements expiring next month
44 Developments in industrial relations
48 Book reviews
51 Current labor statistics

Labor month in review



STATISTICS AND PUBLIC POLICY.

In her presidential address to the 150th annual convention of the American Statistical Association in Washington, DC, Commissioner of Labor Statistics Janet L. Norwood illustrated the interaction of statistics and public policy with three examples:

- The need to adjust wages of shipyard workers to the rising cost of living during World War I led to creation of a Consumer Price Index representing a market basket of goods and services purchased by the average consumer.
- The need for new government policies to deal with unemployment during the Great Depression led to development of a labor force survey to measure unemployment in a structured and systematic way.
- The availability of statistical information on working conditions of women in the labor force—information BLS began collecting a century ago—helped inform the country of changes taking place in society and set the stage for the current national debate on work-family issues.

These three examples, Commissioner Norwood said, illustrate the variety of different ways in which statistics have interacted with public policy. The development of data series sometimes has been the result of public concern over an issue, sometimes the effect of new attitudes about government policy responsibilities, and sometimes has been needed to implement policies.

Over the last two decades, Norwood added, the situation has changed markedly. More and more, statistics have become an integral part of public policy. Data series are used to index entitlement programs, to allocate Federal funds to States and local areas, and to

trigger programs on or off. Statistical series are used for macroeconomic decisionmaking and for microeconomic programs. They are used by the people of this country to evaluate the effectiveness of their government. We have indeed become a country that is run by the numbers.



DIAMOND ANNIVERSARY

Statistical agencies. What does this all mean for the Federal statistical agencies that produce these data? Norwood suggested six principles:

1. Statistical agencies cannot operate from ivory towers and expect the information they produce to be relevant to current issues. Those who produce data must also analyze them and maintain a dialogue with users. This interaction enhances the effective use of data to understand emerging trends and enables statistical agencies to keep their data series relevant.
2. Change is a necessary part of a good statistical system and we should not fear it. Just as there is no absolute certainty in statistical estimation, there is no absolute perfection in statistical methodology. We should always be searching for improvements, and we should not be afraid to adopt them.
3. Research on the concepts to be measured and on survey design, analysis, and error measurement must be ongoing. It is impossible to maintain

a data system of high quality without an adequate investment in survey research.

4. We must ensure the objectivity as well as the accuracy of our data. Statistics must also be relevant to the needs of society, and they must be issued in a manner which keeps them free of political manipulation.

5. We must place at the head of each of the country's major statistical agencies a person with professional qualifications and unquestioned integrity. Agency heads must be strongly committed to independence from political influence and have the courage to speak out when that independence is threatened. Within each statistical agency, a climate where professionals can argue differing positions, even unpopular ones, must be established.

6. Statistical agencies must take full responsibility for methodological decisions, even when those decisions produce results that may be politically unpopular. Statistical methods are not a fit subject for legislative determination.

Statistical data, Norwood concluded, are inextricably intertwined with public policy. We have come a long way in the last 150 years. But the discipline that we represent is so important to society that much more needs to be done. Let us join together to strengthen scientific inquiry through the use of statistical techniques and work to provide the data required for the formulation, evaluation, and implementation of public policy.

Norwood is the fourth Commissioner of Labor Statistics to serve the American Statistical Association as president. (The others were Carroll D. Wright, Isador Lubin, and Geoffrey H. Moore.) Copies of her August 8 address are available from Information Services, Bureau of Labor Statistics, 441 G St., NW, Washington, DC 20212. □

Occupational change: pursuing a different kind of work

More than half of the 10 million workers who switched occupations in 1986 did so because of better pay, working conditions, or advancement opportunities; however, about 1 in 8 of the workers changed occupations because they lost their previous jobs

James P. Markey
and
William Parks II

An important decision facing young job-seekers is the choice of an occupation. The initial selection, though, is by no means etched in stone, as most individuals are likely to change occupations at some point in their worklife. An occupational change can take place for a variety of reasons—a teenager changing summer jobs, an employee receiving a promotion, a worker choosing to make a career change, or an individual forced to change occupations after losing a job. The most recent measure of such changes, from a January 1987 survey, found that nearly 10 million persons were in different occupations than a year earlier. The majority had changed voluntarily, citing better pay, advancement opportunity, or working conditions as their reason for switching. Some 1.3 million workers, however, were in different occupations because they had lost their previous jobs.

This article explores the characteristics of those workers who make voluntary and involuntary occupational changes, and examines the pattern of their movement between occupations. The data were obtained through a supplement to the January 1987 Current Population Survey (CPS), which asked questions on occupational mobility, occupational tenure, and time with current employer.¹

James P. Markey and William Parks II are economists in the Office of Employment and Unemployment Statistics, Bureau of Labor Statistics.

The principal findings of this study are:

- Age is the key factor in determining occupational mobility. The high mobility rates of young workers contrast sharply with low rates among middle-age and older workers.
- Higher levels of education are generally associated with higher rates of voluntary mobility. However, very occupation-specific training, such as many professionals receive, reduces occupational mobility.
- Career change—such as the kind that occurs when a person with some tenure in an occupation changes both occupation and employer—is not common.
- Involuntary occupational changes often lead to lower pay in the new job. The majority of workers changing occupations after job displacement are leaving goods-producing industries for jobs in the faster growing service-providing sector.

The concept of occupational mobility

The distribution of employment by occupation reflects the choices of individual workers and the demand structure of the overall economy. Workers bring their experience, abilities, and desires for certain types and conditions of work to the marketplace. The occupational demand

Pursuing a Different Kind of Work

they encounter reflects the technological and economic conditions of the day. The present demand for computer technicians, for instance, would have been unimaginable just a few decades ago; it represents the response of the labor market to a rapidly expanding technology. Changes in the economy's mix of industries—some growing and some declining—also strongly affect the overall occupational distribution, as each industry has unique needs in terms of workers' skills.

Occupational mobility can be thought of as a process that helps ensure the smooth operation of the economy. In most cases, it allows individual workers to improve their job satisfaction through increased pay, status, and responsibility, or through better working conditions. At the same time, occupational mobility is a prime means for the economy to adjust to new demand conditions. Thus, relatively free movement of workers between occupations can be beneficial, from the standpoint of both the individual and the economy.

The January 1987 CPS supplement measured occupational mobility through a single question regarding the labor force status of individuals.

Specifically, persons employed in January 1986 and January 1987 were first asked, "You told me that . . . is now working as . . .;" then, "Was . . . doing the same *kind of work* a year ago, in January 1986?" A negative response identified individuals as occupationally mobile; the survey revealed that nearly 10 million persons had changed occupations during 1986.²

The *occupational mobility rate* expresses the occupationally mobile population as a percentage of the persons employed in both January 1986 and January 1987. The occupational mobility rate for this period was 9.9 percent, little changed from 9.7 percent in January 1983, when such data were last collected. In fact, rates of occupational mobility have been fairly stable over the last 20 years (table 1).

Data were also collected in January 1987 on the reasons for changing occupations, permitting an examination of the motivations behind occupational switches. More than half of those who changed occupations said they had done so for better pay, advancement opportunities, or working conditions. And, in fact, nearly 7 of 10 workers who changed occupations voluntarily reported receiving higher earnings in their new

Among workers 25 and older, widespread voluntary occupational changes are relatively uncommon.

Table 1. Occupational mobility rates for employed civilians by sex and age, selected years, 1965-87

[In percent]

Sex and age	1965-66	1972-73	1977-78	1980-81	1982-83	1986-87
Both sexes						
Total, 16 years and older	18.9	9.0	12.0	11.0	9.7	9.9
Men						
Total, 16 years and older	19.9	9.3	11.9	10.3	9.4	9.6
16 to 19 years	—	30.3	35.9	28.7	25.6	29.4
20 to 24 years	28.5	25.0	27.3	23.8	21.3	22.2
25 to 34 years	13.8	12.4	15.5	12.4	11.5	11.4
35 to 44 years	7.4	6.2	8.1	7.4	6.7	7.0
45 to 54 years	5.2	3.5	4.5	4.4	4.8	4.7
55 to 64 years	3.8	2.6	3.4	3.5	3.1	2.7
65 years and older	2.7	1.7	2.0	1.6	1.9	1.2
Total, 18 years and older, not in school	9.8	9.0	11.5	9.9	9.0	9.2
Women						
Total, 16 years and older	16.9	8.4	12.2	12.0	10.2	10.4
16 to 19 years	—	26.4	36.0	32.6	24.6	28.7
20 to 24 years	14.9	18.9	22.9	22.8	20.1	21.0
25 to 34 years	8.5	9.9	14.4	13.9	11.9	11.8
35 to 44 years	5.3	6.3	9.3	8.9	7.8	8.5
45 to 54 years	4.7	3.3	5.1	5.8	4.9	4.9
55 to 64 years	2.4	2.4	3.6	2.7	3.8	3.2
65 years and older	1.8	2.5	2.5	1.8	1.4	1.1
Total, 18 years and older, not in school	6.8	8.2	11.7	11.4	9.9	10.0

¹ Data for 1965-66 are for persons 18 years and older.

NOTE: Occupational mobility rates are the number of persons employed in a different occupation in the prior year as a proportion of the total employed in both years. Dash indicates data not available.

Table 2. Employed persons who changed occupations between January of 1986 and 1987, by reason for change, age, sex, race, and Hispanic origin

[Percent distribution]

Characteristic	Persons who changed occupations (in thousands)	Job losers			Job leavers				
		Total	Displaced from previous job ¹	Other job losers ²	Wanted better pay or working conditions	Changed from part-time to full-time work	Changed from full-time to part-time work	Moved to different residence	Other job leavers
Total, 16 years and older	9,957	100.0	9.5	3.4	53.0	2.5	1.3	6.6	23.9
Men, 16 years and older	5,391	100.0	11.4	4.2	52.3	2.0	.8	5.3	23.9
16 to 24 years	1,832	100.0	8.3	3.9	54.5	2.8	1.2	7.5	21.8
25 years and older	3,559	100.0	13.0	4.4	51.1	1.6	.6	4.2	25.0
25 to 34 years	1,943	100.0	11.0	4.8	56.4	2.2	.2	4.9	20.5
35 to 44 years	984	100.0	14.3	3.8	49.8	.9	.1	3.3	27.7
45 to 54 years	436	100.0	17.7	5.9	37.9	1.1	.3	3.7	33.2
55 years and older	196	100.0	16.1	.7	33.8	1.0	7.8	2.5	38.0
Women, 16 years and older	4,566	100.0	7.2	2.4	53.8	3.0	1.8	8.0	23.8
16 to 24 years	1,593	100.0	5.4	2.7	54.2	3.9	1.4	9.7	22.7
25 years and older	2,973	100.0	8.2	2.2	53.6	2.6	2.0	7.1	24.3
25 to 34 years	1,517	100.0	6.7	1.9	57.6	2.7	1.6	8.1	21.4
35 to 44 years	951	100.0	10.2	2.1	54.1	2.2	1.4	6.6	23.4
45 to 54 years	350	100.0	9.3	2.1	43.5	3.0	1.8	5.9	34.4
55 years and older	155	100.0	8.5	5.2	33.9	2.9	9.5	3.3	36.6
White	8,849	100.0	9.0	3.1	53.2	2.6	1.3	6.6	24.1
Black	831	100.0	14.9	5.4	51.3	1.4	.6	6.5	20.0
Hispanic origin	635	100.0	14.1	5.7	44.5	3.7	1.0	8.0	22.9
Total, 25 years and older	6,532	100.0	10.8	3.4	52.2	2.1	1.2	5.5	24.7

¹ Includes persons who lost or were laid off from their previous job because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

² Includes persons who lost or were laid off from their previous job because of the completion of seasonal work, failure of a self-operated business, or other reasons.

jobs. An additional one-fifth reported receiving about the same earnings; they, along with the small proportion who cited lower earnings in their new occupation, most likely changed for the prospect of better working conditions or advancement opportunities which they expect will lead to higher pay.

One in ten of those changing occupations had switched after losing their job because of a plant closing or relocation, slack work, or the abolishment of their positions or shifts. The list of other reasons for occupational change also included "moved to different residence," a reason most often given by young persons. One in four workers who changed occupations, including more than a third of those age 55 and older, cited "other reasons," which most likely included retirement-related decisions. (See table 2.)

Voluntary occupational change

Individuals change occupations for many reasons, both economic and noneconomic. Factors of a noneconomic nature include the quest for greater status, job satisfaction, or responsibility, to name a few. Economic-based decisions in-

clude switching occupations in order to accumulate marketable skills or to increase pay. Many studies interpret occupational changes for the latter reasons as signals of *upward* job mobility, which often implies *career*-upgrading.

The notion of what constitutes a career is surprisingly complex, and its precise definition has often been debated. While some analysts define a career as a certain number of years in one occupation, most theorists go a step further and look for a "succession of related occupations"³ where "one job [leads] to another, related in function and higher in status."⁴ The career distinction is found in the difference between simple job switching and a long-term commitment to upward movement through a sequence of related occupations.⁵

The CPS occupational mobility data are of a limited longitudinal nature and, therefore, are not designed to provide information on the career paths of individual workers. However, analysis of the data can contribute to the overall career literature by examining, for a cross-section of workers, one of the crucial events in career-building: an occupational change. Following is a discussion of the characteristics of the 5.3 million workers who voluntarily made

such a move sometime between January 1986 and 1987.

Who are they? The U.S. work force is considered to be quite mobile, particularly in comparison with many European nations. However, among workers 25 and older, widespread voluntary occupational changes, and by inference, widespread career changes, are relatively uncommon. This is shown by the low rates of voluntary occupational mobility in table 3. Even among younger workers, those under age 25, only 1 in 8 switched occupations voluntarily during 1986.

Age, in fact, is the single most salient determinant of voluntary occupational mobility. It has been deemed a "socioeconomic law" that, as the age of an individual increases, the likelihood of his or her experiencing occupational mobility decreases (table 3).⁶ The vast majority of workers making a voluntary change were under age 45 (92 percent).

The widespread notion of substantial voluntary occupational changes by middle-age persons—so-called midlife career changers—is not supported by these data. There is no one age group that breaks the pattern of reduced mobility with higher age; the pattern holds, in fact, among all groups, regardless of demographic or educational characteristics. Also, while historical data on voluntary mobility rates are not available, comparing the January 1987 overall mobility rates for middle-age persons to their rates in the last 20 years provides no evidence that the incidence of midlife career changing has increased (or decreased) over time.

The age/mobility relationship can be explained using human capital theory, which focuses on individuals and their efforts to increase their value in the marketplace. Simply stated, workers consider any action they may take to improve their earnings potential—education, training, skill development—as an investment. They gauge any current sacrifice for the investment (such as foregoing earnings while in college) against its future return. For example, older workers with many years of seniority typically face high costs when changing an occupation because they may jeopardize accumulated benefits and pension rights and, at least initially, face substantial earnings losses. They also face a relatively short time span in which to realize a return on their investment; for them to switch to another type of work, there must be significant and rapid rewards. Older workers are thus the least likely to change occupations (or employers).

Younger workers, by contrast, have less of an investment in their occupations and their com-

panies and often have less attachment to their geographic residences or even their lifestyles. Many are engaged in early career exploration and are testing the market. Younger workers, generally at the lower end of the earnings scale, have less to lose in switching occupations and have more time to reap higher rewards later in their new field. They face fewer constraints of all types than their older counterparts and are more likely to shop for occupations that will maximize lifetime earnings and satisfaction.⁷

One measure of human capital investment is *occupational tenure*, which is the total time a worker has accumulated in an occupation.⁸ The more time spent in a given field, the more opportunity a worker has to increase his or her stock of occupation- or firm-specific human capital (generally through on-the-job training and experience). However, occupational tenure is not a conclusive measure of human capital, because, as Jacob Mincer has cautioned, "it is not the time spent in the labor market, but the volume of investment activity taking place during that time" which is important.⁹ Nonetheless, persons with substantial tenure in one occupation often make a significant change when moving to a new one.

More than half of the workers age 25 and older who changed occupations voluntarily had 3 years or more of experience in the occupations they left during 1986; 16 percent had a decade or more. Among those in the 35-44 age bracket,

The occupational mobility data clearly indicate that the higher the risk involved in a voluntary employment change, the fewer the people who will make it.

Table 3. Voluntary occupational mobility rates by sex, age, race, Hispanic origin, and marital status, January 1987

Characteristic	Total	Men	Women
Age			
Total, 16 years and older	5.3	5.0	5.6
16 to 24 years	12.7	13.0	12.4
25 to 34 years	6.6	6.4	6.8
35 to 44 years	4.0	3.5	4.6
45 to 54 years	1.9	1.8	2.1
55 to 64 years	1.0	.9	1.1
65 years and older . . . . .	.3	.4	.3
Race and Hispanic origin			
White	5.4	5.0	5.9
Black	4.4	4.9	3.8
Hispanic origin	4.4	4.9	3.6
Marital status			
Married, spouse present	4.0	3.7	4.4
Single	9.3	9.2	9.4
Other marital status	4.8	4.7	4.9

a group who have had the opportunity to accrue significant amounts of tenure, a quarter had left occupations in which they had spent 10 years or more. Still, workers 25 and older with at least 3 years of experience in their occupations who voluntarily changed occupations had a mobility rate of only 2.2 percent.

An occupation change may also be accompanied by a change of employer. About 55 percent of those who voluntarily changed occupations, age 25 and older, had been with their present firm less than 1 year. (In most cases, this would mean that they had also changed employers.) It seems reasonable to suggest that such dual employer/occupation changes caused a sharp break from the workers' past type of employment; rather than changing occupations within their present firm, they were starting what was, for many, an entirely new line of work.

Because the workers discussed here are those who said they switched occupations for better pay, advancement, or improved working conditions, most of those staying with the same employer were likely to have received promotions. A "same-employer" occupational switch involves little of the risk of a complete employer/occupation break, which could mean loss of seniority and wages, accrued pension benefits, or just the advantages of working in a familiar environment.

The occupational mobility data clearly indicate that the higher the risk involved in a voluntary employment change, the fewer the people who will make it. About 3.4 million workers age 25 and older voluntarily changed occupations, producing an occupational mobility rate of 4.0 percent. If that group is restricted to those with 3 years or more of tenure in the occupation they were leaving, the number falls to 1.9 million. By limiting the group further to those who had also joined a new employer within the year, the total number falls to 1 million. This particular set of workers—those who switched occupations and employers and had at least 3 years invested in their old occupation—made up only 1.2 percent of all employed persons. Thus, each year, only a very small proportion of workers 25 and older with some tenure in their occupation voluntarily make a sharp break in their career paths by changing both employer and occupation. And, a few of these workers could have been making a logical career-path change, such as from a high-level "professional" position to an executive position.

It should be noted that about 700,000 of those workers making dual changes were switching to a new occupation classified in a different broad occupational category from their old occupation. While it is tempting to consider them as

even more definitive career changers, such a concept may not be fully valid because a worker can make a sharp break in occupation *within* the same broad occupational category. Someone switching, for instance, from being a psychologist to a writer would still be in the professional specialty category.

Other demographic characteristics. Unlike age, *gender* seems, at least in recent years, to have had a very small impact on mobility rates: the voluntary mobility rates for women and men in 1986 were 5.6 and 5.0 percent, respectively, and the overall rate (persons changing for all reasons) was 10.4 percent for women and 9.6 percent for men. This is in marked contrast to the situation two decades earlier, when the overall occupational mobility rate for women was markedly lower than that for men (6.9 versus 9.9 percent). By 1978, and continuing throughout the 1980's, the rates for women have risen above those for men, indicating perhaps that women were taking advantage of the growing career opportunities available to them.

It is reasonable to speculate that the occupational mobility rates and mobility behavior of men and women will follow roughly similar patterns in the future. The increasing propensity of women to work year round on full-time schedules will enable them to develop stronger and more continuous career attachments, similar to those of men. Their quicker pace of returning to work after having children means, for many, few, if any, career interruptions. Also, differences in educational backgrounds of men and women have narrowed. As educational levels converge, the human capital stock women bring to the job market in terms of knowledge and training will become more similar to that of male workers.

Looking at *race* and *Hispanic ethnicity*, white workers voluntarily changed occupations at a rate of 5.4 percent in 1986, while blacks and Hispanics each changed at a rate 1 percentage point lower. Again, occupational mobility rates declined with advancing age among all race and ethnic groups. Men changed occupations at virtually a uniform rate—around 5.0 percent—regardless of race or ethnic origin. White women, however, changed occupations at a notably higher rate (5.9 percent) than black (3.8 percent) or Hispanic (3.6 percent) women. Conceivably, the combined effects of lower educational levels and the occupational segregation of minority women contribute to the difference between their rate and that of white women.¹⁰

In terms of *marital status*, single workers—who made up nearly 40 percent of all workers who changed occupations voluntarily in 1986—

It is reasonable to speculate that the occupational mobility rates and mobility behavior of men and women will follow roughly similar patterns in the future.

Pursuing a Different Kind of Work

changed their type of work at twice the rate of married workers. While this differential is somewhat exaggerated, in that single workers are, on average, younger than married workers, unmarried workers had higher mobility rates than married ones in virtually every age group. This probably reflects a strong aversion by persons with family responsibilities to undertake the risks inherent in job changing.

Generally, the lower one's educational attainment, the less likely is that person to change occupations. High school dropouts accounted for 14 percent of all workers age 25 and older employed in both January 1986 and 1987, but made up slightly less than 10 percent of the workers who voluntarily changed occupations. Dropouts also had the lowest voluntary occupational mobility rate, at less than 3 percent. The following tabulation shows the rates of workers who voluntarily changed occupations, by their educational attainment, between January of 1986 and 1987:

	High school		College	
	Less than 4 years	4 years only	1 to 3 years	4 years or more
25 years and older	2.7	3.9	4.7	4.3
25 to 34 years . . .	5.5	6.5	7.0	6.8
35 to 44 years . . .	3.3	4.0	4.4	3.9
45 to 54 years . . .	1.2	1.8	2.7	2.1
55 years and older	1.0	.7	1.0	.9

Workers completing high school had a voluntary mobility rate of about 4 percent, while those with at least some college changed occupations at a slightly higher rate—4.7 percent for those with 1 to 3 years of college and 4.3 percent for those with 4 years or more. The lower mobility of persons with little formal education reflects, in part, their higher average age.

Human capital theory might help explain the higher mobility rates of college graduates who, with their investment in higher education, tend to have the widest range of skills to offer employers and thus more flexibility in choosing occupations. Such an advantage may be offset, however, by the occupation-specific nature of the education received by most college graduates. An individual with academic training in a career field such as nursing, accounting, or law, for example, would lose much of the value of that training in changing to another occupation. And data on occupations, presented later, confirm that such fields tend to have very low exit rates—that is, few workers leave them for other fields. Further, most professional jobs allow for career advancement internally—not so much by changing occupations outright (although management positions are available in all profes-

sional fields) but by advancing in the same occupation through increased responsibilities and pay. Also, because professionals and managers are, on average, the highest paid workers, they may often face the most substantial loss of earnings in a new occupation.

Persons with less direct career-oriented bachelor's degrees, such as in the liberal arts or most social sciences, may have less of an investment in a specific career path. It might be ventured that they would have relatively higher mobility rates, reflecting their high skill level, coupled with a comparatively small investment in a specific career field. However, information is not obtained in the CPS on the degree field of college graduates, so that hypothesis cannot be tested.

At the other extreme, the relatively low wages of the least educated workers would make the opportunity costs of job changing—in effect, starting over—relatively low. While that would exert upward pressure on their mobility rates, their very lack of education would tend to reduce the opportunities available to them to switch occupations for higher pay, advancement opportunity, or better working conditions. Also, many of these workers acquire skills almost entirely through on-the-job training, and their relatively narrow range of skills may limit their occupational mobility.

Patterns of voluntary change

About a third of the voluntary job shifting during 1986 occurred within broad occupational

Table 4. Voluntary entry and exit rates for persons age 25 and older in selected occupations, January 1987

Occupation	Entry rate	Exit rate
Executive, administrative, and managerial	5.6	3.4
Professional specialty	2.6	2.9
Engineers	2.2	2.6
Health diagnosing . . . . .	.9	.6
Health assessment	2.1	2.3
Teachers, college and university	1.3	2.0
Lawyers and judges	1.3	.7
Technicians and related support	4.3	3.1
Sales	4.2	5.3
Administrative support, including clerical	4.9	4.7
Service	3.4	4.8
Food service	3.6	6.9
Precision production, craft, and repair	3.1	3.0
Operators, fabricators, and laborers	4.6	4.4
Construction laborers	7.4	7.1
Freight, stock, and material handlers	6.8	6.8
Farming, forestry, and fishing . . . . .	.8	3.1

Table 5. Occupational tenure in previous job of displaced workers who changed occupations by sex and age, January 1987

[Percent distribution]

Sex and age	Total		Less than 1 year	1 to 2 years	3 years or more			
	Number (in thousands)	Percent			Total	3 to 4 years	5 to 9 years	10 years or more
Total, 16 years and older	945	100.0	9.1	34.9	56.0	17.0	19.2	19.8
16 to 24 years	237	100.0	14.8	66.2	19.4	15.6	3.8	0.0
25 to 54 years	664	100.0	7.8	25.2	67.0	18.2	24.1	24.7
55 years and older	45	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Men, 16 years and older	615	100.0	10.1	31.9	57.9	15.6	19.0	23.3
16 to 24 years	152	100.0	14.5	69.7	15.8	15.1	0.7	0.0
25 to 54 years	431	100.0	9.3	20.2	70.8	16.7	24.8	29.2
55 years and older	32	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Women, 16 years and older	330	100.0	7.0	40.6	52.4	20.0	19.1	13.3
16 to 24 years	86	100.0	14.0	59.3	25.6	17.4	8.1	0.0
25 to 54 years	231	100.0	4.8	34.6	60.2	21.2	23.4	16.5
55 years and older	13	(1)	(1)	(1)	(1)	(1)	(1)	(1)

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

groups.¹¹ An inference could be made that such activity represented “in-career” rather than “new-career” movement. Much of the rest of the occupational change was between closely related fields, such as sales and management, or between craft and repair occupations and machine operators and inspectors. All of these movements would make sense from a human capital perspective, in that workers looking to advance in a career would shift into related occupations where their accumulated experience would be of greatest value.¹²

Some occupations were characterized by a higher proportion of persons entering them from another occupation than leaving them for another occupation, and some were just the opposite. Such flows are demonstrated by the occupation’s voluntary entry and exit rates (table 4). An entry rate is the percentage of persons in an occupation in January 1987 who had voluntarily entered it sometime in the preceding year. An exit rate, conversely, is the percentage of persons employed in a specific occupation in January 1986 who subsequently left it voluntarily for a new occupation.

It is difficult, though, to determine why specific occupations had high or low entry or exit rates. Particular rates probably resulted from the combined effects of many factors—the age distribution of the workers employed in the occupation, the pay potential available, the pace of overall employment growth or decline in the occupation, the amount of employee turnover due to the nature of the work, and the educational requirements of the field.

Many of the occupations with both high entry and exit rates employed large numbers of young persons or required little formal education. Among such occupations are construction laborers and freight and stock handlers. Occupations characterized by low voluntary entry and exit rates tend to include the most specialized workers, such as engineers, health-related professionals, college teachers, and lawyers. These occupations were also characterized by generally high earnings levels. By contrast, the farming, forestry, and fishing occupations had a low entry and high exit rate; these occupations have experienced slow growth or even declining employment levels and are characterized by relatively low earnings.

Movements into the executive and managerial occupations can be considered in a somewhat different light from the others. A rise into management for a worker, while ostensibly representing an occupational switch, may not necessarily be a career switch, as such a move could also be thought of as a logical career progression, perhaps even a career culmination. The increased pay and status associated with a move into management certainly make that occupation a goal for many employees, and, in fact, its entry rate was much higher than its exit rate.

Involuntary occupational change

Occupational change, of course, is not always of a voluntary nature. About 1 in 8 persons who change occupations, or nearly 1.3 million workers, lost their job or were laid off from a job.

Pursuing a Different Kind of Work

About three-fourths of those workers were displaced from their previous jobs as a result of a plant closing or moving, slack work, or the abolishment of their positions or shifts. This latter group—displaced workers who changed occupations—is the focus in the remainder of the article.¹³

The displaced worker initially faces several labor market choices. One option is to withdraw from the labor force, and, according to a January 1988 CPS supplement on displaced workers, about 1 in 7 of the nearly 5 million workers displaced between 1983 and 1988 were out of the labor force as of the survey date.¹⁴ Not surprisingly, half of those who left the labor force were 55 years or older. The more common choice made by the displaced worker is to find a new job. Again, the individual is faced with several decisions, such as whether to look to a new industry or possibly a new occupation for future employment. A factor influencing the decision is the displaced worker's perception of

the cause of the job displacement. Was losing the job due to problems specific to the firm? If so, the worker may not have to change industry or occupation. However, if the displacement was a result of an industrywide problem, or an occupation-specific problem, then a new industry or occupation might present greater employment opportunities.

The survey of workers displaced between 1983 and 1988 found that about half of the workers who had become reemployed were in occupations different than those they had lost. This suggests that the declining demand for labor in the original occupation may have been an important factor in the displacement, or that the lost occupations were concentrated in declining industries. A secretary, for example, can easily switch industries while staying in the same occupation; a metal-lathe operator cannot.

A trait common to many of the displaced workers who change occupations is the considerable time invested in the occupations of their lost jobs. As shown in table 5, more than half of these workers had 3 years or more of tenure in the occupation of their lost job. Among persons ages 25 to 54—the bulk of the displaced workers who changed occupations—about 2 of 3 had invested at least 3 years in their previous occupation.

After displacement. After losing their jobs, displaced workers usually face a period of uncertainty. Although about a million of the workers displaced in 1986 had found jobs in new occupations by January 1987, what had happened during the time between their displacement and the new job?

Most displaced workers spent some time out of work; however, more than a quarter of those age 25 and older who had changed occupations reported that they had started working again "right away, within a week." At the other extreme, about 1 in 4 had been out of work 15 weeks or more. The median number of weeks out of work was 7.5 for both sexes. A higher proportion of women than men were out of work 15 weeks or longer, 30 versus 22 percent. Time out of work did not seem to be strongly related to age.

The training of displaced workers in the skills required by today's economy is often cited as being crucial to their future job market success. In January 1987, displaced workers who changed occupations were asked, "Has . . . completed an education or training program since January 1986?" Just 1 in 10 said they had completed such a program. Moreover, of those who had, nearly 60 percent identified the program as employer training; this suggests that very few such

Table 6. Industry and occupational distribution of employed persons and of displaced workers who changed occupations, age 25 and older, January 1986

[Percent distribution]

Industry and occupation	Total employed	Displaced workers
Industry in January 1986		
Total wage and salary workers	100	100
Goods-producing industries	30	53
Agriculture	1	1
Mining	1	7
Construction	5	10
Manufacturing	23	35
Service-producing industries	70	47
Transportation and public utilities	8	6
Trade	17	16
Finance, insurance, and real estate	7	3
Services	32	20
Public administration	6	2
Occupation in January 1986		
Total, all workers	100	100
Executive, administrative, and managerial	14	11
Professional specialty	15	4
Technicians and related support	3	3
Sales	11	11
Administrative support, including clerical	16	13
Service	11	5
Precision production, craft, and repair	13	21
Operators, fabricators, and laborers	15	30
Farming, forestry, and fishing	3	1

NOTE: Data are for persons employed in both January 1986 and 1987. Industry employment for total wage and salary workers employed on both dates is not available from the January 1987 CPS supplement. These data represent the number of wage and salary workers employed in January 1986 from the January 1986 CPS.

displaced workers who changed occupations received training outside the workplace.

Industry and occupation. Not surprisingly, many of the workers who changed occupations upon displacement were leaving industries where employment was stagnating or declining and thus were gravitating toward more robust industries. About a third of the displaced workers came from manufacturing, while a disproportionate share also came from mining and construction (table 6). They were much less likely to come from the more rapidly growing service-producing sector, particularly the services industry.

Workers who had lost jobs as operators, fabricators, and laborers made up nearly one-third of the displaced who changed occupations; this was twice their representation among all employed persons. In contrast, less than 5 percent of the displaced workers in new occupations had come from professional specialty occupations, much lower than their representation of 15 percent among all workers.

When workers change occupations upon displacement, they often move to a new industry. About two-thirds of these displaced workers were in a different major industry group in their new job. There was an overall shift of these displaced workers who changed occupations from the goods-producing to service-producing industries (table 7). Retail trade experienced the greatest numerical increase, while finance, insurance, and real estate had the largest percentage increase. About half of the net outflow of displaced workers from the goods-producing sector occurred in manufacturing, although the mining and construction industries had the highest percentage of employment decline among the displaced who changed occupations. The large gain among self-employed workers shown in table 7 was, to some extent, the result of our definition.¹⁵

Nearly a quarter of the 710,000 displaced workers age 25 and older who changed occupations found a job within their same major occupational grouping. The majority, however, took a job outside of their previous major occupational grouping. Particular occupations, such as executive, administrative, and managerial; precision production, craft, and repair; and technicians and related support, experienced a net decline in employment among the displaced workers who changed occupations (table 7). In contrast, sales, service, and transportation and material moving occupations saw net gains.

While qualitative judgments regarding particular occupations are difficult to make, many of those who lost jobs also appeared to suffer an

Table 7. Industry and occupational employment in January 1986 and 1987 for displaced workers age 25 and older who changed occupations

[Numbers in thousands]

Industry and occupation	January 1986	January 1987	Change, 1986-87	Percent change, 1986-87
Industry and class of worker				
Total wage and salary workers	697	661	-36	-5
Goods-producing industries	369	228	-141	-38
Agriculture	7	8	1	14
Mining	48	14	-34	-71
Construction	68	37	-31	-46
Manufacturing	246	169	-77	-31
Service-producing industries	327	434	107	33
Transportation and public utilities	40	60	20	50
Trade, total	115	153	38	33
Wholesale trade	29	35	6	21
Retail trade	86	118	32	37
Finance, insurance, and real estate	18	49	31	172
Services	141	161	20	14
Public administration	13	11	-2	-15
Self employed ¹	11	47	36	327
Occupation				
Executive, administrative, and managerial ..	81	43	-38	-47
Professional specialty	25	32	7	28
Technicians and related support	23	12	-11	-48
Sales	79	100	21	27
Administrative support, including clerical ..	92	91	-1	-1
Service	37	105	68	184
Precision production, craft, and repair	149	97	-52	-35
Operators, fabricators, and laborers	214	212	-2	-1
Machine operators, assemblers, and inspectors	109	97	-12	-11
Transportation and material moving	42	61	19	45
Handlers, equipment cleaners, helpers, and laborers	63	54	-9	-14
Farming, forestry, and fishing	9	16	7	78

¹ Persons who were classified as losing their jobs because a "self-operated business failed" are excluded from the displaced worker definition, which only includes persons who lost their jobs due to a plant closing or moving, slack work, or the abolishment of their positions or shifts. Thus, the self-employed would not be included among the displaced workers who changed occupations in January 1986 but would be identified in January 1987, as a result of displaced wage and salary workers becoming self-employed. The small number of self-employed identified as displaced in January 1986 were probably misclassified as losing their jobs due to plant closings or moves.

occupational downgrading. Data from the January 1987 supplement showed that two-thirds of the displaced workers with new occupations cited lower earnings in their new jobs, while only about 16 percent said their new jobs paid more.

THE MAJORITY of persons who change occupations do so voluntarily, following the lures of better pay, job advancement, or improved working conditions. The incidence of such voluntary occupational change decreases markedly with age; other factors, such as educational attainment and accumulated occupational experience, play more limited roles. Career change—such as when a person with some tenure in an

Pursuing a Different Kind of Work

occupation changes both occupation and employer—is relatively uncommon.

Far fewer workers were forced to change oc-

cupations after being displaced from their previous jobs. The majority of these workers had lower earnings in their new occupation. □

Footnotes

¹ The Current Population Survey is a monthly survey of approximately 56,000 households conducted for the Bureau of Labor Statistics by the Bureau of the Census. Information on occupational mobility has been collected in the January supplement periodically since 1966.

² The data on occupational mobility are subject to certain limitations, such as those stemming from differences in the way respondents interpret "different kind of work," and limitations resulting from recall error. Note, too, that because the survey refers to a worker's occupation only in January 1987 and January 1986, any intermediate changes during the year are not included.

³ William H. Form, "Occupations and Careers," in David L. Sills, ed., *International Encyclopedia of Social Sciences*, Vol. 11 (New York, Macmillan Co. and The Free Press, 1968), p. 252.

⁴ Harold L. Wilensky, "Orderly Careers and Social Participation: The Impact of Work History on Social Integration in the Middle Mass," *American Sociological Review*, August 1961, p. 522.

⁵ It should be noted that a career, because it is occupation based, can be carried across different firms or industries.

⁶ James J. Byrne, "Occupational mobility of workers," *Monthly Labor Review*, February 1975, p. 54.

⁷ Job change among the youngest workers (those 16 to 24 years of age) is often quite different than that for workers 25 and older. The inclusion of a large number of students complicates the analysis of data for the group. For many, the two jobs may have been separated by some period out of the labor force. As a result, such workers do not face the same type of decision about whether to sever an occupational or employer relationship in order to change their field of work, as those relationships will have already been ended. Workers beyond school age, in contrast, would be likely to be making a conscious decision to leave one field of work to pursue another.

⁸ For a more detailed discussion of the occupational tenure data derived from the January 1987 CPS supplement, see Max L. Carey, "Occupational tenure in 1987: many workers have remained in their fields," *Monthly Labor Review*, October 1988, pp. 3-12.

⁹ Jacob Mincer, *Schooling, Experience, and Earnings* (New York, Columbia University Press, 1974), p. 143.

¹⁰ In an important study, Finis Welch has written that he knows of no human capital theory of discrimination that exists ("Human Capital Theory: Education, Discrimination, and Life Cycles," *American Economic Review*, May 1975, p. 72). This is not to say that this topic has been ignored in the human capital literature. See two works by Lester C. Thurow, *Poverty and Discrimination* (Washington, DC, The Brookings Institution, 1969) and *Generating Inequality* (New York, Basic Books, 1975); and one by Glenn Cain, *The Challenge of Dual and Radical Theories of the Labor Market to Orthodox Theories* (Madison, University of Wisconsin, The Institute for Research on Poverty, 1973). Some labor market structural theorists have also addressed the issue. In their view, the labor market is segmented by institutional rules and habits into primary and secondary markets, or multiple gradations thereof. They suggest that occupational mobility follows different patterns in each market. Black workers, for instance, are found in some studies to be disproportionately represented in "secondary," or lower

wage, lower skilled jobs, and that movement out of such jobs is difficult. For discussions of labor market theory and its implications on mobility by race, see Michael J. Piore, "Notes for a theory of labor market stratification," in R.C. Edwards, M. Reich, and D.M. Gordon, eds., *Labor Market Segmentation* (Lexington, Massachusetts, Heath Books, 1975), pp. 125-50; Peter M. Doeringer and Michael J. Piore, *Internal Labor Markets and Manpower Analysis* (Lexington, Massachusetts, Heath Books, 1971); and Michael L. Wachter, "Primary and Secondary Labor Markets: A Critique of the Dual Approach" (Washington, DC, The Brookings Institution, Brookings Papers of Economic Activity, 1974).

¹¹ A significant amount of occupational changing within broad occupational groups—using overall occupational mobility rates—has been found in past studies of the CPS mobility supplement data. Byrne even referred to it as a "traditional pattern." (Byrne, "Occupational mobility of workers," pp. 55-56).

¹² It should be noted that an occupational change can represent the next incremental step in a career, or a change in careers. The sharpness of the occupational switch is one of the determinants of which activity is taking place. Hiestand names two types of changes: The "45-degree" change, where there is relative continuity between the new and old occupations, and the "90-degree" change, where there is little continuity between them. (D.L. Hiestand, *Changing Careers After 35*, New York, Columbia University Press, 1971). In a similar vein, Bell speaks of changes where previous training needs to be built upon, or where the previous training is rendered obsolete. (D. Bell, "Training Potential Among Older Workers," in W.H. Dun and V.M. Thompson, eds., *An Evaluation of Policy-Related Research on Programs for Mid-Life Career Redirection*, Vol. 2: *Major Findings* (Santa Monica, CA, Rand Corporation, 1975).

¹³ The definition of *displaced workers who change occupations* is similar in construct to the definition of displaced workers presented in previous BLS studies. However, the displaced worker definition used in analyzing data from CPS supplements conducted in January 1984, 1986, and 1988, required that workers have 3 years or more of tenure in their lost jobs. In this analysis, no such tenure requirement is placed on displaced workers, largely because of the relatively small sample size. For information on displaced workers, see Francis W. Horvath, "The pulse of economic change: displaced workers of 1981-85," *Monthly Labor Review*, June 1987, pp. 3-17; and Paul O. Flaim and Ellen Sehgal, "Displaced workers of 1979-1983: how well have they fared?," *Monthly Labor Review*, June 1985, pp. 3-16.

¹⁴ "BLS Reports on Worker Displacement," *USDL News*, 88-611, Dec. 9, 1988.

¹⁵ Persons who were classified as losing their jobs because a "self-operated business failed" are excluded from the displaced worker definition, which only includes persons who lost their jobs due to a plant closing or moving, slack work, or the abolishment of their positions or shifts. Thus, the self-employed would not be included among the displaced workers who changed occupations in January 1986 but would be identified in January 1987, as a result of displaced wage and salary workers becoming self-employed. The small number of self-employed identified as displaced in January 1986 (table 7) were probably misclassified as losing their jobs due to plant closings or moves.

Compensation for death and dismemberment

*For the first time,
the Bureau's Employee Benefits Survey
reports on the details of
accidental death and dismemberment benefits
sponsored by employers*

Cynthia Thompson

With the potential for incurring lost wages and large medical bills, accidents can create severe financial hardships for employees. To address these risks, employers may include accidental death and dismemberment (AD&D) policies as part of an employee benefits package. In this regard, AD&D benefits are a common feature of life insurance plans.

In 1988, 92 percent of full-time employees in medium and large private firms participated in life insurance plans, and 76 percent of those workers had AD&D benefits. (Less than 0.5 percent of employees had AD&D coverage without regular life insurance.) Unlike life insurance, AD&D insurance provides payment only for losses resulting from an accident—usually for injuries occurring on or off the job. In instances of accidental death, benefits are paid in addition to regular life insurance coverage and, in the large majority of cases, are equal to the regular benefit. For this reason, AD&D is sometimes called a “double-indemnity” benefit.¹

Data in this article are from the 1988 Bureau of Labor Statistics survey of benefits for full-time employees in medium and large private firms. Information was obtained from a sample of 2,500 establishments representing approximately 107,000 business establishments em-

ploying 31 million full-time workers.² Data are published for all types of workers combined and separately for three broad occupational groups: professional and administrative, technical and clerical, and production and service employees. The first two groups are often combined and labeled white-collar workers, in contrast to the blue-collar workers constituting the third group.

How benefits are determined

Where AD&D coverage is provided, it is almost always a component of group life insurance. AD&D plans provide cash benefits to an employee in the case of dismemberment, such as the loss of a limb or an eye, and to a stated beneficiary in the case of death. Nearly all plan participants in the 1988 survey were covered for both accidental death and dismemberment; in a few cases, only accidental death was covered.

AD&D benefits are determined by the type of loss suffered. Plans generally specify a “principal sum” upon which benefits are based. This amount, usually equal to the amount of regular life insurance, will generally be paid for loss of life, both hands, both feet, the sight of both eyes, one hand and one foot, one hand and the sight of one eye, or one foot and the sight of one eye. One-half the principal sum will be paid for

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Death and Dismemberment Benefits

loss of one hand, one foot, or the sight of one eye, and in some instances, for loss of speech or hearing. Some plans have a provision that will pay one-fourth of the principal sum for loss of the thumb and index finger of the same hand.

AD&D plans often include several limitations on benefits. First, the loss must occur within a specified period of time after the accident. The most common time period is within 90 days after an accident, but certain plans allow up to 365 days from the accident. Second, the total payment for all losses due to any one accident may not be more than the principal sum. For instance, if an employee were to lose both hands and the sight of one eye, the total benefit would equal, but not exceed, the principal sum paid for the loss of just both hands, or equivalently, one hand and the sight of one eye. Finally, benefits are paid only for a hand or foot that is severed at or above the wrist or ankle, and for loss of sight that is total and irrecoverable.

Under certain circumstances, benefits are not paid at all. Coverage is not provided for losses resulting from or caused directly or indirectly by bodily or mental infirmity, disease, or illness of any kind; suicide or attempted suicide while sane or insane; an infection, other than a pyogenic (pus-producing) infection of an accidental cut or wound; taking part in, or as a result of taking part in, the commission of a felony; any

act of war; or death due to drugs, unless prescribed by a physician.

Private-sector survey findings

Since the inception of the Employee Benefits Survey in 1979, the incidence of both life insurance and AD&D benefits has been fairly stable.³ (See table 1.) Blue-collar workers were the more frequent recipients of AD&D benefits, in part a reflection of provisions for these benefits in many major collective bargaining agreements. Another factor that may lead employers to provide AD&D benefits more frequently to blue-collar workers is the traditionally more hazardous nature of blue-collar work. Benefits generally are provided for accidents on as well as off the job.

In 1988, 92 percent of all full-time employees in medium and large firms had life insurance coverage; 76 percent of employees with life insurance also had AD&D protection. Eighty percent of the 13 million blue-collar workers with life insurance had AD&D coverage, while 72 percent of the 15 million white-collar workers with life insurance were covered.

Employees in life insurance plans paying a flat dollar benefit were more likely to have AD&D insurance than those in plans with benefits linked to earnings, but the difference was slight.

