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In this issue:
Employers' benefit costs in the 1980's
Food Stamp Program participation
Comparison of labor ministries





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"Avenue of the Allies," a 1917 oil painting by Childe Hassam (1859-1935), one of 21 paintings included in the exhibition The Flag Paintings of Childe Hassam that was shown at the National Gallery of Art, Washington, DC from May 8 to July 18, 1988. The painting is from the collection of the Telfair Academy of Arts and Sciences, Inc., Savannah, Georgia (Bequest of Elizabeth Millar Bullard) and the photograph was provided courtesy of the National Gallery.

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Labor Month In Review



METHODOLOGY CHANGE. The Bureau of Labor Statistics announced plans to shift to a new method of calculating monthly employment and unemployment estimates for most States and the District of Columbia. Beginning with data for January 1989, the Bureau plans to replace the current method with a new one that will yield more precise estimates and automatically adjust to structural changes in State economies.

Background. The Bureau produces labor force estimates for the Nation as a whole directly from the Current Population Survey (CPS), a scientifically selected sample of households that are representative of the total population. In 11 States (California, Florida, Illinois, Massachusetts, Michigan, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Texas), the CPS sample sizes are large enough to produce reliable estimates on a monthly basis and thus are used as the official employment and unemployment series in those States.

Currently, labor force estimates for the remaining States and the District of Columbia are prepared by first using a building-block approach to defining and estimating components of unemployment and employment. This method relies on monthly data from the unemployment insurance (UI) system and the Bureau's Current Employment Statistics (CES) program covering nonagricultural payroll employment. Estimates for groups not adequately measured monthly are developed using historical or larger-area relationships. The estimates of unemployment developed in this manner are not comparable from State to State, because they are based on data from UI programs which differ from State to State. To ensure comparability across States and with the national unemployment measures—a requirement for purposes of analysis and for

equity in the distribution of Federal funds—the monthly estimates for each State, based on the building-block approach, are then adjusted to the CPS levels for the State, using a 6-month moving average of CPS data. Once annual average CPS data are available, the monthly employment and unemployment estimates for the year are adjusted to these benchmark numbers, using a mathematical approach to distribute the difference between the CPS annual average and the average of the estimates prepared by the building-block procedure.

This methodology has been deficient in a number of respects, the most important of which are the relatively small proportion of the total unemployed accounted for by UI claimants and difficulties in estimating groups not covered by UI. These difficulties cause the building-block estimates to significantly underestimate CPS levels. The magnitude of the underestimation is such that unemployment as measured by the building-block approach before adjustment may be less than half of the level derived from the CPS. While the adjustment to the CPS corrects for the significant underestimation, it introduces other problems into the estimates, because it adversely affects the seasonality of the series.

New method. The new method uses variable coefficient regression models developed by BLS and tested by State employment security agencies. These dynamic time series regression models permit use of CPS, CES, and UI data in a more accurate and reliable manner. Over 10 years of data from these sources have been collected to build regression models that are resistant to large random sample errors in the CPS and are flexible enough to reflect the individual features of each State's economy. The models for each State were developed using rules

common to all and recognized statistical criteria. While based on past relationships, the models have a built-in self-tuning mechanism that allows them to reflect structural changes in a State's economy as the changes occur. Two estimating equations are used for each State, one for employment and one for the unemployment rate.

The employment model uses the CES estimate of nonfarm wage and salary jobs and data from the CPS on employed persons not included in the CES survey. The latter include agricultural workers, and self-employed, unpaid family, and private household workers. In some States, seasonal variables are used to reflect CES-CPS differences such as the treatment of persons on unpaid absences.

The unemployment rate model uses data on those UI claimants who have no earnings from employment to represent most of the experienced unemployed. An employment-to-population ratio is used to reflect both the business cycle and the experienced unemployed not covered by the UI data. A variable is used to represent unemployed new entrants and reentrants to the labor force. For some States, a seasonal entrant factor is used to show the labor force increase which occurs at the end of the school year.

Both models automatically adjust to structural change. They include a mechanism which revises an equation's coefficients when the new CPS data become available each month, if, given the estimate of error in the State CPS data, it is determined that changes in the underlying relationships have occurred. Once the data are incorporated in the models for the month, the unemployment rate and labor force estimates are calculated.

More information about the new method is available from the Office of Employment and Unemployment Statistics, BLS, Room 2083, 441 G Street NW., Washington, DC 20212. □

Increases in employer costs for employee benefits dampen dramatically

The Employment Cost Index shows employer costs for employee benefits in 1987 rose at less than one-third the 1980 rate

BRADLEY R. BRADEN

Rates of increase in employer costs for employee benefits in private industry have fallen substantially since 1980. The 12-month rate of change, as measured by the Bureau's Employment Cost Index (ECI) for benefits, trended downward from 11.8 percent in December 1980 to 3.5 percent in December 1987.

The slowdown in the rate of increase for benefit costs was strongly influenced by reduced rates of wage and salary gains—from 9.0 percent in 1980 to 3.3 percent in 1987. (See chart 1.) Benefits closely tied to wage movements, such as paid leave, overtime pay, and Social Security, account for almost two-thirds of total benefit costs.

Despite the strong relationship between benefit cost and wage changes, the rate of increase for benefit costs usually remained above that for wages from 1980 to 1984. The disparity resulted from higher costs for health insurance, retirement plans, and legally required benefits, such as State unemployment insurance.

By 1985, however, several factors combined to eliminate the disparity. They included lower price increases for medical services, accelerated returns on pension fund investments, employer cost containment efforts in medical and retirement benefit plans, and moderate cost increases in legally required benefits. These factors kept

benefit costs rising at about the same rate as wages and salaries for the past 3 years.

This article examines benefit cost changes in private industry during the 1980–87 period. It also describes how benefit cost changes, now published as part of the Employment Cost Index program, are calculated.

Calculating benefit cost changes

The Employment Cost Indexes for benefits, like those for total compensation and for wages and salaries, are fixed-weight Laspeyres measures of the change in the cost of employing a fixed set of labor inputs. The fixed weights—industry and occupation employment counts from the 1980 census—ensure that changes measured are unaffected by employment shifts among industries and occupations with different wage and benefit cost levels.

It is important to emphasize that benefit cost indexes are not price indexes for a fixed market basket of benefits. Rather, they measure the change in an employer's cost for providing a benefit package. This cost changes as new benefits (such as dental care) are added or when the cost for an existing benefit changes. The benefit costs may change in three ways: the cost for a benefit plan may increase or decrease (for example, the cost of 10 paid holidays rises due to a wage increase); the provisions of a benefit plan may be modified (for example, 10 paid holidays per year rise to 11); or the benefit plan may be eliminated.

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Trends within benefit categories

The Employment Cost Index survey covers five categories in the benefit package. For the private industry, *legally required* benefits make up approximately 30 percent of the total benefit cost to employers; *paid leave*, 25 percent; *insurance*, 20 percent; *pension and savings*, 13 percent; and *supplemental pay*, 8 percent.¹

Legally required benefits. These benefits include Social Security, Federal and State unemployment insurance, workers' compensation, railroad unemployment insurance and retirement, and other benefits such as State temporary disability. Of these legally required benefits, Social Security is the most costly to employers, amounting to nearly two-thirds of the total cost for this benefit category.

During the 1980-87 period, cost increases in legally required benefits slowed, reflecting the deceleration in wage gains. However, significant increases in the Social Security tax rate in 1981 and 1984, combined with increases in the maximum salary ceiling, helped to keep legally required benefits rising faster than wages for much of the period. Table 1 lists year-to-year changes in the Social Security tax rate, in the maximum salary ceilings to which the rate applies, and in wage rates from 1980 through 1987.

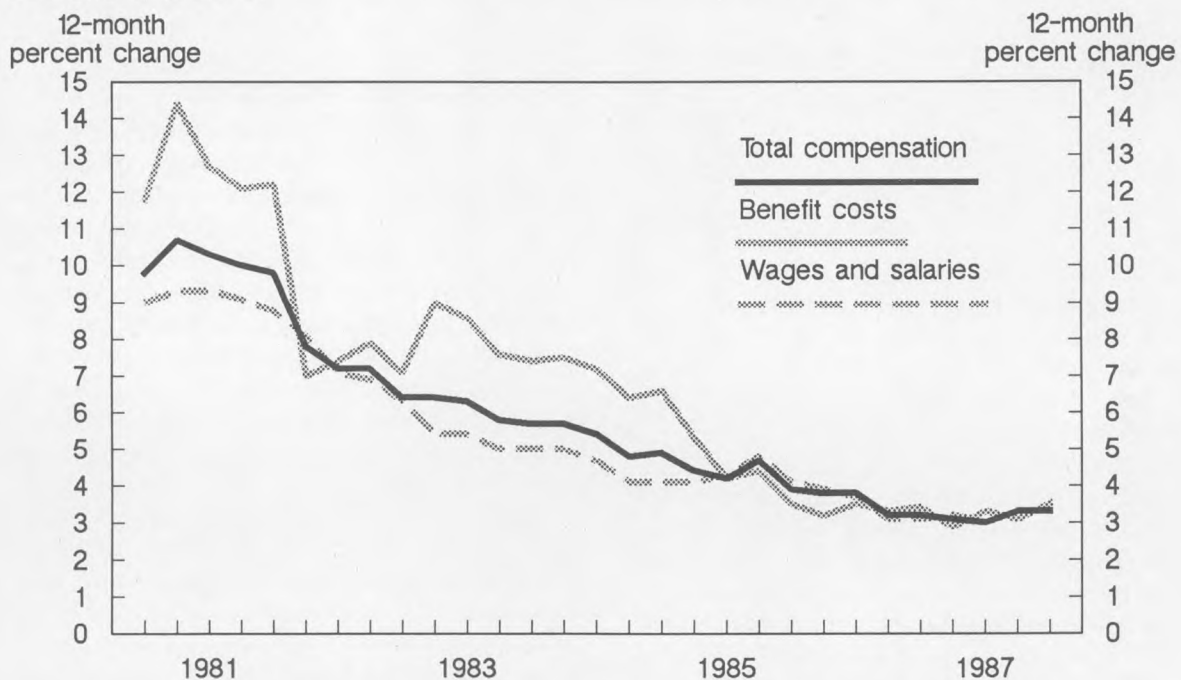
Table 1. Components of employer Social Security cost changes, private industry, 1980-88

Year	Social Security tax rate (percent of payroll)	Year-to-year percent change in tax rate	Social Security salary ceiling	Year-to-year percent change in ceiling	Percent increase in wages and salaries
1980	6.13	0.0	\$25,900	13.1	9.0
1981	6.65	8.5	29,700	14.7	8.8
1982	6.70	.8	32,400	9.1	6.3
1983	6.70	.0	35,700	10.2	5.0
1984	7.00	4.5	37,800	5.9	4.1
1985	7.05	.7	39,600	4.8	4.1
1986	7.15	1.4	42,000	6.1	3.1
1987	7.15	.0	43,800	4.3	3.3
1988	7.51	5.0	45,000	2.7	—

The increases in legally required benefit costs were also stimulated by rising Federal and State unemployment insurance costs. The rise in costs for unemployment insurance from 1982 to 1985 followed the decline in unemployment funds as a result of the 1981-82 recession. To replenish those funds, many States increased their unemployment tax rate and taxable wage ceilings, or made special assessments on employers.

From 1985 to 1987, there were relatively small increases in the Social Security tax rate, and unemployment insurance costs dampened, as the percentage of unem-

Chart 1. Twelve-month percent changes in the Employment Cost Index for total compensation, wages and salaries, and benefit costs, all private industry workers, December 1980-87



NOTE: Data are for the 12-month period ended in March, June, September, and December. Data are not seasonally adjusted.

ployed civilians declined. These two factors slowed the rate of increase in legally required benefit costs. However, the legally required benefit cost change will rise again because the Social Security tax rate was increased to 7.51 percent in January of this year.

Paid leave benefits. These benefits include pay for holidays, vacations, and sick leave. Their cost to an employer is normally determined by multiplying the number of leave hours taken by the hourly wage rate and dividing by hours worked. Over the 1980–87 period, increases in paid leave benefits slowed at about the same rate as wage gains, as the number of leave hours remained steady. The Bureau of Labor Statistics survey of employee benefits in medium and large firms indicates that leave time was virtually unchanged over the period.² Table 2 compares survey results from 1981 (or 1982) and 1986.

Insurance benefits. Insurance benefits include life, health, and sickness and accident insurance. In this benefit category, health insurance accounts for the largest percentage of the total cost to employers.

From 1980 to 1983, employer insurance costs rose steadily, exceeding wage and salary gains. The rapid rise in insurance costs was greatly influenced by the rising cost of medical care as indicated by the Consumer Price Index (CPI-U) for medical services, which increased at the annual rate of 9.5 percent over the 4-year period. In addition to increased medical costs, insurance costs were influenced by the growth in health insurance coverage for additional medical benefits, such as dental, hearing, and vision care.

From 1984 to 1986, the rates of increase in insurance costs slowed. This slowdown partly reflected dampened increases in the cost of medical care, which fell to an annual rate of 6.3 percent during the period. However, cost containment efforts undertaken by employers were also an important factor in reducing the rise in insurance costs.

To reduce their expenses, many employers turned to self-funding instead of commercial health care insurance plans. Self-funding saved money by allowing companies to retain funds which would otherwise be used to pay insurance premiums, as well as giving the companies more control over plan design and expenditures. In 1980, only 16 percent of all major medical plan participants were covered by self-insured plans in medium and large firms; by 1986, the proportion had almost tripled to 45 percent.³

In addition to self-funding, there was a greater reliance on HMO's (health maintenance organizations). HMO's are prepaid health care plans that deliver comprehensive medical services to members for a fixed periodic fee. According to BLS survey results, 5 percent of the employees

Table 2. Average annual paid leave days for medium and large firms, private industry, selected years

Benefit ¹	Year and number of days	
	1981	1986
Holidays	10.2	10.0
Vacation days after:		
1 year of service	8.8	8.8
10 years of service	15.7	15.8
20 years of service	20.5	20.6
	1982	1986
Sick leave days ² after:		
1 year of service	16.3	15.2
10 years of service	31.1	32.2
20 years of service	38.5	39.8

¹ Does not include "per disability" sick leave plans.

² 1982 was the first year for which sick leave averages were published.

in medium and large firms were covered by HMO's in 1984, 7 percent in 1985, and 12 percent in 1986.

To further reduce costs, a larger proportion of employees were asked to contribute to the payment of health insurance premiums. The percentage of employees whose health insurance premiums are wholly paid by employers has declined sharply since 1980. Fifty-four percent of workers had individual coverage wholly financed by their employers in 1986, down from 72 percent in 1980. Only 35 percent could receive fully employer-paid coverage for their families, down from 51 percent in 1980.

In addition to requiring employee contributions for the plan premium, some health care plans were redesigned to eliminate basic coverage for certain types of care, and placed payment arrangements under a major medical plan. Under a major medical plan, the employees were required to pay a deductible (a minimum initial payment for medical costs made by the insured individual before plan benefits could be used).⁴ The deductible requirement was an attempt to discourage unnecessary use of a plan benefit, thus reducing the cost of insurance. These major medical deductibles have increased over time to keep pace with the rising prices for medical services.

Finally, some cost savings were realized through changes in plan design that increased the employer's control over the type of health care available. Examples of these changes include requiring second opinions for surgical procedures and prehospitalization testing, as well as creating incentives to use outpatient facilities, buy generic prescription drugs, and audit hospital bills.

Retirement and savings plans. These benefits include pensions, and savings and thrift plans. In 1980, increases in retirement costs exceeded wage and salary gains. This disparity was a reflection of rising prices, as cost-of-living additives boosted pension liabilities under many plans, and of increased government regulation during the previous decade.⁵

However, from 1981 to 1987, a culmination of several factors, including the growth of defined-contribution plans, the use of dedicated bond portfolios, a rising stock market, and an increase in interest rate assumptions, caused a slowdown in the rise of pension costs.

Since the passage of the Employee Retirement Income Security Act (ERISA) in 1974, the growth rate of defined-contribution plans has outpaced that of defined-benefit plans.⁶ As indicated below, defined-contribution plans helped many employers limit pension cost increases by acting as a substitute for more costly improvements in defined-benefit plans.

Defined-benefit pension plans use formulas for calculating the dollar amount owed to an employee and obligate the employer to pay that amount at retirement. These formulas are usually based on an employee's salary and years of service.

Current pension obligations for a defined-benefit plan are typically paid from a pension fund, to which employers usually make an annual contribution. The amount of the contribution required for a given benefit level is determined actuarially, and will fluctuate over time. Approximately 94 percent of defined-benefit plan participants in medium and large firms have their benefit wholly financed by their employer.

Defined-contribution plans, on the other hand, usually specify a contribution rate by the employer instead of a formula for determining benefits. Under these plans, contributions are typically made to an individual account

for each employee. The employer's contribution is usually a fixed rate—for example, a fixed amount for each hour worked or a fixed percentage of compensation. The funds in these accounts are invested and the employee receives the proceeds upon retirement. In contrast to defined-benefit plans, only 70 percent of defined-contribution retirement plan participants in medium and large firms have their benefit wholly financed by their employer.

In general, defined-contribution plans offered employers lower administrative costs than defined-benefit plans. In addition, where employee contributions were required under defined-contribution plans, participation was often voluntary and below 100 percent. Further, defined-contribution plans typically do not reward the past service of an employee or provide postretirement cost-of-living adjustments, as many defined-benefit plans do.

Defined-contribution plans grew in importance because they not only provided employers with better control over pension costs, but they often gave employees some important tax advantages. Examples of defined-contribution plans include savings and thrift, profit-sharing, and employee stock ownership plans.

Some employers were able to further reduce pension cost increases by lowering their defined-benefit plan contribution.⁷ This was accomplished by making changes in actuarial assumptions. Some employers utilized a Financial Accounting Standards Board (FASB) policy permitting a different interest rate (return on investment) assumption for disclosure purposes than for funding.

Table 3. Employment Cost Index 12-month rates of increase, December 1980–87

Series	Increase over 12 months ended December 1980–87							
	1980	1981	1982	1983	1984	1985	1986	1987
Total private economy:								
Wages	9.0	8.8	6.3	5.0	4.1	4.1	3.1	3.3
Benefits	11.8	12.2	7.1	7.4	6.6	3.5	3.4	3.5
Goods-producing:								
Wages	9.3	8.7	5.7	4.0	3.8	3.5	3.2	3.2
Benefits	10.9	12.8	7.3	7.0	6.2	3.0	3.1	2.9
Service-producing:								
Wages	8.7	9.0	6.7	5.8	4.4	4.7	3.0	3.5
Benefits	12.5	11.6	6.9	8.0	7.0	4.0	3.7	4.0
Manufacturing:								
Wages	9.4	8.7	5.6	4.3	4.4	3.6	3.3	3.4
Benefits	10.7	12.7	7.3	7.0	6.7	2.7	3.0	2.6
Nonmanufacturing:								
Wages	8.8	9.0	6.5	5.4	4.0	4.5	3.0	3.4
Benefits	12.7	11.8	6.9	7.9	6.5	4.0	3.8	4.0
White-collar:								
Wages	8.7	9.1	6.4	6.0	4.4	4.9	3.4	3.7
Benefits	12.1	12.5	6.8	7.5	7.1	4.2	3.7	3.6
Blue-collar:								
Wages	9.6	8.6	5.6	3.8	3.6	3.4	2.5	3.0
Benefits	11.1	11.8	7.3	7.3	5.9	2.5	3.1	3.4
Service workers: ¹								
Wages	8.1	8.3	8.5	4.6	6.2	2.3	2.8	2.4
Benefits	—	—	—	—	—	—	4.3	2.4

¹Benefit cost data not published prior to 1986.

Using a higher interest rate assumption for disclosure has the effect of lowering the present value of pension liabilities.

While the growth rate in pension liabilities was being reduced, there was an increase in pension fund assets brought on by the rise in bond and stock markets. Some companies took advantage of high market interest rates to structure mini-funds—called dedicated bond portfolios—that matched fund income flows with their estimated pension liabilities. Because the yield on a dedicated portfolio was usually higher than the assumed return of the overall pension program, employers could reduce their contributions.⁸

In addition to developments in the bond market, the stock market behavior of 1982–87 expanded the stated asset value of stock portfolios. The rise in pension fund stock assets also had the effect of lowering employers' annual contributions. In fact, during the 1980–87 period, many pension funds actually became overfunded, temporarily eliminating all growth in employer pension costs.

Although the stock market fall of October 1987 lowered the asset value of many stock portfolios, most actuaries smooth out gains and losses over 5, 10, or 15 years, or more, for purposes of determining pension funding liabilities.

Supplemental pay benefits. These benefits include premium pay for overtime, shift differentials, and nonproduction bonuses. Premium pay and shift differentials are closely tied to wage movements. During the 1980–87 period, the rate of increase in premium pay and shift differentials slowed in tandem with wage gains.

Nonproduction bonuses are not closely tied to wage movements. Although highly visible, the impact of nonproduction bonuses on the total benefit costs of private industry employers is small.

One nonproduction bonus, the lump-sum payment, has gained some popularity in recent years. In general, collective bargaining agreements with lump-sum payments have averaged lower scheduled wage adjustments than those without them. Therefore, lump-sum payments have caused an increase in the ratio of benefit cost gains to wage rate gains. However, on average for all of private industry, the impact of lump-sum payments on the rate of benefit cost increase has been very small in comparison with the effects of other benefit costs.

Industry and occupational trends

Currently, the BLS publishes a series of industry benefit cost indexes consisting of separate measures for the total private, goods-producing, service-producing, manufacturing, and nonmanufacturing sectors. The published occupational series include those for white-collar workers, blue-collar workers, and service workers. For these published industry and occupational series, the trends in benefit cost gains have closely followed the pattern in total private industry since the series began in 1980. This behavior is consistent, because the nonwage factors affecting benefit costs (the costs of medical care, Social Security, and pensions) were economywide, not industry- or occupation-specific.

Over the 1980–87 period, the steepest declines in the rates of increase for wages and benefit costs came in the goods-producing, manufacturing, and blue-collar series. Factors such as the 1981–82 recession, foreign competition, and dampened inflation contributed to lower wage gains for these workers, and in turn, smaller benefit increases.

As expected, the gap between benefit cost increases and wage gains narrowed greatly over the course of the period for all series. Table 3 shows the December 12-month rates of increase in benefit costs and wages for each series during the 1980–87 period. □

FOOTNOTES

¹See Felicia Nathan, "Analyzing employers' costs for wages, salaries, and benefits," *Monthly Labor Review*, October 1987, pp. 3–11.

²*Employee Benefits in Medium and Large Firms*, various issues (Bureau of Labor Statistics, 1981–87).

³*Ibid.*

⁴See Robert N. Frumkin, "Health insurance trends in cost control and coverage," *Monthly Labor Review*, September 1986, pp. 3–8.

⁵See Patrick J. Regan, "Pension Fund Perspective," *Financial Analysts Journal*, November–December 1984, pp. 10–12.

⁶See Employee Benefit Research Institute, *Employee Benefit Notes*, March/April 1985, pp. 4–9.

⁷Regan, "Pension Fund Perspective," p. 11.

⁸See Arlene Hershman, "Behind the Decline in Pension Costs," *Dun's Business Month*, May 1984, pp. 62–66.

The relation of age to workplace injuries

Job risk patterns do not vary with age for temporary disabilities, but workers 65 and older are more likely to suffer permanent disabilities and fatalities; age effects are robust to controls for industry and occupation

OLIVIA S. MITCHELL

Do work-related illness and injury (job risk) rates differ significantly by age? If so, are the patterns dependent on the job-related risk in question? Are age and job risk profiles invariant to controls for workers' occupations and industries?

To answer these questions, we combined 1981 illness and injury incidence data from workers' compensation reports with exposure data from the 1980 U.S. census. These data contain detail on workers' health problems and the jobs on which they experienced the problems, thus permitting us to investigate how occupational risk varies by age, industry, and occupation. According to our research, age is positively and significantly correlated with some forms of workplace risk; job-related temporary disabilities do not vary with age, but employees age 65 and over are more likely to suffer permanent disabilities and fatalities on the job; and age effects are not simply the result of job differences between older and younger workers, because the findings prove robust to the inclusion of controls for industry, occupation, and other variables.

Illness and injury risk

Some studies hold that older workers have a lower incidence of job injuries, compared with younger workers, but tend to sustain more severe impairments when injuries do occur.¹ However, analysts have encountered several problems in proving this claim statistically.

One problem in assessing the age-job risk relationship is the difficulty of measuring "poor health."² Because reports of health problems severe enough to warrant medical attention are often regarded as the most reliable indicators, this study uses data on reported illnesses and injuries, rather than workers' self assessments, to estimate the age-job risk relationship.

Another problem is that most previous studies do not test whether age and risk patterns covary statistically.³ We rectify this drawback by testing for such variances.

Also, many studies do only a cursory job of holding other factors constant. This implies that observed negative relationships between age and the incidence of job-related health problems may be robust to the inclusion of other variables correlated with age.⁴ We evaluate the link between age and workplace injury and illness, controlling for occupation, industry, and several other factors.

The data

Most analysts would agree that job risk measures of most interest include incidence (frequency of cases per unit of exposure) and severity (the extent to which health and safety problems are disabling, and for how long). However, nationally representative data on occupational risk are unavailable. Therefore, we use State workers' compensation files to obtain information on the prevalence and severity of workplace illness and injury risks.⁵ Our analysis goes beyond previous studies of age-job risk relationship, in that it asks if the patterns vary systematically with workers' age, and if the patterns hold when controlled for occupation and industry.

Some of the statistics required for our analysis are collected under the Supplementary Data System, a

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Federal-State cooperative venture established by the Occupational Safety and Health Act.⁶ The Supplementary Data System reports incidents by type but not by exposure, so other sources must be used for exposure data. State files from the 5-percent sample of the 1980 Census of Population are employed to generate the necessary statistics on hours of work per year by age, occupation, and industry. Combined, these two data sources produce illness and injury rates per million employee hours for 6 age categories, 12 occupational groups, and 11 industry groups. Exhibit 1 shows the age, industry, and occupational variables used in this study, as well as the States from which data were obtained.

In 1981, 29 States provided data to the Supplementary Data System. However, only nine of them reported all the required information on workers' age, occupation, industry, and extent of disability.⁷ (See exhibit 1.) "Extent of disability" indicates whether the case is a fatality, a permanent or temporary disability, or some other type (for example, illness). Job risks which are probably more costly to employers would be indicated by higher rates of fatalities and permanent injuries, while temporary disabilities are likely to be considered less of a problem.⁸ Illness cases are so rare in the data that they are included in the total injury rate analysis, but are not considered separately.⁹

The fact that job risk data are derived from workers' compensation files requires us to be sensitive to the fact that workers' compensation systems vary among States. States differ regarding what they report as a "case," the kind of information recorded about an affected worker and his or her job, how claims are adjudicated and compensated, and the types of claims eligible for compensation payments. Only illnesses and injuries defined as compensable under each State's workers' compensation rules appear in the data files, but States vary in the way they determine which cases may be properly submitted for compensation claims. Waiting periods before benefits are paid vary among States, and the definition of a "closed" case likewise varies.¹⁰ For these reasons, it is necessary to test for significant State-specific effects in the context of the empirical models detailed below. In addition, because the nine States utilized span the country geographically, it is also asked whether variability in the data can be properly represented by regional variables. Because some States exclude domestic and agricultural occupations from coverage, while others exclude government workers, this analysis excludes employees in the farm sector, private household workers, and those in public administration.

Despite the evident limitations of workers' compensation statistics, there is no better data source on the extent of job risk by age, occupation, and industry in the United States.¹¹ Initial tabulations of workers' compensation data for individual States generally agree with the results reported by previous researchers.¹²

Exhibit 1. Variable definitions

Age groups

Younger than age 25	Age 45-54
Age 25-34	Age 55-64
Age 35-44	Age 65 and older

Industry groups

1. Mining (reference category)
2. Construction
3. Nondurable manufacturing
4. Durable manufacturing
5. Transportation, communications, and utilities
6. Retail trade
7. Finance, insurance, and real estate
8. Business and repair services
9. Personal services
10. Entertainment and recreation services
11. Professional and related services

Occupational groups

1. Executive, administrative, and managerial (reference category)
2. Professional specialty
3. Technicians and related workers
4. Sales
5. Administrative support, including clerical
6. Private household
7. Protective services
8. Service, excluding private household and protective
9. Precision production, craft and repair
10. Machine operators, assemblers, and inspectors
11. Transport and material moving
12. Handlers, cleaners, helpers, and laborers

States

West:	New York (NY)
Colorado (CO)	North Carolina (NC)
Montana (MT)	
Idaho (ID)	Central:
	Arkansas (AK)
East:	Iowa (IO)
Delaware (DE)	Wisconsin (WI)

Analysis of variance models

One method of determining the age-job risk link is to conduct an analysis of variance. This procedure produces an assessment of the systematic age patterns in the data, as well as an estimate of the relative contribution of occupation and industry in explaining differences in the dependent variables. The empirical model employed is:

$$R = \beta + \pi \text{Age} + \Delta' X + e$$

where R is the dependent variable and represents one of four values indicating the extent of disability: the total illness and injury incidence rate, the temporary disability rate, the permanent disability rate, or the fatality rate.¹³ Age consists of a vector of six age brackets. (See exhibit 1.) Particular attention is devoted to the 55-64 and 65 and

older groups, in keeping with our special interest in older workers.¹⁴ X is a vector of occupation, industry, State, and interaction variables. β , π , and Δ' are coefficients to be estimated. The final term, e , represents independent disturbance terms omitted from the model.

The following tabulation shows the percentage of total variance in illness and injury incidence rates that is explained by the contribution of age, industry, and occupation:

Independent variable	Dependent variable			
	Total injury incidence rate	Temporary disability rate	Permanent disability rate	Fatality rate
Age	0.8	0.5	1.2	2.1
Age and industry ..	1.4	.9	1.5	2.3
Age and occupation	6.7	4.6	2.8	2.4
Age, industry, and occupation ..	7.2	5.0	3.0	2.7

Age differences account for between 0.5 percent to 2 percent of the overall explained variation in the data when no other variables are controlled. When controls for industry are added in addition to age, the proportion of explained variation is little improved for all dependent variables. In contrast, when controls for occupation are added, the explained variance is greatly increased for temporary disabilities, and hence, for total injuries as well, because most job injuries involve temporary disabilities. In the permanent disability analysis of variance, occupation variables are more powerful than are industry variables, even though the overall change in explanatory power is smaller. Only in the case of fatalities do occupation controls rival industry controls in terms of explained variance.

The following tabulation shows the percent of explained variance attributable to age, industry, and occupation:

	Independent variable		
	Age	Industry	Occupation
Total injury incidence rate	11.4	8.6	80.3
Temporary disability rate	10.7	7.9	81.3
Permanent disability rate	39.6	9.0	51.4
Fatality rate	79.5	8.4	12.9

The data reinforce the conclusion that occupational patterns are most important for the least severe job risks—temporary disabilities—accounting for about 80 percent of explained variance. For fatalities, on the contrary, age, and not occupation or industry, plays the crucial role.

In general, then, occupation appears to be three to four times more important a determinant of temporary disabili-

ties than does industry. The more severe the incident, however, the more similar the explanatory influence of occupation and industry. Thus, the conventional wisdom that occupation is important in predicting job risk patterns, but industry is not, is valid only for total job injury data, because such data mainly reflect temporary disability patterns. This conclusion is incorrect when the more severe job risks are considered.

Multivariate regression models

A second statistical method of examining the data uses multivariate linear regression of job risks on the variables. (See table 1.) In column 1, the data are evaluated by age only to determine if risks vary significantly as workers age. Column 2 expands the set of explanatory variables to include occupation, industry, and State. Column 3 allows age interactions with each occupation, industry, and State. If the direct and interactive age effects become statistically insignificant after adding the control variables, we would conclude that age differences in job risks can be attributed to differences in jobs held by the older and younger groups. It is also possible to use F -tests to determine if occupation, industry, and State are important in explaining variation in the dependent variables.¹⁵

Age effects. Data in column 1 suggest that job risk is greatest for the very young, rather than the old. Indeed, employees under age 25 (the reference group) are more prone to on-the-job risk than are their more senior counterparts, given that all age coefficients are significantly negative.¹⁶ This “under 25” effect is associated with high rates of temporary injuries (probably because of inexperience on the job),¹⁷ but not with either of the more serious risk measures—permanent injuries and fatalities—given that no age coefficient is significantly less than zero for these two measures.

In contrast to the findings for younger workers, older employees appear to suffer significantly more serious job-related risks. Indeed, permanent disabilities are 1.1 percent higher and fatalities are 1.6 percent higher for workers age 65 and older, than for the sample average.¹⁸ On the contrary, age-job risk profiles are virtually flat between ages 25 and 64. This finding, coupled with the fact that most workers retire before age 65, casts doubt on the hypothesis that aging leads to declining productivity and rising risk for most workers.¹⁹

A comparison of columns 1 and 2 for each dependent variable in table 1 highlights a second important conclusion: Whenever age coefficients are significant on their own, they remain significant after the inclusion of industry, occupation, and State workers' compensation variables. In other words, observed age effects do not simply reflect the fact that old and young workers hold

Table 1. Multivariate regression analysis of the relationship between job risk and age

[t-statistics in parentheses]

Explanatory variables ¹	Total injury incidence rate (mean = 2.55)			Temporary injury rate (mean = 1.66)			Permanent injury rate (mean = 0.48)			Fatality rate (mean = 0.18)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Intercept	4.53 (11.62)	0.09 (0.09)	1.05 (0.45)	3.07 (9.09)	-0.30 (0.33)	0.56 (0.27)	0.39 (3.10)	-0.16 (0.45)	0.28 (0.35)	0.01 (0.06)	-0.29 (0.87)	-0.10 (0.14)
Age:												
25-34	-1.82 (3.33)	-1.74 (3.03)	-.28 (.22)	-1.44 (3.04)	-1.34 (2.91)	-.20 (.32)	-.09 (.50)	.08 (.48)	-.07 (.15)	-.001 (.004)	.01 (.08)	-.01 (.01)
35-44	-2.12 (3.82)	-1.93 (3.52)	-.48 (.37)	-1.57 (3.25)	-1.40 (2.97)	-.38 (.32)	-.04 (.22)	-.01 (.05)	-.07 (.15)	.01 (.08)	.02 (.15)	.00 (.01)
45-54	-2.65 (4.71)	-2.33 (4.34)	-.38 (.29)	-2.06 (4.22)	-1.81 (3.80)	-.42 (.36)	-.05 (.31)	.01 (.05)	.05 (.12)	-.0002 (.001)	.03 (.16)	.01 (.02)
55-64	-3.00 (5.23)	-2.65 (4.84)	-.52 (.40)	-2.17 (4.36)	-1.89 (3.91)	-.55 (.47)	-.10 (.52)	-.04 (.22)	.05 (.12)	.001 (.01)	.03 (.15)	-.00 (.01)
65 and older .	-2.87 (4.44)	-2.10 (3.38)	-.58 (.44)	-1.41 (2.57)	-0.93 (1.69)	-.07 (.06)	1.27 (6.06)	1.40 (6.68)	.54 (1.15)	1.65 (8.45)	1.71 (8.65)	.99 (2.20)
Industry		>0 5	*		>0 5, 11	*		*	*		*	*
Occupation		>0 8, 10-13	>0 13		>0 10-13	*		>0 10-13	*		>0 11-13	*
State		>0 WI, ID, AK	*		>0 WI, AK	*		>0 ID, AK	*		>0 ID	*
Age-State interactions			<0 WI: all ages ID: 35-44 55-64 AK: 25-34 45-54 55-64			<0 WI: all ages AK: 25-34 45-54 55-64 >0 ID: 65 and older			>0 ID: 65 and older			>0 ID: 65 and older
Industry-State interactions			>0 WI: 11, 13 AK, ID: 4, 5			>0 WI: 11-13 AK: 4, 5			>0 ID: 11 AK: 5			>0 ID: 11
Occupation-State interactions			>0 WI: 13 ID: 10, 11, 13 AK: 11-13			>0 WI: 13 ID: 11 AK: 11-13			>0 ID: 11 AK: 11			*
R ² .....	.01	.10	.23	.01	.06	.18	.01	.04	.14	.02	.03	.11

¹ Variable definitions are shown in exhibit 1.

NOTE: Signs of industry, occupation, State, and their interactions are indicated only if coefficient estimates are statistically significant at p = 0.05 (>0 = positive trend; <0 = negative trend). Asterisk (*) indicates no coefficient is statistically significant at p = 0.05.

different types of jobs or live in different regions of the country. Rather, they indicate that the very young and those 65 and older suffer more job-related health problems and, hence, are less productive than all other age groups, even when other factors are held constant.

Occupation effects. Occupation coefficients are statistically significant in all four extent of disability risk models, substantiating our inferences from the analyses of variance models. The entire vector of occupational terms

contributes significantly to explained variance, according to *F*-tests comparing the sum of squared errors from models which include and then omit these terms. In the models of total incidence rates, service workers as well as workers in the four blue-collar groups (craftworkers, operatives, transportation operators, and handlers and laborers) suffer significantly more health and safety problems. The "blue-collar" effect remains significant and positive for all three measures of risk, even when controlled for age, industry, and State of residence.

Industry effects. Industry findings are less robust across equations, varying by job risk measure. The overall equation indicates significantly more problems in durable manufacturing, controlling for other things. This is mainly because of the higher rate for temporary disability in that sector, and not because of discernably different fatality or permanent disability job-risk patterns. Tests for the significance of the entire vector of industry variables indicate that industry does not contribute to explaining fatality rates or permanent and temporary disability rates. However, the hypothesis that industry variation in total incidence rates is zero is rejected, suggesting that industry matters for the small number of "other" categories which are primarily occupational illnesses.

The finding that industry differentials are not as significant as are occupational patterns reiterates our analyses of variances conclusions, and confirms speculation by earlier analysts—job risk varies more by occupation than by industry, other things equal.

State effects. Because State workers' compensation systems differ, it is useful to determine if reported injury and illness patterns vary according to the State in which the data were collected and if controlling for any State effect alters conclusions regarding age, industry, and occupational effects. The evidence shows that Arkansas, Wisconsin, and Idaho appear to have significantly higher job injury incidence rates than do the other States in the sample. Models incorporating State interactions also emphasize that these States have especially high incidence rates in durable manufacturing and services, particularly for blue-collar occupations. Whether these differences are real, or merely a reflection of State workers' compensation reporting requirements, cannot be determined from the data. However, the effects are sufficiently different among the three States, and from those of other States, that we must reject the hypothesis that regional variables contain the same information as the individual State dummies in the regression models.²⁰

It might be surmised that at least some portion of the State-specific effects reflects differences in localities' interpretations of what constitutes permanent disability. This is because many permanent disabilities resulting in workers' compensation claims involve medical conditions which are intrinsically difficult to measure and quantify in terms of degree of disability (for example, lower back injuries). Interestingly, however, the analysis demonstrates that the State coefficients are less statistically significant for more serious job risks.

Controlling for State level and interaction differences does not alter one of our earlier conclusions: increased risk of job-related fatalities remains concentrated among workers older than age 65. However, a second conclusion is weakened somewhat because the age effect for permanent disabilities appears to be mainly due to the Idaho

data. Indeed, there remains no additional age effect for that dependent variable after the State interaction is controlled.

Conclusions

Summarizing the results, we find that:

- Prime-age workers and older workers do not seem to have different patterns of job-related temporary disabilities. However, those age 65 and older appear more likely to suffer work-related permanent disabilities and fatalities on the job.
- Age effects are robust to controls for industry and occupation, implying that they are not simply reflecting life-cycle differences in workers' jobs.
- Occupation proves to be more important than industry in explaining job-risk patterns. The observed patterns are not surprising: craftworkers, transportation operators, operatives, and handlers and laborers appear especially prone to job risk. Durable manufacturing industries also have higher than average injury rates.
- State-specific differences in job-risk data persist even if age, industry, and occupational dispersion in jobs are controlled, a result not previously noted in studies using workers' compensation data. Interestingly, however, the analysis demonstrates that State effects are much less important for both the permanent disability and the fatality equations than for the temporary disability equations. □

FOOTNOTES

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¹Several studies are reviewed in O.S. Mitchell, P.B. Levine, and S. Pozzebun, "Retirement Differences by Occupation and Industry", *The Gerontologist*, forthcoming.

²K. H. Anderson and R. V. Burkhauser, *The Effect of Actual Mortality Experience Within a Retirement Decision Model* (Vanderbilt University, Department of Economics and Business Administration, 1983), Working Paper No. 83-W08; G. G. Fillenbaum and G. Maddox, *Assessing the Functional Status of LRHS Participants* (Duke University, Center for the Study of Aging and Human Development, 1977), Technical Report No. 2; O. S. Mitchell, "Aging, Job Satisfaction, and Job Performance," in I. Bluestone, R. Montgomery, and J. Owen, eds., *An Aging Workforce* (Detroit, Wayne State University Press, forthcoming); and D. O. Parsons, "The Male Labor Force Participation Decision: Health, Reported Health, and Economic Incentives," *Economica* 49, February 1982, pp. 81-91.

³M. D. Kossoris argues that older workers are relatively less accident prone in his data, but the tabular analysis does not test the conclusion formally. See M. D. Kossoris, "Relation of Age to Industrial Injuries," *Monthly Labor Review*, October 1940, pp. 789-804. Norman Root discusses, but does not statistically assess, the importance of age effects. See Norman Root, "Injuries at work are fewer among older employees,"

Monthly Labor Review, March 1981, pp. 30–34. Of course, because these studies are descriptive in intent, they should not be faulted for the fact that they are limited to presentations of simple two-way tables. A. Dillingham does include a simple linear age term in a multivariate risk model, but does not allow for nonlinear age effects which may be important. See A. Dillingham, "The Injury Risk Structure of Occupations and Wages" (Ph.D. dissertation, Cornell University, 1979). R. S. Smith includes an age variable which proves statistically insignificant; however, he focuses only on the proportion of young workers (age 25 or younger), and does not disaggregate other age groups. See R. S. Smith, "The Feasibility of an Injury Tax Approach to Occupational Safety," *Law and Contemporary Problems*, Summer 1974.

⁴M.D. Kossoris ("Relation of Age") indicates that older workers are less frequently injured than the young, but the nonrepresentativeness of the data used preclude the author from investigating whether these patterns might be due to different occupational and industrial job-holding distributions by age. Both N. Root and S. Dorsey find age differences in risk patterns when they control for industry, but they do not simultaneously hold occupation constant. See Root, "Injuries at work"; and S. Dorsey, "Employment Hazards and Fringe Benefits: Further Tests for Compensating Differentials," in John Worrall, ed., *Safety and the Workforce* (Ithaca, ILR Press, 1983). Dillingham ("The Injury Risk Structure") argues that occupation matters more than industry in explaining job-related health problems, and so incorporates occupation but not industry variables.

⁵R. G. Ehrenberg reviews recent studies in workers' compensation area. See R. G. Ehrenberg, *Workers' Compensation, Wages, and Risk of Injury* (New York, National Bureau of Economic Research, 1985), Working Paper No. 1538. N. Root and D. McCaffrey discuss differences in State workers' compensation programs. See N. Root and D. McCaffrey, "Providing more information on work injuries and illnesses," *Monthly Labor Review*, April 1978, pp. 16–28. Extensive analysis of New York State was carried out by Dillingham ("The Injury Risk Structure") who uses data from the early 1970's; Root ("Injuries at work") uses 1977 workers' compensation files to review data from 26 States.