Table 1. Percent of full-time employees with employer-sponsored life insurance, and percent of life insurance participants with accidental death and dismemberment coverage, medium and large private firms, 1979-86 and 1988

Item	1979	1980	1981	1982	1983	1984	1985	1986	1988 ¹	1988 ¹
All full-time employees	100	100	100	100	100	100	100	100	100	100
With life insurance:										
All employees	96	96	96	96	96	96	96	96	94	92
Professional and administrative employees	99	97	98	98	97	97	97	97	97	96
Technical and clerical employees	92	94	95	96	95	95	96	96	95	94
Production and service employees	96	96	96	96	95	96	96	95	92	89
All insurance plan participants	100	100	100	100	100	100	100	100	100	100
With accidental death and dismemberment insurance:										
All participants	72	69	72	72	72	74	73	72	73	76
Professional and administrative participants	69	67	69	70	67	70	70	65	70	72
Technical and clerical participants	66	67	66	66	65	67	65	65	69	72
Production and service participants	75	70	76	77	78	80	79	79	78	80

¹ In 1988, the Employee Benefits Survey was expanded to include establishments employing 100 or more workers in all private industries. From 1979 to 1986, the survey did not include all service industries, and did not include establishments with under 250 workers in certain industries. The first 1988 column

represents the same size and industrial coverage as in prior years; the second 1988 column provides data for the expanded survey.

NOTE: In 1987, the survey was conducted in State and local governments. Results of this survey are described in the text.

Seventy-nine percent of the workers whose life insurance was a specified dollar benefit had AD&D protection, while 74 percent of the workers in earnings-based life insurance plans were covered. This finding can be explained largely by differences between blue- and white-collar workers. In addition to being more likely to have AD&D protection, about half the production and service workers in 1988 had flat dollar amounts of life insurance, compared with less than a fifth of the white-collar workers.

The large majority of AD&D plan participants (93 percent) had benefits expressed in the same manner as their regular life insurance benefit. (See table 2.) For example, both life insurance and AD&D benefits might be expressed as a multiple of salary, or both might be a flat dollar amount, such as \$10,000. Eighty-two percent of the nearly 22 million employees with AD&D coverage had a benefit equal to the amount of life insurance coverage, 9 percent had lower coverage, and 2 percent had greater protection. (Indeed, the last group had protection equal to two or more times the life insurance benefit amount.) The life insurance benefits from which the AD&D amounts were derived averaged 1.5 times earnings in plans based on salary, and \$11,300 for flat dollar amount plans, in 1988.

Five percent of all AD&D participants were in plans paying a flat dollar benefit, while the amount of their life insurance was proportional to earnings. Flat amounts ranged from less than \$2,000 to more than \$30,000, but most commonly ranged from \$5,000 to \$15,000.

Life insurance plans that pay a multiple of earnings commonly specify a ceiling on dollar payments. For example, a plan might pay two times the annual salary, up to a maximum of \$100,000. In these instances, a maximum other than the basic life insurance maximum seldom applies to the AD&D benefit. Only 8 percent of all employees in plans with AD&D protection had a specified maximum benefit different from the life insurance maximum. White-collar workers were more likely than blue-collar workers to have a dollar ceiling on benefits, largely because white-collar workers' insurance frequently was based on an earnings formula, while blue-collar workers more commonly had a flat dollar benefit.

Where separate maximum benefit amounts for AD&D were provided, they varied widely, ranging most commonly from \$50,000 to \$500,000. (See table 3.) Where AD&D benefits were limited to the basic life insurance maximum, the maximums averaged about \$225,000 in 1988. However, the largest group, approximately 60 percent of participants in AD&D plans, had no maximum limit placed on benefits.

Table 2. Percent of full-time participants in accidental death and dismemberment plans by principal benefit amount, medium and large private firms, 1988

Item	All participants	Professional and administrative participants	Technical and clerical participants	Production and service participants
Total	100	100	100	100
Related to amount of life insurance ¹	93	94	94	93
Less than life insurance ..	9	9	6	10
Equal to life insurance ...	82	82	85	81
Greater than life insurance	2	3	3	2
Separate flat amount	5	3	4	7
Less than \$5,000	(2)	(2)	(2)	(2)
\$5,000 to \$9,999	3	1	2	4
\$10,000 to \$14,999	1	1	2	1
\$15,000 or greater	(2)	1	(2)	(2)
Other ³	1	2	2	1

¹ Includes participants in plans that expressed both life insurance and AD&D benefits as a multiple of salary or as a flat dollar amount.

² Less than 0.5 percent.

³ Includes participants in plans that expressed life insurance benefits as a flat dollar amount and AD&D benefits as a multiple of salary.

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

A note on the public sector

In 1987, the Employee Benefits Survey covered full-time employees in State and local governments. Data from this first-time survey were published for workers in three occupational groups: teachers, police and firefighters, and regular employees (that is, all other employees). Two out of three public-sector life insurance participants had additional AD&D coverage, slightly below the rate in medium and large private firms the previous year. The following tabulation shows the percent of full-time employees in the State and local government survey who participated in employer-sponsored life insurance and the percent of life insurance participants with AD&D protection:

	With life insurance	Life insurance participants with AD&D coverage
All employees	85	66
Regular employees	85	67
Teachers	82	70
Police and firefighters ..	91	71

Table 3. Percent of full-time participants in accidental death and dismemberment plans by maximum benefit provision, medium and large private firms, 1988

Provision	All participants	Professional and administrative participants	Technical and clerical participants	Production and service participants
Total	100	100	100	100
Subject to life insurance maximum	31	43	41	19
Less than \$50,000	1	1	1	1
\$50,000-\$99,999	5	7	6	3
\$100,000-\$249,999	13	18	17	8
\$250,000-\$499,999	8	10	11	5
\$500,000 or more	4	7	5	2
Separate AD&D maximum	8	11	13	5
Less than \$50,000	2	3	2	2
\$50,000-\$99,999	1	2	3	(1)
\$100,000-\$249,999	3	4	6	2
\$250,000 or more	1	2	2	(1)
No maximum	61	46	47	76

¹Less than 0.5 percent.

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

Benefits were more prevalent among teachers and police and firefighters than among regular employees. Provisions of AD&D benefits in the public sector were nearly identical to those described for the private sector.⁴

Variations in AD&D benefits

While AD&D benefits in both the private and public sectors are nearly always combined in a package with regular life insurance benefits, variations are occasionally encountered in this pattern. For example, employees who have the opportunity to choose their benefits through a flexible benefits program may be able to receive life insurance without AD&D, or AD&D without life insurance. A flexible benefits program gives individual employees choices among a variety of benefits, such as several health care options, several levels of life insurance, and added vacation days. In rare cases, employees surveyed chose AD&D benefits and waived all life insurance coverage.

Two insurance coverages that resemble AD&D are not included in the preceding tabulations. First, personal accident plans generally offer employees the opportunity to purchase varying amounts of protection against accidents. For example, a plan might offer coverage from \$10,000 to \$500,000, in multiples of \$10,000,

at the employee's option. Benefits are paid to the employee or a beneficiary should an accident occur. But these plans are almost always offered to employees at their own expense and, therefore, are not included in this survey of benefits for which employers pay at least part of the cost.

Second, travel accident insurance is not included in the tabulation of AD&D benefits. Travel coverage protects an employee against injury or death that occurs while traveling on employer business. It is not a form of continuous protection. The Employee Benefits Survey tabulated the availability of this benefit, which is almost always completely employer paid, in 1987 and 1988. Sixteen percent of State and local government full-time employees in 1987, and 49 percent of employees in medium and large private firms in 1988, had travel accident insurance coverage while on business trips.

THE RANGE OF ACCIDENT PROTECTION—AD&D insurance, personal accident plans, and travel accident insurance—coupled with workers' compensation benefits for occupational accidents, provides substantial risk protection for employees. These benefits have grown out of a concern for worker safety and are likely to remain common features of employee benefits packages in the foreseeable future. □

Footnotes

¹ The policy of paying greater benefits for accidental death than for natural death is debated in Leonard L. Berekson, "Group Accidental Death Benefits: An Inherent Contradiction," *Benefits Quarterly*, First Quarter 1985, pp. 65-68.

² Key findings of the 1988 survey are reported in *Employee Benefits in Medium and Large Firms, 1988*, Bulletin 2336 (Bureau of Labor Statistics, 1989). In addition to examining life insurance and accidental death and dismemberment plans, the survey explores the incidence and detailed characteristics of health, short-term disability, and long-term disability insurance; retirement and capital accumulation plans; and a variety of paid time-off items. It also reports on eligibility for numerous other benefits.

³ Employer-provided life insurance was introduced in 1911, but did not become widespread until after World War

II. AD&D coverage became a regular feature of employer-provided life insurance benefits beginning in the 1950's, after the Federal Government began offering such benefits to its employees. For more details on life insurance history, see *1988 Life Insurance Fact Book* (Washington, American Council of Life Insurance, 1988).

⁴ Major findings of the 1987 survey are reported in *Employee Benefits in State and Local Governments, 1987*, Bulletin 2309 (Bureau of Labor Statistics, 1988). For comparisons of public- and private-sector practices, see William J. Wiatrowski, "Comparing employee benefits in the public and private sectors"; Allan P. Blostin, Thomas P. Burke, and Lora M. Lovejoy, "Disability and insurance plans in the public and private sectors"; and Lora Mills Lovejoy, "The comparative value of public and private pensions," *Monthly Labor Review*, December 1988.

The work-family dilemma

Working parents are involved in two vital enterprises: the production of goods and services and the "production" of human beings. Each requires a substantial investment of time, energy, and personal commitment. The critical challenge confronting government, employers, and unions in the 1980's and beyond will be the development of strategies to foster both activities so that neither flourishes at the expense of the other.

There can be no doubt that the problems being experienced by working parents will not disappear of their own accord. By now, more than half of the mothers of preschoolers have joined the labor force, with the most rapid increase in labor force participation occurring among mothers of children under 1 year of age. The myth of "separate worlds"—one of work and the other of family life—long harbored by employers, unions, and even workers themselves has been effectively laid to rest. Their inseparability is undeniable, particularly as two-earner families have become the norm where they once were the exception and as a distressing number of single parents are required to raise children on their own. The import of work-family conflicts—for the family, for the workplace, and, indeed, for the whole of society—will grow as these demographic and social transformations in the roles of men and women come to be more fully clarified and appreciated.

—PHYLLIS MOEN

"New Patterns of Work," *Work & Family: A Changing Dynamic* (Washington, The Bureau of National Affairs, Inc., 1986), p. 217.

Job hazards underscored in woodworking study

Buoyed by surging markets for new housing and home remodeling, millwork manufacturing is on the upswing; the downside, though, is persistent safety and health problems facing the industry's workers

Martin E. Personick and
Elyce A. Biddle

"A man builds a fine house; and, now he has a master, and a task for life. . ."
—Ralph Waldo Emerson
Society and Solitude (1870)

Emerson concludes his discourse on house responsibilities in terms all too familiar to today's homeowner: ". . .to furnish, watch, show it, and keep it in repair the rest of his days." For many, repairs now include residential upkeep and improvement, such as replacing well-worn windows, adding on a garage, or even remodeling to create new rooms. Clearly, structural improvements such as these are designed to make a fine house even finer.

This article profiles the work and working conditions in millwork manufacturing—an industry whose output of fabricated wood products is primarily used both in maintaining, remodeling, and renovating existing residences and in constructing new homes. The industry's three major product categories—doors (including garage doors) and related parts, windows and window parts, and standard molding and trim—account for about four-fifths of the total value of millwork shipments (about \$8.4 billion in 1987). Other millwork products include staircases and stairs, blinds and shutters, and orna-

mental woodwork, such as cornices and mantels. Almost all millwork manufacturers specialize in a particular class of product, for example, wood window units. In addition to their primary products, however, these plants typically fabricate secondary woodwork items.¹

In 1987, millwork manufacturers employed about 100,000 workers nationwide. Seven major millworking centers—the States of California, Wisconsin, Texas, Minnesota, Oregon, Ohio, and Washington—accounted for one-half of the industry's employment that year.² Small millwork firms (fewer than 20 workers) are numerically important, constituting a clear majority of the industry's more than 2,000 plants; small firms, however, are but a fraction (about one-tenth) of the millwork employment total.

Through the years, much of the industry has experienced rates of workplace injuries and illnesses well above those for all manufacturing. Not uncommonly, millwork cases resulted in lost worktime or restricted work activity. Many of these disabling cases took the form of back sprains from lifting heavy lumber, doors, and windows or serious finger or hand injuries incurred in the operation of stationary saws and other machines. The following sections examine the injury and illness record of millwork manufacturing in more detail and link that

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record with certain industry characteristics, such as staffing (including work experience) and work requirements, that appear to be accident related.

Safety and health measures

As a group, millwork plants are hazardous workplaces. At 19.4 per 100 full-time workers, the 1987 incidence rate for injuries and illnesses in millwork was three-fifths again as much as that for all manufacturing (11.9) and more than double that for the private sector (8.3).³ The industry's workplace accidents and exposures, however, were centered in plants with medium and large work forces: the injury and illness rate was 20.0 per 100 full-time workers for plants with at least 20 workers, compared with 14.3 for smaller millwork plants. Furthermore, a large majority of these small plants reported no recordable injuries or illnesses in 1987.

Over a recent 10-year period, injury and illness rates generally trended lower in the private sector, but rates for the millwork industry remained essentially unchanged. Table 1 shows, for example, that the 1983-87 average rate for all manufacturing (10.7 per 100 full-time workers) was 12 percent lower than the 1978-82 rate for the same sector (12.1); in contrast, the corresponding rates for millwork manufacturing were stable at 19.3 and 19.2, respectively. Similarly, the broader industry group comprising millwork, kitchen cabinets, veneers/plywoods, and structural wood members apparently fared no better and, in fact, experienced an increase in its occupational injury and illness rate from the one period to the other. (This group includes one of the Nation's highest risk industries—manufacturing fabricated roof trusses and other large

structural products of lumber.)⁴

Other Bureau safety and health measures reflect the incidence of injuries severe enough to require workers to take time off from work or to be restricted in work activity. (See appendix for definitions.) In 1987, these measures recorded mixed results for the millwork industry. While the industry's rates for lost workday cases and lost workdays were relatively high, its average number of days lost per case was slightly lower than that for the private sector and for all manufacturing. (See table 2.) In addition, the proportion of total cases that involved lost workdays (almost one-half) was the same in millwork as in all manufacturing.

Separate data in the table for three west coast centers of millwork manufacturing show considerable variation in workplace risk levels. The overall 1987 injury and illness rate for California (18.5), for example, was substantially below the corresponding millwork rate for Oregon (28.2) and for Washington (30.2). In contrast, certain measures of accident severity, namely, the proportion of cases involving lost workdays and the average lost workdays per lost workday case, were higher in California than in the other two States that same year (table 2). Rate variations among the three States did not appear to be directly related to differences in the types of millwork they produced.⁵

Injury and illness characteristics

The Bureau's Supplementary Data System (SDS) categorizes, in considerable detail, injury and illness case characteristics made available through State workers' compensation systems. Unlike the annual survey, the SDS does not produce nationwide estimates and lacks a uniform

Table 1. Occupational injury and illness rates, BLS annual surveys, 1978-87

Industry	SIC Code ¹	Incidence rates per 100 full-time workers ²		
		Annual average		1987
		1978-82	1983-87	
Private industry ³	—	8.7	7.9	8.3
Manufacturing	—	12.1	10.7	11.9
Millwork, plywood, and structural members	243	17.5	17.9	18.0
Millwork	2431	19.2	19.3	19.4
Wood kitchen cabinets	2434	16.0	16.7	15.7
Hardwood veneer and plywood	2435	17.3	16.5	18.4
Softwood veneer and plywood	2436	13.2	12.5	13.2
Structural wood members, n.e.c. ⁴	2439	26.6	27.4	25.6

¹ Standard Industrial Classification Manual, 1972 edition, 1977 supplement.

² See footnote 3 to text for method of calculation.

³ Excludes farms with fewer than 11 employees.

⁴ n.e.c. = not elsewhere classified.

treatment among States of what is a recordable workplace injury or illness.⁶ However, despite several analytical and statistical limitations, the SDS does help in spotting general patterns (or a lack thereof) in the characteristics of work-related injuries and illnesses.

In 1986, nearly 3,300 current cases in millwork manufacturing were reported to 22 State agencies and the Virgin Islands, the participants in the SDS program. (Current cases are injuries or illnesses which involved at least 1 lost workday and which either occurred in 1986 or were reported to the State agencies that year.)⁷ An analysis of the millwork file and the file for all SDS cases in manufacturing points up several similarities and differences in case characteristics. (Such comparisons, however, are subject to the same types of limitations previously ascribed to the SDS.)

Overexertion, mostly while lifting objects, was the leading *type of workplace accident or exposure*, constituting about one-third of all SDS cases reported for manufacturing in general and for millwork in particular. In millwork, being struck by falling, flying, or swinging objects was next in frequency (one-fifth of the cases), followed by striking against stationary or moving objects (one-eighth). Together, being struck by or against an object was a somewhat more common accident type in millwork than in all manufacturing.

The leading *sources of injury and illness* in millwork were wood items (particularly lumber), machines (especially stationary power saws), and building structures (including doors and windows). Combined, the three sources were cited in one-half of the industry's SDS-recorded cases, compared with one-fifth of those in all manufacturing. A wide variety of

other sources, ranging from unidentified particles to industrial vehicles, were cited in millwork injury and illness cases, but none was common.

Sprains and strains was the most frequent category under *nature of injury or illness* sustained in the workplace. The category accounted for about two-fifths of the millwork cases and a similar proportion in all manufacturing. Next in frequency were cuts (including lacerations and punctures), cited in one-fifth of the millwork cases and one-eighth of those in all manufacturing. Other "nature" categories, such as fractures, occurred infrequently in millwork operations.

The upper extremities and the trunk were the most common *major parts of the body affected* by injuries or illnesses. Each was involved in slightly more than one-third of the reported millwork cases—roughly the same proportion as in manufacturing as a whole. By specific body part, back injuries were the most prevalent (one-fourth of the millwork case total), closely followed by finger injuries (one-fifth).

In almost one-half of the millwork cases, the *major occupational group* of the injured or ill worker was "operators, fabricators, and inspectors." An additional one-fourth were classified as "handlers, helpers, and laborers," and most of the rest as production workers in other categories. Woodworking machine operator was the leading individual occupational grouping affected, constituting about one-fifth of SDS-recorded cases in millwork manufacturing.

The major parts of the body sustaining injury or illness in millwork manufacturing varied little by occupation. To illustrate, most cases relating to sawing machine operators and to industrial laborers were about equally divided

The leading sources of injury and illness in millwork were wood items, machines, and building structures.

Table 2. Occupational injuries and illnesses by type of case, BLS annual survey, 1987

Industry	Incidence rates per 100 full-time workers ¹				Average lost workdays per lost workday case
	Total cases ²	Nonfatal cases without lost workdays	Lost workday cases	Lost workdays	
Private industry ³	8.3	4.4	3.8	69.9	18
Manufacturing	11.9	6.7	5.3	95.5	18
Millwork, U.S. total ⁴	19.4	10.6	8.9	152.7	17
California	18.5	8.7	9.8	190.6	19
Oregon	28.2	13.9	14.3	235.7	16
Washington	30.2	17.1	13.1	222.3	17

¹ See footnote 3 to text for method of calculation.

² Includes fatalities. Because of rounding, the difference between the total and the sum of the rates for lost workday cases and nonfatal cases without lost workdays may not reflect the

fatality rate.

³ Excludes farms with fewer than 11 employees.

⁴ Includes data for States in addition to the three States shown separately.

between those affecting the upper extremities and those involving the trunk. One notable exception to this pattern relates to the following jobs with widely disparate duties: The fingers and other upper extremities accounted for three-fifths of the cases involving carpenters, compared with one-sixth of those pertaining to truckdrivers. By contrast, back injuries and other injuries to the trunk made up two-fifths of the truckdrivers' cases, compared with one-fifth of the carpenters'.

Characteristics of workplace injuries and illnesses are useful to State and Federal agencies and to safety and health professionals in developing and maintaining work standards, in targeting accident and disease prevention efforts, in identifying areas for enforcement activities, and in developing educational and training materials for employers and employees. To illustrate, using the SDS files, the Bureau has conducted several small-scale studies of specific work injuries to assist the Occupational Safety and Health Administration (OSHA) in evaluating its safety standards on woodworking machinery and personal protective equipment.⁸

In the BLS cross-industry study on power saw accidents, almost one-half of the injured workers interviewed said that their stationary saw did not have a point-of-operation guard to help prevent contact with the blade. The same study also found that one-third of the injured were wearing no safety gear when their accidents occurred and that slightly more than one-half received no safety training on the type of saw they were using.⁹ Obviously, a separate, broad-based study of millwork manufacturing would be required to track the underlying causes of and attitudes toward the current safety and health problems in the industry, including not only accidents involving saws but also those related to manual lifting and other activities.

Industry characteristics

Several other BLS data series (and a few outside the Bureau) contain information that is useful in profiling the millwork industry. In many instances, this information sheds some light on the industry's safety and health problems.

First, the Bureau's employment and earnings series posted substantial gains in payroll employment for millwork manufacturing since the last recession ended. Sustained by buoyant housing and home repair/remodeling markets, the millwork work force in 1987 was half again as high as its 1982 recessionary level of 64,000. Predictably, the industry's injury and illness rate jumped in 1983, from 16.8 to 19.4 per 100 full-time workers, as 10,000 workers, many of

them inexperienced in woodworking, were added to industry payrolls during the first of several years of sharply higher construction activity. With some annual fluctuations, the incidence of safety and health cases in millwork manufacturing has remained at this post-recession level.

Second, millwork manufacturing continues to be more labor intensive than manufacturing as a whole and has an above-average proportion of production workers. In 1986, the industry's employers required 72 percent more production worker hours than did all manufacturing to produce an additional \$1 in value-added sales.¹⁰ And, the BLS employment and earnings series currently shows that production workers account for 81 percent of the millwork work force, compared with 70 percent of the all-manufacturing total. Also, the industry's production work force is increasingly found in establishments without labor-management agreements: almost seven-tenths of the millwork work force covered by the Bureau's Industry Wage Survey was in nonunion plants in 1984, up from slightly more than one-half recorded in the 1979 study of the industry.¹¹

Third, although part of a labor-intensive process, most millworking occupations are machine aided. The Bureau's 1984 wage survey of millwork counted 16 machine operator titles—covering sanding, sawing, and shaping, to name a few woodworking functions—among its 23 occupations selected for separate study. The same study also found that some jobs required that operators not only feed stock into their machines but also handle setup preparations, including sharpening or changing dull blades and, at times, aligning "blank" stock and millwork patterns.

Fourth, labor turnover rates, as tracked by the Bureau through 1981, typically were higher in millwork than in all manufacturing. Looking at the last 5 years for which data are available, the 1977–1981 accession rates, which include new hires and recalls, averaged 4.8 per 100 employees in millwork, compared with 3.8 for all manufacturing. The separation rate, which includes quits and layoffs, was also higher, averaging 5.4 per 100 employees a year, compared with 3.9 for all manufacturing. Another Bureau study on millwork summed up the effects of work force movement this way: "High turnover rates mean a loss of trained and experienced workers and more break-in periods required for newly-hired workers, which may contribute to retarding productivity."¹² And, more to the point of this article, high labor turnover exacerbates the safety and health problems associated with "green" workers.¹³

High labor turnover exacerbates the safety and health problems in millwork.

Accident prevention

Most types of industrial accidents are considered preventable—through classroom and on-the-job training and by following safety standards prescribed by Government, industry, and labor. Heavy lifting and other manual exertions that commonly lead to many millwork accidents, however, are difficult to control.¹⁴ The Bureau's cross-industry study of back injuries associated with lifting, for example, showed that most workers lifted without mechanical assistance, and that a clear majority of those studied were injured while lifting objects weighing at least the same as the heaviest weight normally lifted on the job.¹⁵

Outside of accidents incurred through manual

lifting, the industry's biggest safety problem, by far, involves machinery and machine guarding—topics specifically addressed by established industry and Government standards.¹⁶ Many of the hazards involved can be avoided by various preventive actions, such as providing secure anchoring for fixed machinery, supplying special tools for handling materials that are being machine processed, placing machine guards around all "nonworking" portions of saw blades, and providing easily accessible power controls. These and other preventive measures, such as installing proper wiring and other electrical system protection, are effective ways to minimize safety and health hazards, especially those facing workers in highly mechanized industries like millworking. □

Footnotes

¹ See *1982 Census of Manufactures: Millwork, Plywood, and Structural Wood Members, N.E.C.* (U.S. Department of Commerce, Bureau of the Census, 1985), table 5a, and *Industry Wage Survey: Millwork, September 1984*, Bulletin 2244 (Bureau of Labor Statistics, 1985), p. 2.

² *Employment and Wages, Annual Averages, 1987*, Bulletin 2314 (Bureau of Labor Statistics, 1988), p. 151.

³ *Incidence rates* represent the number of injuries or illnesses, or both, per 100 full-time workers and were calculated as

$$\frac{N}{EH} \times 200,00$$

where

N = number of injuries and/or illnesses;

EH = total hours worked by all employees of the industry during the calendar year; and

200,000 = base for 100 full-time equivalent workers (working 40 hours per week, 50 weeks per year).

A variety of useful incidence rates may be computed by making N equal to the number of injuries only, or the number of lost workday cases, or the number of lost workdays, and so forth. In each instance, the result is an estimate of the number of cases or days per 100 full-time workers.

⁴ The millwork industry has been designated number 2431 in the *Standard Industrial Classification Manual*, 1972 edition, 1977 supplement of the Office of Management and Budget. The industry accounts for about two-fifths of the one-quarter million workers in the broader industry group, designated number 243. The balance of 1987 employment in the latter group is distributed as follows: One-fourth each in wood kitchen cabinets and in veneers/plywoods and one-tenth in structural wood members, not elsewhere classified. The latter industry ranked among the five most hazardous, as measured by the Bureau's injury and illness incidence rate, in 6 of the last 7 years.

⁵ See *Millwork, September 1984*, table 2, for employment characteristics of States included in that study. Under "primary product," the table shows that for California and for Oregon, about one-half of the production workers were in establishments primarily making interior woodwork (standard moldings, for example), and another one-fourth were employed by wood door manufacturers; for Washing-

ton, however, door producers accounted for about seven-tenths of the millwork work force and interior woodwork firms for about one-fifth.

⁶ The Supplementary Data System (SDS) is not statistically representative of the Nation as a whole because the data cover only the jurisdictions participating in the system. In 1986, the latest year for which detailed information is available, these were the Virgin Islands and the following 22 States: Alaska, Arizona, California, Colorado, Hawaii, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Mississippi, Missouri, Nebraska, New Mexico, Ohio, Oregon, Tennessee, Virginia, Washington, Wisconsin, and Wyoming.

States differ, moreover, in the kinds of cases they require by law to be reported to workers' compensation agencies. While some States require reports for all occupational injuries and illnesses, regardless of the length of disability, others require reports only for cases of sufficient duration to qualify for indemnity compensation payments, and still other States require reporting of cases involving a specific number of lost workdays, regardless of the indemnity "waiting period." Thus, the SDS file is not a complete census of all "disabling" injuries and illnesses in the jurisdictions studied.

The SDS, however, does standardize the classification of data by using the 1972 *Standard Industrial Classification Manual*, the 1980 *Census of Population, Alphabetical Index of Industries and Occupations*, and the 1962 *American National Standard Method of Recording Basic Facts Relating to the Nature and Occurrence of Work Injuries*, published by the American National Standards Institute (ANSI) and often referred to as the Z16.2-1962 Standards, or simply, Z16.2.

⁷ The total for the 23 SDS jurisdictions is two-fifths of the annual survey estimate of 8,000 lost workday cases in millwork manufacturing in 1986. See footnote 6 for some limitations pertaining to the range of cases included in SDS.

⁸ See, for example, *Work-related Hand Injuries and Upper Extremity Amputations*, Bulletin 2160 (Bureau of Labor Statistics, 1982) and *Accidents Involving Eye Injuries*, Report 597 (Bureau of Labor Statistics, 1980).

⁹ The survey of power saw accidents was conducted by the BLS during the period from September through November 1978. Highlights and tabular results are available upon request.

¹⁰ 1986 *Annual Survey of Manufactures* (U.S. Department of Commerce, Bureau of the Census, 1988).

¹¹ See *Millwork, September 1984* and the previous bulletin for June 1979 (Bulletin 2083). Both studies only covered millwork establishments employing eight workers or more.

¹² Jack Veigle and Horst Brand, "Millwork industry shows slow growth in productivity," *Monthly Labor Review*, September 1982, pp. 21-26.

¹³ The 1986 SDS data files for current cases in 15 States that code for work experience show that about two-fifths of disabled workers had one year's time or less with their employer (or on the job) when injured. See also Norman Root and Michael Hoefler, "The first work injury data available from new BLS study," *Monthly Labor Review*, January 1979, pp. 76-80; footnote 3 in their article lists studies that

relate work injuries to work experience.

¹⁴ For a compendium of research papers on manual materials handling, see *Safety in Manual Materials Handling*, DHEW (NIOSH) Publication 78-185 (National Institute for Occupational Safety and Health, 1978).

¹⁵ *Back Injuries Associated with Lifting*, Bulletin 2144 (Bureau of Labor Statistics, 1982).

¹⁶ See, for example, *General Industry: OSHA Safety and Health Standards (29 CFR 1910)*, OSHA 2206 (Occupational Safety and Health Administration, Revised 1981), pp. 430-75. Many millwork plants did not fully comply with one or more of these machinery and machine-guarding standards, based on 397 inspections conducted by the U.S. Department of Labor's Occupational Safety and Health Administration between April 1987 and March 1989.

APPENDIX: Work injury definitions

In this article, definitions of occupational injuries and illnesses and lost workdays conform to the recording and reporting requirements of the Occupational Safety and Health Act of 1970 and Part 1904 of Title 29, Code of Federal Regulations. Supplemental information pertaining to these definitions is in the booklet, *Recordkeeping Guidelines for Occupational Injuries and Illnesses* (Bureau of Labor Statistics, 1986).

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 any 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.

1. *Lost workday cases involving days away from work* are those cases which result in days away from work, or a combination of days away from work and days of restricted work activity.

2. *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.

Collective bargaining and private sector professionals

*Researchers review the history
and current status of unionism
and assess the prospects for collective
bargaining among private sector professionals*

Sar A. Levitan
and
Frank Gallo

The fact that unionization rates are now higher among professionals than nonprofessionals—26.8 percent versus 17.8 percent in 1988¹—has led to predictions that professionals are ripe targets for unionization. However, the increase in collective bargaining by professionals is almost entirely caused by the rise in government organization. More than 1 of 3 professionals is employed by the government and 4 of 5 professionals represented in collective bargaining work in the public sector. But the influence of government unionization among professionals is waning because public sector unionization rates have declined in recent years, and the government work force is growing much more slowly than employment in private industry.

Only 1 in 10 private sector professionals bargains collectively, a proportion which has remained basically unchanged in more than two decades and is unlikely to change significantly in the foreseeable future. Associations representing physicians, lawyers, engineers, scientists, and other professionals historically have perceived little conflict of interest between management and labor, often because their members are in both camps. Hence, major private sector professional associations have shown little interest in collective bargaining.

Private sector professional associations include in their memberships individuals in the top income brackets, with little need for collective bargaining. Also, job security is taken for granted by most professionals as their unemployment rates in the 1980's have been only a third as high as those of the overall work force. Although professional associations are often concerned with educational and licensing standards, ethical codes, and advancing the state of knowledge in their professions, these activities also serve the interests of their members. For example, restricting access to a profession reduces the supply of eligible personnel, benefiting those who obtain the coveted credentials.

Overview

The labor relations policies of a professional association depend partly upon the extent that the organization has gained control over the profession. Physicians' and attorneys' associations have been extremely successful in furthering their members' interests by controlling admittance to the profession and through recommended fee schedules. Although the American Nurses' Association is the only major private sector association which bargains collectively, it has been unable to raise educational requirements for nurses. Other private sector profes-

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sional associations have concentrated on the subject matter of the profession rather than the interests of the professionals. The distinction between these types of professional associations is rooted in the history of the respective professions. Physicians and lawyers are members of professions with longstanding power to regulate professional practices, even those affecting members employed in bureaucracies such as hospitals, the court system, and large government agencies. In contrast, the engineering and scientific professions were largely created by the large industrial and government bureaucracies which employed them.

Major private sector professional occupations and their median weekly earnings in 1987 are shown in the following tabulation:

	<i>Number (in thousands)</i>	<i>Median weekly earnings</i>
Total professionals	14,426	\$518
Engineers	1,731	720
Registered nurses	1,588	482
Math and computer scientists	685	624
Natural scientists	388	615
Lawyers	672	2,173*
Physicians	514	2,298**

* Partners, 1986

** Nonfederal physicians, 1986

From 1983 to 1987, employment for engineers, natural scientists, and attorneys grew at a slightly slower pace than did overall national employment, and the number of physicians may have reached a temporary plateau. (Data prior to 1983 are not comparable because the government agencies that collect the statistics revised their occupational classifications.) In contrast, the number of math and computer scientists rose by 48 percent over these 4 years (compared with 11.5-percent growth in the total work force).

Power without picket lines

Associations representing physicians and attorneys are not thought of as labor organizations, but they are more influential in determining the compensation and working conditions of their members than are most unions. These associations employ rigorous educational requirements and entrance examinations in order to regulate the supply of professionals. They also control access to the medical and legal systems, although their power in this area has been narrowed somewhat in the last two decades. Physicians control admissions of patients to

hospitals, and insurance reimbursement is usually contingent upon physician care. Although citizens may act as their own attorneys, laws and court regulations place them at a distinct disadvantage if they do so.

Lawyers. Of the 672,000 lawyers employed in 1987, slightly more than half were members of the American Bar Association, founded in 1878. In 30 States, practicing lawyers are required by law to belong to the association. Although the association has been remarkably successful in maintaining the status and earning power of attorneys, several Supreme Court decisions have weakened its control over the profession by striking down "recommended" fee schedules and bans on advertising.² The median salaried attorney who works full time, year round earns about \$50,000 annually. Law firm partners, who account for about three-fourths of the attorneys in private practice, had a median income of \$113,000 in 1986, while associates received \$46,000.³

The American Bar Association has never considered bargaining collectively on behalf of its members, but it has gradually accepted the idea that lawyering and collective bargaining are not incompatible. In 1947, the association advised an insurance company attorney who wished to join a union of claims adjusters that the action would violate the profession's ethics. Two decades later, the association amended its Code of Professional Responsibility, stating that union membership was "not necessarily improper." In 1975, an American Bar Association committee concluded that strikes were permissible in some cases.

Union contracts cover less than one-tenth of lawyers, most commonly relatively low paid government attorneys who represent the indigent. Most of these lawyers are represented by the American Federation of State, County and Municipal Employees, the Service Employees International Union, and independent unions. A United Auto Workers affiliate, the National Organization of Legal Services Workers, represents 4,000 legal aid attorneys. In a few cases, some organizations that represent lawyers have resorted to strikes. During 1983 and 1984, staff attorneys of the federally-funded Legal Services Corporation, which assists the poor in noncriminal cases, unsuccessfully attempted to unionize. Staff lawyers of the California State Bar, represented by the Service Employees International Union, struck in May 1986.⁴

The distribution of lawyers by type of employer has remained remarkably stable over the past quarter century. In 1985, 70 percent of attorneys were in private practice, 14 percent

worked for the government, and 10 percent were employed in private industry, proportions virtually identical to those in 1960. This distribution is not likely to change in the near future. Although law firms are increasing in size, two-thirds of the lawyers in private practice labor in firms with five attorneys or less, and solo practices account for almost half of all lawyers in private practice.⁵ It is not likely that attorneys will unionize in order to advance their economic status or to win a greater measure of job security.

Physicians. More than 500,000 physicians were employed in 1987, almost half of whom were members of the American Medical Association (AMA). Founded in 1847, the Association has had a long, although not necessarily venerable, record of controlling the professional standards of health care. In 1938, officials of the AMA were indicted and later convicted for violating antitrust laws in pressuring hospitals to deny admittance privileges to doctors belonging to a pioneer health maintenance organization. Although the U.S. Supreme Court in 1943 upheld the AMA's conviction, the association successfully blocked other cooperative and prepaid group practice health plans for another three decades.⁶ The AMA maintains that its practices are necessary in establishing the highest standards. The profession has historically limited the number of entrants to medical schools and thus the supply of doctors, thereby indirectly influencing earnings. Although the AMA initially opposed Medicare and Medicaid, its lobbying efforts have ensured that physicians would be reimbursed handsomely by these Federal programs.

More recently, the Federal Government, large corporations, insurance companies, and consumer groups have challenged the AMA's domination in setting health care standards, including the costs of delivery. To constrain rapidly growing Federal Medicare and Medicaid outlays, the government has set limits on reimbursable services as well as the level of reimbursement. Rising costs also have stimulated the expansion of health maintenance organizations (HMO's), which charge flat fees rather than separate fees for each service. (Some plans charge nominal fees per visit, in addition to the monthly payment.) Full-time HMO doctors are usually salaried employees rather than self-employed. These developments have diminished the influence of the AMA, and the proportion of physicians belonging to the association has dropped from two-thirds in 1940 to less than half today.⁷

In late 1988, an assistant attorney general warned an AMA audience, "You can go to jail"

for antitrust violations. Several grand jury investigations into price-fixing are now under way, which may lead to the first criminal prosecutions against individual physicians for violating antitrust laws.⁸

In 1973, the AMA vehemently condemned collective bargaining by doctors, and its president raised the specter of "strikes against sick people, of strong arm squads, picket lines, scabs, and violence." Two years later, the organization backpedaled from its position and accepted collective bargaining for interns and residents. The AMA remains opposed to physician unionism, but has abandoned the hostility voiced in the early 1970's.

Considering their pay and working conditions, interns and residents are obvious candidates for organization. They work extremely long hours at low pay, sometimes not much more than the Federal hourly minimum wage. The Committee of Interns and Residents, formed in 1957, currently represents about 5,000 individuals in the Northeast.⁹ However, the temporary status of interns and residents makes them difficult targets for organization. While they labor hard for low pay under onerous working conditions, they are wary of jeopardizing their careers by challenging the medical establishment. A 1976 U.S. National Labor Relations Board ruling compounded the obstacles to unionizing interns and residents. The agency held that residents are students rather than employees and thus are not subject to the National Labor Relations Board's jurisdiction.

Almost one-tenth of all physicians belong to organizations that directly address the working conditions of their members; these organizations do not necessarily bargain collectively because some include self-employed physicians. Post-resident physicians first began to form unions in the early 1970's.¹⁰ Some 40,000 of the roughly 50,000 currently organized doctors are members of the Union of American Physicians and Dentists, founded in 1972. However, the organization has little in common with the traditional activities of unions because 70 percent of its members are self-employed physicians, and even the remainder who are salaried employees are not necessarily represented in collective bargaining. The Union of American Physicians and Dentists assists members in private practice by lobbying legislatures and by representing individuals in their dealings with State licensing boards and third-party insurance payers. Although the organization is considered a junior partner in the medical establishment, the AMA shows little tolerance for such competition. In a case of the pot calling the kettle black,

Almost one-tenth of all physicians belong to organizations that directly address the working conditions of their members.

the AMA charged the organization with trying to influence the compensation of self-employed physicians in violating antitrust laws.¹¹

The largest doctors' union—the American Federation of Doctors in the New York metropolitan area—has only 3,500 members.¹² Doctors employed by the Group Health Association in Washington, DC, who staged a 26-day strike in March 1986, also are represented by an independent union. In addition, the Service Employees International Union, the American Federation of State, County and Municipal Employees, and the American Federation of Teachers have organized a few doctors in their health care bargaining units.

The prospect of doctors engaging in collective bargaining on a broader scale is not promising. Physicians employed by HMO's might be thought of as likely candidates for organizing, but only about 5 percent of doctors work full time for HMO's, and most negotiate their compensation and working conditions on an individual basis. One half of all physicians continue to work in solo practices.¹³ The profession is extremely lucrative, with the average physician working outside the Federal Government earning \$119,500 in 1986. Salaried doctors earned \$91,700, compared with \$131,100 for physicians in private practice. The differential may be explained by the younger ages of salaried doctors.¹⁴ Although salaried physicians remain a minority, their proportion has increased slightly in recent years. The AMA reports that one-fourth of doctors are salaried employees. Younger doctors are more likely to be salaried employees, but as they progress in their careers, many will probably move into private practice.¹⁵

The attitudes of doctors toward unionization and their ability to organize will be influenced by their future autonomy and earning power. Thus far, the AMA has succeeded in limiting the supply of physicians, but analysts are divided as to whether this situation will continue.¹⁶ Continued aging of the population and expansion of Federal legislation to cover health care is likely to prevent a glut of physicians. However, earnings may not remain as lucrative. Pressure to constrain medical care costs by all levels of government and by other third-party payers will undoubtedly continue, which may cause physicians to defend even more vigorously their autonomy and earnings. Increases in the proportion of salaried doctors are most likely to come from the continued expansion of HMO's but given the financial losses many HMO's have experienced recently, their long-term growth rates are uncertain. More than 29 million Americans now belong to HMO's.¹⁷ Cost-cutting measures

by financially strapped HMO's could also spur some doctors to organize.

Registered nurses: a unique case

Registered nurses, the largest single occupational group among the health professions, outnumber physicians by about 3 to 1. This numerical advantage has not afforded them much influence, however, and in spite of halting steps toward the consolidation of the profession, nurses remain subordinate to physicians.

In 1896, when the American Nurses' Association (ANA) was founded, most nurses were self employed. As health institutions assumed an increased role in caring for the sick, the nursing profession shifted to hospitals. By 1950, one-half of all nurses were employed by hospitals or other health institutions.¹⁸ Low pay and onerous working conditions stimulated interest in collective bargaining. During World War II, the War Labor Board awarded ANA's California affiliate a 15-percent salary increase. Prompted by this feat, as well as the fact that union representatives were eager to enlist nurses, the ANA in 1946 reversed its opposition to collective bargaining.¹⁹

Negotiation of contracts proceeded very slowly, even after the ANA endorsed collective bargaining. In 1966, fewer than 17,000 of 200,000 nurses in the ANA were covered by contracts. The absence of State legislative authorization to bargain and the 1947 Taft-Hartley Act's exclusion of nonprofit hospitals from the protection of the law impeded bargaining. Almost three decades passed before the Congress reversed itself, voting in 1974 to apply the National Labor Relations Act to nonprofit hospitals. The law encouraged organizing efforts among nurses, and reinforced laws in several States that had been enacted during the preceding decade. Since the mid-1960's, there has been a large increase in the number of nurses covered by ANA contracts:²⁰

Year	Nurses covered	
	by ANA contracts	ANA membership
1956	5,900	181,400
1966	16,900	204,700
1974	66,000	196,000
1977	100,000+	193,400
1988	133,000	188,000

Competition by other unions, particularly the Service Employees International Union and the National Union of Hospital and Health Care Employees (both AFL-CIO affiliates), prompted ANA to engage in collective bargaining. Follow-

ing the enactment of the 1974 health care amendments to the National Labor Relations Act, more than 20 unions showed an interest in organizing nurses.²¹

The ANA vests State affiliates with the power to act as a bargaining agent for their members. Only 17 State associations do so (some affiliates have adopted and subsequently abandoned collective bargaining), limiting both the association's influence and the likelihood of dissension. Currently, a little more than half of its 188,000 members are part of bargaining units. ANA affiliates represent, under agency shop agreements, another 30,000 nonmembers, as well as an additional 5,000 health personnel not in the nursing profession.²²

In adopting collective bargaining, the ANA had to resolve several controversial issues. First, nurses' strikes provoke negative publicity and nurses concerned about denying care to the sick are loath to strike. But by the mid-1960's, nurses in New York City, San Francisco, and other cities were so frustrated by poor pay and working conditions that they resigned en masse in protest.²³ In 1968, the ANA abandoned its longstanding policy against strikes, but it stopped short of endorsing such action where it is illegal. Second was the issue of expanding the association's turf. The ANA decided to remain a nurses' organization, but allowed State affiliates to include other health care workers in bargaining units. Continued raids by other unions resulted in a 1982 ANA ban on dual membership. Finally, the ANA's endorsement of bargaining as an essential tool for nurses in "achieving and retaining control over their practice" and in ensuring "the welfare of patients and . . . the quality of care," has not settled the presumed conflict between professionalism versus unionism.²⁴

A 1983 decision by the U.S. Court of Appeals for the Second Circuit (*NLRB v. North Shore University Hospital*) threatened the ANA's collective bargaining activities. The court held that the New York affiliate's inclusion of both supervisory and nonsupervisory nurses violated Federal labor relations law, and barred the organization from representing nonsupervisory nurses.²⁵ In response to the court's decision, the association's State affiliates insulated their collective bargaining divisions from supervisory influence. The *North Shore* decision was not appealed to the U.S. Supreme Court, and the National Labor Relations Board has not found the decision applicable in any of seven subsequent challenges brought by hospitals.²⁶

The ANA remains the single largest organization representing nurses in collective bargaining, although other organizations collectively

represent the majority of organized nurses. About one-fifth of the 1.6 million registered nurses are covered by collective bargaining contracts, a proportion which has changed little in the last decade. ANA's principal competitor is the Service Employees International Union which, following a late 1988 merger with the National Union of Hospital and Health Care Employees, represents about 50,000 nurses.²⁷ The American Federation of Teachers represents another 38,000 nurses.²⁸ Possibly 100,000 nurses or more are represented by local unions or associations. During the early 1980's, the nurses' association won a higher proportion of hospital elections than any of its major union competitors.²⁹

Continued poor pay and arduous working conditions make nurses a prime prospect for further organization. Most nurses are qualified to perform some of the duties of a physician, and often are an "extension" of the physician. However, they say they do not receive the respect they deserve from doctors or the public. Also, nurses maintain that they are denied the rewards that normally come with experience in other professions.³⁰

While nurses' educational attainment and salaries have increased, their pay improved little relative to the earnings of other professionals since 1979, the earliest year for which information is available from the Bureau of Labor Statistics.³¹ The salaries of full-time nurses are comparable with teachers' pay, but nurses' work is generally more demanding. Hospitals (where more than two-thirds of nurses work) frequently require evening and weekend work, but the shift differential pay is skimpy. These conditions coexist with a serious nursing shortage, which could be compounded in future years by decreases in enrollments in undergraduate nursing programs.³² The nursing shortage should facilitate organizing efforts, but the American Medical Association has endeavored to establish a new low-paid occupation with the imposing title of registered care technologist.³³ The National Labor Relations Board also made organizing easier in 1988 by allowing eight separate categories of hospital employees to form bargaining units.³⁴ Previously, the board reviewed appropriate bargaining units on an individual basis, often resulting in protracted, costly legal battles because employers sought to lump disparate workers who were unlikely to vote for a union in a single unit. Smaller units of similar workers are more readily organized.

Several obstacles impede what would normally be fertile ground for organizing. No more than a few hospitals dominate the local labor markets for nurses. Absent competition by em-

The American Bar Association has gradually accepted the idea that lawyering and collective bargaining are not incompatible.

ployers, nurses have limited bargaining leverage. Many health care institutions employ licensed practical nurses as substitutes for registered nurses, paying them one-third less. Licensed practical nurses, currently numbering about half a million, generally receive no more than 1 year of training. Rather than increase pay to address the nursing shortage, hospitals also recruit foreign nurses.³⁵ Bargaining leverage is also diminished because 27 percent of nurses work part time, and 80 percent of nurses work in the private sector where antiunion efforts are most evident. Private sector health care employment has been rising much faster than government health care jobs, exacerbating the organizing difficulties faced by nurses.

Engineers, scientists eschew bargaining

Engineers' and scientists' associations have never attained the influence in labor relations of physicians and lawyers. Despite the importance of engineers and scientists in an advanced economy, and generally favorable public attitudes towards these professionals, specialization has fragmented their associations and limited their power. Moreover, engineering and scientific societies have concentrated on the subject matter of their professions and largely ignored labor relations questions.

Engineers. Engineers are the largest single professional occupational group other than teachers. The first engineering societies were formed more than a century ago and many others followed, but attempts to form a united engineers' society have not been successful. The National Society of Professional Engineers numbers 75,000 members—less than 5 percent of engineers—in diverse specialties. A broad variety of associations address the professional interests of mechanical, civil, aerospace, mining, electrical, metallurgical, and petroleum engineers. Unlike doctors, who helped create health care institutions and have retained influence over them, most engineers work for large organizations in varied industries and consequently never attained an independent source of power. None of the specialty associations has either engaged in collective bargaining or merged with a union, although some engineers working for a single employer have banded together to improve their working conditions. Currently, unions represent approximately one-tenth of engineers, a proportion which has not changed appreciably during the past decade.

The expansion and bureaucratization of the profession during World War II spurred organizing efforts. The reluctance of engineers to be

included in blue-collar unions was also instrumental in the formation of the first engineering unions. Until the passage of the 1947 Taft-Hartley Act, the National Labor Relations Board sometimes placed employees with divergent skills, including professionals, in a single bargaining unit. To maintain their identity and separate bargaining, engineers formed exclusive unions, anticipating more favorable rewards by separate bargaining. For example, the Association of Professional Engineering Personnel states explicitly that it was formed "for the purpose of preventing the engineers [employed by Radio Corp. of America (RCA)] from being included in various labor organizations being formed at the corporation during the early 1940's."³⁶ Altogether, 17 independent engineering unions were organized in the immediate postwar period. The Taft-Hartley Act's prohibition on including professionals against their will in broader bargaining units of nonprofessionals halted the growth of engineering unions formed to avoid mixing with the hoi polloi.

Several independent engineers' unions banded together to form the Engineers and Scientists of America, a confederation representing some 50,000 engineers in 1952. These organized engineers expressed their antipathy toward other unions saying, "We are not part of the labor movement nor have we any particular kinship with those who are."³⁷ By 1961, the federation was disbanded, its ranks depleted by raids of other unions, decertifications, and internal dissension over whether to admit technicians.

During the past three decades, employment of engineers has been subject to the changing fortunes of military spending and space exploration. The space program and the Vietnam War boosted demand for engineers in the 1960's, but the curtailment of these endeavors in the 1970's generated layoffs and relatively high unemployment. Job insecurity prompted organizing efforts, but only 2,500 engineers joined unions in the 1970's, and the largest unit was decertified within 2 years.³⁸ Job opportunities for engineers subsequently improved in the late 1970's and 1980's.

The difficulties of the early 1970's stimulated engineering associations to become more concerned with job security issues. In 1973, the National Society of Professional Engineers led a joint effort of 20 engineering associations to establish employment guidelines on salary and layoff questions. However, a survey by The Conference Board found that only one-third of the firms employing engineers claimed to have received the guidelines, and only half of those reviewed them.³⁹ The National Society of Pro-

Attempts to form a united engineers society have not been successful.

Professional Engineers was founded during the Great Depression in response to the failure of other engineering associations to address unemployment issues, but the society's policy guidelines state that "collective bargaining is not the desirable, effective or appropriate mechanism to achieve the objectives of professional employment practices." A former society president probably reflected the sentiments of the membership when he asserted, "One cannot be a professional and belong to a union."⁴⁰

In 1968, 10 engineering unions which had survived since the 1940's banded together to form the Council of Engineers and Scientists Organizations. Its primary function is to lobby for its constituent autonomous units. The Seattle Professional Engineering Employees Association, which represents approximately 24,000 Boeing employees equally divided between engineers and technicians, is the largest affiliate. Other affiliates represent employees of the Tennessee Valley Authority, the city of Los Angeles, McDonnell Douglas, Lockheed, and General Electric. The Council, which has 70,000 to 80,000 members, has experienced little growth in the past decade.⁴¹

The International Federation of Professional and Technical Engineers (IFPTE) is an AFL-CIO affiliate. Initially dominated by engineers and technicians in the private sector, the union's membership has changed dramatically during the past 15 years. Many of its private sector members have left the organization, and its organizing director claims that it has "become extremely difficult to even find leads" in the private sector, but there is little evidence that the established unions, including the Federation, have tried.

The union's current 23,000 members make up a peculiar amalgam of mostly government workers, including engineers (7,000 at NASA), blue-collar workers (almost a third of dues payers), and even scholars at the Library of Congress' Congressional Research Service. During one campaign, the International Federation of Professional and Technical Engineers failed to recruit civil engineers associated with a highway project but successfully organized the road crews.⁴² A Service Employees International Union (SEIU) local in Michigan represents approximately 1,500 State engineers and scientists, and the New York Public Employee Federation, affiliated jointly with the SEIU and the American Federation of Teachers, may include three times as many engineers and scientists.⁴³

The post-World War II interest by engineers in collective bargaining has long waned, and currently they display little inclination to engage in union activities. According to the founder of

the Council of Engineers and Scientists Organizations, the average engineer has a negative image of unionism. The IFPTE organizing director supports this view, maintaining that engineers are "basically conservative people who identify themselves with management."⁴⁴ A 1970's survey also indicated that engineers as well as scientists view unions negatively.⁴⁵

However, engineers who have joined unions have been satisfied with the arrangement, which explains the longevity of the independent engineers' unions.⁴⁶ By boosting salaries, protecting against dismissals, and defending seniority in ways that are compatible with engineers' views of professionalism, the independent unions have demonstrated that collective bargaining is feasible for engineers. But it is not likely that many engineers will band together to bargain collectively so long as other professionals in the for-profit sector eschew unionism. Management opposition and engineers' identification with management suggest that engineering will remain largely a union-free profession.

Without clear educational or occupational standards, it is not feasible to regulate entry into the engineering profession, as the American Medical Association and the American Bar Association have done. A third of engineers do not have degrees in engineering, and many with a more advanced educational background report that they do not use much of what they have learned. Unlike lawyers and, until recently, physicians, engineers must contend with the power of large firms. Moreover, the ethical precepts which help to unite the professions of law and medicine are absent in engineering. Nor do salary scales provide grounds for dissatisfaction.⁴⁷ Historical comparisons indicate that engineers' salary trends have been comparable with other professions. Unless the profession is jolted by the kind of major economic and political changes which occurred in the early 1970's, the status quo is likely to characterize labor relations in engineering.

Scientists. A plethora of associations represent natural scientists in different specialties. Of these, only the most numerous occupation—chemists—has demonstrated limited interest in labor relations issues. The American Chemical Society (ACS) represents 130,000 of the nearly 200,000 chemists. Paralleling the experience of the engineering societies, ACS sponsored employment guidelines in response to widespread terminations in the early 1970's. The guidelines cover conditions of employment as well as termination, and include a recommended minimum of 4 weeks advance dismissal notice plus severance pay. The society investigates in-

If scientists decide to bargain collectively, they will probably do so either as academics or government employees.

stances where groups of chemists are terminated and publicizes its findings twice annually in its news magazine. In addition, it also conducts independent investigations when members experience problems with their employers. This assistance differs from union grievance procedures in that the society acts as a neutral investigator rather than as an advocate for members. The potential publicity accorded to the results of the investigation may deter some arbitrary action, but the society uses its investigative activities sparingly. It accepts only about a dozen cases annually, and in about a fourth of these the employer refuses to allow the society to intervene.

The membership has shown little interest in collective bargaining and seems content with the current limited agenda. According to the head of the American Chemical Society's department of professional services, members who are disgruntled with the organization favor tactics similar to those of the American Medical Association, such as restricting the number of chemists. However, scientists' associations would have difficulty following models set by the American Medical Association and the American Bar Association because of the low educational attainment of many scientists. Almost half of all chemists and biologists have no more than a bachelor's degree. The ACS governing board and council have not considered it appropriate to take a position on collective bargaining, and apparently there is little clamor by members to take a stand on the issue.

In short, there is little evidence that the American Chemical Society or other associations of scientists will resort to collective action to improve working conditions. A society official noted, "If chemists aren't engaging in collective bargaining, it's not likely other scientific associations would."⁴⁸ An impediment to bargaining is the fact that a fourth of natural scientists are managers and administrators; undoubtedly a much larger proportion rise to these positions by the end of their careers.

Some chemists employed in academia or government are members of unions, but they have no independent organization. If scientists decide to bargain collectively, they will probably do so either as academics or government employees. Three of five life scientists and 2 of 5 physical scientists work for either educational institutions or the government.⁴⁹

Problems and prospects

The American labor movement has had limited success in enticing professional organizations to join the house of labor and individual private

sector association members have, with few exceptions, shunned collective bargaining. The only organizations of professionals that are part of the AFL-CIO—the American Federation of Teachers, the Newspaper Guild, Associated Actors and Artistes, and the American Federation of Musicians—were organized prior to World War II.

To date, the American Nurses' Association is the only major professional association to adopt collective bargaining. Doctors and lawyers are primarily self-employed, with no more than about 1 in 4 working as salaried employees. Historically, these professions have been represented by powerful associations which, despite recent challenges by government, business, and consumer groups, remain much more effective than unions in advancing the economic well-being of their members. The fragmentation of engineering societies by specialty has prevented any single association from attaining the influence of either the American Medical Association or the American Bar Association. Virtually all engineers are salaried employees, many of whom work for large corporations or government agencies. But the fact that almost a third of engineers are managers (and many more become managers as they advance in their careers) has inhibited collective bargaining, as younger engineers can see the benefits of acquiescing to existing labor-management relations. Strident opposition to unions by private sector employers also helps explain why the adoption of collective bargaining by professional associations has been concentrated in the public sector.⁵⁰

The issue of "professionalism" remains a stubborn impediment to bargaining by associations whose memberships are concentrated in the private sector. The stumbling block is that many professionals believe that bargaining would cause conflict between managers and professionals. Proponents of bargaining counter that some conflict of interest is inherent in an employment relationship, and that professionals are hurting themselves in believing otherwise.⁵¹ But beyond a declaration in favor of collective action, the AFL-CIO has not undertaken a serious drive to organize professionals, possibly reflecting a belief that such an attempt would be futile.

The debate over perceptions about the relative costs and benefits of maintaining the status quo or adopting collective bargaining cannot be readily resolved. Some proponents of bargaining argue that employers have whittled the influence of professionals so much that they are becoming "proletarianized." While there is little evidence to support this proposition, it is clear that management, not professionals, generally

controls decisions concerning pricing, purchases, and the allocation of resources within the firm.⁵²

Professional associations have encountered not only the difficulties common to organizing nonprofessional workers, but other unique barriers as well. The line of demarcation between supervisory and subordinate professional workers is frequently difficult to draw, resulting in both legislative and judicial definitional inconsistencies and internal association problems. Employers have frequently emphasized the dichotomy between supervisors and rank-and-file workers, successfully persuading legislators, regulatory agencies, and the courts to impede employee efforts to band together to improve working conditions and job security. The 1947 Taft-Hartley Act excluded supervisors from the jurisdiction of the National Labor Relations Act, and the U.S. Supreme Court subsequently broadened the exclusion to include managerial employees who do not necessarily supervise other workers. Federal laws, administrative interpretations, and court rulings have created widespread confusion about the definitional differences between professionals, managers, and supervisors. In essence, according to the concept enunciated by the U.S. Supreme Court in the *Yeshiva* case, unions too successful in controlling their working environment are considered part of management, and therefore are not entitled to the protection of laws regulating collective bargaining.⁵³ This catch-22 doctrine impedes collective action by professionals in securing workplace rights afforded to other employees.

The transition to collective bargaining would mean sweeping and probably unsettling changes in professional associations. Many associations have appealed—at least publicly—to the traditional high-sounding ideals of the profession. Appeals for pay increases and improved working conditions fit uneasily into such rhetoric, and many members are especially sensitive about their public image. Turbulence would also likely occur because the elite members dominate most professional and employee associations. The National Education Association's acceptance of collective bargaining democratized the organization and placed the "little people" on top. The Association's administrators and classroom teachers clashed, and the huge majority of teachers rejected the notion that collective action was antithetical to professional aspirations. By the early 1970's, most school administrators had left the National Education Association, a lesson which would not be lost on the leaders of current private sector associations.

Unions have shown little inclination to proselytize private sector professionals. Public approval of unions has increased possibly signifying new organizing opportunities. During the past decade, the proportion of adults who looked favorably upon unions has risen from 55 to 61 percent, and the proportion rating unions negatively has declined from 35 to 25 percent. In the absence of more activist union leadership, however, members of professional associations are likely to depend in the foreseeable future on individual rather than collective bargaining to advance their interests. □

Footnotes

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How Poland's Solidarity won freedom of association

Through 9 years of dramatic struggle, Solidarity and its supporters held firmly to no compromise on the basic right to form independent and self-governing unions

Robert A. Senser

In the summer of 1980, a trade union strike committee, initially representing workers in some 20 state-run enterprises in the Gdansk region on Poland's Baltic coast, debated for days the formulation of a series of demands—most of them beyond the province of local authorities—to make on the Communist Polish government. The final list, posted in the huge Lenin Shipyard in Gdansk, contained 21 demands. The first was the most important:

Recognition of the Free Trade Union, independent of the Party and employers, based on Convention 87 of the International Labor Organization, referring to the freedom to form trade unions, which has been ratified by the Polish People's Republic.¹

The regional Interenterprise Strike Committee, which soon was popularly called *Solidarity*, had other important demands, including increases in wages and benefits, recognition of the right to strike, union access to the media, and release of political prisoners—none of them as sensitive as the one for the right of unions to exist independent of the state-party apparatus. The cry for freedom of association for workers had been heard before in Communist Poland, but never as resonantly as from Gdansk and other industrial centers in August of 1980.

Faced with a series of sit-in strikes in Gdansk and elsewhere in the country, the government quickly bowed to Solidarity's request not only for the appointment of a high-level government negotiating team but also for Gdansk rather than a Warsaw ministry as the negotiating site. The two sides talked on the Lenin Shipyard equivalent of a stage: a large room with one wall forming a glass partition, on the other side of which hundreds of workers and dozens of Western reporters watched, while thousands of shipyard workers outside listened to the proceedings

broadcast over loudspeakers.

Throughout the negotiations and the long struggle that followed—first for legalization and then for survival underground—Solidarity and its allies were unyielding on the primary demand, freedom of association. At home and abroad, Solidarity heard doubts expressed about the wisdom of this tenacity. In August 1980, even some of its own advisors, hastily summoned from Warsaw to bolster its negotiating team, thought the demand for freedom of association was too far-reaching, one that a Communist government could never live with, and that, therefore, it was worth trading for less radical reforms. The committee rejected the idea.

The Gdansk Accord

The defiant mood of the workers in Gdansk and elsewhere, as well as a divisive crisis in the uppermost ranks of the ruling Communist Party (known as the Polish United Workers' Party) made the government representatives at Gdansk, headed by a Deputy Prime Minister, extremely anxious to settle. They quickly agreed to a very generous wage increase and other concessions in the hope that these would satisfy the strikers. The government negotiators also promised reforms of the party-dominated Central Council of Trade Unions (CRZZ), as it was then called, to make it more responsive to workers, but Solidarity held firm for its central demand.

Finally, on August 31, the two sides signed the historic Gdansk Accord. On the accord's first page, the government pledged to "guarantee and ensure complete respect for the independence and self-government of the new trade unions,"² and reinforced that pledge with other language, for example, basing the creation and operation of the new unions on guarantees

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found not only in International Labor Organization Convention 87 on the freedom of association, but also in ILO Convention 98 on the right to organize and to bargain collectively. (Both conventions had been ratified by Poland.)

The official name of the new organization (in English) became the Independent Self-Governing Trade Union Solidarity, or NSZZ Solidarnosc for short in Polish. Originally, it was to be called a "free trade union," after the term used in earlier Baltic coast organizing attempts and in the first item on the Gdansk strike committee's list of demands, but this wording was dropped after a government official said that the word "free," as part of the Western labor world's terminology, might irritate Soviet authorities.³ Craftily, Solidarity chose a name that is actually more explicit.

No matter what its name, the existence of Solidarity, even apart from the mass following it attracted, challenged the hegemony of Poland's state-party establishment, including its labor arm. As Jacek Kuron, a leading Solidarity advisor, has pointed out, a Communist state like Poland asserts the right to a monopoly on organization, information, and decisionmaking in a nation, and bases that right on the claim that, as a workers' state, it alone is the legitimate representative of workers.⁴ Thus, it would have been painful for the government to sign a document that unequivocally violated its basic tenet.

After trying unsuccessfully to keep Solidarity within a "reformed" labor organization and, thereby, within the party fold, government negotiators switched to a face-saving formula. Both sides agreed to a subordinate clause "recognizing that the Polish United Workers' Party play the leading role *in the state*" [emphasis added].⁵ Solidarity's interpretation of the compromise emphasized the last three words, "in the state," that is, the party did indeed have a leading role, but a restricted one that did not embrace "civil society," the network of autonomous bodies (including unions) outside the state's jurisdiction—a distinction heretical to the regime.

The ambiguous language removed the last roadblock to the emergence of the first officially recognized free trade union movement in the Communist world. Not everyone in Solidarity was happy with the compromise. In a Gdansk hall where workers learned of this and related language in the new agreement, a furious dispute broke out over whether Lech Walesa, the strike committee chairman, and their other representatives had betrayed the workers by approving a concession that could continue Communist control of worker organizations. The revolt ended only after Walesa got up on a table and spoke forcefully: "Listen, we're going to have our own building, with a large sign over

the door saying INDEPENDENT SELF-GOVERNING TRADE UNIONS."⁶

Fight for recognition

The agreement at Gdansk (and a less-publicized one at Szczecin on the East German border) became a pattern for settling strikes and near strikes throughout the country. Leaders of local founding committees of independent unions—35 at the start—moved swiftly to deal with organizational issues. Little more than 2 weeks after the signing at Gdansk, they agreed to apply jointly for official registration as NSZZ Solidarnosc. They established a new national coordinating commission, unanimously choosing Walesa as chairman. They formalized a structure along regional lines, lines that contrasted sharply with that of the official party-dominated central trade union council. Following the model of the U.S.S.R. labor organization, the Polish state-labor organization had its membership divided into branches by industrial sectors—the metal industry, railways, and so on—all subordinate to a Warsaw top echelon nominated and controlled by the party. By contrast, Solidarity's regional structure grouped members geographically from all kinds of occupations, blue collar and white collar. The local origins of its leaders in the regional structure gave visible proof for the "self-governing" claim of its name. Furthermore, in the thinking of its lead-

Solidarity chronology

Aug. 14, 1980	Workers at Lenin Shipyard in Gdansk launch sit-in strike, triggering strikes elsewhere
Aug. 31, 1980	Government signs Gdansk Accord providing for freedom of association
Sept. 24, 1980	Solidarity files registration application in Warsaw court
Oct. 24, 1980	Court imposes unacceptable condition on registration of Solidarity
Nov. 10, 1980	Supreme Court registers Solidarity
September-October 1981	Solidarity holds national congress in two sessions between September 5 and October 7
Dec. 13, 1981	"State of war" (martial law) declared forcing Solidarity underground
Oct. 8, 1982	Parliament formally delegalizes Solidarity
November 1984	Regime sets up national organization of officially sponsored unions (OPZZ)
April/May and August 1988	Two major strike waves cause government to agree to hold "round-table" talks with Solidarity
Apr. 5, 1989	Government and Solidarity sign agreement to restore union's legal status and to hold elections for a new parliament
Apr. 17, 1989	Warsaw court restores Solidarity's legal status
June 4 and 18, 1989	Solidarity-endorsed slate wins all but 1 of 261 parliamentary seats it was allowed to contest

ers, the regional structure would serve as a shield against the party's asserting its traditional "leading role."⁷ Meanwhile, the regime held on to its own ideas.

Compared to the speed with which Solidarity was adapting itself to the new situation, the large bureaucracy of the state-party-industrial complex dragged its heels in implementing many points in the Gdansk accord, thereby causing mounting doubts about the government's sincerity. Not surprisingly, the first major conflict flared over Solidarity's legal recognition as a trade union, which in Poland requires judicial approval.

A Warsaw judge took a month of reflection and consultation to announce his decision on Solidarity's application. He was willing to approve the registration, but only with a condition unacceptable to Solidarity: altering Solidarity's constitution by inserting words paying deference to the "leading role" of the Polish United Workers' Party. In his autobiography, Walesa writes that Solidarity saw this action "as an indication that the independent and self-governing trade unions were to be subject to the control of party officials: in other words, that we were back where we started."⁸

In reaction to the decision, Solidarity threatened a nationwide protest strike for November 12. There was no doubt that it could carry out the threat. Once again, in private talks with Solidarity, the government worked out a face-saving formula which allowed Solidarity to be registered by the Supreme Court on November 10, 1980: The objectionable words were removed from the body of the constitution, but seven paragraphs excerpted from the beginning of the Gdansk Accord—including the words about the party's leading role—were added as an appendix.

The prolonged controversy contributed to a growing polarization, although, as later became known, the government had already secretly been making plans for a military crackdown.⁹ Disputes, major and minor, local and national, were so numerous that Walesa was on the road almost constantly over a 13-month period. His travels stopped abruptly in December 1981.

Ominously, Poland's Communist neighbors, at a Warsaw Pact summit meeting in Moscow early that month, assured the Polish government of "fraternal solidarity and support" in overcoming its "present difficulties."¹⁰ A week later, on December 13, 1981, the Polish Prime Minister, General Wojciech Jaruzelski, imposed a "state of war" (equivalent to martial law). As part of a well-planned takeover that required months of secret preparations, the military arrested almost all of Solidarity's top leaders, including Walesa, and shut down all their offices. Subsequently, in

October 1982, the Polish Parliament rubber-stamped the dissolution of Solidarity, and opened the way to the confiscation of its property a short time later.¹¹

After forcibly reasserting the regime's monopoly, leaders of the state-party apparatus sought mightily to win popular support. Defensively, they justified the suppression by painting Solidarity as a hopelessly radical threat to the nation. At the same time, they took the offensive with conciliatory tactics that authoritarian regimes often employ to woo public opinion after brutal repression.

They made concession after concession, over the months and years that followed, often on demands they had previously rejected. They allowed the official and nonofficial press a degree of freedom unmatched in the Communist world. They sharply relaxed travel restrictions to the West. They permitted an expansion of private enterprise in a few selected areas of the service sector. They granted new privileges to the Catholic Church, Solidarity's ally. They set up consultative bodies, designed to appear as caring hands of a regime reaching out to the population. They increased the wages and benefits of the workers. They even dangled before Walesa the possibility of a top job, such as the presidency of the government-sponsored labor organization. Later, they allowed Walesa to travel within the country, while monitoring his every move.

The Communist leaders even tolerated the gradual proliferation of new private groups of all kinds outside the party's control, but drew the line when it came to self-organization of workers. The government steadfastly refused to recognize Solidarity or even to dignify it by having an official meeting with its representatives.

With Solidarity pushed underground, its activists persecuted, and a new state-party labor arm (now called the Polish Trade Union Alliance, OPZZ) established in Solidarity's old offices in November 1984, even some West European labor leaders thought it wise to "face reality." Their visits to Warsaw conferred respectability on the new labor organization and lent credibility to the government line that Solidarity, after providing an interesting phase in Polish history, was now dead, and that it made no sense for foreigners to try to give support to a movement that no longer existed. The government spokesman, Jerzy Urban, repeatedly scoffed at foreign press interest in Lech Walesa and Solidarity by calling him "the former leader of a former trade union."¹²

Support from Western countries

From its birth, and continuing in its days of adversity, Solidarity received vigorous support

Solidarity and its allies were unyielding on the primary demand, freedom of association.

from the American Federation of Labor and Congress of Industrial Organizations (AFL-CIO). Lane Kirkland, AFL-CIO president, was scheduled to lead a fraternal delegation to Solidarity's first national congress in September 1981, but, shortly before his planned departure, he learned that the Polish government had refused to grant visas. In his speech, read to the congress in his absence, Kirkland lauded Solidarity for its pioneering, and declared:

Freedom of association, of assembly, and of expression are the indispensable means by which the people of each nation can decide for themselves which forms of social and economic organization are most appropriate to their needs, their traditions, and their aspirations. Respect for workers' rights does not automatically flow from any economic system. It humanizes all economic systems.¹³

Though barred from Poland then and again in 1987, the AFL-CIO was able to demonstrate its solidarity with Solidarity, most concretely by assuring a stream of financial contributions, from its own resources and from special appropriations that it helped obtain from the U.S. Congress.

To the regime's great discomfort, the "Polish Pope," John Paul II, added his moral prestige to Solidarity's cause. In an encyclical letter (titled "On Human Work") distributed worldwide in September 1981, John Paul restated the moral case for trade unions and specifically called for "new movements of solidarity of the workers and with the workers."¹⁴ (He spelled solidarity with a small "s" but used it 10 times just to get his point across.) That did not prevent the imposition of martial law, but, in heavily Catholic Poland, the Pope's words, as well as photographs of Walesa and the Pope in friendly conversation, lent a powerful legitimacy to the Solidarity movement.

Blunter guidance came from a world leader not known as a union crusader, Britain's Prime Minister Margaret Thatcher, who visited Poland in early November 1988. At a state banquet in Warsaw, she turned to General Jaruzelski and, after referring to his plans for reforming Poland's badly ailing economy, said:

You will only achieve higher growth, only release greater enterprise, only spur people to greater effort, only obtain their full-hearted commitment to reform, when people have the dignity and enjoyment of personal and political liberty, when they have the freedom of expression, freedom of association, and the right to form free and independent trade unions.¹⁵

Although Solidarity was still officially outlawed, Thatcher visited Solidarity leaders in Gdansk, placed flowers at a Solidarity monument just outside the Lenin Shipyard, and, with

Walesa at her side, told a throng of 5,000 Poles: "Nothing can stop you."¹⁶

The most important element in turning events around in Poland was the firm, continuing loyalty of Poland's workers toward Solidarity. In April and May and in August 1988, two waves of strikes and demonstrations, the second larger than the first, all demanded that the government restore freedom of association by allowing Solidarity to operate openly. Once again, in the Lenin Shipyard in Gdansk, a thousand workers surrounded by riot police chanted: "There is no freedom without Solidarity."

Another strong pressure on the Polish regime was the refusal of the United States, other Western nations, and international agencies to grant debt-ridden Poland much-needed economic assistance unless it first called off its war on Solidarity. As a result, General Jaruzelski, putting his own job on the line to overcome opposition within the party, finally agreed to "round-table" talks with Solidarity. After 2 months of dialog, the two sides, on April 5, 1989, signed a series of accords, almost 400 pages long, covering sweeping political and economic reforms.¹⁷ In the key reform, the regime recognized Solidarity—and without any provisos about the party's "leading role." Solidarity supporters sang the national anthem, "Poland Is Not Yet Lost," in a Warsaw courtroom April 17 after a three-judge panel officially restored the movement's status as a legal entity.¹⁸

Political role

In the earlier Gdansk Accord, Solidarity had willingly stipulated that it would not "play the role of a political party." Its leaders felt they had enough to do building up a trade union movement—a view that pleased and reassured the party at that time. But, facing the realities of 1989, the party reversed itself. Now the regime needed Solidarity. In the round-table talks, it was the regime that pressed a political role on Solidarity. As the price for reinstating its legal status, Solidarity agreed to a limited amount of powersharing, including participation in the quasi-free June 1989 parliamentary elections, where it captured all but 1 of the 261 seats it was allowed to contest.

Why, some asked, didn't Solidarity take advantage of the worsening crisis by edging the Communist Party completely out of power? For one thing, such a strategy probably would have tipped Poland into an abyss of chaos and violence. In its long struggle, Solidarity had deliberately hewed to a policy of nonviolence; it was only the military regime that had resorted to violence, including killings, and it still had the power to order tanks out on the streets.

The government pledged to "guarantee and ensure complete respect for the new trade union."

More fundamentally, as Jacek Kuron explained to a Washington conference of the National Endowment for Democracy in May, a totalitarian regime is "an artificially created system," and destroying it overnight simply "creates a new system that is artificial," since there is no institutional infrastructure sufficiently developed to replace it. "A democratic revolution must be done in a gradual process."¹⁹

As an example of this approach in the labor field, Solidarity, while waging vigorous organizing campaigns against its government-sponsored rival, has not demanded its suppression. In fact, in the April Accords, Solidarity had to swallow the government's insistence that the state labor organization keep buildings and other assets confiscated from Solidarity. However, the government pledged to help find scarce office space for Solidarity's local, regional, and national units. Further, the government agreed to reinstate some 50,000 Solidarity activists fired from their jobs during and after martial law and to reinstate Rural Solidarity, also previously outlawed.

New challenges

Solidarity's triumph creates new challenges for it. It must cope with an entrenched Communist bureaucracy of 900,000 privileged members. Like unions in similar circumstances elsewhere, it must strive to mesh its union program with that of its "Labor Party," the members of parliament who won election on the Solidarity-endorsed ticket. It faces increased competition from a newly aggressive state labor organiza-

tion, which in the round-table talks opportunistically pressed hard for wage indexation at 100 percent of the inflation rate, whereas Solidarity accepted 80 percent. At the same time, Solidarity will have to temper the exaggerated expectations of its constituents while resisting the excessive zeal of economic reformers advocating belt-tightening measures for labor. Organizationally, in order to deal effectively with economic issues that cross geographic borders, Solidarity will have to adapt a structure that is essentially regional to one that is also sectoral. A move in that direction has already begun with the creation of a nonregional union for hospital workers.

Solidarity expects its ranks to grow from the May level of 1 million to around 8 million, but not at the rapid pace of the heady 1980-81 era. The mood today is less euphoric, partly because of worries that the Communist regime could once again break a solemn agreement. Still, Solidarity quickly made strides not believed possible a few months earlier, the most publicized of which was its overwhelming success in the June parliamentary election.

Timothy Garton Ash, author of the *Polish Revolution: Solidarity* and one of the most perceptive writers on Poland in the English language, revisited the country this spring, and after observing how Solidarity was thriving in the new air of freedom, wrote: "I have to pinch myself to make sure I'm not dreaming."²⁰ Tempering his awe, he added that the "great adventure" on which Poland has embarked is "perilous,"²¹ among other reasons because the country's new-found freedom remains dependent on the restraint of those in Moscow (and Warsaw) who still control the guns and tanks. □

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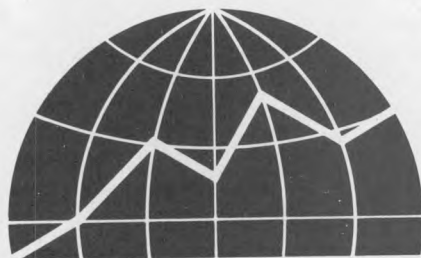
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Foreign labor developments



Employee representation on U.S., German boards

Everett M. Kassalow

In recent years, a small number of U.S. companies have accepted employee or union representation on their boards of directors.¹ However, the practice of employee board representation has had a fairly long history in the Federal Republic of Germany, dating back to the end of World War I. Employee board representatives from both countries met in the fall of 1988 for an exchange of recent experiences in "board-sitting."² This report compares the employee board representation system in Germany with that of the United States by viewing their structures, relationships with unions, and influences on management.

Structure

Germany. The origins of employee board participation differ greatly between the United States and Germany. In Germany, legislation gives employees the right to name board directors. Three systems exist, varying by size of company or industry, or both.

In the oldest system, employees have parity with stockholders;³ they nominate the same number of persons to the board as do stockholders. This system covers the coal and steel industry. In the second system found in companies with 2,000 workers or more, employees have "near parity" with stockholders. Although em-

ployees in these companies elect as many board representatives as do stockholders, one employee representative must be a managerial employee. Moreover, the chairperson of the board, who casts an extra vote in case of a tie, is de facto chosen by the stockholders.

The third system consists of companies with 500-2000 employees. These employees nominate one-third of the board members; the stockholders choose the remainder. All of the German participants agreed that although the one-third arrangement limits real power for the employees, it provides access to company information which might not otherwise be available to them. However, employee representatives are sometimes kept off of key subcommittees, bypassed for decisions because such decisions had been previously decided informally in stockholders' representatives caucus meetings, and so forth. Still, they are able to bring employee problems to the boards' attention, and in many companies, the other two-thirds do try to reach a consensus with the employee representatives.

This striving for consensus rather than having split votes seems to be a characteristic of all three types of board representation. But except for coal and steel industries where full parity is established, decisions tend to be dominated by stockholders' views, although employee representatives' pressure does have influence, according to the German participants. In recent years, new economic difficulties, competitive pressures, and restructuring of many companies do seem to lead to somewhat more division between employee and stockholder representatives.

Some companies, outside of coal and steel, try to avoid having any national union officials serve on their boards, preferring instead company employees. The German Federation of Trade Unions fears that not having a union official on the board can lead to too much "plant-only" concentrated labor relations patterns. (In Germany, collective agreements were usually negotiated at the industry level, nationally, or regionally, depending on the industry.)

United States. In contrast with the legal foundation supporting employee board membership in Germany, such membership in the United States is very much a product of the recent "concession era" of collective bargaining. A number of companies accept employee board representation, or are pressed by unions to do so, as a trade-off for concessions made by unions and workers to companies in economic distress.

In some cases, the American employees owe their positions on the board to Employee Stock Ownership Plans under which they could name representatives to the company boards (as well as become stockholders). Without union pressure, it was pointed out, Employee Stock Ownership Plans often do not provide for employee board membership. German participants were surprised to learn how widespread and growing Employee Stock Ownership Plans were in the United States. One U.S. union participant indicated that Employee Stock Ownership Plans had become one of the accepted tools his union was prepared to use when faced with the prospect of plant (or company) closures. Of course, the national union

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insisted local unions proceed with caution to plants or companies that were beyond saving.

Generally speaking, U.S. employee representation on boards appears limited to one to three members—a modest minority. An exception would be at Weirton Steel (two of whose board members participated) where employees now own all of the stock (under an Employee Stock Ownership Plan buyout). There is provision for eventual full nomination of the board by employee stockholders. (The company's precarious position at the time of the employees' purchase included provision for board representation for creditors, suppliers, and several outsiders, as well as a minority of union nominees.)

A few U.S. airlines, in which a number of craft unions have collective bargaining representation, have gained board representation in return for economic concessions. In these cases, seats are provided to several unions, or one rotating seat is provided for the unions. On occasion, there have been sharply different positions taken on critical issues by the different unions, and this has weakened their influence.

For the most part, U.S. participants have not found great disadvantages in their relatively small representation on boards. The economic distress of many of the companies involved has led their board members and managers to rely on employee board members to help enlist greater cooperation from all the employees when dealing with such issues as concessions, work rule changes, and so forth. In any event, access to board membership provided large amounts of information, and this in itself was considered an important gain to employee representatives. One union participant noted that in one company, the union negotiated a collective agreement which established many employee/management committees, scattered across several plants. The purpose of these joint committees was to improve the quality of work, productivity, employee involvement, and so forth. However, in his experience, the agreement did not provide as much access to company information and top-level policies as did a board seat.

One U.S. participant, however, stated that he had served on boards in which the company chief officer, who was also chairperson of the board, packed that board with his own appointees (who in turn, always voted with the chair); used board subcommittees to bring matters before the whole board which, in effect, had already been decided; and took other steps as well to isolate the employee board member. But this seemed to be the exception, so far as U.S. employee participants at this meeting were concerned. (The individual who cited that case had more favorable experiences on a couple of other boards on which he was serving as union-appointed employee representative.)

Other differences

In the U.S. board representation system, the chief operating officer of a company is almost always a board member and sometimes, its chairperson. In the German systems, top operating management is clearly separate, having no seat on the board. However, top management must be approved by the board. This seems to allow greater independence for the board.

While no absolutely clear policies had been enunciated by the U.S. Teamsters and the Steelworkers unions (representatives named to boards by both these unions were present), it did appear that these two organizations preferred to name sympathetic "outsiders," rather than active trade unionists to boards of directors. This position is taken to avoid possible confusion of management and union roles, and possibly to avoid any legal problems arising out of charges of collusion or antitrust violation. Still, a couple of current officials of the Steelworkers union are serving on boards of directors. (One such employee director was appointed at the company's insistence, when it was in the throes of some difficult restructuring. In this case, the union-nominated "outside" board members also insisted that the director serve.) However, most unions operating in the airline industry tended to appoint active unionists to board positions, when they had nominating rights.

The question as to the fees employee board directors receive elicited a range of responses. In the German case, a large part of the fees received by unionists are turned over to the German Federation of Trade Union's Böckler Foundation for research and education. In the U.S. case, the situations vary. For example, the "outside" board members receive regular company board member fees, one or two unionists serve without compensation, and so forth.

Relations with unions

Employee board members expressed widely varying views on the kinds of relationships they had with their respective unions. In the German case, the basic local employee organization is the works council. Under German law, every private workplace with five employees or more can elect representatives to serve on a works council. In practice, all larger companies and a great majority of middle-sized companies elect work councils, but a number of very small companies do not. Members of the German Federation of Trade Unions win a large majority of the seats in these elections. They also win a great majority of company board seats in elections among employees.

All of the German participants insisted that their role as board members would not be truly effective without close contact with their counterpart works councils. When questioned about whether there was a possibility of endangering the legal, confidentiality obligation they had as board members, they expressed that the confidentiality issue could be exaggerated. None personally had any experience of being challenged on this issue. Moreover, they indicated that in many cases, the chairperson of the local works councils is usually a member of the company board, with the same access they had to board meetings and information. All board and works council members are, in any event, entitled to participate, with voice, at general stockholder meetings. (Of course, there are some matters in which sensitive information affecting a company's competitive position had to be treated specially.) The German participants in-

sisted that unless their positions and actions were closely linked to what the works councils wanted and understood, their board roles would not have much meaning.

On the U.S. side, participants expressed differences of opinion on the relationship between employee board members and union officials. Some took the position that U.S. law (which seems to be stricter than German law in its insistence that boards are *strictly* responsible for the *interests* of the company's *stockholders*) makes it difficult, if not impossible, to have any substantial contact—such as reporting—with local union officials. They considered their roles as sympathetic but “neutral” outsiders. One such employee argued that if other board members believed he was consulting with the local union, they would isolate him, take him off key committees, and he would lose his influence.

By contrast, two active union officials, serving on boards, said they could not imagine not having an exchange with local union officers (not on the board). The purpose of their bringing employee views to the board dictates this. Of course, when it was “secret” information in which disclosure could hurt the company's competitive position, they were cautious, but generally, they believed they could not serve unless they had close contact with the local union.

One “outside” employee representative maintained it was wrong not to accept the fact that employee representatives serve in some capacity as labor representatives. Without good contact with the local union, he would not be able to serve his purpose, and indeed would not be of any special use to the nonemployee board representatives, let alone to the union. He believed board law in cases like these was evolving, and that it was appropriate to push the matter of confidentiality to the limit. He too, was sensitive to disclosure of anything that might jeopardize the company's competitive position.

In practice, some of the actual experience on these matters cut across these U.S. participants' general philosophical views. Several of the participants' companies were caught up, at one time or another, in takeover or merger situa-

tions. Under these circumstances, it was essential for the entire board to have some knowledge of the union's views and reactions (in one instance, the national union and in other cases, the local unions) on these proposals. While these were delicate matters, and disclosure to the public could have been fatal to the proposals, no confidentiality was breached.

In one U.S. company where a major change in bargaining structure practice had become essential in the eyes of the management and the board, the outside “employee” board representative was the intermediary who explored this matter with the national union involved, before any action was taken.

Generally, the U.S. participants tend to stay out of collective bargaining operations, believing that this was not their function as board members. (Of course, with several companies in a precarious economic position, it was sometimes difficult to keep the board and bargaining functions separate.)

Some key areas of influence

It was agreed by participants from both countries that one important value of employee board representatives came from their ability to have a voice and possible influence on such matters as full or partial establishment closures. In one U.S. case, an employee board member was able to persuade a company to keep open a department in an old operation by inducing the company to invest in new technology there, rather than open a new plant elsewhere. In a German case, a company was preparing to close an old operation and the employee board members persuaded it to branch into a new line of manufacture, retrain employees, and maintain employment in the old location.

German participants indicated that they were increasingly pressing companies to provide new employment opportunities for their current employees whose jobs were threatened, and, whenever possible, to offer job opportunities to young persons in the labor market. While German law requires that companies planning to close operations provide a “Sozial Plan” for displaced employees (such plans usually provide for early retirement,

retraining, and special severance benefits), employee board members sometimes used their influence to make the benefits of such “Sozial Plans” more expansive. The German Federation of Unions and its affiliated national unions, however, were increasingly pressing for companies to assume responsibility for new *employment* as a better alternative than other benefits when plant closings are planned. This was a fairly recent departure and had not yet shown widespread results.

As part of their concern for employment security, German board members often argued for greater reinvestment of company earnings in new plant and equipment, while stockholders more often argued for greater dividends.

Conclusion

The German participants with their long experience of board representation and codetermination generally believe they are part of an important institution. They believe “codetermination leads to a different kind of capitalism,” one more sensitive and responsive to employee needs.

The American participants were careful to point out to their German counterparts that employee board participation is a very new and limited phenomenon in the United States, and one that is confined to relatively few companies, at least as yet. Moreover, there seemed to be no real prospect of legislation that would make such participation a widespread practice as in Germany.

Generally speaking however, the American participants were satisfied their roles had been useful to their companies and to the employees and unions who nominated them. A few of the U.S. participants were confident that management would increasingly see the usefulness of employee board representation to itself as well as to employees. □

Footnotes

¹ In Germany, these are called boards of supervisors or Aufsichtsrat; hereafter the U.S. term, “board of directors” is used.

² For the U.S. participants, this meeting provided an opportunity to learn more of the German board experience, which is, of course, more

widespread than the U.S. case. Moreover, It also provided an opportunity for Americans, new to the phenomenon of sitting on company boards, to exchange experiences. (In 1988, one national union, the United Steelworkers, did convene a panel meeting of three of the employee board members for whose appointments it was responsible.)

The conference was jointly financed by the German Federation of Trade Union's Hans-Böckler Stiftung of Dusseldorf and the German Marshall Fund of the United States. It was held at Linden Hall (the education and research center of the United Steelworkers of America, just outside of Pittsburgh, PA), September 27-28, 1988. Recruitment of participants on the German side was left to the Böckler Foundation, with Gerhard Leminsky of that Foundation immediately responsible. On the U.S. side, participants were selected by the Carnegie Mellon University's Center for Studies, with Everett M. Kassalow (then on the faculty of CMU) immediately responsible.

Five members of German Federation of Trade

Unions affiliated union bodies, with experience on a number of company boards (in a couple of cases, an individual had served on more than one board) were in attendance. Four of them were full-time staff officers of unions. One was an employee-nominated member of the top operating management—*Vorstand*—of a steel company; but he, of course, worked closely with the board of his company.

On the U.S. side, seven employee board members participated. Some of them were full-time union officials, local or national; but there were also several "outside" employee board members at the meetings. These are individuals who are not union officials, but have been nominated to serve on boards by unions, presumably because they are sympathetic to, and have an understanding of workers and union needs. (In one case, the outsider was a former, now retired, union official.)

On the German side, the steel and auto industries were represented, as well as one general holding company with plants in a variety of in-

dustries. The U.S. participants came from a general transportation company, as well as the steel and air transport industries.

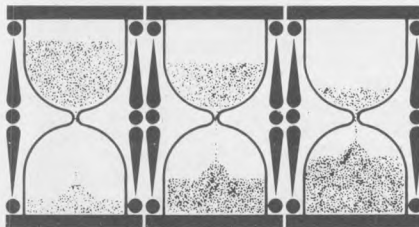
In advance of the meeting, a brief survey of the German labor system including works councils and board representation systems (taken together these two are often called the codetermination systems of employee representation in Germany) was circulated to the U.S. participants. A short memo on the relevant aspects of the U.S. labor relations system, including a brief account of the recent "rise" of employee board representation, was provided in advance to the Böckler Foundation for circulation to the German participants. A series of possible questions and issues for discussion, as well as a tentative agenda, was prepared and distributed in advance to participants, more as a general guide, rather than as a strict agenda.