⁶"Injury and Illness Data Available from 1981 Workers' Compensation Records," USDL release 83–2 (Bureau of Labor Statistics, December 1983); and *Supplementary Data System, Microdata Files Users' Guide, 1980 Edition* (Washington, National Technical Information System, September 1982) PB83–133553.

⁷There are actually three separate files in the 1981 Supplementary Data System data set. File 1 contains reports from nine States on cases involving medical treatment, while File 2 contains records from 16 States on cases involving days of disability. These two files on the micro data tapes are characterized by significant missing data on age, occupation, and industry, and do not contain usable statistics on the extent of workers' injuries or illnesses. File 3, employed in the analysis in this report, contains virtually complete data on age, occupation, and industry, plus the extent of job-related illnesses and injuries for almost 318,000 separate cases in nine States. Unlike Files 1 and 2, File 3 includes cases only if they were closed or final determination was reached during 1981. The precise definition of such a case may vary among States. See footnote 10.

⁸A. Dillingham, "Demographic and Economic Changes and the Costs of Workers' Compensation," in John Worrall, ed., *Safety and Workforce* (Ithaca, ILR Press, 1983).

⁹Because it is difficult to identify the link between illness and employees' work environments, we expect that data on job-related injuries are more complete than are those on occupational illnesses. See

N. A. Ashford, *Crisis in the Workplace: Occupational Disease and Injury* (Cambridge, MIT Press, 1976).

¹⁰In some States, a "closed" case may mean that the worker has been removed from the workers' compensation rolls altogether, while in others, a case closes when an individual begins to receive benefits.

¹¹Ideally, when an injury rate is calculated, the year in which the injury occurs should coincide with that for which the worker's exposure data are collected. In the construction of injury rates from the two data sources used here, however, the figures are not derived from the identical period. Census figures are available only for 1980, while the Supplementary Data System data file contains closed cases for 1981. While a great many of the workers' compensation cases closed in 1981 were probably initiated in 1980, some were not. In steady state, cases closing each year will be replaced with new and similar cases at a steady rate, so no bias should result from the construction method employed in this report. On the contrary, if the workers' compensation system experienced above-average (or below-average) rates of case closings during 1981, the incidence rates reported may be over- (or under-) stated. There is little direct evidence on the likely direction of bias, if any.

¹²For example, 1980–81 industry and occupation rates per million employee hours for New York compare closely with those prepared for that State by Dillingham ("The Injury Risk Structure").

¹³Some States provide data on permanent partial and permanent total disabilities, but because these are not consistently available, we collapse the disability reports into just two variables—permanent and temporary.

¹⁴Age is missing in a tiny minority of cases in File 3 of the Supplementary Data System—about 1 percent of all cases. Where possible, cases with missing ages are allocated randomly to age brackets using available industry and occupation data and proportions of workers in each age group using the nonmissing cases. A few remaining cases, about 0.9 percent, are eliminated altogether from the sample because of missing industry and occupation data.

¹⁵P. Kennedy, *A Guide to Econometrics* (Cambridge, MIT Press, 1985).

¹⁶Statistical significance levels of $p = 0.05$ are used throughout this article.

¹⁷Root, "Injuries at work"; and R. S. Smith, "The Feasibility of an Injury Tax Approach to Occupational Safety," *Law and Contemporary Problems*, Summer, 1974.

¹⁸These figures are derived according to the procedure described by D. B. Suits, using the age 65 and older coefficients in column 1 (permanent injury and fatality rates), table 1. They indicate "the extent to which behavior in the respective (age groups) deviates from the (sample) average." D. B. Suits, "Dummy Variables: Mechanics v. Interpretation," *Review of Economics and Statistics*, February 1984, pp. 177–80.

¹⁹Those familiar with selection problems may query whether risk data might be biased downward, to the extent that affected workers retire early and thus leave the data sample. This possibility is particularly likely for those age 62 and older, because retirement is socially acceptable and economically feasible under Social Security and many private pensions. Unfortunately, existing survey questionnaires do not ascertain from retirees which industry and occupation they had worked in, and the conditions leading to retirement; thus, the degree of bias cannot be assessed. The effect is probably very small for those in the 45–54 age range because relatively few of these workers would be likely to retire from the sample. The fact that no age effects are discerned for that group reinforces our overall conclusions.

²⁰Additional regression results, available from the author, provide evidence by region (as defined in exhibit 1).

End of purchase requirement fails to change food stamp participation

Recipients no longer must buy stamps, but this has had little effect on characteristics of participants; highest participation is among single mothers, blacks, and no wage earners, according to the Consumer Expenditure Survey

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The Food Stamp Program was established in 1964 to " . . . raise levels of nutrition among low-income households . . . " ¹ The program has grown since its inception so that in 1985, the program cost almost \$20 billion and benefited an average 19 million people per month. How best to distribute benefits to program participants has been debated. Should participants be required to purchase food stamps? Should participants be given the value of the stamps in cash, rather than coupons? At the start of the program, participants were required to purchase the stamps. The amount by which the value of the stamps exceeded the purchase price was the actual benefit level, called the bonus. The 1977 Food Stamp Act began a new era in food stamp benefit distribution by eliminating the purchase requirement. This change took effect in 1979. A great deal of research has been done examining the characteristics of program participants, and the determinants of participation. However, little research has been done using data collected since the elimination of the purchase requirement.² The purchase requirement was believed to discourage participation by adding to the application burden which is the cost in terms of time and effort needed by the applicant to take part in the

program.³ It is reasonable to expect that this discouraged participation unevenly across the demographic spectrum of food stamp eligibles.⁴

This article compares the characteristics of participants in the program to those eligible but not participating, and examines the demographic factors related to participation using data collected after the elimination of the purchase requirement. The results of this study will indicate if any substantial changes in the characteristics of participants and the factors related to participation have occurred since the program's structure was altered.

Data

Data used for this study are from the 1984–85 Bureau of Labor Statistics' Consumer Expenditure Interview Survey. The unit of measure for the survey is called a consumer unit. Consumer units are determined by three characteristics: (1) all members of the household are related by blood, marriage, adoption, or other legal arrangements; (2) two or more persons living together who pool their income to make joint expenditure decisions; or (3) a person who lives alone or shares a household with others or who lives as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but is financially independent. To be considered financially independent, at least

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two of three spending categories, food, housing, and other living expenses, have to be provided by the respondent.

The survey uses a rotating sample design with respondents interviewed once during each of five consecutive quarters.⁵ Expenditure data are collected during each interview and income and financial asset data are collected during the second and fifth interviews. For the purposes of determining food stamp eligibility, only the fifth interview requests sufficient financial asset information. Accordingly, this study uses only fifth interview results. Because of the sampling technique and the subsequent weighting scheme used, employing only fifth interview results still represents a national sample. This original sample consisted of 10,300 respondents. After data screening and elimination of food stamp ineligible respondents, 1,810 respondents remained. The procedures used to simulate eligibility are described in the following section. Data screening consisted primarily of eliminating incomplete income reporters.⁶

Determination of eligibility

The criteria used to determine eligibility for food stamps are lengthy. Title 7 of the *Code of Federal Regulations* details the eligibility criteria, which consist of 136 pages of fine print. Previous researchers using the Diary component of the Consumer Expenditure Surveys have determined eligibility by statistical rules of thumb.⁷ In contrast, the Interview Survey provides the information necessary to apply most of the eligibility criteria directly. The exceptions to this arise through the inability to identify striking workers, disabled consumer unit members, and compliance with the work registration requirements.

Students, categorically ineligible, were eliminated from the sample, as were recipients of Supplemental Security Income from the "cash out" States, California and Wisconsin.⁸ Income deductions are allowed for excess child care, shelter, and medical expenses, and for earned income under the Food Stamp Program. The allowable deduction depends upon whether there are household members age 60 or older, or disabled members. Food stamp eligibility criteria are based on monthly reporting. The Interview Survey, however, asks respondents how much was spent for different items over the 3-month period. Thus, to compute the child care, shelter, and medical deductions, the reported quarterly expenditures were used and the limits on deductions allowed were multiplied by three. Similarly, a quarterly average of the reported annual income was used. For the assets test, the account balances as of the last day of the last month covered by the interview period were employed.

The final database contained 516 eligible program participants, and 1,294 eligible nonparticipants. Weighted to a national sample, they represent roughly 4.4 million

eligible consumer unit participants out of 15.9 million eligibles, indicating a participation rate of 28 percent.⁹ This participation rate falls in the range of those found in previous studies. John Czajka estimated a rate between 28 percent and 33 percent; Christine Ranney and John Kushman, on the other hand, reported that since the elimination of the purchase requirement, the participation rate has risen by 14 percent.¹⁰ The comparability of the participation rate found in this study with those found in past studies is limited by the different data sources and methods used to simulate eligibility.

Characteristics of participants

Participation in the Food Stamp Program is not the only difference between the eligible consumer unit participants and eligible nonparticipants. An examination of the demographic characteristics of these two groups reveals many other significant differences.¹¹ The average consumer unit size is significantly greater for participants, 3.1, compared to nonparticipants, 2.6. The larger consumer units are, on average, composed of more children, and fewer members age 60 and older. Participant means are 1.4 children, and .3 members 60 or older, as opposed to nonparticipant means of .8 and .5, respectively.

There are also significant racial and educational attainment differences between participants and nonparticipants. Blacks account for a greater proportion of participants than nonparticipants, 36 percent as opposed to 18 percent. A striking difference in the levels of education is that 11 percent of participants have some college training, whereas the proportion is 31 percent for nonparticipants.

Eligible nonparticipant consumer units show not only a higher degree of investment in education, but a higher level of physical assets as well. The proportion of homeowners is 45 percent for nonparticipants and 23 percent for participants, while the average number of vehicles owned is 1.2 for nonparticipants and .6 for participants. The mean income of nonparticipants is significantly higher, before and after taxes, than the mean income of participants, excluding the food stamp bonus. However, after including the bonus there is no significant difference between the two groups. It would seem that, although current incomes do not differ after accounting for participation, nonparticipants are in a better position to withstand a temporary financial setback, such as the loss of a job.

The relationship of these characteristics to participation is reflected in the participation rates in table 1. The consumer units with the highest rate of participation are those with single female parents, 69 percent, while the lowest rates are those with four or more earners, 7 percent, and more highly educated persons, 12 percent. The impact of racial differences on the probability of

participation is reflected in the 44-percent rate among blacks and the 22-percent rate among whites. Participation rates decrease in higher age groups, from 40 percent for those 25 to 34 to 20 percent for those 75 and older.

How do differences between participants and eligible nonparticipants compare to those found in studies using data collected prior to the elimination of the purchase requirement? Donald West employed 1972-73 Diary Survey data for his analysis which shows the same overall differences between participants and nonparticipants as those found in this study;¹² participant consumer units

have larger families, fewer homeowners, a greater percentage headed by blacks and women, and a lower level of educational attainment than nonparticipant units. Significance tests by West also resulted in the similar finding that income differences are not significant after accounting for food stamp benefits. While some differences exist between the results of this study and those of West's, the direction and relative magnitudes of the differences between participants and nonparticipants are similar. Another benchmark for comparison, which reported similar results, is a study by Czajka which employed data from the Income Survey Development Program, the predecessor to the Survey of Income and Program Participation.

In the past, several propositions have been put forth to explain the differences in participation among socioeconomic groups. Included in this list has been the purchase requirement. Other factors often cited have been welfare stigma, the burden of the application process, and ignorance about the program and potential eligibility. Eliminating the purchase requirement helps reduce the burden of the application process. Besides ignorance of the program, these possible explanations are a listing of the cost considerations in a cost-benefit type approach that a household might consider in deciding whether to participate.

Focusing on ignorance about the program as an explanation for nonparticipation, it seems reasonable that more highly educated eligibles would be more aware of the program and their possible eligibility. Following this line of reasoning, the expectation is that participation rates would be higher among more highly educated eligibles. However, the estimates of program participation rates by educational attainment in table 1 show just the opposite. The notion of welfare stigma being associated with participation helps to explain this result.

Ranney and Kushman directly incorporated stigma effects in their model of the decision. In this framework, households are said to be concerned with prestige and privacy.¹³ Welfare stigma is the negative effect program participation has on household prestige and privacy. If households define prestige in relationship to a perceived peer group then the strength of this negative relationship might be greater for more highly educated eligibles, whose peer group is economically better off. This would depress their participation rate relative to less educated eligibles.

Observed differences in turnover in the Food Stamp Program among demographic groups are also useful in exploring explanations of differences in participation rates. Timothy Carr, Pat Doyle, and Irene Lubitz found that elderly and single parent households, and households receiving Aid to Families with Dependent Children are low turnover families.¹⁴ They tend to stay in the program for more months than other demographic groups. High

Table 1. Food stamp participation rates and numbers of eligibles by characteristics

Characteristic	Participation rate (percent)	Eligible consumer units (thousands)
All consumer units	28	15,855
Family size:		
One	18	5,635
Two	27	3,575
Three	40	2,099
Four	34	1,732
Five	28	1,406
Six or more	37	1,401
Number of earners:		
Zero	43	5,502
One	20	6,472
Two	19	2,821
Three	16	705
Four or more	7	355
Family type: ¹		
Married couple:		
Husband and wife	16	1,627
Own children, eldest under 17 ..	27	2,469
Own children, eldest over 17 ..	15	723
Other married couple families ..	23	874
Single parent:		
Single male parent	31	135
Single female parent	69	1,827
Single, no children	18	5,635
Other families	31	2,564
Age of reference person:		
Under 25	17	2,891
25-34	40	2,897
35-44	36	2,275
45-54	29	1,769
55-64	25	1,977
65-74	23	2,151
75 or older	20	1,896
Race of reference person:		
White	22	11,754
Black	44	3,666
Other	30	436
Education of reference person:		
Elementary (1-8)	36	4,284
High school dropout	35	3,658
High school graduate	28	3,487
Some college	12	2,944
College graduate or more	12	1,114
Never attended school	26	368
Region:		
Northeast	30	3,269
North Central	29	4,177
South	27	6,264
West	21	2,205

¹Single parent consumer units have at least one child under 17 years old.

SOURCE: Consumer Expenditure Survey, 1984-85 Interview survey collection period, complete income reporters.

turnover families are characterized as those with earners, more highly educated reference persons, and two parents.¹⁵ These families are more likely to perceive their situation as temporary. For example, the more highly educated eligibles may be between jobs. From a cost-benefit approach, the expected returns from a short period of participation may not outweigh the perceived cost in terms of stigma and the application burden.

If we consider the application burden as a cost discounted over the length of time in the program, consumer units in the program for shorter durations face a relatively higher cost. This is also true with respect to the updating procedures required to remain in the program if these procedures have a learning curve. These propositions are possible explanations of why lower participation rates occur among high turnover demographic groups. Additionally, they imply that the elimination of the purchase requirement, by reducing the steps in the application process, would be more likely to improve participation among these groups. However, as the results above show, an improvement in participation among these groups did not take place.

The same considerations used in exploring the differences in participation rates by characteristics can also be used to explain participation rates by sources of income. The following tabulation shows participation rates by sources of income. These income sources are not mutually exclusive.

<i>Income source</i>	<i>Participation rate (percent)</i>	<i>Eligible consumer units (thousands)</i>	<i>Percent of eligibles reporting income source</i>
Public assistance (including job training grants)	87	2,403	15.2
Unemployment	33	1,177	7.4
Worker's compensation and veterans' benefits	26	544	3.4
Supplemental security	64	1,707	10.8
Social Security or railroad retirement	23	5,268	33.2
Wages or salaries	20	8,529	53.8
Interest on savings account(s) or bonds	10	1,623	10.2

The highest level of participation is among consumer units receiving public assistance, 87 percent. There are several reasons to expect this. It may partly reflect a reduced application burden. In some States it is possible to apply for the Food Stamp Program on the same application used for public assistance.¹⁶ Another possibility is that the welfare stigma from participation in different programs is related and decreases at the margin. If an individual participates in a public assistance program, he or she may feel less stigma from using food stamps than someone who participates only in the Food Stamp Program. Lastly, this high participation rate may reflect a deeper level of need.¹⁷ The most

frequently reported income source is wages and salaries, 53.8 percent. While this is the most commonly reported form of income among eligibles, the participation rate is only 20 percent. For these eligibles, the peer group is other working households. For them, the stigma deterrent to participation may be greater, and their perceived need less.

Determinants of participation

By using a regression model which isolates the impact of each demographic characteristic on participation, a clearer picture of the relative importance of these characteristics in determining participation can be obtained. A probit model was estimated to accomplish this task.¹⁸

The probit results show that as income increases the probability of participation decreases.¹⁹ There are two ways to view this result. First, those who decide to participate do so because they are needier than those who do not participate. Second, the amount of the food stamp bonus will tend to be less for those with higher income, so after weighing the benefits against the costs, the benefits are too small to bring about participation for the higher income eligibles.

Other results from the probit model estimation are in line with the differences in characteristics already reported. The probability of participation is higher for consumer units with children or with a black reference person. The probability of participation is lower when the consumer unit has a reference person with some college education and owns its residence. Neither region of residence nor urban residence is significantly related to participation.

Another factor important in the probability of participation model is the consumer unit's income sources. Recipients of unemployment benefits and pensions are more likely to participate. Participation in other welfare programs is also strongly related to participation in the Food Stamp Program. In part, this probably reflects the reduced burden of applying for more than one program. However, as Czajka points out, it is not possible to determine if participation in other welfare programs induces participation in the Food Stamp Program or if participation in the Food Stamp Program induces participation in other programs.

To clarify the implications of these results, a representative consumer unit was selected and the probability of its participation calculated, using the probit coefficients.²⁰ This representative consumer unit is a husband and wife with one child under 6 years of age. The reference person is employed with a wage income of \$1,500 per quarter, the mean quarterly income for the entire sample of eligible consumer units. In addition, the reference person is white, a high school graduate, and the consumer unit rents its dwelling. The probability of this consumer unit participating in the program is 16 percent. If one characteristic

of the representative consumer unit is changed, holding all other characteristics constant, the probability of participation changes as well. For example, the probability of participating increases to 18 percent if another child under 6 years of age is included in the consumer unit. If the dwelling place is owned and not rented, the probability falls to 7 percent.

If the reference person is black the probability of participation is 24 percent. Should he or she have a college degree, the probability is 8 percent. The probability decreases even further to 4 percent if the reference person is age 60 or older and the child is older than 17. The probability of participation of a single parent consumer unit with two children under 6 is 29 percent.

The strength of the relationship between income source and participation is clearly evident. If the representative consumer unit remained the same in every way except that income came from unemployment benefits rather

than wages, the probability of participation would be 45 percent. If the income source is public assistance, the probability rises to 83 percent.

Conclusion

The elimination of the purchase requirement was intended to improve the level of participation in the Food Stamp Program. While the comparability of the overall participation rate found in this study with those found in past studies is limited, it appears that if an increase in the overall participation rate has taken place, it is not large. Furthermore, reasonable expectations that more highly educated eligibles and two-parent households would be encouraged to participate by the elimination of the purchase requirement are not supported by these findings. The pattern of uneven levels of participation across demographic groups has remained in this post-purchase requirement period. □

FOOTNOTES

¹See *The Food Stamp Act of 1964*, Public Law 88-525, 88th Cong., 1964 (H.R. 10222).

²See Christine Ranney and John Kushman, "Cash Equivalence, Welfare Stigma, and Food Stamps," *Southern Economic Journal*, April 1987, pp. 1011-27.

³Additionally, if the purchase requirement exceeded the usual food expenditure by the household, participation was discouraged.

⁴This point is more fully discussed in this article while exploring how the application burden could lead to differences in participation rates among demographic groups.

⁵For complete definitions of the terms used in the survey, see *Consumer Expenditure Survey: Interview Survey, 1984*, Bulletin 2267 (Bureau of Labor Statistics, 1986).

⁶For a complete description of data limitations, screening, and eligibility simulation, see Gregory M. Brown, "Food Stamp Program Participation and Non-Food Expenditures," paper delivered at the meeting of the Eastern Economic Association, Boston, MA, March 10-12, 1988.

⁷See Chuang Huang, L. Stanley Fletcher, and Robert Raunikar, "Modeling the Effects of the Food Stamp Program on Participating Households' Purchases: An Empirical Application," *Southern Journal of Agricultural Economics*, December 1981 pp. 21-28; and Donald A. West, *Effects of the Food Stamp Program on Food Expenditures: An Analysis of the BLS CES 1973-74 Diary Survey*, Research Bulletin XB0922 (Pullman, WA, Washington State University, 1984).

⁸No attempt was made to eliminate the demonstration Supplemental Security Income cash out areas.

⁹There are many reasons to suspect that this understates the participation rate. See Brown, "Food Stamp Program Participation and Non-Food Expenditures"; and Timothy Carr, Pat Doyle, and Irene Lubitz, *Turnover in the Food Stamp Program: A Preliminary Analysis* (Washington, DC, Mathematica Policy Research, 1984). The simulation also produced 66 seemingly ineligible participants. A likely explanation for their occurrence is that the use of quarterly averages of annual income doesn't adequately reflect the variations in income that lead these respondents to participation. Because the presence of these seemingly ineligible consumer units might distort the relationship between participation and income for participants, they were eliminated

from the sample. If they were included, the estimated number of eligible consumer units would be roughly 17 million, with 5.6 million participating, a participation rate of 33 percent. Whereas, if those consumer units with incomplete income information that were estimated to be eligible nonparticipants were eliminated, the participation rate would rise to 31 percent.

¹⁰See John L. Czajka, *Determinants of Participation in the Food Stamp Program in 1979: Spring 1979* (Washington, DC, Mathematica Policy Research, 1981); and Ranney and Kushman, "Cash Equivalence," p. 1012.

¹¹A *t*-test was used to test for the significance of differences in these characteristics. The *t*-statistic was based on the results obtained from estimating weighted regressions, and a significance level of alpha = .01.

¹²West, "Effects of the Food Stamp Program."

¹³An earlier work incorporating welfare stigma in a model of program participation is Robert Moffitt, "An Economic Model of Welfare Stigma," *American Economic Review*, December 1983, pp. 1023-35.

¹⁴See Carr, Doyle, and Lubitz, *Turnover in the Food Stamp Program*, p. 41. One reason why the elderly have a low turnover rate may relate to the reduced administrative burden they face. If all household members are 60 or older, and have no earned income, then they do not have to report monthly. See *Code of Federal Regulations* (Washington, DC, Superintendent of Documents, Government Printing Office, 1985), p. 499.

¹⁵The reference person is the first member mentioned by the respondent when asked to "Start with the name of the person or one of the persons who owns or rents the home." It is with respect to this person that the relationship of other consumer unit members is determined.

¹⁶See *Code of Federal Regulations*, p. 384.

¹⁷Czajka, *Determinants of Participation*.

¹⁸For a description of the probit model, see G.S. Maddala, *Limited-dependent and Qualitative Variables in Econometrics* (New York, Cambridge University Press, 1983).

¹⁹The probit model results can be obtained from the author.

²⁰The probability of participation equals $1 - F(-B'X_i)$, where F is the cumulative normal distribution, B' is the vector of probit coefficients, and X_i are the data describing the consumer unit.

A view of labor ministries in other nations

*Differing political and economic climates
have shaped a variety of agencies
to deal with labor issues
in industrial, developing, and Communist countries*

MORRIS WEISZ

The U.S. Department of Labor, now marking its 75th anniversary, has counterparts in more than 150 countries. But the scope and nature of these labor ministries differ substantially from those of the U.S. agency that was established in 1913. This article looks at labor agencies in various economic and political settings and compares them with the U.S. Labor Department.

What labor ministries do

As used here, the term "labor ministry" refers to the agencies of government (only infrequently called "departments") which deal with the bundle of functions related most directly to the interests of workers as producers.

In most industrial countries, as in the United States, one of the earliest manifestations of government involvement has been in the area of *labor statistics*, both because governments see the need to monitor events that are the basis for determining policies and because reformers who act on behalf of the disadvantaged demand factfinding from government.

Another labor issue of prime interest to government is *employment*, including job planning, estimating labor supply and demand, alleviating unemployment and underemployment, assisting employers and workers to adapt to fluctuations in job requirements through appropriate apprenticeship, training, migration, and relocation policies, and helping disadvantaged groups such as minorities and the physically handicapped.

Governments also are drawn into the *labor standards* area, where they formulate and enforce conditions of pay and working hours, regulate child labor, and enforce

standards in such areas as occupational safety and health and workers' compensation. It is in this area that the responsibility most frequently requires inspection and investigation.

Although the extent of *social insurance programs* varies greatly, most governments either enact laws or at least oversee practices governing old age insurance, unemployment benefits, preventive medicine, and health insurance.

Finally, *industrial relations* must come to the attention of governments, at least to the extent of ensuring the degree of industrial peace needed for the smooth operation of the economy. Depending on general political and economic conditions, and on the power of labor and employer groups, governments may reach beyond mediation and conciliation functions. Except for Great Britain and the United States, most countries also regulate the actual outcome of collective bargaining. The scope of legislation in recent years frequently included encouraging and assisting labor-management cooperation programs.¹

To carry out these functions, most governments go beyond their immediate staffs and consult advisory groups and experts from industry and academia, as well as other technical specialists. And, when controversial questions arise, governments frequently call on tripartite agencies to make the decisions. The decisions are carefully monitored by interest groups, which—when dissatisfied—sometimes seek to return to governments the decisionmaking authority granted to the tripartite agencies.²

Political and economic environment

Labor ministries are instruments of government, and are created in response to pressures on governments. In the United States, a history of effort by social reformers and trade unionists led to the establishment, first of the

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Bureau of Labor Statistics, and then the Department of Labor. From its very beginning, the Labor Department's functions, although quite limited, were protective of working people.

Political, economic, and social conditions differed sharply in other countries which had more limits on voting rights, greater poverty, a more rigid class structure, and lacked an open frontier. The trade unions and their associated labor and Socialist parties were relatively more powerful in Europe and often battled for total political power, rather than simply the creation of a "ministry." In this, they emulated European employers who gained political power as far back as the Elizabethan period and long had used the state to further their interests.³

Labor policies cannot be administered in a vacuum. Desirable policies may be impractical, and, conversely, undesirable policies may have to be accepted as necessary. The United States, for example, has found wage policies to be ineffective when prices could not be controlled. And other countries, finding their economic plans to be unrealistic because of worker shortages, became dependent on immigration which, in turn, caused other problems.

In comparing labor ministries, it is most useful to do so in terms of the two major determinants of a country's labor policy and practice—its political system and the stage of its economic development. This defines three major groups of countries: (1) the relatively well-developed market economies of the democratic world in Western Europe, the United States and Canada, Japan, Australia, and New Zealand; (2) the industrially less-developed economies consisting largely of the newly independent former colonies of some Western European countries; and, (3) the nonmarket Communist Party-controlled economies of the Soviet Union, the People's Republic of China, and associated countries.

Democratic market economies

As the birthplace of the Industrial Revolution, Great Britain is a good place to begin a review of how the modern state administers labor matters. Britain's social situation, combined with the class consciousness of both employers and workers, led to only a minimal role for government in developing a full, constructive labor program.

During periods of severe economic distress or during emergencies, British governments did address labor problems more actively, but were only partially successful in solving them. In the industrial relations field, alternate victories by Labor and Conservative Governments have not achieved consensus or compromise; they have more often simply substituted one extreme policy for another. In such other fields as training, apprenticeship, and

scientific development in the post-Sputnik era, better results were achieved, but the accomplishments did not match those of most other industrial countries.

Sweden has developed innovative programs which go beyond mere reaction to emergencies. The most far-reaching gives the Swedish National Labor Market Board the responsibility for achieving a balance between worker supply and demand. This Board initiates training, vocational guidance, and rehabilitation programs; payments to workers threatened with layoff; financial support for public works undertaken by their national or local government; and wage subsidies for companies creating new employment, especially in areas where the government has decided that social or defense policy requires new employment.

The Board's decisions are accepted by all concerned because of the general stability of Swedish society and because the Board consists of eleven members, six representing labor and one each representing management, women, and farmers, plus a director and deputy director.

It is this participation in the Board's decisionmaking process that leads to the general acceptance of its other major activity: monitoring wage and price changes. The Board's extensive (and expensive) labor market policies could have serious inflationary effects without price and wage controls. A centralized collective bargaining system, in combination with effective discipline within the trade union and employer groups ensures that the bargaining results will fall within the board's established guidelines.

The administration of labor functions in Austria has reached a stage similar in many respects to that in Sweden. In Austria, however, policy consensus was forced on the country during the four-power military occupation that followed World War II.⁴ Strong trade union and employer organizations disciplined their constituents into accepting a wage-price policy which ensured noninflationary growth. Under a tripartite agreement, labor acceded to moderate wage demands, industry agreed to curtail price increases, and the government promised to reduce tariffs and control monopolies.

If we think of Great Britain as being at one extreme in a continuum of degrees of State intervention in labor-management relations—that is, with employers and unions having the greatest freedom to determine both the procedure and content of collective bargaining—then Australia and New Zealand are at the other extreme. For it is in those two countries that novel systems of supplementing collective bargaining with compulsory arbitration were instituted at the turn of the century.

But these systems, under which independent commissions arbitrate among government, employer, and trade union proposals, has resulted in considerable dissatisfaction: Governments claim that commission decisions generally feed inflation; trade unions charge that they

unfairly limit the unions' economic power; and employers complain that they raise employment costs without reducing strikes. Yet, none of the parties wish to do away with the system because it is "the Devil they know."⁵

In Japan, under General Douglas MacArthur's proconsulship, the U.S. occupation after World War II sought to fashion labor policies in the image of those in the United States. At the same time that the U.S. National Labor Relations Act was under critical scrutiny, with the objective of limiting some of the rights given workers under its terms, the American forces in Japan took an opposite course in that country.⁶

Japan's new labor ministry became practically a carbon copy of the U.S. Department of Labor. It soon became apparent, however, that indigenous factors argued for making changes in Japan's complex system of laws and administration. The changes began as early as 1947, with the perceived need to limit strikes in the public sector. The inability of the Japanese social and economic structure to adapt to some of the elements of the U.S. industrial relations system, together with the Japanese Government's desire to fashion its labor practices so as to ensure a successful economic program, has resulted in a structure of labor administration which may seem strange by U.S. standards but fits Japan's current needs. Thus, Japan has retained ministerial functions in such fields as wages and hours, safety and health standards, welfare, protection for women and youth, and statistics. But Japan has also instituted an active labor market policy which contributes to its success in international trade competition.

Developing countries

The United Kingdom has had a profound and lasting influence on the structure, legal system, and methods of operation of the labor ministries of its former colonies and dependencies.⁷ In the smaller colonies, British officers themselves handled labor inspections, labor exchanges, regulation of unions and industrial relations procedures, labor standards, and disputes settlement. In India, because of its size and its relatively large Western-educated elite, Great Britain concentrated on establishing the Indian civil service, including a number of indigenous labor specialists who were to become the staff of labor and other ministries after independence.

Similarly, the United States had significant influence on the labor policies of the Philippines. Yet, that country opted for a system of compulsory arbitration rather than a collective bargaining system, as the United States would have preferred. Compulsory arbitration conformed to the legal procedures inculcated in Philippine society during 3½ centuries of earlier Spanish rule. In most other respects, however, the Philippines labor administration is much more like that of the United States.⁸

The United States also helped shape labor policies and institutions in Europe and Japan through its post-World War II military occupations, in Greece and Turkey under the Truman Doctrine, and later in most of Western Europe under the Marshall Plan. The United States provided assistance in terms of both funds and personnel; staff of the U.S. Government, as well as that of the trade union movement participated. But the U.S. effort to aid "early stage" developing countries during the last few decades has been much less successful.

The labor aspects of industrial development became the responsibility of the labor ministries in the newly independent States and had to be dealt with rapidly because of the political impatience and dire economic needs of the population. But this task was more massive and difficult than that of European reconstruction; it involved not simply rebuilding a destroyed industrial complex, but the more difficult mission of creating, in former colonies, a political infrastructure capable of recruiting and training the needed labor force.

Labor ministries have great difficulty administering labor standards policies because political leaders of a newly independent country are under pressure to show practical results. Within the International Labor Organization (ILO), pride impels these countries to support adoption of labor standards instruments which may be unrealistic in terms of their domestic situations, and cannot realistically be enforced.

When such anomalies are called to the attention of labor ministry officials, they offer a reasonable explanation: The existence in law of an unenforced standard provides a goal for striving to attain and constitutes a weapon to be used by the minister within the cabinet and by the permanent civil servants in their bureaucratic battles for turf and budget.

Nevertheless, the need for investment is so great in these "early stage" developing countries, that it is not unusual for labor ministry officials to encourage investment from abroad with implicit offers not to enforce labor standards.

There is another factor to consider with respect to labor standards: In industrially developed countries, standards regarding safety and health, workers' compensation, and minimum wages often are cost-effective in the long run. In the "early stage" developing countries, this cannot be seen, largely because of the state of the economy and the health of the people; it is too tempting to the normal employer to accept the short-term advantage of having lots of unemployed workers available to replace active workers who become sick or are injured.

In one respect, labor standards practices are more generous in "early stage" developing societies than elsewhere. In the face of barely subsistence wages, employers generally award bonuses in accordance with local custom or legislation. The bonuses amount to as much as a month's wages, and are paid during a major holiday period to

provide workers with money for buying gifts. Also, significantly large provident funds are sometimes awarded to employees upon retirement, permitting them to live comfortably without working, or to buy a home, or to open a small business.

Perhaps the greatest dilemma confronting the "early stage" developing country in the labor field concerns industrial relations. In many cases, the movement which had gained freedom from colonial domination was led by trade unionists, so there is a political debt to be paid. In fact, some of the earliest post-independence national leaders had trade union credentials (Gandhi in India, Sekou Toure in Guinea, Nkrumah in Ghana, and Lee Kwan Yew in Singapore, are a few that come to mind), so there is an understandable desire for these countries to maintain a firm political base in the trade union movement by supporting demands for higher wages. On the other hand, the newly independent entity must have effective authority to encourage foreign aid and investment, as well as to maintain firm political control. Thus begins the effort to achieve noninflationary growth while minimizing interference with trade union rights and effective collective bargaining.

The results have not been promising, and there have been more cases in which the state's development program has taken precedence over free trade unionism than the reverse. A limited number of experiments with workers' participation programs have shown signs of progress, but only where the employers have genuinely been willing to share the costs of contributing to overall development plans.

The least controversial area of labor ministry operations in developing economies clearly has been in labor statistics, where the desire for information is universal, and the only limitations on progress have been caused by lack of funds or the absence of qualified staff. This is another instance in which the ILO's assistance program has been useful, especially because the ILO needs comparative statistical data for its own programs.

Communist-controlled countries

The major difference between the administration of labor policies in the Communist-controlled countries and that in other countries is that the theoretical base for organizing and administering the labor market is so rigid in Communist countries that any adjustment threatens the power structure.⁹ The changes occasionally introduced or experimented with, both with respect to a freer labor market and improved labor conditions have not corrected the basic flaws in the system of labor administration; the flaws have simply been covered with words. Hungary is an example of relatively effective introduction of market economy steps, but the government there has maintained a rigid control over labor. And, when tenta-

tive steps have been permitted in the direction of labor freedom, as in Poland, a crackdown is soon deemed necessary.

The body of labor legislation and practice in the Soviet Union (and with minor differences in other Soviet Bloc countries) is as large as it is in other countries. Laws exist covering hiring, dismissal, wages and hours, labor disputes, collective agreements, safety and health, workers' compensation, social insurance, training, and so forth. The enforcement of any of these laws may be extensive, but is subject to the institutionalized oversight of the Communist Party. That is, beyond the normal situation in any other type of society—where laws may be subject to selective enforcement on the basis of individual maneuver, personal influence, favoritism, bribery, and so forth—in the Soviet system, official Party policy ultimately decides all, and no challenge to that authority is permitted.¹⁰

None of the recent changes in China's political posture has indicated a shift in its similarity to the Soviet Union's system of controlling labor administration. The substantive regulations covering the operation of the labor market is changing in some respects, but the importance of the Party remains a constant factor.

Providing and receiving assistance

In the 1930's, the United States was on the receiving end of international assistance, with many foreign experts helping to establish the U.S. Social Security system. Since World War II, with the internationalization of the world's economy and the increased scope of America's interests abroad, the Department of Labor itself has been engaged in a variety of assistance efforts.

Beginning with the military occupation programs in Europe and the Far East and continuing later with the economic assistance programs in all parts of the world, there frequently were situations in which labor problems inhibited the progress of entire programs, or in which the prospects for the success of such programs could be enhanced if more attention was given to labor considerations. In these circumstances, the Department of Labor was often called upon to provide help.

The type of international assistance given by the Labor Department has been as varied as the scope of its domestic activities. Mainly, assistance has involved the training of personnel in the development and administration of labor policies and practices in all aspects of industrial relations, in labor standards regulation and enforcement, in worker training and allocation, or in labor statistics.

The assistance has also varied depending on the need and the availability of expertise. Staff members have been assigned abroad for short periods or have been seconded for longer assignments to other U.S. Government agencies (or to such international agencies as the ILO);

individual foreign leaders have been invited to meet with counterparts in the United States; and groups have been brought to the United States for training. One of the longest ongoing assistance programs has been that offered in the field of labor statistics where, each year, foreign statisticians are offered the opportunity for detailed training in the Bureau of Labor Statistics.

Currently, the Department continues to share its experience with foreign groups brought here under the auspices of

the Agency for International Development (AID), as well as with individual leaders sponsored by the U.S. Information Agency (USIA); occasionally, it is able to meet requests for staff members to engage in AID or USIA programs overseas. It also participates in the variety of multilateral labor programs of the ILO and the Organization for Economic Cooperation and Development. On a bilateral basis, the Department sponsors ministry-to-ministry consultations with a number of its counterparts abroad. □

—FOOTNOTES—

¹The International Labor Organization has issued a series of publications providing details of the origin and functioning of labor ministries. See International Labor Conference, 36th Sess., *Record of Proceedings, 23rd Sitting* (ILO, Geneva, 1953), pp. 284–87, 419–22; Michel Wallin, *Labour Administration: Origins and Development* (Geneva, International Labor Organization, 1976); International Labor Conference, 61st Sess., *Report V(1), Labour Administration* (Geneva, International Labor Organization, 1976); and J.I. Husband, *Labour Administration* (Geneva, International Labor Organization, 1980).

²For a discussion of the function of labor representation in government, see Jack Barbash, *Trade Unions and National Economic Policy* (Baltimore, Johns Hopkins Press, 1972), pp. 190–93.

³W. Stanley Jevons, *The State in Relation to Labour*, 2d. ed. (London, Macmillan and Co., 1887). Other observations by Jevons are of interest today. After searching back to Elizabethan times, he concluded:

. . . the great lesson which we learn, and it is an impressive one, is that legislation with regard to labour has almost always been class-legislation. It is the effort of some dominant body to keep down a lower class, which had begun to show inconvenient aspirations. (p. 166)

. . . [under the Elizabethan Statute of Labourers] hours of labour were prescribed, not, as in our Factory Acts, by way of limitation, but by impression . . . Thus [from mid-March to mid-September] the legal day's work was to be twelve hours at the least. (pp. 33–34)

Jevons studied other forms of such "interference," including factory inspection, trade union regulation, the concept of industrial conspiracy, cooperation and industrial partnership, and arbitration and conciliation. He points to the seemingly contradictory nature of his own views as he has presented them—condemning the "slavery" of the apprenticeship system, for instance, yet supporting the State's protective legislation as exercised in the Factory Acts—and explains such seeming paradoxes as being only superficial:

The subject is one in which we need above all things—discrimination. Restrictions on industry are not good nor bad *per se*, but according as they are imposed wisely and with good intentions, or foolishly, and with sinister intentions.

* * *

We must neither maximise the functions of government at the beck of quasi-military officials, nor minimise them according to the theories of the very best philosophers. We must learn to judge each case upon its merits, interpreting with painful care all experience which can be brought to bear upon the matter. (pp. 165–66)

⁴A number of events helped shape labor developments in Europe: (1) the harsh Nazi occupation and internment practices which served to build a unified underground movement in a number of countries, where diverse religious, social, and class groups were brought together in common misery and for a joint purpose; (2) U.S. Marshall Plan assistance, with its requirement that recipient governments follow certain standards of progressive labor policies; and (3) the insistence of Communist-controlled unions following the Soviet Union's policies of opposing Marshall Plan aid and, thus, helping overcome Socialist, Catholic, and other doctrinal differences among non-Communist unions.

⁵W.R. Dymond, Nils Kellgren, and Morris Weisz, *Manpower Policy in Australia* (Paris, Organization for Economic Cooperation and Development, 1975), pp. 54–58.

⁶See *Labour Administration in Japan* (Tokyo, Ministry of Labour, 1980), p. 5:

The essence of the Allied Powers General Headquarters' policy for Japan was promotion of complete democratization of the country. As one facet of this policy, a concentrated program of fostering and protecting the growth of trade unionism was pushed.

The right of the workers to organize, to bargain and act collectively is guaranteed under the new Constitution. Further, with the establishment of the Trade Union Law (1946), and the Labour Relations Adjustment Law (1946), new labour-management rules were formulated and union activity developed rapidly thereafter.

⁷Interesting details of the types of assistance and control exercised by the home government, sometimes indirectly through the British Trades Union Congress, appear in three publications: Colonial Office, *Labour Supervision in the Colonial Empire, 1937–1943*, Colonial No. 185 (London, His Majesty's Stationery Office, 1943); Colonial Office, *Labour Administration in the Colonial Territories, 1944–1950*, Colonial No. 275 (London, His Majesty's Stationery Office, 1951); and Central Office of Information, *Labour in the United Kingdom Dependencies*, R.F.P. No. 3317 (London, His Majesty's Stationery Office, 1956).

⁸Johannes Schregle, *Negotiating Development: Labour Relations in Southern Asia* (Geneva, International Labour Organization, 1982), p. 39.

⁹See *Rules of the Trade Unions of the U.S.S.R.* (Moscow, Trade Union Publishing House, Profizdat, 1959). Some excerpts illustrate the nature of Party-trade union relationships:

The Soviet trade unions conduct all their activities under the guidance of the Communist Party of the Soviet Union, the organizing and directing force of Soviet society. The trade unions of the U.S.S.R. rally the masses of workers and other employees around the Party and mobilize them for the struggle to build a communist society. (p. 7)

* * *

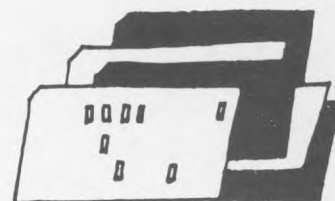
The central task of the trade unions is to mobilize the masses for the work of greatly advancing all the branches of national economy, the further strengthening the economic might and defensive power of the Soviet Union, fulfilling and overfulfilling the national-economic plans . . . (p. 8)

* * *

The trade unions are built up on the principles of democratic centralism, which means that (a) all trade-union bodies from the bottom up are elected by the membership and are accountable to them; . . . (d) lower trade-union bodies are subordinate to the higher ones. (p. 22)

¹⁰See Michel Wallin, *Labour Administration*, pp. 13–14: "On 3 June 1933 the Central Executive Committee of the USSR issued an order for the amalgamation of the Commissariat [Ministry] of Labour of the USSR and all its local organs, including the social insurance authorities, with the Central Council of Trade Unions and its local organs, and the transfer to the Council of the functions of the Commissariat. The unions were already responsible for enforcing legislation and implementing labour policy."