³ The term "shareholders" is used in Germany, while "stockholders" is more common in the United States and will be used throughout this report.

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.

Major agreements expiring next month



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

Private industry

Construction

Southeastern States Area Agreement, Interstate; Boilermakers, 6,000 workers

Food products

A. E. Staley Manufacturing Co., Decatur, IL; Allied Industrial Workers, 1,050 workers
General Foods Corp., Battle Creek, MI; Retail, Wholesale and Department Store Union, 1,200 workers

Paper

James River Dixie, Northern Division, Naheola, AL; Paperworkers, 1,500 workers

Printing

Printing Industries of Metropolitan New York, New York, NY; Typographical Union, 3,000 workers

Chemicals

Hercules, Inc., Army Ammunition Plant, Radford, VA; Oil, Chemical and Atomic Workers, 2,600 workers

Glass

Owens-Illinois, Inc., Vineland, NJ; Flint Glass Workers, 1,200 workers

Steel

CF&I Steel Corp., Pueblo, CO; Steelworkers, 1,200 workers
Standard Steel Division, Freedom Forge Corp., Burnham, PA; Steelworkers, 1,000 workers

Machinery, except electrical

Hughes Tool Co., Houston, TX; Steelworkers, 1,300 workers
Rheem Manufacturing Co., Fort Smith, AR; Steelworkers, 1,400 workers
Timken Co., Canton, OH; Steelworkers, 5,500 workers

Electrical and electronic equipment

Bendix Corp., a Division of Amphenol, Inc., Sidney NY; Machinists, 1,500 workers
Gibson Products Corp., a Division of White Consolidated Industries, Greenville, MI; Automobile Workers, 3,000 workers

Transportation equipment

Boeing Co., Interstate; Machinists, 40,000 workers
Boeing Co., Vertol Division, Philadelphia, PA; Automobile Workers, 3,300
Dana Corp., Parish Division, Reading, PA; Steelworkers, 2,000 workers
Lockheed Corp., Lockheed California Division, California; Machinists, 10,000 workers
Lockheed Corp., Lockheed Georgia Co. Division, Interstate; Machinists, 10,000 workers
Lockheed Corp., Lockheed Missiles and Space Division, California; Machinists, 6,600 workers
McDonnell Douglas Corp., California; Machinists, 3,500 workers

Miscellaneous manufacturing

Armstrong World Industries, Lancaster, PA; Rubber Workers, 1,500 workers

Transportation and utilities

Brooklyn Union Gas Co., Brooklyn and Queens, NY; Transport Workers, 2,300 workers
Dayton Power and Light Co., Dayton, OH; Utility Workers, 1,900 workers
Duke Power Co., North Carolina; Electrical Workers (IBEW), 2,050 workers
Jersey Central Power and Light Co., New Jersey; Electrical Workers (IBEW), 2,850 workers
Tennessee Valley Authority, Interstate; various unions, 12,000 workers

Retail trade

A&P Food Stores, New York, NY, area; Food and Commercial Workers, 10,000 workers
Greater New York Food Employers Labor Relations Council, New York, NY, area; Food and Commercial Workers, 4,000 workers
Kohl's Food Stores, Wisconsin; Food and Commercial Workers, 4,000 workers
Kroger Food Stores, Cincinnati, OH; Food and Commercial Workers, 3,300 workers

Insurance

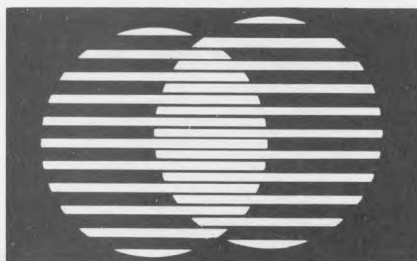
Prudential Insurance Co., Interstate; Life Insurance Agents (Ind.), 1,200 workers

Public activities

Education

Madison teachers, Madison, WI; National Education Association (Ind.), 1,700 workers
Memphis school custodial and cafeteria workers, Memphis, TN; State, County and Municipal Employees, 1,800 workers

Developments in industrial relations



Eastern Air Lines

Difficulties continued at Eastern Air Lines, where a work stoppage threatened company efforts to reorganize under Chapter 11 of the Federal Bankruptcy Code.

In May, Eastern began efforts to sell its East Coast shuttle service, the only major unit profitable prior to the work stoppage which began on March 4. (See *Monthly Labor Review*, June 1989, p. 40.) Initially, there were several bidders, but entrepreneur Donald Trump won after the bankruptcy court rejected the other offers.

In conjunction with the purchase, Trump signed labor contracts with the Air Line Pilots, Transport Workers, and Machinists unions, and 800 of the 1,000 jobs at the new carrier went to former Eastern employees. The new contracts were described as modified extensions of the unions' contracts with Eastern.

After the sale of the shuttle, Eastern said it still planned to sell off \$1.5 billion of assets and reform into a smaller airline. The unions, facing the possibility of a sharp cut in jobs, acted to aid a prospective purchaser who promised to buy all of Eastern and not cut its size. However, this effort ended when the bankruptcy judge ruled that the purchase offer was inadequately financed.

Eastern then requested the court to end its contract with the Air Line Pilots and implement its last offer to the union. The offer included pay cuts of

10 percent for the first 6 months and 5 percent for the second 6 months, delay of 1989 vacations to 1990, and a requirement that pilots fly 68 hours a month in 1990 and 60 hours a month in the following years, up from 46 hours prior to the work stoppage.

While the court was considering Eastern's request, the company and the Air Line Pilots resumed negotiations, raising hopes of a settlement. However, the union rejected a proposal; a major factor in the decision was that only about 1,400 of the 3,400 pilots would be recalled because of Eastern's plan to cut operations.

Eastern formally filed a reorganization plan with the court in July, but still had to refine that plan in 60 days of negotiations with unsecured creditors. Meanwhile, the work stoppage was continuing and the unions were attempting to step up their pressure, and Eastern was attempting to increase its number of flights by hiring new employees and persuading participants in the stoppage to cross picket lines. Throughout the crisis, a major barrier to a settlement has been the unions' insistence that Frank Lorenzo, president of Eastern's parent Texas Air Corp., is antiunion and should be excluded from any role in the operation of Eastern.

Airline industry update

At United Air Lines, the Air Line Pilots revived its 1987 offer to buy the parent UAL Corp., joining other prospective purchasers. Acquisition attempts were spurred by United's 1988 profit of \$1.12 billion. The move to buy UAL Corp. also was impelled by 18 months of unsuccessful negotiations on a new labor contract and by a court

invalidation of provisions in the Machinists' 1987 labor contract with United that were intended to thwart purchase offers from any source. The provisions gave the Machinists the right to match or exceed any outside purchase offer. If anyone, including the Air Line Pilots, acquired control of 50 percent of United's stock, the Machinists had the option to reopen the contract or to extend it for 3 years, during which employees would receive wage increases totaling 11 percent and pension improvements totaling 12 percent.

Meanwhile, United was entering the third year of negotiations with the Association of Flight Attendants for 13,500 employees. The parties had tentatively settled late in 1987, but union members rejected the proposal, apparently because it called for cuts in wages and benefits and retention of a lower pay scale for new employees.

In another matter, United settled a 5-year legal dispute with a group of pilots over whether they should accrue pension credits for work beyond the federally-mandated age limit of 60 for pilots and co-pilots. Under the settlement, United made unspecified cash payments and became responsible for larger pensions to the 141 active and retired employees who had switched to flight engineer jobs at age 60. Prior to a 1986 amendment to the Age Discrimination in Employment Act, employers were not required to give employees pension service credit for years worked beyond the usual retirement age.

Earlier in the case, a U.S. district judge had rejected the pilot's contention that they could receive pay and pensions at the same time.

At American Airlines, a new contract with the Transport Workers pro-

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

vided for total wage increases ranging up to 95.9 percent over the 4-year contract term. The total increases consisted of general increases of 80 cents an hour effective May 13, 1989, and 50 cents on September 1, 1990, and February 29, 1992, increased license and skill premiums, and accelerated progression to maximum rates for job categories. Within job categories, total increases were largest for employees hired after December 31, 1988, and smallest for those hired prior to January 2, 1983. Ranges for the categories were 95.9 percent (\$5.80 an hour) to 11.6 percent (\$1.80) for fleet service employees, 77.7 percent (\$8.94) to 14.2 percent (\$2.80) for mechanics with two Federal licenses, 81.3 percent (\$8.94) to 14.6 percent (\$2.80) for mechanics with one license, and 89.9 percent (\$9.44) to 17.7 percent (\$3.30) for unlicensed mechanics with particular skills.

All employees also received retroactive pay equal to 8 percent of their gross earnings from March 1, 1989, through May 12, 1989.

Employees also will be eligible for quarterly payments contingent on productivity levels under a new Leadership Excellence Advancement Appreciation Pay plan. Quarterly payments will range from 20 cents an hour for meeting station or base goals to 40 cents for exceeding goals by 20 percent.

Other provisions included:

- Extension of the career job guarantee to all employees hired prior to January 1, 1987.
- Adoption of a flexible health plan permitting employees to select their benefits. (American's premium cost will be set on June 1, 1990, and the company will pay any later premium increase up to 5 percent and above 12 percent, with employees paying the intermediate amount).
- Increased lifetime major medical coverage to \$500,000, from \$300,000 (employee deductible and coinsurance payments also were increased).
- Increased pension benefits resulting from the higher pay scales. Other benefits changes included

pension vesting after 5 years in the plan, and a requirement that employees "prefund" their post-retirement health benefits by making contributions during their career (minimum 10 years) ranging from \$12 a month at age 30 to \$91.50 at age 40 or older. These contributions are subject to annual increases similar to premium increases in the employees' active service coverage.

- Payment at retirement for up to 150 days of unused sick leave (formerly, 140 days).

Northwest Airlines' parent, NWA, Inc., was involved in fending off unwelcome purchase offers from a number of suitors. Also participating in the complex series of events were the Air Line Pilots and Machinists unions, which at times criticized purchase proposals and even moved toward making their own proposals. Finally, NWA accepted a \$3.65 billion offer from a group of investors, subject to government approval. The Air Line Pilots condemned the proposal, contending it would burden NWA with excessive debt. Instead, the union backed a corporate recapitalization plan that NWA had developed as an alternative if the purchase plan was not successful. The Air Line Pilot's position was significant because the union was involved in 3 years of intermittent labor contract negotiations with Northwest Airlines that could result in a work stoppage.

During the series of purchase proposals, Northwest Airlines settled with the Machinists for 10,500 ticket clerks, reservation clerks, and clerical employees. The agreement terminates April 30, 1992, the same date as the union's agreement with the company for mechanics, baggage handlers, and airplane cleaners.

The 1989 accord provides an \$80 to \$100 signing bonus, an immediate 2.7-percent wage increase, a 3-percent increase in 1990, and a 3.5-percent increase in 1991. About 500 former employees of Republic Airlines—which merged into Northwest in 1986—received additional increases of about 7 percent to bring their pay to the level of other Northwest employees.

The contract also provides for in-

creased pension benefits, a new 401(k) savings plan, and a new long-term disability plan financed equally by the company and employees.

Changes beneficial to Northwest include increases in the number of part-time employees and in their workweek (to 25 hours, from 20), greater flexibility in assigning overtime work and hiring relief workers for peak travel periods, and for continuing negotiations on expanding employees' job assignments.

The other union at Northwest is the Teamsters, which settled in 1988 for 7,000 flight attendants. This contract terminates December 31, 1992.

At Pan Am Corp.—which was one of the entities seeking to purchase NWA, Inc., the parent of Northwest Airlines—union-management attention centered on a company proposal to cease direct funding of its pension plans. Instead, the company was asking the Department of Labor for permission to meet its past and future obligations by turning over income from its Worldport facility at Kennedy International Airport in New York.

The proposal was opposed by the four unions involved—the Teamsters, Transport Workers, Air Line Pilots, and Association of Flight Attendants. According to the Teamsters, the switch would increase the danger to employee benefits stemming from existing underfunding totaling more than \$621 million.

Air traffic controllers

In a move to strengthen the Nation's air traffic control system, the Federal Aviation Administration has begun paying bonuses to attract and retain highly qualified employees at its busiest airports and regional centers. Under the 5-year experimental plan, 2,100 flight controllers, inspectors, and technicians at 13 hard-to-staff locations will receive extra pay of 20 percent. Eligible controllers, who had earned about \$62,000 a year, will now receive \$74,400 and, with overtime work, could earn \$90,000.

The Federal Aviation Administration had received 500 formal bids and

450 inquiries regarding 140 job vacancies at the 13 locations since the program was announced in October 1988. Secretary of Transportation Samuel Skinner, after visiting the hard-to-staff flight control centers, commented, "I think those jobs deserve that kind of compensation."

The executive vice president of the National Air Traffic Controllers Association, Ray L. Spickler, called the program "a band-aid on a hemorrhage," contending that the program would hurt morale because it benefited relatively few of the 16,000 controllers the union represents. Spickler, while conceding that the premium pay will help ease traffic control difficulties, complained that the selection of sites to be covered was arbitrary and that the union had been limited to an advisory, rather than a collective bargaining, role in developing the plan. Under law, unions representing Federal employees are generally permitted to bargain on working conditions, but not on pay and benefits.

The National Air Traffic Controllers Association announced membership ratification of its initial contract with the Federal Aviation Administration. (See *Monthly Labor Review*, March 1989, pp. 43-44.) The tally was 3,920 to 748, with about 68 percent of the union's members voting. The union is the successor to the defunct Professional Air Traffic Controller Organization, which represented controllers in 1981, when President Ronald Reagan fired 11,400 controllers for striking in violation of Federal law.

Inland Steel Corp.—Steelworkers

Following settlements with Bethlehem Steel Corp. and National Steel Corp. (*Monthly Labor Review*, July 1989, pp. 43-44), the Steelworkers settled with Inland Steel Corp. The 4-year accord covers 11,000 employees at the company's mill in East Chicago, IN, a taconite mine in Virginia, MN, and a lime and stone operation in Gulliver, MI. Only Armco, Inc. is left to settle in the 1989 round of bargaining. The union's 1987 contract with USX Corp., the Nation's largest steel producer, expires in January 1991.

Terms at Inland were largely comparable to those in the lead-off accord at Bethlehem. One difference was that there was no immediate "make whole" or "recovery" wage increase at Inland because its 1986 settlement did not reduce wages. The "new money" wage increases totaled the same as at Bethlehem, but the effective dates differed. At Inland, the \$1.50 an hour total consists of a 75-cent increase on August 1, 1989, 50 cents on January 1, 1991, and 25 cents on January 1, 1992; Bethlehem's increases consist of \$1 on January 1, 1991, and 50 cents on January 1, 1992.

A difference in benefits is that each Inland employee will receive a special 1-week vacation during the contract term. The week off will be scheduled by seniority, with one-fourth of the workers taking their time off in each contract year. The schedule of regular annual vacations—ranging up to 5 weeks after 25 years of service—remained the same as at Bethlehem.

Longshore workers at 36 ports

Faced with lack of resolution of bargaining issues and an impending contract expiration, the International Longshoremen's Association and cargo handling firms in 36 Atlantic and Gulf coast ports agreed to extend existing terms 14 months, to December 1, 1990. In the announcement, union and management agreed that changes in contractual work rules were necessary to preserve jobs and the financial health of employers. Reportedly, union president John Bowers had said that the contract extension was necessary because union members could not be persuaded, at the present, to accept changes in work rules and cuts in compensation.

Initially, employers had proposed paying premium rates only for work in excess of 40 hours a week (currently premium rates are paid for all hours in excess of the normal workday or workweek), freezing new employees pay at \$18 an hour, linking veteran employees' pay levels to gains in productivity, freezing management's financing of employee benefits, and cutting the size of crews handling container cargo.

The problems facing the longshore employers and employees include adapting to changes in cargo handling, growing competition from nonunion operators, and shifts in cargo destination among the covered ports and to the west coast, where employees are represented by the International Longshoremen's and Warehousemen's Union.

Probably the most difficult problem facing the International Longshoremen's Association and employers is the Federal Maritime Commission's 1987 invalidation of their rules on container cargo, which was upheld by the Supreme Court in 1989. The parties acted to counter resulting job cuts by financially aiding employers who hire unemployed longshore workers. (See *Monthly Labor Review*, June 1989, p. 40.)

UAW convention

The paramount issue confronting delegates to the United Auto Workers triennial convention was whether to continue moving toward a more cooperative relationship with management or reverting to the more adversarial approach that prevailed prior to the 1980's. In his keynote speech, union president Owen Bieber defended the current strategy, explaining, "Our participation is motivated by only one consideration: the universal desire of workers to have a say over their jobs and to have a more satisfying and secure situation at work." He also assured the delegates that the union would not hesitate to call strikes or withdraw from cooperative relationships that deteriorate, saying, "where the power of persuasion fails, we will use the persuasion of power without hesitation."

The call for a more adversarial relationship with management, which had been developing well before the convention, was centered in a group of the union's members named "New Directions," led by Jerry Tucker, a regional director of the union. New Directions contended that the cooperative approaches—which generally give employees a greater voice in plant operation in return for broadening and rotating job assignments—are too often

dominated by management, resulting in increased output without commensurate benefit to employees.

After some contentious discussions, the delegates backed the current policy by a wide margin. Backing of the current policy was also indicated by the unopposed reelection of Bieber and other union leaders by acclamation, by election of a Bieber-backed candidate to succeed Tucker, and by approval of a plan to press management to accept union officers as members of their boards of directors. (Currently, only Bieber is a director, at Chrysler Corp.) In other election matters involving union vice presidents, Donald F. Ephlin retired and Steven Yokich succeeded him as head of the General Motors Corp. Department, Ernest Lofton succeeded Yokich as head of the Ford Motor Co. Department, and Stan Marshall succeeded Marc Stepp, who retired as head of the Chrysler Corp. Department.

Despite the defeat, Tucker and other New Directions leaders contended that their effort was useful because it will increase scrutiny of current and future labor-management cooperative efforts, possibly resulting in better terms for employees. The leaders also vowed to continue their organization and to hold a meeting convention when the union conducts a special convention in preparation for 1990 collective bargaining with the three auto manufacturers.

Plans for reversing the Auto Workers' decline in membership and increasing its collective bargaining and political strength were presented to the convention in "A Strong Union in a Changing World," a report prepared

by The Commission on the Future of the UAW. The Commission, consisting of union officials and rank-and-file members, was authorized at the 1986 commission.

The report, which included a call for closer study of labor-management cooperative programs by the union's International Executive Board, also indicated that the union must emphasize the organizing of white-collar and service workers because of the changing economy and increase its appeal to the general public through campaigns in the media and schools. In May 1989, the Auto Workers had 966,000 members, compared with 1.5 million in 1979.

In a legal matter following the June convention, Tucker, in a complaint filed with the Department of Labor, charged that union officers had improperly aided Roy Wyse in his drive to replace Tucker as head of District 5.

Nissan employees reject union

The organizing challenge facing the United Auto Workers and other unions was demonstrated in a representation election at the Nissan Motors Manufacturing Corp., USA automobile and truck plant in Smyrna, TN. The tally was 1,622 for "no union" and 711 for the Auto Workers. During the pre-election campaign, the Auto Workers stressed its claim that the 2,400 production workers needed a union because Nissan production goals were too high, exhausting and endangering employees. Nissan contended that the work pace was not excessive, that employees already had compensation lev-

els comparable to those of workers the union represented elsewhere in the industry, and that the workers were assured of jobs, even during sales slowdowns.

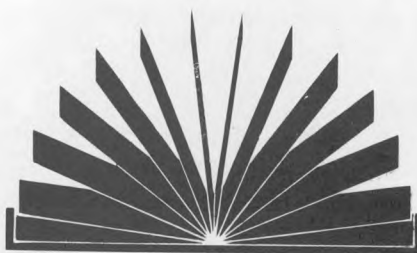
An Auto Workers' spokesman called the election results a "stinging defeat," but explained, "we have to take the long view of these things," noting past organizing struggles that finally were successful. A plant manager contended that the union lost the election because it had little to offer employees that they were not already receiving directly from Nissan.

Despite the defeat, the Auto Workers indicated that it would continue its organizing drives at two other Japanese-owned plants—the Toyota plant in Georgetown KY, and the Subaru-Isuzu plant in Lafayette, IN.

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

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

Book reviews



Valuable information

The Hispanic Population of the United States. By Frank D. Bean and Marta Tienda. New York, Russell Sage Foundation, 1987. 456 pp., bibliography. \$42.50.

This book is the most comprehensive overview to date of recent demographic and labor force trends for Hispanics in the United States. Part of the Russell Sage Census Monograph Series, *The Hispanic Population of the United States* synthesizes census information from past decades, focusing on 1970 and 1980. The book's theme is the variation among Hispanic populations in their sociodemographic characteristics, including geographical and residential distribution, marital status, fertility, educational attainment, and economic well-being. Professors Frank D. Bean and Marta Tienda make ample use of findings from their previous research as well as from more than 200 other studies.

Early in the monograph, Hispanic groups—Mexicans, Puerto Ricans, Cubans, Dominicans, Central and South Americans, and descendants of the Spaniards who settled in the present-day Southwest—are described as having very different social origins, immigration histories, and age distributions. Later chapters show that, partly as a result of these fundamental differences, substantial variation exists among the groups in their socioeconomic makeup. Census data confirm that Cubans have tended to fare better than the others, and Puerto Ricans the worst, although Bean and Tienda show that even this generalization overlooks important variations within the groups.

Perhaps the most striking findings

are for Puerto Ricans. With the highest incidence of unemployment and a rapidly falling labor force participation rate, they were the most disadvantaged of all the groups. Among employed Puerto Ricans, however, occupational upgrading was quite substantial, suggesting that those "most likely to succeed have remained in the labor force, while those with limited prospects for occupational mobility have dropped out altogether" (p. 331). This type of attention to variations among and within the Hispanic populations characterizes Bean and Tienda's analyses throughout the monograph.

The findings frequently challenge stereotypes. For example, several findings in a chapter on marital status contradict the notion that Hispanics are more traditional than non-Hispanics in their orientations toward marriage and family. Other parts of the book defy simplistic explanations for socioeconomic achievement. Chapter 8, for example, finds that among students with similar class backgrounds (as indicated by parents' educational attainment and income levels), those who spoke Spanish at home were not less likely to succeed in school than those who spoke English. "Contrary to popular belief, these results show that home bilingualism did not hinder students' school performance," the authors note (p. 269).

In addition to a wealth of tables and data analyses, this study contains informative summaries of conceptual and measurement issues. The opening chapters describe social and historical factors which led to a commonality of identification among Hispanics. Included in these discussions is a constructive assessment of the Census Bureau's methods to delineate His-

panic origin groups in 1960, 1970, and 1980—an endeavor marked by changes in questions, wording, and sampling. Appendix A describes the criteria used by Bean and Tienda to maximize comparability across the three censuses, including caveats regarding data limitations.

This is an excellent reference book with wide coverage. Its detailed findings and careful analyses make it an invaluable source of data on an important and rapidly growing segment of the U.S. population.

—Peter Cattán

Division of Labor Force Statistics
Bureau of Labor Statistics

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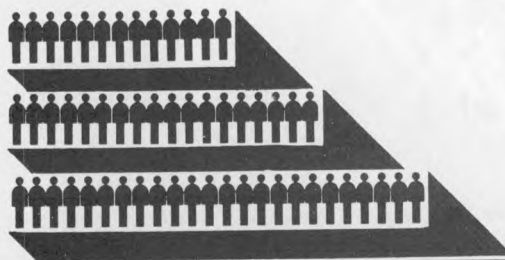
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Current labor statistics



Notes on Current Labor Statistics 52

Comparative indicators

1. Labor market indicators	62
2. Annual and quarterly percent changes in compensation, prices, and productivity	63
3. Alternative measures of wage and compensation changes	63

Labor force data

4. Employment status of the total population, data seasonally adjusted	64
5. Employment status of the civilian population, data seasonally adjusted	65
6. Selected employment indicators, data seasonally adjusted	66
7. Selected unemployment indicators, data seasonally adjusted	67
8. Unemployment rates by sex and age, data seasonally adjusted	68
9. Unemployed persons by reason for unemployment, data seasonally adjusted	69
10. Duration of unemployment, data seasonally adjusted	69
11. Unemployment rates of civilian workers, by State	70
12. Employment of workers by State	71
13. Employment of workers by industry, data seasonally adjusted	72
14. Average weekly hours by industry, data seasonally adjusted	73
15. Average hourly earnings by industry, data seasonally adjusted	74
16. Average hourly earnings by industry	74
17. Average weekly earnings by industry	75
18. Diffusion indexes of employment change, data seasonally adjusted	76
19. Annual data: Employment status of the noninstitutional population	77
20. Annual data: Employment levels by industry	77
21. Annual data: Average hours and earnings levels by industry	78

Labor compensation and collective bargaining data

22. Employment Cost Index, compensation, by occupation and industry group	79
23. Employment Cost Index, wages and salaries, by occupation and industry group	80
24. Employment Cost Index, private nonfarm workers, by bargaining status, region, and area size	81
25. Specified compensation and wage adjustments from contract settlements, and effective wage adjustments, situations covering 1,000 workers or more	82

Labor compensation and collective bargaining data—Continued

26. Average specified compensation and wage adjustments, bargaining situations covering 1,000 workers or more	83
27. Average effective wage adjustments, bargaining situations covering 1,000 workers or more	83
28. Specified compensation and wage adjustments, State and local government bargaining situations covering 1,000 workers or more	84
29. Work stoppages involving 1,000 workers or more	84

Price data

30. Consumer Price Index: U.S. city average, by expenditure category and commodity and service groups	85
31. Consumer Price Index: U.S. city average and local data, all items	88
32. Annual data: Consumer Price Index, all items and major groups	89
33. Producer Price Indexes by stage of processing	90
34. Producer Price Indexes, by durability of product	91
35. Annual data: Producer Price Indexes by stage of processing	91
36. U.S. export price indexes by Standard International Trade Classification	92
37. U.S. import price indexes by Standard International Trade Classification	93
38. U.S. export price indexes by end-use category	94
39. U.S. import price indexes by end-use category	94
40. U.S. export price indexes by Standard Industrial Classification	95
41. U.S. import price indexes by Standard Industrial Classification	95

Productivity data

42. Indexes of productivity, hourly compensation, and unit costs, data seasonally adjusted	96
43. Annual indexes of multifactor productivity	97
44. Annual indexes of productivity, hourly compensation, unit costs, and prices	98

International comparisons data

45. Unemployment rates in nine countries, data seasonally adjusted	99
46. Annual data: Employment status of civilian working-age population, 10 countries	100
47. Annual indexes of productivity and related measures, 12 countries	101

Injury and illness data

48. Annual data: Occupational injury and illness incidence rates	102
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Notes on Current Labor Statistics

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

General notes

The following notes apply to several tables in this section:

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

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

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

Adjustments for price changes. Some data—such as the "real" earnings shown in table 15—are adjusted to eliminate the effect of changes in price. These

adjustments are made by dividing current-dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1977 = 100, the hourly rate expressed in 1977 dollars is \$2 ($\$3/150 \times 100 = \2). The \$2 (or any other resulting values) are described as "real," "constant," or "1977" dollars.

Additional information

Data that supplement the tables in this section are published by the Bureau in a variety of sources. News releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule preceding these general notes. More information about labor force, employment, and unemployment data and the household and establishment surveys underlying the data are available in *Employment and Earnings*, a monthly publication of the Bureau. More data from the household survey are published in the data books—*Revised Seasonally Adjusted Labor Force Statistics*, Bulletin 2306, and *Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2307. More data from the establishment survey appear in two data books—*Employment, Hours, and Earnings, United States*, and *Employment, Hours, and Earnings, States and Areas*, and the supplements to these data books. More detailed information on employee compensation and collective bargaining settlements is published in the monthly periodical, *Current Wage Developments*. More detailed data on consumer and producer prices are published in the monthly periodicals, *The CPI Detailed Report*, and *Producer Price Indexes*. Detailed data on all of the series in this section are provided in the *Handbook of Labor Statistics*, which is published 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 nonagricultural payroll data. The Employment Cost Index (compensation), by major sector and by bargaining status, is chosen from a variety of BLS compensation and wage measures because it provides a comprehensive measure of employer costs for hiring labor, not just outlays for wages, and it is not affected by employment shifts among occupations and industries.

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

Alternative measures of wage and compensation rates of change, which

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

Notes on the data

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

Employment and Unemployment Data

(Tables 1; 4-21)

Household survey data

Description of the series

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

Definitions

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

Unemployed persons are those who did not work during the survey week, but were

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

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

Notes on the data

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

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

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

Additional sources of information

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

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

Establishment survey data

Description of the series

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

Definitions

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

engaged in one type of economic activity.

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

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

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

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

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

Notes on the data

Establishment survey data are annually adjusted to comprehensive counts of employ-

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

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

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

Additional sources of information

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

book of Methods, Bulletin 2285 (Bureau of Labor Statistics, 1988).

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

Unemployment data by State

Description of the series

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

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

Notes on the data

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

Additional sources of information

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

Compensation and Wage Data

(Tables 1-3; 22-29)

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

Employment Cost Index

Description of the series

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

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

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

Beginning with June 1986 data, fixed employment weights from the 1980 Census of Population are used each quarter to calculate the civilian and private indexes and the index for State and local governments. (Prior to June 1986, the employment weights are from the 1970 Census of Population.) These fixed weights, also used to derive all of the industry and occupation series indexes, ensure that changes in these indexes reflect only changes in compensation, not employment shifts among industries or occupations with different levels of wages and compensation. For the bargain-

ing status, region, and metropolitan/non-metropolitan area series, however, employment data by industry and occupation are not available from the census. Instead, the 1980 employment weights are reallocated within these series each quarter based on the current sample. Therefore, these indexes are not strictly comparable to those for the aggregate, industry, and occupation series.

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988), and the following *Monthly Labor Review* articles: "Employment Cost Index: a measure of change in the 'price of labor,'" July 1975; "How benefits will be incorporated into the Employment Cost Index," January 1978; "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 2217 (Bureau of Labor Statistics, 1985).

Collective bargaining settlements

Description of the series

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

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

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

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

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

Work stoppages

Description of the series

Data on **work stoppages** measure the number and duration of major strikes or lockouts (involving 1,000 workers or more)

occurring during the month (or year), the number of workers involved, and the amount of time lost because of stoppage.

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

Definitions

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

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

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

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

Notes on the data

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

Additional sources of information

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

Other compensation data

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

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

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

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

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

Price Data

(Tables 2; 30-41)

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

Consumer Price Indexes

Description of the series

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

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

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

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

Notes on the data

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

Additional sources of information

For a discussion of the general method for computing the CPI, see BLS *Handbook of*

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

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

Producer Price Indexes

Description of the series

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

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

Since January 1987, price changes for the various commodities have been averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1982. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and

a number of special composite groups. All Producer Price Index data are subject to revision 4 months after original publication.

Notes on the data

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

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

Additional sources of information

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

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

International Price Indexes

Description of the series

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

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

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

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

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

Notes on the data

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

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

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

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

Additional sources of information

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

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

Monthly Labor Review, December 1987, pp. 47-49.

Productivity Data

(Tables 2; 42-44)

U. S. productivity and related data

Description of the series

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

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

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

The productivity and associated cost measures in tables 42–44 describe the relationship between output in real terms and the labor time and capital services involved in its production. They show the changes from period to period in the amount of goods and services produced per unit of input. Although these measures relate output to hours and capital services, they do

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

Additional sources of information

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

International Comparisons

(Tables 45–47)

Labor force and unemployment

Description of the series

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

Definitions

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

Notes on the data

The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country, rather than to the U.S. standard of 16 years of age and over. Therefore, the adjusted statistics relate to the population age 16 and over in France,

Sweden, and from 1973 onward, the United Kingdom; 15 and over in Canada, Australia, Japan, Germany, the Netherlands, and prior to 1973, the United Kingdom; and 14 and over in Italy. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany; it is excluded for the United States and the other countries.

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

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

There are breaks in the data series for Germany (1983 and 1987), Italy (1986), the Netherlands (1983), and Sweden (1987). For both Germany and the Netherlands, the 1983 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. The 1987 break for Germany reflects the incorporation of employment statistics based on the 1987 Population Census, which indicated that the level of employment was about one million higher than previously estimated. The impact of this change was to lower the adjusted unemployment rate by 0.3 percentage point. When historical data benchmarked to the 1987 Census became available, BLS will revise its comparative measures for Germany.

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

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

Additional sources of information

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

Manufacturing productivity and labor costs

Description of the series

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

Definitions

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

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

Compensation (labor cost) includes all payments in cash or kind made directly to employees plus employer expenditures for legally required insurance programs and contractual and private benefit plans. In addition, for some countries, compensation is adjusted for other significant taxes on payrolls or employment (or reduced to reflect

subsidies), even if they are not for the direct benefit of workers, because such taxes are regarded as labor costs. However, compensation does not include all items of labor cost. The costs of recruitment, employee training, and plant facilities and services—such as cafeterias and medical clinics—are not covered because data are not available for most countries. Self-employed workers are included in the U.S. and Canadian compensation figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

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

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

Additional sources of information

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

Occupational Injury and Illness Data

(Table 48)

Description of the series

The Annual Survey of Occupational Injuries and Illnesses is designed to collect data on injuries and illnesses based on records which employers in the following industries maintain under the Occupational Safety and Health Act of 1970: agriculture,

forestry, and fishing; oil and gas extraction; construction; manufacturing; transportation and public utilities; wholesale and retail trade; finance, insurance, and real estate; and services. Excluded from the survey are self-employed individuals, farmers with fewer than 11 employees, employers regulated by other Federal safety and health laws, and Federal, State, and local government agencies.

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

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

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

Definitions

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

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

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

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

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

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

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

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

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

Notes on the data

Estimates are made for industries and employment-size classes and for severity

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

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

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

Mining and railroad data are furnished to BLS by the Mine Safety and Health Administration and the Federal Railroad Administration, respectively. Data from these organizations are included in BLS and State publications. Federal employee experience is compiled and published by the Occupational Safety and Health Administration. Data on State and local government employees are collected by about half of the

States and territories; these data are not compiled nationally.

Additional sources of information

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

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

Current Labor Statistics: Comparative Indicators

1. Labor market indicators

Selected indicators	1987	1988	1987		1988				1989	
			III	IV	I	II	III	IV	I	II
Employment data										
Employment status of the civilian noninstitutionalized population (household survey): ¹										
Labor force participation rate	65.6	65.9	65.6	65.7	65.8	65.8	65.9	66.1	66.4	66.5
Employment-population ratio	61.5	62.3	61.7	61.9	62.1	62.2	62.3	62.5	62.9	63.0
Unemployment rate	6.2	5.5	6.0	5.9	5.7	5.5	5.5	5.3	5.2	5.3
Men	6.2	5.5	6.0	5.8	5.6	5.4	5.4	5.4	5.2	5.1
16 to 24 years	12.6	11.4	12.2	11.9	11.8	11.2	11.4	11.3	11.2	11.1
25 years and over	4.8	4.2	4.6	4.4	4.3	4.2	4.1	4.1	4.0	3.9
Women	6.2	5.6	6.0	6.0	5.8	5.6	5.6	5.3	5.2	5.4
16 to 24 years	11.7	10.6	11.4	11.2	11.0	10.7	10.5	10.3	10.2	10.4
25 years and over	4.8	4.3	4.7	4.6	4.5	4.3	4.4	4.2	4.0	4.3
Unemployment rate, 15 weeks and over	1.7	1.3	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1
Employment, nonagricultural (payroll data), in thousands: ¹										
Total	102,200	105,584	102,500	103,491	104,355	105,184	105,976	106,799	107,680	108,324
Private sector	85,190	88,212	85,481	86,336	87,111	87,851	88,577	89,288	90,104	90,655
Goods-producing	24,708	25,249	24,751	24,961	25,022	25,202	25,313	25,452	25,634	25,665
Manufacturing	19,024	19,403	19,061	19,199	19,271	19,360	19,435	19,550	19,659	19,665
Service-producing	77,492	80,335	77,749	78,530	79,333	79,983	80,663	81,346	82,047	82,659
Average hours:										
Private sector	34.8	34.7	34.8	34.8	34.7	34.7	34.7	34.7	34.7	34.7
Manufacturing	41.0	41.1	40.9	41.2	41.0	41.1	41.1	41.1	41.1	41.1
Overtime	3.7	3.9	3.8	3.9	3.8	3.9	3.9	3.9	3.9	3.8
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	3.6	5.0	1.2	.8	1.4	1.1	1.3	1.0	1.2	1.1
Private industry workers	3.3	4.9	1.0	.7	1.5	1.2	1.0	1.0	1.3	1.2
Goods-producing ²	3.1	4.4	.8	1.0	1.8	1.1	.6	.8	1.0	1.1
Service-producing ²	3.7	5.1	1.0	.5	1.3	1.4	1.2	1.2	1.5	1.2
State and local government workers	4.4	5.6	2.3	.9	1.3	.3	2.7	1.1	1.2	.6
Workers by bargaining status (private industry):										
Union	2.8	3.9	.6	1.1	1.6	1.0	.7	.5	.8	1.0
Nonunion	3.6	5.1	1.1	.6	1.5	1.3	1.1	1.2	1.5	1.2

¹ Quarterly data seasonally adjusted.

² Goods-producing industries include mining, construction, and manufacturing. Service-

producing industries include all other private sector industries.

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

Selected measures	1987	1988	1987		1988				1989	
			III	IV	I	II	III	IV	I	II
Compensation data^{1, 2}										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	3.6	5.0	1.2	0.8	1.4	1.1	1.3	1.0	1.2	1.1
Private nonfarm	3.3	4.9	1.0	.7	1.5	1.2	1.0	1.0	1.3	1.2
Employment Cost Index--wages and salaries										
Civilian nonfarm	3.5	4.3	1.3	.7	1.0	.9	1.3	1.0	1.1	.8
Private nonfarm	3.3	4.1	1.0	.6	1.0	1.1	1.0	1.0	1.1	1.0
Price data¹										
Consumer Price Index (All urban consumers): All items										
	4.4	4.4	1.3	.3	1.0	1.3	1.5	.6	1.5	1.5
Producer Price Index:										
Finished goods	2.2	4.0	.2	.1	.5	1.3	.8	1.3	1.9	1.8
Finished consumer goods	2.6	4.0	.3	-.2	.4	1.4	1.0	1.1	2.2	2.2
Capital equipment	1.3	3.6	-.2	1.1	.7	.6	.4	1.8	.9	.9
Intermediate materials, supplies, components	5.4	5.6	1.2	.9	1.1	2.6	1.2	.6	1.9	1.0
Crude materials	8.9	3.1	.6	-1.4	-.3	4.0	-1.2	.6	6.1	.7
Productivity data³										
Output per hour of all persons:										
Business sector	1.2	1.8	3.9	2.9	2.7	-2.0	3.1	.2	1.0	.9
Nonfarm business sector	1.1	2.1	3.6	2.7	3.0	-1.5	3.4	1.9	-1.3	.2
Nonfinancial corporations ⁴	2.2	2.6	5.3	1.9	4.3	.6	1.4	-.4	-1.8	-

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--					
	1988				1989		1988				1989	
	I	II	III	IV	I	II	I	II	III	IV	I	II
Average hourly compensation: ¹												
All persons, business sector	2.8	5.9	5.8	5.2	4.8	6.6	4.4	5.2	5.4	4.9	5.4	5.6
All persons, nonfarm business sector	2.7	5.5	5.5	5.9	4.8	5.5	4.3	5.1	5.2	4.9	5.4	5.4
Employment Cost Index--compensation:												
Civilian nonfarm ²	1.4	1.1	1.3	1.0	1.2	1.1	4.1	4.6	4.7	5.0	4.8	4.8
Private nonfarm	1.5	1.2	1.0	1.0	1.3	1.2	3.9	4.5	4.5	4.9	4.6	4.5
Union	1.6	1.0	.7	.5	.8	1.0	3.9	4.3	4.5	3.9	3.0	3.1
Nonunion	1.5	1.3	1.1	1.2	1.5	1.2	4.0	4.5	4.5	5.1	5.1	5.0
State and local governments	1.3	.3	2.7	1.1	1.2	.6	4.9	5.0	5.4	5.6	5.5	5.8
Employment Cost Index--wages and salaries:												
Civilian nonfarm ²	1.0	.9	1.3	1.0	1.1	.8	3.5	3.9	3.9	4.3	4.4	4.3
Private nonfarm	1.0	1.1	1.0	1.0	1.1	1.0	3.3	3.7	3.7	4.1	4.2	4.1
Union .....	.4	.8	.7	.4	.7	.8	2.6	2.9	2.9	2.2	2.5	2.6
Nonunion	1.0	1.2	1.0	1.1	1.3	1.0	3.5	4.0	3.9	4.5	4.8	4.6
State and local governments .....	.9	.3	2.6	1.0	.8	.5	4.4	4.4	4.7	4.8	4.8	5.0
Total effective wage adjustments ³												
From current settlements .....	.4	.9	.8	.5	.5	1.0	3.2	3.0	2.9	2.6	2.7	2.8
From prior settlements .....	.1	.3	.2	.1	.1	.3	.8	1.0	1.0	.7	.7	.7
From cost-of-living provision .....	.3	.5	.4	.2	.3	.5	1.8	1.6	1.4	1.3	1.3	1.3
From negotiated wage adjustments from settlements: ³	.1	.1	.2	.2	.1	.2	.5	.5	.5	.6	.6	.8
First-year adjustments	2.1	2.6	2.7	2.6	3.2	3.9	2.4	2.4	2.5	2.5	2.7	3.2
Annual rate over life of contract	2.3	2.2	2.8	2.2	3.1	3.3	2.2	2.0	2.2	2.4	2.5	2.9
Negotiated wage and benefit adjustments from settlements: ⁴												
First-year adjustment	1.8	3.1	3.4	3.5	3.2	5.0	3.1	3.0	3.1	3.1	3.3	3.8
Annual rate over life of contract	1.8	2.4	3.2	2.1	3.4	3.4	2.5	2.3	2.5	2.5	2.6	3.0

¹ Seasonally adjusted.

² Excludes Federal and household workers.

³ Limited to major collective bargaining units of 1,000 workers or more. The

most recent data are preliminary.

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

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

(Numbers in thousands)

Employment status	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL															
Noninstitutional population ^{1, 2}	184,490	186,322	186,402	186,522	186,666	186,801	186,949	187,098	187,340	187,461	187,581	187,708	187,854	187,995	188,149
Labor force ²	121,602	123,378	123,331	123,692	123,688	123,778	124,215	124,259	125,124	124,865	124,948	125,343	125,283	125,768	125,622
Participation rate ³	65.9	66.2	66.2	66.3	66.3	66.3	66.4	66.4	66.8	66.6	66.6	66.6	66.6	66.7	66.8
Total employed ²	114,177	116,677	116,707	116,895	117,074	117,260	117,652	117,705	118,407	118,537	118,820	118,797	118,888	119,207	119,125
Employment-population ratio ⁴	61.9	62.6	62.6	62.7	62.7	62.8	62.9	62.9	63.2	63.2	63.3	63.3	63.3	63.4	63.3
Resident Armed Forces ¹	1,737	1,709	1,673	1,692	1,704	1,687	1,705	1,696	1,696	1,684	1,684	1,684	1,673	1,666	1,666
Civilian employed	112,440	114,968	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541	117,459
Agriculture	3,208	3,169	3,060	3,142	3,176	3,238	3,238	3,193	3,300	3,223	3,206	3,104	3,112	3,096	3,219
Nonagricultural industries	109,232	111,800	111,974	112,061	112,194	112,335	112,709	112,816	113,411	113,630	113,930	114,009	114,102	114,445	114,240
Unemployed	7,425	6,701	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546	6,395	6,561	6,497
Unemployment rate ⁵	6.1	5.4	5.4	5.5	5.3	5.3	5.3	5.3	5.4	5.1	4.9	5.2	5.1	5.2	5.2
Not in labor force	62,888	62,944	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365	62,571	62,228	62,527
Men, 16 years and over															
Noninstitutional population ^{1, 2}	88,476	89,404	89,445	89,504	89,577	89,637	89,716	89,792	89,914	89,973	90,032	90,094	90,167	90,237	90,315
Labor force ²	67,784	68,474	68,461	68,685	68,604	68,569	68,686	68,638	69,032	69,113	69,190	69,360	69,114	69,507	69,245
Participation rate ³	76.6	76.6	76.5	76.7	76.6	76.5	76.6	76.4	76.8	76.8	76.9	77.0	76.7	77.0	76.7
Total employed ²	63,684	64,820	64,941	64,931	65,015	64,976	65,074	65,055	65,322	65,572	65,920	65,767	65,713	66,110	65,961
Employment-population ratio ⁴	72.0	72.5	72.6	72.5	72.6	72.5	72.5	72.5	72.6	72.9	73.2	73.0	72.9	73.3	73.0
Resident Armed Forces ¹	1,577	1,547	1,512	1,529	1,540	1,526	1,542	1,534	1,532	1,521	1,521	1,521	1,511	1,501	1,499
Civilian employed	62,107	63,273	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246	64,202	64,609	64,462
Unemployed	4,101	3,655	3,520	3,754	3,589	3,593	3,612	3,583	3,710	3,540	3,270	3,593	3,401	3,397	3,284
Unemployment rate ⁵	6.1	5.3	5.1	5.5	5.2	5.2	5.3	5.2	5.4	5.1	4.7	5.2	4.9	4.9	4.7
Women, 16 years and over															
Noninstitutional population ^{1, 2}	96,013	96,918	96,957	97,018	97,089	97,164	97,234	97,306	97,427	97,488	97,550	97,614	97,687	97,758	97,834
Labor force ²	53,818	54,904	54,870	55,007	55,084	55,209	55,529	55,621	56,091	55,752	55,758	55,983	56,169	56,261	56,377
Participation rate ³	56.1	56.6	56.6	56.7	56.7	56.8	57.1	57.2	57.6	57.2	57.2	57.4	57.5	57.6	57.6
Total employed ²	50,494	51,858	51,766	51,964	52,059	52,284	52,578	52,650	53,085	52,965	52,900	53,029	53,175	53,097	53,164
Employment-population ratio ⁴	52.6	53.5	53.4	53.6	53.6	53.8	54.1	54.1	54.5	54.3	54.2	54.3	54.4	54.3	54.3
Resident Armed Forces ¹	160	162	161	163	164	161	163	162	164	163	163	163	162	165	167
Civilian employed	50,334	51,696	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866	53,013	52,932	52,997
Unemployed	3,324	3,046	3,104	3,043	3,025	2,925	2,951	2,971	3,006	2,787	2,858	2,953	2,994	3,164	3,213
Unemployment rate ⁵	6.2	5.5	5.7	5.5	5.5	5.3	5.3	5.3	5.4	5.0	5.1	5.3	5.3	5.6	5.7

¹ The population and Armed Forces figures are not adjusted for seasonal variation.

² Includes members of the Armed Forces stationed in the United States.

³ Labor force as a percent of the noninstitutional population.

⁴ Total employed as a percent of the noninstitutional population.

⁵ Unemployment as a percent of the labor force (including the resident Armed Forces).

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

(Numbers in thousands)

Employment status	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL															
Civilian noninstitutional population ¹	182,753	184,613	184,729	184,830	184,962	185,114	185,244	185,402	185,644	185,777	185,897	186,024	186,181	186,329	186,483
Civilian labor force	119,865	121,669	121,658	122,000	121,984	122,091	122,510	122,563	123,428	123,181	123,264	123,659	123,610	124,102	123,956
Participation rate	65.6	65.9	65.9	66.0	66.0	66.0	66.1	66.5	66.5	66.3	66.3	66.5	66.4	66.6	66.5
Employed	112,440	114,968	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541	117,459
Employment-population ratio ²	61.5	62.3	62.3	62.3	62.4	62.4	62.6	62.6	62.9	62.9	63.0	63.0	63.0	63.1	63.0
Unemployed	7,425	6,701	6,624	6,797	6,614	6,518	6,563	6,554	6,716	6,328	6,128	6,546	6,395	6,561	6,497
Unemployment rate	6.2	5.5	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3	5.2
Not in labor force	62,888	62,944	63,071	62,830	62,978	63,023	62,734	62,839	62,216	62,596	62,633	62,365	62,571	62,228	62,527
Men, 20 years and over															
Civilian noninstitutional population ¹	79,565	80,553	80,608	80,669	80,751	80,851	80,924	81,001	81,162	81,256	81,333	81,413	81,524	81,592	81,679
Civilian labor force	62,095	62,768	62,729	62,916	62,884	62,915	62,995	63,002	63,358	63,490	63,557	63,709	63,503	63,831	63,656
Participation rate	78.0	77.9	77.8	78.0	77.9	77.8	77.8	77.8	78.1	78.1	78.1	78.3	77.9	78.2	77.9
Employed	58,726	59,781	59,897	59,839	59,979	60,004	59,999	60,049	60,420	60,636	60,869	60,757	60,798	61,093	60,921
Employment-population ratio ²	73.8	74.2	74.3	74.2	74.3	74.2	74.1	74.1	74.4	74.6	74.8	74.6	74.6	74.9	74.6
Agriculture	2,329	2,271	2,252	2,273	2,249	2,315	2,313	2,292	2,277	2,320	2,317	2,252	2,284	2,256	2,342
Nonagricultural industries	56,397	57,510	57,645	57,566	57,730	57,689	57,686	57,757	58,143	58,316	58,552	58,505	58,514	58,837	58,579
Unemployed	3,369	2,987	2,832	3,077	2,905	2,911	2,996	2,953	2,938	2,853	2,688	2,952	2,705	2,737	2,734
Unemployment rate	5.4	4.8	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6	4.3	4.3	4.3
Women, 20 years and over															
Civilian noninstitutional population ¹	88,583	89,532	89,588	89,670	89,735	89,807	89,887	89,954	90,072	90,153	90,242	90,318	90,432	90,526	90,607
Civilian labor force	49,783	50,870	50,807	50,959	50,991	51,201	51,558	51,587	51,998	51,821	51,851	51,992	52,171	52,231	52,463
Participation rate	56.2	56.8	56.7	56.8	56.8	57.0	57.4	57.3	57.7	57.5	57.5	57.6	57.7	57.7	57.9
Employed	47,074	48,383	48,242	48,492	48,535	48,788	49,113	49,165	49,543	49,514	49,484	49,544	49,690	49,661	49,850
Employment-population ratio ²	53.1	54.0	53.8	54.1	54.1	54.3	54.6	54.7	55.0	54.9	54.8	54.9	54.9	54.9	55.0
Agriculture	622	625	549	609	638	640	640	646	715	666	664	615	628	610	627
Nonagricultural industries	46,453	47,757	47,693	47,883	47,897	48,148	48,473	48,519	48,827	48,849	48,819	48,929	49,062	49,051	49,223
Unemployed	2,709	2,487	2,565	2,467	2,456	2,413	2,445	2,422	2,455	2,306	2,367	2,448	2,480	2,570	2,613
Unemployment rate	5.4	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7	4.8	4.9	5.0
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	14,606	14,527	14,533	14,491	14,477	14,456	14,433	14,447	14,410	14,367	14,323	14,293	14,224	14,211	14,196
Civilian labor force	7,988	8,031	8,122	8,125	8,109	7,975	7,957	7,974	8,071	7,871	7,856	7,936	7,936	8,040	7,837
Participation rate	54.7	55.3	55.9	56.1	56.0	55.2	55.1	55.2	56.0	54.8	54.9	55.7	55.8	56.6	55.2
Employed	6,640	6,805	6,895	6,872	6,856	6,781	6,835	6,795	6,748	6,703	6,783	6,812	6,726	6,786	6,687
Employment-population ratio ²	45.5	46.8	47.4	47.4	47.4	46.9	47.4	47.0	46.8	46.7	47.4	47.7	47.3	47.8	47.1
Agriculture	258	273	259	260	289	283	285	255	307	237	224	237	200	230	249
Nonagricultural industries	6,382	6,532	6,636	6,612	6,567	6,498	6,550	6,540	6,441	6,466	6,559	6,575	6,526	6,556	6,438
Unemployed	1,347	1,226	1,227	1,253	1,194	1,122	1,179	1,323	1,168	1,073	1,146	1,210	1,254	1,150	1,150
Unemployment rate	16.9	15.3	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6	14.7
White															
Civilian noninstitutional population ¹	156,958	158,194	158,279	158,340	158,422	158,524	158,603	158,705	158,865	158,947	159,020	159,098	159,200	159,297	159,400
Civilian labor force	103,290	104,756	104,651	105,013	105,036	105,051	105,395	105,411	106,106	105,798	105,988	106,312	106,164	106,455	106,424
Participation rate	65.8	66.2	66.1	66.3	66.3	66.3	66.5	66.4	66.8	66.6	66.7	66.8	66.7	66.8	66.8
Employed	97,789	99,812	99,761	99,907	100,058	100,199	100,543	100,567	101,183	101,278	101,554	101,458	101,465	101,693	101,581
Employment-population ratio ²	62.3	63.1	63.0	63.1	63.2	63.2	63.4	63.4	63.7	63.7	63.9	63.8	63.7	63.8	63.7
Unemployed	5,501	4,944	4,890	5,106	4,978	4,852	4,852	4,844	4,923	4,521	4,434	4,854	4,699	4,762	4,843
Unemployment rate	5.3	4.7	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6	4.4	4.5	4.6
Black															
Civilian noninstitutional population ¹	20,352	20,692	20,715	20,736	20,762	20,786	20,811	20,842	20,877	20,905	20,930	20,956	20,986	21,012	21,038
Civilian labor force	12,993	13,205	13,283	13,236	13,201	13,290	13,330	13,405	13,477	13,476	13,425	13,287	13,444	13,600	13,555
Participation rate	63.8	63.8	64.1	63.8	63.6	63.9	64.1	64.3	64.6	64.5	64.1	63.4	64.1	64.7	64.4
Employed	11,309	11,658	11,761	11,733	11,758	11,807	11,831	11,856	11,860	11,873	11,961	11,846	11,968	11,982	12,082
Employment-population ratio ²	55.6	56.3	56.8	56.6	56.6	56.8	56.8	56.9	56.8	56.8	57.1	56.5	57.0	57.0	57.4
Unemployed	1,684	1,547	1,522	1,503	1,443	1,483	1,499	1,549	1,617	1,603	1,464	1,442	1,476	1,618	1,473
Unemployment rate	13.0	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8	11.0	11.9	10.9

See footnotes at end of table.

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

(Numbers in thousands)

Employment status	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Hispanic origin															
Civilian noninstitutional population ¹	12,867	13,325	13,344	13,381	13,419	13,458	13,495	13,533	13,564	13,606	13,649	13,690	13,731	13,772	13,813
Civilian labor force	8,541	8,982	8,997	8,963	9,061	9,075	9,148	9,133	9,205	9,219	9,210	9,262	9,428	9,272	9,433
Participation rate	66.4	67.4	67.4	67.0	67.5	67.4	67.8	67.5	67.9	67.8	67.5	67.7	68.7	67.3	68.3
Employed	7,790	8,250	8,265	8,214	8,378	8,368	8,419	8,441	8,434	8,596	8,607	8,495	8,686	8,524	8,587
Employment-population ratio ²	60.5	61.9	61.9	61.4	62.4	62.2	62.4	62.4	62.2	63.2	63.1	62.1	63.3	61.9	62.2
Unemployed	751	732	732	749	683	707	729	692	771	624	603	767	742	748	846
Unemployment rate	8.8	8.2	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3	7.9	8.1	9.0

¹ The population figures are not seasonally adjusted.

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

because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC															
Civilian employed, 16 years and over	112,440	114,968	115,034	115,203	115,370	115,573	115,947	116,009	116,711	116,853	117,136	117,113	117,215	117,541	117,459
Men	62,107	63,273	63,429	63,402	63,475	63,450	63,532	63,521	63,790	64,051	64,399	64,246	64,202	64,609	64,462
Women	50,334	51,696	51,605	51,801	51,895	52,123	52,415	52,488	52,921	52,802	52,737	52,866	53,013	52,932	52,997
Married men, spouse present ..	40,265	40,472	40,518	40,511	40,513	40,504	40,407	40,483	40,925	40,928	41,083	40,890	40,902	41,102	41,089
Married women, spouse present	28,107	28,756	28,669	28,809	28,836	28,890	28,995	29,053	29,589	29,412	29,569	29,656	29,739	29,481	29,552
Women who maintain families ..	6,060	6,211	6,170	6,280	6,253	6,344	6,375	6,399	6,416	6,385	6,256	6,243	6,331	6,403	6,456
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,632	1,621	1,572	1,607	1,612	1,661	1,672	1,698	1,684	1,645	1,656	1,554	1,610	1,550	1,695
Self-employed workers	1,423	1,398	1,362	1,411	1,421	1,405	1,450	1,349	1,387	1,419	1,403	1,419	1,358	1,412	1,434
Unpaid family workers	153	150	149	158	137	177	125	149	189	150	138	124	127	126	126
Nonagricultural industries:															
Wage and salary workers	100,771	103,021	103,189	103,207	103,501	103,733	103,770	103,904	104,510	104,797	104,982	104,985	105,245	105,519	105,321
Government	16,800	17,114	17,031	17,111	17,145	17,240	17,387	17,423	17,393	17,311	17,382	17,180	17,230	17,261	17,519
Private industries	83,970	85,907	86,158	86,096	86,356	86,493	86,383	86,481	87,117	87,486	87,600	87,806	88,015	88,259	87,803
Private households	1,208	1,153	1,132	1,128	1,119	1,152	1,209	1,210	1,196	1,135	1,163	1,117	1,128	1,140	1,093
Other	82,762	84,754	85,026	84,968	85,237	85,341	85,174	85,271	85,921	86,350	86,437	86,689	86,887	87,118	86,710
Self-employed workers	8,201	8,519	8,531	8,508	8,570	8,479	8,619	8,602	8,718	8,517	8,645	8,671	8,516	8,570	8,606
Unpaid family workers	260	260	251	241	230	232	300	266	298	285	332	281	322	241	239
PERSONS AT WORK PART TIME¹															
All industries:															
Part time for economic reasons ..	5,401	5,206	5,341	5,192	5,097	4,963	5,061	5,321	5,097	4,981	4,968	5,143	4,837	4,957	4,750
Slack work	2,385	2,350	2,471	2,315	2,266	2,220	2,279	2,549	2,302	2,303	2,232	2,373	2,296	2,318	2,311
Could only find part-time work ..	2,672	2,487	2,538	2,473	2,389	2,399	2,375	2,410	2,352	2,333	2,393	2,425	2,343	2,289	2,138
Voluntary part time	14,395	14,963	15,026	14,999	15,270	15,161	15,446	15,363	15,401	15,126	15,561	15,498	15,316	15,416	15,652
Nonagricultural industries:															
Part time for economic reasons ..	5,122	4,965	5,102	4,972	4,862	4,727	4,819	5,033	4,837	4,697	4,709	4,930	4,609	4,801	4,505
Slack work	2,201	2,199	2,334	2,171	2,102	2,095	2,116	2,377	2,144	2,105	2,048	2,243	2,102	2,190	2,185
Could only find part-time work ..	2,587	2,408	2,493	2,408	2,317	2,319	2,288	2,307	2,283	2,272	2,317	2,369	2,301	2,236	2,057
Voluntary part time	13,928	14,509	14,606	14,564	14,819	14,679	14,986	14,928	14,970	14,688	15,127	15,060	14,976	14,977	15,219

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

7. Selected unemployment indicators, monthly data seasonally adjusted

(Unemployment rates)

Selected categories	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC															
Total, all civilian workers	6.2	5.5	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3	5.2
Both sexes, 16 to 19 years	16.9	15.3	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6	14.7
Men, 20 years and over	5.4	4.8	4.5	4.9	4.6	4.6	4.8	4.7	4.6	4.5	4.2	4.6	4.3	4.3	4.3
Women, 20 years and over	5.4	4.9	5.0	4.8	4.8	4.7	4.7	4.7	4.7	4.5	4.6	4.7	4.8	4.9	5.0
White, total	5.3	4.7	4.7	4.9	4.7	4.6	4.6	4.6	4.6	4.3	4.2	4.6	4.4	4.5	4.6
Both sexes, 16 to 19 years	14.4	13.1	12.9	13.7	13.4	12.9	11.9	12.6	14.1	12.1	11.3	12.3	13.1	13.0	12.8
Men, 16 to 19 years	15.5	13.9	14.3	13.9	14.5	14.4	12.6	13.4	16.4	14.0	12.3	13.1	14.8	13.4	12.4
Women, 16 to 19 years	13.4	12.3	11.4	13.5	12.3	11.3	11.3	11.8	11.7	10.2	10.2	11.5	11.2	12.6	13.4
Men, 20 years and over	4.8	4.1	3.9	4.3	4.1	4.1	4.2	4.1	4.0	3.8	3.6	4.0	3.6	3.7	3.8
Women, 20 years and over	4.6	4.1	4.3	4.1	4.1	4.0	4.0	3.9	3.9	3.6	3.8	4.1	4.1	4.1	4.3
Black, total	13.0	11.7	11.5	11.4	10.9	11.2	11.2	11.6	12.0	11.9	10.9	10.8	11.0	11.9	10.9
Both sexes, 16 to 19 years	34.7	32.4	31.7	32.1	31.9	30.9	31.1	29.6	34.5	32.4	31.6	30.8	32.4	36.5	27.4
Men, 16 to 19 years	34.4	32.7	31.2	32.1	31.9	32.8	32.1	29.8	36.7	33.1	28.6	35.5	36.9	33.5	22.1
Women, 16 to 19 years	34.9	32.0	32.4	32.0	31.9	28.6	29.9	29.3	32.0	31.6	34.8	26.2	28.4	40.2	33.1
Men, 20 years and over	11.1	10.1	9.6	9.7	9.1	9.6	9.8	10.0	10.4	10.5	9.8	10.0	9.4	9.4	9.3
Women, 20 years and over	11.6	10.4	10.3	10.0	9.7	9.8	9.8	10.5	10.4	10.3	9.1	8.8	9.5	10.5	9.9
Hispanic origin, total	8.8	8.2	8.1	8.4	7.5	7.8	8.0	7.6	8.4	6.8	6.5	8.3	7.9	8.1	9.0
Married men, spouse present	3.9	3.3	3.1	3.4	3.1	3.1	3.3	3.1	3.1	3.1	2.9	3.2	2.9	2.8	2.9
Married women, spouse present	4.3	3.9	4.0	4.0	3.8	3.7	3.8	3.7	3.6	3.4	3.5	4.0	3.8	3.8	3.8
Women who maintain families	9.2	8.1	8.5	7.5	8.1	7.9	7.7	8.2	8.0	8.0	7.9	7.6	8.3	7.9	8.7
Full-time workers	5.8	5.2	5.0	5.3	5.1	5.0	5.0	5.1	5.0	4.8	4.8	5.0	4.8	4.8	4.9
Part-time workers	8.4	7.6	8.0	7.4	7.4	7.4	7.1	7.0	7.9	7.3	6.2	7.2	6.9	7.7	7.2
Unemployed 15 weeks and over	1.7	1.3	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.1	1.2	1.1	1.0	1.2
Labor force time lost ¹	7.1	6.3	6.4	6.4	6.3	6.1	6.2	6.3	6.2	5.9	5.8	6.0	5.9	6.1	6.0
INDUSTRY															
Nonagricultural private wage and salary workers	6.2	5.5	5.4	5.6	5.4	5.4	5.5	5.4	5.6	5.1	5.0	5.4	5.2	5.3	5.4
Mining	10.0	7.9	5.4	7.0	8.6	8.8	8.9	7.7	6.1	8.0	7.0	5.6	4.5	3.7	5.5
Construction	11.6	10.6	10.4	10.7	9.6	10.0	10.6	10.4	10.4	10.0	9.4	9.7	9.3	10.0	10.5
Manufacturing	6.0	5.3	5.2	5.5	5.4	5.3	5.1	5.2	5.3	4.9	4.8	4.9	4.9	5.2	5.0
Durable goods	5.8	5.0	4.9	5.0	5.2	5.0	4.9	5.0	5.0	4.4	4.7	4.7	4.5	4.6	4.7
Nondurable goods	6.3	5.7	5.6	6.3	5.8	5.7	5.3	5.5	5.7	5.5	4.9	5.2	5.5	6.1	5.5
Transportation and public utilities	4.5	3.9	3.6	3.8	3.8	3.5	4.0	3.8	3.8	3.9	3.9	4.0	4.0	4.4	4.2
Wholesale and retail trade	6.9	6.2	6.2	6.4	6.2	6.0	6.2	6.3	6.3	5.6	5.6	5.9	5.5	6.0	6.2
Finance and service industries	4.9	4.5	4.5	4.4	4.4	4.5	4.6	4.1	4.7	4.3	4.1	4.8	4.7	4.3	4.4
Government workers	3.5	2.8	3.0	2.9	2.7	2.6	2.5	2.7	2.7	2.7	2.6	2.7	2.9	3.0	2.8
Agricultural wage and salary workers	10.5	10.6	11.0	11.0	10.8	10.2	9.3	8.8	9.5	8.9	8.9	10.5	10.3	11.0	8.5

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

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

(Civilian workers)

Sex and age	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total, 16 years and over	6.2	5.5	5.4	5.6	5.4	5.3	5.4	5.3	5.4	5.1	5.0	5.3	5.2	5.3	5.2
16 to 24 years	12.2	11.0	10.9	11.0	10.9	10.9	10.6	10.9	11.9	10.5	9.8	10.5	10.4	11.3	10.7
16 to 19 years	16.9	15.3	15.1	15.4	15.5	15.0	14.1	14.8	16.4	14.8	13.7	14.4	15.2	15.6	14.7
16 to 17 years	19.1	17.4	17.5	18.5	19.6	17.2	15.8	16.6	18.3	18.2	15.3	14.9	16.2	17.5	17.8
18 to 19 years	15.2	13.8	13.1	13.7	12.8	13.3	12.9	13.3	15.4	12.7	12.5	13.8	14.5	14.9	12.4
20 to 24 years	9.7	8.7	8.5	8.4	8.4	8.6	8.7	8.7	9.3	8.1	7.7	8.4	7.7	8.9	8.6
25 years and over	4.8	4.3	4.2	4.4	4.2	4.1	4.2	4.1	4.1	4.0	3.9	4.1	4.0	4.0	4.0
25 to 54 years	5.0	4.5	4.4	4.5	4.4	4.3	4.4	4.3	4.2	4.2	4.1	4.4	4.2	4.1	4.2
55 years and over	3.3	3.1	3.1	3.2	2.9	2.8	2.8	3.0	3.1	3.1	2.6	2.9	2.9	3.3	3.1
Men, 16 years and over	6.2	5.5	5.3	5.6	5.4	5.4	5.4	5.3	5.5	5.2	4.8	5.3	5.0	5.0	4.8
16 to 24 years	12.6	11.4	11.3	11.4	11.3	11.8	10.9	11.1	12.8	11.1	9.7	10.7	11.0	11.5	10.4
16 to 19 years	17.8	16.0	16.3	16.0	16.4	16.5	14.8	15.4	18.6	16.7	14.2	15.5	17.0	15.8	13.4
16 to 17 years	20.2	18.2	18.1	17.7	20.8	18.5	17.3	17.3	20.6	19.6	15.8	17.0	18.8	20.0	17.4
18 to 19 years	16.0	14.6	14.4	14.5	13.5	15.0	13.0	13.5	17.9	15.1	13.2	14.6	15.7	13.6	10.7
20 to 24 years	9.9	8.9	8.5	8.9	8.5	9.2	8.8	8.7	9.6	8.1	7.2	8.0	7.7	9.2	8.7
25 years and over	4.8	4.2	4.0	4.4	4.1	4.0	4.2	4.1	4.0	4.0	3.8	4.2	3.7	3.7	3.7
25 to 54 years	5.0	4.4	4.2	4.5	4.3	4.2	4.4	4.3	4.2	4.1	4.0	4.4	3.9	3.7	3.9
55 years and over	3.5	3.3	3.2	3.4	2.9	3.0	3.2	3.3	3.0	3.4	2.8	3.2	2.9	3.0	3.1
Women, 16 years and over	6.2	5.6	5.7	5.5	5.5	5.3	5.3	5.4	5.4	5.0	5.1	5.3	5.3	5.6	5.7
16 to 24 years	11.7	10.6	10.5	10.4	10.5	9.9	10.3	10.7	10.9	9.7	10.0	10.4	9.8	11.0	11.1
16 to 19 years	15.9	14.4	13.8	14.8	14.5	13.3	13.3	14.2	14.0	12.8	13.1	13.2	13.4	15.4	16.0
16 to 17 years	18.0	16.6	16.8	19.2	18.2	15.8	14.1	15.8	15.9	16.8	14.8	12.7	13.4	14.7	18.3
18 to 19 years	14.3	12.9	11.6	12.8	12.0	11.6	12.8	13.1	12.7	10.0	11.7	12.8	13.3	16.2	14.4
20 to 24 years	9.4	8.5	8.6	8.0	8.2	7.9	8.6	8.7	9.1	8.0	8.3	8.9	7.7	8.6	8.4
25 years and over	4.8	4.3	4.4	4.3	4.3	4.2	4.2	4.1	4.1	3.9	4.0	4.1	4.4	4.4	4.4
25 to 54 years	5.1	4.6	4.7	4.6	4.5	4.5	4.4	4.4	4.3	4.2	4.3	4.4	4.6	4.5	4.6
55 years and over	3.0	2.8	2.9	2.8	2.9	2.4	2.4	2.6	3.1	2.5	2.3	2.6	3.0	3.8	3.2

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

(Numbers in thousands)

Reason for unemployment	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Job losers	3,566	3,092	3,085	3,112	3,079	2,951	3,031	3,066	3,121	2,876	2,831	2,984	2,724	2,765	2,920
On layoff	943	851	853	880	833	844	814	819	827	774	808	847	790	806	822
Other job losers	2,623	2,241	2,232	2,232	2,246	2,107	2,217	2,247	2,294	2,102	2,023	2,137	1,934	1,958	2,097
Job leavers	965	983	923	986	985	984	963	998	985	985	885	978	1,114	1,023	1,010
Reentrants	1,974	1,809	1,883	1,843	1,767	1,747	1,766	1,725	1,835	1,740	1,730	1,894	1,852	2,051	1,934
New entrants	920	816	799	800	761	747	799	799	780	765	713	671	683	742	724
PERCENT OF UNEMPLOYED															
Job losers	48.0	46.1	46.1	46.2	46.7	45.9	46.2	46.5	46.4	45.2	46.0	45.7	42.7	42.0	44.3
On layoff	12.7	12.7	12.8	13.1	12.6	13.1	12.4	12.4	12.3	12.2	13.1	13.0	12.4	12.3	12.5
Other job losers	35.3	33.4	33.4	33.1	34.1	32.8	33.8	34.1	34.1	33.0	32.8	32.7	30.3	29.8	31.8
Job leavers	13.0	14.7	13.8	14.6	14.9	15.3	14.7	15.1	14.7	15.5	14.4	15.0	17.5	15.5	15.3
Reentrants	26.6	27.0	28.1	27.3	26.8	27.2	26.9	26.2	27.3	27.3	28.1	29.0	29.1	31.2	29.4
New entrants	12.4	12.2	11.9	11.9	11.5	11.6	12.2	12.1	11.6	12.0	11.6	10.3	10.7	11.3	11.0
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.0	2.5	2.5	2.6	2.5	2.4	2.5	2.5	2.5	2.3	2.3	2.4	2.2	2.2	2.4
On layoff .....	.8	.8	.8	.8	.8	.8	.8	.8	.8	.8	.7	.8	.9	.8	.8
Other job losers	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.4	1.5	1.4	1.4	1.5	1.5	1.7	1.6
Job leavers .....	.8	.7	.7	.7	.6	.6	.7	.7	.6	.6	.6	.5	.6	.6	.6

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Less than 5 weeks	3,246	3,084	2,985	3,158	3,116	3,059	3,117	3,029	3,181	3,247	3,055	3,090	3,041	3,309	3,149
5 to 14 weeks	2,196	2,007	2,041	1,956	1,896	1,835	1,935	2,039	2,081	1,865	1,821	2,034	2,017	1,999	1,927
15 weeks and over	1,983	1,610	1,619	1,636	1,568	1,554	1,502	1,495	1,512	1,304	1,310	1,426	1,313	1,258	1,472
15 to 26 weeks	943	801	826	831	775	788	787	758	757	665	648	689	702	659	846
27 weeks and over	1,040	809	793	805	793	766	715	737	755	639	663	737	611	599	626
Mean duration in weeks	14.5	13.5	13.5	13.5	13.5	13.4	12.6	12.8	12.7	12.1	12.4	12.7	11.8	11.1	12.0
Median duration in weeks	6.5	5.9	6.2	5.9	5.7	5.7	5.6	5.8	5.7	5.3	5.4	5.4	5.3	5.5	5.6

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

State	June 1988	June 1989	State	June 1988	June 1989
Alabama	7.6	7.4	Montana	6.4	6.0
Alaska	9.1	7.0	Nebraska	3.6	3.6
Arizona	7.1	5.7	Nevada	5.2	5.3
Arkansas	8.3	8.4	New Hampshire	2.5	3.4
California	5.4	5.5	New Jersey	3.6	4.1
Colorado	6.4	6.7	New Mexico	9.3	7.4
Connecticut	3.2	3.4	New York	3.4	4.7
Delaware	2.8	3.8	North Carolina	3.5	3.7
District of Columbia	4.5	5.3	North Dakota	4.8	4.5
Florida	4.8	6.1	Ohio	6.1	5.8
Georgia	6.2	6.0	Oklahoma	7.1	5.6
Hawaii	3.6	3.0	Oregon	5.9	5.3
Idaho	5.1	4.9	Pennsylvania	5.6	4.6
Illinois	6.9	5.8	Rhode Island	3.0	3.7
Indiana	4.3	3.3	South Carolina	4.6	5.0
Iowa	4.4	4.4	South Dakota	3.6	4.2
Kansas	5.1	4.9	Tennessee	7.2	5.5
Kentucky	9.1	7.3	Texas	8.0	7.1
Louisiana	11.3	9.5	Utah	4.7	4.0
Maine	3.2	3.8	Vermont	2.4	3.8
Maryland	4.6	4.3	Virginia	3.7	3.6
Massachusetts	3.4	3.9	Washington	6.2	5.4
Michigan	7.1	7.5	West Virginia	9.9	8.1
Minnesota	4.1	4.9	Wisconsin	3.8	4.5
Mississippi	8.9	9.8	Wyoming	5.1	5.5
Missouri	5.6	5.3			

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

12. Employment of workers on nonagricultural payrolls by State, data not seasonally adjusted

(In thousands)

State	June 1988	May 1989	June 1989 ^p	State	June 1988	May 1989	June 1989 ^p
Alabama	1,564.3	1,578.7	1,581.1	Nebraska	692.8	715.5	718.8
Alaska	221.9	221.3	231.5	Nevada	538.8	570.2	574.7
Arizona	1,391.2	1,440.7	1,409.8	New Hampshire	532.7	533.4	540.4
Arkansas	863.9	886.5	888.6	New Jersey	3,692.6	3,685.5	3,728.9
California	12,124.0	12,390.6	12,455.8	New Mexico	541.2	553.7	557.4
Colorado	1,436.6	1,442.2	1,451.4	New York	8,262.9	8,277.2	8,345.3
Connecticut	1,693.0	1,694.7	1,708.8	North Carolina	2,983.3	3,020.2	3,035.8
Delaware	336.3	342.3	348.0	North Dakota	260.8	260.9	262.6
District of Columbia	677.3	685.5	692.8	Ohio	4,715.4	4,811.3	4,831.2
Florida	5,059.1	5,268.0	5,257.4	Oklahoma	1,141.0	1,146.1	1,146.0
Georgia	2,888.2	2,934.2	2,937.6	Oregon	1,163.6	1,193.3	1,210.7
Hawaii	478.9	492.7	493.1	Pennsylvania	5,077.2	5,112.4	5,134.0
Idaho	354.1	360.2	364.9	Rhode Island	459.0	461.3	462.2
Illinois	5,093.2	5,156.7	5,172.1	South Carolina	1,459.5	1,512.2	1,515.9
Indiana	2,412.7	2,482.0	2,477.0	South Dakota	271.7	269.0	272.7
Iowa	1,169.2	1,201.6	1,199.2	Tennessee	2,079.1	2,087.8	2,082.0
Kansas	1,039.8	1,061.1	1,060.2	Texas	6,658.3	6,774.8	6,811.4
Kentucky	1,377.2	1,398.5	1,400.2	Utah	664.4	683.1	689.3
Louisiana	1,501.1	1,517.9	1,519.3	Vermont	253.6	254.7	256.7
Maine	530.9	524.7	535.3	Virginia	2,801.3	2,886.2	2,916.1
Maryland	2,106.2	2,126.5	2,140.2	Washington	1,961.3	2,034.2	2,053.2
Massachusetts	3,153.5	3,154.9	3,176.0	West Virginia	615.5	617.3	615.8
Michigan	3,816.4	3,889.4	3,882.3	Wisconsin	2,179.4	2,202.4	2,223.1
Minnesota	2,050.1	2,090.4	2,105.1	Wyoming	191.7	190.0	194.5
Mississippi	897.4	915.1	913.7	Puerto Rico	840.4	825.6	856.0
Missouri	2,250.2	2,281.5	2,279.3	Virgin Islands	41.2	41.6	41.3
Montana	283.9	283.2	288.4				

^p = preliminary

NOTE: Some data in this table may differ from data published elsewhere

because of the continual updating of the database.

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

(In thousands)

Industry	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^p	July ^p
TOTAL	102,200	105,584	105,768	105,954	106,207	106,475	106,824	107,097	107,442	107,711	107,888	108,101	108,310	108,560	108,729
PRIVATE SECTOR	85,190	88,212	88,418	88,578	88,736	88,991	89,299	89,574	89,897	90,124	90,291	90,475	90,623	90,868	91,062
GOODS-PRODUCING	24,708	25,249	25,323	25,303	25,313	25,384	25,460	25,513	25,626	25,629	25,646	25,671	25,672	25,651	25,680
Mining	717	721	725	725	719	717	712	711	711	714	720	722	715	704	704
Oil and gas extraction	402	406	410	408	404	400	396	394	393	394	397	400	401	401	402
Construction	4,967	5,125	5,150	5,153	5,163	5,162	5,191	5,213	5,267	5,270	5,252	5,279	5,283	5,281	5,318
General building contractors	1,320	1,368	1,372	1,372	1,374	1,363	1,375	1,380	1,404	1,398	1,380	1,377	1,388	1,385	1,393
Manufacturing	19,024	19,403	19,448	19,425	19,431	19,505	19,557	19,589	19,648	19,648	19,680	19,672	19,667	19,655	19,658
Production workers	12,970	13,254	13,295	13,270	13,263	13,324	13,365	13,385	13,423	13,426	13,442	13,430	13,426	13,405	13,427
Durable goods	11,194	11,437	11,475	11,462	11,464	11,509	11,545	11,565	11,605	11,594	11,604	11,600	11,594	11,567	11,549
Production workers	7,439	7,635	7,672	7,658	7,653	7,690	7,717	7,730	7,758	7,749	7,749	7,744	7,735	7,706	7,702
Lumber and wood products	741	765	762	761	763	770	775	780	784	778	777	772	771	769	767
Furniture and fixtures	516	530	531	529	530	531	532	532	532	534	535	537	534	534	535
Stone, clay, and glass products	586	600	602	600	600	603	605	607	607	608	607	606	604	603	601
Primary metal industries	747	774	780	776	779	783	784	785	786	786	788	788	787	788	788
Blast furnaces and basic steel products	268	277	278	277	277	277	277	276	276	276	276	275	276	277	274
Fabricated metal products	1,401	1,431	1,438	1,435	1,436	1,442	1,445	1,449	1,458	1,458	1,457	1,454	1,452	1,449	1,450
Machinery, except electrical	2,008	2,082	2,092	2,094	2,098	2,110	2,120	2,126	2,134	2,138	2,143	2,144	2,150	2,151	2,156
Electrical and electronic equipment	2,069	2,070	2,072	2,073	2,072	2,073	2,075	2,067	2,065	2,062	2,060	2,058	2,050	2,040	2,032
Transportation equipment	2,051	2,051	2,058	2,052	2,044	2,055	2,060	2,063	2,079	2,067	2,071	2,073	2,076	2,062	2,050
Motor vehicles and equipment	867	857	862	859	859	865	867	867	882	871	869	875	876	860	848
Instruments and related products	706	749	751	755	756	758	762	767	770	772	776	777	778	779	782
Miscellaneous manufacturing industries	371	386	389	387	386	384	387	389	390	391	390	391	392	392	388
Nondurable goods	7,830	7,967	7,973	7,963	7,967	7,996	8,012	8,024	8,043	8,054	8,076	8,072	8,073	8,088	8,109
Production workers	5,531	5,619	5,623	5,612	5,610	5,634	5,648	5,655	5,665	5,677	5,693	5,686	5,691	5,699	5,725
Food and kindred products	1,620	1,636	1,628	1,629	1,627	1,644	1,648	1,646	1,650	1,650	1,655	1,657	1,656	1,664	1,675
Tobacco manufactures	55	56	55	55	55	55	56	56	56	56	56	54	53	53	53
Textile mill products	726	729	730	723	726	726	725	724	728	728	729	728	728	729	730
Apparel and other textile products	1,099	1,092	1,091	1,085	1,085	1,083	1,088	1,090	1,092	1,096	1,101	1,098	1,095	1,093	1,098
Paper and allied products	680	693	695	694	693	695	695	696	696	696	697	696	697	697	699
Printing and publishing	1,506	1,561	1,564	1,568	1,573	1,577	1,581	1,588	1,595	1,595	1,600	1,601	1,603	1,609	1,611
Chemicals and allied products	1,026	1,065	1,068	1,071	1,072	1,074	1,075	1,079	1,084	1,085	1,088	1,090	1,094	1,096	1,094
Petroleum and coal products	164	162	162	162	162	162	162	162	160	161	161	162	162	163	163
Rubber and misc. plastics products	811	829	836	832	830	836	839	840	839	843	845	843	843	842	844
Leather and leather products	143	144	144	144	144	144	143	143	143	144	144	143	142	142	142
SERVICE-PRODUCING	77,492	80,335	80,445	80,651	80,894	81,091	81,364	81,584	81,816	82,082	82,242	82,430	82,638	82,909	83,049
Transportation and public utilities	5,372	5,548	5,557	5,572	5,581	5,596	5,616	5,634	5,654	5,667	5,666	5,682	5,700	5,716	5,739
Transportation	3,164	3,334	3,340	3,353	3,365	3,381	3,402	3,421	3,439	3,453	3,452	3,467	3,484	3,500	3,524
Communication and public utilities	2,208	2,214	2,217	2,219	2,216	2,215	2,214	2,213	2,215	2,214	2,214	2,215	2,216	2,216	2,215
Wholesale trade	5,844	6,029	6,038	6,051	6,071	6,086	6,104	6,125	6,146	6,171	6,197	6,206	6,222	6,229	6,234
Durable goods	3,427	3,561	3,569	3,578	3,590	3,599	3,612	3,626	3,638	3,657	3,676	3,676	3,685	3,693	3,696
Nondurable goods	2,417	2,467	2,469	2,473	2,481	2,487	2,492	2,499	2,508	2,514	2,521	2,530	2,537	2,536	2,538
Retail trade	18,483	19,110	19,139	19,182	19,188	19,229	19,282	19,328	19,407	19,460	19,488	19,489	19,528	19,548	19,600
General merchandise stores	2,412	2,461	2,457	2,454	2,452	2,447	2,452	2,460	2,472	2,481	2,490	2,492	2,491	2,490	2,488
Food stores	2,962	3,098	3,105	3,117	3,122	3,149	3,165	3,182	3,200	3,212	3,223	3,233	3,245	3,262	3,275
Automotive dealers and service stations	2,004	2,090	2,096	2,107	2,115	2,124	2,131	2,136	2,143	2,150	2,155	2,159	2,159	2,154	2,157
Eating and drinking places	6,106	6,282	6,284	6,302	6,296	6,314	6,322	6,328	6,323	6,332	6,322	6,335	6,348	6,362	6,370
Finance, insurance, and real estate	6,547	6,676	6,678	6,686	6,695	6,710	6,726	6,744	6,746	6,763	6,774	6,776	6,790	6,801	6,812
Finance	3,270	3,290	3,284	3,285	3,288	3,293	3,299	3,307	3,308	3,311	3,316	3,312	3,320	3,318	3,322
Insurance	2,024	2,082	2,084	2,087	2,092	2,098	2,102	2,110	2,109	2,116	2,117	2,119	2,123	2,128	2,131
Real estate	1,253	1,304	1,310	1,314	1,315	1,319	1,325	1,327	1,329	1,336	1,341	1,345	1,347	1,355	1,359
Services	24,236	25,600	25,683	25,784	25,888	25,986	26,111	26,230	26,318	26,434	26,520	26,651	26,711	26,923	26,997
Business services	5,195	5,571	5,595	5,617	5,651	5,667	5,682	5,715	5,707	5,729	5,736	5,760	5,776	5,799	5,802
Health services	6,805	7,144	7,153	7,187	7,228	7,267	7,313	7,359	7,396	7,442	7,488	7,528	7,570	7,615	7,644
Government	17,010	17,372	17,350	17,376	17,471	17,484	17,525	17,523	17,545	17,587	17,597	17,626	17,687	17,692	17,667
Federal	2,943	2,971	2,958	2,967	2,985	2,986	2,983	2,981	2,978	2,982	2,982	2,982	2,999	2,994	2,976
State	3,967	4,063	4,071	4,079	4,088	4,081	4,085	4,085	4,084	4,095	4,102	4,111	4,119	4,134	4,138
Local	10,100	10,339	10,321	10,330	10,398	10,417	10,457	10,457	10,483	10,510	10,513	10,533	10,569	10,564	10,553

^p = preliminary

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

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

Industry	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^p	July ^p
PRIVATE SECTOR	34.8	34.7	34.8	34.6	34.7	34.8	34.7	34.7	34.8	34.6	34.7	34.9	34.6	34.6	34.9
MANUFACTURING	41.0	41.1	41.1	41.0	41.1	41.2	41.2	41.0	41.1	41.1	41.0	41.3	41.0	41.0	41.0
Overtime hours	3.7	3.9	3.9	3.9	3.9	4.0	3.9	3.9	3.9	3.9	4.0	3.9	3.8	3.8	3.9
Durable goods	41.5	41.8	41.8	41.7	41.9	41.9	41.9	41.7	41.8	41.8	41.7	41.9	41.5	41.5	41.5
Overtime hours	3.8	4.1	4.1	4.1	4.1	4.2	4.2	4.1	4.1	4.1	4.1	4.1	3.9	3.9	4.0
Lumber and wood products	40.6	40.3	40.4	40.1	40.1	40.7	40.3	40.3	40.3	39.6	40.0	40.5	39.7	39.8	39.4
Furniture and fixtures	40.0	39.4	39.6	39.2	39.6	39.4	39.5	39.4	39.8	39.7	39.8	39.9	39.4	39.3	39.0
Stone, clay, and glass products	42.3	42.3	42.2	42.2	42.3	42.5	42.6	42.4	42.5	42.2	42.2	42.5	41.9	42.2	42.3
Primary metal industries	43.1	43.6	43.5	43.5	43.9	43.7	43.7	43.5	43.6	43.4	43.5	43.3	43.2	43.3	43.1
Blast furnaces and basic steel products	43.4	44.0	44.0	44.1	44.5	44.2	44.0	43.8	44.0	43.8	44.1	43.5	43.6	43.6	43.2
Fabricated metal products	41.6	41.9	41.9	41.8	42.0	41.9	42.1	41.8	41.9	41.9	41.8	41.9	41.7	41.5	41.5
Machinery except electrical	42.2	42.6	42.8	42.5	42.7	42.7	42.5	42.5	42.5	42.6	42.5	42.7	42.5	42.5	42.3
Electrical and electronic equipment	40.9	41.0	41.0	40.9	40.9	41.0	41.0	40.8	40.9	40.9	40.6	41.0	40.7	40.7	40.7
Transportation equipment	42.0	42.7	42.7	42.7	43.0	43.1	43.1	42.8	42.8	43.1	43.1	42.8	42.5	42.5	42.7
Motor vehicles and equipment	42.2	43.5	42.9	43.6	44.1	43.9	44.1	43.7	43.6	43.9	43.9	43.3	42.8	42.7	42.5
Instruments and related products	41.4	41.5	41.7	41.5	41.6	41.8	41.6	41.1	41.5	41.5	41.1	41.5	41.1	41.3	41.6
Miscellaneous manufacturing	39.4	39.2	39.3	39.3	39.2	39.1	39.3	39.0	39.4	39.5	39.5	39.8	39.6	39.4	38.9
Nondurable goods	40.2	40.1	40.2	40.1	40.2	40.2	40.2	40.0	40.1	40.2	40.1	40.4	40.2	40.2	40.3
Overtime hours	3.6	3.7	3.7	3.6	3.7	3.7	3.6	3.6	3.6	3.7	3.8	3.8	3.7	3.6	3.8
Food and kindred products	40.2	40.3	40.4	40.3	40.3	40.4	40.6	40.2	40.1	40.3	40.4	40.7	40.5	40.6	41.3
Textile mill products	41.8	41.1	41.0	41.0	41.0	41.0	41.0	40.5	40.9	40.8	41.1	41.7	41.4	41.4	41.4
Apparel and other textile products	37.0	37.0	37.0	36.9	37.1	36.9	37.0	36.8	37.0	37.1	36.9	37.6	37.1	37.0	37.1
Paper and allied products	43.4	43.2	43.2	43.2	43.2	43.2	43.1	43.2	43.1	43.2	43.3	43.4	43.3	43.4	43.2
Printing and publishing	38.0	38.0	38.0	38.0	38.1	38.0	37.9	37.8	38.0	38.0	37.9	37.9	37.7	37.8	37.6
Chemicals and allied products	42.3	42.3	42.3	42.2	42.3	42.5	42.3	42.3	42.3	42.3	42.3	42.6	42.1	42.5	42.5
Rubber and miscellaneous plastics products	41.6	41.7	41.7	41.6	41.7	41.6	41.7	41.4	41.7	41.7	41.6	41.6	41.5	41.4	41.3
Leather and leather products	38.2	37.5	37.2	37.5	37.5	37.8	37.3	37.7	38.0	38.6	38.0	38.3	37.4	37.9	37.5
TRANSPORTATION AND PUBLIC UTILITIES	39.2	39.3	39.4	39.3	39.4	39.4	39.3	39.4	39.6	39.4	39.4	40.1	39.5	39.4	39.9
WHOLESALE TRADE	37.5	37.4	38.1	37.9	38.1	38.1	38.0	38.1	38.1	38.1	38.1	38.3	37.9	38.0	38.1
RETAIL TRADE	29.2	29.1	29.3	29.0	29.1	29.2	29.0	29.1	29.1	28.9	28.9	29.1	28.9	28.9	29.2
SERVICES	32.5	32.6	32.7	32.5	32.6	32.7	32.5	32.7	32.7	32.5	32.6	32.8	32.5	32.5	32.8

^p = preliminary

benchmark adjustment.