Research Summaries



Finance, insurance, and real estate: employment growth during 1982-87

THOMAS NARDONE

On October 19, 1987, the stock market had its largest 1-day loss in history. The crash on "Black Monday" raised questions about the future strength of the finance, insurance, and real estate industries. Between late 1982 and 1987, rising real estate and financial markets made this group—often referred to as "financial services"—the source of 1.3 million new jobs.

Job growth among the principal components of the group has been uneven, however.¹ Increased competition brought on by deregulation in some industries affected both the extent and composition of employment growth. Indeed, in some areas there was little change in employment.

In December 1987, employment in the financial services was 6.6 million, up 24 percent from the end of 1982.² Total nonfarm employment grew by 17 percent. Pronounced differences occurred within the major components of finance, insurance, and real estate. (See table 1.) Over the 5-year period, holding and investment companies, securities and commodities firms, nonbank credit agencies, insurance agencies, and real estate firms typically had much higher growth rates than insurance carriers and banks. (See table 2.) The last two industries, however, made up over half of the total employment in the finance, insurance, and real estate group in 1982.

The real estate and financial markets were the major forces behind the job gains in financial services. Falling interest rates and the start of the economic recovery in late 1982 led to sharp gains in housing sales and commercial real estate activity, directly boosting employment in real estate development and sales firms. Activity in real estate markets also raised employment in related industries, such as title insurance, savings and loan institutions, and mortgage banking. In addition, there was a massive refinancing of mortgages when interest rates fell

Table 1. Employment in finance, insurance, and real estate, December 1982 and 1987, not seasonally adjusted.
[Numbers in thousands]

Industry	Employment		Percent change, 1982-87
	1982	1987	
Finance, insurance, and real estate	5,346	6,601	23.5
Finance	2,668	3,296	23.5
Banking	1,653	1,731	4.7
Commercial and stock savings	1,503	1,560	3.8
Mutual savings	72	85	18.1
Credit agencies, except banks	597	890	49.1
Savings and loans	274	399	45.6
Personal credit	196	241	23.0
Business credit	37	58	56.8
Mortgage bankers and brokers	68	167	145.6
Securities, commodity brokers, and services	284	465	63.7
Holding and investment companies	135	210	55.6
Insurance	1,715	2,047	19.4
Insurance carriers	1,233	1,435	16.4
Life insurance	546	590	8.1
Medical and health	143	200	39.9
Fire, marine, and casualty	474	542	14.3
Title	38	56	47.4
Insurance agents and brokers	481	612	27.2
Real estate and combined offices	963	1,258	30.6
Real estate	946	1,248	31.9
Real estate operators and lessors	471	536	13.8
Real estate agents and managers	345	534	54.8
Subdividers and developers	111	145	30.6

in 1986. Reflecting these developments, employment in the relatively small mortgage banking industry more than doubled from late 1982 to 1987.

Over the 5-year period, the securities markets were buoyed by the economic recovery, lower interest rates, and a rash of corporate takeovers. Trading of stocks and bonds as well as of other financial instruments surged. Between September of 1982 and 1987, the value of stocks traded rose 221 percent.³ The development of worldwide financial markets, made possible by advances in telecommunications, also contributed to heightened financial activity and employment growth in the securities and investment industries.

While events in the real estate and financial markets accounted for the bulk of the employment growth in financial services, other factors shaped employment trends in some industries. The above-average job growth in medical and health insurance firms, for example, reflected the continuing rise in demand for health care

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and for new means of financing rapidly advancing health costs.

Increased competition also affected employment growth. Since the 1930's, many financial services had been tightly regulated. Regulations limited the interest rates that banks and savings and loans could pay, the types of loans they could make, and the geographic areas they could serve. At the same time, regulation provided institutions with profitable niches in the financial services market. Banks had been the sole source of demand deposits and the main source of commercial loans; savings and loans handled most mortgage financing; and securities firms and investment banks sold and underwrote stocks and bonds. Competition among the major financial service industries and even within industries was limited. Interest rate volatility altered this characteristic of the financial service market.

Rising interest rates during the mid-1970's increased the competition for funds among the components of the financial services industry. As there was an increase in the opportunity costs of money kept at banks and savings and loans, with their regulated below-market interest rates, individuals and businesses sought alternative places for their deposits. In response, the securities industry introduced money market mutual funds that offered checking service and market interest rates.⁴ This development and the expansions into other financial services, such as commercial lending, contributed to the employment gains in the securities industry. Not all securities firms prospered in this climate of increased competition, however. There were signs, even before the "Black Monday" crash, that the increased competition was leading some firms to halt or reverse employment growth. The crash has halted, at least temporarily, the sharp employment growth in the securities industry.⁵

Developments in computing and telecommunications equipment were also important catalysts to the expansion of competition in financial services. Many financial services traditionally provided by banks and insurance firms, such as checking and claims settlement, are costly tasks that require a large administrative work force. Advances in computers and telecommunications have

Table 2. Annual growth rate of employment in finance, insurance, and real estate, 1982-1987, years ending in December

Industry	1982-83	1983-84	1984-85	1985-86	1986-87
Total nonagricultural industries	3.9	4.3	2.7	2.0	3.4
Finance, insurance, and real estate	4.0	4.1	5.3	5.3	2.9
Finance	4.9	3.5	5.1	5.6	2.5
Banking	0.7	1.3	1.9	1.1	-0.3
Credit agencies except banks	11.5	7.8	8.8	10.9	2.8
Securities and commodities firms	15.7	4.0	7.8	13.6	11.2
Holding and investment companies	4.5	7.9	17.9	9.7	7.2
Insurance	0.6	3.8	4.6	5.8	3.3
Insurance carriers	-0.5	2.7	5.1	5.2	3.1
Insurance agents and brokers	3.6	6.5	3.7	7.2	3.7
Real estate and combined offices	7.2	6.6	6.6	3.5	2.8
Real estate	7.5	6.8	6.8	3.8	3.7
Combined offices	-12.4	-6.1	-5.0	-17.4	-8.3

enabled banks and insurance companies to keep up with the paperwork involved, while cutting their administrative support staff. However, the technology also allowed other financial institutions to economically offer services previously available only through banks and insurance companies. The technology even made feasible the opening of financial service centers in supermarkets and department stores.⁶

Services like the money market fund placed securities firms in direct competition with banks, thrifts, and insurance companies. In response, banks and thrifts sought and received the right to offer competitive financial instruments and new financial services.⁷ Savings and loans received the right to make consumer loans and offer checking accounts, in addition to their traditional mortgage lending. Many thrifts added branches and increased employment to expand their customer base. Banks and insurance companies also experimented with new services and products; however, market conditions forced them to restrict employment growth to hold down costs. Banks, for example, faced huge losses from their loans to developing countries. Banks

Table 3. Percent distribution of employed persons in finance, insurance, and real estate, annual averages 1983 and 1987

Occupation	Total		Finance		Insurance		Real estate	
	1983	1987	1983	1987	1983	1987	1983	1987
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	22.3	24.5	28.8	30.5	12.3	15.6	22.9	24.2
Sales	23.2	23.9	8.3	10.5	34.2	32.0	36.4	37.3
Administrative support	42.8	40.3	56.3	52.5	46.0	45.3	14.7	14.9
Other	11.8	11.2	6.7	6.4	7.5	7.0	26.0	23.6

Table 4. Changes in employment in finance, insurance, and real estate, by occupation, 1983-87

[Numbers in thousands]

Occupation	Number	Percent
Total	1,252	100.0
Managerial:		
Underwriters	161	12.9
Property and real estate managers	87	6.9
Financial managers	39	3.1
Accountants and auditors	50	4.0
Sales:		
Real estate sales	204	16.3
Securities and financial service sales	107	8.5
Insurance sales	-7	-0.6
Administrative support:		
Secretaries	2	0.2
Bank tellers	-13	-1.0
Bookkeepers, accounting and auditing clerks	2	0.2
Insurance adjusters, examiners, and investigators	58	4.6
Investigators and adjusters, except insurance	76	6.1
General office clerks	17	1.4
Computer equipment operators	61	4.9
Other occupations:		
Janitors and cleaners	14	1.1
Computer systems analysts and programmers	25	2.0
All other occupations	369	29.5

limited branching and both they and insurance firms used technology to control the size of their administrative work forces.

Employment by occupation

What types of jobs has the growth in financial services created? Are they the low-skilled administrative positions popularly associated with these industries? Or are the new jobs concentrated in other occupations?

Employment in financial services has been concentrated in three occupational groups: the executive, administrative, and managerial category; the administrative support group; and the sales group. In 1987, these occupations accounted for about 9 of 10 jobs in the finance and insurance industries and for about 3 of 4 in real estate. In the period 1983 to 1987,⁸ the percent change in employment growth among these occupational groups was as follows:

	Total	Finance	Insurance	Real estate
Total	19.2	17.6	14.6	27.8
Executive, administrative, and managerial ..	31.1	24.9	45.5	35.4
Sales	23.2	50.0	7.1	31.0
Administrative	12.4	9.7	12.9	29.2
Other	14.0	13.4	8.2	16.0

The proportion of administrative support workers declined in most financial service industries, while the

proportion of managers rose. (See table 3.) An exception was the savings and loan industry, in which the proportion of managers declined and that of administrative support workers rose. This may have occurred as a result of the expansion by savings and loan associations into such services as checking that require a large administrative staff.

Employment gains among salesworkers in finance were concentrated in the securities industry, which was handling a growing volume of transactions as well as expanding product lines. The insurance industry, in contrast, limited the growth of its sales force to compete with the other institutions entering the field. Using their computer technology, banks and other firms marketed insurance through mass mailings. This method of selling offered significant savings over the large system of agents traditionally used by insurance companies. To compete, insurance firms had to limit the growth of their sales forces.⁹ The general shift in occupational employment away from administrative support to managerial and sales jobs is expected to continue through the year 2000.¹⁰

Much of the change in employment in financial services occurred in a small number of specific occupations. (See table 4.) Administrative occupations such as secretaries and bank tellers contributed very little to the employment growth in financial services. In contrast, five occupations—real estate salesworkers, underwriters, securities and financial service sales workers, property and real estate managers, and investigators and adjusters, except insurance—accounted for half of the employment gains. □

—FOOTNOTES—

¹The finance, insurance, and real estate group comprises three major industries divided into eight two-digit Standard Industrial Classification industries as follows:

- Finance
 - Banking (SIC 60);
 - Credit agencies, except banks (SIC 61);
 - Security and commodity brokers and services (SIC 62);
 - Holding and investment offices (SIC 67);
- Insurance
 - Insurance carriers (SIC 63);
 - Insurance agents, brokers, and services (SIC 64);
- Real estate
 - Real estate (SIC 65);
 - Combined real estate, insurance, and law offices (SIC 66).

²The data on employment in the finance, insurance, and real estate industries are from the Current Employment Statistics survey. The CES survey has a monthly sample of about 20,000 establishments in this group of industries nationwide. Information on occupational employment within the industries is from the Current Population Survey, a monthly sample survey of 55,800 households nationwide.

³Securities and Exchange Commission, *Monthly Statistical Review*, December 1982, Table M-110, and November 1987, Table M-120.

⁴Kerry Cooper and Donald R. Fraser, *Banking Deregulation and the New Competition in Financial Services* (Cambridge, MA, Ballinger Publishing Co., 1984), p. 190.

⁵"Wall Street's Credibility Gap," *Business Week*, Nov. 23, 1987, pp. 92-99; Kenneth N. Gilpin, "1,000 Jobs To Be Cut At Kidder," *The New York Times*, Dec. 5, 1987, pp. 37 and 39; "The Big Chill on Wall Street," *Business Week*, Dec. 7, 1987, pp. 54-56; Kenneth N. Gilpin, "Wall Street Gripped by Layoff Fear," *The New York Times*, Dec. 7, 1987, p. 5; Steve Swartz, "Kidder Layoffs Bolster the View More Are Likely," *The Wall Street Journal*, Dec. 7, 1987, p. 4; G. Christian Hill, "Schwab to Curb Expansion, Tighten Belt Because of Post-Crash Trading Decline," *The Wall Street Journal*, Dec. 7, 1987, p. 4; and "Boom Ends for Financial Services Firms," *The Wall Street Journal*, Dec. 11, 1987, p. 6.

⁶Cooper and Fraser, *Banking Deregulation*, p. 193.

⁷Two significant pieces of financial legislation were passed in the early 1980's: "Depository Institutions Deregulation and Monetary Control Act of 1980" and the "Garn-St Germain Depository Institutions Act of 1982." These laws allowed savings and loans to invest part of their assets in consumer loans and to offer demand deposits, eliminated interest ceilings on deposits, authorized money market accounts for banks and savings and loans, and took other steps to bolster those industries. See Cooper and Fraser, *Banking Deregulation*, pp. 20-23.

⁸Data for 1982 could not be used to make comparisons because of the adoption of a Standard Occupational Classification-based coding system by the CPS in 1983. For further information on the change in occupational classification, see Gloria Peterson Green, Khoen tan Dinh, John A. Priebe, and Ronald R. Tucker, "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings*, February 1983, pp. 7-15.

⁹Alan Gart, *Banks, Thrifts, and Insurance Companies Surviving the 1980's* (Lexington, MA, D.C. Heath and Co., 1985), p. 8.

¹⁰George T. Silvestri and John M. Lukasiewicz, "A look at occupational employment trends to the year 2000," *Monthly Labor Review*, September 1987, pp. 46-63.

BLS to publish quarterly data from Consumer Expenditure Survey

MAUREEN BOYLE

Expenditures for many consumer items vary by season. For example, purchases in the fourth quarter are higher for many apparel and entertainment items due to holiday spending. Specifically, the average expenditure for jewelry and watches in the fourth quarter is double that in any other quarter, and television, radio, and sound equipment purchases are a third higher. Quarterly expenditure data are useful for discerning these seasonal movements, as well as for assessing economic changes more quickly. Examining quarterly expenditures provides information that may be masked in annual results.

The Interview portion of the Consumer Expenditure Surveys is a quarterly survey. In the past, however, annual estimates have been published based on one or two years of

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data. In the fall of this year, with the release of survey results from second-quarter 1987, the Bureau will begin publishing quarterly data. The quarterly estimates are presented at annual rates. That is, the values refer to expenditures in the particular quarter but are multiplied by 4. This facilitates analysis in relating expenditures to income and comparisons with earlier annual data. Tables 1 and 2, based on data from the first quarter of 1987, illustrate the type of information that will be available in the new quarterly release.

With the quarterly publication of data, the estimates will be available to users sooner than in the past. However, there are limitations to these estimates. First, for some analytical uses, seasonally adjusted data are desired. BLS is currently working on seasonally adjusting the expenditure survey data. An approximation of seasonal adjustment can be obtained by comparing any quarter with the same quarter of a year ago or earlier years. The analysis of trend data presented in this report follows this practice.

Second, there are fewer reports in a quarter for infrequently purchased items than there are for a year. For example, the percent of consumer units¹ reporting vehicle purchases is approximately 6 percent per quarter. On the other hand, gasoline and motor oil, which is a recurring expense, is reported by approximately 88 percent of the consumer units interviewed per quarter. A sufficient level of reporting is required in order to obtain statistically reliable estimates. Therefore, the tables based on quarterly data show less detail than those based on annual data.² For the same reason, the information on characteristics of consumer units is also shown with less detail than that released based on a year's worth of data. For example, units with reference persons³ ages 25 to 34 and 35 to 44 have been collapsed into one age group, 25-44.

Seasonal variations

When comparing unadjusted quarterly data, seasonal variations become apparent. The top portion of table 3 shows each expenditure as a share of total expenditures for the period 1984 to the first quarter of 1987. A sample of the seasonal changes that can be observed in the Consumer Expenditure Survey data are discussed below. Chart 1 highlights some of these changes.

- Owned dwellings increased as a share of total expenditures in each of the fourth quarters as compared to the first three quarters. Most of this increase is due to the fact that many consumers pay their property taxes at the end of the calendar year.
- Because of the holidays, entertainment and apparel increased as a share of total expenditures in all of the fourth quarters examined (chart panel 4). In dollar terms, the average expenditure for jewelry and watches

is at least twice as high in the fourth quarter as in other quarters. Expenditures for other apparel items, such as coats and sweaters, also are higher in the fourth quarter. As a share of total expenditures, total entertainment—which includes televisions, radios, sound equipment, and photographic equipment and supplies, as well as admissions—is about 25 percent higher in the fourth quarter than in the three preceding quarters of the year.

- Utilities, fuels, and public services increase as a share of total expenditures in the first quarter, when the weather is coldest (chart panel 1).
- Transportation as a share of total expenditures peaks in the second quarter, largely because of vehicle purchases (chart panel 2). However, the average expenditures for public transportation, which includes airline fares and leased and rented vehicles, are higher during the third quarter when most families take vacations.
- During the busy summer months of July, August, and September, families eat out more often. This is reflected in

both the increase in dollars spent and in the share of total expenditures allocated towards food away from home (chart panel 3).

Year-to-year changes

The bottom portion of table 3 shows percent changes in selected types of expenditures from the same quarter a year earlier, for the period 1984 to first-quarter 1987. Among the noteworthy findings:

- Expenditures for utilities, fuels, and public services decreased slightly in the first two quarters of 1985, compared to the same quarters in 1984. There was a slight increase in expenditures for the third and fourth quarters of 1985 as against the respective quarters of 1984. For 1986, expenditures again decreased from the year-earlier period in the first two quarters, increased in the third quarter, and decreased in the fourth quarter. A 2-percent decrease in these expenditures was

Table 1. Selected characteristics and yearly expenditures of all consumer units, by quintiles of before-tax income, average annualized data for first-quarter 1987

Item	All consumer units	Complete reporters of income						Incomplete reporters of income
		Total	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent	
Number of consumer units (in thousands).....	93,865	84,570	16,885	16,906	16,934	16,911	16,934	9,295
Number of sample interviews.....	11,779	10,584	2,047	2,057	2,098	2,174	2,208	1,195
Consumer unit characteristics								
Income before taxes ¹	\$26,421	\$26,421	\$3,912	\$11,297	\$20,054	\$32,429	\$64,332	(2)
Size of consumer unit.....	2.6	2.6	1.9	2.2	2.6	3.0	3.2	2.5
Age of reference person.....	46.9	46.8	49.9	50.9	44.9	42.7	45.3	48.2
Number in consumer unit:								
Earners.....	1.4	1.4	.7	1.0	1.4	1.8	2.1	1.2
Vehicles.....	2.0	2.0	1.0	1.4	2.0	2.6	2.9	1.9
Children under 18.....	.7	.7	.5	.6	.7	.9	.9	.6
Persons 65 and over.....	.3	.3	.4	.5	.3	.1	.1	.3
Total expenditures.....	\$21,523	\$21,852	\$10,347	\$13,529	\$18,435	\$25,556	\$41,351	\$18,531
Food.....	3,362	3,339	2,037	2,453	3,097	3,880	5,224	3,566
Housing.....	6,827	6,822	3,864	4,701	5,768	7,465	12,299	6,876
Shelter.....	3,880	3,852	2,159	2,660	3,289	4,197	6,948	4,135
Owned dwellings.....	2,193	2,169	747	954	1,390	2,502	5,247	2,415
Rented dwellings.....	1,316	1,314	1,232	1,574	1,693	1,331	740	1,339
Other lodging.....	370	369	180	131	207	364	961	381
Utilities, fuels, and public services.....	1,812	1,806	1,269	1,508	1,686	2,033	2,531	1,871
Household operations and housefurnishings and equipment.....	1,135	1,164	437	533	793	1,235	2,820	870
Apparel and services.....	865	862	380	460	717	941	1,808	895
Transportation.....	3,966	4,034	1,524	2,425	3,478	5,273	7,461	3,344
Gasoline and motor oil.....	832	832	430	600	813	1,064	1,251	831
Other transportation expenses.....	3,134	3,202	1,094	1,825	2,665	4,209	6,211	2,513
Health care.....	1,038	1,051	638	985	1,034	1,111	1,485	926
Entertainment.....	899	913	425	451	821	1,069	1,799	772
Miscellaneous and all other expenses.....	4,566	4,831	1,478	2,053	3,520	5,817	11,274	2,153

¹Income values are derived from "complete income reporters" only. In general, these are consumer units which provided values for at least one of the major sources of their income, such as wages and salaries, self-employment income, and Social Security income. (Please note that even complete income reporters may not have provided a full accounting of all income from all sources.)

²Not available.

reported in the first quarter of 1987, similar to the year-to-year decline noted for the first quarter of 1986.

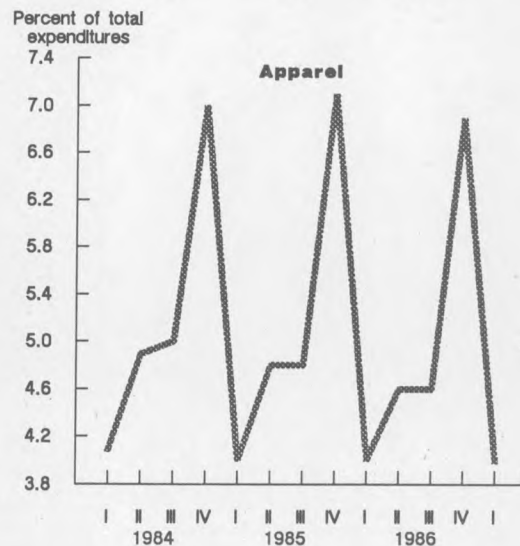
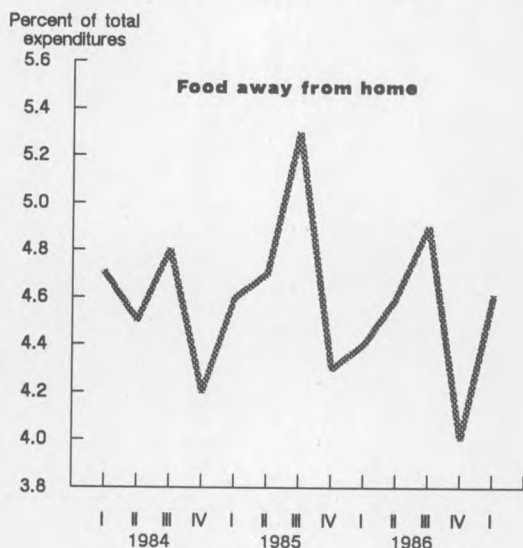
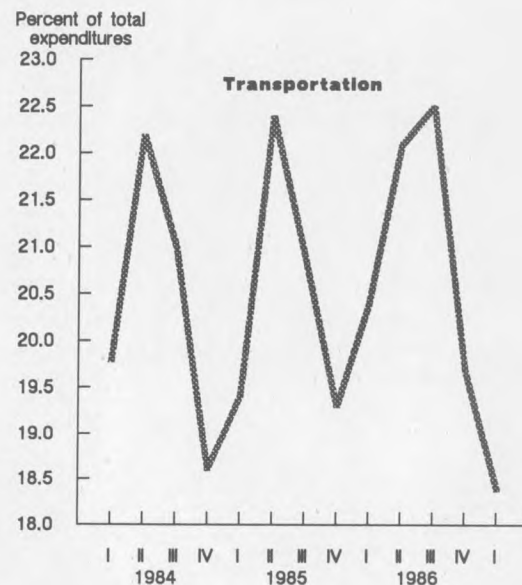
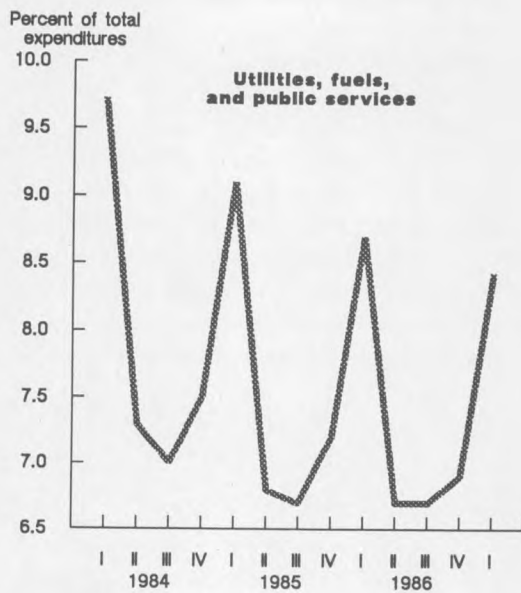
- Expenditures on owned dwellings and rented dwellings increased anywhere from 7 percent to 14 percent over the year-earlier level each quarter from 1984 to 1985. More moderate increases occurred between 1985 and 1986, with the exception of the last quarter of 1986. In that quarter, expenditures on owned dwellings decreased 1.2 percent, compared to the same quarter in 1985.
- Gasoline and motor oil expenditures decreased for every quarter with the exception of the last quarter in 1985. The most notable decreases for the period occurred from

the second quarter of 1986 through the first quarter of 1987. These significant decreases ranged from 10 percent to 17 percent, which reflected falling gasoline prices during the same period as measured by the Consumer Price Index.

Description of the survey

The principal objective of the Consumer Expenditure Surveys is to collect data that provide a continuous flow of information on the buying habits of American consumers. The survey had been conducted about every 10 years

Chart 1. Selected categories of expenditures as a percent of average total consumer unit expenditures, quarterly data, 1984 through first-quarter 1987



in the past, but has been ongoing since 1980, with rotating panels of participants.

The survey, which is conducted by the Bureau of the Census for the Bureau of Labor Statistics, consists of two components: (1) a Diary or recordkeeping survey completed by respondents for two consecutive 1-week periods, and (2) an Interview survey in which the expenditures of consumer units are obtained in five interviews conducted every 3 months. Each component of the survey queries an independent sample of consumer units that is representative of the U.S. population. The Interview sample is selected on a rotating panel basis, targeted at 5,000 consumer units each quarter. As indicated earlier, the data in this article and those in the forthcoming quarterly release are based on the Interview survey.

The Interview survey is designed to obtain data on the types of expenditures and income that respondents can be expected to recall for a period of 3 months or longer. These include large expenditures, as for property, automobiles, and major appliances, or expenditures that occur on a regular basis, such as rent, utility payments, or insurance premiums. The Interview survey covers approximately 95 percent of all expenditures.⁴

The data presented here and in the new quarterly release should be interpreted with care. The quarter-to-quarter changes are more volatile than year-to-year changes because of seasonal variation and smaller sample

sizes. The expenditures are averages for all consumer units with the characteristics indicated, even if few units actually had expenses for a particular item in the reference period. Therefore, the average may be considerably lower than the expense incurred by consumer units that actually purchased the item.

The less frequently an item is purchased, the greater the difference between the average for all consumer units and the average for those purchasing. An individual consumer unit may spend more or less than the average, depending on its particular characteristics, tastes, and preferences. But even within groups with similar characteristics, the distribution of expenditures varies substantially. These points should be considered when relating reported averages to individual circumstances.

Users should also keep in mind that the prices for many goods and services have risen since the period represented by the data shown here. For example, rent as measured by the Consumer Price Index rose about 3.8 percent between March 1987 and April 1988.

In addition, sample surveys are subject to two types of errors. Sampling errors occur because the data are collected from a representative sample rather than the entire population. Sampling errors for quarterly data are considerably higher than those for annual data, depending on the expenditure category. Nonsampling errors result from the inability or unwillingness of respondents

Table 2. Selected characteristics and yearly expenditures of all consumer units, by age of reference person, average annualized data for first-quarter 1987

Item	All consumer units	Age of reference person			
		Under 25	25-44	45-64	65 and over
Number of consumer units (in thousands)	93,865	8,610	39,388	26,747	19,120
Number of sample interviews	11,779	1,069	5,053	3,343	2,314
Consumer unit characteristics					
Income before taxes ¹	\$26,421	\$11,983	\$30,548	\$32,550	\$16,224
Size of consumer unit	2.6	1.8	3.1	2.6	1.7
Age of reference person	46.9	21.5	34.1	54.4	74.1
Number in consumer unit:					
Earners	1.4	1.2	1.6	1.7	.4
Vehicles	2.0	1.1	2.1	2.4	1.3
Children under 18 .....	.7	.4	1.3	.4	.1
Persons 65 and over .....	.3	.0	.0	.1	1.3
Total expenditures	\$21,523	\$13,014	\$24,305	\$25,623	\$13,888
Food	3,362	2,067	3,749	3,880	2,421
Housing	6,827	3,921	8,172	7,429	4,522
Shelter	3,880	2,608	4,877	3,978	2,261
Owned dwellings	2,193	349	2,822	2,641	1,102
Rented dwellings	1,316	2,074	1,705	790	911
Other lodging	370	185	350	546	248
Utilities, fuels, and public services	1,812	838	1,862	2,183	1,630
Household operations and housefurnishings and equipment	1,135	476	1,433	1,269	631
Apparel and services	865	620	1,005	1,015	477
Transportation	3,966	2,884	4,486	4,933	2,028
Gasoline and motor oil	832	561	937	1,005	493
Other transportation expenses	3,134	2,323	3,549	3,928	1,535
Health care	1,038	306	878	1,176	1,507
Entertainment	899	578	1,075	1,037	490
Miscellaneous and all other expenses	4,566	2,637	4,940	6,154	2,444

¹Income values are derived from "complete income reporters" only; see table 1, footnote 1.

Table 3. Percent distribution of total expenditures and year-to-year changes in expenditure levels, by expenditure category, first-quarter 1984 to first-quarter 1987

Category	1984				1985				1986				1987
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I
Percent distribution of total expenditures													
Total expenditures	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	16.4	15.9	15.8	14.8	15.8	15.4	15.7	14.3	15.2	15.3	15.0	13.9	15.6
Food at home	11.7	11.4	11.0	10.6	11.2	10.7	10.4	10.0	10.8	10.7	10.1	9.8	11.0
Food away from home	4.7	4.5	4.8	4.2	4.6	4.7	5.3	4.3	4.4	4.6	4.9	4.0	4.6
Housing	30.9	29.0	29.3	31.0	30.6	29.0	29.4	31.3	30.9	29.7	29.8	30.9	31.7
Shelter	16.3	15.9	16.8	17.7	16.9	16.5	17.2	18.4	17.4	17.2	17.5	18.1	18.0
Owned dwellings	9.6	9.3	9.7	10.9	9.9	9.4	9.9	11.5	9.9	9.7	9.9	11.0	10.2
Rented dwellings	5.1	5.2	5.0	5.2	5.4	5.3	5.2	5.4	5.8	5.6	5.5	5.5	6.1
Other lodging	1.6	1.5	2.1	1.7	1.6	1.7	2.1	1.6	1.7	1.8	2.2	1.6	1.7
Utilities, fuels, and public services	9.7	7.3	7.0	7.5	9.1	6.8	6.7	7.2	8.7	6.7	6.7	6.9	8.4
Household operations	1.4	1.5	1.6	1.5	1.5	1.7	1.6	1.4	1.4	1.7	1.7	1.5	1.5
Housefurnishings and equipment	3.5	4.2	3.9	4.3	3.1	4.0	3.9	4.3	3.4	4.2	3.8	4.5	3.8
Apparel and services	4.1	4.9	5.0	7.0	4.0	4.8	4.8	7.1	4.0	4.6	4.6	6.9	4.0
Transportation	19.8	22.2	21.0	18.6	19.4	22.4	20.9	19.3	20.4	22.1	22.5	19.7	18.4
Vehicle purchases, total	8.0	10.2	8.9	7.6	8.2	10.8	9.4	8.4	9.2	10.8	11.6	9.6	7.4
Gasoline and motor oil	5.2	5.2	5.2	4.7	4.7	4.8	4.8	4.4	4.5	4.3	3.9	3.5	3.9
Other transportation expenses	6.6	6.8	7.0	6.3	6.6	6.8	6.7	6.5	6.7	7.0	7.1	6.6	7.1
Health care	4.7	4.9	4.7	4.4	4.6	4.8	4.7	4.5	4.8	5.0	4.6	4.4	4.8
Entertainment	4.0	4.4	4.5	5.5	4.4	4.8	4.7	5.6	4.2	4.8	4.4	5.6	4.2
Fees and admissions	1.5	1.5	1.7	1.3	1.5	1.4	1.6	1.3	1.3	1.5	1.5	1.1	1.4
Televisions, radios, and sound equipment	1.3	1.2	1.4	1.9	1.5	1.4	1.4	2.1	1.5	1.5	1.5	2.0	1.5
Other equipment and services	1.2	1.7	1.5	2.3	1.5	2.0	1.7	2.2	1.4	1.8	1.4	2.5	1.2
Personal care	1.0	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	.9	1.0
Miscellaneous and other expenses	19.1	17.7	18.7	17.8	20.2	17.9	18.8	17.1	19.5	17.6	18.2	17.6	20.2
Percent change from same quarter one year earlier													
Total expenditures					5.5	7.0	5.2	7.4	2.3	-0.1	3.6	3.0	1.6
Food					1.7	3.5	4.6	4.1	-1.9	-8	-9	-3	4.6
Food at home					1.5	.4	-4	1.7	-2.1	-2	.8	.9	3.8
Food away from home					2.4	11.2	16.1	10.2	-1.3	-2.1	-4.1	-3.2	6.4
Housing					4.5	7.1	5.8	8.3	3.3	2.3	4.7	1.9	4.2
Shelter					9.5	10.5	7.9	11.8	5.2	4.2	5.4	.9	5.4
Owned dwellings					9.0	8.6	7.1	13.7	2.2	2.6	4.2	-1.2	4.7
Rented dwellings					12.2	8.8	9.1	11.1	10.2	6.6	8.3	4.8	6.8
Other lodging					4.1	28.4	9.1	.8	7.5	6.2	4.3	3.6	3.6
Utilities, fuels, and public services					-8	-1.3	1.2	3.2	-2.1	-9	4.1	-9	-2.2
Household operations					12.3	25.2	5.5	-1.9	-7.4	-4.1	8.2	11.3	11.5
Housefurnishings and equipment					-7.4	2.5	4.7	6.4	13.6	2.8	1.2	7.8	11.5
Apparel and services					3.9	5.0	.8	9.0	1.9	-5.9	-9	1.1	2.2
Transportation					3.4	7.6	4.8	11.8	7.7	-1.3	11.6	5.2	-8.4
Vehicle purchases, total					7.3	12.5	11.5	19.6	14.9	.0	28.0	17.0	-18.0
Gasoline and motor oil					-5.3	-2.2	-1.8	.5	-8	-10.2	-16.5	-17.4	-13.3
Other transportation expenses					5.4	7.6	1.1	11.0	4.9	2.8	9.1	4.9	8.1
Health care					3.0	4.2	5.4	10.5	5.3	4.1	.4	.0	3.0
Entertainment					16.8	15.4	9.1	7.7	-1.4	.7	-2.9	3.8	-1
Fees and admissions					6.2	-9	-3	5.7	-8.1	3.2	.0	-12.0	7.1
Televisions, radios, and sound equipment					14.4	19.3	7.6	18.4	6.0	10.4	9.5	-1.7	2.5
Other equipment and services					33.0	27.4	21.9	.0	-1.7	-8.1	-16.2	18.5	-9.4
Personal care					3.2	1.5	4.1	2.1	3.6	4.5	4.5	6.6	4.0
Miscellaneous and other expenses					11.4	8.6	5.7	2.9	-9	-1.6	.2	6.4	5.2

to provide correct information, differences in interviewer ability, mistakes in recording or coding, or other processing errors.

Quarterly publication of expenditure data will provide estimates of changes in spending patterns as they occur during the year. In general, these patterns are stable, but the effect of sudden shocks to the economy can be examined more quickly. In addition, the ability to study seasonal differences in expenditures should be fruitful for many users. □

—FOOTNOTES—

¹A consumer unit is a single person or group of persons in a sample household who are related by blood, marriage, adoption, or other legal arrangement, or who share responsibility for at least 2 out of 3 major types of expenses—food, housing, and other expenses.

²Another criterion for publishing an expenditure category was that the coefficient of variation would not exceed 10 percent.

³The reference person (or householder) is the first member mentioned by the survey respondent when asked to “[s]tart with the name of the person or one of the persons who owns or rents the home.” It is with respect to this person that the relationship of other consumer unit members is determined.

⁴The Consumer Expenditure Survey is described in detail in *BLS Handbook of Methods*, Bulletin 2285 (Bureau of Labor Statistics, 1988), ch. 18.

Employment Cost Index series to replace Hourly Earnings Index

G. DONALD WOOD

Early in 1989, the Bureau of Labor Statistics will replace the Hourly Earnings Index with an Employment Cost Index (ECI) series that has the same occupational coverage as the Hourly Earnings Index. The new ECI series is part of a broader initiative that will provide occupational indexes by industry sector—such as for blue-collar

workers in the goods-producing and service-producing sectors—from the ECI program. The Bureau is making the change because, over the last decade, the ECI has become a major economic indicator and has several advantages in measuring wage change, and because recent cuts in the Bureau's budget make it impractical to maintain both series.

The Employment Cost Index, a quarterly series first published in 1976, is a fixed employment weighted index. It is designed to measure changes in employer expenditures for employee compensation and the two components of compensation—wages and salaries and benefit costs. The ECI provides indexes for State and local governments, private industry, and occupational and industry groups, as well as by collective bargaining status, region, and area size.

The Hourly Earnings Index was developed in 1971 to approximate wage rate change using average hourly earnings from the Bureau's monthly Current Employment Statistics Program. The earnings index, which covers production and nonsupervisory workers in private industry, approximates wage rate changes for broad

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Table 1. Hourly Earnings Index (HEI) and Employment Cost Index with HEI coverage, wage and salary series, private industry workers, 1975-87

[June 1981 = 100]

Date	Employment Cost Index with HEI coverage (wages and salaries)	Hourly Earnings Index (HEI)	Date	Employment Cost Index with HEI coverage (wages and salaries)	Hourly Earnings Index (HEI)
1975:			1982:		
September.....	63.3	64.0	March.....	105.9	105.6
December.....	64.6	64.9	June.....	107.0	107.1
1976:			September.....	109.1	109.1
March.....	65.9	65.8	December.....	110.6	110.4
June.....	66.9	66.8	1983:		
September.....	68.0	68.7	March.....	111.7	111.3
December.....	69.4	69.8	June.....	112.8	112.2
1977:			September.....	114.6	113.6
March.....	70.3	70.8	December.....	116.0	114.6
June.....	71.6	72.0	1984:		
September.....	72.9	73.7	March.....	117.3	115.2
December.....	74.3	74.8	June.....	118.3	115.7
1978:			September.....	119.0	117.3
March.....	75.7	76.4	December.....	120.5	118.3
June.....	77.4	77.8	1985:		
September.....	79.1	79.8	March.....	121.7	118.8
December.....	80.1	81.3	June.....	122.8	119.5
1979:			September.....	124.6	121.0
March.....	81.7	82.7	December.....	125.3	122.0
June.....	83.4	84.0	1986:		
September.....	85.2	86.4	March.....	126.3	122.3
December.....	87.3	88.0	June.....	127.2	122.5
1980:			September.....	128.1	123.4
March.....	89.3	90.0	December.....	128.7	124.4
June.....	91.3	91.8	1987:		
September.....	93.5	94.1	March.....	130.0	124.9
December.....	95.5	96.2	June.....	130.9	125.2
1981:			September.....	132.1	126.9
March.....	97.9	98.5	December.....	132.9	127.8
June.....	100.0	100.0			
September.....	102.1	102.8			
December.....	104.1	104.0			

industry groups by eliminating the impact of employment shifts among industries.

Some advantages of the ECI over the Hourly Earnings Index as a measure of wage change include the following:

Employment coverage. The ECI covers all workers in private nonfarm industry (excluding private households) and State and local governments. The Hourly Earnings Index excludes State and local government workers, nonproduction workers in goods-producing industries (mining, construction, and manufacturing), and executive, administrative, and managerial occupations—one of the fastest growing groups in the labor force—in the service-producing industries.

Compensation coverage. The ECI includes wages and salaries as well as the employers' cost of employee benefits. The Hourly Earnings Index covers only hourly earnings from establishment payrolls, and excludes employee benefits and lump-sum payments, a growing compensation practice.

Wage change. The ECI measures the change in wages and salaries and benefit costs, excluding the effects of employment shifts among industries and occupations with different wage and compensation levels. The ECI program collects wage rates and benefit cost data for narrowly defined jobs within each establishment. Changes in wage rates and benefit costs are aggregated using fixed employment weights so that the index reflects only wage- and compensation-rate changes. The Hourly Earnings Index is based on the average earnings (rather than on wage rates) of all covered workers in an industry, and reflects changes in the occupational mix of employment, as well as changes in wage rates.

Overtime payments. The ECI eliminates fluctuations that occur as the number of overtime hours worked changes. The Hourly Earnings Index is adjusted to eliminate fluctuations arising from overtime in manufacturing industries.

Detailed series. The ECI publishes more than 160 detailed indexes for State and local governments, total private industry, occupational and industry groups, and by collective bargaining status, region, and area size. The number of indexes will increase to nearly 200 with the publication of indexes for occupations by industry sector. The Hourly Earnings Index provides separate data for only eight broad industry groups, in addition to data for durable and nondurable manufacturing and for nonmanufacturing.

Data users who wish to continue to monitor wage and salary change for production and nonsupervisory workers in private industry can do so with the new ECI series.

Table 2. Employment Cost Index with Hourly Earnings Index (HEI) coverage, compensation series, private industry workers, 1981-87

[June 1981 = 100]

Date	Employment Cost Index with HEI coverage (compensation)	Date	Employment Cost Index with HEI coverage (compensation)
1981:		1985:	
June	100.0	March	124.1
September	102.1	June	125.0
December	104.2	September	126.7
1982:		December	127.4
March	105.7	1986:	
June	107.2	March	128.6
September	109.5	June	129.4
December	111.0	September	130.4
1983:		December	131.0
March	112.8	1987:	
June	114.0	March	132.2
September	115.9	June	133.2
December	117.3	September	134.4
1984:		December	135.4
March	119.3		
June	120.3		
September	121.2		
December	122.8		

Incorporating the index for production and nonsupervisory workers into the ECI system allows analysts to compare wage rate changes with compensation cost changes for that group of workers, and also to determine how the wage-rate changes for that group compare with those for other groups, such as all workers in private industry or all private and State and local government workers. In addition, users will be able to examine wage changes by industry sector. For example, wage changes for production workers in the goods-producing sector can be compared with those for nonsupervisory workers in the service-producing sector.

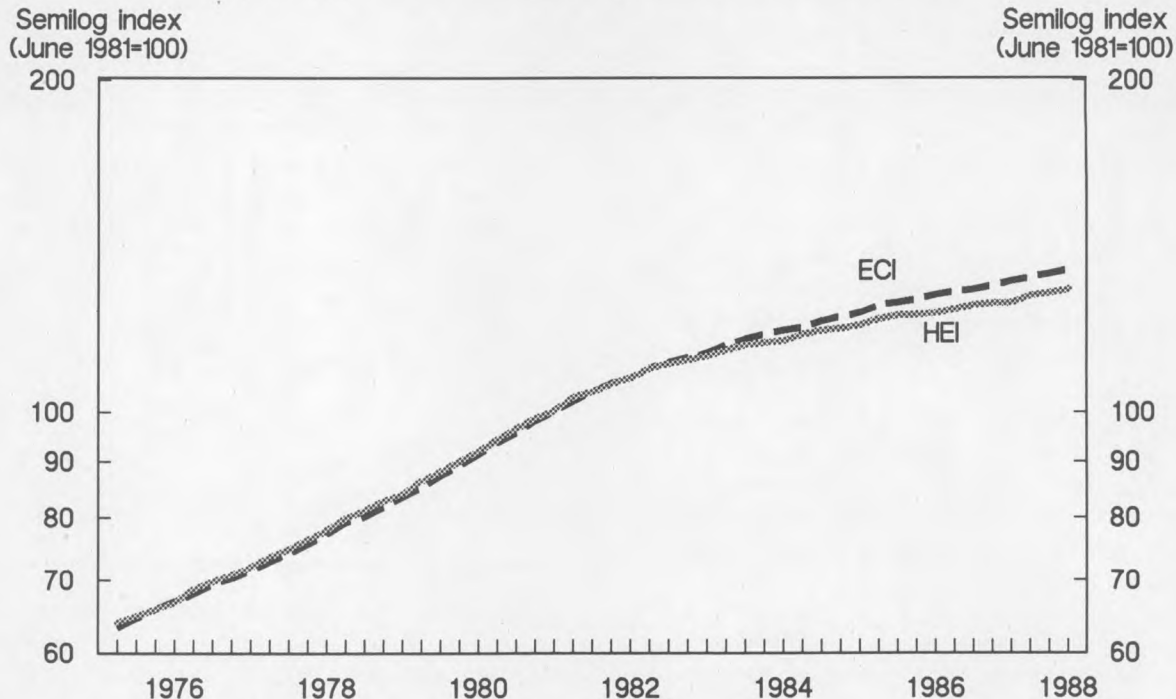
Average hourly earnings in dollar terms will continue to be published monthly with full industry detail. This series may be used for monthly analysis of earnings trends.

The new ECI wage and salary series and the Hourly Earnings Index are presented in table 1 and charts 1 and 2. The data show that the two measures were almost always within 1 index point of each other from September 1975 to June 1983, but from September 1983 on, the Hourly Earnings Index began moving up at a slower pace than the ECI—reaching a 5.1-point differential by December 1987.

(Although not directly comparable with the Hourly Earnings Index, the ECI compensation series was recalculated with Hourly Earnings Index coverage, and is shown in table 2.)

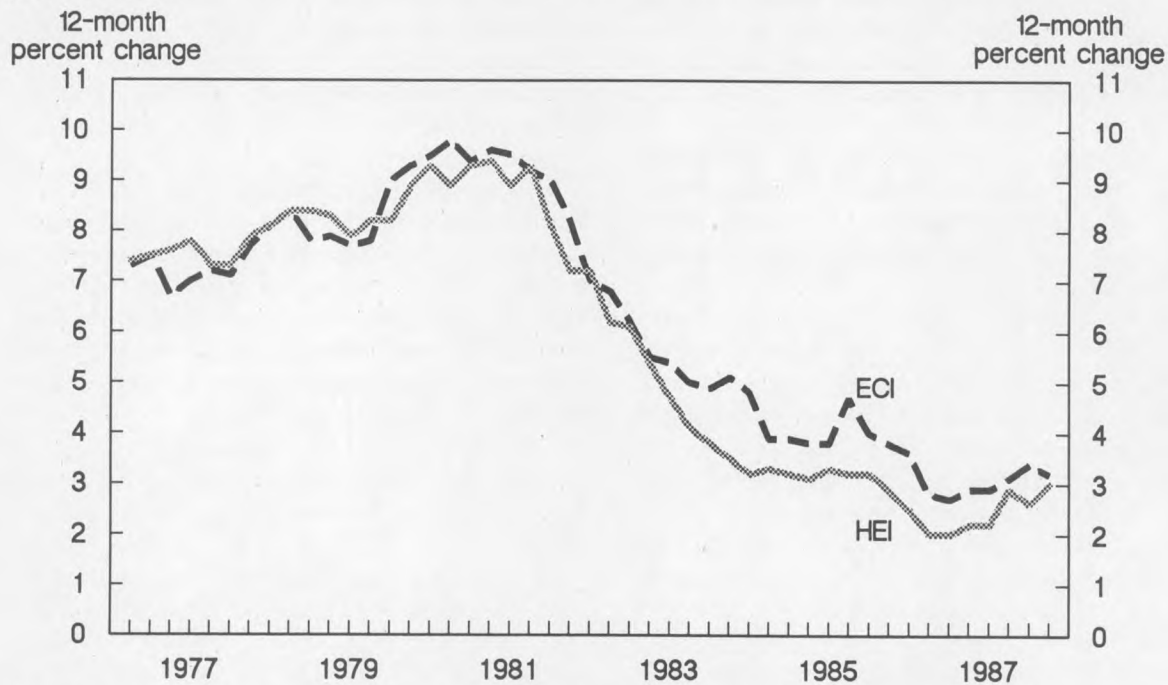
Most of the difference between the new ECI wage and salary series and the Hourly Earnings Index is probably the result of changes in the occupational mix of the employed labor force. The ECI measures the change in wage rates only, while the Hourly Earnings Index is also influenced by changes in the occupational mix. The

Chart 1. Hourly Earnings Index (HEI) and Employment Cost Index with HEI coverage, wage and salary series, private industry, September 1975-March 1988



NOTE: Data are for March, June, September, and December. Data are not seasonally adjusted.

Chart 2. Hourly Earnings Index (HEI) and Employment Cost Index with HEI coverage, wage and salary series, private industry, 12-month change, September 1976-March 1988



NOTE: Data are for the 12-month period ended in March, June, September, and December. Data are not seasonally adjusted.

period since 1983 has been one of dynamic employment growth. This growth, fueled by both an expanding labor force (as participation rates increased) and a declining unemployment rate, has led to profound and complex changes in the structure of employment. Some of the changes would cause the Hourly Earnings Index to increase more than the ECI wage and salary series, and other changes would lead it to increase less. The net impact of the change in the mix of employment has been to cause the Hourly Earnings Index to increase at a slower rate than the ECI wage and salary series and to underestimate the change in wages for workers in its limited coverage.

It is possible to identify any number of shifts, and explain how, if considered in isolation, each would affect the relationship between the change in the Hourly Earnings Index and that in the ECI. In fact, all of the shifts are interrelated and are the result of powerful, complex, and dynamic demographic and economic forces; empirically it is not possible to determine which of the many possibilities are, in fact, responsible for the differences. All that can be known at this point is that the two indexes give different measures of change because of their fundamentally different characteristics: the ECI estimates the change in wages; the Hourly Earnings Index gives an approximation to wage change that does not eliminate changes in the occupational mix of employment. □

An uneasy partnership

The relationship between working-class laundry workers and the middle-class women who espoused their welfare was not, however, without ambiguity and tension. Informed by a feminist consciousness, groups such as the National Federation of Women Workers and the Women's Industrial Council brought together women of diverse backgrounds to advance the economic and industrial rights of women. This forging of a common cause achieved, as we have seen, considerable success in enacting better legislation, advancing unionization, and educating laboring women as to their rights in the workplace. At the same time, the bourgeois women who were the leading members of these organizations, though radical in their feminism, accepted other aspects of the dominant culture at face value. These values could sometimes be at odds with the goal of bringing about economic independence for working women. Predictably, many such women were advocates of ventures such as penny banks, Working Girls' Clubs, Temperance Unions, and other uplifting endeavors consistent with social and economic self-help. In fact, moral influence was deemed to be of such importance that the job of laundry superintendent was recommended to educated women by one author as social work—the opportunity to extend “a guiding kindly hand”—as much as a means of earning a living. Though perhaps alien to some working-class cultural norms, these ventures did not undermine broader social and economic objectives and benefited some working women.

—PATRICIA E. MALCOLMSON

English Laundresses: A Social History, 1850–1930
(Urbana, University of Illinois Press, 1986), pp. 122–23.

Major Agreements Expiring Next Month



This list of selected collective bargaining agreements expiring in August 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.

Industry or activity	Employer and location	Labor organization ¹	Number of workers
Private			
Construction	National Electrical Contractors Association, Atlanta area (Georgia)	Electrical Workers (IBEW)	2,200
	National Electrical Contractors Association, American Line Builders Chapter (Interstate)	Electrical Workers (IBEW)	1,700
	Painting and Decorating Contractors' Association (St. Louis, MO)	Painters	2,200
	Air Conditioning and Refrigeration Contractors Association of Southern California (California)	Plumbers	1,500
Apparel	San Francisco Sportswear Industry (California)	Ladies Garment Workers	2,500
	Cotton Garment Manufacturers (Interstate)	Clothing and Textile Workers	101,000
Lumber	Boise Cascade Corp. (Interstate)	Various unions	2,500
Chemicals	Minnesota Mining and Manufacturing Co. (St. Paul, MN)	Oil, Chemical and Atomic Workers	1,700
Fabricated metal products	Remington Arms Co. (Ilion, NY)	Employees Mutual Association (Ind.)	1,400
Electrical products	Westinghouse Electric Corp., salaried employees (Interstate)	Westinghouse Independent Salaried Union (Ind.)	7,100
	Westinghouse Electric Corp. (Interstate)	Various unions	19,200
	Eagle Electric Manufacturing Co. (Long Island City, NY)	Auto Workers	1,550
	Magic Chef Inc. (Cleveland, TN)	Molders	1,000
	GTE Sylvania Electric Products, Inc. (Interstate)	Various unions	3,000
Transportation equipment	Goodyear Aerospace Corp. (Akron, OH)	Auto Workers	1,450
Air transportation	Pan American World Airways (Interstate)	International Union of Flight Attendants (Ind.)	5,700
Utilities	Laclede Gas Co. (St. Louis, MO)	Oil, Chemical and Atomic Workers	1,850
Public			
Education	California: Stanford University and Medical Center, technical, service, and maintenance	Service Employees	1,350
	Garden Grove, teachers	Education Association (Ind.)	1,800
	Long Beach Board of Education, teachers	Education Association (Ind.)	2,800
General government	Los Angeles, service and crafts	Service Employees	1,150
Education	Florida: Okaloosa, teachers	Education Association (Ind.)	1,500
	Illinois: University of Illinois, clerical unit	Service Employees	1,300
Maryland:	Baltimore Board of Education, paraprofessionals	Teachers	1,600
	Michigan: Flint Board of Education, teachers	Education Association (Ind.)	1,600
Grand Rapids Board of Education, teachers	Education Association (Ind.)	1,750	
	New Jersey: Jersey City, teachers	Education Association (Ind.)	2,600
Trenton, teachers and related professionals	Education Association (Ind.)	1,150	
New Mexico: Albuquerque, teachers	Teachers	5,100	

See footnote at end of table.

Major Agreements Expiring Next Month—Continued

Industry or activity	Employer and location	Labor organization ¹	Number of workers	
General government	Ohio: Cincinnati, general unit	State, County and Municipal Employees	2,800	
Education	Pennsylvania: Philadelphia Board of Education, teachers	Teachers	13,000	
		Philadelphia Board of Education, paraprofessionals	Teachers	2,100
		Philadelphia Board of Education, clerical	Teachers	1,500
	Rhode Island: Providence Board of Education, teachers	Teachers	1,200	
		Warwick City, teachers	Teachers	1,050
	Utah: Davis County Board of Education, teachers	Education Association (Ind.)	1,900	
Washington: Seattle Community College, faculty	Teachers	1,500		

¹Affiliated with AFL-CIO except where noted as independent (Ind.).

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.

Developments in Industrial Relations



Chrysler pact returns to parity with GM, Ford

Contract uniformity returned to the domestic automobile manufacturers when Chrysler Corp. and the Auto Workers negotiated a 28-month agreement, bringing 66,000 employees up to the wage, benefit, and job security levels prevailing at General Motors Corp. (GM) and Ford Motor Co. Contract terms had been essentially identical at the three companies, but in the 1979 and subsequent settlements, Chrysler employees accepted terms providing for less wages and benefits than did Ford and GM employees to help Chrysler overcome financial difficulties. Throughout the concessionary period, union leaders vowed to return to parity, and movement toward the goal occurred in the 1982 and 1985 settlements, following Chrysler's return to profitability. Barring financial problems at any of the companies, uniformity presumably will continue, with current contracts at all three companies now expiring on September 14, 1990. (See *Monthly Labor Review*, November 1987, pp. 31-33, for terms of the Ford contract and December 1987, p. 51, for the GM contract.)

Despite early indications that Chrysler and the Auto Workers would agree to a return to contract parity with GM and Ford, and the peaceful outcome of the talks, union officials criticized Chrysler for several events which occurred before and during the talks. One was Chrysler's announcement of plans to close its assembly plants in Kenosha, WI, at a cost of 5,500 jobs. In the national settlement, Chrysler agreed to additional measures to aid the displaced workers. Other controversial issues were Chrysler's announced plans to sell its 11 Acustar parts manufacturing plants (later revised, after an angry reaction by the union, to provide for retention of seven of the plants), and the size of bonuses distributed to Chrysler executives.

"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.

The new contract provides for an immediate \$1,000 "early settlement bonus" (in cash or Chrysler stock), which reflected the fact that Chrysler employees, unlike Ford and GM employees, did not have a profit-sharing provision in their expiring contract. (GM employees did not receive an annual profit-sharing distribution in 1988; Ford employees received an average of \$3,700.) The Chrysler employees—who are now covered by the same profit-sharing formula as at Ford and GM—had received \$500 payments in 1988 under provisions of the old agreement which called for adoption of profit sharing either during the term of that agreement or as part of the 1988 settlement.

Like Ford and GM employees, Chrysler employees will receive performance bonus payments in October of 1988 and 1989, each equal to 3 percent of their qualified earnings during the preceding 12 months. The provision for automatic quarterly cost-of-living pay adjustments also followed the pattern, except that a total of 15 cents will be withheld from adjustments to equalize the allowance with that for Ford and GM employees.

The feature of the settlement was a job security program that differs only in name from the Guaranteed Employment Numbers program at Ford and the Secure Employment Numbers program at GM. Chrysler's program, Base Employment Levels, will be backed by a \$210 million company commitment, compared with \$1.3 billion at GM and \$500 million at Ford, reflecting both the variation in the number of protected employees and the difference in contract duration.

In a departure from the GM and Ford settlements, Chrysler agreed that it would not grant cash or stock bonuses to its executives in years when profits are insufficient to trigger profit-sharing payments to employees in the bargaining unit. The union conceded that this provision contained loopholes, but called it a "solid start in curing the worst inequities."

The Chrysler contract also bans plant closings, except for those resulting from conditions beyond Chrysler's control and those announced before the start of the

negotiations. Similar bans were contained in the union's contracts with Ford and GM.

Chrysler and the Auto Workers agreed to special provisions for 7,000 employees in Kenosha and Milwaukee, including \$6,000–\$8,000 payments to the employees, representing a reported 83-percent payback of money the workers had loaned American Motors Corp. under an aid program established in 1982. Chrysler, which purchased American Motors in 1987, also agreed to special guaranteed and extended Supplemental Unemployment Benefits and other assistance to the 5,500 workers in Kenosha who will lose their jobs when assembly and stamping operations cease at the end of the year.

An engine plant in Kenosha and a parts depot in Milwaukee will remain open, bringing a total of 1,500 employees under the national contract and also under a "Modern Operating Agreement" designed to improve efficiency and worker morale through changes such as broadening job duties and using team production techniques. Local Modern Operating Agreements, the cornerstone of Chrysler's drive to improve its competitive position, have been adopted at six locations in recent years. In some cases, employees have reacted adversely to certain innovations, and during the controversy surrounding the 1988 national negotiations, the Auto Workers national leaders threatened to cease negotiating Modern Operating Agreements. The first such agreement was adopted in 1986 at Chrysler's machining and forge plant in New Castle, IN. The others are at assembly plants in Newark, DE, and Detroit, MI; an engine plant in Trenton, MI; a foundry in Indianapolis, IN; and an electronics plant in Huntsville, AL.

Local approaches to improving efficiency and morale in the industry are not unique to Chrysler. GM and Ford have also been negotiating innovative terms with the Auto Workers in local supplements to their national agreements.

Teamsters accept contract despite opposition

Despite widespread opposition from union members, leaders of the Teamsters union accepted a 3-year contract with the three major associations of trucking and warehousing companies. Of the 100,883 votes cast by the union members, 64,101 or 63.5 percent were against the accord. Teamsters' president Jackie Presser informed union members, upon submission of the terms, that union leaders would, for the first time, invoke a 1961 constitutional change permitting acceptance of a contract if less than two-thirds of the members vote against the terms. Presser said that the action was necessary because the "industry is in financial chaos, . . . and that this proposed agreement addresses the economic needs of our members and advances their legitimate claims for job security."

Opposition to the settlement was led by Teamsters for a Democratic Union, a dissident group of Teamster members that has long opposed the union's leadership and its policies. The organization initiated a court test of the 1961 constitutional change. In addition, the group called the negotiated terms "unsatisfactory." Kenneth Paff, organizer of the group, said the accord did not provide for adequate wage increases; a return to the pay progression schedule that prevailed prior to the 1985 settlement; a limit on the use of casual, lower paid workers; a ban on employers engaging in "double breasting" operations under which they establish separate facilities and fleets of trucks operated by nonunion employees; and adequate repayment guarantees to employees voting to loan part of their earnings to their employer.

The new contract, running to March 31, 1991, provides for a guaranteed wage increase of 35 cents effective April 1, 1988, followed by possible increases of up to 35 cents an hour on April 1 of 1989 and 1990. The 1988 and 1989 increases will be calculated at 1 cent an hour (.25 mill per mile for drivers paid on a mileage basis) for each 0.3-point movement in the BLS CPI-W (1967=100) during the preceding 12 months. The 3-year agreement negotiated in 1985 provided for three 50-cent-an-hour wage increases (or the equivalent increase in mileage rates), each including a 31-cent "cost-of-living adjustment" not actually linked to the movement of the CPI. At the March 31, 1988, termination date of the 1985 accord, the standard pay rate was \$14.71 an hour for drivers with 3 years' service.

The revised pay progression schedule under the 1988 contract provides for new employees to start at 85 percent of the standard or top rate, move to 90 percent after 6 months' service, 95 percent after 12 months' service and to the standard rate after 18 months' service. Previously, new employees started at 70 percent of the standard rate and moved to 80 percent after 1 year, to 90 percent after 2 years, and to the standard rate after 3 years.

Under the new loan plan, employers in financial difficulty can ask their employees to accept wage reductions of up to 15 percent. If 75 percent of the involved employees approve the reduction, it will apply to all of the employees. In return, employees could be covered by profit-sharing or stock ownership plans.

Casual employees, who had been shifted to a lower pay rate under the 1985 settlement, will receive the same wage increases as other employees, bringing their rate to \$13.05 after the April 1990 increase. Casuals, reportedly comprising 10 percent of the work force, do not receive benefits.

Employer financing of pension and health and welfare benefits was increased by 35 cents an hour on April 1, 1988, and by 20 cents on April 1 of 1989 and 1990. Regional committees will allocate the 75 cents an hour between the two types of benefits.

Other provisions include:

- A requirement that employees drawing workers' compensation perform duties within their capabilities and be paid at least \$5 an hour. If the employees refuse, their workers' compensation payments will be terminated.
- A requirement that employees who commit "willful gross negligent acts" assume financial responsibility for any resulting losses, damage, or theft.
- A requirement that drivers with higher than usual insurance risk ratings pay the premium costs in excess of normal premiums.

The first of the three similar accords negotiated by the Teamsters was with Trucking Management Inc., comprising about 34 larger interstate companies with about 100,000 covered employees. The other associations are Regional Carriers Inc., and the Motor Carrier Labor Advisory Council, with a combined total of about 60,000 employees.

According to the Teamsters, it has lost 120,000 members in the industry since deregulation of the trucking industry in 1980. The loss was attributed to the closing or acquisition of 78 Teamsters-organized carriers.

Goodyear settlement averts scheduled stoppage

A scheduled work stoppage at Goodyear Tire & Rubber Co. was averted when members of the United Rubber Workers accepted a settlement proposal that included an immediate wage increase, unlike the earlier proposal they rejected. Under the 3-year accord, the 25-cent-an-hour immediate increase is an advance against possible future quarterly adjustments under the cost-of-living formula. As under the 1985 contract, the formula is 1 cent an hour for each 0.26-point movement in the Bureau of Labor Statistics Consumer Price Index for Urban Wage Earners and Clerical Workers (1967 = 100).

In addition to the guaranteed wage increase, another change from the rejected offer was the addition of a provision for reopening negotiations on wages—with no right to strike—in March 1990. The approved contract also provides for restoration of a provision in the 1985 contract requiring that a majority of employees must approve any "economic adjustments" or "givebacks" by individual local unions at any of the 11 plants.

National leaders of the Rubber Workers had backed the first settlement, contending that Goodyear's resources were limited because of the costs incurred fighting off a 1986 takeover by British financier Sir James Goldsmith.

In the benefits area, pension rates for future retirees were increased to \$23.50 a month for each year of credited service, from \$20. The rates for current retirees were increased by 50 cents.

The parties also moved to induce employees to shift into the comprehensive health care program by liberalizing the savings plan available to program participants. Under the new approach, Goodyear will contribute to the account of each participant an amount equal to 50 percent (formerly 25 percent) of the employee's investment. Employees covered by the alternate medical necessity-major medical health insurance plan are now also eligible for the savings plan, without any company contribution on their behalf.

Other terms for the 15,000 employees include improvements in the benefits provided by the health plans; \$20,000 accidental or dismemberment insurance (was \$17,000); \$250 a week sickness and accident benefits (was \$225); and company payment of child adoption expenses up to \$750.

Following the settlement, the Rubber Workers and Firestone Tire & Rubber Co. settled on similar terms for 4,700 workers at facilities in Akron, OH; Noblesville, IN; Des Moines, IA; Decatur, IL; Russellville, AR; and Oklahoma City, OK. This settlement ended a 1-week work stoppage. Elsewhere in the industry, Uniroyal-Goodrich Rubber Co. and the union settled on noneconomic terms; they had settled on economic terms prior to the Goodyear contract (see *Monthly Labor Review*, May 1988, p. 56).

State accord advocates onsite child care

About 5,400 employees of the State of Vermont were covered by a 2-year contract that provided for a 4.5-percent pay increase on July 1, the day after the old agreement expired, followed by a 5.5-percent increase on July 1, 1989. Employees also benefit from larger step or length of service wage increases. In addition, the employees receive step increases more frequently because the 15-step pay progression schedule now enables them to attain maximum rates after 24.5 years of service instead of the previous 32.5 years. Under the old agreement, negotiated in 1986, pay reportedly averaged \$19,500 a year.

The accord also featured efforts to establish child care programs for the workers. A large part of the \$200,000 a year State allocation toward relieving the shortage of facilities was expected to be used to establish child care units at job sites and to help establish or improve child care centers in exchange for reserving a number of spaces for the State employees' children.

The State's self-funded health insurance features new education, screening, and testing measures intended to avert the need for medical care. The new preventive measures will be financed by a State obligation of \$500,000 in the second year.

New York State—AFSCME accords

More than 107,000 employees were covered by a leadoff settlement between New York State and the Civil

Service Employees Federation (Local 1000 of the State, County and Municipal Employees union). The contract covered blue-collar, clerical, and health care workers. Council 82 of the State, County and Municipal Employees also settled for 17,500 New York State security officers. Bargaining was continuing for 57,000 workers represented jointly by the Service Employees and the American Federation of Teachers, comprising the Public Employees Federation. All of the contracts had expired on March 31, but were extended pending completion of negotiations.

The 3-year Civil Service Employees Federation contract provides for wage increases of 5 percent in June 1988, 5 percent in April 1989, and 5.5 percent in 1990.

One of the major issues in the talks was addressed by increased financing of the Empire Plan, a health insurance program established in 1985 that lost \$160 million in 1987. Under the new approach, participating employees now pay \$5 toward the cost of each visit to a doctor's office, and for x rays, lab tests, and outpatient surgery. Earlier in the year, the State Supreme Court had dismissed two consolidated suits in which employees had attempted to prevent a 64-percent premium increase scheduled for 1988.

Other provisions included:

- A \$40 per employee increase in the State's payment into the employee benefit fund in each contract year, bringing the total to \$610. The fund finances dental, optical, prescription drug, and other benefits.
- Improved child care benefits, including about \$9.4 million over the contract term to expand the State's network of onsite facilities. The agreement also established a child care subsidy for some employees and pilot programs for employees who work nights, and permits employees to defer part of their salary for child care.
- Revision of contract provisions to permit umpires to decide more cases involving alleged abuse of time and attendance rules, and to impose stiffer penalties for such abuse.

The 3-year accord for the security officers provided for wage increases of 4 percent effective immediately, 1 percent in December 1988, 5 percent in April 1989, and 5.5 percent in April 1990.

Workers enrolled in a health maintenance organization will now have to pay 10 percent of the premium cost for

individual coverage and 25 percent for family coverage. Previously, the State paid the entire cost. Workers enrolled in the Empire Plan will now make \$5 co-insurance payments, matching those for employees covered by the lead-off settlement.

The settlement also increased location pay, in stages, for officers in the New York City area, to \$701 from \$602; increased the uniform allowance by \$25 a year; and required the State to pay time-and-one-half for preshift briefings.

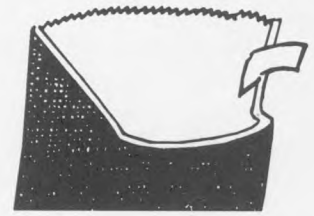
New York City patrol officers settle

New York City and the Patrolmen's Benevolent Association settled for 20,000 rank-and-file officers. The accord was expected to influence bargaining between the city and other unions for higher ranking officers, as well as bargaining for firefighters, sanitation workers, and other "uniformed" workers.

The 3-year agreement for patrol officers provided three 6-percent wage increases—one retroactive to the July 1, 1987, termination date of the prior contract, and the others in July of 1988 and 1989. Other wage provisions included a 5-year pay progression schedule from starting to maximum wage rates for new officers, replacing a 3-year schedule; annual longevity pay, ranging from \$1,000 after 5 years of service to \$4,000 after 20 years, up from a \$300 to \$600 range. New base salaries (excluding the longevity inducements to delay retirement) range from \$25,977 to \$38,914, compared with the previous \$25,977 to \$32,673.

In the benefits area, the parties agreed to support legislation to phase out a pension fund that provides supplements to the benefits retirees receive from the regular pension fund. The supplemental benefits varied according to the money in the fund, which receives infusions whenever income from the fund's common stock holdings exceeds income from its bond holdings. Under the new approach, retirees would receive set payments, beginning at \$2,500 a year, rather than varying payments. If enacted, this change would also affect members of other unions.

Another benefit provision provides that employees hired after June 31, 1988, will receive 27 days' annual vacation after 5 years of service. Previously, employees received 27 days after 3 years. □



Book Reviews

Fulfilling a need

International and Comparative Industrial Relations: A Study of Developed Market Economies. Edited by Greg J. Bamber and Russell D. Lansbury. Boston, MA, Allen & Unwin, Inc., 1987. 289 pp., bibliographies. \$37.95, cloth; \$15.95, paper.

Several comparative industrial relations books have been published in the last decade, almost all of them on the basis of selecting a number of countries (usually the same major industrialized market economies) and commissioning a native author to write a chapter for each on a more or less common framework. The results are usually uneven, for it is hard to maintain consistency and comparability among so many writers. Greg J. Bamber and Russell D. Lansbury, however, have managed successfully to avoid the pitfalls and their book, well conceived and well edited, is arguably the best of its kind.

After an introduction by Roger Blanpain, the current president of the International Industrial Relations Association, the book begins with a chapter by the editors on the study of international and comparative industrial relations. It reviews—briefly—the more important approaches and describes—briefly—international trade union and employer organizations, touching also on the work of the International Labor Organization, the Organization for Economic Cooperation and Development, and the European Economic Communities. It is an ambitious chapter; perhaps too ambitious, given the relatively limited space available to cover such a wide field. As it is, it does not attempt to review the country chapters, nor does it offer any analysis of current trends. And although the growth of multinational enterprises is mentioned, there is no discussion of international guidelines or codes of conduct concerning such enterprises. Nevertheless, it is a useful introduction to comparative studies in industrial relations.

The book contains nine chapters covering Great Britain, the United States, Canada, Australia, Italy, France, the Federal Republic of Germany, Sweden, and Japan. The chapters are well done, succinct, yet packed with a surprising amount of information. They succeed in giving an accurate impression of each country's industrial relations system. It is presumably capable editing that has assured such a high degree of uniformity of presentation.

The countries covered here are certainly those that come to mind, although all of them have already received extensive coverage elsewhere. It is a pity that writers on comparative industrial relations do not give more attention to the efficient industrial relations systems of, say, Austria or Switzerland, or the interesting experience of Spain, Finland, Ireland, or the Netherlands. But this is a plea for widening the field, not a criticism of Bamber and Lansbury.

An appendix sets out in 20 tables the key statistical indicators relevant to industrial relations and describes and assesses the available sources. The material is admirably mastered and the problems of international comparability well explained. It provides a useful background to the national studies.

The book is enriched by extensive bibliographies, and the index is a model of what an index should be—and so often is not.

In short, then, this book is succinct and informative and successfully does what it sets out to do. "We discovered the need for this book while trying to teach our Masters students about comparative industrial relations", says the Preface. But, university students apart, the book can be recommended as an introduction to anyone concerned with comparative industrial relations.

—OLIVER CLARKE
University of Western Australia,
Perth

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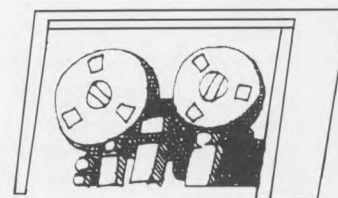
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Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	July 8	June	August 5	July	September 2	August	1; 4-21
Producer Price Index	July 15	June	August 12	July	September 9	August	2; 33-35
Consumer Price Index	July 22	June	August 23	July	September 21	August	2; 30-32
Real earnings	July 22	June	August 23	July	September 21	August	14-17
Major collective bargaining settlements	July 26	1st 6 months	.....	.....	.....	.....	3; 25-28
Employment Cost Index	July 26	2nd quarter	.....	.....	.....	.....	1-3; 22-24
U.S. Import and Export Price Indexes	July 28	2nd quarter	.....	.....	.....	.....	36-41
Productivity and costs: Nonfarm business and manufacturing .....	.....	.....	August 4	2nd quarter	.....	.....	2; 42-44
Nonfinancial corporations .....	.....	.....	.....	.....	September 1	2nd quarter	2; 42-44

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, 14, 17, and 18.) Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are 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). The second change is that seasonal factors are calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at midyear for the July-December period. However, revisions of historical data continue to be made only at the end of each calendar year.

Seasonally adjusted labor force data in tables 1 and 4-10 were revised in the February 1988 issue of the *Review*, to reflect experience through 1987.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1988 *Review* using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in table 42 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average All Items CPI. Only seasonally adjusted percent changes are available for this series.

Adjustments for price changes. Some data—such as the Hourly Earnings Index in table 17—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

- 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.
- n.e.c. = not elsewhere classified.
- n.e.s. = not elsewhere specified.

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 employment 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 housework, those not working while attending school, those unable to work because of long-term illness, those discouraged from seeking work because of personal or job-market factors, and those who are voluntarily idle. The **noninstitutional population** comprises all persons 16 years of age and older who are not inmates of penal or mental institutions, sanitariums, or homes for the aged, infirm, or needy, and members of the Armed Forces stationed in the United States. The **labor force participation rate** is the proportion of the noninstitutional population that is in the labor force. The **employment-**

population ratio is total employment (including the resident Armed Forces) as a percent of the noninstitutional population.

Notes on the data

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

Data in tables 4-10 are seasonally adjusted, based on the seasonal experience through December 1987.

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 Data-book*, 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). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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

The **Diffusion Index**, introduced in the May 1983 *Review*, represents the percent of 185 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 1-, 3-, and 6-month spans are seasonally adjusted, while those for the 12-month span are unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1988 data, published in the July 1988 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Unadjusted data have been revised back to April 1986; seasonally adjusted data have been revised back to January 1983. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1988). Unadjusted data from April 1987 forward, and seasonally adjusted data from January 1984 forward are subject to revision in future benchmarks.

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 in the third month of their appearance. Thus, August data are published as preliminary in October and November and as final in December. For the same reason, quarterly establishment data (table 1) are preliminary for the first 2 months of publication and final in the third month. Thus, second-quarter data are published as preliminary in August and September and as final in October.

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

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

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

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

Notes on the data

The Employment Cost Index for changes in wages and salaries in the private nonfarm economy was published beginning in 1975. Changes in total compensation cost—wages and salaries and benefits combined—were published beginning in 1980. The series for 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 compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

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

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 paid 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 six 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 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; 16 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 date series for Germany (1983), Italy (1986), the Netherlands (1983), and Sweden (1986). For both Germany and the Netherlands, the breaks reflect the replacement of labor force survey results tabulated by the national statistical offices with those tabulated by the European Community Statistical Office (EUROSTAT). The Dutch figures for 1983 onward also reflect the replacement of man-year

employment data with data from the Dutch Survey of Employed Persons. The impact of the changes was to lower the adjusted unemployment rate by 0.3 percentage point for Germany and by about 2 percentage points for the Netherlands.

For Italy, the break in series reflects more accurate enumeration of time of last job search. This resulted in a significant increase in the number of people reported as seeking work in the past 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 workseeking was reduced from 60 days to 4 weeks. These changes resulted in lowering Sweden's unemployment rate by 0.5 percentage point.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B, and unpublished Supplements to Appendix B, available on request. The statistics are also analyzed periodically in the *Monthly Labor Review*. The latest article appears in the April 1988 *Review*. Additional historical data, generally beginning with 1959, are published in the *Handbook of Labor Statistics* and are available in unpublished 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 May) 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.

1. Labor market indicators

Selected indicators	1986	1987	1986			1987				1988
			II	III	IV	I	II	III	IV	I
Employment data										
Employment status of the civilian noninstitutionalized population (household survey) ¹										
Labor force participation rate	65.3	65.6	65.2	65.4	65.4	65.5	65.5	65.6	65.7	65.8
Employment-population ratio	60.7	61.5	60.6	60.8	60.9	61.1	61.4	61.7	61.9	62.1
Unemployment rate	7.0	6.2	7.2	7.0	6.8	6.6	6.3	6.0	5.9	5.7
Men	6.9	6.2	7.0	7.0	6.9	6.6	6.3	5.9	5.8	5.7
16 to 24 years	13.7	12.6	14.1	13.9	13.4	13.3	12.9	12.2	11.9	11.9
25 years and over	5.4	4.8	5.4	5.4	5.4	5.1	4.9	4.6	4.4	4.4
Women	7.1	6.2	7.3	7.0	6.8	6.6	6.2	6.1	6.0	5.8
16 to 24 years	12.8	11.7	13.1	12.7	12.5	12.5	11.8	11.4	11.1	11.0
25 years and over	5.5	4.8	5.7	5.4	5.3	5.0	4.7	4.7	4.7	4.4
Unemployment rate, 15 weeks and over	1.9	1.7	1.9	1.9	1.9	1.8	1.7	1.6	1.5	1.4
Employment, nonagricultural (payroll data), in thousands: ¹										
Total	99,530	102,323	99,189	99,676	100,347	101,024	101,841	102,669	103,683	104,670
Private sector	82,832	85,295	82,559	82,987	83,496	84,130	84,869	85,643	86,518	87,406
Goods-producing	24,558	24,784	24,588	24,454	24,443	24,523	24,644	24,847	25,116	25,260
Manufacturing	18,965	19,065	18,993	18,902	18,885	18,895	18,965	19,112	19,290	19,388
Service-producing	74,967	77,525	74,601	75,222	75,904	76,500	77,196	77,782	78,567	79,410
Average hours:										
Private sector	34.8	34.8	34.8	34.7	34.7	34.8	34.7	34.7	34.8	34.7
Manufacturing	40.7	41.0	40.7	40.7	40.8	41.0	40.9	40.9	41.1	41.0
Overtime	3.4	3.7	3.4	3.5	3.5	3.6	3.7	3.8	3.9	3.8
Employment Cost Index										
Percent change in the ECI, compensation:										
All workers (excluding farm, household, and Federal workers)	3.6	3.6	.7	1.1	.6	.9	.7	1.2	.8	1.4
Private industry workers	3.2	3.3	.8	.7	.6	1.0	.7	1.0	.7	1.5
Goods-producing ²	3.1	3.1	.9	.6	.5	.5	.7	.8	1.0	1.8
Service-producing ²	3.2	3.7	.6	.8	.6	1.3	.7	1.0	.5	1.3
State and local government workers	5.2	4.4	.6	2.8	.8	.8	.3	2.3	.9	1.3
Workers by bargaining status (private industry):										
Union	2.1	2.8	.2	.5	.3	.5	.5	.6	1.1	1.6
Nonunion	3.6	3.6	.9	.8	.7	1.1	.7	1.1	.6	1.5

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	1986	1987	1986			1987				1988
			II	III	IV	I	II	III	IV	I
Compensation data^{1, 2}										
Employment Cost Index--compensation (wages, salaries, benefits):										
Civilian nonfarm	3.6	3.6	0.7	1.1	0.6	0.9	0.7	1.2	0.8	1.4
Private nonfarm	3.2	3.3	.8	.7	.6	1.0	.7	1.0	.7	1.5
Employment Cost Index--wages and salaries										
Civilian nonfarm	3.5	3.5	.8	1.1	.6	1.0	.5	1.3	.7	1.0
Private nonfarm	3.1	3.3	.9	.7	.5	1.0	.7	1.0	.6	1.0
Price data¹										
Consumer Price Index (All urban consumers): All items	1.1	4.4	.6	.6	.3	1.4	1.2	1.3	.3	1.0
Producer Price Index:										
Finished goods	-2.3	2.2	.5	-.7	1.1	.8	1.2	.2	.1	.4
Finished consumer goods	-3.5	2.6	.4	-.7	.8	.9	1.6	.3	-.2	.3
Capital equipment	2.1	1.3	.6	-.8	2.1	.1	.3	-.2	1.1	.7
Intermediate materials, supplies, components	-4.4	5.4	-.9	-.2	-.3	1.3	1.9	1.2	.9	1.0
Crude materials	-8.9	8.9	-1.5	-.6	.6	4.2	5.3	.6	-1.4	-.3
Productivity data³										
Output per hour of all persons:										
Business sector	1.9	.9	.6	-.3	-.1	.5	1.4	4.7	-1.5	3.2
Nonfarm business sector	1.6	.8	.1	-.6	.0	.4	1.4	4.2	-1.0	3.6
Nonfinancial corporations ⁴	1.6	.3	-.2	-.9	2.1	-2.9	.7	3.3	-1.0	3.4

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.

3. Alternative measures of wage and compensation changes

Components	Quarterly average					Four quarters ended--						
	1986	1987				1988	1986	1987				1988
	IV	I	II	III	IV	I	IV	I	II	III	IV	I
Average hourly compensation:¹												
All persons, business sector	3.6	1.4	3.3	3.8	3.2	3.6	3.3	2.8	2.8	3.0	2.9	3.5
All employees, nonfarm business sector	4.0	1.1	3.0	3.6	3.5	3.4	3.4	2.7	2.7	2.9	2.8	3.4
Employment Cost Index--compensation:												
Civilian nonfarm ² .....	.6	.9	.7	1.2	.8	1.4	3.6	3.4	3.3	3.4	3.6	4.1
Private nonfarm .....	.6	1.0	.7	1.0	.7	1.5	3.2	3.1	3.0	3.3	3.3	3.9
Union .....	.3	.5	.5	.6	1.1	1.6	2.1	1.6	1.9	2.0	2.8	3.9
Nonunion .....	.7	1.1	.7	1.1	.6	1.5	3.6	3.6	3.4	3.7	3.6	4.0
State and local governments .....	.8	.8	.3	2.3	.9	1.3	5.2	5.0	4.7	4.2	4.4	4.9
Employment Cost Index--wages and salaries:												
Civilian nonfarm ² .....	.6	1.0	.5	1.3	.7	1.0	3.5	3.5	3.2	3.4	3.5	3.5
Private nonfarm .....	.5	1.0	.7	1.0	.6	1.0	3.1	3.2	3.0	3.3	3.3	3.3
Union .....	.2	.4	.5	.6	1.1	.4	2.0	1.7	1.7	1.7	2.6	2.6
Nonunion .....	.7	1.2	.8	1.1	.5	1.0	3.5	3.5	3.3	3.8	3.6	3.5
State and local governments .....	.7	.8	.2	2.3	.9	.9	5.4	5.2	5.0	4.1	4.2	4.4
Total effective wage adjustments³												
From current settlements .....	.5	.4	1.0	.9	.8	.4	2.3	2.0	2.2	2.6	3.1	3.2
From prior settlements .....	.2	.3	.7	.6	.3	.3	1.7	1.5	1.6	1.7	1.8	1.8
From cost-of-living provision .....	.1	.1	.2	.1	.2	.1	.2	.1	.3	.4	.5	.5
Negotiated wage adjustments from settlements:³												
First-year adjustments	2.0	.8	2.6	2.1	2.4	2.1	1.2	1.2	1.5	2.0	2.2	2.4
Annual rate over life of contract	2.1	1.6	2.9	2.0	1.8	2.3	1.8	1.8	2.0	2.2	2.1	2.2
Negotiated wage and benefit adjustments from settlements:⁵												
First-year adjustment	2.7	1.1	4.1	2.5	3.4	1.7	1.1	1.2	1.8	2.7	3.0	3.1
Annual rate over life of contract	2.4	2.1	3.9	2.1	2.4	1.8	1.6	1.7	2.1	2.6	2.6	2.5

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 Data round to zero.