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

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

Industry	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^p	July ^p
PRIVATE SECTOR (in current dollars)¹	\$8.98	\$9.29	\$9.31	\$9.32	\$9.37	\$9.43	\$9.42	\$9.45	\$9.49	\$9.52	\$9.54	\$9.61	\$9.60	\$9.62	\$9.70
Construction	12.71	13.01	13.05	13.03	13.07	13.08	13.10	13.15	13.18	13.22	13.26	13.33	13.32	13.31	13.41
Manufacturing	9.91	10.18	10.18	10.21	10.25	10.29	10.30	10.31	10.33	10.37	10.40	10.40	10.42	10.45	10.48
Excluding overtime	9.48	9.72	9.72	9.75	9.78	9.80	9.83	9.85	9.87	9.89	9.92	9.92	9.97	9.99	10.01
Transportation and public utilities	12.03	12.32	12.35	12.37	12.37	12.41	12.39	12.36	12.45	12.48	12.50	12.52	12.54	12.53	12.63
Wholesale trade	9.60	9.94	9.98	9.95	10.03	10.14	10.06	10.11	10.19	10.18	10.21	10.36	10.28	10.32	10.45
Retail trade	6.12	6.31	6.32	6.33	6.36	6.38	6.40	6.43	6.44	6.45	6.47	6.51	6.49	6.51	6.53
Finance, insurance, and real estate	8.73	9.09	9.11	9.09	9.18	9.35	9.26	9.35	9.40	9.35	9.36	9.54	9.45	9.52	9.67
Services	8.49	8.91	8.93	8.95	9.00	9.07	9.05	9.10	9.15	9.19	9.24	9.32	9.33	9.34	9.46
PRIVATE SECTOR (in constant (1977) dollars)¹	4.86	4.84	4.84	4.82	4.83	4.84	4.82	4.82	4.81	4.81	4.80	4.80	4.77	4.77	-

¹ Includes mining, not shown separately
 - Data not available.
^p = preliminary

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

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

Industry	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^p	July ^p
PRIVATE SECTOR	\$8.98	\$9.29	\$9.24	\$9.24	\$9.40	\$9.45	\$9.46	\$9.46	\$9.54	\$9.55	\$9.56	\$9.62	\$9.59	\$9.58	\$9.63
MINING	12.54	12.75	12.72	12.69	12.82	12.79	12.89	13.03	13.20	13.22	13.15	13.19	13.13	13.04	13.07
CONSTRUCTION	12.71	13.01	12.96	12.99	13.16	13.17	13.08	13.19	13.26	13.21	13.26	13.30	13.28	13.23	13.32
MANUFACTURING	9.91	10.18	10.17	10.13	10.25	10.25	10.31	10.37	10.37	10.38	10.41	10.41	10.42	10.44	10.47
Durable goods	10.44	10.71	10.67	10.65	10.78	10.79	10.85	10.90	10.90	10.91	10.93	10.93	10.94	10.98	10.99
Lumber and wood products	8.40	8.61	8.66	8.58	8.69	8.77	8.69	8.76	8.71	8.69	8.68	8.76	8.79	8.86	8.92
Furniture and fixtures	7.67	7.94	7.99	8.02	8.09	8.06	8.02	8.06	8.10	8.08	8.13	8.12	8.16	8.22	8.26
Stone, clay, and glass products	10.25	10.47	10.53	10.45	10.55	10.57	10.60	10.57	10.59	10.62	10.62	10.71	10.69	10.74	10.78
Primary metal industries	11.94	12.15	12.22	12.10	12.24	12.19	12.22	12.26	12.27	12.27	12.27	12.26	12.25	12.32	12.35
Blast furnaces and basic steel products	13.77	13.97	14.09	13.96	14.07	14.03	14.01	14.07	14.04	14.13	14.13	14.06	14.06	14.15	14.17
Fabricated metal products	10.00	10.26	10.20	10.21	10.34	10.34	10.36	10.44	10.45	10.46	10.47	10.48	10.49	10.50	10.54
Machinery, except electrical	10.72	11.01	10.98	10.97	11.09	11.11	11.22	11.24	11.21	11.23	11.25	11.26	11.29	11.32	11.34
Electrical and electronic equipment	9.88	10.13	10.13	10.15	10.19	10.16	10.24	10.29	10.27	10.26	10.30	10.31	10.33	10.38	10.44
Transportation equipment	12.94	13.31	13.19	13.21	13.44	13.45	13.56	13.59	13.58	13.59	13.65	13.60	13.58	13.65	13.57
Motor vehicles and equipment	13.53	14.00	13.79	13.83	14.10	14.09	14.18	14.23	14.20	14.19	14.28	14.20	14.17	14.22	14.02
Instruments and related products	9.72	9.98	9.96	9.94	9.99	10.08	10.07	10.13	10.12	10.14	10.17	10.17	10.17	10.25	10.32
Miscellaneous manufacturing	7.76	8.01	7.98	7.95	8.01	8.10	8.12	8.20	8.22	8.23	8.23	8.21	8.24	8.23	8.31
Non-durable goods	9.18	9.43	9.46	9.41	9.50	9.49	9.54	9.61	9.62	9.62	9.66	9.65	9.68	9.69	9.77
Food and kindred products	8.93	9.10	9.12	9.02	9.11	9.03	9.15	9.25	9.27	9.26	9.33	9.32	9.34	9.37	9.35
Tobacco manufactures	14.07	14.68	15.78	14.97	14.09	14.01	14.56	14.31	14.39	14.75	15.34	15.87	16.13	16.48	16.24
Textile mill products	7.17	7.37	7.31	7.37	7.43	7.45	7.47	7.52	7.60	7.59	7.59	7.60	7.62	7.65	7.64
Apparel and other textile products	5.94	6.12	6.03	6.09	6.21	6.22	6.25	6.29	6.32	6.32	6.34	6.32	6.32	6.33	6.31
Paper and allied products	11.43	11.65	11.72	11.65	11.72	11.68	11.74	11.81	11.78	11.80	11.84	11.83	11.89	11.90	12.08
Printing and publishing	10.28	10.52	10.48	10.54	10.70	10.68	10.67	10.70	10.73	10.74	10.79	10.73	10.76	10.74	10.80
Chemicals and allied products	12.37	12.67	12.70	12.62	12.75	12.78	12.86	12.90	12.85	12.88	12.91	12.92	12.98	12.97	13.11
Petroleum and coal products	14.58	14.98	14.93	14.84	15.01	15.14	15.18	15.21	15.24	15.45	15.46	15.50	15.34	15.24	15.35
Rubber and miscellaneous plastics products	8.92	9.14	9.15	9.17	9.22	9.23	9.26	9.31	9.32	9.31	9.33	9.35	9.40	9.40	9.47
Leather and leather products	6.08	6.27	6.19	6.22	6.30	6.33	6.41	6.44	6.48	6.49	6.54	6.55	6.58	6.58	6.55
TRANSPORTATION AND PUBLIC UTILITIES	12.03	12.32	12.32	12.35	12.40	12.42	12.46	12.42	12.47	12.50	12.46	12.51	12.49	12.47	12.60
WHOLESALE TRADE	9.60	9.94	9.95	9.91	10.04	10.10	10.07	10.14	10.23	10.23	10.21	10.36	10.28	10.30	10.41
RETAIL TRADE	6.12	6.31	6.28	6.26	6.38	6.39	6.43	6.43	6.48	6.47	6.48	6.52	6.49	6.48	6.48
FINANCE, INSURANCE, AND REAL ESTATE	8.73	9.09	9.03	9.03	9.14	9.29	9.27	9.32	9.46	9.47	9.43	9.59	9.48	9.47	9.58
SERVICES	8.49	8.91	8.80	8.81	9.00	9.09	9.11	9.16	9.25	9.28	9.29	9.34	9.30	9.26	9.33

^p = preliminary

benchmark revision.

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

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

Industry	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^P	July ^P
PRIVATE SECTOR															
Current dollars	\$312.50	\$322.36	\$324.32	\$323.40	\$327.12	\$329.81	\$328.26	\$330.15	\$329.13	\$327.57	\$328.86	\$334.78	\$330.86	\$333.38	\$338.01
Seasonally adjusted	-	-	323.99	322.47	325.14	328.16	326.87	327.92	330.25	329.39	331.04	335.39	332.16	332.85	338.53
Constant (1977) dollars	169.28	167.81	168.57	167.30	168.10	168.96	167.99	168.70	167.41	165.94	165.76	167.39	164.53	165.37	-
MINING	531.70	539.33	539.33	532.98	541.00	544.85	540.09	557.68	557.04	551.27	552.30	564.53	551.46	558.11	567.24
CONSTRUCTION	480.44	493.08	500.26	501.41	505.34	514.95	494.42	491.99	483.99	478.20	495.92	504.07	500.66	502.74	519.48
MANUFACTURING															
Current dollars	406.31	418.40	413.92	414.32	423.33	423.33	427.87	432.43	425.17	423.50	426.81	426.81	426.18	429.08	424.04
Constant (1977) dollars	220.10	217.80	215.14	214.34	217.54	216.87	218.97	220.97	216.26	214.54	215.13	213.41	211.92	212.84	-
Durable goods	433.26	447.68	439.60	439.85	452.76	453.18	457.87	463.25	455.62	452.77	455.78	455.78	454.01	457.87	449.49
Lumber and wood products	341.04	346.98	349.00	345.77	350.21	359.57	347.60	353.90	345.79	338.91	345.46	354.78	352.48	357.94	350.56
Furniture and fixtures	306.80	312.84	310.81	315.19	324.41	323.21	320.00	326.43	319.14	315.93	321.95	319.12	318.24	323.05	316.36
Stone, clay, and glass products	433.58	442.88	446.47	444.13	451.54	454.51	452.62	446.05	439.49	436.48	444.98	456.25	453.26	457.52	458.15
Primary metal industries	514.61	529.74	526.68	521.51	538.56	531.48	536.46	540.67	536.20	532.52	533.75	529.63	527.98	533.46	527.35
Blast furnaces and basic steel products	597.62	614.68	619.96	608.66	628.93	615.92	616.44	621.89	617.76	617.48	621.72	613.02	613.02	619.77	612.14
Fabricated metal products	416.00	429.89	419.22	423.72	435.31	434.28	441.34	445.79	438.90	435.14	436.60	437.02	435.34	437.85	428.98
Machinery, except electrical	452.38	469.03	464.45	460.74	473.54	473.29	480.22	488.94	477.55	477.28	479.25	478.55	477.57	482.23	474.01
Electrical and electronic equipment	404.09	415.33	409.25	412.09	417.79	416.56	423.94	430.12	422.10	416.56	417.15	419.62	417.33	423.50	418.64
Transportation equipment	543.48	568.34	550.02	552.18	577.92	579.70	591.22	591.17	582.58	584.37	591.05	584.80	579.87	581.49	565.87
Motor vehicles and equipment	570.97	609.00	575.04	583.63	621.81	619.96	632.43	633.24	619.12	621.52	631.18	620.54	613.56	611.46	579.03
Instruments and related products	402.41	414.17	409.36	409.53	415.58	420.34	422.94	425.46	420.99	420.81	419.00	420.02	414.94	423.33	423.12
Miscellaneous manufacturing	305.74	313.99	308.03	310.05	314.79	320.76	323.18	325.54	323.05	322.62	324.26	325.12	324.66	324.26	317.44
Nondurable goods	369.04	378.14	377.45	378.28	384.75	382.45	386.37	389.21	383.84	382.88	385.43	386.97	387.20	390.51	390.80
Food and kindred products	358.99	366.73	367.54	368.02	371.69	367.52	374.24	377.40	369.87	366.70	372.27	372.80	377.34	380.42	385.22
Tobacco manufactures	548.73	584.26	620.15	600.30	580.51	578.61	586.77	570.97	546.82	557.55	556.84	604.65	637.14	641.07	561.90
Textile mill products	299.71	302.91	295.32	304.38	307.60	306.94	309.26	308.32	309.32	307.40	311.19	313.12	313.94	318.24	311.71
Apparel and other textile products	219.78	226.44	221.30	225.33	230.39	230.76	233.13	233.99	232.58	233.21	233.95	234.47	233.84	236.11	232.21
Paper and allied products	496.06	503.28	502.79	499.79	512.16	505.74	509.52	519.64	508.90	506.22	509.12	509.87	512.46	515.27	518.23
Printing and publishing	390.64	399.76	396.14	401.57	411.95	406.91	406.53	410.88	404.52	404.90	408.94	405.59	402.42	401.68	403.92
Chemicals and allied products	523.25	535.94	533.40	528.78	539.33	540.59	547.84	553.41	544.84	544.82	546.09	549.10	546.46	551.23	553.24
Petroleum and coal products	641.52	665.11	676.33	661.86	672.45	676.76	670.96	673.80	662.94	679.80	667.87	686.65	673.43	684.28	709.17
Rubber and miscellaneous plastics products	371.07	381.14	376.07	378.72	384.47	384.89	388.92	391.95	390.51	387.30	387.20	388.03	390.10	390.10	385.43
Leather and leather products	232.26	235.13	230.89	234.49	236.25	239.91	239.73	246.65	244.94	245.32	244.60	247.59	247.41	254.65	246.28
TRANSPORTATION AND PUBLIC UTILITIES	471.58	484.18	490.34	490.30	489.80	490.59	489.68	490.59	490.07	488.75	488.43	497.90	490.86	493.81	507.78
WHOLESALE TRADE	365.76	378.71	381.09	376.58	382.52	385.82	382.66	387.35	387.72	386.69	386.96	395.75	389.61	392.43	398.70
RETAIL TRADE	178.70	183.62	188.40	186.55	185.66	185.95	185.18	190.33	184.03	183.10	184.68	188.43	186.91	189.22	193.75
FINANCE, INSURANCE, AND REAL ESTATE	316.90	326.33	325.98	322.37	327.21	334.44	330.94	333.66	341.51	339.03	337.59	348.12	337.49	339.03	348.71
SERVICES	275.93	290.47	290.40	288.97	292.50	297.24	296.08	298.62	301.55	300.67	301.00	306.35	301.32	302.80	308.82

- Data not available.
P = preliminary

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

18. Diffusion indexes of employment change, seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Private nonagricultural payrolls, 349 industries											
Over 1-month span:												
1987	55.6	59.3	61.0	61.9	58.6	59.7	65.3	60.6	63.0	67.8	64.5	60.7
1988	60.7	63.5	63.0	62.8	61.3	67.2	63.6	58.0	55.4	63.9	68.2	64.6
1989	68.3	60.5	61.0	58.2	55.6	57.7	57.4	-	-	-	-	-
Over 3-month span:												
1987	60.7	62.0	66.6	65.2	65.8	65.9	67.8	71.1	71.2	72.3	70.9	65.9
1988	64.8	65.6	69.5	70.2	71.1	71.9	71.2	64.2	65.3	70.1	73.4	74.6
1989	71.6	70.1	64.5	61.9	61.3	59.9	-	-	-	-	-	-
Over 6-month span:												
1987	67.3	65.8	64.8	66.8	67.6	69.5	71.3	73.5	73.2	71.5	71.8	72.2
1988	69.9	70.2	71.5	73.9	73.9	69.1	70.2	74.6	73.5	73.9	74.5	75.8
1989	75.1	69.5	68.2	63.3	-	-	-	-	-	-	-	-
Over 12-month span:												
1987	66.6	68.2	68.2	71.8	71.9	72.5	72.2	74.1	75.4	72.5	73.8	76.9
1988	76.2	76.1	74.8	74.6	75.8	74.9	78.1	75.5	75.5	74.8	74.9	74.2
1989	71.5	-	-	-	-	-	-	-	-	-	-	-
Manufacturing payrolls, 141 industries												
Over 1-month span:												
1987	44.3	53.9	54.3	55.7	55.3	54.3	62.8	59.9	63.8	59.9	65.6	56.4
1988	58.5	56.0	55.0	59.9	58.5	61.7	59.6	51.1	49.3	62.8	64.9	58.5
1989	62.4	53.5	53.2	49.6	46.8	48.2	50.7	-	-	-	-	-
Over 3-month span:												
1987	52.1	51.4	59.6	61.3	58.5	62.8	67.0	71.6	68.4	70.6	67.7	64.5
1988	63.1	61.0	62.4	64.9	67.4	67.0	64.5	58.2	62.1	66.7	71.3	70.9
1989	67.4	63.8	55.7	51.8	48.6	47.5	-	-	-	-	-	-
Over 6-month span:												
1987	57.4	56.7	55.3	62.4	64.9	67.0	67.4	70.6	71.3	69.5	69.5	68.1
1988	66.3	66.3	67.7	69.5	66.7	64.2	66.0	70.9	68.8	69.9	71.6	74.1
1989	69.5	58.5	55.7	49.6	-	-	-	-	-	-	-	-
Over 12-month span:												
1987	55.3	58.5	58.5	63.5	66.3	67.4	71.6	72.7	71.6	69.1	68.4	72.3
1988	73.8	70.2	70.9	71.6	72.0	69.9	70.9	69.1	71.6	70.2	69.9	67.4
1989	61.3	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment increasing plus one-half of the industries with unchanged employment, where 50 percent indicates an equal balance between industries with increasing and decreasing

employment. Data for the 2 most recent months shown in each span are preliminary. See the "Definitions" in this section. See "Notes on the data" for a description of the most recent benchmark revision.

19. Annual data: Employment status of the noninstitutional population

(Numbers in thousands)

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

20. Annual data: Employment levels by industry

(Numbers in thousands)

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

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

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

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

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

(June 1981 = 100)

Series	1987			1988				1989		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1989	
Civilian workers²	135.9	137.5	138.6	140.6	142.1	144.0	145.5	147.3	148.9	1.1	4.8
Workers, by occupational group:											
White-collar workers	139.3	141.2	142.2	144.2	145.7	147.9	149.7	151.9	153.4	1.0	5.3
Blue-collar workers	130.1	131.3	132.5	134.7	136.2	137.2	138.2	139.6	141.3	1.2	3.7
Service occupations	138.5	139.9	140.8	142.9	144.3	147.2	148.5	150.0	151.2	.8	4.8
Workers, by industry division:											
Goods-producing	131.1	132.2	133.5	135.8	137.3	138.2	139.3	140.7	142.3	1.1	3.6
Manufacturing	131.5	132.7	134.1	136.8	138.1	139.0	140.1	141.9	143.5	1.1	3.9
Service-producing	138.9	140.8	141.7	143.6	145.1	147.6	149.2	151.4	152.9	1.0	5.4
Services	145.8	149.2	150.6	152.8	153.8	157.7	159.7	161.8	163.1	.8	6.0
Health services	-	-	-	-	-	-	-	-	-	1.2	6.2
Hospitals	-	-	-	-	-	-	-	-	-	1.3	6.5
Public administration ³	144.7	146.4	148.1	150.3	151.2	154.0	154.4	156.7	157.9	.8	4.4
Nonmanufacturing	137.8	139.6	140.5	142.3	143.9	146.1	147.7	149.7	151.2	1.0	5.1
Private industry workers	133.8	135.1	136.0	138.1	139.8	141.2	142.6	144.4	146.1	1.2	4.5
Excluding sales occupations	134.1	135.5	136.6	138.7	140.2	141.7	142.9	144.7	146.2	1.0	4.3
Workers, by occupational group:											
White-collar workers	137.0	138.5	139.3	141.2	143.0	144.6	146.3	148.6	150.3	1.1	5.1
Excluding sales occupations	138.2	140.0	141.1	143.0	144.6	146.4	147.6	149.9	151.4	1.0	4.7
Professional specialty and technical occupations	-	-	-	-	-	-	-	-	-	1.0	4.8
Executive, administrative, and managerial occupations	-	-	-	-	-	-	-	-	-	.9	4.4
Sales occupations	-	-	-	-	-	-	-	-	-	1.8	6.9
Administrative support occupations, including clerical	-	-	-	-	-	-	-	-	-	1.1	4.9
Blue-collar workers	129.5	130.6	131.8	134.1	135.6	136.5	137.6	138.9	140.6	1.2	3.7
Precision production, craft, and repair occupation	-	-	-	-	-	-	-	-	-	1.3	3.4
Machine operators, assemblers, and inspectors	-	-	-	-	-	-	-	-	-	1.1	4.3
Transportation and material moving occupations	-	-	-	-	-	-	-	-	-	1.0	3.1
Handlers, equipment cleaners, helpers, and laborers	-	-	-	-	-	-	-	-	-	1.2	4.0
Service occupations	135.2	135.9	136.7	138.6	140.1	142.2	143.9	145.4	146.5	.8	4.6
Workers, by industry division:											
Goods-producing	130.8	131.9	133.2	135.6	137.1	137.9	139.0	140.4	142.0	1.1	3.6
Excluding sales occupations	130.5	131.6	132.9	135.2	136.8	137.6	138.7	140.2	141.7	1.1	3.6
Construction	-	-	-	-	-	-	-	-	-	1.0	3.7
Manufacturing	131.5	132.7	134.1	136.8	138.1	139.0	140.1	141.9	143.5	1.1	3.9
Durables	-	-	-	-	-	-	-	-	-	1.0	3.6
Nondurables	-	-	-	-	-	-	-	-	-	1.2	4.6
Service-producing	136.3	137.7	138.4	140.2	142.1	143.8	145.5	147.7	149.5	1.2	5.2
Excluding sales occupations	137.4	139.1	140.0	141.9	143.5	145.4	146.7	148.8	150.4	1.1	4.8
Transportation and public utilities	-	-	-	-	-	-	-	-	-	1.3	3.3
Transportation	-	-	-	-	-	-	-	-	-	1.3	3.2
Public utilities	-	-	-	-	-	-	-	-	-	1.2	3.4
Communications	-	-	-	-	-	-	-	-	-	1.5	-
Electric, gas, and sanitary services	-	-	-	-	-	-	-	-	-	.8	-
Wholesale and retail trade	-	-	-	-	-	-	-	-	-	1.1	4.4
Excluding sales occupations	-	-	-	-	-	-	-	-	-	.8	3.9
Wholesale trade	-	-	-	-	-	-	-	-	-	1.5	5.6
Excluding sales occupations	-	-	-	-	-	-	-	-	-	1.1	3.9
Retail trade	-	-	-	-	-	-	-	-	-	.9	3.9
Food stores	-	-	-	-	-	-	-	-	-	.2	-
Finance, insurance, and real estate	-	-	-	-	-	-	-	-	-	1.7	7.8
Excluding sales occupations	-	-	-	-	-	-	-	-	-	1.6	5.7
Banking, savings and loan and other credit agencies	-	-	-	-	-	-	-	-	-	1.2	4.1
Insurance	-	-	-	-	-	-	-	-	-	1.7	-
Service	-	-	-	-	-	-	-	-	-	1.0	5.8
Business services	-	-	-	-	-	-	-	-	-	1.9	5.4
Health services	-	-	-	-	-	-	-	-	-	1.1	6.2
Hospitals	-	-	-	-	-	-	-	-	-	1.2	6.9
Nonmanufacturing	135.1	136.4	137.1	138.9	140.8	142.4	143.9	145.9	147.6	1.2	4.8
State and local government workers	146.3	149.7	151.1	153.1	153.6	157.8	159.6	161.5	162.5	.6	5.8
Workers, by occupational group:											
White-collar workers	147.5	151.2	152.7	154.8	155.2	159.6	161.8	163.7	164.6	.5	6.1
Blue-collar workers	141.3	143.3	144.3	145.9	145.9	148.4	149.1	151.9	153.0	.7	4.9
Workers, by industry division:											
Services	147.6	151.8	153.1	155.2	155.6	160.5	163.0	164.6	165.5	.5	6.4
Hospitals and other services ⁴	143.3	145.1	146.3	150.3	150.4	153.2	155.2	157.2	158.7	1.0	5.5
Health services	-	-	-	-	-	-	-	-	-	1.3	5.9
Schools	149.1	154.1	155.5	156.8	157.3	163.1	165.7	167.2	167.8	.4	6.7
Elementary and secondary	150.7	156.5	157.8	158.9	159.4	165.4	168.3	169.3	169.9	.4	6.6
Public administration ³	144.7	146.4	148.1	150.3	151.2	154.0	154.4	156.7	157.9	0.8	4.4

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

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

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

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

- Data not available.

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

(June 1981=100)

Series	1987			1988				1989		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1989	
Civilian workers ¹	133.5	135.2	136.1	137.4	138.7	140.5	141.9	143.4	144.6	0.8	4.3
Workers, by occupational group:											
White-collar workers	137.3	139.4	140.2	141.5	143.0	145.2	146.8	148.6	149.8	.8	4.8
Blue-collar workers	127.1	128.3	129.4	130.4	131.6	132.5	133.4	134.6	136.0	1.0	3.3
Service occupations	134.7	136.0	136.6	138.0	139.3	141.8	142.9	143.9	144.8	.6	3.9
Workers, by industry division:											
Goods-producing	128.5	129.8	131.0	132.2	133.4	134.1	135.1	136.3	137.7	1.0	3.2
Manufacturing	129.5	130.8	132.2	133.3	134.4	135.1	136.2	137.4	138.8	1.0	3.3
Service-producing	136.5	138.5	139.2	140.5	141.9	144.2	145.8	147.5	148.7	.8	4.8
Services	143.4	146.8	148.2	149.5	150.4	154.0	155.7	157.4	158.4	.6	5.3
Health services	-	-	-	-	-	-	-	-	-	1.0	5.9
Hospitals	-	-	-	-	-	-	-	-	-	1.1	6.1
Public administration ²	141.0	142.6	143.8	145.5	146.4	148.9	149.4	150.9	151.8	.6	3.7
Nonmanufacturing	135.2	137.1	137.8	139.0	140.5	142.7	144.1	145.8	147.0	.8	4.6
Private industry workers	131.7	133.0	133.8	135.1	136.6	137.9	139.3	140.8	142.2	1.0	4.1
Workers, by occupational group:											
White-collar workers	135.4	137.0	137.6	139.0	140.8	142.4	144.0	145.9	147.3	1.0	4.6
Professional specialty and technical occupations	139.1	141.2	142.6	144.0	145.8	148.1	148.9	151.0	152.1	.7	4.3
Executive, administrative, and managerial occupations	136.4	138.6	139.2	139.9	141.3	142.5	144.4	146.2	147.3	.8	4.2
Sales occupations	127.1	127.0	126.1	127.5	130.8	131.5	134.4	136.7	138.7	1.5	6.0
Administrative support occupations, including clerical	135.5	137.1	138.1	140.2	141.2	143.2	144.1	146.0	147.4	1.0	4.4
Blue-collar workers	126.6	127.7	128.9	129.9	131.1	131.9	132.9	134.0	135.4	1.0	3.3
Precision production, craft, and repair occupations	128.8	130.2	131.1	132.1	133.4	134.0	134.9	136.1	137.8	1.2	3.3
Machine operators, assemblers, and inspectors	126.7	127.5	129.2	129.9	131.2	131.9	133.3	134.5	135.9	1.0	3.6
Transportation and material moving occupations	121.5	122.3	122.9	123.7	125.4	126.7	126.9	127.8	128.7	.7	2.6
Handlers, equipment cleaners, helpers, and laborers	122.6	123.7	125.0	126.7	127.5	128.4	129.3	130.4	131.6	.9	3.2
Service occupations	131.9	132.6	133.2	134.5	135.8	137.6	139.1	140.0	140.9	.6	3.8
Workers, by industry division:											
Goods-producing	128.3	129.6	130.8	132.0	133.2	133.9	134.9	136.1	137.4	1.0	3.2
Construction	122.7	123.8	124.7	125.9	127.6	128.6	129.4	130.4	131.6	.9	3.1
Manufacturing	129.5	130.8	132.2	133.3	134.4	135.1	136.2	137.4	138.8	1.0	3.3
Durables	128.7	129.7	131.1	132.1	133.1	133.7	134.6	135.9	137.3	1.0	3.2
Nondurables	131.0	132.8	134.1	135.6	136.7	137.6	139.1	140.2	141.6	1.0	3.6
Service-producing	134.3	135.7	136.2	137.5	139.3	141.0	142.6	144.5	145.8	.9	4.7
Transportation and public utilities	129.3	130.0	130.2	131.3	132.5	133.5	133.4	134.6	135.3	.5	2.1
Transportation	-	-	-	-	-	-	-	-	-	.6	1.9
Public utilities	-	-	-	-	-	-	-	-	-	.5	2.5
Wholesale and retail trade	129.9	130.6	130.7	131.9	134.6	136.0	136.9	138.6	139.9	.9	3.9
Wholesale trade	137.2	137.8	138.5	139.0	141.7	143.2	143.6	147.5	149.0	1.0	5.2
Retail trade	127.1	127.8	127.7	129.2	131.7	133.2	134.3	135.1	136.3	.9	3.5
Finance, insurance, and real estate	131.5	131.8	131.6	132.9	134.9	134.9	139.9	142.7	145.2	1.8	7.6
Services	142.8	145.9	147.1	148.6	149.8	152.9	154.4	156.4	157.8	.9	5.3
Health services	-	-	-	-	-	-	-	-	-	.9	5.9
Hospitals	-	-	-	-	-	-	-	-	-	1.1	6.4
Nonmanufacturing	132.8	134.2	134.8	136.0	137.8	139.4	140.8	142.6	143.9	.9	4.4
State and local government workers	142.8	146.1	147.4	148.7	149.1	153.0	154.5	155.8	156.6	.5	5.0
Workers, by occupational group:											
White-collar workers	144.1	147.7	149.3	150.5	150.8	154.9	156.8	158.0	158.7	.4	5.2
Blue-collar workers	136.9	139.0	139.6	141.1	141.1	143.5	144.1	146.1	146.8	.5	4.0
Workers, by industry division:											
Services	144.2	148.2	149.5	150.7	151.1	155.6	157.6	158.6	159.3	.4	5.4
Hospitals and other services ³	139.4	141.2	142.2	144.5	144.7	147.4	148.7	150.2	151.5	.9	4.7
Health services	-	-	-	-	-	-	-	-	-	1.1	5.9
Schools	145.6	150.3	151.8	152.6	153.0	158.0	160.3	161.2	161.7	.3	5.7
Elementary and secondary	146.6	152.0	153.4	154.0	154.3	159.7	162.1	162.8	163.3	.3	5.8
Public administration ²	141.0	142.6	143.8	145.5	146.4	148.9	149.4	150.9	151.8	.6	3.7

¹ Consists of private industry workers (excluding farm and household workers) and State and local government (excluding Federal Government) workers.
² Consists of legislative, judicial, administrative, and regulatory activities.

³ Includes, for example, library, social and health services.
 - Data not available.

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

(June 1981 = 100)

Series	1987			1988				1989		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1989	
COMPENSATION											
Workers, by bargaining status¹											
Union	131.2	132.0	133.4	135.6	136.9	137.9	138.6	139.7	141.1	1.0	3.1
Goods-producing	128.7	129.5	131.3	134.1	135.3	136.2	137.2	137.9	139.4	1.1	3.0
Service-producing	135.2	135.9	136.7	138.0	139.4	140.5	140.9	142.6	143.9	.9	3.2
Manufacturing	128.7	129.5	131.5	135.0	136.2	137.0	138.2	139.9	141.3	1.0	3.7
Nonmanufacturing	133.5	134.3	135.1	136.2	137.5	138.6	138.9	139.5	141.0	1.1	2.5
Nonunion	134.6	136.1	136.9	138.9	140.7	142.2	143.9	146.0	147.7	1.2	5.0
Goods-producing	131.8	133.1	134.1	136.2	137.8	138.7	139.9	141.6	143.2	1.1	3.9
Service-producing	136.4	137.9	138.6	140.5	142.5	144.4	146.3	148.6	150.5	1.3	5.6
Manufacturing	133.2	134.6	135.6	137.8	139.2	140.1	141.3	143.1	144.8	1.2	4.0
Nonmanufacturing	135.3	136.8	137.5	139.4	141.5	143.2	145.0	147.3	149.1	1.2	5.4
Workers, by region¹											
Northeast	138.6	140.3	141.9	143.7	145.9	147.8	150.4	153.5	155.5	1.3	6.6
South	133.2	134.2	135.4	137.1	139.3	140.4	141.3	142.7	144.1	1.0	3.4
Midwest (formerly North Central)	130.2	131.2	131.7	134.4	135.5	136.7	138.0	139.3	140.9	1.1	4.0
West	134.2	135.8	136.3	138.3	139.5	140.6	141.5	143.2	144.9	1.2	3.9
Workers, by area size¹											
Metropolitan areas	134.4	135.8	136.7	138.9	140.5	142.0	143.6	145.6	147.4	1.2	4.9
Other areas	130.2	131.3	132.0	133.6	135.5	136.2	136.8	137.5	138.3	.6	2.1
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union	128.3	129.1	130.5	131.0	132.0	132.9	133.4	134.3	135.4	.8	2.6
Goods-producing	125.8	126.5	128.5	128.7	129.7	130.4	131.2	132.0	133.4	1.1	2.9
Service-producing	132.2	132.9	133.6	134.4	135.4	136.7	136.8	137.8	138.4	.4	2.2
Manufacturing	126.2	127.0	129.3	129.6	130.4	131.0	132.1	133.0	134.4	1.1	3.1
Nonmanufacturing	130.1	130.8	131.5	132.1	133.3	134.5	134.6	135.4	136.2	.6	2.2
Nonunion	132.8	134.3	135.0	136.4	138.1	139.5	141.1	142.9	144.4	1.0	4.6
Goods-producing	129.6	131.1	132.1	133.6	135.0	135.7	136.8	138.2	139.5	.9	3.3
Service-producing	134.6	136.2	136.7	138.0	140.0	141.8	143.6	145.6	147.2	1.1	5.1
Manufacturing	131.5	133.0	133.9	135.5	136.7	137.4	138.6	139.9	141.4	1.1	3.4
Nonmanufacturing	133.4	134.9	135.4	136.8	138.8	140.4	142.2	144.1	145.6	1.0	4.9
Workers, by region¹											
Northeast	136.6	138.3	139.7	140.9	142.9	144.6	147.3	150.1	152.0	1.3	6.4
South	131.1	132.1	133.0	134.0	136.1	137.1	137.8	138.9	140.0	.8	2.9
Midwest (formerly North Central)	128.5	129.6	129.9	131.3	132.1	133.3	134.5	135.6	136.9	1.0	3.6
West	131.1	133.1	133.5	134.9	136.0	137.4	138.1	139.4	140.7	.9	3.5
Workers, by area size¹											
Metropolitan areas	132.4	133.7	134.6	135.8	137.3	138.7	140.2	141.9	143.4	1.1	4.4
Other areas	127.8	129.1	129.8	130.9	133.0	133.5	133.7	134.6	135.2	.4	1.7

¹ The indexes are calculated differently from those for the occupation and industry groups. For a detailed description of the index calculation, see the

Monthly Labor Review Technical Note, "Estimation procedures for the Employment Cost Index," May 1982.

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

Measure	Annual average		Quarterly average							
	1987	1988	1987		1988				1989	
			III	IV	I	II	III	IV ^P	I ^P	II ^P
Specified adjustments:										
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:										
First year of contract	3.0	3.1	2.5	3.4	1.8	3.1	3.4	3.5	3.2	5.0
Annual rate over life of contract	2.6	2.5	2.1	2.4	1.8	2.4	3.2	2.1	3.4	3.4
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.2	2.5	2.1	2.4	2.1	2.6	2.7	2.6	3.2	3.9
Annual rate over life of contract	2.1	2.4	2.0	1.8	2.3	2.2	2.8	2.2	3.1	3.3
Effective adjustments:										
Total effective wage adjustment ³	3.1	2.6	.9	.8	.4	.9	.8	.5	.5	1.0
From settlements reached in period .....	.7	.7	.2	.3	.1	.3	.2	.1	.1	.3
Deferred from settlements reached in earlier periods	1.8	1.3	.6	.3	.3	.5	.4	.2	.3	.5
From cost-of-living-adjustments clauses .....	.5	.6	.1	.2	.1	.1	.2	.2	.1	.2

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

² Adjustments are the net result of increases, decreases, and no changes in

compensation or wages.

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

^P = preliminary.

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

Measure	Average for four quarters ending--							
	1987		1988				1989	
	III	IV	I	II	III	IV ^P	I ^P	II ^P
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	2.7	3.0	3.1	3.0	3.1	3.1	3.3	3.8
Annual rate over life of contract	2.6	2.6	2.5	2.3	2.5	2.5	2.6	3.0
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries:								
First year of contract	2.0	2.2	2.4	2.4	2.5	2.5	2.7	3.2
Contracts with COLA clauses	2.1	2.3	2.2	2.4	2.4	2.4	2.4	2.2
Contracts without COLA clauses	2.0	2.1	2.5	2.4	2.6	2.7	2.9	3.4
Annual rate over life of contract	2.2	2.1	2.2	2.0	2.2	2.4	2.5	2.9
Contracts with COLA clauses	1.7	1.5	1.4	1.5	1.5	1.8	1.8	1.8
Contracts without COLA clauses	2.5	2.5	2.7	2.5	2.8	2.8	2.9	3.2
Manufacturing:								
First year of contract	1.1	2.1	2.4	2.5	2.6	2.2	2.2	2.6
Contracts with COLA clauses	2.1	2.4	2.4	2.5	2.4	2.1	2.1	2.0
Contracts without COLA clauses	-1	1.3	2.4	2.5	3.0	2.5	2.5	3.1
Annual rate over life of contract	1.0	1.3	1.5	1.6	1.9	2.1	2.1	2.4
Contracts with COLA clauses	1.0	1.0	1.0	1.3	1.4	1.8	1.8	1.7
Contracts without COLA clauses	1.2	2.1	2.7	2.5	3.1	2.6	2.8	3.1
Nonmanufacturing:								
First year of contract	2.4	2.3	2.3	2.3	2.4	2.8	3.0	3.5
Contracts with COLA clauses	2.1	1.9	1.6	2.2	2.4	2.9	2.9	2.9
Contracts without COLA clauses	2.6	2.4	2.5	2.4	2.5	2.7	3.0	3.5
Annual rate over life of contract	2.8	2.7	2.7	2.4	2.4	2.5	2.7	3.2
Contracts with COLA clauses	2.4	2.7	2.4	1.9	1.8	1.7	1.7	2.3
Contracts without COLA clauses	2.9	2.7	2.7	2.6	2.7	2.8	3.0	3.3
Construction:								
First year of contract	3.0	2.9	2.9	2.6	2.1	2.2	2.4	2.4
Contracts with COLA clauses	(¹)	(¹)	(¹)	(²)	(²)	(²)	(²)	(²)
Contracts without COLA clauses	(¹)	(¹)	(¹)	2.6	2.1	2.2	2.4	2.4
Annual rate over life of contract	3.2	3.1	3.1	2.7	2.4	2.6	2.7	2.9
Contracts with COLA clauses	(¹)	(¹)	(¹)	(²)	(²)	(²)	(²)	(²)
Contracts without COLA clauses	(¹)	(¹)	(¹)	2.7	2.4	2.6	2.7	2.9

¹ Data do not meet publication standards.

² Between -0.05 and 0.05 percent.

^P = preliminary.

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

Effective wage adjustment	Average for four quarters ending--						
	1987	1988				1989	
	IV	I	II	III	IV ^P	I ^P	II ^P
For all workers:¹							
Total	3.1	3.2	3.0	2.9	2.6	2.7	2.8
From settlements reached in period .....	.7	.8	1.0	1.0	.7	.7	.7
Deferred from settlements reached in earlier period	1.8	1.8	1.6	1.4	1.3	1.3	1.3
From cost-of-living-adjustments clauses .....	.5	.5	.5	.5	.6	.6	.8
For workers receiving changes:							
Total	3.6	3.8	3.7	3.5	3.3	3.5	3.7
From settlements reached in period	2.9	2.9	2.9	2.9	3.1	3.2	3.5
Deferred from settlements reached in earlier period	3.3	3.3	3.3	3.0	3.0	3.2	3.2
From cost-of-living-adjustments clauses	2.6	2.7	2.3	2.5	2.7	2.9	3.2

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

^P = preliminary.

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

Measure	Annual average		
	1987	1988	1989
Specified adjustments:			
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:			
First year of contract	4.9	5.4	4.3
Annual rate over life of contract	4.8	5.3	4.4
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.9	5.1	4.7
Annual rate over life of contract	5.1	5.3	4.7
Effective adjustments:			
Total effective wage adjustment ³			
From settlements reached in period	4.9	4.7	1.6
Deferred from settlements reached in earlier periods	2.7	2.3	.5
From cost-of-living-adjustment clauses	2.2	2.4	1.1
	(⁴)	(⁴)	(⁴)

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

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

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

⁴ Less than 0.05 percent.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1988						1989 ^P						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Number of stoppages:															
Beginning in period	46	40	4	7	2	3	1	0	3	0	2	4	7	0	4
In effect during period	51	43	14	18	14	9	5	1	4	2	4	8	13	5	9
Workers involved:															
Beginning in period (in thousands)	174.3	118.3	21.0	11.7	4.0	8.6	2.3	.0	7.4	.0	30.3	6.6	54.7	.0	43.3
In effect during period (in thousands)	214.6	121.9	47.4	46.9	34.0	25.9	10.6	2.5	9.9	7.7	37.0	43.6	94.3	44.7	145.0
Days idle:															
Number (in thousands)	4,468.8	4,364.3	725.9	713.1	510.0	293.2	77.9	52.5	152.7	137.8	949.6	1,064.2	1,227.1	938.2	1,363.5
Percent of estimated working time ¹ .....	.02	.02	.03	.03	.02	.01	.04	.02	.01	.01	.04	.05	.05	.04	.04

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

pp. 54-56.