⁵ 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		1987									1988			
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Noninstitutional population ^{1, 2}	182,293	184,490	184,259	184,421	184,605	184,738	184,904	185,052	185,225	185,370	185,571	185,705	185,847	185,964	186,088
Labor force ³	119,540	121,602	121,633	121,326	121,610	122,042	121,706	122,128	122,349	122,472	122,924	123,084	122,639	123,055	122,692
Participation rate ³	65.6	65.9	66.0	65.8	65.9	66.1	65.8	66.0	66.1	66.1	66.2	66.3	66.0	66.2	65.9
Total employed ²	111,303	114,177	114,060	114,018	114,359	114,786	114,615	114,951	115,259	115,494	115,878	116,145	115,839	116,445	115,909
Employment-population ratio ⁴	61.1	61.9	61.9	61.8	61.9	62.1	62.0	62.1	62.2	62.3	62.4	62.5	62.3	62.6	62.3
Resident Armed Forces ¹	1,706	1,737	1,726	1,718	1,720	1,736	1,743	1,741	1,755	1,750	1,749	1,736	1,736	1,732	1,714
Civilian employed	109,597	112,440	112,334	112,300	112,639	113,050	112,872	113,210	113,504	113,744	114,129	114,409	114,103	114,713	114,195
Agriculture	3,163	3,208	3,269	3,192	3,212	3,143	3,184	3,249	3,172	3,215	3,293	3,228	3,204	3,228	3,035
Nonagricultural industries	106,434	109,232	109,065	109,108	109,427	109,907	109,688	109,961	110,332	110,529	110,836	111,182	110,899	111,485	111,160
Unemployed	8,237	7,425	7,573	7,308	7,251	7,256	7,091	7,177	7,090	6,978	7,046	6,938	6,801	6,610	6,783
Unemployment rate ⁵	6.9	6.1	6.2	6.0	6.0	5.9	5.8	5.9	5.8	5.7	5.7	5.6	5.5	5.4	5.5
Not in labor force	62,752	62,888	62,626	63,095	62,995	62,696	63,198	62,924	62,876	62,898	62,647	62,621	63,208	62,909	63,396
Men, 16 years and over															
Noninstitutional population ^{1, 2}	87,349	88,476	88,361	88,442	88,534	88,598	88,683	88,756	88,849	88,924	89,033	89,099	89,168	89,225	89,287
Labor force ³	66,973	67,784	67,802	67,623	67,671	67,937	67,776	67,947	68,019	68,030	68,243	68,343	68,148	68,445	68,318
Participation rate ³	76.7	76.6	76.7	76.5	76.4	76.7	76.4	76.6	76.6	76.5	76.6	76.7	76.4	76.7	76.5
Total employed ²	62,443	63,684	63,543	63,543	63,711	63,916	63,949	64,048	64,174	64,245	64,396	64,636	64,332	64,892	64,583
Employment-population ratio ⁴	71.5	72.0	71.9	71.8	72.0	72.1	72.1	72.2	72.2	72.2	72.3	72.5	72.1	72.7	72.3
Resident Armed Forces ¹	1,551	1,577	1,566	1,559	1,561	1,575	1,581	1,580	1,593	1,589	1,588	1,577	1,573	1,569	1,553
Civilian employed	60,892	62,107	61,977	61,984	62,150	62,341	62,368	62,468	62,581	62,656	62,808	63,059	62,759	63,323	63,030
Unemployed	4,530	4,101	4,259	4,080	3,960	4,021	3,827	3,899	3,845	3,785	3,847	3,707	3,816	3,553	3,736
Unemployment rate ⁵	6.8	6.1	6.3	6.0	5.9	5.9	5.6	5.7	5.7	5.6	5.6	5.4	5.6	5.2	5.5
Women, 16 years and over															
Noninstitutional population ^{1, 2}	94,944	96,013	95,898	95,979	96,071	96,140	96,221	96,295	96,376	96,446	96,538	96,606	96,679	96,739	96,801
Labor force ³	52,568	53,818	53,831	53,703	53,939	54,105	53,930	54,181	54,330	54,442	54,681	54,740	54,491	54,610	54,374
Participation rate ³	55.4	56.1	56.1	56.0	56.1	56.3	56.0	56.3	56.4	56.4	56.6	56.7	56.4	56.5	56.2
Total employed ²	48,861	50,494	50,517	50,475	50,648	50,870	50,666	50,903	51,085	51,249	51,482	51,509	51,507	51,553	51,327
Employment-population ratio ⁴	51.5	52.6	52.7	52.6	52.7	52.9	52.7	52.9	53.0	53.1	53.3	53.3	53.3	53.3	53.0
Resident Armed Forces ¹	155	160	160	159	159	161	162	161	162	161	161	159	163	163	161
Civilian employed	48,706	50,334	50,357	50,316	50,489	50,709	50,504	50,742	50,923	51,088	51,321	51,350	51,344	51,390	51,166
Unemployed	3,707	3,324	3,314	3,228	3,291	3,235	3,264	3,278	3,245	3,193	3,200	3,231	2,985	3,057	3,047
Unemployment rate ⁵	7.1	6.2	6.2	6.0	6.1	6.0	6.1	6.1	6.0	5.9	5.9	5.9	5.5	5.6	5.6

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
TOTAL															
Civilian noninstitutional population ¹	180,587	182,753	182,533	182,703	182,885	183,002	183,161	183,311	183,470	183,620	183,822	183,969	184,111	184,232	184,374
Civilian labor force	117,834	119,865	119,907	119,608	119,890	120,306	119,963	120,387	120,594	120,722	121,175	121,348	120,903	121,323	120,978
Participation rate	65.3	65.6	65.7	65.5	65.6	65.7	65.5	65.7	65.7	65.7	65.9	66.0	65.7	65.9	65.6
Employed	109,597	112,440	112,334	112,300	112,639	113,050	112,872	113,210	113,504	113,744	114,129	114,409	114,103	114,713	114,195
Employment-population ratio ²	60.7	61.5	61.5	61.5	61.6	61.8	61.6	61.8	61.9	61.9	62.1	62.2	62.0	62.3	61.9
Unemployed	8,237	7,425	7,573	7,308	7,251	7,256	7,091	7,177	7,090	6,978	7,046	6,938	6,801	6,610	6,783
Unemployment rate	7.0	6.2	6.3	6.1	6.0	6.0	5.9	6.0	5.9	5.8	5.8	5.7	5.6	5.4	5.6
Not in labor force	62,752	62,888	62,626	63,095	62,995	62,696	63,198	62,924	62,876	62,898	62,647	62,621	63,208	62,909	63,396
Men, 20 years and over															
Civilian noninstitutional population ¹	78,523	79,565	79,474	79,536	79,625	79,668	79,740	79,807	79,885	80,002	80,120	80,203	80,260	80,326	80,402
Civilian labor force	61,320	62,095	62,129	62,054	62,106	62,083	62,085	62,211	62,299	62,248	62,440	62,696	62,497	62,791	62,662
Participation rate	78.1	78.0	78.2	78.0	78.0	77.9	77.9	78.0	78.0	77.8	77.9	78.2	77.9	78.2	77.9
Employed	57,569	58,726	58,673	58,632	58,783	58,825	58,967	59,037	59,164	59,185	59,287	59,625	59,407	59,883	59,590
Employment-population ratio ²	73.3	73.8	73.8	73.7	73.8	73.8	73.9	74.0	74.1	74.0	74.0	74.3	74.0	74.5	74.1
Agriculture	2,292	2,329	2,383	2,316	2,333	2,289	2,345	2,343	2,297	2,298	2,323	2,280	2,253	2,255	2,181
Nonagricultural industries	55,277	56,397	56,290	56,316	56,450	56,536	56,622	56,694	56,867	56,887	56,964	57,344	57,154	57,627	57,409
Unemployed	3,751	3,369	3,456	3,422	3,323	3,258	3,118	3,174	3,135	3,063	3,154	3,071	3,089	2,909	3,072
Unemployment rate	6.1	5.4	5.6	5.5	5.4	5.2	5.0	5.1	5.0	4.9	5.1	4.9	4.9	4.6	4.9
Women, 20 years and over															
Civilian noninstitutional population ¹	87,567	88,583	88,464	88,546	88,632	88,685	88,785	88,843	88,923	89,100	89,110	89,178	89,261	89,307	89,382
Civilian labor force	48,589	49,783	49,728	49,722	49,886	49,969	49,922	50,095	50,254	50,361	50,558	50,640	50,542	50,612	50,441
Participation rate	55.5	56.2	56.2	56.2	56.3	56.3	56.2	56.4	56.5	56.6	56.7	56.8	56.6	56.7	56.4
Employed	45,556	47,074	47,028	47,088	47,206	47,308	47,251	47,480	47,634	47,750	47,977	48,005	48,132	48,170	47,960
Employment-population ratio ²	52.0	53.1	53.2	53.2	53.3	53.3	53.2	53.4	53.6	53.6	53.8	53.8	53.9	53.9	53.7
Agriculture	614	622	629	619	620	609	600	636	636	643	646	654	656	692	587
Nonagricultural industries	44,943	46,453	46,399	46,469	46,586	46,699	46,651	46,844	46,998	47,107	47,331	47,351	47,476	47,478	47,373
Unemployed	3,032	2,709	2,700	2,634	2,680	2,661	2,671	2,615	2,620	2,611	2,581	2,635	2,411	2,442	2,481
Unemployment rate	6.2	5.4	5.4	5.3	5.4	5.3	5.4	5.2	5.2	5.2	5.1	5.2	4.8	4.8	4.9
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	14,496	14,606	14,595	14,621	14,628	14,649	14,637	14,661	14,663	14,609	14,592	14,588	14,591	14,598	14,590
Civilian labor force	7,926	7,988	8,050	7,832	7,898	8,254	7,956	8,081	8,041	8,113	8,177	8,011	7,865	7,919	7,875
Participation rate	54.7	54.7	55.2	53.6	54.0	56.3	54.4	55.1	54.8	55.5	56.0	54.9	53.9	54.2	54.0
Employed	6,472	6,640	6,633	6,580	6,650	6,917	6,654	6,693	6,706	6,809	6,865	6,779	6,564	6,660	6,645
Employment-population ratio ²	44.6	45.5	45.4	45.0	45.5	47.2	45.5	45.7	45.7	46.6	47.0	46.5	45.0	45.6	45.5
Agriculture	258	258	257	257	259	245	239	270	239	274	323	293	295	280	267
Nonagricultural industries	6,215	6,382	6,376	6,323	6,391	6,672	6,415	6,423	6,467	6,535	6,542	6,486	6,269	6,380	6,378
Unemployed	1,454	1,347	1,417	1,252	1,248	1,337	1,302	1,388	1,335	1,304	1,312	1,232	1,301	1,259	1,230
Unemployment rate	18.3	16.9	17.6	16.0	15.8	16.2	16.4	17.2	16.6	16.1	16.0	15.4	16.5	15.9	15.6
White															
Civilian noninstitutional population ¹	155,432	156,958	156,811	156,930	157,058	157,134	157,242	157,342	157,449	157,552	157,676	157,773	157,868	157,943	158,034
Civilian labor force	101,801	103,290	103,416	103,150	103,248	103,516	103,357	103,669	103,731	103,907	104,252	104,530	104,171	104,574	104,209
Participation rate	65.5	65.8	65.9	65.7	65.7	65.9	65.7	65.9	65.9	66.0	66.1	66.3	66.0	66.2	65.9
Employed	95,660	97,789	97,829	97,698	97,917	98,181	98,069	98,317	98,492	98,779	99,044	99,474	99,274	99,751	99,297
Employment-population ratio ²	61.5	62.3	62.4	62.3	62.3	62.5	62.4	62.5	62.6	62.7	62.8	63.0	62.9	63.2	62.8
Unemployed	6,140	5,501	5,587	5,452	5,331	5,335	5,288	5,352	5,239	5,128	5,208	5,056	4,897	4,824	4,913
Unemployment rate	6.0	5.3	5.4	5.3	5.2	5.2	5.1	5.2	5.1	4.9	5.0	4.8	4.7	4.6	4.7
Black															
Civilian noninstitutional population ¹	19,989	20,352	20,312	20,341	20,373	20,396	20,426	20,453	20,482	20,508	20,539	20,569	20,596	20,622	20,650
Civilian labor force	12,654	12,993	12,889	12,892	13,039	13,150	13,028	13,152	13,193	13,215	13,222	13,168	13,098	13,078	13,069
Participation rate	63.3	63.8	63.5	63.4	64.0	64.5	63.8	64.3	64.4	64.4	64.4	64.0	63.6	63.4	63.3
Employed	10,814	11,309	11,129	11,238	11,381	11,513	11,421	11,556	11,589	11,605	11,608	11,504	11,420	11,482	11,452
Employment-population ratio ²	54.1	55.6	54.8	55.2	55.9	56.4	55.9	56.5	56.6	56.6	56.5	55.9	55.4	55.7	55.5
Unemployed	1,840	1,684	1,760	1,654	1,658	1,637	1,607	1,596	1,604	1,610	1,614	1,663	1,678	1,597	1,617
Unemployment rate	14.5	13.0	13.7	12.8	12.7	12.4	12.3	12.1	12.2	12.2	12.2	12.6	12.8	12.2	12.4

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Hispanic origin															
Civilian noninstitutional population ¹	12,344	12,867	12,809	12,848	12,887	12,925	12,965	13,003	13,043	13,082	13,115	13,153	13,192	13,230	13,268
Civilian labor force	8,076	8,541	8,549	8,468	8,447	8,549	8,581	8,654	8,763	8,772	8,879	9,017	8,803	8,828	8,859
Participation rate	65.4	66.4	66.7	65.9	65.5	66.1	66.2	66.6	67.2	67.1	67.7	68.6	66.7	66.7	66.8
Employed	7,219	7,790	7,797	7,738	7,762	7,856	7,877	7,935	7,978	8,058	8,238	8,268	8,079	8,010	8,058
Employment-population ratio ²	58.5	60.5	60.9	60.2	60.2	60.8	60.8	61.0	61.2	61.6	62.8	62.9	61.2	60.5	60.7
Unemployed	857	751	752	730	685	693	704	719	785	714	642	749	724	818	801
Unemployment rate	10.6	8.8	8.8	8.6	8.1	8.1	8.2	8.3	9.0	8.1	7.2	8.3	8.2	9.3	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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Civilian employed, 16 years and over	109,597	112,440	112,334	112,300	112,639	113,050	112,872	113,210	113,504	113,744	114,129	114,409	114,103	114,713	114,195
Men	60,892	62,107	61,977	61,984	62,150	62,341	62,368	62,468	62,581	62,656	62,808	63,059	62,759	63,323	63,030
Women	48,706	50,334	50,357	50,316	50,489	50,709	50,504	50,742	50,923	51,088	51,321	51,350	51,344	51,390	51,166
Married men, spouse present ..	39,658	40,265	40,075	40,120	40,262	40,308	40,404	40,556	40,645	40,711	40,404	40,475	40,481	40,459	40,267
Married women, spouse present	27,144	28,107	28,314	28,282	28,283	28,189	28,069	28,099	28,175	28,249	28,441	28,707	28,805	28,859	28,567
Women who maintain families ..	5,837	6,060	5,963	6,011	6,033	6,107	6,151	6,178	6,237	6,227	6,168	6,157	6,160	6,055	5,957
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,547	1,632	1,672	1,622	1,625	1,591	1,624	1,705	1,595	1,599	1,666	1,677	1,648	1,678	1,526
Self-employed workers	1,447	1,423	1,429	1,403	1,424	1,393	1,415	1,430	1,407	1,450	1,454	1,414	1,423	1,385	1,346
Unpaid family workers	169	153	165	162	153	155	139	140	155	156	138	114	142	155	159
Nonagricultural industries:															
Wage and salary workers	98,299	100,771	100,634	100,510	100,825	101,241	101,282	101,522	101,943	101,997	102,507	102,683	102,279	102,538	101,927
Government	16,342	16,800	16,708	16,920	16,876	16,794	16,928	17,033	17,118	17,064	17,197	16,948	16,908	17,015	16,887
Private industries	81,957	83,970	83,926	83,590	83,949	84,447	84,354	84,489	84,825	84,933	85,310	85,735	85,371	85,523	85,040
Private households	1,235	1,208	1,240	1,163	1,212	1,175	1,100	1,222	1,286	1,200	1,147	1,170	1,175	1,092	1,156
Other	80,722	82,762	82,686	82,427	82,737	83,272	83,254	83,267	83,539	83,733	84,163	84,565	84,196	84,431	83,884
Self-employed workers	7,881	8,201	8,157	8,293	8,216	8,214	8,204	8,274	8,222	8,280	8,150	8,312	8,366	8,637	8,917
Unpaid family workers	255	260	276	274	266	248	297	242	235	248	237	228	248	281	307
PERSONS AT WORK PART TIME¹															
All industries:															
Part time for economic reasons ..	5,588	5,401	5,333	5,254	5,428	5,283	5,261	5,353	5,534	5,262	5,367	5,566	5,343	5,194	4,844
Slack work	2,456	2,385	2,292	2,345	2,429	2,468	2,213	2,377	2,408	2,284	2,396	2,478	2,520	2,236	2,227
Could only find part-time work ..	2,800	2,672	2,677	2,623	2,683	2,526	2,683	2,655	2,696	2,638	2,640	2,598	2,535	2,502	2,315
Voluntary part time	13,935	14,395	14,498	14,836	14,437	14,573	14,415	14,488	14,523	14,711	14,571	14,572	14,603	15,016	14,790
Nonagricultural industries:															
Part time for economic reasons ..	5,345	5,122	5,058	4,979	5,154	5,016	4,986	5,067	5,241	5,004	5,145	5,254	5,106	4,924	4,623
Slack work	2,305	2,201	2,126	2,176	2,261	2,265	2,034	2,196	2,209	2,111	2,260	2,327	2,325	2,121	2,120
Could only find part-time work ..	2,719	2,587	2,603	2,530	2,599	2,463	2,603	2,557	2,597	2,552	2,566	2,457	2,475	2,397	2,236
Voluntary part time	13,502	13,928	13,995	14,334	13,953	14,099	13,987	14,011	14,064	14,222	14,096	14,123	14,141	14,592	14,338

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
CHARACTERISTIC															
Total, all civilian workers	7.0	6.2	6.3	6.1	6.0	6.0	5.9	6.0	5.9	5.8	5.8	5.7	5.6	5.4	5.6
Both sexes, 16 to 19 years	18.3	16.9	17.6	16.0	15.8	16.2	16.4	17.2	16.6	16.1	16.0	15.4	16.5	15.9	15.6
Men, 20 years and over	6.1	5.4	5.6	5.5	5.4	5.2	5.0	5.1	5.0	4.9	5.1	4.9	4.9	4.6	4.9
Women, 20 years and over	6.2	5.4	5.4	5.3	5.4	5.3	5.4	5.2	5.2	5.2	5.1	5.2	4.8	4.8	4.9
White, total	6.0	5.3	5.4	5.3	5.2	5.2	5.1	5.2	5.1	4.9	5.0	4.8	4.7	4.6	4.7
Both sexes, 16 to 19 years	15.6	14.4	15.2	13.9	13.3	14.1	14.3	14.5	14.1	13.6	14.0	12.4	14.1	14.1	13.1
Men, 16 to 19 years	16.3	15.5	17.0	14.8	13.5	15.2	15.1	15.1	14.8	14.9	14.4	12.2	15.7	14.5	13.8
Women, 16 to 19 years	14.9	13.4	13.3	13.0	13.1	12.9	13.4	13.8	13.3	12.3	13.6	12.7	12.4	13.7	12.4
Men, 20 years and over	5.3	4.8	4.8	4.9	4.7	4.6	4.4	4.6	4.4	4.3	4.4	4.1	4.2	4.0	4.2
Women, 20 years and over	5.4	4.6	4.5	4.4	4.5	4.4	4.5	4.3	4.4	4.4	4.2	4.5	3.9	3.9	4.0
Black, total	14.5	13.0	13.7	12.8	12.7	12.4	12.3	12.1	12.2	12.2	12.2	12.6	12.8	12.2	12.4
Both sexes, 16 to 19 years	39.3	34.7	37.5	33.4	32.7	30.6	30.8	33.8	33.9	33.4	35.0	38.3	36.9	31.4	34.8
Men, 16 to 19 years	39.3	34.4	38.3	31.4	32.4	33.7	31.5	32.5	32.2	33.5	35.1	42.0	39.0	27.6	33.3
Women, 16 to 19 years	39.2	34.9	36.6	35.4	33.1	27.1	30.0	35.2	35.8	33.4	34.9	34.7	35.0	35.5	36.6
Men, 20 years and over	12.9	11.1	12.3	11.4	11.2	10.7	10.1	9.8	10.2	10.1	10.1	11.3	11.4	10.6	10.8
Women, 20 years and over	12.4	11.6	11.6	11.3	11.4	11.3	11.7	11.0	10.8	10.9	11.1	10.4	10.9	11.3	10.6
Hispanic origin, total	10.6	8.8	8.8	8.6	8.1	8.1	8.2	8.3	9.0	8.1	7.2	8.3	8.2	9.3	9.0
Married men, spouse present	4.4	3.9	4.0	4.0	3.8	3.7	3.7	3.7	3.5	3.4	3.6	3.4	3.4	3.0	3.3
Married women, spouse present	5.2	4.3	4.2	4.0	4.2	4.3	4.2	4.2	4.2	4.3	4.2	4.1	4.0	3.8	3.9
Women who maintain families	9.8	9.2	9.5	9.5	9.3	9.0	8.8	8.9	8.5	8.4	8.9	8.3	7.5	8.7	8.4
Full-time workers	6.6	5.8	5.9	5.9	5.7	5.6	5.5	5.6	5.5	5.4	5.4	5.3	5.3	5.1	5.2
Part-time workers	9.1	8.4	8.7	7.3	8.1	8.2	8.4	8.3	8.2	8.0	8.3	7.9	7.7	7.4	7.7
Unemployed 15 weeks and over	1.9	1.7	1.7	1.7	1.6	1.6	1.6	1.5	1.5	1.5	1.4	1.4	1.4	1.3	1.3
Labor force time lost ¹	7.9	7.1	7.2	7.1	6.9	6.9	6.8	6.8	6.8	6.6	6.6	6.6	6.5	6.2	6.4
INDUSTRY															
Nonagricultural private wage and salary workers	7.0	6.2	6.3	6.1	6.1	6.0	5.9	5.9	5.8	5.7	5.8	5.7	5.6	5.3	5.7
Mining	13.5	10.0	13.0	9.5	7.9	8.6	7.4	8.3	7.0	8.0	7.7	7.8	7.9	8.4	10.4
Construction	13.1	11.6	12.1	11.7	10.8	11.3	11.9	11.2	10.6	10.6	12.2	11.0	10.7	10.6	10.5
Manufacturing	7.1	6.0	6.3	5.7	6.0	5.6	5.6	5.7	5.3	5.1	5.6	5.6	5.2	5.3	5.4
Durable goods	6.9	5.8	6.2	5.4	6.0	5.5	5.4	5.2	4.8	4.8	5.5	5.9	5.2	4.8	4.9
Nondurable goods	7.4	6.3	6.5	6.1	5.9	5.8	5.9	6.5	5.9	5.6	5.8	5.3	5.3	6.0	6.0
Transportation and public utilities	5.1	4.5	4.4	4.8	4.4	4.4	4.1	4.4	4.5	4.6	3.6	3.6	4.2	3.8	4.4
Wholesale and retail trade	7.6	6.9	7.0	7.1	6.8	7.0	6.4	6.5	6.8	6.2	6.1	6.4	6.8	5.9	6.3
Finance and service industries	5.5	4.9	4.9	4.9	5.1	4.7	4.8	4.7	4.8	4.8	4.9	4.5	4.2	4.1	4.6
Government workers	3.6	3.5	3.4	3.4	3.4	3.7	3.4	3.3	3.4	3.2	3.0	2.8	2.8	3.0	2.9
Agricultural wage and salary workers	12.5	10.5	9.4	9.3	10.9	10.6	8.6	10.6	11.1	10.9	11.5	10.2	11.0	10.6	13.9

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total, 16 years and over	7.0	6.2	6.3	6.1	6.0	6.0	5.9	6.0	5.9	5.8	5.8	5.7	5.6	5.4	5.6
16 to 24 years	13.3	12.2	12.5	12.1	11.8	11.8	11.8	11.8	11.6	11.2	11.6	11.1	11.7	11.2	11.3
16 to 19 years	18.3	16.9	17.6	16.0	15.8	16.2	16.4	17.2	16.6	16.1	16.0	15.4	16.5	15.9	15.6
16 to 17 years	20.2	19.1	21.0	18.8	17.5	18.3	18.3	20.4	19.2	17.8	18.7	17.4	17.6	17.8	16.1
18 to 19 years	17.0	15.2	15.2	14.5	13.9	14.7	15.2	14.7	14.8	14.7	14.5	13.9	15.8	14.2	15.3
20 to 24 years	10.7	9.7	9.8	10.0	9.7	9.4	9.4	8.8	8.9	8.5	9.1	8.7	9.1	8.7	8.9
25 years and over	5.4	4.8	4.8	4.7	4.7	4.7	4.6	4.6	4.5	4.5	4.5	4.5	4.2	4.1	4.3
25 to 54 years	5.7	5.0	5.1	4.9	5.0	4.9	4.8	4.8	4.7	4.8	4.7	4.7	4.5	4.3	4.5
55 years and over	3.9	3.3	3.6	3.2	3.1	3.2	3.3	3.1	3.4	3.2	3.5	3.3	2.9	2.9	3.5
Men, 16 years and over	6.9	6.2	6.4	6.2	6.0	6.1	5.8	5.9	5.8	5.7	5.8	5.6	5.7	5.3	5.6
16 to 24 years	13.7	12.6	13.2	12.4	11.9	12.5	12.1	12.1	12.0	11.7	12.2	11.3	12.1	11.2	11.6
16 to 19 years	19.0	17.8	19.6	16.4	15.9	17.8	17.3	17.4	17.2	17.2	16.4	15.6	17.8	15.8	16.2
16 to 17 years	20.8	20.2	22.7	19.1	17.1	20.5	19.7	20.9	20.4	19.3	19.4	16.9	18.5	17.2	16.7
18 to 19 years	17.7	16.0	17.2	15.4	13.7	15.9	15.9	14.8	14.8	15.3	14.9	14.7	17.3	14.7	15.8
20 to 24 years	11.0	9.9	9.9	10.4	9.9	9.6	9.3	9.2	9.2	8.7	9.9	9.0	9.1	8.8	9.1
25 years and over	5.4	4.8	4.9	4.8	4.7	4.7	4.5	4.5	4.4	4.4	4.4	4.3	4.3	4.1	4.3
25 to 54 years	5.6	5.0	5.1	5.0	4.9	4.9	4.7	4.8	4.6	4.6	4.5	4.5	4.5	4.2	4.4
55 years and over	4.1	3.5	3.9	3.4	3.4	3.4	3.2	3.1	3.5	3.2	4.0	3.4	3.4	3.1	3.7
Women, 16 years and over	7.1	6.2	6.2	6.0	6.1	6.0	6.1	6.1	6.0	5.9	5.9	5.9	5.5	5.6	5.6
16 to 24 years	12.8	11.7	11.8	11.7	11.7	11.0	11.5	11.5	11.2	10.7	10.9	10.8	11.3	11.3	11.0
16 to 19 years	17.6	15.9	15.6	15.5	15.7	14.4	15.4	16.9	16.0	14.8	15.6	15.1	15.2	16.0	15.0
16 to 17 years	19.6	18.0	19.1	18.4	18.0	16.0	16.9	19.9	17.9	16.2	17.9	18.0	16.6	18.4	15.5
18 to 19 years	16.3	14.3	13.1	13.6	14.1	13.4	14.4	14.6	14.7	14.1	14.1	13.1	14.2	13.7	14.7
20 to 24 years	10.3	9.4	9.7	9.6	9.5	9.0	9.4	8.5	8.6	8.4	8.2	8.4	9.1	8.7	8.8
25 years and over	5.5	4.8	4.7	4.5	4.7	4.7	4.7	4.7	4.7	4.7	4.6	4.7	4.1	4.2	4.3
25 to 54 years	5.9	5.1	5.0	4.9	5.0	5.0	4.9	4.9	4.9	4.9	4.9	4.9	4.4	4.5	4.5
55 years and over	3.6	3.0	3.0	2.8	2.6	2.9	3.5	3.1	3.2	3.3	2.8	3.1	2.3	2.7	3.2

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

(Numbers in thousands)

Reason for unemployment	Annual average		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Job losers	4,033	3,566	3,612	3,554	3,529	3,389	3,313	3,388	3,307	3,200	3,209	3,207	3,139	2,916	3,236
On layoff	1,090	943	924	919	916	874	820	944	878	856	888	884	899	821	793
Other job losers	2,943	2,623	2,688	2,635	2,613	2,515	2,493	2,444	2,429	2,344	2,320	2,323	2,240	2,095	2,443
Job leavers	1,015	965	931	959	989	992	981	960	926	946	1,082	961	1,075	993	926
Reentrants	2,160	1,974	1,995	1,980	1,930	1,969	1,908	1,845	1,974	1,945	1,917	1,951	1,756	1,784	1,789
New entrants	1,029	920	999	854	844	855	882	914	855	909	885	864	887	915	807
PERCENT OF UNEMPLOYED															
Job losers	48.9	48.0	47.9	48.4	48.4	47.0	46.8	47.7	46.8	45.7	45.2	45.9	45.8	44.1	47.9
On layoff	13.2	12.7	12.3	12.5	12.6	12.1	11.6	13.3	12.4	12.2	12.5	12.7	13.1	12.4	11.7
Other job losers	35.7	35.3	35.7	35.9	35.8	34.9	35.2	34.4	34.4	33.5	32.7	33.3	32.7	31.7	36.2
Job leavers	12.3	13.0	12.4	13.1	13.6	13.8	13.8	13.5	13.1	13.5	15.3	13.8	15.7	15.0	13.7
Reentrants	26.2	26.6	26.5	26.9	26.5	27.3	26.9	26.0	28.0	27.8	27.0	27.9	25.6	27.0	26.5
New entrants	12.5	12.4	13.3	11.6	11.6	11.9	12.5	12.9	12.1	13.0	12.5	12.4	12.9	13.8	11.9
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	3.4	3.0	3.0	3.0	2.9	2.8	2.8	2.8	2.7	2.7	2.6	2.6	2.6	2.4	2.7
Job leavers .....	.9	.8	.8	.8	.8	.8	.8	.8	.8	.8	.9	.8	.9	.8	.8
Reentrants	1.8	1.6	1.7	1.7	1.6	1.6	1.6	1.5	1.6	1.6	1.6	1.6	1.5	1.5	1.5
New entrants .....	.9	.8	.8	.7	.7	.7	.7	.8	.7	.8	.7	.7	.7	.8	.7

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Less than 5 weeks	3,448	3,246	3,308	3,138	3,186	3,203	3,220	3,223	3,218	3,229	3,089	3,084	3,009	3,125	3,075
5 to 14 weeks	2,557	2,196	2,165	2,151	2,144	2,142	1,949	2,093	2,029	1,968	2,263	2,145	2,101	1,956	2,110
15 weeks and over	2,232	1,983	2,067	2,029	1,920	1,896	1,904	1,801	1,834	1,791	1,733	1,740	1,722	1,540	1,609
15 to 26 weeks	1,045	943	974	973	945	834	917	844	899	892	839	841	887	725	784
27 weeks and over	1,187	1,040	1,093	1,056	975	1,062	987	957	935	899	894	899	835	816	825
Mean duration in weeks	15.0	14.5	14.8	14.7	14.2	14.3	14.2	14.1	14.0	14.2	14.4	14.4	13.7	13.4	13.8
Median duration in weeks	6.9	6.5	6.6	6.6	6.6	6.4	5.8	6.2	6.1	6.0	6.4	6.4	6.6	5.6	5.9

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

State	Apr. 1987	Apr. 1988	State	Apr. 1987	Apr. 1988
Alabama	7.6	6.8	Montana	8.2	7.6
Alaska	12.5	9.9	Nebraska	5.1	3.3
Arizona	6.3	5.4	Nevada	6.5	5.9
Arkansas	8.3	7.5	New Hampshire	2.6	2.3
California	5.8	5.0	New Jersey	3.8	3.2
Colorado	8.2	6.8	New Mexico	9.4	8.4
Connecticut	3.2	2.5	New York	4.8	3.4
Delaware	3.1	3.2	North Carolina	4.3	3.4
District of Columbia	6.6	5.2	North Dakota	6.0	4.6
Florida	5.2	5.0	Ohio	7.1	6.0
Georgia	5.5	5.8	Oklahoma	7.9	6.1
Hawaii	4.0	2.9	Oregon	6.7	6.1
Idaho	9.1	7.2	Pennsylvania	5.4	4.6
Illinois	8.2	7.4	Rhode Island	4.1	3.4
Indiana	6.6	4.8	South Carolina	5.6	4.5
Iowa	6.0	4.4	South Dakota	4.1	2.7
Kansas	4.9	4.2	Tennessee	6.8	5.3
Kentucky	9.1	8.6	Texas	8.3	7.0
Louisiana	13.0	10.6	Utah	6.6	5.2
Maine	5.6	4.4	Vermont	4.5	3.4
Maryland	4.2	4.0	Virginia	4.2	3.5
Massachusetts	3.9	2.9	Washington	7.8	6.3
Michigan	8.5	7.5	West Virginia	11.8	9.7
Minnesota	5.6	3.8	Wisconsin	6.5	4.6
Mississippi	10.3	7.3	Wyoming	10.2	6.5
Missouri	6.4	4.7			

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	Apr. 1987	Mar. 1988	Apr. 1988 ^P	State	Apr. 1987	Mar. 1988	Apr. 1988 ^P
Alabama	1,497.6	1,514.5	1,519.2	Nebraska	656.7	664.2	668.6
Alaska	205.5	200.6	204.6	Nevada	490.1	515.7	519.8
Arizona	1,387.1	1,423.6	1,423.4	New Hampshire	502.1	522.4	525.8
Arkansas	830.1	849.9	858.2	New Jersey	3,563.1	3,612.0	3,649.5
California	11,560.4	11,958.3	11,993.8	New Mexico	525.9	534.5	536.9
Colorado	1,400.3	1,394.4	1,395.3	New York	7,990.3	8,105.3	8,154.2
Connecticut	1,634.7	1,655.5	1,672.5	North Carolina	2,839.8	2,922.1	2,934.1
Delaware	314.7	327.3	329.1	North Dakota	250.3	250.3	252.8
District of Columbia	650.8	660.9	667.4	Ohio	4,539.2	4,595.8	4,655.8
Florida	4,826.5	5,108.4	5,099.3	Oklahoma	1,104.4	1,093.4	1,095.6
Georgia	2,744.1	2,784.4	2,787.2	Oregon	1,078.8	1,113.9	1,124.0
Hawaii	457.2	467.7	467.5	Pennsylvania	4,891.4	4,948.0	5,003.7
Idaho	327.6	333.7	337.3	Rhode Island	449.8	449.4	456.3
Illinois	4,874.4	4,951.6	4,980.1	South Carolina	1,388.1	1,424.7	1,439.0
Indiana	2,288.2	2,340.6	2,380.9	South Dakota	252.8	252.9	256.3
Iowa	1,104.0	1,126.5	1,139.2	Tennessee	1,987.4	2,043.4	2,055.3
Kansas	1,001.4	1,012.3	1,017.0	Texas	6,482.0	6,538.7	6,547.4
Kentucky	1,300.8	1,338.6	1,347.4	Utah	635.9	643.8	646.8
Louisiana	1,477.6	1,494.5	1,495.6	Vermont	238.9	249.1	245.6
Maine	488.2	507.0	513.1	Virginia	2,653.5	2,737.8	2,763.4
Maryland	2,006.0	2,022.5	2,028.1	Washington	1,815.1	1,876.4	1,901.1
Massachusetts	3,030.2	3,070.7	3,099.6	West Virginia	593.1	593.1	599.9
Michigan	3,710.4	3,693.3	3,729.4	Wisconsin	2,056.5	2,094.9	2,125.4
Minnesota	1,937.5	1,963.8	1,991.0	Wyoming	175.7	173.5	174.9
Mississippi	859.9	880.4	885.7	Puerto Rico	745.5	772.5	773.2
Missouri	2,178.8	2,195.0	2,216.6	Virgin Islands	39.3	40.8	40.8
Montana	272.6	270.3	272.7				

^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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
TOTAL	99,530	102,323	101,829	102,078	102,430	102,672	102,906	103,371	103,678	104,001	104,262	104,729	105,020	105,269	105,478
PRIVATE SECTOR	82,832	85,295	84,859	85,094	85,421	85,656	85,851	86,241	86,520	86,794	87,044	87,475	87,700	87,957	88,122
GOODS-PRODUCING	24,558	24,784	24,653	24,684	24,788	24,851	24,902	25,025	25,123	25,201	25,180	25,271	25,330	25,438	25,446
Mining	777	721	716	719	722	728	734	740	736	735	728	731	733	739	737
Oil and gas extraction	451	405	401	404	408	412	417	421	418	417	414	415	419	423	423
Construction	4,816	4,998	4,967	4,983	4,997	5,012	5,012	5,060	5,090	5,118	5,083	5,150	5,192	5,240	5,234
General building contractors	1,291	1,326	1,316	1,319	1,320	1,326	1,328	1,340	1,348	1,352	1,365	1,377	1,383	1,401	1,396
Manufacturing	18,965	19,065	18,970	18,982	19,069	19,111	19,156	19,225	19,297	19,348	19,369	19,390	19,405	19,459	19,475
Production workers	12,877	12,995	12,923	12,939	13,006	13,038	13,075	13,118	13,175	13,215	13,225	13,249	13,251	13,279	13,301
Durable goods	11,230	11,218	11,159	11,166	11,190	11,246	11,269	11,315	11,355	11,390	11,393	11,404	11,411	11,458	11,470
Production workers	7,426	7,453	7,408	7,417	7,432	7,483	7,499	7,532	7,564	7,590	7,582	7,599	7,598	7,632	7,648
Lumber and wood products	710	740	738	736	740	739	744	744	750	754	754	756	755	757	757
Furniture and fixtures	498	518	514	516	524	524	526	529	531	533	536	535	534	536	537
Stone, clay, and glass products	585	582	581	580	579	580	580	583	585	588	583	584	585	587	583
Primary metal industries	752	749	743	746	751	755	761	766	768	769	768	770	772	773	775
Blast furnaces and basic steel products	274	269	269	271	272	274	276	278	279	279	279	280	281	281	281
Fabricated metal products	1,423	1,407	1,397	1,400	1,404	1,405	1,412	1,421	1,429	1,433	1,435	1,438	1,439	1,444	1,449
Machinery, except electrical	2,053	2,023	2,007	2,013	2,020	2,031	2,039	2,049	2,062	2,074	2,085	2,091	2,099	2,110	2,117
Electrical and electronic equipment	2,116	2,084	2,072	2,066	2,075	2,081	2,085	2,094	2,100	2,110	2,112	2,112	2,115	2,118	2,116
Transportation equipment	2,025	2,048	2,048	2,047	2,032	2,063	2,052	2,052	2,047	2,046	2,036	2,031	2,025	2,044	2,050
Motor vehicles and equipment	872	865	869	867	842	874	860	859	854	851	839	837	835	848	852
Instruments and related products	706	696	693	694	695	696	696	700	704	704	704	705	705	705	707
Miscellaneous manufacturing industries	361	370	366	368	370	372	374	377	379	379	380	382	382	384	379
Nondurable goods	7,734	7,847	7,811	7,816	7,879	7,865	7,887	7,910	7,942	7,958	7,976	7,986	7,994	8,001	8,005
Production workers	5,450	5,543	5,515	5,522	5,574	5,555	5,576	5,586	5,611	5,625	5,643	5,650	5,653	5,647	5,653
Food and kindred products	1,609	1,624	1,618	1,621	1,629	1,625	1,627	1,630	1,636	1,638	1,647	1,649	1,647	1,648	1,640
Tobacco manufactures	59	54	55	55	55	54	53	52	54	54	55	54	54	54	53
Textile mill products	703	725	721	724	730	728	730	731	733	733	732	732	729	727	728
Apparel and other textile products	1,101	1,100	1,095	1,098	1,116	1,098	1,104	1,106	1,110	1,106	1,105	1,104	1,106	1,100	1,099
Paper and allied products	674	679	678	677	678	680	682	682	683	684	685	686	687	688	689
Printing and publishing	1,459	1,507	1,501	1,505	1,510	1,514	1,518	1,522	1,528	1,532	1,538	1,544	1,548	1,554	1,556
Chemicals and allied products	1,022	1,026	1,020	1,014	1,025	1,029	1,032	1,036	1,041	1,047	1,047	1,049	1,052	1,055	1,059
Petroleum and coal products	169	165	165	165	165	165	166	167	167	167	166	165	164	165	165
Rubber and misc. plastics products	790	823	816	815	824	827	830	839	845	851	854	856	860	864	870
Leather and leather products	149	144	142	142	147	145	145	145	145	146	147	147	147	146	146
SERVICE-PRODUCING	74,967	77,525	77,176	77,394	77,642	77,821	78,004	78,346	78,555	78,800	79,082	79,458	79,690	79,831	80,032
Transportation and public utilities	5,255	5,385	5,356	5,363	5,373	5,394	5,427	5,448	5,466	5,481	5,499	5,513	5,530	5,542	5,561
Transportation	3,058	3,166	3,143	3,153	3,151	3,171	3,201	3,214	3,231	3,244	3,261	3,272	3,285	3,297	3,313
Communication and public utilities	2,197	2,218	2,213	2,210	2,222	2,223	2,226	2,234	2,235	2,237	2,238	2,241	2,245	2,245	2,248
Wholesale trade	5,753	5,872	5,841	5,860	5,874	5,892	5,914	5,935	5,958	5,984	6,010	6,035	6,061	6,089	6,113
Durable goods	3,383	3,449	3,422	3,434	3,450	3,463	3,478	3,498	3,514	3,536	3,555	3,573	3,591	3,609	3,629
Nondurable goods	2,370	2,423	2,419	2,426	2,424	2,429	2,436	2,437	2,444	2,448	2,455	2,462	2,470	2,480	2,484
Retail trade	17,930	18,509	18,417	18,481	18,543	18,569	18,605	18,705	18,761	18,784	18,927	19,045	19,050	19,083	19,128
General merchandise stores	2,366	2,432	2,412	2,418	2,437	2,449	2,457	2,489	2,495	2,494	2,526	2,561	2,543	2,542	2,547
Food stores	2,899	2,957	2,957	2,962	2,962	2,961	2,958	2,971	2,979	2,988	3,014	3,029	3,044	3,045	3,055
Automotive dealers and service stations	1,944	2,004	1,994	2,001	2,007	2,010	2,015	2,026	2,026	2,033	2,038	2,047	2,055	2,062	2,064
Eating and drinking places	5,916	6,127	6,087	6,109	6,128	6,143	6,152	6,191	6,216	6,232	6,260	6,291	6,319	6,326	6,336
Finance, insurance, and real estate	6,283	6,549	6,539	6,553	6,570	6,581	6,588	6,604	6,608	6,619	6,633	6,636	6,651	6,649	6,639
Finance	3,149	3,275	3,273	3,280	3,288	3,289	3,292	3,295	3,299	3,301	3,308	3,305	3,306	3,302	3,296
Insurance	1,939	2,022	2,017	2,019	2,024	2,029	2,032	2,043	2,042	2,049	2,052	2,053	2,060	2,065	2,065
Real estate	1,195	1,252	1,249	1,254	1,258	1,263	1,264	1,266	1,267	1,269	1,273	1,278	1,285	1,282	1,278
Services	23,053	24,196	24,053	24,153	24,273	24,369	24,415	24,524	24,604	24,725	24,795	24,975	25,078	25,156	25,235
Business services	4,799	5,172	5,158	5,164	5,179	5,212	5,233	5,282	5,287	5,306	5,321	5,385	5,405	5,417	5,435
Health services	6,536	6,828	6,778	6,806	6,836	6,875	6,894	6,928	6,962	6,995	7,019	7,056	7,088	7,125	7,159
Government	16,693	17,015	16,970	16,984	17,009	17,016	17,055	17,130	17,158	17,207	17,218	17,254	17,320	17,312	17,356
Federal	2,899	2,943	2,936	2,939	2,941	2,943	2,962	2,966	2,974	2,980	2,973	2,972	2,970	2,968	2,954
State	3,893	3,963	3,954	3,946	3,965	3,971	3,973	3,985	3,988	4,001	4,006	4,014	4,031	4,040	4,067
Local	9,901	10,109	10,080	10,099	10,103	10,102	10,120	10,179	10,196	10,226	10,239	10,268	10,319	10,304	10,335

^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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
PRIVATE SECTOR	34.8	34.8	34.8	34.7	34.8	34.8	34.6	34.9	34.8	34.6	34.7	34.8	34.6	34.9	34.7
MANUFACTURING	40.7	41.0	41.0	41.0	41.0	41.0	40.6	41.2	41.2	41.0	41.1	41.0	40.9	41.2	41.1
Overtime hours	3.4	3.7	3.8	3.7	3.8	3.8	3.7	3.9	3.9	3.8	3.9	3.7	3.7	4.0	4.0
Durable goods	41.3	41.5	41.6	41.5	41.6	41.5	41.0	41.8	41.8	41.5	41.6	41.5	41.5	41.9	41.9
Overtime hours	3.5	3.8	3.8	3.8	3.8	3.9	3.7	4.0	4.0	3.9	4.0	3.8	3.8	4.2	4.2
Lumber and wood products	40.3	40.6	40.9	40.6	40.6	40.5	39.6	40.4	40.7	40.4	40.2	40.3	40.1	40.6	40.1
Furniture and fixtures	39.8	40.0	40.0	40.0	40.0	40.0	39.5	40.1	40.2	39.8	39.6	39.5	39.3	39.5	39.3
Stone, clay, and glass products	42.2	42.3	42.3	42.0	42.3	42.2	42.0	42.5	42.4	42.5	42.0	42.3	42.3	42.5	42.3
Primary metal industries	41.9	43.1	42.9	43.0	43.2	43.3	43.2	43.6	43.5	43.4	43.4	43.1	43.3	43.4	43.7
Blast furnaces and basic steel products	41.7	43.4	43.0	43.2	43.7	43.7	44.6	43.9	43.8	44.0	44.0	43.8	43.7	43.6	43.9
Fabricated metal products	41.3	41.5	41.5	41.6	41.5	41.5	40.9	41.9	42.1	41.7	41.8	41.6	41.6	42.0	42.1
Machinery except electrical	41.6	42.2	42.2	42.3	42.5	42.3	41.7	42.6	42.7	42.6	42.7	42.6	42.5	42.8	42.6
Electrical and electronic equipment	41.0	40.9	40.9	40.9	40.9	40.9	40.4	41.0	41.0	40.9	41.1	40.9	40.9	41.2	41.1
Transportation equipment	42.3	42.0	42.2	41.9	41.8	41.8	41.4	42.4	42.3	41.5	42.0	42.0	42.1	43.0	43.1
Motor vehicles and equipment	42.6	42.2	42.3	42.0	41.8	41.9	41.5	42.8	42.9	41.4	42.1	42.3	42.3	44.1	44.3
Instruments and related products	41.0	41.4	41.4	41.4	41.5	41.6	41.0	41.9	41.4	41.2	41.8	41.3	41.4	41.7	41.4
Miscellaneous manufacturing	39.6	39.4	39.4	39.4	39.5	39.7	38.9	39.5	39.2	39.2	39.1	39.3	39.2	39.4	39.3
Nondurable goods	39.9	40.2	40.3	40.2	40.3	40.3	40.1	40.4	40.3	40.3	40.3	40.2	40.1	40.3	40.0
Overtime hours	3.3	3.6	3.7	3.6	3.7	3.7	3.6	3.8	3.7	3.7	3.8	3.6	3.6	3.6	3.7
Food and kindred products	40.0	40.2	40.1	40.1	40.1	40.2	40.2	40.4	40.4	40.5	40.6	40.3	40.1	40.2	40.2
Textile mill products	41.1	41.8	42.0	42.1	42.3	42.0	41.4	41.8	41.6	41.5	41.5	41.6	41.2	41.6	40.9
Apparel and other textile products	36.7	37.0	37.1	37.0	37.2	37.2	36.4	37.3	37.1	37.1	36.8	37.0	37.0	37.4	36.8
Paper and allied products	43.2	43.4	43.5	43.4	43.5	43.4	43.7	43.6	43.5	43.3	43.4	43.3	43.2	43.4	43.3
Printing and publishing	38.0	38.0	38.0	38.0	38.1	38.1	38.1	38.1	38.0	38.0	38.1	38.1	38.1	38.2	37.8
Chemicals and allied products	41.9	42.3	42.2	42.2	42.2	42.4	42.5	42.5	42.5	42.5	42.5	42.4	42.5	42.2	42.0
Rubber and miscellaneous plastics products	41.3	41.6	41.7	41.7	41.6	41.6	41.3	41.8	41.8	41.6	41.7	41.6	41.7	41.9	41.6
Leather and leather products	36.9	38.2	38.4	38.5	38.4	38.9	37.8	38.8	38.3	38.0	38.0	37.8	37.9	37.1	37.5
TRANSPORTATION AND PUBLIC UTILITIES	39.2	39.2	39.3	39.0	39.3	39.3	39.1	39.3	39.2	39.1	39.5	39.1	38.8	39.2	39.0
WHOLESALE TRADE	37.7	37.5	38.3	38.1	38.1	38.2	38.0	38.2	38.2	38.0	38.1	38.2	38.1	38.3	38.1
RETAIL TRADE	29.2	29.2	29.3	29.2	29.3	29.4	29.5	29.2	29.2	28.8	29.0	29.1	29.0	29.2	29.1
SERVICES	32.5	32.5	32.5	32.5	32.5	32.5	32.5	32.6	32.6	32.5	32.6	32.7	32.4	32.7	32.5

^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

Industry	Annual average		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
PRIVATE SECTOR	\$8.76	\$8.98	\$8.93	\$8.91	\$8.90	\$8.94	\$9.05	\$9.08	\$9.13	\$9.13	\$9.18	\$9.17	\$9.18	\$9.22	\$9.26
Seasonally adjusted	-	-	8.95	8.95	8.96	9.01	9.02	9.07	9.10	9.11	9.14	9.13	9.16	9.22	9.28
MINING	12.46	12.52	12.50	12.52	12.41	12.40	12.50	12.42	12.54	12.60	12.77	12.71	12.59	12.58	12.53
CONSTRUCTION	12.48	12.69	12.66	12.66	12.60	12.68	12.79	12.82	12.83	12.81	12.99	12.82	12.87	12.85	12.87
MANUFACTURING	9.73	9.91	9.87	9.87	9.87	9.86	9.99	9.95	10.01	10.07	10.07	10.05	10.07	10.11	10.14
Durable goods	10.29	10.43	10.38	10.40	10.38	10.39	10.49	10.48	10.54	10.60	10.60	10.58	10.59	10.65	10.67
Lumber and wood products	8.34	8.40	8.37	8.43	8.45	8.48	8.46	8.42	8.47	8.43	8.51	8.53	8.45	8.49	8.55
Furniture and fixtures	7.46	7.67	7.63	7.66	7.66	7.74	7.74	7.71	7.71	7.78	7.80	7.74	7.76	7.81	7.87
Stone, clay, and glass products	10.04	10.25	10.26	10.28	10.30	10.28	10.37	10.27	10.30	10.29	10.35	10.33	10.36	10.40	10.45
Primary metal industries	11.86	11.94	11.92	11.91	11.93	11.93	12.19	12.00	12.04	12.11	12.06	12.03	12.07	12.12	12.14
Blast furnaces and basic steel products	13.73	13.78	13.73	13.75	13.63	13.74	14.12	13.88	13.89	13.93	13.82	13.89	13.89	13.96	13.99
Fabricated metal products	9.88	10.00	9.94	9.98	9.93	9.94	10.00	10.06	10.10	10.19	10.12	10.13	10.14	10.22	10.23
Machinery, except electrical	10.57	10.70	10.63	10.68	10.67	10.70	10.74	10.79	10.83	10.89	10.85	10.82	10.84	10.88	10.91
Electrical and electronic equipment	9.65	9.88	9.81	9.83	9.86	9.88	9.94	9.92	9.98	10.03	10.02	10.02	10.04	10.09	10.11
Transportation equipment	12.81	12.95	12.85	12.87	12.82	12.88	13.04	13.07	13.18	13.25	13.22	13.17	13.20	13.29	13.29
Motor vehicles and equipment	13.45	13.55	13.43	13.47	13.35	13.40	13.64	13.69	13.79	13.87	13.94	13.85	13.93	14.10	14.07
Instruments and related products	9.47	9.71	9.66	9.66	9.71	9.74	9.76	9.78	9.83	9.84	9.93	9.92	9.88	9.87	9.91
Miscellaneous manufacturing	7.55	7.75	7.74	7.75	7.72	7.72	7.78	7.79	7.80	7.91	7.97	7.90	7.91	7.91	7.98
Nondurable goods	8.95	9.18	9.14	9.13	9.18	9.14	9.30	9.20	9.26	9.32	9.32	9.31	9.33	9.36	9.39
Food and kindred products	8.75	8.94	8.99	8.92	8.88	8.82	8.95	8.88	8.98	9.07	9.06	9.06	9.07	9.12	9.13
Tobacco manufactures	12.88	14.03	14.60	15.85	15.17	14.55	13.34	13.18	13.75	13.69	13.79	14.01	14.42	14.99	15.29
Textile mill products	6.93	7.17	7.12	7.13	7.13	7.16	7.23	7.24	7.29	7.31	7.34	7.30	7.31	7.35	7.32
Apparel and other textile products	5.84	5.93	5.87	5.89	5.87	5.88	5.99	5.97	5.98	6.00	6.02	6.02	6.03	6.04	6.06
Paper and allied products	11.18	11.43	11.41	11.42	11.49	11.41	11.66	11.46	11.49	11.53	11.54	11.50	11.52	11.59	11.68
Printing and publishing	9.99	10.28	10.19	10.19	10.24	10.32	10.48	10.41	10.39	10.43	10.38	10.40	10.45	10.40	10.45
Chemicals and allied products	11.98	12.37	12.32	12.28	12.37	12.33	12.56	12.50	12.55	12.61	12.55	12.55	12.53	12.56	12.64
Petroleum and coal products	14.19	14.59	14.54	14.44	14.51	14.54	14.74	14.66	14.77	14.73	14.89	14.96	14.98	15.02	14.93
Rubber and miscellaneous plastics products	8.73	8.91	8.86	8.89	8.96	8.93	9.01	8.93	8.98	9.04	9.00	9.00	9.00	9.03	9.05
Leather and leather products	5.92	6.08	6.05	6.09	5.99	6.04	6.13	6.12	6.15	6.16	6.16	6.19	6.23	6.29	6.28
TRANSPORTATION AND PUBLIC UTILITIES	11.70	12.03	11.93	11.94	12.00	12.06	12.11	12.12	12.21	12.24	12.16	12.23	12.19	12.17	12.18
WHOLESALE TRADE	9.35	9.59	9.56	9.54	9.56	9.60	9.64	9.65	9.72	9.73	9.78	9.78	9.78	9.88	9.88
RETAIL TRADE	6.03	6.11	6.09	6.08	6.07	6.07	6.20	6.16	6.18	6.19	6.24	6.23	6.24	6.25	6.27
FINANCE, INSURANCE, AND REAL ESTATE	8.36	8.73	8.72	8.63	8.63	8.74	8.73	8.76	8.89	8.81	8.96	9.02	8.97	9.05	9.17
SERVICES	8.18	8.48	8.40	8.37	8.34	8.40	8.54	8.61	8.71	8.73	8.81	8.81	8.80	8.82	8.87

- Data not available.
P = preliminary

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

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

Industry	Annual average		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr. ^P	May ^P
PRIVATE SECTOR															
Current dollars	\$304.85	\$312.50	\$310.76	\$311.85	\$311.50	\$314.69	\$314.04	\$316.89	\$317.72	\$317.72	\$315.79	\$316.37	\$315.79	\$319.93	\$320.40
Seasonally adjusted	-	-	311.46	310.57	311.81	313.55	312.09	316.54	316.68	315.21	317.16	317.72	316.94	321.78	322.02
Constant (1977) dollars	171.07	169.28	169.17	169.02	168.47	169.28	168.12	169.19	169.45	169.54	167.97	168.01	167.08	168.38	-
MINING	525.81	530.85	530.00	529.60	521.22	529.48	528.75	532.82	534.20	543.06	537.62	531.28	527.52	538.42	531.27
CONSTRUCTION	466.75	479.68	487.41	482.35	486.36	489.45	466.84	497.42	475.99	481.66	466.34	462.80	481.34	487.02	494.21
MANUFACTURING															
Current dollars	396.01	406.31	403.68	405.66	400.72	403.27	407.59	410.94	414.41	420.93	412.87	409.04	411.86	414.51	415.74
Constant (1977) dollars	222.23	220.10	219.75	219.87	216.72	216.93	218.20	219.40	221.02	224.62	219.61	217.23	217.92	218.16	-
Durable goods	424.98	432.85	430.77	433.68	425.58	429.11	431.14	438.06	442.68	449.44	440.96	436.95	440.54	444.11	446.01
Lumber and wood products	336.10	341.04	345.68	348.16	341.38	345.98	337.55	341.85	342.19	341.42	336.15	339.49	337.16	344.69	346.28
Furniture and fixtures	296.91	306.80	302.15	306.40	301.04	311.92	309.60	314.57	313.03	319.76	303.42	301.09	302.64	305.37	306.14
Stone, clay, and glass products	423.69	433.58	439.13	436.90	438.78	437.93	440.73	441.61	436.72	435.27	423.32	426.63	435.12	442.00	447.26
Primary metal industries	496.93	514.61	510.18	513.32	510.60	511.80	526.61	520.80	526.15	534.05	524.61	519.70	523.84	526.01	529.30
Blast furnaces and basic steel products	572.54	598.05	590.39	596.75	595.63	594.94	631.16	603.78	608.38	618.49	606.70	609.77	606.99	611.45	614.16
Fabricated metal products	408.04	415.00	410.52	416.17	405.14	410.52	410.00	422.52	428.24	435.11	423.02	418.37	421.82	426.17	428.64
Machinery, except electrical	439.71	451.54	446.46	452.83	446.01	448.33	447.86	458.58	465.69	475.89	464.38	459.85	462.87	463.49	462.58
Electrical and electronic equipment	395.65	404.09	398.29	403.03	397.36	402.12	401.58	406.72	413.17	421.26	413.83	406.81	410.64	411.67	412.49
Transportation equipment	541.86	543.90	542.27	539.25	525.62	528.08	535.94	551.55	560.15	565.78	560.53	553.14	561.00	570.14	572.80
Motor vehicles and equipment	572.97	571.81	570.78	565.74	546.02	545.38	560.60	583.19	591.59	593.64	592.45	587.24	598.99	621.81	627.52
Instruments and related products	388.27	401.99	397.99	400.89	396.17	402.26	400.16	407.83	410.89	415.25	415.07	408.70	411.01	408.62	408.29
Miscellaneous manufacturing	298.98	305.35	303.41	305.35	299.54	304.94	304.20	311.60	309.66	316.40	310.03	307.31	310.07	309.28	312.02
Nondurable goods	357.11	369.04	367.43	367.94	367.20	369.26	374.79	372.60	375.96	381.19	374.66	370.54	373.20	373.46	375.60
Food and kindred products	350.00	359.39	360.50	357.69	355.20	358.09	365.16	360.53	365.49	372.78	366.93	358.78	359.17	361.15	367.03
Tobacco manufactures	481.71	547.17	573.78	653.02	565.84	549.99	534.93	545.65	562.38	554.45	540.57	540.79	566.71	578.61	605.48
Textile mill products	284.82	299.71	298.33	302.31	296.61	302.15	301.49	304.08	306.18	307.75	303.14	301.49	299.71	301.35	298.66
Apparel and other textile products	214.33	219.41	217.78	219.70	216.60	219.32	217.44	223.88	223.65	225.60	220.33	220.93	223.11	222.27	223.01
Paper and allied products	482.98	496.06	494.05	494.49	496.37	492.91	514.21	500.80	503.26	509.63	501.99	494.50	494.21	499.53	503.41
Printing and publishing	379.62	390.64	385.18	383.14	388.10	394.22	403.48	397.66	397.94	403.64	392.36	393.12	399.19	395.20	392.92
Chemicals and allied products	501.96	523.25	519.90	518.22	518.30	519.09	536.31	528.75	535.89	542.23	533.38	530.87	532.53	530.03	530.88
Petroleum and coal products	621.52	641.96	639.76	629.58	651.50	633.94	648.56	645.04	651.36	655.49	658.14	647.77	654.63	662.38	661.40
Rubber and miscellaneous plastics products	360.55	370.66	368.58	371.60	367.36	369.70	372.11	374.17	377.16	383.30	376.20	372.60	375.30	376.55	375.58
Leather and leather products	218.45	232.26	234.14	240.56	231.81	235.56	231.71	237.46	236.16	237.78	231.62	227.79	233.00	231.47	237.38
TRANSPORTATION AND PUBLIC UTILITIES	458.64	471.58	466.46	468.05	475.20	478.78	474.71	477.53	479.85	479.81	474.24	475.75	470.53	473.41	472.58
WHOLESALE TRADE	358.11	365.38	366.15	365.38	365.19	367.68	366.32	369.60	371.30	371.69	370.66	370.66	370.66	377.42	376.43
RETAIL TRADE	176.08	178.41	177.83	179.97	182.10	183.31	182.90	179.26	179.22	181.37	176.59	177.56	178.46	180.63	181.83
FINANCE, INSURANCE, AND REAL ESTATE	304.30	316.90	316.54	314.13	312.41	318.14	314.28	317.11	322.71	317.16	324.35	328.33	321.13	327.61	327.37
SERVICES	265.85	275.60	272.16	273.70	273.55	276.36	276.70	279.83	283.08	282.85	285.44	287.21	284.24	287.53	287.39

- Data not available.
P = preliminary

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

17. The Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls by industry

Industry	Not seasonally adjusted				Seasonally adjusted					
	May 1987	Mar. 1988	Apr. 1988 ^P	May 1988 ^P	May 1987	Jan. 1988	Feb. 1988	Mar. 1988	Apr. 1988 ^P	May 1988 ^P
PRIVATE SECTOR (in current dollars)	172.8	177.2	178.0	178.7	172.9	176.6	176.7	177.0	177.8	178.8
Mining ¹	181.5	183.6	184.2	184.0	-	-	-	-	-	-
Construction	154.8	156.7	157.0	157.6	154.8	157.6	156.8	157.5	157.5	157.6
Manufacturing	174.4	177.7	178.2	178.5	174.2	176.8	177.0	177.3	177.8	178.4
Transportation and public utilities	174.9	179.2	179.1	179.4	176.0	178.3	179.1	179.4	179.5	180.5
Wholesale trade ¹	176.7	180.4	182.3	182.4	-	-	-	-	-	-
Retail trade	160.7	163.9	164.9	165.6	160.3	163.4	163.4	163.8	164.6	165.3
Finance, insurance, and real estate ¹	187.0	193.4	195.0	197.4	-	-	-	-	-	-
Services	179.7	187.6	188.4	190.0	180.0	186.5	186.3	186.9	188.2	190.4
PRIVATE SECTOR [in constant (1977) dollars]	94.1	93.8	93.7	-	94.0	93.8	93.7	93.5	93.5	-

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

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

18. Indexes of diffusion: industries in which employment increased, data seasonally adjusted

(In percent)

Time span and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span:												
1986	57.0	47.3	49.5	50.8	51.9	46.8	51.9	54.1	51.4	53.0	58.9	58.9
1987	50.8	59.2	61.1	62.4	62.4	61.6	70.8	62.2	68.1	67.3	67.8	68.4
1988	61.6	61.6	62.2	62.7	56.2	-	-	-	-	-	-	-
Over 3-month span:												
1986	50.0	47.6	45.7	46.2	46.2	46.2	48.1	51.9	50.5	55.9	59.7	59.2
1987	57.6	57.0	65.1	69.2	68.1	71.9	73.8	76.8	74.1	76.5	78.1	73.0
1988	71.6	66.8	66.8	64.1	-	-	-	-	-	-	-	-
Over 6-month span:												
1986	48.1	47.3	43.8	42.7	43.2	47.0	46.5	50.0	55.9	53.2	55.9	58.4
1987	64.6	64.3	63.0	70.3	72.4	77.3	78.4	79.7	82.7	77.8	77.0	76.5
1988	73.2	67.6	-	-	-	-	-	-	-	-	-	-
Over 12-month span:												
1986	42.2	41.6	43.8	44.9	45.7	48.6	46.8	48.6	51.6	53.8	56.5	57.8
1987	63.8	67.3	69.5	73.5	76.8	76.8	78.9	78.9	79.7	77.8	77.8	-
1988	-	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components are counted as rising.) Data are centered within the

spans. 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	1979	1980	1981	1982	1983	1984	1985	1986	1987
Noninstitutional population	166,460	169,349	171,775	173,939	175,891	178,080	179,912	182,293	184,490
Labor force:									
Total (number)	106,559	108,544	110,315	111,872	113,226	115,241	117,167	119,540	121,602
Percent of population	64.0	64.1	64.2	64.3	64.4	64.7	65.1	65.6	65.9
Employed:									
Total (number)	100,421	100,907	102,042	101,194	102,510	106,702	108,856	111,303	114,177
Percent of population	60.3	59.6	59.4	58.2	58.3	59.9	60.5	61.1	61.9
Resident Armed Forces	1,597	1,604	1,645	1,668	1,676	1,697	1,706	1,706	1,737
Civilian									
Total	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597	112,440
Agriculture	3,347	3,364	3,368	3,401	3,383	3,321	3,179	3,163	3,208
Nonagricultural industries	95,477	95,938	97,030	96,125	97,450	101,685	103,971	106,434	109,232
Unemployed:									
Total (number)	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237	7,425
Percent of labor force	5.8	7.0	7.5	9.5	9.5	7.4	7.1	6.9	6.1
Not in labor force (number)	59,900	60,806	61,460	62,067	62,665	62,839	62,744	62,752	62,888

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1979	1980	1981	1982	1983	1984	1985	1986	1987
Total employment	89,823	90,406	91,156	89,566	90,200	94,496	97,519	99,525	102,310
Private sector	73,876	74,166	75,126	73,729	74,330	78,472	81,125	82,832	85,295
Goods-producing	26,461	25,658	25,497	23,813	23,334	24,727	24,859	24,558	24,784
Mining	958	1,027	1,139	1,128	952	966	927	777	721
Construction	4,463	4,346	4,188	3,905	3,948	4,383	4,673	4,816	4,998
Manufacturing	21,040	20,285	20,170	18,781	18,434	19,378	19,260	18,965	19,065
Service-producing	63,363	64,748	65,659	65,753	66,866	69,769	72,660	74,967	77,525
Transportation and public utilities	5,136	5,146	5,165	5,082	4,954	5,159	5,238	5,255	5,385
Wholesale trade	5,204	5,275	5,358	5,278	5,268	5,555	5,717	5,753	5,872
Retail trade	14,989	15,035	15,189	15,179	15,613	16,545	17,356	17,930	18,509
Finance, insurance, and real estate	4,975	5,160	5,298	5,341	5,468	5,689	5,955	6,283	6,549
Services	17,112	17,890	18,619	19,036	19,694	20,797	22,000	23,053	24,196
Government	15,947	16,241	16,031	15,837	15,869	16,024	16,394	16,693	17,015
Federal	2,773	2,866	2,772	2,739	2,774	2,807	2,875	2,899	2,943
State	3,541	3,610	3,640	3,640	3,662	3,734	3,832	3,893	3,963
Local	9,633	9,765	9,619	9,458	9,434	9,482	9,687	9,901	10,109

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	1979	1980	1981	1982	1983	1984	1985	1986	1987
Private sector									
Average weekly hours	35.7	35.3	35.2	34.8	35.0	35.2	34.9	34.8	34.8
Average hourly earnings (in dollars)	6.16	6.66	7.25	7.68	8.02	8.32	8.57	8.76	8.98
Average weekly earnings (in dollars)	219.91	235.10	255.20	267.26	280.70	292.86	299.09	304.85	312.50
Mining									
Average weekly hours	43.0	43.3	43.7	42.7	42.5	43.3	43.4	42.2	42.4
Average hourly earnings (in dollars)	8.49	9.17	10.04	10.77	11.28	11.63	11.98	12.46	12.52
Average weekly earnings (in dollars)	365.07	397.06	438.75	459.88	479.40	503.58	519.93	525.81	530.85
Construction									
Average weekly hours	37.0	37.0	36.9	36.7	37.1	37.8	37.7	37.4	37.8
Average hourly earnings (in dollars)	9.27	9.94	10.82	11.63	11.94	12.13	12.32	12.48	12.69
Average weekly earnings (in dollars)	342.99	367.78	399.26	426.82	442.97	458.51	464.46	466.75	479.68
Manufacturing									
Average weekly hours	40.2	39.7	39.8	38.9	40.1	40.7	40.5	40.7	41.0
Average hourly earnings (in dollars)	6.70	7.27	7.99	8.49	8.83	9.19	9.54	9.73	9.91
Average weekly earnings (in dollars)	269.34	288.62	318.00	330.26	354.08	374.03	386.37	396.01	406.31
Transportation and public utilities									
Average weekly hours	39.9	39.6	39.4	39.0	39.0	39.4	39.5	39.2	39.2
Average hourly earnings (in dollars)	8.16	8.87	9.70	10.32	10.79	11.12	11.40	11.70	12.03
Average weekly earnings (in dollars)	325.58	351.25	382.18	402.48	420.81	438.13	450.30	458.64	471.58
Wholesale trade									
Average weekly hours	38.8	38.5	38.5	38.3	38.5	38.5	38.4	38.3	38.1
Average hourly earnings (in dollars)	6.39	6.96	7.56	8.09	8.55	8.89	9.16	9.35	9.59
Average weekly earnings (in dollars)	247.93	267.96	291.06	309.85	329.18	342.27	351.74	358.11	365.38
Retail trade									
Average weekly hours	30.6	30.2	30.1	29.9	29.8	29.8	29.4	29.2	29.2
Average hourly earnings (in dollars)	4.53	4.88	5.25	5.48	5.74	5.85	5.94	6.03	6.11
Average weekly earnings (in dollars)	138.62	147.38	158.03	163.85	171.05	174.33	174.64	176.08	178.41
Finance, insurance, and real estate									
Average weekly hours	36.2	36.2	36.3	36.2	36.2	36.5	36.4	36.4	36.3
Average hourly earnings (in dollars)	5.27	5.79	6.31	6.78	7.29	7.63	7.94	8.36	8.73
Average weekly earnings (in dollars)	190.77	209.60	229.05	245.44	263.90	278.50	289.02	304.30	316.90
Services									
Average weekly hours	32.7	32.6	32.6	32.6	32.7	32.6	32.5	32.5	32.5
Average hourly earnings (in dollars)	5.36	5.85	6.41	6.92	7.31	7.59	7.90	8.18	8.48
Average weekly earnings (in dollars)	175.27	190.71	208.97	225.59	239.04	247.43	256.75	265.85	275.60

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

(June 1981 = 100)

Series	1986				1987				1988	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1988										
Civilian workers ²	130.6	131.5	133.0	133.8	135.0	135.9	137.5	138.6	140.6	1.4	4.1
Workers, by occupational group:											
White-collar workers	133.1	134.2	136.0	136.9	138.5	139.3	141.2	142.2	144.2	1.4	4.1
Blue-collar workers	126.2	126.8	127.8	128.4	129.1	130.1	131.3	132.5	134.7	1.7	4.3
Service occupations	133.1	133.7	135.4	136.6	138.0	138.5	139.9	140.8	142.9	1.5	3.6
Workers, by industry division:											
Goods-producing	126.9	128.1	128.8	129.5	130.2	131.1	132.2	133.5	135.8	1.7	4.3
Manufacturing	127.7	128.7	129.3	130.1	130.7	131.5	132.7	134.1	136.8	2.0	4.7
Service-producing	132.9	133.7	135.6	136.5	138.1	138.9	140.8	141.7	143.6	1.3	4.0
Services	138.8	139.4	142.4	143.6	145.2	145.8	149.2	150.6	152.8	1.5	5.2
Health services	-	-	-	-	-	-	-	-	-	1.2	4.3
Hospitals	-	-	-	-	-	-	-	-	-	1.3	5.1
Public administration ³	136.8	138.0	140.6	141.6	144.1	144.7	146.4	148.1	150.3	1.5	4.3
Nonmanufacturing	131.9	132.8	134.6	135.4	136.9	137.8	139.6	140.5	142.3	1.3	3.9
Private industry workers	128.9	129.9	130.8	131.6	132.9	133.8	135.1	136.0	138.1	1.5	3.9
Workers, by occupational group:											
White-collar workers	131.3	132.5	133.5	134.3	136.1	137.0	138.5	139.3	141.2	1.4	3.7
Professional specialty and technical occupations	-	-	-	-	-	-	-	-	-	1.5	4.4
Executive, administrative, and managerial occupations	-	-	-	-	-	-	-	-	-	.9	3.5
Sales occupations	-	-	-	-	-	-	-	-	-	1.4	1.5
Administrative support occupations, including clerical	-	-	-	-	-	-	-	-	-	1.9	4.9
Blue-collar workers	125.7	126.3	127.2	127.8	128.4	129.5	130.6	131.8	134.1	1.7	4.4
Precision production, craft, and repair occupation	-	-	-	-	-	-	-	-	-	1.4	4.1
Machine operators, assemblers, and inspectors	-	-	-	-	-	-	-	-	-	2.1	5.0
Transportation and material moving occupations	-	-	-	-	-	-	-	-	-	1.6	4.0
Handlers, equipment cleaners, helpers, and laborers	-	-	-	-	-	-	-	-	-	2.2	4.6
Service occupations	130.9	131.1	132.3	133.5	134.7	135.2	135.9	136.7	138.6	1.4	2.9
Workers, by industry division:											
Goods-producing	126.7	127.8	128.6	129.2	129.9	130.8	131.9	133.2	135.6	1.8	4.4
Construction	-	-	-	-	-	-	-	-	-	1.2	4.0
Manufacturing	127.7	128.7	129.3	130.1	130.7	131.5	132.7	134.1	136.8	2.0	4.7
Durables	-	-	-	-	-	-	-	-	-	2.3	4.7
Nondurables	-	-	-	-	-	-	-	-	-	1.5	4.5
Service-producing	130.8	131.6	132.7	133.5	135.3	136.3	137.7	138.4	140.2	1.3	3.6
Transportation and public utilities	-	-	-	-	-	-	-	-	-	1.1	3.2
Transportation	-	-	-	-	-	-	-	-	-	1.4	3.2
Public utilities	-	-	-	-	-	-	-	-	-	.7	3.1
Wholesale and retail trade	-	-	-	-	-	-	-	-	-	1.3	3.6
Wholesale trade	-	-	-	-	-	-	-	-	-	.9	3.6
Retail trade	-	-	-	-	-	-	-	-	-	1.5	3.5
Finance, insurance, and real estate	-	-	-	-	-	-	-	-	-	1.2	.6
Service	-	-	-	-	-	-	-	-	-	1.5	5.2
Health services	-	-	-	-	-	-	-	-	-	1.2	4.2
Hospitals	-	-	-	-	-	-	-	-	-	1.3	5.1
Nonmanufacturing	129.7	130.6	131.7	132.4	134.1	135.1	136.4	137.1	138.9	1.3	3.6
State and local government workers	138.9	139.7	143.6	144.7	145.9	146.3	149.7	151.1	153.1	1.3	4.9
Workers, by occupational group:											
White-collar workers	140.0	140.5	145.0	146.0	147.2	147.5	151.2	152.7	154.8	1.4	5.2
Blue-collar workers	134.7	136.3	138.5	139.5	140.8	141.3	143.3	144.3	145.9	1.1	3.6
Workers, by industry division:											
Services	140.4	140.8	145.5	146.6	147.3	147.6	151.8	153.1	155.2	1.4	5.4
Hospitals and other services ⁴	136.8	137.9	139.4	141.1	142.5	143.3	145.1	146.3	150.3	2.7	5.5
Health services	-	-	-	-	-	-	-	-	-	1.1	5.0
Schools	141.5	141.7	147.6	148.4	148.9	149.1	154.1	155.5	156.8	.8	5.3
Elementary and secondary	143.0	143.2	149.4	150.3	150.5	150.7	156.5	157.8	158.9	.7	5.6
Public administration ³	136.8	138.0	* 140.6	141.6	144.1	144.7	146.4	148.1	150.3	1.5	4.3

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	1986				1987				1988	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
	Mar. 1988										
Civilian workers ¹	128.3	129.3	130.7	131.5	132.8	133.5	135.2	136.1	137.4	1.0	3.5
Workers, by occupational group:											
White-collar workers	131.2	132.4	134.1	135.0	136.6	137.3	139.4	140.2	141.5	.9	3.6
Blue-collar workers	123.4	124.1	125.0	125.6	126.2	127.1	128.3	129.4	130.4	.8	3.3
Service occupations	129.8	130.0	131.7	132.8	134.2	134.7	136.0	136.6	138.0	1.0	2.8
Workers, by industry division											
Goods-producing	124.4	125.6	126.3	127.0	127.8	128.5	129.8	131.0	132.2	.9	3.4
Manufacturing	125.3	126.5	127.2	127.9	128.7	129.5	130.8	132.2	133.3	.8	3.6
Service-producing	130.7	131.5	133.4	134.2	135.8	136.5	138.5	139.2	140.5	.9	3.5
Services	136.4	137.0	139.9	141.1	142.7	143.4	146.8	148.2	149.5	.9	4.8
Health services	-	-	-	-	-	-	-	-	-	.7	4.0
Hospitals	-	-	-	-	-	-	-	-	-	1.0	4.8
Public administration ²	133.8	134.6	137.5	138.1	140.5	141.0	142.6	143.8	145.5	1.2	3.6
Nonmanufacturing	129.6	130.4	132.2	133.0	134.5	135.2	137.1	137.8	139.0	.9	3.3
Private industry workers	126.8	127.9	128.8	129.5	130.8	131.7	133.0	133.8	135.1	1.0	3.3
Workers, by occupational group:											
White-collar workers	129.6	131.1	132.0	132.7	134.6	135.4	137.0	137.6	139.0	1.0	3.3
Professional specialty and technical occupations	132.7	134.0	135.4	136.4	138.4	139.1	141.2	142.6	144.0	1.0	4.0
Executive, administrative, and managerial occupations	130.5	132.1	132.4	133.5	135.6	136.4	138.6	139.2	139.9	.5	3.2
Sales occupations	122.4	124.3	125.2	124.9	126.7	127.1	127.0	126.1	127.5	1.1	.6
Administrative support occupations, including clerical	129.6	130.8	131.7	132.7	134.3	135.5	137.1	138.1	140.2	1.5	4.4
Blue-collar workers	123.1	123.7	124.5	125.1	125.6	126.6	127.7	128.9	129.9	.8	3.4
Precision production, craft, and repair occupations	125.3	125.7	126.7	127.4	127.9	128.8	130.2	131.1	132.1	.8	3.3
Machine operators, assemblers, and inspectors	122.6	123.6	124.1	124.9	125.5	126.7	127.5	129.2	129.9	.5	3.5
Transportation and material moving occupations	118.0	118.9	119.8	120.1	120.5	121.5	122.3	122.9	123.7	.7	2.7
Handlers, equipment cleaners, helpers, and laborers	120.0	120.3	120.9	121.4	121.9	122.6	123.7	125.0	126.7	1.4	3.9
Service occupations	128.0	128.0	128.9	130.1	131.4	131.9	132.6	133.2	134.5	1.0	2.4
Workers, by industry division:											
Goods-producing	124.2	125.4	126.1	126.8	127.5	128.3	129.6	130.8	132.0	.9	3.5
Construction	118.3	119.8	120.5	120.8	121.7	122.7	123.8	124.7	125.9	1.0	3.5
Manufacturing	125.3	126.5	127.2	127.9	128.7	129.5	130.8	132.2	133.3	.8	3.6
Durables	124.8	125.8	126.4	127.2	127.7	128.7	129.7	131.1	132.1	.8	3.4
Nondurables	126.1	127.9	128.5	129.3	130.5	131.0	132.8	134.1	135.6	1.1	3.9
Service-producing	129.0	129.9	130.9	131.6	133.4	134.3	135.7	136.2	137.5	1.0	3.1
Transportation and public utilities	126.3	126.6	127.3	127.5	128.1	129.3	130.0	130.2	131.3	.8	2.5
Transportation	-	-	-	-	-	-	-	-	-	.9	2.3
Public utilities	-	-	-	-	-	-	-	-	-	.8	2.7
Wholesale and retail trade	124.5	125.8	126.5	126.9	127.9	129.9	130.6	130.7	131.9	.9	3.1
Wholesale trade	129.7	131.2	131.8	133.1	134.8	137.2	137.8	138.5	139.0	.4	3.1
Retail trade	122.5	123.7	124.4	124.5	125.2	127.1	127.8	127.7	129.2	1.2	3.2
Finance, insurance, and real estate	126.6	128.0	129.0	130.0	133.5	131.5	131.8	131.6	132.9	1.0	-.4
Services	136.2	136.9	138.2	139.5	141.8	142.8	145.9	147.1	148.6	1.0	4.8
Health services	-	-	-	-	-	-	-	-	-	.7	3.9
Hospitals	-	-	-	-	-	-	-	-	-	1.1	4.9
Nonmanufacturing	127.7	128.7	129.7	130.4	131.9	132.8	134.2	134.8	136.0	.9	3.1
State and local government workers	135.5	136.0	140.4	141.4	142.5	142.8	146.1	147.4	148.7	.9	4.4
Workers, by occupational group											
White-collar workers	136.6	137.0	141.8	142.8	143.9	144.1	147.7	149.3	150.5	.8	4.6
Blue-collar workers	130.4	131.9	134.5	135.1	136.3	136.9	139.0	139.6	141.1	1.1	3.5
Workers, by industry division											
Services	136.8	137.1	142.1	143.3	143.9	144.2	148.2	149.5	150.7	.8	4.7
Hospitals and other services ³	132.4	133.3	135.8	137.3	138.6	139.4	141.2	142.2	144.5	1.6	4.3
Health services	-	-	-	-	-	-	-	-	-	.6	4.3
Schools	138.0	138.2	144.1	145.1	145.5	145.6	150.3	151.8	152.6	.5	4.9
Elementary and secondary	139.4	139.4	145.7	146.4	146.5	146.6	152.0	153.4	154.0	.4	5.1
Public administration ²	133.8	134.6	137.5	138.1	140.5	141.0	142.6	143.8	145.5	1.2	3.6

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	1986				1987				1988	Percent change	
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	3 months ended	12 months ended
										Mar. 1988	
COMPENSATION											
Workers, by bargaining status¹											
Union	128.4	128.7	129.4	129.8	130.5	131.2	132.0	133.4	135.6	1.6	3.9
Goods-producing	126.4	126.7	127.3	127.5	128.0	128.7	129.5	131.3	134.1	2.1	4.8
Service-producing	131.6	131.9	132.8	133.4	134.4	135.2	135.9	136.7	138.0	1.0	2.7
Manufacturing	127.0	126.9	127.5	127.9	128.0	128.7	129.5	131.5	135.0	2.7	5.5
Nonmanufacturing	129.7	130.4	131.2	131.5	132.6	133.5	134.3	135.1	136.2	.8	2.7
Nonunion	129.0	130.2	131.2	132.1	133.6	134.6	136.1	136.9	138.9	1.5	4.0
Goods-producing	126.7	128.2	129.1	130.0	130.8	131.8	133.1	134.1	136.2	1.6	4.1
Service-producing	130.4	131.4	132.5	133.4	135.3	136.4	137.9	138.6	140.5	1.4	3.8
Manufacturing	128.1	129.7	130.4	131.4	132.2	133.2	134.6	135.6	137.8	1.6	4.2
Nonmanufacturing	129.5	130.4	131.6	132.5	134.3	135.3	136.8	137.5	139.4	1.4	3.8
Workers, by region¹											
Northeast	131.6	133.3	134.2	135.2	137.4	138.6	140.3	141.9	143.7	1.3	4.6
South	128.7	129.6	130.7	131.4	132.1	133.2	134.2	135.4	137.1	1.3	3.8
Midwest (formerly North Central)	125.9	126.2	127.3	128.1	129.1	130.2	131.2	131.7	134.4	2.1	4.1
West	130.8	131.6	132.1	132.8	134.1	134.2	135.8	136.3	138.3	1.5	3.1
Workers, by area size¹											
Metropolitan areas	129.5	130.5	131.4	132.2	133.5	134.4	135.8	136.7	138.9	1.6	4.0
Other areas	125.5	126.4	127.2	127.9	129.0	130.2	131.3	132.0	133.6	1.2	3.6
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union	125.6	126.1	126.9	127.2	127.7	128.3	129.1	130.5	131.0	.4	2.6
Goods-producing	123.4	124.1	124.5	124.8	125.0	125.8	126.5	128.5	128.7	.2	3.0
Service-producing	129.0	129.3	130.5	130.9	131.7	132.2	132.9	133.6	134.4	.6	2.1
Manufacturing	124.2	124.6	125.0	125.5	125.6	126.2	127.0	129.3	129.6	.2	3.2
Nonmanufacturing	126.9	127.4	128.5	128.7	129.5	130.1	130.8	131.5	132.1	.5	2.0
Nonunion	127.3	128.5	129.4	130.3	131.8	132.8	134.3	135.0	136.4	1.0	3.5
Goods-producing	124.5	126.1	127.0	127.8	128.8	129.6	131.1	132.1	133.6	1.1	3.7
Service-producing	128.9	129.9	130.8	131.7	133.6	134.6	136.2	136.7	138.0	1.0	3.3
Manufacturing	126.1	127.7	128.5	129.5	130.6	131.5	133.0	133.9	135.5	1.2	3.8
Nonmanufacturing	127.8	128.9	129.8	130.6	132.4	133.4	134.9	135.4	136.8	1.0	3.3
Workers, by region¹											
Northeast	129.2	131.3	132.3	133.1	135.4	136.6	138.3	139.7	140.9	.9	4.1
South	126.8	127.8	128.8	129.4	130.1	131.1	132.1	133.0	134.0	.8	3.0
Midwest (formerly North Central)	124.2	124.4	125.3	126.2	127.4	128.5	129.6	129.9	131.3	1.1	3.1
West	128.1	128.9	129.3	130.1	131.2	131.1	133.1	133.5	134.9	1.0	2.8
Workers, by area size¹											
Metropolitan areas	127.4	128.5	129.4	130.2	131.6	132.4	133.7	134.6	135.8	.9	3.2
Other areas	123.6	124.5	125.0	125.6	126.6	127.8	129.1	129.8	130.9	.8	3.4

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							1988
	1985	1986	1986			1987				
			II	III	IV	I	II	III ^P	IV ^P	
Specified adjustments:										
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:										
First year of contract	2.6	1.1	0.7	0.7	2.7	1.1	4.1	2.5	3.4	1.7
Annual rate over life of contract	2.7	1.6	1.6	1.2	2.4	2.1	3.9	2.1	2.4	1.8
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.3	1.2	1.3	.8	2.0	.8	2.6	2.1	2.4	2.1
Annual rate over life of contract	2.7	1.8	2.0	1.5	2.1	1.6	2.9	2.0	1.8	2.3
Effective adjustments:										
Total effective wage adjustment ³	3.3	2.3	.7	.5	.5	.4	1.0	.9	.8	.4
From settlements reached in period .....	.7	.5	.2	.1	.2	(⁴)	.2	.2	.3	.1
Deferred from settlements reached in earlier periods	1.8	1.7	.6	.5	.2	.3	.7	.6	.3	.3
From cost-of-living-adjustments clauses .....	.7	.2	(⁴)	(⁴)	.1	.1	.2	.1	.2	.1

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 Between -0.05 and 0.05 percent.