^P = preliminary

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	113.6	118.3	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1	123.8	124.1	124.4
All items (1967=100)	340.4	354.3	354.9	356.6	358.9	360.1	360.5	360.9	362.7	364.1	366.2	368.8	370.8	371.7	372.7
Food and beverages	113.5	118.2	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0	124.7	124.9	125.4
Food	113.5	118.2	118.8	119.4	120.2	120.3	120.2	120.7	122.2	122.9	123.5	124.2	124.9	125.0	125.5
Food at home	111.9	116.6	117.3	118.1	119.0	119.0	118.7	119.1	121.2	122.0	122.7	123.5	124.4	124.3	124.8
Cereals and bakery products	114.8	122.1	122.1	124.0	124.7	125.6	125.9	126.6	127.9	128.9	129.7	130.4	131.5	132.1	133.3
Meats, poultry, fish, and eggs	110.5	114.3	116.5	117.3	117.4	116.8	116.4	116.1	118.5	118.2	120.5	120.6	120.7	121.4	121.6
Dairy products	105.9	108.4	107.6	108.2	108.9	109.9	110.6	111.4	112.6	113.4	113.8	114.1	113.8	113.6	114.1
Fruits and vegetables	119.1	128.1	129.0	129.9	133.2	131.7	129.5	131.0	134.8	137.1	135.7	138.0	142.7	140.2	140.1
Other foods at home	110.5	113.1	113.1	113.6	114.0	114.8	114.9	115.3	116.6	117.8	118.1	119.0	118.9	119.2	119.7
Sugar and sweets	111.0	114.0	114.0	114.8	115.6	116.0	115.9	116.7	117.2	117.8	118.0	117.9	118.1	119.2	120.1
Fats and oils	108.1	113.1	112.6	114.9	115.9	117.1	117.1	118.5	119.6	120.5	120.4	121.6	121.6	121.6	121.6
Nonalcoholic beverages	107.5	107.5	107.2	107.0	107.4	108.1	108.2	107.8	109.6	111.3	111.3	111.8	111.5	111.6	112.3
Other prepared foods	113.8	118.0	118.3	118.7	119.1	119.9	120.1	120.7	121.9	123.0	123.7	125.2	126.2	126.7	127.8
Food away from home	117.0	121.8	122.1	122.5	123.0	123.7	124.1	124.7	125.2	125.2	125.7	126.2	126.7	127.1	127.8
Alcoholic beverages	114.1	118.6	119.2	119.3	119.6	119.8	119.9	119.9	120.3	121.1	121.8	122.3	123.1	123.5	124.0
Housing	114.2	118.5	119.1	119.5	119.9	119.9	119.9	120.2	120.7	121.1	121.5	121.6	122.1	122.9	123.9
Shelter	121.3	127.1	127.4	128.2	128.4	128.8	129.1	129.3	129.8	130.3	131.2	131.2	131.8	132.3	133.6
Renters' costs (12/82=100)	128.1	133.6	134.7	135.6	134.7	134.8	134.2	134.1	135.2	136.3	138.6	137.9	137.8	138.7	141.5
Other renters' costs	123.1	127.8	127.8	128.4	129.1	129.4	129.8	130.1	130.5	130.9	131.1	131.4	131.7	132.3	133.0
Homeowners' costs (12/82=100)	124.8	131.1	131.0	131.8	132.6	133.1	133.8	134.0	134.4	134.7	135.0	135.4	136.2	136.5	137.3
Owners' equivalent rent (12/82=100)	124.8	131.1	131.1	131.9	132.7	133.1	133.9	134.1	134.5	134.8	135.1	135.5	136.3	136.6	137.4
Household insurance (12/82=100)	124.0	129.0	129.7	130.1	130.2	130.4	130.2	130.6	130.9	131.2	131.3	131.4	132.1	132.8	133.1
Maintenance and repairs	111.8	114.7	114.5	115.0	115.3	115.0	115.4	115.8	116.1	117.1	117.1	117.3	117.4	118.3	118.4
Maintenance and repair services	114.8	117.9	117.9	118.1	118.1	117.6	118.2	118.4	118.7	119.9	119.6	119.8	120.2	121.0	121.1
Maintenance and repair commodities	107.8	110.4	110.1	110.8	111.7	111.6	111.7	112.4	112.8	113.4	113.8	114.1	113.8	114.7	115.0
Fuel and other utilities	103.0	104.4	106.0	106.1	106.4	105.4	104.3	105.0	106.0	105.9	105.9	106.2	107.0	109.2	109.7
Fuels	97.3	98.0	100.8	100.9	101.0	98.6	96.8	97.4	98.7	98.6	98.5	98.8	99.6	103.2	103.7
Fuel oil, coal, and bottled gas	77.9	78.1	76.9	76.3	75.9	74.6	75.0	76.8	80.5	81.4	81.5	82.5	81.5	80.2	79.7
Gas (piped) and electricity	103.8	104.6	108.1	108.3	108.5	105.8	103.7	104.1	105.1	104.9	104.8	105.0	106.1	110.5	111.1
Other utilities and public services	120.1	122.9	122.4	122.6	123.3	124.5	124.4	125.5	125.9	126.0	125.9	126.2	127.0	127.1	127.7
Household furnishings and operations	107.1	109.4	109.8	109.7	110.1	110.3	110.6	110.6	110.9	110.9	110.5	110.7	110.8	111.1	111.4
Housefurnishings	103.6	105.1	105.5	105.3	105.7	105.9	106.1	105.9	106.0	105.9	105.1	105.0	104.7	105.1	105.5
Housekeeping supplies	111.5	114.7	115.2	114.8	115.5	115.6	116.5	117.0	117.5	117.7	118.5	119.6	120.9	121.2	121.7
Housekeeping services	110.6	114.3	115.0	115.1	115.5	115.5	115.7	115.9	116.6	116.8	116.9	117.1	117.3	117.4	117.3
Apparel and upkeep	110.6	115.4	112.7	112.6	117.8	120.7	119.9	118.0	115.3	115.3	119.3	120.9	120.4	117.8	115.0
Apparel commodities	108.9	113.7	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3	118.6	115.8	112.9
Men's and boys' apparel	109.1	113.4	111.9	111.6	115.2	117.6	118.2	117.3	115.1	114.2	115.9	117.2	117.8	115.9	114.7
Women's and girls' apparel	110.4	114.9	109.8	109.9	118.1	121.9	120.2	116.5	111.6	111.4	119.4	121.5	119.5	114.8	109.6
Infants' and toddlers' apparel	112.1	116.4	116.2	118.2	119.0	118.1	117.2	117.3	115.6	118.8	118.5	123.6	125.4	123.9	117.9
Footwear	105.1	109.9	108.2	107.4	112.2	115.9	114.5	113.5	112.2	112.7	114.1	115.3	114.9	114.0	113.4
Other apparel commodities	108.0	116.0	116.5	116.2	117.4	119.4	119.5	119.1	119.2	120.4	120.4	121.5	121.7	121.6	122.5
Apparel services	119.6	123.7	123.4	124.0	124.4	125.5	126.3	126.7	127.3	127.8	128.5	128.9	129.9	130.0	129.4
Transportation	105.4	108.7	108.9	109.6	109.7	110.0	110.7	110.8	111.1	111.6	111.9	114.6	116.0	115.9	115.4
Private transportation	104.2	107.6	107.8	108.6	108.6	109.0	109.6	109.6	109.8	110.3	110.7	113.6	115.0	114.9	114.3
New vehicles	114.4	116.5	116.1	115.9	116.2	117.2	118.4	119.0	119.4	119.5	119.4	119.2	119.2	118.9	118.5
New cars	114.6	116.9	116.5	116.3	116.8	117.7	118.7	119.1	119.5	119.6	119.6	119.4	119.5	119.1	118.6
Used cars	113.1	118.0	117.9	119.2	119.4	119.9	119.7	120.2	120.5	120.5	120.5	120.7	121.0	121.3	121.1
Motor fuel	80.2	80.9	82.3	84.1	83.1	81.6	81.5	80.3	79.6	80.3	81.5	92.1	96.6	96.0	94.4
Gasoline	80.1	80.8	82.3	84.2	83.1	81.6	81.4	80.3	79.4	80.1	81.3	92.1	96.7	96.2	94.6
Maintenance and repair	114.8	119.7	120.0	120.3	120.9	121.1	121.5	121.5	122.4	123.3	123.5	123.8	124.3	124.5	124.8
Other private transportation	120.8	127.9	127.5	128.7	129.3	131.0	132.1	132.5	133.5	134.3	134.5	134.7	135.6	135.9	135.6
Other private transportation commodities	96.9	98.9	98.2	99.2	99.7	99.3	99.4	100.3	101.0	101.2	100.1	100.8	101.5	101.9	101.3
Other private transportation services	125.6	133.9	133.7	134.8	135.5	137.7	139.1	139.3	140.4	141.4	141.9	142.0	142.9	143.2	143.0
Public transportation	121.1	123.3	123.7	123.7	124.0	124.2	125.3	126.5	127.5	128.1	128.2	128.4	128.9	129.6	129.7
Medical care	130.1	138.6	139.3	139.9	140.4	141.2	141.8	142.3	143.8	145.2	146.1	146.8	147.5	148.5	149.7
Medical care commodities	131.0	139.9	140.5	141.1	142.0	143.2	143.3	144.2	145.0	145.8	147.2	148.4	150.0	151.0	151.4
Medical care services	130.0	138.3	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4	146.9	147.9	149.3
Professional services	128.8	137.5	138.4	138.7	139.2	139.8	140.4	140.8	142.2	143.5	144.4	144.9	145.2	146.1	147.0
Hospital and related services	131.6	143.9	144.3	145.9	146.9	148.5	149.7	150.8	152.9	155.1	155.8	156.6	157.3	158.5	160.8
Entertainment	115.3	120.3	120.5	120.7	121.3	121.8	122.2	122.8	123.8	124.3	124.7	125.4	125.5	126.2	126.9
Entertainment commodities	110.5	115.0	115.3	115.4	116.0	116.3	117.2	117.5	118.1	118.4	118.5	119.0	119.3	119.5	119.9
Entertainment services	122.0	127.7	127.7	128.1	128.6	129.4	129.3	130.0	131.6	132.3	132.9	134.0	133.9	135.0	136.1
Other goods and services	128.5	137.0	136.5	137.5	140.0	140.6	141.0	141.3	143.4	144.1	144.4	144.7	145.4	146.3	147.3
Tobacco products	133.6	145.8	147.5	148.6	148.9	149.3	149.7	149.9	157.0	158.5	159.2	159.5	161.1	164.2	167.5
Personal care	115.1	119.4	119.2	119.0	120.3	121.0	121.8	122.4	122.8						

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
All items	113.6	118.3	118.5	119.0	119.8	120.2	120.3	120.5	121.1	121.6	122.3	123.1	123.8	124.1	124.4
Commodities	107.7	111.5	111.5	111.9	113.0	113.5	113.5	113.5	113.9	114.3	115.2	116.7	117.5	117.2	117.0
Food and beverages	113.5	118.2	118.8	119.4	120.1	120.3	120.2	120.6	122.0	122.7	123.3	124.0	124.7	124.9	125.4
Commodities less food and beverages	104.0	107.3	107.0	107.3	108.5	109.2	109.4	109.0	108.9	109.1	110.1	112.2	112.9	112.4	111.7
Nondurables less food and beverages	101.1	105.2	104.7	105.2	107.1	107.8	107.7	106.9	106.4	106.9	108.9	112.5	113.6	112.7	111.6
Apparel commodities	108.9	113.7	110.8	110.7	116.2	119.3	118.4	116.3	113.3	113.3	117.5	119.3	118.6	115.8	112.9
Nondurables less food, beverages, and apparel	99.5	103.2	104.0	104.8	104.9	104.5	104.6	104.5	105.3	106.1	106.9	111.5	113.6	113.7	113.6
Durables	108.2	110.4	110.3	110.3	110.6	111.1	111.8	112.2	112.5	112.4	111.9	111.8	111.9	112.1	111.9
Services	120.2	125.7	126.1	126.7	127.3	127.6	127.8	128.1	128.9	129.4	130.0	130.2	130.8	131.6	132.5
Rent of shelter (12/82=100)	125.9	132.0	132.3	133.1	133.4	133.8	134.1	134.3	134.8	135.4	136.3	136.3	136.9	137.4	138.8
Household services less rent of shelter (12/82=100)	113.1	115.3	116.9	117.0	117.4	116.6	115.6	116.2	117.0	116.9	116.9	117.2	118.0	120.1	120.6
Transportation services	121.9	128.0	128.1	128.8	129.3	130.6	131.6	132.1	133.0	133.9	134.3	134.5	135.2	135.6	135.5
Medical care services	130.0	138.3	139.0	139.6	140.1	140.8	141.5	141.9	143.5	145.1	145.9	146.4	146.9	147.9	149.3
Other services	125.7	132.6	131.9	132.8	134.9	135.5	135.7	136.2	137.3	137.8	138.2	138.8	139.2	139.8	140.4
Special indexes:															
All items less food	113.6	118.3	118.4	118.9	119.7	120.2	120.3	120.4	120.8	121.3	122.0	122.9	123.5	123.9	124.2
All items less shelter	111.6	115.9	116.1	116.5	117.5	117.9	118.0	118.1	118.7	119.2	119.9	121.0	121.7	122.0	122.0
All items less homeowners' costs (12/82=100)	115.1	119.5	119.8	120.3	121.1	121.5	121.6	122.3	122.9	123.7	124.7	125.3	125.6	125.9	125.9
All items less medical care	112.6	117.0	117.2	117.8	118.6	118.9	119.0	119.1	119.7	120.1	120.8	121.7	122.3	122.6	122.9
Commodities less food	104.3	107.7	107.4	107.7	108.9	109.5	109.7	109.4	109.2	109.5	110.5	112.5	113.2	112.8	112.1
Nondurables less food	101.8	105.8	105.4	105.9	107.7	108.3	108.2	107.5	107.1	107.6	109.4	112.8	113.9	113.1	112.2
Nondurables less food and apparel	100.3	104.0	104.8	105.5	105.6	105.2	105.4	105.3	106.0	106.8	107.6	111.7	113.6	113.8	113.7
Nondurables	107.5	111.8	111.9	112.4	113.7	114.2	114.1	113.9	114.3	114.9	116.2	118.4	119.3	119.0	118.7
Services less rent of shelter (12/82=100)	123.1	128.3	128.9	129.4	130.3	130.5	130.6	131.1	132.1	132.7	133.0	133.4	134.0	135.2	135.8
Services less medical care	119.1	124.3	124.7	125.3	125.9	126.2	126.3	126.6	127.3	127.8	128.3	128.5	129.1	129.9	130.8
Energy	88.6	89.3	91.4	92.3	91.9	89.9	88.9	88.7	89.0	89.3	89.8	94.9	97.4	99.0	98.5
All items less energy	117.2	122.3	122.3	122.8	123.8	124.4	124.7	124.8	125.5	126.0	126.7	127.1	127.6	127.7	128.2
All items less food and energy	118.2	123.4	123.3	123.8	124.7	125.5	125.8	126.0	126.4	126.9	127.6	128.0	128.3	128.5	129.0
Commodities less food and energy	111.8	115.8	115.2	115.2	116.9	118.0	118.2	118.0	117.9	118.1	119.0	119.6	119.7	119.3	118.8
Energy commodities	80.2	80.8	81.9	83.4	82.5	81.0	80.9	80.1	79.9	80.6	81.7	91.2	95.0	94.4	92.9
Services less energy	122.0	127.9	128.0	128.8	129.3	129.9	130.3	130.6	131.4	132.0	132.7	132.9	133.4	133.9	134.8
Purchasing power of the consumer dollar:															
1982-84=\$1.00	88.0	84.6	84.4	84.0	83.5	83.2	83.1	83.0	82.6	82.3	81.8	81.2	80.8	80.6	80.4
1967=\$1.00	29.4	28.2	28.2	28.0	27.9	27.8	27.7	27.7	27.6	27.5	27.3	27.1	27.0	26.9	26.8
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	112.5	117.0	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8	122.5	122.8	123.2
All items (1967=100)	335.0	348.4	349.1	350.7	353.0	354.2	354.6	355.0	356.7	358.0	360.0	362.9	364.9	365.9	366.8
Food and beverages	113.3	117.9	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7	124.4	124.6	125.1
Food	113.3	117.9	118.5	119.2	119.9	120.1	119.9	120.4	121.9	122.6	123.3	123.9	124.6	124.8	125.3
Food at home	111.7	116.2	116.9	117.8	118.7	118.7	118.4	118.8	120.8	121.7	122.4	123.2	124.0	123.9	124.4
Cereals and bakery products	114.8	122.2	122.1	124.1	124.8	125.7	126.0	126.7	128.0	129.0	129.7	130.5	131.5	132.0	133.3
Meats, poultry, fish, and eggs	110.4	114.1	116.3	117.1	117.3	116.6	116.1	115.8	118.3	118.0	120.3	120.4	120.5	121.2	121.5
Dairy products	105.7	108.1	107.3	107.9	108.6	109.7	110.4	111.2	112.4	113.3	113.6	114.0	113.6	113.3	113.8
Fruits and vegetables	118.8	127.6	128.4	129.6	132.8	131.4	129.1	130.8	134.3	136.8	135.4	137.7	142.5	140.0	139.9
Other foods at home	110.4	113.0	113.0	113.5	113.9	114.7	114.8	115.1	116.5	117.7	118.0	118.9	118.8	119.0	119.6
Sugar and sweets	110.9	113.9	113.9	114.8	115.6	115.9	115.7	116.7	117.3	117.8	118.0	118.1	118.4	119.2	120.1
Fats and oils	107.9	113.0	112.5	114.8	115.8	117.0	117.0	118.3	119.5	120.4	120.3	121.5	121.5	121.5	121.5
Nonalcoholic beverages	107.5	107.7	107.4	107.2	107.6	108.3	108.4	107.8	109.8	111.4	111.4	111.9	111.5	111.6	112.2
Other prepared foods	113.6	117.8	118.1	118.5	118.8	119.7	119.9	120.5	121.7	122.8	123.6	125.0	125.3	125.7	125.7
Food away from home	116.9	121.6	122.0	122.8	123.2	123.5	124.0	124.6	125.1	125.5	126.1	126.5	127.0	127.6	127.6
Alcoholic beverages	113.9	118.3	118.9	118.9	119.2	119.5	119.5	119.5	119.8	120.8	121.4	122.0	122.8	123.2	123.6
Housing	112.8	116.8	117.4	117.8	118.2	118.2	118.3	118.5	119.0	119.3	119.6	119.8	120.3	121.1	122.1
Shelter	118.8	124.3	124.5	125.3	125.6	126.0	126.4	126.5	126.9	127.4	128.1	128.3	128.8	129.3	130.5
Renters' costs (12/84=100)	114.6	119.2	120.0	120.7	120.2	120.4	120.1	120.0	120.7	121.5	123.0	122.7	122.8	123.6	125.7
Rent, residential	122.9	127.5	127.5	128.0	128.7	129.0	129.4	129.7	130.1	130.4	130.7	131.0	131.2	131.8	132.5
Other renters' costs	128.2	135.2	140.8	143.0	136.1	135.1	131.4	129.2	131.8	135.2	144.2	140.9	139.9	142.3	153.7
Homeowners' costs (12/84=100)	113.8	119.5	119.4	120.2	120.9	121.3	122.0	122.2	122.5	122.8	123.0	123.4	124.1	124.4	125.2
Owners' equivalent rent (12/84=100)	113.7	119.5	119.5	120.2	120.9	121.4	122.1	122.2	122.5	122.8	123.1	123.5	124.2	124.5	125.2
Household insurance (12/84=100)	114.1	118.2	118.6	119.0	119.1	119.3	119.2	119.6	119.9	120.0	120.1	120.2	120.9	121.5	121.8
Maintenance and repairs	111.3	114.0	113.8	114.2	114.4	114.1	114.6	115.2	115.6	116.7	116.7	116.7	116.9	117.9	118.2
Maintenance and repair services	114.7	117.7	117.6	118.0	117.7	117.0	117.6	117.8	118.3	119.5	119.2	119.3	119.8	121.0	121.2
Maintenance and repair commodities	106.0	108.3	108.0	108.3	109.1	109.2	109.7	110.6	110.9	111.8	112.1	112.1	112.0	112.7	113.2
Fuel and other utilities	102.7	104.1	105.6	105.8	106.1	105.1	104.1	104.8	105.7	105.7	105.9	106.7	106.7	109.0	109.4
Fuels	97.1	97.7	100.5	100.6	100.8	98.3	96.6	97.2	98.4	98.3	98.2	98.5	99.2	103.0	103.4
Fuel oil, coal, and bottled gas	77.6	77.9	76.7	76.2	75.9	74.6	75.0	76.7	80.3	81.0	81.2	82.1	81.2	80.1	79.6
Gas (piped) and electricity	103.6	104.4	107.8	108.0	108.2	105.5	103.9	103.8	104.6	104.6	104.8	105.8	105.8	110.3	110.8
Other utilities and public services	120.1	122.9	122.4	122.5	123.3	124.7	124.6	125.6	126.2	126.3	126.2	126.5	127.2		

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

(1982-84=100, unless otherwise indicated)

Series	Annual average		1988						1989						
	1987	1988	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Apparel commodities	108.8	113.4	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4	117.7	115.0	112.3
Men's and boys' apparel	108.5	112.8	111.5	111.0	114.4	116.9	117.5	116.5	114.4	113.4	115.1	116.4	116.9	115.0	113.7
Women's and girls' apparel	110.3	114.5	109.5	109.5	117.6	121.5	119.9	116.2	111.3	110.7	118.3	120.2	118.1	113.5	108.7
Infants' and toddlers' apparel	114.0	118.6	118.6	120.4	121.5	120.6	120.1	120.3	118.5	121.8	121.7	126.7	128.3	126.7	121.9
Footwear	105.5	110.4	108.7	108.0	112.7	116.3	115.0	114.0	112.8	113.1	114.1	115.2	115.0	114.1	113.9
Other apparel commodities	107.4	114.9	115.2	114.9	116.2	117.9	118.2	117.8	117.8	119.0	118.5	119.6	119.8	119.8	120.7
Apparel services	119.2	123.0	122.7	123.3	123.7	124.7	125.4	125.8	126.4	126.8	127.7	128.1	128.9	129.0	128.6
Transportation	105.1	108.3	108.6	109.4	109.4	109.8	110.3	110.4	110.7	111.2	111.6	114.5	116.0	116.0	115.4
Private transportation	104.1	107.5	107.7	108.6	108.6	109.0	109.5	109.5	109.7	110.3	110.6	113.7	115.3	115.2	114.6
New vehicles	114.0	116.2	115.8	115.5	115.8	116.9	118.1	118.8	119.2	119.3	119.2	118.9	119.0	118.7	118.3
New cars	114.3	116.6	116.2	116.0	116.4	117.5	118.5	118.9	119.3	119.5	119.4	119.2	119.3	118.9	118.4
Used cars	113.1	117.9	117.8	119.0	119.2	119.8	119.5	120.1	120.3	120.4	120.3	120.5	120.9	121.1	120.9
Motor fuel	80.3	80.9	82.3	84.3	83.1	81.6	81.5	80.4	79.6	80.3	81.5	92.3	96.7	96.1	94.5
Gasoline	80.2	80.8	82.3	84.3	83.2	81.6	81.5	80.4	79.5	80.2	81.4	92.3	96.9	96.3	94.7
Maintenance and repair	115.1	119.8	120.1	120.5	121.0	121.3	121.5	121.5	122.4	123.3	123.5	123.9	124.4	124.6	124.8
Other private transportation	119.0	125.8	125.4	126.5	127.2	128.9	130.0	130.4	131.4	132.2	132.5	132.7	133.5	133.9	133.7
Other private transportation commodities	96.7	98.6	97.9	98.8	99.3	98.8	99.0	99.9	100.5	100.7	99.8	100.4	101.1	101.5	101.0
Other private transportation services	123.4	131.7	131.3	132.5	133.2	135.5	136.8	137.1	138.2	139.2	139.8	139.8	140.7	141.2	141.0
Public transportation	120.4	122.5	123.0	123.0	123.1	123.5	124.3	125.4	126.1	126.8	126.9	127.1	127.5	128.2	128.3
Medical care	130.2	139.0	139.6	140.3	140.8	141.7	142.2	142.8	144.2	145.6	146.5	147.2	147.9	148.8	150.1
Medical care commodities	130.2	139.0	139.4	140.0	141.0	142.1	142.2	143.1	143.9	144.7	146.0	147.4	148.9	149.9	150.3
Medical care services	130.3	139.0	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2	147.6	148.6	150.0
Professional services	129.0	137.7	138.5	138.9	139.3	139.9	140.6	141.0	142.4	143.7	144.7	145.1	145.5	146.4	147.3
Hospital and related services	131.1	143.3	143.8	145.4	146.3	147.8	148.9	150.0	151.9	154.2	154.8	155.6	156.2	157.3	159.7
Entertainment	114.8	119.7	119.8	120.1	120.6	121.2	121.7	122.2	123.1	123.6	124.1	124.8	124.9	125.5	126.1
Entertainment commodities	110.6	115.1	115.4	115.5	116.0	116.5	117.3	117.6	118.1	118.4	118.7	119.1	119.5	119.7	120.1
Entertainment services	121.8	127.2	127.2	127.6	128.1	128.9	129.0	129.7	131.3	131.9	132.7	133.8	133.6	134.6	135.7
Other goods and services	127.8	136.5	136.3	137.2	139.3	139.9	140.3	140.6	143.0	143.7	144.0	144.4	145.2	146.3	147.5
Tobacco products	133.7	146.0	147.9	148.9	149.2	149.5	149.9	150.2	156.9	158.2	158.9	159.2	160.7	163.8	167.3
Personal care	115.0	119.3	119.1	119.0	120.3	120.9	121.7	122.3	122.7	123.0	123.5	123.9	124.7	124.4	124.6
Toilet goods and personal care appliances	113.9	118.0	117.8	117.4	118.8	119.9	120.6	121.5	121.7	121.9	122.3	122.7	122.9	122.4	122.8
Personal care services	116.1	120.5	120.4	120.7	121.9	122.0	122.7	123.0	123.6	124.2	124.6	125.2	126.7	126.9	126.8
Personal and educational expenses	138.2	147.4	146.0	147.4	151.1	151.7	152.0	152.3	153.3	153.7	153.9	154.3	154.6	155.3	155.7
School books and supplies	137.9	147.1	145.6	146.0	150.0	150.8	150.9	151.1	152.0	153.9	154.0	154.1	154.1	154.5	154.7
Personal and educational services	138.4	147.7	146.3	147.8	151.5	152.0	152.3	152.7	153.7	154.0	154.1	154.6	154.9	155.7	156.1
All items	112.5	117.0	117.2	117.7	118.5	118.9	119.0	119.2	119.7	120.2	120.8	121.8	122.5	122.8	123.2
Commodities	107.3	111.0	111.1	111.6	112.5	113.0	113.1	113.0	113.5	113.9	114.7	116.4	117.1	116.9	116.8
Food and beverages	113.3	117.9	118.5	119.1	119.8	120.0	119.9	120.3	121.7	122.4	123.1	123.7	124.4	124.6	125.1
Commodities less food and beverages	103.6	106.8	106.6	107.0	108.1	108.7	108.9	108.6	108.4	108.7	109.5	111.8	112.6	112.2	111.6
Nondurables less food and beverages	100.8	104.6	104.3	104.9	106.6	107.2	107.1	106.3	105.9	106.3	108.1	112.1	113.4	112.6	111.7
Apparel commodities	108.8	113.4	110.6	110.5	115.8	118.9	118.1	116.0	113.0	112.8	116.7	118.4	117.7	115.0	112.3
Nondurables less food, beverages, and apparel	99.2	102.9	103.7	104.7	104.9	104.1	104.3	104.1	104.9	105.6	106.5	111.6	113.9	114.0	113.9
Durables	106.6	108.9	108.8	108.8	109.1	109.7	110.4	110.7	111.0	111.0	110.6	110.5	110.6	110.7	110.6
Services	119.4	124.7	125.1	125.7	126.3	126.7	126.9	127.2	127.9	128.4	128.9	129.1	129.7	130.6	131.5
Rent of shelter (12/84=100)	114.0	119.4	119.6	120.3	120.7	121.1	121.4	121.5	121.9	122.4	123.1	123.2	123.7	124.2	125.4
Household services less rent of shelter (12/84=100)	104.0	105.9	107.4	107.6	108.0	107.2	106.2	106.8	107.5	107.4	107.4	107.6	108.3	110.5	110.9
Transportation services	120.8	127.1	127.1	127.8	128.4	129.9	130.9	131.2	132.2	133.1	133.5	133.7	134.4	134.8	134.8
Medical care services	130.3	139.0	139.6	140.3	140.8	141.6	142.2	142.7	144.2	145.8	146.7	147.2	147.6	148.6	150.0
Other services	124.7	131.4	130.8	131.6	133.6	134.2	134.5	135.0	136.1	136.5	137.0	137.6	137.9	138.6	139.1
Special indexes:															
All items less food	112.2	116.7	116.8	117.3	118.1	118.6	118.8	118.8	119.2	119.6	120.2	121.3	122.0	122.3	122.6
All items less shelter	111.0	115.2	115.4	115.9	116.8	117.2	117.3	117.4	118.0	118.5	119.1	120.4	121.1	121.3	121.4
All items less homeowners' costs (12/84=100)	106.4	110.4	110.7	111.1	111.9	112.2	112.3	112.4	113.0	113.4	114.1	115.2	115.8	116.1	116.3
All items less medical care	111.5	115.8	116.0	116.6	117.3	117.7	117.8	117.9	118.5	118.9	119.5	120.5	121.2	121.5	121.8
Commodities less food	103.9	107.2	107.0	107.3	108.4	109.0	109.2	108.9	108.8	109.0	109.9	112.1	112.9	112.5	112.0
Nondurables less food	101.4	105.3	105.1	105.6	107.2	107.8	107.6	106.9	106.5	107.0	108.7	112.4	113.6	113.0	112.1
Nondurables less food and apparel	100.0	103.7	104.5	105.3	105.3	104.9	105.1	104.9	105.6	106.4	107.2	111.7	113.8	114.0	113.9
Nondurables	107.2	111.5	111.6	112.3	113.4	113.8	113.7	113.5	114.0	114.6	115.8	118.1	119.1	118.8	118.6
Services less rent of shelter (12/84=100)	110.8	115.6	116.1	116.6	117.3	117.6	117.6	118.1	119.0	119.5	119.8	120.1	120.7	121.9	122.3
Services less medical care	118.2	123.3	123.6	124.3	124.9	125.2	125.3	125.6	126.3	126.7	127.2	127.4	128.0	128.9	129.7
Energy	88.0	88.6	90.7	91.8	91.3	89.3	88.4	88.1	88.3	88.6	89.2	94.8	97.4	98.9	98.3
All items less energy	116.0	121.0	121.0	121.5	122.4	123.1	123.4	123.6	124.2	125.3	125.8	126.2	126.4	126.8	127.3
All items less food and energy	116.8	121.9	121.7	122.2	123.1	124.0	124.3	124.4	124.8	125.3	125.9	126.3	126.6	126.8	127.3
Commodities less food and energy	110.8	114.7	114.2	114.3	115.8	116.9	117.1	117.0	116.9	117.1	117.9	118.4	118.5	118.2	117.9
Energy commodities	80.3	80.9	82.1	83.8	82.7	81.2	81.2	80.3	79.9	80.6	81.7	91.6	95.6	94.9	93.5
Services less energy	121.2	127.0	127.1	127.8	128.4	129.1	129.5	129.8	130.5	131.1	131.6	131.9	132.4	132.9	133.8
Purchasing power of the consumer dollar:			</												

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

(1982-84=100, unless otherwise indicated)

Area ¹	Pricing schedule ²	All Urban Consumers							Urban Wage Earners						
		1988		1989					1988		1989				
		July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
U.S. city average	M	118.5	119.0	122.3	123.1	123.8	124.1	124.4	117.2	117.7	120.8	121.8	122.5	122.8	123.2
Region and area size³															
Northeast urban	M	121.8	122.5	126.7	127.4	128.3	128.5	129.0	120.6	121.3	125.4	126.2	127.1	127.4	127.9
Size A - More than 1,200,000	M	122.6	123.4	127.4	128.0	128.7	129.1	129.3	120.6	121.4	125.2	125.9	126.7	127.1	127.3
Size B - 500,000 to 1,200,000	M	120.0	120.9	125.1	126.1	127.2	127.0	128.8	118.8	119.7	123.9	124.9	126.0	125.9	127.8
Size C - 50,000 to 500,000	M	120.0	120.5	125.5	126.2	127.6	127.6	127.9	122.4	122.9	127.8	128.6	130.0	130.3	130.3
North Central urban	M	116.6	117.2	119.8	120.8	121.3	121.8	122.0	114.7	115.3	117.9	118.9	119.4	119.9	120.1
Size A - More than 1,200,000	M	117.7	118.3	121.1	121.9	122.2	123.0	123.5	115.1	115.7	118.4	119.2	119.5	120.3	120.7
Size B - 360,000 to 1,200,000	M	115.8	116.5	119.2	120.6	120.8	120.9	120.7	113.5	114.2	116.8	118.2	118.5	118.5	118.5
Size C - 50,000 to 360,000	M	116.6	117.2	119.9	121.2	122.2	122.1	122.0	115.5	116.1	118.7	120.1	121.1	121.0	120.8
Size D - Nonmetropolitan (less than 50,000)	M	113.5	113.9	115.5	116.3	116.8	117.4	117.5	113.2	113.7	115.1	116.1	116.8	117.2	117.4
South urban	M	116.6	117.0	119.8	120.8	121.3	121.7	122.0	116.1	116.5	119.1	120.3	120.9	121.3	121.5
Size A - More than 1,200,000	M	117.7	118.0	120.5	121.4	122.0	122.4	122.6	116.9	117.2	119.6	120.6	121.3	121.7	121.9
Size B - 450,000 to 1,200,000	M	117.1	117.6	121.0	122.2	122.4	123.0	123.5	115.2	115.8	118.8	120.1	120.5	121.0	121.4
Size C - 50,000 to 450,000	M	115.6	115.9	118.5	119.4	120.0	120.4	120.5	116.1	116.4	119.0	120.0	120.6	121.1	121.2
Size D - Nonmetropolitan (less than 50,000)	M	115.0	115.3	118.0	119.4	120.4	120.4	120.1	115.8	116.2	118.7	120.2	121.3	121.3	120.9
West urban	M	119.2	119.6	123.1	123.8	124.5	124.6	125.1	117.8	118.3	121.7	122.6	123.3	123.3	123.8
Size A - More than 1,250,000	M	120.5	121.1	124.7	125.3	126.2	126.3	126.9	117.8	118.4	121.9	122.7	123.5	123.6	124.2
Size C - 50,000 to 330,000	M	117.9	118.1	120.7	122.1	122.5	122.4	122.7	117.3	117.5	120.1	121.5	121.9	121.7	122.0
Size classes:															
A (12/86=100)	M	107.6	108.2	111.2	111.8	112.4	112.7	113.1	107.6	108.1	111.0	111.7	112.3	112.7	113.0
B	M	117.5	118.0	121.5	122.6	123.1	123.3	123.9	116.1	116.7	120.0	121.2	121.8	122.0	122.6
C	M	117.1	117.5	120.5	121.6	122.4	122.5	122.7	117.4	117.8	120.8	122.0	122.8	123.0	123.0
D	M	115.4	115.8	118.4	119.6	120.3	120.5	120.5	115.7	116.2	118.7	119.9	120.7	120.8	120.9
Selected local areas															
Chicago, IL-															
Northwestern IN	M	119.8	120.1	123.0	123.6	123.9	125.7	126.4	116.2	116.4	119.1	119.8	120.1	121.8	122.6
Los Angeles-Long Beach, Anaheim, CA	M	122.1	122.6	126.2	127.2	128.3	128.7	129.0	119.0	119.5	122.9	124.0	125.0	125.3	125.7
New York, NY- Northeastern NJ	M	123.6	124.2	128.9	129.5	130.2	130.5	130.6	121.7	122.2	126.8	127.5	128.2	128.7	128.7
Philadelphia, PA-NJ	M	123.2	123.9	126.0	126.7	127.9	128.8	129.3	123.1	123.6	125.8	126.7	127.9	128.9	129.3
San Francisco-Oakland, CA	M	120.9	122.0	125.9	125.4	126.3	126.2	127.4	119.7	120.5	124.6	124.8	125.7	125.6	126.4
Baltimore, MD	M	119.9	-	122.8	-	124.1	-	124.9	119.7	-	122.3	-	123.7	-	124.6
Boston, MA	1	123.8	-	129.7	-	130.5	-	130.3	123.7	-	129.7	-	130.6	-	130.8
Cleveland, OH	1	117.6	-	121.5	-	122.8	-	124.4	112.6	-	116.2	-	117.7	-	118.8
Miami, FL	1	116.8	-	119.8	-	120.9	-	121.6	116.0	-	118.7	-	120.0	-	120.6
St. Louis, MO-IL	1	116.0	-	119.4	-	121.5	-	123.1	115.7	-	119.1	-	121.2	-	122.8
Washington, DC-MD-VA	1	120.7	-	126.1	-	127.1	-	127.8	119.9	-	125.6	-	126.6	-	127.3
Dallas-Ft. Worth, TX	1	-	117.2	-	118.7	-	120.0	-	-	117.0	-	118.6	-	120.0	-
Detroit, MI	2	-	117.6	-	121.7	-	122.1	-	-	114.6	-	119.0	-	119.3	-
Houston, TX	2	-	110.3	-	113.2	-	114.1	-	-	110.6	-	113.5	-	114.5	-
Pittsburgh, PA	2	-	115.3	-	119.2	-	120.4	-	-	110.7	-	114.7	-	115.9	-

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

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

M - Every month.
1 - January, March, May, July, September, and November.
2 - February, April, June, August, October, and December.

³ Regions are defined as the four Census regions.
- Data not available.

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

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

(1982-84=100)

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

33. Producer Price Indexes, by stage of processing

(1982=100)

Grouping	Annual average		1988					1989						
	1987	1988	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Finished goods	105.4	108.0	108.7	108.6	109.4	109.8	110.0	111.1	111.7	112.1	113.0	114.2	114.1	114.0
Finished consumer goods	103.6	106.2	107.1	107.0	107.6	108.0	108.2	109.4	110.1	110.6	111.8	113.3	113.0	112.8
Finished consumer goods	109.5	112.6	113.6	115.1	114.6	114.9	115.1	116.7	117.2	118.3	117.8	119.1	118.4	119.0
Finished consumer goods excluding														
foods	100.7	103.1	103.9	103.0	104.1	104.6	104.8	105.8	106.6	106.8	108.9	110.4	110.3	109.7
Nondurable goods less food	94.9	97.3	98.4	97.6	97.7	98.4	98.7	100.0	100.9	101.3	104.3	106.1	105.9	105.3
Durable goods	111.5	113.8	113.8	112.8	116.4	116.1	116.1	116.6	117.0	116.6	116.4	117.1	117.2	116.7
Capital equipment	111.7	114.3	114.5	114.3	116.0	116.1	116.4	117.1	117.5	117.5	117.6	117.9	118.6	118.6
Intermediate materials, supplies, and														
components	101.5	107.1	108.4	108.7	108.6	108.9	109.4	110.6	111.0	111.5	112.3	112.7	112.6	112.6
Materials and components for														
manufacturing	105.3	113.2	114.3	114.9	115.5	116.2	116.8	118.0	118.3	118.7	118.9	118.9	118.4	118.2
Materials for food manufacturing	100.8	106.0	108.9	109.5	108.3	107.7	108.6	110.4	110.1	111.4	111.5	112.4	112.1	112.9
Materials for nondurable manufacturing	102.2	112.9	114.5	115.2	116.0	116.8	117.5	119.2	119.7	119.8	120.6	120.5	119.6	118.9
Materials for durable manufacturing	106.2	118.7	119.7	120.3	121.8	123.2	124.3	125.5	125.3	125.7	125.7	124.9	123.6	123.0
Components for manufacturing	108.8	112.3	112.8	113.2	113.5	113.8	114.1	114.9	115.3	115.7	115.8	116.1	116.3	116.5
Materials and components for														
construction	109.8	116.1	116.7	117.1	117.5	118.1	118.7	119.4	119.9	120.5	121.0	121.5	121.4	121.5
Processed fuels and lubricants	73.3	71.2	73.5	72.6	69.7	69.0	69.8	71.6	72.1	73.2	76.7	78.1	79.3	78.7
Containers	114.5	120.1	121.3	122.3	122.4	122.6	122.7	123.1	123.9	124.4	125.0	125.5	125.8	126.0
Supplies	107.7	113.7	115.1	115.6	116.0	116.2	116.2	117.2	117.4	118.0	117.9	118.0	118.0	118.4
Crude materials for further processing ...	93.7	96.0	96.9	96.7	95.9	94.5	97.3	101.4	101.2	103.2	104.1	106.3	103.9	103.7
Foodstuffs and feedstuffs	96.2	106.1	110.4	112.0	111.9	108.0	109.5	112.5	111.0	113.7	111.4	115.0	111.4	109.7
Crude nonfood materials	87.9	85.5	84.4	83.0	81.9	82.0	85.4	90.0	90.7	92.2	94.9	96.2	94.6	95.3
Special groupings														
Finished goods, excluding foods	104.0	106.5	107.1	106.4	107.7	108.1	108.3	109.2	109.9	110.0	111.4	112.6	112.7	112.3
Finished energy goods	61.8	59.8	61.1	58.8	58.7	60.0	59.2	60.8	61.8	62.3	68.3	72.0	70.1	68.4
Finished goods less energy	112.3	115.8	116.4	116.7	117.7	117.8	118.2	119.2	119.8	120.1	120.1	120.8	121.1	121.2
Finished consumer goods less energy	112.5	116.3	117.0	117.5	118.3	118.5	118.9	120.0	120.6	121.1	121.0	121.8	121.9	122.1
Finished goods less food and energy	113.3	117.0	117.4	117.2	118.8	118.9	119.4	120.1	120.7	120.7	120.9	121.3	122.0	121.9
Finished consumer goods less food and														
energy	114.2	118.5	119.1	118.9	120.5	120.6	121.2	121.9	122.6	122.6	122.8	123.3	124.0	123.9
Consumer nondurable goods less food and														
energy	116.3	122.0	123.0	123.3	123.6	123.9	125.0	125.9	126.8	127.1	127.5	127.9	129.0	129.2
Intermediate materials less foods and														
feeds	101.7	106.9	108.1	108.3	108.3	108.7	109.2	110.4	110.8	111.4	112.3	112.6	112.6	112.5
Intermediate foods and feeds	99.2	109.5	114.5	115.5	114.7	113.4	113.0	115.6	114.0	115.2	114.0	114.2	112.7	114.3
Intermediate energy goods	73.0	70.9	73.1	72.3	69.4	68.7	69.5	71.2	71.8	72.9	76.3	77.7	78.9	78.3
Intermediate goods less energy	107.3	114.6	115.7	116.3	116.8	117.3	117.8	118.9	119.1	119.6	119.9	120.0	119.7	119.7
Intermediate materials less foods and														
energy	107.8	115.2	116.1	116.7	117.3	118.0	118.6	119.6	119.9	120.3	120.7	120.8	120.5	120.3
Crude energy materials	75.0	67.7	66.1	64.7	63.3	62.9	66.6	71.2	72.0	73.5	77.0	78.7	77.3	78.9
Crude materials less energy	100.9	112.6	116.0	117.1	117.0	114.7	116.1	119.3	118.1	120.4	118.5	121.0	117.8	115.8
Crude nonfood materials less energy	115.7	133.0	133.9	133.4	133.4	135.6	136.9	140.3	140.3	141.3	140.3	139.8	137.7	134.9

34. Producer Price indexes, by durability of product

(1982=100)

Grouping	Annual average		1988					1989						
	1987	1988	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total durable goods	109.9	114.7	115.1	115.2	116.4	116.8	117.2	118.1	118.3	118.5	118.6	118.8	118.8	118.7
Total nondurable goods	97.5	101.1	102.6	102.7	102.2	102.0	102.8	104.8	105.2	106.1	107.4	108.7	108.1	108.0
Total manufactures	104.4	109.1	110.0	110.1	110.5	111.0	111.4	112.5	112.9	113.4	114.4	114.9	114.8	114.6
Durable	109.6	114.1	114.4	114.5	115.6	116.0	116.4	117.1	117.4	117.6	117.7	118.0	118.1	118.1
Nondurable	99.2	104.1	105.6	105.6	105.4	106.1	106.4	107.8	108.3	109.2	110.9	111.6	111.2	110.9
Total raw or slightly processed goods	94.2	95.9	97.2	97.5	96.5	94.8	96.7	99.9	100.1	101.1	101.3	103.5	102.4	102.5
Durable	122.6	148.0	150.6	149.5	150.1	154.8	157.5	162.6	161.9	161.0	158.3	156.5	151.3	145.0
Nondurable	92.9	93.4	94.7	95.0	93.9	92.0	93.9	97.0	97.2	98.2	98.6	101.0	100.1	100.5

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

(1982=100)

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

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1986	1987				1988				1989	
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES		99.0	99.9	102.2	102.8	104.9	106.5	109.5	111.9	111.6	113.3	113.2
Food	0	90.1	87.3	89.9	86.7	94.6	95.2	103.4	118.7	114.2	117.6	115.5
Meat and meat preparations	01	114.5	115.0	121.2	118.8	116.8	122.8	131.0	137.0	130.3	132.9	127.9
Fish and crustaceans	03	115.9	117.1	125.8	131.1	138.5	140.9	145.0	175.9	174.0	169.1	159.8
Grain and grain preparations	04	72.5	68.3	71.0	67.8	77.4	79.8	87.2	108.5	102.0	108.4	106.4
Vegetables and fruit	05	117.5	115.3	112.4	101.1	100.5	97.5	104.3	109.9	110.3	108.8	113.5
Animal feeds, excluding unmilled cereals	08	119.7	117.0	123.8	123.1	145.2	134.6	158.1	161.0	157.0	154.1	144.1
Miscellaneous food products	09	99.9	100.1	100.6	100.3	100.3	102.3	102.8	105.2	104.9	107.0	108.2
Beverages and tobacco	1	102.6	102.6	105.0	105.5	107.0	109.6	110.6	112.0	111.7	117.2	117.6
Tobacco and tobacco products	12	102.6	102.6	105.0	105.5	107.0	109.8	110.7	112.1	111.8	117.6	117.9
Crude materials	2	102.4	105.7	114.5	118.7	125.2	130.0	139.9	140.8	135.8	142.6	142.9
Raw hides and skins	21	115.9	131.9	149.6	147.7	157.1	171.4	166.8	156.7	136.8	146.7	150.0
Oilseeds	22	95.2	90.4	101.6	95.1	109.6	115.6	143.0	154.7	135.7	139.3	129.8
Crude rubber	23	98.9	99.9	101.0	102.8	105.3	104.5	106.1	109.1	109.9	111.1	112.2
Wood	24	107.9	111.2	116.2	141.7	146.0	150.2	149.6	150.0	148.6	157.3	171.2
Pulp and waste paper	25	129.4	144.2	149.9	153.0	160.4	171.2	179.5	181.7	182.1	192.9	193.6
Textile fibers	26	90.9	97.8	112.4	116.5	111.6	107.5	109.9	100.8	103.6	106.7	115.8
Crude minerals	27	96.8	94.4	94.0	91.6	91.6	92.8	94.2	94.8	94.8	98.8	99.3
Metal ores and metal scrap	28	96.8	98.8	107.0	117.4	125.9	131.8	146.0	145.0	150.4	163.5	156.9
Fuels and related products	3	77.8	81.3	82.8	84.6	82.5	79.3	82.1	79.5	79.4	81.7	86.0
Coal and coke	32	92.0	92.6	88.2	91.0	89.8	90.6	92.0	92.9	93.4	93.7	94.4
Crude petroleum and petroleum products	33	-	-	-	-	100.0	90.8	97.2	89.2	88.4	94.5	105.3
Fats and oils	4	71.8	73.9	78.8	78.5	81.6	92.7	97.3	101.5	91.5	90.3	87.1
Animal oils and fats	41	79.9	81.1	86.7	86.7	88.7	101.3	101.6	104.3	95.7	91.8	89.6
Fixed vegetable oils and fats	42	64.6	67.3	71.9	71.2	75.4	85.7	93.7	99.1	87.1	88.2	84.1
Chemicals and related products	5	95.2	99.6	106.7	107.7	112.9	117.9	121.6	124.9	125.5	125.5	121.7
Organic chemicals	51	92.4	101.9	118.4	116.1	123.5	135.1	144.6	153.3	150.8	149.6	144.2
Dyeing, tanning, and coloring materials	53	101.4	103.6	104.2	105.5	108.5	109.1	110.1	111.5	113.0	115.5	116.2
Medicinal and pharmaceutical products (12/85=100)	54	100.8	101.0	101.4	102.2	105.4	109.3	106.3	105.9	107.5	109.0	108.8
Essential oils, polish, and cleaning preparations	55	104.2	105.5	105.7	107.3	108.4	111.2	113.6	120.2	122.4	125.3	124.6
Fertilizers, manufactured	56	77.4	85.6	91.6	100.9	106.5	110.6	109.8	116.4	119.9	119.4	108.7
Artificial resins, plastics and cellulose	57	99.5	104.8	111.9	116.4	124.8	129.4	137.5	138.2	132.5	125.8	118.0
Chemical materials and products, n.e.s.	58	97.3	97.5	97.7	97.1	98.2	100.3	101.7	104.1	105.4	108.4	109.4
Intermediate manufactured products	6	104.2	106.4	107.9	110.3	111.2	114.4	117.7	119.6	120.6	122.6	123.1
Leather and furskins	61	107.8	123.6	126.9	128.7	118.0	125.7	125.1	128.6	125.0	118.3	120.7
Rubber manufactures	62	100.9	102.0	102.5	103.9	104.1	105.2	108.8	109.4	110.4	113.0	113.1
Paper and paperboard products	64	110.8	114.7	117.0	120.1	122.4	126.2	129.0	130.2	131.1	132.5	133.7
Textiles	65	101.8	103.3	103.7	104.1	105.2	106.5	107.9	108.6	111.6	113.9	115.2
Non-metallic mineral manufactures (9/85=100)	66	108.0	106.8	108.7	110.4	111.3	113.4	114.1	115.6	116.8	120.4	122.6
Iron and steel	67	101.9	102.9	102.9	100.7	102.9	106.1	110.8	111.4	112.1	116.0	116.7
Nonferrous metals	68	102.6	106.6	113.0	123.0	124.4	134.0	143.5	149.1	150.0	151.7	146.0
Metal manufactures, n.e.s.	69	100.8	101.5	101.3	102.3	103.4	104.5	107.6	109.9	110.9	112.6	114.0
Machinery and transport equipment, excluding military and commercial aircraft	7	101.6	101.7	101.8	102.1	102.4	103.2	104.0	104.8	105.8	106.7	107.2
Power generating machinery and equipment	71	103.7	104.6	103.7	104.8	105.2	107.0	108.4	108.5	109.3	111.8	112.3
Machinery specialized for particular industries	72	100.6	100.0	100.1	100.5	100.9	102.1	103.6	104.7	106.0	107.3	108.7
Metalworking machinery	73	104.2	105.8	106.7	107.8	108.2	109.3	110.8	111.0	114.4	115.7	117.4
General industrial machines and parts, n.e.s.	74	103.3	104.2	104.5	104.6	105.4	106.7	108.1	109.3	110.3	112.7	113.3
Office machines and automatic data processing equipment	75	98.2	96.0	96.1	95.7	95.5	95.8	95.7	96.8	96.4	95.8	94.9
Telecommunications, sound recording and reproducing equipment	76	101.3	101.9	101.4	101.4	101.9	102.8	104.6	104.1	105.1	106.7	107.9
Electrical machinery and equipment	77	100.3	101.7	102.1	102.5	101.8	103.1	103.4	105.3	105.7	106.1	106.4
Road vehicles and parts	78	103.3	103.1	103.5	103.8	104.6	104.5	104.9	105.4	106.8	107.2	107.8
Other transport equipment, excluding military and commercial aviation	79	103.5	104.5	105.5	105.8	106.6	107.4	109.6	109.7	111.9	113.5	114.9
Miscellaneous manufactured articles	8	103.8	104.6	105.2	105.4	105.6	106.9	108.1	108.9	110.5	111.4	112.9
Furniture and parts	82	103.5	106.7	107.6	107.6	110.0	111.2	111.4	111.7	114.2	114.3	118.1
Professional, scientific, and controlling instruments and apparatus	87	103.5	104.4	105.5	106.3	107.1	110.0	111.1	112.5	113.9	115.5	118.3
Photographic apparatus and supplies, optical goods, watches, and clocks	88	102.1	102.7	102.5	99.0	97.9	97.6	100.1	99.4	99.9	98.5	99.3
Miscellaneous manufactured articles, n.e.s.	89	104.9	105.2	104.8	105.9	105.8	105.4	106.5	106.5	108.7	110.2	110.0

- Data not available.