^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--							
	1986			1987				1988
	II	III	IV	I	II	III ^P	IV ^P	IP
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	1.4	0.9	1.1	1.2	1.8	2.7	3.0	3.1
Annual rate over life of contract	2.0	1.4	1.6	1.7	2.1	2.6	2.6	2.5
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	1.6	1.2	1.2	1.2	1.5	2.0	2.2	2.4
Contracts with COLA clauses	1.8	2.2	1.9	2.0	1.8	2.1	2.3	2.2
Contracts without COLA clauses	1.5	.8	.9	.8	1.3	2.0	2.1	2.5
Annual rate over life of contract	2.2	1.7	1.8	1.8	2.0	2.2	2.1	2.2
Contracts with COLA clauses	2.5	2.0	1.7	1.8	1.7	1.7	1.5	1.4
Contracts without COLA clauses	2.1	1.6	1.8	1.8	2.1	2.5	2.5	2.7
Manufacturing								
First year of contract .....	.1	-1.0	-1.2	-1.5	-8	1.1	2.1	2.4
Contracts with COLA clauses .....	.7	1.1	1.3	1.3	1.3	2.1	2.4	2.4
Contracts without COLA clauses	-4	-2.0	-2.8	-3.5	-2.7	-1	1.3	2.4
Annual rate over life of contract	1.4	.3	.2	(²)	.3	1.0	1.3	1.5
Contracts with COLA clauses	2.0	1.1	.9	.8	.8	1.0	1.0	1.0
Contracts without COLA clauses .....	.9	-.1	-.2	-.6	-.2	1.2	2.1	2.7
Nonmanufacturing								
First year of contract	2.6	2.1	2.0	2.2	2.3	2.4	2.3	2.3
Contracts with COLA clauses	3.4	2.7	2.1	2.2	2.1	2.1	1.9	1.5
Contracts without COLA clauses	2.4	1.9	2.0	2.1	2.3	2.6	2.4	2.5
Annual rate over life of contract	2.8	2.3	2.3	2.4	2.6	2.8	2.7	2.7
Contracts with COLA clauses	3.3	2.5	2.1	2.2	2.2	2.4	2.7	2.4
Contracts without COLA clauses	2.6	2.2	2.4	2.5	2.7	2.9	2.7	2.7
Construction								
First year of contract	2.3	2.3	2.2	2.4	2.7	3.0	2.9	2.9
Contracts with COLA clauses	1.1	1.4	1.4	1.6	3.7	(¹)	(¹)	(¹)
Contracts without COLA clauses	2.4	2.4	2.3	2.4	2.7	(¹)	(¹)	(¹)
Annual rate over life of contract	2.5	2.6	2.5	2.5	2.9	3.2	3.1	3.1
Contracts with COLA clauses	1.2	1.6	1.6	1.4	3.8	(¹)	(¹)	(¹)
Contracts without COLA clauses	2.6	2.6	2.5	2.6	2.9	(¹)	(¹)	(¹)

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--						
	1986		1987				1988
	III	IV	I	II	III ^P	IV ^P	I ^P
For all workers:¹							
Total	2.3	2.3	2.0	2.2	2.6	3.1	3.2
From settlements reached in period .....	.5	.5	.3	.3	.4	.7	.8
Deferred from settlements reached in earlier period	1.6	1.7	1.5	1.6	1.7	1.8	1.8
From cost-of-living-adjustments clauses .....	.2	.2	.1	.3	.4	.5	.5
For workers receiving changes:							
Total	3.1	2.8	2.4	2.8	3.2	3.6	3.8
From settlements reached in period	1.7	1.6	1.1	.9	1.8	2.9	2.9
Deferred from settlements reached in earlier period	3.8	3.9	3.7	3.5	3.3	3.3	3.3
From cost-of-living-adjustments clauses	1.0	1.0	.6	1.8	2.3	2.6	2.7

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		
	1985	1986	1987
Specified adjustments:			
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:			
First year of contract	4.2	6.2	4.9
Annual rate over life of contract	5.1	6.0	4.8
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.6	5.7	4.9
Annual rate over life of contract	5.4	5.7	5.1
Effective adjustments:			
Total effective wage adjustment ³	5.7	5.5	4.9
From settlements reached in period	4.1	2.4	2.7
Deferred from settlements reached in earlier periods	1.6	3.0	2.2
From cost-of-living-adjustment clauses	(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		1987									1988 ^P				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
Number of stoppages:																
Beginning in period	69	46	3	8	6	3	7	1	6	0	3	5	1	0	3	
In effect during period	72	51	7	12	14	11	15	12	11	5	6	8	6	6	8	
Workers involved:																
Beginning in period (in thousands)	533.0	174.4	7.0	16.1	14.1	18.4	45.9	1.3	11.8	.0	7.2	17.5	6.7	.0	10.3	
In effect during period (in thousands)	899.5	377.7	13.9	25.8	31.1	36.0	71.9	53.7	22.2	8.9	10.8	21.1	24.2	14.9	18.2	
Days idle:																
Number (in thousands)	11,861.0	4,480.7	201.2	278.0	471.0	361.4	1,155.1	353.3	222.9	159.4	36.6	337.0	203.6	207.9	271.4	
Percent of estimated working time ¹ .....	.05	.02	.01	.01	.02	.02	.05	.02	.01	.01	.01	.01	.01	.01	.01

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		1987									1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:																
All items	109.6	113.6	113.1	113.5	113.8	114.4	115.0	115.3	115.4	115.4	115.7	116.0	116.5	117.1	117.5	
All items (1967=100)	328.4	340.4	338.7	340.1	340.8	342.7	344.4	345.3	345.8	345.7	346.7	347.4	349.0	350.8	352.0	
Food and beverages	109.1	113.5	113.3	113.8	113.7	113.8	114.2	114.3	114.3	114.8	115.7	115.8	116.0	116.7	117.1	
Food	109.0	113.5	113.3	113.8	113.7	113.8	114.1	114.3	114.2	114.7	115.7	115.7	115.9	116.6	117.0	
Food at home	107.3	111.9	112.0	112.6	112.1	112.1	112.4	112.4	112.1	112.8	114.1	113.9	113.9	114.6	115.1	
Cereals and bakery products	110.9	114.8	114.6	114.7	115.2	115.3	115.4	115.6	116.2	116.8	118.1	118.7	118.9	119.8	120.3	
Meats, poultry, fish, and eggs	104.5	110.5	109.6	110.4	111.4	111.9	112.7	112.0	111.2	110.3	111.0	110.6	111.2	111.5	112.1	
Dairy products	103.3	105.9	105.7	105.5	105.3	105.7	106.4	106.9	106.9	106.7	107.4	107.3	107.2	107.1	107.4	
Fruits and vegetables	109.4	119.1	121.8	124.1	119.6	117.4	117.4	117.8	117.4	123.4	126.4	124.7	123.0	126.0	127.1	
Other foods at home	109.4	110.5	110.5	110.2	110.0	110.4	110.3	110.6	110.2	110.0	111.3	111.8	112.0	112.1	112.3	
Sugar and sweets	109.0	111.0	110.8	111.2	111.1	111.3	111.6	111.6	111.4	111.0	112.2	112.2	112.6	112.3	112.5	
Fats and oils	106.5	108.1	108.5	107.8	108.4	108.3	107.8	107.4	108.0	107.7	108.5	109.5	110.3	110.3	111.2	
Nonalcoholic beverages	110.4	107.5	108.0	106.8	105.9	105.9	105.8	106.7	105.0	104.8	106.9	107.7	107.7	107.8	107.5	
Other prepared foods	109.2	113.8	113.4	113.7	114.1	114.8	114.6	114.7	115.1	115.0	115.9	116.1	116.3	116.6	117.0	
Food away from home	112.5	117.0	116.4	116.8	117.2	117.5	118.0	118.3	118.6	118.9	119.3	119.7	120.2	120.7	121.0	
Alcoholic beverages	111.1	114.1	113.6	114.0	114.4	114.7	114.9	115.2	115.4	115.4	115.8	116.8	117.4	118.0	118.2	
Housing	110.9	114.2	113.6	114.3	114.7	115.4	115.6	115.5	115.5	115.6	116.2	116.6	117.0	117.3	117.7	
Shelter	115.8	121.3	120.5	120.8	121.3	122.2	122.5	123.2	123.4	123.7	124.6	125.0	125.6	125.8	126.2	
Renters' costs (12/82=100)	121.9	128.1	127.3	127.9	129.3	130.1	129.8	129.4	129.2	129.1	130.8	131.3	132.9	132.9	133.1	
Rent, residential	118.3	123.1	122.3	122.3	123.0	123.8	124.4	124.8	124.8	125.6	126.0	126.3	126.4	126.6	126.9	
Other renters' costs	118.6	127.4	127.1	129.1	132.8	133.3	130.5	127.7	126.7	124.1	129.4	130.4	136.6	136.0	135.7	
Homeowners' costs (12/82=100)	119.4	124.8	124.0	124.2	124.4	125.4	126.0	127.1	127.4	128.0	128.5	129.0	129.2	129.4	129.9	
Owners' equivalent rent (12/82=100)	119.4	124.8	124.1	124.2	124.4	125.4	126.0	127.2	127.5	128.0	128.6	129.0	129.2	129.5	130.0	
Household insurance (12/82=100)	119.2	124.0	123.0	123.6	124.5	125.1	125.5	125.8	125.9	126.2	126.9	127.1	127.8	128.2	128.2	
Maintenance and repairs	107.9	111.8	110.2	111.1	113.2	112.9	112.7	112.8	113.5	113.3	113.7	114.3	113.3	115.3	114.3	
Maintenance and repair services	111.2	114.8	112.3	113.7	116.8	116.5	116.3	116.4	116.9	116.6	117.4	117.9	116.4	119.4	117.8	
Maintenance and repair commodities	103.7	107.8	107.5	107.8	108.4	108.2	107.8	108.1	108.9	109.1	108.7	109.5	109.2	109.7	109.8	
Fuel and other utilities	104.1	103.0	102.2	104.9	105.0	105.9	105.5	103.2	102.4	102.0	102.4	102.8	102.7	102.8	103.5	
Fuels	99.2	97.3	96.1	100.8	100.4	101.4	101.0	96.9	95.5	95.1	95.6	96.0	95.8	95.7	96.5	
Fuel oil, coal, and bottled gas	77.6	77.9	77.1	77.2	77.1	77.8	77.6	78.5	80.3	80.5	80.8	80.9	80.5	80.2	80.0	
Gas (piped) and electricity	105.7	103.8	102.5	108.1	107.6	108.7	108.2	103.3	101.4	100.9	101.5	101.9	101.7	101.6	102.6	
Other utilities and public services	117.9	120.1	119.8	119.4	120.5	121.1	120.8	121.2	121.3	120.9	121.3	121.8	121.7	122.3	122.6	
Household furnishings and operations	105.2	107.1	107.1	107.1	107.2	107.3	107.5	107.4	107.4	107.3	107.5	107.7	108.3	109.1	109.3	
Household furnishings	102.2	103.6	103.5	103.5	103.6	103.8	103.9	103.6	103.3	103.5	103.7	104.7	104.9	104.9		
Housekeeping supplies	108.2	111.5	111.7	111.9	111.7	111.5	111.8	112.3	112.4	112.5	113.1	113.2	112.9	113.8	114.1	
Housekeeping services	108.5	110.6	110.6	110.5	110.8	110.9	111.0	111.2	111.2	111.4	111.5	111.6	111.7	114.7	114.8	
Apparel and upkeep	105.9	110.6	111.1	109.3	107.3	109.4	113.3	115.4	115.4	112.7	110.4	110.2	114.3	117.0	116.3	
Apparel commodities	104.2	108.9	109.5	107.6	105.3	107.6	111.8	114.0	111.0	108.6	108.3	112.7	115.5	114.8		
Men's and boys' apparel	106.2	109.1	109.9	109.0	107.8	108.3	110.6	112.0	112.5	110.7	109.0	109.1	111.6	112.9	113.6	
Women's and girls' apparel	104.0	110.4	111.2	107.6	104.2	108.4	115.3	118.3	117.7	112.6	108.2	107.8	115.3	119.6	117.3	
Infants' and toddlers' apparel	111.8	112.1	113.1	110.1	107.7	109.0	112.1	116.2	116.7	114.5	113.6	111.4	114.0	117.1	117.7	
Footwear	101.9	105.1	106.5	105.6	103.4	104.2	105.7	107.3	108.0	107.2	106.1	105.8	107.3	109.4	109.7	
Other apparel commodities	101.7	108.0	105.8	107.6	108.2	109.3	110.3	110.7	111.3	112.9	113.1	113.6	114.6	114.9		
Apparel services	115.1	119.6	119.3	119.5	120.0	119.8	119.9	120.8	121.1	121.4	121.6	122.0	122.2	122.6	122.8	
Transportation	102.3	105.4	104.7	105.4	106.0	106.5	106.6	107.1	107.8	107.6	107.1	106.8	106.5	107.2	108.1	
Private transportation	101.2	104.2	103.5	104.3	104.9	105.4	105.4	106.0	106.8	106.5	106.0	105.7	105.4	106.0	107.0	
New vehicles	110.6	114.4	113.8	114.1	114.4	114.0	113.8	115.0	116.3	116.4	116.1	116.0	115.7	115.6	115.9	
New cars	110.6	114.6	114.0	114.3	114.7	114.4	114.1	115.2	116.6	116.6	116.2	116.2	116.0	115.9	116.3	
Used cars	108.8	113.1	113.4	114.7	115.4	115.5	116.0	116.2	116.5	116.3	116.0	116.0	116.1	116.6	117.0	
Motor fuel	77.1	80.2	79.1	80.8	82.2	84.3	84.0	83.2	83.2	82.0	79.7	78.3	77.5	79.4	81.4	
Gasoline	77.0	80.1	79.0	80.7	82.1	84.3	84.0	83.1	83.1	81.8	79.5	78.1	77.3	79.2	81.3	
Maintenance and repair	110.3	114.8	114.3	114.4	114.5	115.1	115.7	116.1	116.5	116.9	117.2	117.7	118.5	118.8	119.3	
Other private transportation	115.1	120.8	119.7	120.3	120.8	120.7	121.1	122.8	123.8	123.8	124.7	125.0	124.9	125.0	126.3	
Other private transportation commodities	96.3	96.9	96.7	96.7	96.3	96.8	97.6	98.0	97.6	97.5	98.2	98.1	98.3	98.2	98.9	
Other private transportation services	118.8	125.6	124.2	125.0	125.7	125.5	125.8	127.8	129.2	129.2	130.1	130.6	130.3	130.5	132.0	
Public transportation	117.0	121.1	120.6	120.2	120.2	121.5	122.1	121.2	122.0	122.1	121.8	120.8	121.4	122.4	122.4	
Medical care	122.0	130.1	129.2	129.9	130.7	131.2	131.7	132.3	132.8	133.1	134.4	135.5	136.3	136.9	137.5	
Medical care commodities	122.8	131.0	129.9	130.8	131.6	132.2	132.7	133.5	134.2	134.9	135.4	136.1	137.0	138.1	139.0	
Medical care services	121.9	130.0	129.0	129.6	130.4	131.0	131.5	132.0	132.5	132.7	134.1	135.3	136.1	136.6	137.2	
Professional services	120.8	128.8	127.9	128.8	129.5	130.0	130.7	131.2	131.5	131.8	133.2	134.5	135.4	136.0	136.4	
Hospital and related services	123.1	131.6	130.1	130.6	132.0	133.0	133.3	134.2	135.4	135.9	137.6	139.0	140.0	140.7	141.8	
Entertainment	111.6	115.3	114.8	114.9	115.4	115.6	116.1	116.9	117.3	117.4	118.1	118.3	119.0	119.6	119.7	
Entertainment commodities	107.9	110.5	110.3	110.3	110.7	110.6	110.7	111.2	112.2	112.6	112.9	112.9	113.4	114.2	114.5	
Entertainment services	116.8	122.0	121.2	121.4	122.0	122.5	123.5	124.5	124.3	124.3	125.4	125.7	126.5	127.0	126.9	
Other goods and services	121.4	128.5	126.9	127.2	128.0	128.5	131.1	131.6	131.8	132.1	133.4	134.2	134.6			

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
	All items	109.6	113.6	113.1	113.5	113.8	114.4	115.0	115.3	115.4	115.4	115.7	116.0	116.5	117.1	117.5
Commodities	104.4	107.7	107.5	107.7	107.6	108.2	108.9	109.3	109.5	109.3	109.2	109.1	109.8	110.7	111.1
Food and beverages	109.1	113.5	113.3	113.8	113.7	113.8	114.2	114.3	114.3	114.8	115.7	115.8	116.0	116.7	117.1
Commodities less food and beverages	101.4	104.0	103.7	103.8	103.8	104.6	105.5	106.1	106.5	105.7	105.1	105.0	105.9	106.9	107.2
Nondurables less food and beverages	97.8	101.1	100.9	100.7	100.6	102.0	103.5	104.2	104.3	103.1	102.1	101.9	103.4	105.0	105.4
Apparel commodities	104.2	108.9	109.5	107.6	105.3	107.6	111.8	114.0	114.0	111.0	108.6	108.3	112.7	115.5	114.8
Nondurables less food, beverages, and apparel	95.9	99.5	98.7	99.6	100.5	101.5	101.6	101.5	101.8	101.5	101.2	101.0	101.0	102.0	103.0
Durables	106.6	108.2	107.9	108.2	108.4	108.3	108.3	108.8	109.6	109.5	109.4	109.4	109.5	109.7	109.9
Services	115.4	120.2	119.3	120.1	120.5	121.2	121.7	121.9	122.0	122.2	122.9	123.4	123.8	124.1	124.6
Rent of shelter (12/82=100)	120.2	125.9	125.1	125.4	126.0	126.9	127.2	128.0	128.1	128.5	129.4	129.8	130.4	130.6	131.0
Household services less rent of shelter (12/82=100)	112.8	113.1	112.3	114.8	115.1	115.8	115.5	113.5	112.6	112.3	112.7	113.1	113.0	113.7	114.3
Transportation services	116.3	121.9	120.9	121.3	121.7	122.0	122.5	123.4	124.5	124.6	125.1	125.2	125.4	125.8	126.7
Medical care services	121.9	130.0	129.0	129.6	130.4	131.0	131.5	132.0	132.5	132.7	134.1	135.3	136.1	136.6	137.2
Other services	119.4	125.7	124.4	124.7	125.1	125.6	127.9	128.7	128.8	129.0	129.6	130.2	130.7	131.0	131.1
Special indexes:															
All items less food	109.8	113.6	113.0	113.5	113.8	114.5	115.1	115.5	115.7	115.5	115.7	116.0	116.6	117.2	117.6
All items less shelter	108.0	111.6	111.1	111.7	111.8	112.3	113.0	113.2	113.3	113.2	113.3	113.5	114.0	114.7	115.2
All items less homeowners' costs (12/82=100)	111.2	115.1	114.6	115.1	115.3	115.9	116.5	116.6	116.8	116.6	116.9	117.1	117.7	118.4	118.8
All items less medical care	108.8	112.6	112.1	112.5	112.7	113.3	113.9	114.2	114.4	114.3	114.6	114.8	115.3	115.9	116.3
Commodities less food	101.7	104.3	104.0	104.1	104.1	104.9	105.7	106.3	106.7	106.0	105.5	105.4	106.3	107.3	107.6
Nondurables less food	98.5	101.8	101.4	101.4	101.3	102.6	104.0	104.6	104.8	103.7	102.8	102.7	103.1	105.6	106.0
Nondurables less food and apparel	96.9	100.3	99.5	100.3	101.1	102.0	102.2	102.1	102.4	102.1	101.9	101.9	101.9	102.9	103.8
Nondurables	103.5	107.5	107.2	107.4	107.3	108.1	109.0	109.4	109.5	109.1	109.1	109.0	109.8	111.0	111.4
Services less rent of shelter (12/82=100)	118.7	123.1	122.1	123.2	123.7	124.2	124.9	124.6	124.6	124.6	125.3	125.8	126.0	126.5	127.1
Services less medical care	114.6	119.1	118.2	119.0	119.4	120.1	120.6	120.8	120.8	121.0	121.7	122.1	122.4	122.8	123.2
Energy	88.2	88.6	87.4	90.7	91.1	92.7	92.3	89.8	89.0	88.3	87.4	87.0	86.5	87.3	88.7
All items less energy	112.6	117.2	116.7	116.9	117.1	117.6	118.3	118.9	119.2	119.2	119.7	120.0	120.6	121.2	121.5
All items less food and energy	113.5	118.2	117.6	117.7	118.0	118.6	119.4	120.1	120.5	120.4	120.8	121.1	121.9	122.4	122.7
Commodities less food and energy	108.6	111.8	111.7	111.4	111.2	111.8	112.9	113.7	114.1	113.5	113.2	113.3	114.6	115.5	115.5
Energy commodities	77.2	80.2	79.1	80.6	81.8	83.8	83.5	82.9	83.1	82.0	80.0	78.8	78.0	79.7	81.4
Services less energy	116.5	122.0	121.2	121.4	122.0	122.7	123.2	123.9	124.2	124.4	125.2	125.7	126.1	126.5	126.9
Purchasing power of the consumer dollar:															
1982-84=\$1.00	91.3	88.0	88.4	88.0	87.8	87.3	86.9	86.7	86.5	86.6	86.4	86.2	85.8	85.4	85.1
1967=\$1.00	30.5	29.4	29.5	29.4	29.3	29.2	29.0	29.0	28.9	28.9	28.8	28.8	28.7	28.5	28.4
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	108.6	112.5	111.9	112.4	112.7	113.3	113.8	114.1	114.3	114.2	114.5	114.7	115.1	115.7	116.2
All items (1967=100)	323.4	335.0	333.4	334.9	335.6	337.4	339.1	340.0	340.4	340.2	341.0	341.6	343.0	344.7	346.1
Food and beverages	108.9	113.3	113.1	113.6	113.5	113.6	114.0	114.1	114.1	114.5	115.4	115.5	115.7	116.3	116.8
Food	108.8	113.3	113.1	113.6	113.5	113.6	114.0	114.1	114.0	114.5	115.4	115.4	115.6	116.2	116.7
Food at home	107.1	111.7	111.7	112.3	111.9	111.9	112.2	112.2	111.9	112.5	113.7	113.5	113.5	114.2	114.7
Cereals and bakery products	110.9	114.8	114.5	114.8	115.2	115.3	115.4	115.7	116.2	116.9	118.1	118.8	118.9	119.9	120.4
Meats, poultry, fish, and eggs	104.4	110.4	109.5	110.4	111.3	111.8	112.7	112.0	111.2	110.1	110.8	110.5	111.1	111.4	112.0
Dairy products	103.2	105.7	105.6	105.3	105.1	105.5	106.2	106.7	106.7	106.4	107.1	107.0	106.9	106.9	107.2
Fruits and vegetables	109.4	118.8	121.1	123.9	119.6	117.3	117.1	117.5	117.4	123.0	125.7	124.0	122.2	125.2	126.4
Other foods at home	109.1	110.4	110.4	110.1	109.9	110.3	110.2	110.5	110.1	109.8	111.3	111.7	111.9	112.0	112.2
Sugar and sweets	109.0	110.9	110.7	111.1	111.0	111.3	111.5	111.6	111.2	110.9	112.1	112.1	112.4	112.2	112.4
Fats and oils	106.4	107.9	108.3	107.6	108.2	108.1	107.6	107.3	107.9	107.6	108.4	109.5	110.3	110.2	111.0
Nonalcoholic beverages	110.0	107.5	108.1	106.8	105.9	106.0	106.0	106.9	105.2	104.9	107.2	107.9	108.0	107.9	107.7
Other prepared foods	109.0	113.6	113.2	113.5	113.9	114.6	114.4	114.5	114.9	114.8	115.7	115.8	116.0	116.4	116.8
Food away from home	112.5	116.9	116.2	116.7	117.0	117.4	117.9	118.2	118.5	118.8	119.1	119.6	120.0	120.6	120.9
Alcoholic beverages	111.1	113.9	113.5	113.9	114.2	114.4	114.6	114.9	115.2	115.1	115.6	116.6	117.3	117.9	118.0
Housing	109.7	112.8	112.2	112.9	113.2	114.0	114.1	114.0	113.9	114.1	114.6	115.0	115.4	115.6	116.0
Shelter	113.5	118.8	118.1	118.2	118.8	119.6	120.0	120.7	120.9	121.2	121.9	122.4	122.9	123.0	123.4
Renters' costs (12/84=100)	109.5	114.6	114.0	114.2	115.3	116.0	116.2	116.0	115.9	115.9	116.9	117.3	118.4	118.4	118.6
Rent, residential	118.2	122.9	122.1	122.2	122.8	123.6	124.2	124.5	124.6	125.3	125.7	126.1	126.2	126.3	126.6
Other renters' costs	119.1	128.2	128.6	129.7	133.6	134.2	132.2	129.3	128.1	124.5	129.2	130.0	136.9	136.1	136.2
Homeowners' costs (12/84=100)	108.8	113.8	113.1	113.2	113.4	114.3	114.8	115.9	116.2	116.6	117.1	117.6	117.8	118.0	118.4
Owners' equivalent rent (12/84=100)	108.8	113.7	113.1	113.2	113.4	114.3	114.8	115.9	116.2	116.6	117.1	117.6	117.8	118.0	118.5
Household insurance (12/84=100)	109.4	114.1	113.1	113.8	114.6	115.1	115.5	115.8	115.9	116.1	116.7	116.7	117.2	117.3	117.3
Maintenance and repairs	107.7	111.3	110.2	111.0	112.6	112.4	112.1	112.2	112.7	112.5	113.0	113.6	112.8	114.7	113.7
Maintenance and repair services	110.5	114.7	112.5	113.9	116.9	116.6	116.4	116.0	116.5	115.9	117.1	117.6	116.6	119.8	117.6
Maintenance and repair commodities	103.1	106.0	106.0	106.3	106.3	106.2	105.8	106.3	106.9	107.1	106.9	107.5	107.1	107.5	107.9
Fuel and other utilities	103.9	102.7	101.8	104.6	104.7	105.6	105.2	102.8	102.0	101.7	102.0	102.5	102.3	102.5	103.0
Fuels	99.2	97.1	95.8	100.7	100.2	101.3	100.8	96.5	95.1	94.8	95.2	95.6	95.4	95.4	96.1
Fuel oil, coal, and bottled gas	77.8	77.6	76.8	77.0	76.9	77.5	77.3	78.2	80.1	80.2	80.4	80.6	80.2	79.9	79.7
Gas (piped) and electricity	105.7	103.6	102.2	108.0	107.4	108.6	108.1	103.0	101.1	100.7	101.2	101.6	101.4	101.4	102.2
Other utilities and public services	117.7	120.1	119.7	119.4	120.4	121.0	120.7	121.1	121.2	120.9	121.2	121.8	121.7	122.3	122.5
Household furnishings and operations	105.0														

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		1987								1988				
	1986	1987	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Apparel commodities	104.2	108.8	109.4	107.4	105.3	107.4	111.5	113.9	113.9	111.1	108.6	108.3	112.4	114.9	114.3
Men's and boys' apparel	105.9	108.5	109.0	108.2	106.9	107.7	109.8	111.5	112.0	110.4	108.6	108.7	111.1	112.2	113.0
Women's and girls' apparel	103.8	110.3	111.4	107.7	104.4	108.2	115.2	118.2	117.6	112.6	108.2	107.9	114.9	118.8	116.7
Infants' and toddlers' apparel	113.5	114.0	115.3	111.7	109.7	110.6	113.9	118.6	118.7	116.4	115.2	113.3	116.0	119.1	119.7
Footwear	102.1	105.5	106.7	105.8	103.9	104.7	106.0	107.9	108.6	108.0	106.8	106.4	107.7	109.6	109.9
Other apparel commodities	101.6	107.4	105.1	107.0	107.3	108.2	109.8	110.4	110.5	110.6	112.2	112.0	112.8	113.9	114.0
Apparel services	115.0	119.2	118.9	119.1	119.5	119.3	119.4	120.3	120.7	120.9	121.1	121.5	121.6	122.0	122.2
Transportation	101.7	105.1	104.4	105.1	105.8	106.3	106.4	106.9	107.6	107.3	106.8	106.4	106.2	106.8	107.8
Private transportation	100.9	104.1	103.4	104.3	104.9	105.5	105.5	106.1	106.7	106.4	105.9	105.6	105.3	105.9	107.0
New vehicles	110.4	114.0	113.5	113.7	113.9	113.5	113.3	114.5	115.9	116.1	115.8	115.7	115.3	115.3	115.6
New cars	110.4	114.3	113.7	114.0	114.4	114.0	113.8	114.9	116.2	116.3	115.9	116.0	115.7	115.7	116.0
Used cars	108.8	113.1	113.4	114.7	115.4	115.5	115.9	116.1	116.4	116.2	115.9	116.0	116.1	116.6	116.9
Motor fuel	77.1	80.3	79.2	80.9	82.3	84.5	84.1	83.3	83.3	82.0	79.7	78.3	77.5	79.4	81.4
Gasoline	76.9	80.2	79.1	80.8	82.2	84.4	84.1	83.2	83.2	81.9	79.5	78.1	77.3	79.2	81.3
Maintenance and repair	110.6	115.1	114.6	114.7	114.9	115.4	116.0	116.3	116.7	117.0	117.4	117.8	118.6	118.9	119.4
Other private transportation	113.8	119.0	117.8	118.5	118.9	118.7	119.1	121.0	122.0	122.0	122.9	123.2	123.1	123.0	124.3
Other private transportation commodities	96.3	96.7	96.4	96.6	96.3	96.7	97.3	97.7	97.2	97.4	98.1	98.0	98.1	97.9	98.6
Other private transportation services	117.1	123.4	122.0	122.8	123.4	123.1	123.4	125.8	127.1	127.1	128.0	128.5	128.2	128.3	129.7
Public transportation	116.8	120.4	120.3	119.7	119.7	120.8	121.4	120.7	121.2	121.3	121.2	120.4	120.8	121.7	121.8
Medical care	122.0	130.2	129.3	130.0	130.8	131.4	132.0	132.6	133.0	133.4	134.6	135.8	136.5	137.1	137.8
Medical care commodities	122.2	130.2	129.1	130.1	130.9	131.3	131.9	132.6	133.4	134.1	134.7	135.4	136.1	137.2	138.0
Medical care services	122.0	130.3	129.3	130.0	130.8	131.4	132.0	132.6	133.0	133.2	134.6	135.8	136.6	137.1	137.7
Professional services	120.9	129.0	128.1	128.9	129.6	130.2	130.9	131.4	131.7	132.0	133.4	134.7	135.5	136.1	136.6
Hospital and related services	122.6	131.1	129.5	130.0	131.4	132.4	132.8	133.7	134.9	135.4	136.9	138.4	139.3	140.1	141.2
Entertainment	111.0	114.8	114.4	114.5	115.0	115.1	115.6	116.3	116.7	116.9	117.4	117.6	118.2	118.9	119.0
Entertainment commodities	107.8	110.6	110.5	110.5	110.9	110.8	110.9	111.3	112.2	112.6	112.8	112.9	113.5	114.2	114.6
Entertainment services	116.5	121.8	121.1	121.2	121.8	122.2	123.2	124.3	124.1	124.0	124.9	125.2	126.0	126.5	126.3
Other goods and services	120.9	127.8	126.2	126.6	127.5	128.0	130.3	130.8	131.0	131.3	132.7	133.6	134.0	134.2	134.5
Tobacco products	124.8	133.7	131.8	132.5	135.1	135.4	136.0	136.5	136.7	137.2	141.0	142.3	143.0	143.1	143.4
Personal care	111.9	115.0	114.7	114.8	115.1	115.4	115.8	116.1	116.2	116.4	117.1	117.5	117.7	118.1	118.5
Toilet goods and personal care appliances	111.2	113.9	113.6	113.6	114.1	114.3	114.6	115.0	115.0	115.1	116.0	116.2	116.5	117.0	117.1
Personal care services	112.6	116.1	115.9	116.0	116.2	116.7	117.1	117.3	117.4	117.8	118.3	118.9	119.0	119.3	119.9
Personal and educational expenses	128.5	138.2	136.1	136.4	136.7	137.4	141.8	142.4	142.8	143.0	143.4	144.3	144.6	144.7	145.2
School books and supplies	127.8	137.9	136.3	136.4	136.4	136.6	140.7	141.8	141.8	141.9	143.9	145.3	145.2	145.4	145.4
Personal and educational services	128.6	138.4	136.3	136.7	137.0	137.7	142.1	142.7	143.1	143.3	143.6	144.5	144.8	144.9	145.4
All items	108.6	112.5	111.9	112.4	112.7	113.3	113.8	114.1	114.3	114.2	114.5	114.7	115.1	115.7	116.2
Commodities	103.9	107.3	107.0	107.3	107.3	107.9	108.5	108.9	109.1	108.9	108.8	108.7	109.3	110.1	110.5
Food and beverages	108.9	113.3	113.1	113.6	113.5	113.6	114.0	114.1	114.1	114.5	115.4	115.5	115.7	116.3	116.8
Commodities less food and beverages	100.8	103.6	103.3	103.4	103.5	104.3	105.1	105.7	106.0	105.4	104.7	104.5	105.3	106.3	106.7
Nondurables less food and beverages	97.3	100.8	100.4	100.4	101.8	103.1	103.8	104.0	102.8	101.7	101.4	102.7	104.3	104.8	
Apparel commodities	104.2	108.8	109.4	107.4	105.3	107.4	111.5	113.9	113.9	110.8	108.6	108.3	112.4	114.9	114.5
Nondurables less food, beverages, and apparel	95.3	99.2	98.4	99.3	100.3	101.4	101.5	101.3	101.6	101.2	100.8	100.5	100.4	101.6	102.6
Durables	104.9	106.6	106.4	106.6	106.9	106.8	106.9	107.4	108.0	108.0	107.9	107.9	108.0	108.1	108.4
Services	114.7	119.4	118.5	119.3	119.7	120.4	120.9	121.1	121.2	121.3	122.0	122.5	122.8	123.1	123.6
Rent of shelter (12/84 = 100)	109.0	114.0	113.4	113.5	114.0	114.9	115.2	115.9	116.1	116.4	117.1	117.5	118.0	118.2	118.5
Household services less rent of shelter (12/84 = 100)	103.9	104.0	103.2	105.7	105.9	106.6	106.3	104.2	103.4	103.1	103.5	103.9	103.8	104.4	104.9
Transportation services	115.4	120.8	119.8	120.2	120.6	120.7	121.2	122.5	123.5	123.6	124.1	124.4	124.5	124.8	125.8
Medical care services	122.0	130.3	129.3	130.0	130.8	131.4	132.0	132.6	133.0	133.2	134.6	135.8	136.6	137.1	137.7
Other services	118.7	124.7	123.5	123.7	124.1	124.6	126.9	127.7	127.8	127.9	128.5	129.0	129.5	129.8	130.0
Special indexes:															
All items less food	108.5	112.2	111.6	112.1	112.4	113.1	113.7	114.0	114.3	114.1	114.2	114.4	115.0	115.5	116.0
All items less shelter	107.4	111.0	110.5	111.1	111.2	111.8	112.4	112.6	112.7	112.5	112.7	112.8	113.2	113.9	114.4
All items less homeowners' costs (12/84 = 100)	102.8	106.4	105.9	106.4	106.6	107.1	107.7	107.8	108.0	107.8	108.0	108.1	108.6	109.2	109.7
All items less medical care	107.8	111.5	111.0	111.5	111.7	112.3	112.9	113.1	113.3	113.2	113.4	113.6	114.0	114.6	115.0
Commodities less food	101.2	103.9	103.6	103.7	103.8	104.6	105.4	105.9	106.3	105.6	105.0	104.9	105.7	106.6	107.0
Nondurables less food	98.0	101.4	101.0	101.0	101.1	102.4	103.6	104.2	104.4	103.3	102.4	102.2	103.4	104.9	105.4
Nondurables less food and apparel	96.4	100.0	99.2	100.0	101.0	101.9	102.0	101.9	102.2	101.8	101.5	101.4	101.4	102.5	103.4
Nondurables	103.3	107.2	106.9	107.2	107.2	107.9	108.8	109.2	109.2	108.8	108.8	108.7	109.4	110.5	111.0
Services less rent of shelter (12/84 = 100)	107.1	110.8	109.9	111.1	111.5	112.0	112.5	112.2	112.2	112.2	112.8	113.2	113.4	113.9	114.4
Services less medical care	113.9	118.2	117.4	118.1	118.5	119.2	119.7	119.9	119.9	120.1	120.7	121.1	121.4	121.7	122.2
Energy	87.4	88.0	86.8	90.1	90.5	92.2	91.8	89.3	88.6	87.8	86.8	86.3	85.8	86.7	88.1
All items less energy	111.5	116.0	115.6	115.7	115.9	116.4	117.1	117.7	118.0	118.0	118.5	118.7	119.3	119.9	120.2
All items less food and energy	112.3	116.8	116.3	116.3	116.6	117.2	117.9	118.7	119.1	119.0	119.3	119.6	120.3	120.8	121.1
Commodities less food and energy	107.6	110.8	110.7	110.5	110.3	110.8	111.8	112.7	113.1	112.6	112.3	112.4	113.5	114.3	114.4
Energy commodities	77.2	80.3	79.2	80.7	82.0	84.1	83.8	83.0	83.2	82.1	80.0	78.7	77.9	79.7	81.5
Services less energy	115.8	121.2	120.4	120.6	121.1	121.8	122.4	123.1	123.4	123.7	124.3	124.8	125.2	125.6	126.0

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	Other index base	All Urban Consumers								Urban Wage Earners					
			1987		1988				1987		1988					
			May	June	Jan.	Feb.	Mar.	Apr.	May	June	Jan.	Feb.	Mar.	Apr.	May	
U.S. city average	M	-	113.1	113.5	115.7	116.0	116.5	117.1	117.5	111.9	112.4	114.5	114.7	115.1	115.7	116.2
Region and area size³																
Northeast urban	M	-	115.4	115.8	118.9	119.2	119.6	120.4	120.7	114.5	114.9	117.9	118.1	118.4	119.2	119.5
Size A - More than 1,200,000	M	-	116.2	116.8	120.0	119.9	120.4	121.3	121.6	114.7	115.2	118.1	118.0	118.5	119.3	119.5
Size B - 500,000 to 1,200,000	M	-	113.6	113.1	116.2	117.0	117.5	118.2	118.9	112.6	112.2	115.1	116.0	116.4	117.0	117.7
Size C - 50,000 to 500,000	M	-	113.8	114.3	117.1	117.2	117.2	118.2	118.7	116.3	116.7	119.6	119.8	119.8	120.7	121.2
North Central urban	M	-	111.1	112.1	113.4	113.7	114.3	114.9	115.5	109.3	110.2	111.5	111.8	112.3	113.0	113.6
Size A - More than 1,200,000	M	-	111.7	113.0	114.1	114.7	115.1	115.7	116.0	109.3	110.6	111.6	112.1	112.5	113.1	113.5
Size B - 360,000 to 1,200,000	M	-	111.1	111.5	113.3	113.5	114.2	115.0	115.7	108.5	109.0	110.9	111.1	111.8	112.6	113.4
Size C - 50,000 to 360,000	M	-	111.1	111.7	113.4	113.4	114.6	115.2	116.1	110.0	110.7	112.4	112.3	113.4	114.0	114.9
Size D - Nonmetropolitan (less than 50,000)	M	-	109.1	109.9	110.6	110.5	111.1	111.8	112.2	108.7	109.5	110.4	110.2	110.6	111.3	111.9
South urban	M	-	111.8	112.2	114.1	114.4	114.8	115.4	115.6	111.3	111.8	113.6	113.8	114.2	114.7	114.9
Size A - More than 1,200,000	M	-	112.8	113.1	114.9	115.2	115.5	116.0	116.7	112.0	112.4	114.1	114.4	114.7	115.1	115.7
Size B - 450,000 to 1,200,000	M	-	112.2	112.5	114.8	115.1	115.8	116.3	116.2	110.5	110.8	112.9	113.0	113.6	114.1	114.0
Size C - 50,000 to 450,000	M	-	111.1	111.7	113.3	113.4	114.0	114.5	114.6	111.5	112.2	113.6	113.8	114.3	114.9	115.0
Size D - Nonmetropolitan (less than 50,000)	M	-	110.2	110.3	112.8	112.7	112.7	113.6	113.7	110.9	111.0	113.5	113.4	113.4	114.2	114.4
West urban	M	-	114.1	114.2	116.7	116.9	117.5	117.9	118.5	113.0	113.1	115.5	115.6	116.2	116.6	117.2
Size A - More than 1,250,000	M	-	115.3	115.2	117.9	118.2	118.9	119.2	120.1	113.0	112.9	115.3	115.6	116.2	116.6	117.4
Size B - 330,000 to 1,250,000	M	-	112.6	113.0	115.8	115.6	115.9	-	-	112.9	113.3	116.0	115.7	116.0	-	-
Size C - 50,000 to 330,000	M	-	112.9	113.7	116.0	115.9	116.2	116.8	116.5	112.3	113.0	115.3	115.3	115.6	116.2	115.9
Size classes:																
A	M	12/86	102.5	103.0	105.0	105.3	105.7	106.3	106.7	111.9	112.4	114.5	114.7	115.1	115.7	116.2
B	M	-	112.3	112.5	115.0	115.2	115.8	116.4	116.7	111.1	111.3	113.6	113.8	114.3	114.9	115.3
C	M	-	111.9	112.6	114.5	114.6	115.1	115.8	116.1	112.2	112.9	114.8	114.9	115.4	116.1	116.4
D	M	-	110.5	110.9	112.9	113.1	113.5	114.1	114.3	110.7	111.1	113.2	113.4	113.7	114.3	114.6
Selected local areas																
Chicago, IL- Northwestern IN	M	-	113.3	115.5	115.3	116.6	116.9	117.1	117.0	109.9	112.0	111.9	112.9	113.2	113.3	113.3
Los Angeles-Long Beach, Anaheim, CA	M	-	116.8	116.5	118.9	119.7	120.6	121.1	122.0	114.1	113.8	115.9	116.6	117.5	118.0	118.9
New York, NY- Northeastern NJ	M	-	117.3	117.8	121.3	121.1	121.5	122.6	122.7	116.0	116.5	119.6	119.3	119.7	120.6	120.7
Philadelphia, PA-NJ	M	-	116.4	117.4	119.3	119.3	119.6	120.0	120.9	116.2	117.2	119.3	119.0	119.5	119.8	120.8
San Francisco- Oakland, CA	M	-	115.0	115.0	118.4	117.9	119.1	118.7	119.7	113.9	114.0	117.5	117.0	117.9	117.8	118.7
Baltimore, MD	1	-	113.7	-	116.8	-	117.7	-	117.8	113.2	-	116.2	-	117.3	-	117.4
Boston, MA	1	-	115.3	-	120.1	-	122.1	-	123.1	115.2	-	120.2	-	121.8	-	123.1
Cleveland, OH	1	-	111.6	-	113.9	-	115.1	-	116.6	107.0	-	109.3	-	110.2	-	111.7
Miami, FL	1	-	111.1	-	114.5	-	115.1	-	116.2	110.3	-	113.8	-	114.3	-	115.1
St. Louis, MO-IL	1	-	111.3	-	113.4	-	114.2	-	114.1	110.9	-	113.0	-	113.8	-	113.7
Washington, DC-MD-VA	1	-	115.3	-	118.3	-	119.2	-	120.1	114.6	-	117.6	-	118.5	-	119.3
Dallas-Ft. Worth, TX	2	-	-	112.9	-	114.0	-	115.4	-	-	112.6	-	113.8	-	114.8	-
Detroit, MI	2	-	-	111.1	-	113.7	-	114.4	-	-	108.6	-	110.9	-	111.9	-
Houston, TX	2	-	-	106.5	-	108.0	-	108.2	-	-	106.4	-	108.1	-	108.1	-
Pittsburgh, PA	2	-	-	111.1	-	113.3	-	114.5	-	-	106.8	-	108.9	-	110.1	-