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

(1985=100, unless otherwise indicated)

Category	1974 SITC	1987			1988				1989	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES		110.0	110.9	112.5	113.8	116.8	115.3	117.6	119.7	120.7
ALL COMMODITIES, EXCLUDING FUELS		116.5	117.5	120.8	123.7	126.7	126.1	129.1	129.6	128.6
Food and live animals	0	108.3	109.1	112.5	114.1	114.0	112.7	114.3	114.1	111.4
Meat and meat preparations	01	108.0	114.4	113.4	111.5	107.0	111.2	108.7	111.2	109.3
Dairy products and eggs	02	122.3	121.7	125.1	125.6	125.0	122.2	125.8	124.0	120.1
Fish and crustaceans	03	126.0	130.4	131.0	132.5	129.3	125.9	126.7	127.0	123.0
Bakery goods, pasta products, grain, and grain preparations	04	126.2	124.8	130.7	135.8	139.8	136.9	142.2	140.4	140.1
Fruits and vegetables	05	110.1	110.0	116.2	115.4	120.3	123.7	127.7	123.4	123.3
Sugar, sugar preparations, and honey	06	109.6	109.0	107.0	109.6	110.0	112.1	110.8	109.8	111.8
Coffee, tea, cocoa	07	87.0	85.1	90.6	94.3	93.3	87.4	90.6	91.2	85.3
Beverages and tobacco	1	112.8	112.2	113.5	116.0	116.2	115.3	116.2	117.0	117.2
Beverages	11	114.2	114.8	116.2	118.7	120.0	118.9	119.9	120.7	120.7
Crude materials	2	116.2	120.3	122.1	129.2	137.8	135.4	143.2	146.2	144.2
Crude rubber (including synthetic and reclaimed)	23	103.7	110.7	120.1	121.7	151.1	133.3	121.5	123.0	103.4
Cork and wood	24	110.2	117.4	108.8	112.4	111.4	109.7	107.8	112.1	112.4
Pulp and waste paper	25	132.0	133.4	141.0	151.0	160.5	169.6	174.7	184.7	190.2
Textile fibers	26	118.4	128.1	135.2	137.8	145.5	141.9	145.6	151.5	145.3
Crude fertilizers and crude minerals	27	99.6	99.2	99.9	100.4	101.0	97.2	100.2	103.3	104.3
Metalliferous ores and metal scrap	28	124.5	128.7	137.9	151.2	167.6	172.2	205.4	204.3	212.3
Crude animal and vegetable materials, n.e.s.	29	109.0	107.6	118.3	135.8	148.2	122.0	139.5	138.5	110.1
Fuels and related products	3	74.1	74.3	67.2	60.6	63.4	57.7	56.4	66.8	78.8
Crude petroleum and petroleum products	33	74.4	75.2	67.8	60.4	63.6	57.7	56.1	67.3	80.3
Fats and oils	4	87.9	96.4	102.1	106.4	111.2	114.0	112.3	112.5	117.4
Fixed vegetable oils and fats (9/87=100)	42	-	100.0	105.7	111.1	116.1	119.2	117.4	117.3	122.6
Chemicals and related products	5	104.8	105.6	110.1	114.2	116.4	119.2	122.2	123.6	120.3
Organic chemicals	51	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.6	114.0
Inorganic chemicals	52	89.8	89.8	90.1	92.0	92.3	93.0	96.1	93.1	86.6
Medicinal and pharmaceutical products	54	123.4	124.3	126.3	135.3	140.3	145.4	146.4	154.9	153.5
Essential oils and perfumes	55	117.8	119.2	123.0	125.7	126.2	127.5	130.5	130.3	130.4
Manufactured fertilizers	56	94.6	109.3	133.6	133.7	136.3	136.5	139.9	143.5	142.1
Artificial resins and plastics and cellulose	58	114.7	114.4	117.6	121.6	124.3	127.6	129.5	129.5	129.8
Chemical materials and products, n.e.s.	59	117.7	120.6	124.8	138.7	148.5	153.4	156.5	154.8	149.8
Intermediate manufactured products	6	112.5	116.3	119.8	124.4	132.2	132.3	135.0	137.3	136.3
Leather and furskins	61	116.6	117.8	124.4	131.8	137.0	136.6	134.9	134.6	134.6
Rubber manufactures, n.e.s.	62	104.6	103.2	104.6	106.0	107.7	109.1	111.1	111.7	112.2
Cork and wood manufactures	63	124.3	128.3	128.2	133.8	138.2	136.1	134.1	136.9	139.8
Paper and paperboard products	64	104.9	110.3	112.3	117.2	118.3	119.5	119.9	120.6	120.9
Textiles	65	111.8	114.6	118.6	120.0	120.6	119.1	120.5	120.5	122.3
Nonmetallic mineral manufactures, n.e.s.	66	126.7	130.4	133.4	137.4	142.5	139.7	141.9	147.5	149.6
Iron and steel	67	106.6	109.4	114.0	120.0	127.2	129.9	130.7	132.6	133.9
Nonferrous metals	68	112.4	120.9	125.8	132.7	159.7	158.9	169.1	172.8	159.1
Metal manufactures	69	112.7	114.6	117.8	121.1	126.9	127.5	130.7	132.4	132.5
Machinery and transport equipment	7	119.9	119.9	123.1	125.4	127.3	126.7	129.9	130.1	129.3
Machinery (including SITC 71-77)	7hyb	119.1	118.7	122.6	124.6	126.4	125.9	128.7	129.2	128.4
Machinery specialized for particular industries	72	136.1	134.3	142.1	146.8	149.8	143.7	150.8	149.1	145.7
Metalworking machinery	73	128.1	130.2	135.5	139.9	142.4	139.7	144.1	142.9	139.7
General industrial machinery and parts, n.e.s.	74	130.8	130.1	137.0	140.4	143.7	139.6	144.2	144.7	143.0
Office machines and automatic data processing equipment	75	114.0	114.8	118.3	118.1	119.5	118.7	118.7	119.6	119.1
Telecommunications, sound recording and reproducing apparatus	76	110.3	110.2	112.1	112.8	113.8	113.9	115.5	115.7	115.5
Electrical machinery and equipment	77	115.8	115.1	118.2	122.2	124.2	125.9	129.3	130.5	129.8
Road vehicles and parts	78	120.5	120.6	122.6	125.5	127.6	127.1	130.8	130.5	129.7
Miscellaneous manufactured articles	8	117.8	118.5	121.8	124.2	125.7	124.2	126.6	126.6	126.7
Plumbing, heating, and lighting fixtures	81	117.0	116.2	121.0	123.4	126.9	124.5	127.2	130.0	131.5
Furniture and parts	82	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2	128.0
Travel goods, handbags, and similar goods (6/85=100)	83	99.8	98.2	103.0	105.8	107.3	111.3	115.1	117.6	114.0
Clothing	84	109.2	111.9	112.3	115.6	114.9	116.7	117.2	118.5	120.5
Footwear	85	119.8	119.0	124.3	125.4	129.6	128.0	129.1	127.2	128.0
Professional, scientific, and controlling instruments and apparatus	87	135.9	132.7	138.7	140.0	142.5	135.8	141.9	141.1	136.9
Photographic apparatus and supplies, optical goods, watches, and clocks	88	126.0	122.1	127.3	129.2	129.3	125.4	130.6	130.2	127.9
Miscellaneous manufactured articles, n.e.s.	89	121.1	122.3	127.3	129.2	132.1	128.2	131.4	131.7	131.4

- Data not available.

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

(1985 = 100 unless otherwise indicated)

Category	1987			1988				1989	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	91.5	88.0	96.6	98.5	110.1	124.5	117.4	120.8	117.2
Industrial supplies and materials	106.1	109.1	111.8	114.2	118.3	118.7	118.6	120.7	120.7
Capital goods	101.6	101.8	102.1	103.4	104.3	104.9	105.7	106.7	107.4
Automotive	103.6	104.0	104.5	104.3	104.8	106.5	107.7	108.1	108.6
Consumer goods	106.3	106.9	108.0	110.1	110.6	111.3	112.9	115.3	115.6
Consumer nondurables, manufactured, except rugs	104.3	104.6	106.3	107.4	108.7	109.3	110.0	111.4	111.6
Consumer durables, manufactured	106.6	107.3	107.9	110.4	110.4	110.7	112.6	115.4	115.3
Agricultural (9/88=100)	95.0	92.1	99.3	101.1	110.9	120.6	114.0	117.7	116.0
All exports, excluding agricultural (9/88=100)	103.6	104.9	106.2	107.7	109.7	110.8	111.6	112.9	113.1

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

(1985=100)

Category	1987			1988				1989	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
All imports, excluding petroleum (6/88=100)	116.1	117.0	120.3	123.2	126.2	125.4	128.3	129.0	128.0
Foods, feeds, and beverages	107.8	109.0	112.1	113.7	113.7	112.7	114.2	113.8	111.7
Industrial supplies and materials	93.5	95.3	93.7	92.7	97.8	95.2	96.4	102.1	106.8
Petroleum and petroleum products, excluding natural gas	74.1	74.7	67.6	60.3	63.5	57.5	56.2	67.2	79.7
Industrial supplies and materials, excluding petroleum	109.7	112.6	115.6	119.6	126.4	126.4	129.6	131.2	129.4
Capital goods, except automotive	122.2	121.9	126.6	128.6	131.0	129.0	132.3	132.4	131.0
Automotive vehicles, parts and engines	118.4	118.4	120.6	123.7	125.8	126.0	129.2	129.1	128.3
Consumer goods except automotive	116.9	118.2	121.4	124.2	126.3	125.0	127.4	128.7	129.3
Nondurables, manufactured	115.0	116.8	120.2	123.3	124.2	123.8	125.4	126.5	127.9
Durables, manufactured	117.7	117.9	121.0	123.5	125.5	124.5	127.4	127.9	127.9

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

(1985=100)

Industry group	1987			1988				1989	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products	107.4	107.1	116.3	120.8	125.1	128.9	123.5	124.5	122.8
Lumber and wood products, except furniture	116.2	138.9	142.5	146.1	145.4	146.1	144.0	151.7	164.8
Furniture and fixtures	108.6	108.7	111.2	112.5	112.9	112.9	115.3	115.2	116.0
Paper and allied products	112.3	115.5	119.3	124.6	129.8	133.1	135.6	139.9	141.4
Chemicals and allied products	107.6	108.7	113.8	118.4	122.3	125.4	125.5	125.9	122.3
Petroleum and coal products	80.5	81.4	78.8	73.0	77.8	73.7	75.4	79.8	86.5
Primary metal products	117.2	122.3	126.6	126.9	133.8	133.5	133.6	130.8	125.7
Machinery, except electrical	99.4	99.4	99.7	100.6	101.3	102.2	102.8	103.4	103.6
Electrical machinery	102.1	102.5	102.2	102.9	103.7	104.9	105.4	106.3	106.8
Transportation equipment	106.7	106.9	107.8	108.1	109.1	109.4	110.9	111.8	112.7
Scientific instruments; optical goods; clocks	106.8	106.6	107.1	109.2	110.8	112.0	113.4	114.5	116.7

¹ SIC - based classification.

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

(1985=100)

Industry group	1987			1988				1989	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products	106.3	108.4	110.6	114.0	114.4	115.0	115.4	114.9	113.9
Textile mill products	116.1	119.4	124.3	127.4	128.9	127.0	127.8	139.0	139.3
Apparel and related products	109.4	112.3	113.4	116.6	115.8	117.0	117.5	118.9	121.0
Lumber and wood products, except furniture	115.0	120.3	115.4	119.5	120.3	118.6	117.0	120.5	122.2
Furniture and fixtures	117.0	118.3	118.9	122.2	124.0	124.8	128.0	126.3	126.0
Paper and allied products	105.9	110.9	113.6	119.1	121.3	123.8	125.2	127.4	128.3
Chemicals and allied products	106.2	107.2	112.2	116.8	121.3	123.5	130.6	130.7	130.0
Petroleum refining and allied products	136.4	138.4	127.4	114.5	119.2	110.8	111.6	121.3	139.8
Rubber and miscellaneous plastics products	113.6	112.3	115.7	117.2	119.0	117.7	122.6	122.3	122.6
Leather and leather products	113.3	113.3	118.4	120.8	124.6	123.7	124.0	122.8	123.6
Stone, clay, glass, and concrete products	130.0	129.6	133.9	138.2	141.5	140.5	144.3	145.1	144.8
Primary metal products	110.4	115.2	120.0	122.6	137.0	136.2	140.2	140.6	135.6
Fabricated metal products	117.5	119.8	123.2	127.3	133.3	133.0	136.3	138.9	140.1
Machinery, except electrical	127.4	127.8	133.9	135.9	138.2	135.0	138.4	138.6	136.5
Electrical machinery and supplies	110.7	110.2	112.5	114.7	116.1	116.7	119.0	119.7	119.4
Transportation equipment	122.1	122.5	124.6	127.3	129.5	129.3	132.8	132.6	132.0
Scientific instruments; optical goods; clocks	132.5	128.8	134.0	135.8	137.0	132.2	137.7	136.7	133.9
Miscellaneous manufactured commodities	118.1	121.4	123.8	127.7	133.1	130.6	132.2	136.6	137.9

¹ SIC - based classification.

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

(1977=100)

Item	Quarterly Indexes										
	1986	1987				1988				1989	
	IV	I	II	III	IV	I	II	III	IV	I	II
Business:											
Output per hour of all persons	109.8	109.9	110.7	111.7	112.5	113.3	112.7	113.6	113.6	113.9	114.2
Compensation per hour	187.4	188.2	189.5	191.8	195.2	196.5	199.3	202.2	204.8	207.2	210.5
Real compensation per hour	102.8	101.9	101.4	101.7	102.6	102.3	102.7	102.9	103.1	103.0	103.0
Unit labor costs	170.6	171.2	171.3	171.6	173.5	173.5	176.9	178.1	180.2	181.9	184.4
Unit nonlabor payments	160.7	162.6	166.5	168.9	167.2	168.9	168.8	171.7	173.6	174.7	176.2
Implicit price deflator	167.1	168.2	169.6	170.7	171.3	171.9	174.1	175.8	177.9	179.4	181.5
Nonfarm business:											
Output per hour of all persons	107.6	107.7	108.6	109.5	110.3	111.1	110.7	111.6	112.1	111.8	111.8
Compensation per hour	186.4	187.0	188.3	190.5	193.9	195.1	197.8	200.5	203.3	205.7	208.5
Real compensation per hour	102.2	101.3	100.7	101.0	101.9	101.6	101.9	102.1	102.4	102.3	102.0
Unit labor costs	173.2	173.6	173.4	173.9	175.8	175.7	178.7	179.6	181.3	184.1	186.4
Unit nonlabor payments	161.6	164.1	167.6	170.3	168.7	170.2	169.8	172.0	176.2	174.6	176.3
Implicit price deflator	169.2	170.3	171.4	172.6	173.4	173.8	175.6	177.0	179.6	180.8	182.9
Nonfinancial corporations:											
Output per hour of all employees	110.6	110.4	111.6	113.0	113.6	114.8	115.0	115.4	115.3	114.7	-
Compensation per hour	183.0	183.6	184.7	186.9	189.7	191.2	193.6	196.0	198.3	200.7	-
Real compensation per hour	100.4	99.4	98.8	99.1	99.6	99.6	99.7	99.8	99.9	99.7	-
Total unit costs	170.1	171.0	170.8	170.8	172.1	171.9	173.6	175.2	177.5	180.4	-
Unit labor costs	165.4	166.3	165.5	165.3	167.0	166.6	168.4	169.9	172.1	174.9	-
Unit nonlabor costs	183.7	185.0	186.3	186.9	187.2	187.8	188.9	191.0	193.3	196.9	-
Unit profits	120.4	118.1	122.5	129.3	122.0	127.0	129.1	127.5	131.6	119.6	-
Unit nonlabor payments	161.5	161.6	163.9	166.7	164.4	166.5	168.0	168.8	171.7	169.8	-
Implicit price deflator	164.1	164.7	165.0	165.8	166.1	166.5	168.2	169.5	172.0	173.1	-
Manufacturing:											
Output per hour of all persons	130.1	131.3	133.1	134.3	135.1	136.3	137.5	139.2	140.0	140.7	141.6
Compensation per hour	187.8	188.5	188.7	190.4	192.2	195.5	197.1	199.5	202.3	203.9	205.1
Real compensation per hour	103.0	102.0	101.0	100.9	101.0	101.8	101.5	101.5	101.9	101.3	100.4
Unit labor costs	144.3	143.5	141.8	141.8	142.3	143.5	143.3	143.2	144.5	144.8	144.9

- Data not available.

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

(1977=100)

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

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

(1977=100)

Item	1960	1970	1973	1977	1979	1981	1982	1983	1984	1985	1986	1987	1988
Business:													
Output per hour of all persons	66.1	87.6	95.2	100.0	99.7	101.0	100.2	102.6	105.2	107.3	109.8	111.1	113.1
Compensation per hour	32.9	57.2	70.3	100.0	119.3	144.1	154.9	160.8	167.4	174.8	183.8	191.0	200.4
Real compensation per hour	67.3	89.4	96.0	100.0	99.5	96.1	97.3	97.8	97.6	98.4	101.7	101.9	102.7
Unit labor costs	49.7	65.3	73.8	100.0	119.6	142.7	154.5	156.7	159.1	162.8	167.5	171.9	177.2
Unit nonlabor payments	46.4	59.4	72.6	100.0	112.3	134.4	136.3	146.2	156.4	160.9	162.1	166.3	170.8
Implicit price deflator	48.5	63.2	73.4	100.0	117.0	139.8	148.1	153.0	158.2	162.2	165.6	170.0	174.9
Nonfarm business:													
Output per hour of all persons	69.5	88.4	95.8	100.0	99.4	100.0	99.1	102.0	104.2	105.6	107.7	108.9	111.2
Compensation per hour	34.5	57.6	70.7	100.0	119.0	144.0	154.7	160.8	167.2	174.0	182.9	189.8	198.9
Real compensation per hour	70.7	90.0	96.4	100.0	99.3	96.0	97.1	97.8	97.5	98.0	101.1	101.2	101.9
Unit labor costs	49.7	65.2	73.8	100.0	119.8	144.0	156.1	157.6	160.4	164.9	169.8	174.2	178.8
Unit nonlabor payments	46.3	60.0	69.4	100.0	110.3	133.2	136.1	148.1	156.3	161.9	163.3	167.7	172.2
Implicit price deflator	48.5	63.4	72.3	100.0	116.5	140.3	149.2	154.3	159.0	163.8	167.6	172.0	176.5
Nonfinancial corporations:													
Output per hour of all employees	71.9	90.2	96.8	100.0	99.9	99.9	100.2	103.0	105.5	107.2	109.6	112.1	114.9
Compensation per hour	36.1	58.6	71.0	100.0	118.9	143.7	154.1	159.1	165.0	171.6	179.9	186.1	194.5
Real compensation per hour	74.0	91.6	96.9	100.0	99.3	95.8	96.8	96.8	96.3	96.7	99.5	99.3	99.7
Total unit costs	49.4	64.8	72.7	100.0	118.2	147.7	159.5	159.5	160.8	164.1	168.5	171.2	174.6
Unit labor costs	50.2	65.0	73.4	100.0	119.0	143.8	153.8	154.5	156.5	160.2	164.1	166.1	169.3
Unit nonlabor costs	47.0	64.2	70.7	100.0	115.8	159.1	176.4	174.3	173.6	175.8	181.7	186.4	190.3
Unit profits	59.8	52.3	65.6	100.0	94.5	98.1	78.5	110.9	136.5	133.0	123.1	123.0	128.8
Unit nonlabor payments	51.5	60.1	68.9	100.0	108.4	137.8	142.1	152.1	160.6	160.8	161.2	164.2	168.8
Implicit price deflator	50.7	63.3	71.9	100.0	115.4	141.7	149.8	153.7	157.9	160.4	163.1	165.4	169.1
Manufacturing:													
Output per hour of all persons	60.7	80.2	92.6	100.0	101.6	104.0	106.6	112.2	118.2	123.5	128.2	132.9	137.7
Compensation per hour	35.6	57.0	68.2	100.0	118.9	145.7	158.7	162.7	168.1	176.3	184.3	189.2	197.8
Real compensation per hour	73.0	89.0	93.1	100.0	99.2	97.1	99.6	99.0	98.1	99.3	101.9	100.9	101.3
Unit labor costs	58.7	71.0	73.7	100.0	117.0	140.1	148.8	145.1	142.3	142.7	143.8	142.3	143.6
Unit nonlabor payments	60.0	64.1	70.8	100.0	98.9	111.7	113.7	128.3	138.5	130.3	135.2	137.6	-
Implicit price deflator	59.1	69.0	72.8	100.0	111.7	131.8	138.6	140.2	141.2	139.1	141.3	141.0	-

- Data not available.

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

Country	Annual average		1987	1988					1989	
	1987	1988	IV	I	II	III	IV	I	II	
Total labor force basis										
United States	6.1	5.4	5.8	5.6	5.4	5.4	5.3	5.1	5.2	
Canada	8.8	7.7	8.1	7.8	7.6	7.8	7.7	7.5	7.6	
Australia	8.0	7.2	7.9	7.5	7.4	6.9	6.8	6.6	6.1	
Japan	2.9	2.5	2.7	2.7	2.5	2.6	2.4	2.4	-	
France	10.5	10.3	10.3	10.3	10.3	10.4	10.2	10.2	-	
Germany	6.3	6.3	6.3	6.3	6.3	6.3	6.1	5.7	5.7	
Italy ^{1, 2}	7.7	7.8	7.9	7.8	7.8	7.8	7.8	7.6	7.8	
Sweden	1.9	1.6	1.7	1.7	1.6	1.6	1.4	1.4	1.3	
United Kingdom	10.2	8.2	9.4	9.0	8.6	8.0	7.5	7.0	6.5	
Civilian labor force basis										
United States	6.2	5.5	5.9	5.7	5.5	5.5	5.3	5.2	5.3	
Canada	8.8	7.8	8.1	7.8	7.7	7.8	7.7	7.6	7.6	
Australia	8.1	7.2	8.0	7.6	7.5	7.0	6.8	6.6	6.1	
Japan	2.9	2.5	2.7	2.7	2.5	2.6	2.4	2.4	-	
France	10.8	10.5	10.6	10.6	10.5	10.6	10.4	10.4	-	
Germany	6.4	6.4	6.4	6.4	6.4	6.4	6.3	5.8	5.8	
Italy ^{1, 2}	7.9	7.9	8.1	7.9	7.9	8.0	7.9	7.7	8.0	
Sweden	1.9	1.6	1.7	1.7	1.6	1.6	1.4	1.4	1.3	
United Kingdom	10.3	8.3	9.5	9.0	8.6	8.0	7.6	7.0	6.6	

¹ Quarterly rates are for the first month of the quarter.
² Many Italians reported as unemployed did not actively seek work in the past 30 days, and they have been excluded for comparability with U.S. concepts. Inclusion of such persons would about double the Italian unemployment rate in 1985 and earlier years and increase it to 11-12 percent for 1986 onward.

- Data not available.
 NOTE: Quarterly figures for France, Germany, and the United Kingdom are calculated by applying annual adjustment factors to current published data and therefore should be viewed as less precise indicators of unemployment under U.S. concepts than the annual figures.

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

(Numbers in thousands)

Employment status and country	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Labor force										
United States	104,962	106,940	108,670	110,204	111,550	113,544	115,461	117,834	119,865	121,669
Canada	11,231	11,573	11,899	11,926	12,109	12,316	12,532	12,746	13,011	13,275
Australia	6,519	6,693	6,810	6,910	6,997	7,135	7,300	7,588	7,758	7,974
Japan	55,210	55,740	56,320	56,980	58,110	58,480	58,820	59,410	60,050	60,860
France	22,660	22,800	22,950	23,160	23,140	23,300	23,360	23,440	23,520	23,620
Germany	26,250	26,520	26,650	26,700	26,650	26,760	26,970	27,090	28,360	28,550
Italy	20,850	21,120	21,320	21,410	21,590	21,670	21,800	22,290	22,350	22,660
Netherlands	5,100	5,860	6,080	6,140	6,170	6,260	6,280	6,370	6,490	6,560
Sweden	4,262	4,312	4,327	4,350	4,369	4,385	4,418	4,443	4,480	4,530
United Kingdom	26,350	26,520	26,590	26,740	26,790	27,180	27,370	27,540	27,860	28,120
Participation rate¹										
United States	63.7	63.8	63.9	64.0	64.0	64.4	64.8	65.3	65.6	65.9
Canada	63.4	64.1	64.8	64.1	64.4	64.8	65.3	65.7	66.2	66.7
Australia	61.6	62.1	61.9	61.7	61.4	61.5	61.8	63.0	63.0	63.3
Japan	62.7	62.6	62.6	62.7	63.1	62.7	62.3	62.1	61.9	61.9
France	57.5	57.2	57.1	57.1	56.6	56.6	56.3	56.1	55.8	55.7
Germany	53.3	53.2	52.9	52.6	52.3	52.4	52.6	52.6	55.0	55.2
Italy	48.0	48.2	48.3	47.7	47.5	47.3	47.2	47.8	47.9	48.4
Netherlands	49.0	55.3	56.6	56.5	56.1	56.2	55.7	55.9	56.3	56.4
Sweden	66.6	66.9	66.8	66.8	66.7	66.6	66.9	67.0	67.3	67.8
United Kingdom	62.6	62.5	62.2	62.3	62.0	62.5	62.6	62.6	63.0	63.3
Employed										
United States	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597	112,440	114,968
Canada	10,395	10,708	11,001	10,618	10,675	10,932	11,221	11,531	11,861	12,244
Australia	6,111	6,284	6,416	6,415	6,300	6,494	6,697	6,974	7,129	7,398
Japan	54,040	54,600	55,060	55,620	56,550	56,870	57,260	57,740	58,320	59,310
France	21,300	21,330	21,200	21,240	21,170	20,980	20,920	20,950	20,990	21,130
Germany	25,470	25,750	25,560	25,140	24,750	24,790	24,960	25,230	26,550	26,730
Italy	19,930	20,200	20,280	20,250	20,320	20,390	20,490	20,610	20,590	20,870
Netherlands	5,340	5,510	5,540	5,510	5,410	5,490	5,640	5,730	5,840	5,900
Sweden	4,174	4,226	4,219	4,213	4,218	4,249	4,293	4,326	4,396	4,458
United Kingdom	24,940	24,670	23,800	23,710	23,600	24,000	24,310	24,460	25,010	25,790
Employment-population ratio²										
United States	59.9	59.2	59.0	57.8	57.9	59.5	60.1	60.7	61.5	62.3
Canada	58.7	59.3	59.9	57.1	56.8	57.5	58.5	59.4	60.4	61.6
Australia	57.8	58.3	58.4	57.3	55.3	56.0	56.6	57.9	57.9	58.7
Japan	61.4	61.3	61.2	61.2	61.4	61.0	60.6	60.4	60.1	60.4
France	54.0	53.5	52.8	52.3	51.8	51.0	50.4	50.2	49.8	49.8
Germany	51.7	51.7	50.8	49.6	48.6	48.5	48.7	49.0	51.5	51.7
Italy	45.9	46.1	45.9	45.2	44.7	44.5	44.4	44.2	44.1	44.6
Netherlands	51.3	52.0	51.6	50.7	49.2	49.3	50.0	50.2	50.6	50.7
Sweden	65.3	65.6	65.1	64.7	64.4	64.5	65.0	65.2	66.0	66.7
United Kingdom	59.2	58.1	55.7	55.2	54.6	55.2	55.6	55.6	56.6	58.0
Unemployed										
United States	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237	7,425	6,701
Canada	836	865	898	1,308	1,434	1,384	1,311	1,215	1,150	1,031
Australia	408	409	394	495	697	641	603	613	629	576
Japan	1,170	1,140	1,260	1,360	1,560	1,610	1,560	1,670	1,730	1,550
France	1,360	1,470	1,750	1,920	1,970	2,320	2,440	2,490	2,530	2,490
Germany	780	770	1,090	1,560	1,900	1,970	2,010	1,860	1,810	1,820
Italy	920	920	1,040	1,160	1,270	1,280	1,310	1,680	1,760	1,790
Netherlands	290	350	540	630	760	770	640	640	650	660
Sweden	88	86	108	137	151	136	125	117	84	72
United Kingdom	1,420	1,850	2,790	3,030	3,190	3,180	3,060	3,080	2,850	2,330
Unemployment rate										
United States	5.8	7.1	7.6	9.7	9.6	7.5	7.2	7.0	6.2	5.5
Canada	7.4	7.5	7.5	11.0	11.8	11.2	10.5	9.5	8.8	7.8
Australia	6.3	6.1	5.8	7.2	10.0	9.0	8.3	8.1	8.1	7.2
Japan	2.1	2.0	2.2	2.4	2.7	2.8	2.6	2.8	2.9	2.5
France	6.0	6.4	7.6	8.3	8.5	10.0	10.4	10.6	10.8	10.5
Germany	3.0	2.9	4.1	5.8	7.1	7.4	7.5	6.9	6.4	6.4
Italy	4.4	4.4	4.9	5.4	5.9	5.9	6.0	7.5	7.9	7.9
Netherlands	5.2	6.0	8.9	10.3	12.3	12.3	10.2	10.0	10.0	10.1
Sweden	2.1	2.0	2.5	3.1	3.5	3.1	2.8	2.6	1.9	1.6
United Kingdom	5.4	7.0	10.5	11.3	11.9	11.7	11.2	11.2	10.3	8.3

¹ Labor force as a percent of the civilian working-age population.² Employment as a percent of the civilian working-age population.

NOTE: See "Notes on the data" for information on breaks in series for Germany, Italy, the Netherlands, and Sweden.

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

(1977 = 100)

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

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

Industry and type of case ¹	Incidence rates per 100 full-time workers ²								
	1979	1980	1981	1982	1983	1984	1985	1986	1987
PRIVATE SECTOR³									
Total cases	9.5	8.7	8.3	7.7	7.6	8.0	7.9	7.9	8.3
Lost workday cases	4.3	4.0	3.8	3.5	3.4	3.7	3.6	3.6	3.8
Lost workdays	67.7	65.2	61.7	58.7	58.5	63.4	64.9	65.8	69.9
Agriculture, forestry, and fishing³									
Total cases	11.7	11.9	12.3	11.8	11.9	12.0	11.4	11.2	11.2
Lost workday cases	5.7	5.8	5.9	5.9	6.1	6.1	5.7	5.6	5.7
Lost workdays	83.7	82.7	82.8	86.0	90.8	90.7	91.3	93.6	94.1
Mining									
Total cases	11.4	11.2	11.6	10.5	8.4	9.7	8.4	7.4	8.5
Lost workday cases	6.8	6.5	6.2	5.4	4.5	5.3	4.8	4.1	4.9
Lost workdays	150.5	163.6	146.4	137.3	125.1	160.2	145.3	125.9	144.0
Construction									
Total cases	16.2	15.7	15.1	14.6	14.8	15.5	15.2	15.2	14.7
Lost workday cases	6.8	6.5	6.3	6.0	6.3	6.9	6.8	6.9	6.8
Lost workdays	120.4	117.0	113.1	115.7	118.2	128.1	128.9	134.5	135.8
General building contractors:									
Total cases	16.3	15.5	15.1	14.1	14.4	15.4	15.2	14.9	14.2
Lost workday cases	6.8	6.5	6.1	5.9	6.2	6.9	6.8	6.6	6.5
Lost workdays	111.2	113.0	107.1	112.0	113.0	121.3	120.4	122.7	134.0
Heavy construction contractors:									
Total cases	16.6	16.3	14.9	15.1	15.4	14.9	14.5	14.7	14.5
Lost workday cases	6.7	6.3	6.0	5.8	6.2	6.4	6.3	6.3	6.4
Lost workdays	123.1	117.6	106.0	113.1	122.4	131.7	127.3	132.9	139.1
Special trade contractors:									
Total cases	16.0	15.5	15.2	14.7	14.8	15.8	15.4	15.6	15.0
Lost workday cases	6.9	6.7	6.6	6.2	6.4	7.1	7.0	7.2	7.1
Lost workdays	124.3	118.9	119.3	118.6	119.0	130.1	133.3	140.4	135.7
Manufacturing									
Total cases	13.3	12.2	11.5	10.2	10.0	10.6	10.4	10.6	11.9
Lost workday cases	5.9	5.4	5.1	4.4	4.3	4.7	4.6	4.7	5.3
Lost workdays	90.2	86.7	82.0	75.0	73.5	77.9	80.2	85.2	95.5
Durable goods									
Lumber and wood products:									
Total cases	20.7	18.6	17.6	16.9	18.3	19.6	18.5	18.9	18.9
Lost workday cases	10.8	9.5	9.0	8.3	9.2	9.9	9.3	9.7	9.6
Lost workdays	175.9	171.8	158.4	153.3	163.5	172.0	171.4	177.2	176.5
Furniture and fixtures:									
Total cases	17.6	16.0	15.1	13.9	14.1	15.3	15.0	15.2	15.4
Lost workday cases	7.1	6.6	6.2	5.5	5.7	6.4	6.3	6.3	6.7
Lost workdays	99.6	97.6	91.9	85.6	83.0	101.5	100.4	103.0	103.6
Stone, clay, and glass products:									
Total cases	16.8	15.0	14.1	13.0	13.1	13.6	13.9	13.6	14.9
Lost workday cases	8.0	7.1	6.9	6.1	6.0	6.6	6.7	6.5	7.1
Lost workdays	133.7	128.1	122.2	112.2	112.0	120.8	127.8	126.0	135.8
Primary metal industries:									
Total cases	17.3	15.2	14.4	12.4	12.4	13.3	12.6	13.6	17.0
Lost workday cases	8.1	7.1	6.7	5.4	5.4	6.1	5.7	6.1	7.4
Lost workdays	134.7	128.3	121.3	101.6	103.4	115.3	113.8	125.5	145.8
Fabricated metal products:									
Total cases	19.9	18.5	17.5	15.3	15.1	16.1	16.3	16.0	17.0
Lost workday cases	8.7	8.0	7.5	6.4	6.1	6.7	6.9	6.8	7.2
Lost workdays	124.2	118.4	109.9	102.5	96.5	104.9	110.1	115.5	121.9
Machinery, except electrical:									
Total cases	14.7	13.7	12.9	10.7	9.8	10.7	10.8	10.7	11.3
Lost workday cases	5.9	5.5	5.1	4.2	3.6	4.1	4.2	4.2	4.4
Lost workdays	83.6	81.3	74.9	66.0	58.1	65.8	69.3	72.0	72.7
Electric and electronic equipment:									
Total cases	8.6	8.0	7.4	6.5	6.3	6.8	6.4	6.4	7.2
Lost workday cases	3.4	3.3	3.1	2.7	2.6	2.8	2.7	2.7	3.1
Lost workdays	51.9	51.8	48.4	42.2	41.4	45.0	45.7	49.8	55.9
Transportation equipment:									
Total cases	11.6	10.6	9.8	9.2	8.4	9.3	9.0	9.6	13.5
Lost workday cases	5.5	4.9	4.6	4.0	3.6	4.2	3.9	4.1	5.7
Lost workdays	85.9	82.4	78.1	72.2	64.5	68.8	71.6	79.1	105.7
Instruments and related products:									
Total cases	7.2	6.8	6.5	5.6	5.2	5.4	5.2	5.3	5.8
Lost workday cases	2.8	2.7	2.7	2.3	2.1	2.2	2.2	2.3	2.4
Lost workdays	40.0	41.8	39.2	37.0	35.6	37.5	37.9	42.2	43.9
Miscellaneous manufacturing industries:									
Total cases	11.7	10.9	10.7	9.9	9.9	10.5	9.7	10.2	10.7
Lost workday cases	4.7	4.4	4.4	4.1	4.0	4.3	4.2	4.3	4.6
Lost workdays	67.7	67.9	68.3	69.9	66.3	70.2	73.2	70.9	81.5

See footnotes at end of table.

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

Industry and type of case ¹	Incidence rates per 100 full-time workers ²								
	1979	1980	1981	1982	1983	1984	1985	1986	1987
Nondurable goods									
Food and kindred products:									
Total cases	19.9	18.7	17.8	16.7	16.5	16.7	16.7	16.5	17.7
Lost workday cases	9.5	9.0	8.6	8.0	7.9	8.1	8.1	8.0	8.6
Lost workdays	141.8	136.8	130.7	129.3	131.2	131.6	138.0	137.8	153.7
Tobacco manufacturing:									
Total cases	9.3	8.1	8.2	7.2	6.5	7.7	7.3	6.7	8.6
Lost workday cases	4.2	3.8	3.9	3.2	3.0	3.2	3.0	2.5	2.5
Lost workdays	64.8	45.8	56.8	44.6	42.8	51.7	51.7	45.6	46.4
Textile mill products:									
Total cases	9.7	9.1	8.8	7.6	7.4	8.0	7.5	7.8	9.0
Lost workday cases	3.4	3.3	3.2	2.8	2.8	3.0	3.0	3.1	3.6
Lost workdays	61.3	62.8	59.2	53.8	51.4	54.0	57.4	59.3	65.9
Apparel and other textile products:									
Total cases	6.5	6.4	6.3	6.0	6.4	6.7	6.7	6.7	7.4
Lost workday cases	2.2	2.2	2.2	2.1	2.4	2.5	2.6	2.7	3.1
Lost workdays	34.1	34.9	35.0	36.4	40.6	40.9	44.1	49.4	59.5
Paper and allied products:									
Total cases	13.5	12.7	11.6	10.6	10.0	10.4	10.2	10.5	12.8
Lost workday cases	6.0	5.8	5.4	4.9	4.5	4.7	4.7	4.7	5.8
Lost workdays	108.4	112.3	103.6	99.1	90.3	93.8	94.6	99.5	122.3
Printing and publishing:									
Total cases	7.1	6.9	6.7	6.6	6.6	6.5	6.3	6.5	6.7
Lost workday cases	3.1	3.1	3.0	2.8	2.9	2.9	2.9	2.9	3.1
Lost workdays	45.1	46.5	47.4	45.7	44.6	46.0	49.2	50.8	55.1
Chemicals and allied products:									
Total cases	7.7	6.8	6.6	5.7	5.5	5.3	5.1	6.3	7.0
Lost workday cases	3.5	3.1	3.0	2.5	2.5	2.4	2.3	2.7	3.1
Lost workdays	54.9	50.3	48.1	39.4	42.3	40.8	38.8	49.4	58.8
Petroleum and coal products:									
Total cases	7.7	7.2	6.7	5.3	5.5	5.1	5.1	7.1	7.3
Lost workday cases	3.6	3.5	2.9	2.5	2.4	2.4	2.4	3.2	3.1
Lost workdays	62.0	59.1	51.2	46.4	46.8	53.5	49.9	67.5	65.9
Rubber and miscellaneous plastics products:									
Total cases	17.1	15.5	14.6	12.7	13.0	13.6	13.4	14.0	15.9
Lost workday cases	8.2	7.4	7.2	6.0	6.2	6.4	6.3	6.6	7.6
Lost workdays	127.1	118.6	117.4	100.9	101.4	104.3	107.4	118.2	130.8
Leather and leather products:									
Total cases	11.5	11.7	11.5	9.9	10.0	10.5	10.3	10.5	12.4
Lost workday cases	4.9	5.0	5.1	4.5	4.4	4.7	4.6	4.8	5.8
Lost workdays	76.2	82.7	82.6	86.5	87.3	94.4	88.3	83.4	114.5
Transportation and public utilities									
Total cases	10.0	9.4	9.0	8.5	8.2	8.8	8.6	8.2	8.4
Lost workday cases	5.9	5.5	5.3	4.9	4.7	5.2	5.0	4.8	4.9
Lost workdays	107.0	104.5	100.6	96.7	94.9	105.1	107.1	102.1	108.1
Wholesale and retail trade									
Total cases	8.0	7.4	7.3	7.2	7.2	7.4	7.4	7.7	7.7
Lost workday cases	3.4	3.2	3.1	3.1	3.1	3.3	3.2	3.3	3.4
Lost workdays	49.0	48.7	45.3	45.5	47.8	50.5	50.7	54.0	56.1
Wholesale trade:									
Total cases	8.8	8.2	7.7	7.1	7.0	7.2	7.2	7.2	7.4
Lost workday cases	4.1	3.9	3.6	3.4	3.2	3.5	3.5	3.6	3.7
Lost workdays	59.1	58.2	54.7	52.1	50.6	55.5	59.8	62.5	64.0
Retail trade:									
Total cases	7.7	7.1	7.1	7.2	7.3	7.5	7.5	7.8	7.8
Lost workday cases	3.1	2.9	2.9	2.9	3.0	3.2	3.1	3.2	3.3
Lost workdays	44.7	44.5	41.1	42.6	46.7	48.4	47.0	50.5	52.9
Finance, insurance, and real estate									
Total cases	2.1	2.0	1.9	2.0	2.0	1.9	2.0	2.0	2.0
Lost workday cases .....	.9	.8	.8	.9	.9	.9	.9	.9	.9
Lost workdays	13.3	12.2	11.6	13.2	12.8	13.6	15.4	17.1	14.3
Services									
Total cases	5.5	5.2	5.0	4.9	5.1	5.2	5.4	5.3	5.5
Lost workday cases	2.5	2.3	2.3	2.3	2.4	2.5	2.6	2.5	2.7
Lost workdays	38.1	35.8	35.9	35.8	37.0	41.1	45.4	43.0	45.8

¹ Total cases include fatalities.

² The incidence 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.)

³ Excludes farms with fewer than 11 employees since 1976.

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to mark the 75th year of the
Monthly Labor Review

1. A prize of \$1,000—separate from the annual Lawrence R. Klein Award—will be awarded for the best article manuscript submitted to this competition before May 1, 1990.
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5. Manuscripts must be based on original research or analysis in a subject germane to the interests of the *Monthly Labor Review*.
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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	October 6	September	November 3	October	December 8	November	1; 4-21
Producer Price Indexes	October 13	September	November 9	October	December 15	November	2;33-35
Consumer Price Index	October 19	September	November 21	October	December 19	November	2;30-32
Real earnings	October 19	September	November 21	October	December 19	November	14-17
Major collective bargaining settlements	October 26	1st 9 months					3;25-28
U.S. Import and Export Price Indexes	October 26	3rd quarter	November 22	October	December 21	November	36-41
Employment Cost Index	October 31	3rd quarter					1-3; 22-24
Productivity and costs:							
Nonfarm business and manufacturing			November 2	3rd quarter			2;42-44
Nonfinancial corporations					December 6	3rd quarter	2;42-44
Occupational illnesses and injuries			November 15	1988			48