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	1979	1980	1981	1982	1983	1984	1985	1986	1987
Consumer Price Index for All Urban Consumers:									
All items:									
Index	72.6	82.4	90.9	96.5	99.6	103.9	107.6	109.6	113.6
Percent change	11.3	13.5	10.3	6.2	3.2	4.3	3.6	1.9	3.6
Food and beverages:									
Index	79.9	86.7	93.5	97.3	99.5	103.2	105.6	109.1	113.5
Percent change	10.7	8.5	7.8	4.1	2.3	3.7	2.3	3.3	4.0
Housing:									
Index	70.1	81.1	90.4	96.9	99.5	103.6	107.7	110.9	114.2
Percent change	12.3	15.7	11.5	7.2	2.7	4.1	4.0	3.0	3.0
Apparel and upkeep:									
Index	84.9	90.9	95.3	97.8	100.2	102.1	105.0	105.9	110.6
Percent change	4.3	7.1	4.8	2.6	2.5	1.9	2.8	.9	4.4
Transportation:									
Index	70.5	83.1	93.2	97.0	99.3	103.7	106.4	102.3	105.4
Percent change	14.3	17.9	12.2	4.1	2.4	4.4	2.6	-3.9	3.0
Medical care:									
Index	67.5	74.9	82.9	92.5	100.6	106.8	113.5	122.0	130.1
Percent change	9.2	11.0	10.7	11.6	8.8	6.2	6.3	7.5	6.6
Entertainment:									
Index	76.7	83.6	90.1	96.0	100.1	103.8	107.9	111.6	115.3
Percent change	6.7	9.0	7.8	6.5	4.3	3.7	3.9	3.4	3.3
Other goods and services:									
Index	68.9	75.2	82.6	91.1	101.1	107.9	114.5	121.4	128.5
Percent change	7.2	9.1	9.8	10.3	11.0	6.7	6.1	6.0	5.8
Consumer Price Index for Urban Wage Earners and Clerical Workers:									
All items:									
Index	73.1	82.9	91.4	96.9	99.8	103.3	106.9	108.6	112.5
Percent change	11.4	13.4	10.3	6.0	3.0	3.5	3.5	1.6	3.6

33. Producer Price Indexes, by stage of processing

(1982 = 100)

Grouping	Annual average		1987							1988				
	1986	1987	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Finished goods	103.2	105.4	105.5	106.0	105.9	105.7	106.2	106.3	105.8	106.3	105.9	106.2	106.9	107.5
Finished consumer goods	101.4	103.6	103.9	104.4	104.3	104.2	104.4	104.5	104.0	104.5	104.0	104.3	105.1	105.7
Finished consumer foods	107.3	109.5	110.6	110.9	109.5	110.5	109.7	109.8	108.9	110.5	109.4	110.0	110.2	111.3
Finished consumer goods excluding foods	98.5	100.7	100.6	101.2	101.8	101.1	101.9	101.9	101.6	101.5	101.3	101.4	102.5	102.9
Nondurable goods less food	93.3	94.9	94.8	95.7	96.6	96.1	95.8	95.9	95.9	95.5	95.4	95.4	96.9	97.4
Durable goods	108.9	111.5	111.2	111.3	110.9	110.0	113.4	113.0	112.2	112.6	112.5	112.7	112.8	112.9
Capital equipment	109.7	111.7	111.4	111.6	111.7	111.2	112.5	112.5	112.4	112.9	112.9	113.2	113.6	113.9
Intermediate materials, supplies, and components	99.1	101.5	101.5	102.1	102.5	102.7	103.1	103.4	103.6	104.2	104.1	104.6	105.5	106.2
Materials and components for manufacturing	102.2	105.3	105.1	105.5	105.8	106.3	107.2	107.5	108.1	109.5	109.5	110.4	111.5	112.2
Materials for food manufacturing	98.4	100.8	102.3	102.7	101.5	102.8	101.9	100.6	99.9	101.9	101.9	101.7	102.8	104.2
Materials for nondurable manufacturing	98.1	102.2	102.5	102.6	102.9	103.4	104.5	104.9	105.5	107.5	107.6	109.5	110.9	111.6
Materials for durable manufacturing	101.2	106.2	104.9	106.2	107.1	108.1	110.2	111.1	112.9	114.5	113.9	114.5	116.6	117.5
Components for manufacturing	107.5	108.8	108.5	108.7	108.8	109.0	109.3	109.5	109.8	110.5	110.7	111.1	111.4	111.7
Materials and components for construction	108.1	109.8	109.3	109.8	110.2	110.7	111.2	111.9	112.4	113.6	113.7	114.2	115.0	115.2
Processed fuels and lubricants	72.7	73.3	74.5	76.0	77.3	75.9	74.6	74.4	72.9	70.7	70.2	69.7	70.5	71.5
Containers	110.3	114.5	114.2	114.4	114.4	115.4	116.1	116.5	116.1	116.6	116.9	117.5	118.2	119.3
Supplies	105.6	107.7	107.6	107.8	107.8	108.2	108.8	109.5	109.9	110.5	110.5	111.1	111.7	112.3
Crude materials for further processing	87.7	93.7	95.1	96.0	96.5	95.7	95.3	94.7	94.4	93.7	94.6	94.1	95.7	97.1
Foodstuffs and feedstuffs	93.2	96.2	99.7	98.4	97.1	96.6	96.1	95.3	95.9	97.2	99.6	99.7	101.2	104.5
Crude nonfood materials	81.6	87.9	88.0	90.3	91.8	90.8	90.5	90.1	89.2	87.3	87.3	86.4	88.0	88.2
Special groupings														
Finished goods, excluding foods	101.9	104.0	103.9	104.3	104.7	104.2	105.1	105.1	104.9	104.9	104.8	105.0	105.8	106.2
Finished energy goods	63.0	61.8	62.5	63.4	64.9	63.4	62.4	62.5	61.4	59.2	58.4	58.1	60.9	61.5
Finished goods less energy	109.7	112.3	112.3	112.7	112.3	112.4	113.1	113.2	112.9	113.9	113.6	114.0	114.3	114.9
Finished consumer goods less energy	109.7	112.5	112.7	113.1	112.6	112.8	113.4	113.4	113.1	114.3	113.9	114.3	114.5	115.2
Finished goods less food and energy	110.6	113.3	112.9	113.3	113.4	113.1	114.5	114.5	114.5	115.2	115.3	115.6	115.9	116.2
Finished consumer goods less food and energy	111.1	114.2	113.7	114.2	114.3	114.1	115.6	115.6	115.7	116.5	116.7	117.0	117.2	117.5
Consumer nondurable goods less food and energy	113.1	116.3	115.7	116.5	116.9	117.3	117.4	117.6	118.4	119.5	119.8	120.2	120.5	120.9
Intermediate materials less foods and feeds	99.3	101.7	101.6	102.2	102.7	102.8	103.2	103.6	103.7	104.2	104.2	104.8	105.7	106.3
Intermediate foods and feeds	96.2	99.2	100.7	100.7	99.6	101.0	100.6	101.4	102.0	102.9	101.7	102.0	103.5	104.9
Intermediate energy goods	72.6	73.0	74.1	75.7	77.0	75.6	74.4	74.1	72.7	70.5	70.0	69.4	70.2	71.2
Intermediate goods less energy	104.5	107.3	107.1	107.4	107.7	108.3	109.1	109.5	110.1	111.2	111.1	111.8	112.8	113.5
Intermediate materials less foods and energy	104.9	107.8	107.5	107.9	108.2	108.7	109.6	110.1	110.6	111.8	111.9	112.8	113.7	114.3
Crude energy materials	71.8	75.0	75.6	77.8	78.9	76.7	75.4	74.7	73.6	70.8	70.5	68.8	70.5	71.4
Crude materials less energy	95.4	100.9	102.8	102.4	102.3	103.0	103.6	103.1	103.7	105.1	107.2	107.9	109.2	110.9
Crude nonfood materials less energy	103.1	115.7	113.5	115.7	118.7	122.9	126.4	127.1	127.3	129.2	130.6	132.8	133.6	131.1

34. Producer Price Indexes, by durability of product

(1982=100)

Grouping	Annual average		1987							1988				
	1986	1987	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May
Total durable goods	107.5	109.9	109.3	109.7	110.0	110.2	111.4	111.7	112.0	112.8	112.8	113.2	113.8	114.0
Total nondurable goods	94.8	97.5	98.2	98.8	99.0	98.8	98.5	98.6	98.3	98.5	98.5	98.7	99.8	100.8
Total manufactures	101.7	104.4	104.3	104.8	105.1	105.1	105.8	106.0	106.0	106.6	106.5	107.0	107.8	108.5
Durable	107.5	109.6	109.1	109.4	109.7	109.7	110.9	111.1	111.4	112.2	112.1	112.5	113.1	113.4
Nondurable	96.0	99.2	99.5	100.1	100.5	100.4	100.7	100.9	100.6	101.1	101.0	101.6	102.6	103.7
Total raw or slightly processed goods	92.3	94.2	95.4	96.2	96.2	95.9	94.9	94.7	94.5	94.0	94.2	93.8	94.9	95.6
Durable	107.8	122.6	118.6	121.8	125.7	130.9	137.3	138.0	138.3	139.9	143.4	145.7	146.6	142.9
Nondurable	91.5	92.9	94.2	95.0	94.7	94.3	92.9	92.6	92.4	91.9	91.9	91.4	92.5	93.4

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

(1982=100)

Index	1978	1979	1980	1981	1982	1983	1984	1985	1986
Finished goods:									
Total	69.8	77.6	88.0	96.1	100.0	101.6	103.7	104.7	103.2
Consumer goods	69.4	77.5	88.6	96.6	100.0	101.3	103.3	103.8	101.4
Capital equipment	71.3	77.5	85.8	94.6	100.0	102.8	105.2	107.5	109.7
Intermediate materials, supplies, and components:									
Total	69.5	78.4	90.3	98.6	100.0	100.6	103.1	102.7	99.1
Materials and components for manufacturing	72.0	80.9	91.7	98.7	100.0	101.2	104.1	103.3	102.2
Materials and components for construction	76.5	84.2	91.3	97.9	100.0	102.8	105.6	107.3	108.1
Processed fuels and lubricants	49.9	61.6	85.0	100.6	100.0	95.4	95.7	92.8	72.7
Containers	71.0	79.4	89.1	96.7	100.0	100.4	105.9	109.0	110.3
Supplies	72.9	80.2	89.9	96.9	100.0	101.8	104.1	104.4	105.6
Crude materials for further processing:									
Total	73.4	85.9	95.3	103.0	100.0	101.3	103.5	95.8	87.7
Foodstuffs and feedstuffs	87.3	100.0	104.6	103.9	100.0	101.8	104.7	94.8	93.2
Nonfood materials except fuel	57.5	69.6	84.6	101.8	100.0	100.7	102.2	96.9	81.6
Fuel	48.2	57.3	69.4	84.8	100.0	105.1	105.1	102.7	92.2

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

(June 1977 = 100, unless otherwise indicated)

Category	1974 SITC	1985		1986				1987				1988
		Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/83=100)		99.6	99.7	99.4	99.1	97.9	99.0	99.9	102.2	102.8	104.9	106.4
Food (3/83=100)	0	97.3	100.7	97.2	97.1	86.0	90.1	87.3	89.9	86.7	94.6	95.2
Meat (3/83=100)	01	99.7	103.6	102.5	105.2	111.3	114.5	115.0	121.2	118.8	116.8	122.8
Fish (3/83=100)	03	100.7	100.6	100.2	108.6	111.9	115.9	117.1	125.8	131.1	138.5	139.7
Grain and grain preparations (3/80=100)	04	93.8	98.8	91.7	89.0	66.3	72.5	68.3	71.0	67.8	77.4	79.8
Vegetables and fruit (3/83=100)	05	104.8	98.2	98.6	108.6	114.6	117.5	115.3	112.4	101.1	100.5	97.5
Feedstuffs for animals (3/83=100)	08	101.7	114.0	120.0	114.8	123.9	119.7	117.0	123.8	123.1	145.2	134.6
Misc. food products (3/83=100)	09	99.9	99.5	98.0	97.0	98.7	99.9	100.1	100.6	100.3	100.3	102.3
Beverages and tobacco (6/83=100)	1	100.2	99.4	96.6	97.4	97.3	102.6	102.6	105.0	105.5	107.0	109.6
Beverages (9/83=100)	11	-	-	-	-	-	-	-	-	-	-	-
Tobacco and tobacco products (6/83=100)	12	100.2	99.5	96.3	97.1	97.0	102.6	102.6	105.0	105.5	107.0	109.8
Crude materials (6/83=100)	2	98.3	98.1	101.4	102.2	99.6	102.4	105.7	114.5	118.7	125.2	129.7
Raw hides and skins (6/80=100)	21	100.8	110.0	108.7	117.1	108.3	115.9	131.9	149.6	147.7	157.1	171.4
Oilseeds and oleaginous fruit (9/77=100)	22	94.9	94.7	99.1	98.1	97.5	95.2	90.4	101.6	95.1	109.6	115.6
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	100.6	99.7	99.7	99.9	99.6	98.9	99.9	101.0	102.8	105.3	104.5
Wood	24	98.0	101.9	101.5	101.2	102.9	107.9	111.2	116.2	141.7	146.0	150.2
Pulp and waste paper (6/83=100)	25	97.3	96.7	104.2	116.4	129.0	129.4	144.2	149.9	153.0	160.4	169.6
Textile fibers	26	101.7	96.4	100.2	98.0	73.0	90.9	97.8	112.4	116.5	111.6	107.5
Crude fertilizers and minerals	27	100.8	99.2	100.0	98.4	98.0	96.8	94.4	94.0	91.6	91.6	92.4
Metalliferous ores and metal scrap	28	97.4	94.8	100.3	98.0	100.4	96.8	98.8	107.0	117.4	125.9	131.0
Mineral fuels	3	99.5	97.0	83.6	76.8	77.4	77.8	81.3	82.8	84.6	82.5	79.4
Animal and vegetable oils, fats, and waxes	4	91.2	82.5	74.3	67.7	62.1	71.8	73.9	78.8	78.5	81.6	92.7
Fixed vegetable oils and fats (6/83=100)	42	93.3	80.3	71.3	70.6	60.2	64.6	67.3	71.9	71.2	75.4	85.7
Chemicals (3/83=100)	5	100.2	99.6	99.8	98.0	95.7	95.2	99.6	106.7	107.7	112.9	117.9
Organic chemicals (12/83=100)	51	101.0	99.2	98.5	93.1	91.6	92.4	101.9	118.4	116.1	123.5	135.1
Fertilizers, manufactured (3/83=100)	56	99.9	100.5	98.9	93.0	85.1	77.4	85.6	91.6	100.9	106.5	110.6
Intermediate manufactured products (9/81=100)	6	99.8	99.8	101.3	102.5	103.8	104.2	106.4	107.9	110.3	111.2	114.4
Leather and furskins (9/79=100)	61	97.0	98.0	97.3	103.8	104.2	107.8	123.6	126.9	128.7	118.0	125.7
Rubber manufactures	62	99.5	99.7	100.7	100.1	100.5	100.9	102.0	102.5	103.9	104.1	105.2
Paper and paperboard products (6/78=100)	64	99.2	97.9	100.5	104.7	109.1	110.8	114.7	117.0	120.1	122.4	126.2
Iron and steel (3/82=100)	67	99.7	100.9	100.3	100.2	102.3	101.9	102.9	102.9	100.7	102.9	106.1
Nonferrous metals (9/81=100)	68	99.3	98.9	104.2	103.1	105.3	102.6	106.6	113.0	123.0	124.4	134.0
Metal manufactures, n.e.s. (3/82=100)	69	100.0	100.2	100.4	100.8	100.8	100.8	101.5	101.3	102.3	103.4	104.5
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	7	100.1	100.2	100.7	100.8	101.0	101.6	101.7	101.8	102.1	102.4	103.2
Power generating machinery and equipment (12/78=100)	71	100.1	101.3	102.3	102.4	102.5	103.7	104.6	103.7	104.8	105.2	107.1
Machinery specialized for particular industries (9/78=100)	72	100.2	100.4	100.6	100.3	100.4	100.6	100.0	100.1	100.5	100.9	102.1
Metalworking machinery (6/78=100)	73	100.4	101.3	101.9	102.0	103.0	104.2	105.8	106.7	107.8	108.2	109.3
General industrial machines and parts n.e.s. (9/78=100)	74	100.4	100.4	100.9	101.6	102.5	103.3	104.2	104.5	104.6	105.4	107.0
Office machines and automatic data processing equipment	75	99.7	99.1	99.9	99.0	98.8	98.2	96.0	96.1	95.7	95.5	95.8
Telecommunications, sound recording and reproducing equipment	76	99.9	100.1	99.2	98.9	99.7	101.3	101.9	101.4	101.4	101.9	102.3
Electrical machinery and equipment	77	100.0	98.9	99.5	99.2	99.7	100.3	101.7	102.1	102.5	101.8	103.1
Road vehicles and parts (3/80=100)	78	100.1	100.9	101.0	101.7	101.9	103.3	103.1	103.5	103.8	104.6	104.5
Other transport equipment, excl. military and commercial aviation	79	100.8	101.1	102.1	103.1	102.8	103.5	104.5	105.5	105.8	106.6	107.4
Other manufactured articles	8	100.1	100.3	102.3	103.5	103.4	103.8	104.6	105.2	105.4	105.6	106.8
Apparel (9/83=100)	84	-	-	-	-	-	-	-	-	-	-	-
Professional, scientific, and controlling instruments and apparatus	87	100.5	100.6	102.0	103.1	103.0	103.5	104.4	105.5	106.3	107.1	109.4
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	88	99.2	100.1	101.9	102.6	102.4	102.1	102.7	102.5	99.0	97.9	97.6
Miscellaneous manufactured articles, n.e.s.	89	-	-	-	-	-	-	-	-	-	-	-
Gold, non-monetary (6/83=100)	971	-	-	-	-	-	-	-	-	-	-	-

- Data not available.

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

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1986				1987				1988
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
ALL COMMODITIES (9/82=100)		98.6	98.7	101.1	102.3	106.5	110.0	110.9	112.7	114.1
Food (9/77=100)	0	113.7	107.3	112.0	109.1	105.2	108.3	109.1	112.5	114.1
Meat	01	98.7	96.0	104.3	109.2	105.0	108.0	114.4	113.4	111.5
Dairy products and eggs (6/81=100)	02	108.0	108.7	111.3	113.8	119.3	122.3	121.7	125.1	125.6
Fish	03	107.0	110.5	114.1	119.1	121.8	126.0	130.4	131.0	132.5
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	110.4	112.5	117.8	118.8	122.3	126.2	124.8	130.7	135.8
Fruits and vegetables	05	97.6	100.0	106.0	104.3	101.9	110.1	110.0	116.2	115.4
Sugar, sugar preparations, and honey (3/82=100)	06	106.8	104.6	106.2	106.5	107.4	109.6	109.0	107.0	109.6
Coffee, tea, cocoa	07	143.7	117.2	121.5	104.9	89.9	87.0	85.1	90.6	94.3
Beverages and tobacco	1	103.4	105.2	103.9	106.8	107.8	112.8	112.2	113.5	116.0
Beverages	11	104.4	106.1	107.5	109.5	112.1	114.2	114.8	116.2	118.7
Crude materials	2	103.2	106.4	109.5	109.1	115.1	116.2	120.3	122.1	129.2
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	104.8	99.5	97.7	98.4	98.4	103.7	110.7	120.1	121.7
Wood (9/81=100)	24	101.8	104.3	107.6	104.8	113.5	110.2	117.4	108.8	112.4
Pulp and waste paper (12/81=100)	25	94.1	100.3	108.0	116.9	127.0	132.0	133.4	141.0	151.0
Crude fertilizers and crude minerals (12/83=100)	27	99.5	99.0	98.4	98.6	98.2	99.6	99.2	99.9	100.4
Metalliferous ores and metal scrap (3/84=100)	28	112.1	121.6	124.8	118.3	122.8	124.5	128.7	137.9	151.2
Crude vegetable and animal materials, n.e.s.	29	111.4	111.3	112.4	111.9	113.0	109.0	107.6	118.3	135.8
Fuels and related products (6/82=100)	3	60.8	51.5	52.2	55.9	67.4	74.1	74.3	67.2	61.8
Petroleum and petroleum products (6/82=100)	33	58.4	49.0	50.0	55.0	67.4	74.4	75.2	67.8	62.0
Fats and oils (9/83=100)	4	68.3	66.7	61.2	83.4	82.9	87.9	96.4	102.1	106.4
Vegetable oils (9/83=100)	42	-	-	-	-	-	-	-	-	-
Chemicals (9/82=100)	5	100.3	99.7	99.8	99.0	102.6	104.8	105.6	110.1	114.2
Medicinal and pharmaceutical products (3/84=100)	54	109.5	111.2	115.9	113.6	120.1	123.4	124.3	126.3	135.3
Manufactured fertilizers (3/84=100)	56	91.4	93.0	89.8	89.9	92.9	94.6	109.3	133.6	133.7
Chemical materials and products, n.e.s. (9/84=100)	59	108.8	110.1	111.3	112.7	115.1	117.7	120.6	124.8	138.7
Intermediate manufactured products (12/77=100)	6	102.1	103.6	105.8	106.7	108.6	112.5	116.3	121.3	125.4
Leather and furskins	61	105.3	106.3	108.8	107.2	110.9	116.6	117.8	124.4	131.8
Rubber manufactures, n.e.s.	62	100.2	101.2	102.0	101.8	104.3	104.6	103.2	104.6	106.0
Cork and wood manufactures	63	108.0	111.0	112.7	117.4	118.0	124.3	128.3	128.2	133.8
Paper and paperboard products	64	100.5	100.8	101.0	104.9	104.8	104.9	110.3	112.3	117.2
Textiles	65	103.9	105.4	107.4	107.9	110.4	111.8	114.6	118.6	120.0
Nonmetallic mineral manufactures, n.e.s.	66	106.9	110.5	116.6	117.9	120.5	126.7	130.4	133.4	137.4
Iron and steel (9/78=100)	67	99.1	98.9	100.0	100.9	102.7	106.6	109.4	114.0	120.0
Nonferrous metals (12/81=100)	68	98.0	98.9	103.3	101.5	102.5	112.4	120.9	135.7	139.4
Metal manufactures, n.e.s.	69	104.8	107.9	107.7	108.3	112.1	112.7	114.6	117.8	121.1
Machinery and transport equipment (6/81=100)	7	107.0	110.4	113.0	114.4	117.5	119.9	119.9	123.1	125.2
Machinery specialized for particular industries (9/78=100)	72	113.2	116.9	122.7	123.0	130.4	136.1	134.3	142.1	146.8
Metalworking machinery (3/80=100)	73	113.6	113.0	117.7	120.9	126.4	128.1	130.2	135.5	138.5
General industrial machinery and parts, n.e.s. (6/81=100)	74	111.2	116.2	119.9	120.9	127.9	130.8	130.1	137.0	140.3
Office machines and automatic data processing equipment (3/80=100)	75	104.8	109.1	109.9	108.9	110.0	114.0	114.8	118.3	117.9
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	102.8	106.4	109.2	108.9	110.5	110.3	110.2	112.1	112.8
Electrical machinery and equipment (12/81=100)	77	103.1	106.4	108.8	109.8	112.4	115.8	115.1	118.2	122.4
Road vehicles and parts (6/81=100)	78	107.9	110.8	112.9	116.1	118.6	120.5	120.6	122.6	125.2
Misc. manufactured articles (3/80=100)	8	105.1	106.8	109.7	110.3	114.5	117.8	118.5	121.8	124.1
Plumbing, heating, and lighting fixtures (6/80=100)	81	105.7	108.6	111.1	110.8	111.6	117.0	116.2	121.0	123.4
Furniture and parts (6/80=100)	82	107.1	108.0	110.7	112.3	114.8	119.8	119.0	124.3	125.4
Clothing (9/77=100)	84	100.4	100.7	101.7	102.6	106.4	109.2	111.9	112.3	115.0
Footwear	85	107.1	108.0	110.7	112.3	114.8	119.8	119.0	124.3	125.4
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	112.1	117.9	122.6	122.5	131.3	135.9	132.7	138.7	140.0
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	110.5	113.8	118.0	119.0	123.7	126.0	122.1	127.3	129.2
Misc. manufactured articles, n.e.s. (6/82=100)	89	-	-	-	-	-	-	-	-	-
Gold, non-monetary (6/82=100)	971	-	-	-	-	-	-	-	-	-

- Data not available.

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

(September 1983 = 100 unless otherwise indicated)

Category	Per-centage of 1980 trade value	1986				1987				1988
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	16.294	96.7	96.2	87.2	90.2	87.4	91.5	88.0	96.6	98.4
Raw materials	30.696	97.7	96.0	95.1	96.3	100.8	106.1	109.1	111.8	114.2
Capital goods (12/82=100)	30.186	100.6	100.6	100.7	101.1	101.4	101.6	101.8	102.1	103.3
Automotive vehicles, parts and engines (12/82=100)	7.483	101.2	101.9	102.3	103.5	103.4	103.6	104.0	104.5	104.3
Consumer goods	7.467	102.2	103.3	103.6	105.2	105.9	106.3	106.9	108.0	110.1
Durables	3.965	101.1	102.8	102.9	104.9	105.5	106.6	107.3	107.9	110.5
Nondurables	3.501	103.7	103.7	103.8	104.3	105.4	104.3	104.6	106.3	107.4

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

(December 1982=100)

Category	Per-centage of 1980 trade value	1986				1987				1988
		Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Foods, feeds, and beverages	7.477	111.0	106.1	109.8	108.4	105.2	107.8	109.0	112.1	113.7
Petroleum and petroleum products, excl. natural gas	31.108	58.5	49.1	50.0	54.7	67.2	74.1	74.7	67.6	61.9
Raw materials, excluding petroleum	19.205	-	-	-	-	-	-	-	-	-
Raw materials, nondurable	9.391	-	-	-	-	-	-	-	-	-
Raw materials, durable	9.814	-	-	-	-	-	-	-	-	-
Capital goods	13.164	106.7	110.7	113.5	114.2	118.7	122.2	121.9	126.6	128.5
Automotive vehicles, parts and engines	11.750	107.7	110.4	112.7	114.6	116.5	118.4	118.4	120.6	123.7
Consumer goods	14.250	104.9	107.1	110.1	110.5	114.2	116.9	118.2	121.4	124.2
Durable	5.507	-	-	-	-	-	-	-	-	-
Nondurable	8.743	-	-	-	-	-	-	-	-	-

- Data not available.

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

Industry group	1986				1987				1988
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/83=100)	98.0	97.2	97.4	100.2	102.0	107.4	107.1	116.3	120.7
Lumber and wood products, except furniture (6/83=100)	103.6	103.4	104.8	108.8	112.8	116.2	138.9	142.5	146.1
Furniture and fixtures (9/83=100)	103.0	103.7	104.0	104.1	108.0	108.6	108.7	111.2	112.5
Paper and allied products (3/81=100)	91.8	97.9	102.3	104.9	109.3	112.3	115.5	119.3	124.6
Chemicals and allied products (12/84=100)	99.2	98.0	95.8	95.8	100.5	107.6	108.7	113.8	118.4
Petroleum and coal products (12/83=100)	75.4	61.8	65.1	67.6	73.5	80.5	81.4	78.8	73.4
Primary metal products (3/82=100)	102.6	102.6	109.3	106.9	110.6	117.2	122.3	126.6	126.9
Machinery, except electrical (9/78=100)	100.5	100.1	100.1	100.1	99.6	99.4	99.4	99.7	100.7
Electrical machinery (12/80=100)	99.6	99.5	99.9	100.8	101.9	102.1	102.5	102.2	103.2
Transportation equipment (12/78=100)	103.8	104.7	104.8	106.0	106.2	106.7	106.9	107.8	108.0
Scientific instruments; optical goods; clocks (6/77=100)	103.4	104.5	104.7	105.3	105.8	106.8	106.6	107.1	108.7

¹ SIC - based classification.

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

Industry group	1986				1987				1988
	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.
Manufacturing:									
Food and kindred products (6/77 = 100)	98.0	97.3	99.7	103.0	103.8	106.3	108.4	110.6	114.0
Textile mill products (9/82 = 100)	104.6	106.8	109.2	110.6	114.1	116.1	119.4	124.3	127.4
Apparel and related products (6/77 = 100)	100.5	101.2	102.4	103.0	107.0	109.4	112.3	113.4	116.2
Lumber and wood products, except furniture (6/77 = 100)	103.7	106.3	109.0	109.0	114.8	115.0	120.3	115.4	119.5
Furniture and fixtures (6/80 = 100)	107.2	109.4	111.4	111.6	116.1	117.0	118.3	118.9	122.2
Paper and allied products (6/77 = 100)	96.4	97.3	98.6	103.3	105.1	105.9	110.9	113.6	119.1
Chemicals and allied products (9/82 = 100)	100.6	103.3	104.3	102.6	105.7	106.2	107.2	112.2	116.8
Rubber and miscellaneous plastic products (12/80 = 100)	103.6	105.3	106.6	107.9	110.6	113.6	112.3	115.7	117.2
Leather and leather products	102.4	103.2	105.3	106.4	109.3	113.3	113.3	118.4	120.7
Primary metal products (6/81 = 100)	96.5	97.1	102.3	101.3	102.7	110.4	115.2	123.8	125.2
Fabricated metal products (12/84 = 100)	107.2	110.5	111.1	111.7	116.7	117.5	119.8	123.2	127.7
Machinery, except electrical (3/80 = 100)	111.1	114.9	118.2	118.9	123.4	127.4	127.8	133.9	135.8
Electrical machinery (9/84 = 100)	100.9	104.3	106.9	107.0	109.4	110.7	110.2	112.5	114.8
Transportation equipment (6/81 = 100)	109.8	112.8	114.7	117.3	119.9	122.1	122.5	124.6	127.0
Scientific instruments; optical goods; clocks (12/79 = 100)	112.6	117.8	122.6	122.4	128.8	132.5	128.8	134.0	135.7
Miscellaneous manufactured commodities (9/82 = 100)	102.4	104.7	110.7	112.2	115.1	118.1	121.4	123.8	127.7

¹ SIC - based classification.

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

(1977 = 100)

Item	Quarterly Indexes										
	1985		1986				1987				1988
	III	IV	I	II	III	IV	I	II	III	IV	I
Business:											
Output per hour of all persons	108.2	107.9	109.5	109.7	109.6	109.6	109.7	110.1	111.3	110.9	111.8
Compensation per hour	177.0	179.3	180.7	182.2	183.6	185.2	185.8	187.3	189.1	190.6	192.2
Real compensation per hour	99.5	99.7	100.1	101.3	101.5	101.7	100.7	100.3	100.3	100.2	100.2
Unit labor costs	163.6	166.1	165.0	166.2	167.5	169.0	169.4	170.2	169.8	171.8	171.9
Unit nonlabor payments	161.8	160.2	163.1	163.9	165.7	162.4	166.0	168.6	172.2	170.8	170.8
Implicit price deflator	163.0	164.0	164.3	165.4	166.9	166.7	168.2	169.6	170.7	171.4	171.5
Nonfarm business:											
Output per hour of all persons	106.4	105.9	107.7	107.7	107.5	107.5	107.6	108.0	109.1	108.8	109.8
Compensation per hour	176.2	178.3	180.0	181.3	182.6	184.4	184.9	186.3	187.9	189.5	191.2
Real compensation per hour	99.0	99.2	99.8	100.8	100.9	101.2	100.2	99.7	99.7	99.6	99.7
Unit labor costs	165.7	168.3	167.2	168.4	169.8	171.5	171.8	172.5	172.2	174.1	174.1
Unit nonlabor payments	163.4	160.8	164.7	165.2	167.0	163.9	167.4	169.2	173.0	171.8	172.3
Implicit price deflator	164.9	165.7	166.4	167.3	168.8	168.8	170.3	171.4	172.5	173.3	173.4
Nonfinancial corporations:											
Output per hour of all employees	109.2	108.9	109.8	109.7	109.9	110.5	109.7	109.9	110.8	110.5	111.4
Compensation per hour	173.8	175.7	177.2	178.4	179.5	181.0	180.8	182.0	183.3	184.8	186.3
Real compensation per hour	97.6	97.8	98.2	99.2	99.2	99.4	98.0	97.5	97.2	97.1	97.1
Total unit costs	163.7	166.0	166.3	167.2	168.5	168.7	169.7	170.9	171.0	172.5	172.3
Unit labor costs	159.1	161.4	161.5	162.6	163.2	163.8	164.8	165.6	165.5	167.2	167.2
Unit nonlabor costs	177.5	179.4	180.7	180.6	184.2	183.2	184.1	186.6	187.3	188.0	187.2
Unit profits	142.5	128.7	129.7	129.5	130.6	127.7	132.2	132.9	142.1	137.0	136.4
Unit nonlabor payments	165.2	161.6	162.8	162.7	165.4	163.7	165.9	167.8	171.4	170.2	169.4
Implicit price deflator	161.2	161.5	161.9	162.7	164.0	163.8	165.2	166.3	167.5	168.2	168.0
Manufacturing:											
Output per hour of all persons	125.3	126.2	127.7	128.5	129.3	129.7	130.4	132.3	133.4	133.6	134.5
Compensation per hour	178.0	180.2	181.0	182.1	183.1	184.3	183.9	184.8	185.4	186.3	188.4
Real compensation per hour	100.0	100.3	100.3	101.3	101.2	101.2	99.6	98.9	98.3	97.9	98.2
Unit labor costs	142.1	142.8	141.8	141.7	141.7	142.2	141.0	139.6	139.0	139.5	140.1

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

(1977 = 100)

Item	1960	1970	1973	1976	1978	1980	1981	1982	1983	1984	1985	1986
Private business												
Productivity:												
Output per hour of all persons	67.3	88.4	95.9	98.4	100.8	99.2	100.6	100.3	103.1	105.7	107.6	109.7
Output per unit of capital services	102.1	101.9	105.3	97.2	102.0	94.2	92.4	86.7	88.4	92.8	92.8	92.8
Multifactor productivity	78.1	92.9	99.1	98.0	101.2	97.4	97.7	95.3	97.7	101.0	102.2	103.4
Output	55.3	80.2	93.0	94.5	105.8	106.6	108.9	105.4	109.9	119.2	124.0	128.1
Inputs:												
Hours of all persons	82.2	90.8	96.9	96.1	105.0	107.5	108.2	105.2	106.7	112.8	115.2	116.8
Capital services	54.2	78.7	88.3	97.2	103.8	113.1	117.8	121.7	124.4	128.5	133.6	138.0
Combined units of labor and capital input	70.8	86.3	93.8	96.5	104.5	109.4	111.5	110.7	112.6	118.1	121.3	123.8
Capital per hour of all persons	65.9	86.7	91.1	101.2	98.8	105.3	108.8	115.7	116.6	113.9	116.0	118.2
Private nonfarm business												
Productivity:												
Output per hour of all persons	70.7	89.2	96.4	98.5	100.8	98.7	99.6	99.1	102.5	104.7	105.9	107.6
Output per unit of capital services	103.6	102.8	106.0	97.3	101.9	93.4	91.1	85.1	87.3	91.3	90.8	90.5
Multifactor productivity	80.9	93.7	99.6	98.1	101.2	96.9	96.7	94.1	97.0	99.9	100.5	101.4
Output	54.4	79.9	92.9	94.4	106.0	106.6	108.4	104.8	110.1	119.3	123.7	127.6
Inputs:												
Hours of all persons	77.0	89.6	96.3	95.8	105.1	108.0	108.8	105.7	107.4	114.0	116.8	118.5
Capital services	52.5	77.8	87.6	97.0	104.0	114.1	119.0	123.2	126.1	130.6	136.3	141.0
Combined units of labor and capital input	67.3	85.3	93.3	96.2	104.7	110.0	112.2	111.4	113.5	119.4	123.1	125.8
Capital per hour of all persons	68.2	86.8	91.0	101.3	98.9	105.6	109.4	116.5	117.4	114.6	116.7	119.0
Manufacturing												
Productivity:												
Output per hour of all persons	62.2	80.8	93.4	97.1	101.5	101.4	103.6	105.9	112.0	118.1	124.2	128.8
Output per unit of capital services	102.5	98.6	111.4	96.2	102.1	91.2	89.2	81.8	86.9	95.7	97.8	99.3
Multifactor productivity	71.9	85.2	97.9	96.8	101.7	98.7	99.8	99.2	105.1	112.2	117.0	120.6
Output	52.5	78.6	96.3	93.1	106.0	103.2	104.8	98.4	104.7	117.5	122.5	125.9
Inputs:												
Hours of all persons	84.4	97.3	103.1	95.9	104.4	101.7	101.1	92.9	93.5	99.5	98.7	97.8
Capital services	51.2	79.7	86.4	96.7	103.7	113.1	117.5	120.3	120.6	122.8	125.3	126.8
Combined units of labor and capital inputs	73.0	92.2	98.4	96.1	104.2	104.5	105.0	99.2	99.7	104.7	104.8	104.4
Capital per hour of all persons	60.7	82.0	83.8	100.9	99.4	111.2	116.2	129.4	129.0	123.5	127.0	129.7

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

(1977=100)

Item	1960	1970	1973	1976	1978	1980	1981	1982	1983	1984	1985	1986	1987
Business:													
Output per hour of all persons	67.6	88.4	95.9	98.3	100.8	99.3	100.7	100.3	103.0	105.6	107.5	109.5	110.5
Compensation per hour	33.6	57.8	70.9	92.8	108.5	131.5	143.7	154.9	161.5	168.0	175.9	182.8	188.2
Real compensation per hour	68.9	90.3	96.8	98.8	100.9	96.7	95.8	97.3	98.2	98.0	99.1	101.1	100.4
Unit labor costs	49.7	65.4	73.9	94.3	107.6	132.5	142.7	154.5	156.7	159.1	163.6	166.9	170.3
Unit nonlabor payments	46.4	59.4	72.5	93.3	106.7	118.7	134.6	136.6	146.4	156.5	160.3	163.8	169.4
Implicit price deflator	48.5	63.2	73.4	94.0	107.3	127.6	139.8	148.1	153.0	158.2	162.4	165.8	170.0
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	98.5	100.8	98.8	99.8	99.2	102.5	104.6	105.8	107.5	108.4
Compensation per hour	35.3	58.2	71.2	92.8	108.6	131.3	143.6	154.8	161.5	167.8	175.2	182.0	187.1
Real compensation per hour	72.3	90.9	97.2	98.9	100.9	96.6	95.8	97.2	98.3	97.9	98.7	100.6	99.8
Unit labor costs	49.7	65.2	73.9	94.3	107.7	132.9	144.0	156.0	157.6	160.4	165.6	169.3	172.7
Unit nonlabor payments	46.3	60.0	69.3	93.0	105.6	118.5	133.5	136.5	148.3	156.4	161.3	165.2	170.4
Implicit price deflator	48.5	63.4	72.3	93.8	107.0	127.8	140.3	149.2	154.3	159.0	164.1	167.8	171.9
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	98.4	100.6	99.1	99.6	100.4	103.5	106.0	108.2	109.9	110.2
Compensation per hour	36.9	59.2	71.6	92.9	108.4	131.1	143.3	154.3	159.9	165.8	172.8	178.9	182.7
Real compensation per hour	75.5	92.5	97.7	98.9	100.8	96.4	95.5	96.9	97.3	96.7	97.3	98.9	97.5
Total unit costs	49.4	64.8	72.7	94.8	107.3	133.4	147.7	159.5	159.5	160.8	164.4	167.7	171.0
Unit labor costs	50.2	65.0	73.4	94.3	107.8	132.3	143.8	153.8	154.5	156.5	159.7	162.8	165.8
Unit nonlabor costs	47.0	64.2	70.7	96.2	105.7	136.7	159.1	176.4	174.3	173.6	178.3	182.2	186.5
Unit profits	59.8	52.3	65.6	89.4	102.0	85.2	98.1	78.5	110.9	136.5	133.9	129.3	136.1
Unit nonlabor payments	51.5	60.1	68.9	93.8	104.4	118.6	137.8	142.1	152.1	160.6	162.7	163.7	168.9
Implicit price deflator	50.7	63.3	71.9	94.2	106.6	127.6	141.7	149.8	153.7	157.9	160.7	163.1	166.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	97.1	101.5	101.4	103.6	105.9	112.0	118.1	124.2	128.8	132.4
Compensation per hour	36.5	57.4	68.8	92.1	108.2	132.4	145.2	157.5	162.4	168.0	176.9	182.7	185.1
Real compensation per hour	74.8	89.6	93.9	98.1	100.6	97.4	96.8	98.9	98.8	98.0	99.6	101.0	98.7
Unit labor costs	58.7	71.0	73.7	94.9	106.6	130.6	140.1	148.7	145.0	142.2	142.4	141.8	139.7
Unit nonlabor payments	60.0	64.1	70.7	93.5	101.9	97.8	111.8	114.0	128.5	138.6	134.7	137.9	-
Implicit price deflator	59.1	69.0	72.8	94.5	105.2	121.0	131.8	138.6	140.2	141.2	140.2	140.7	-

- Data not available.

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

Country	Annual average		1986		1987				1988
	1986	1987	III	IV	I	II	III	IV	I
Total labor force basis									
United States	6.9	6.1	6.9	6.8	6.5	6.2	5.9	5.8	5.6
Canada	9.5	8.8	9.6	9.4	9.6	9.0	8.8	8.2	7.8
Australia	8.0	8.1	8.2	8.3	8.3	8.1	8.0	7.9	-
Japan	2.8	2.9	2.9	2.9	3.0	3.1	2.8	2.7	-
France	10.4	10.8	10.6	10.6	10.9	11.0	10.8	10.6	10.6
Germany	7.1	6.8	6.8	6.7	6.7	6.8	6.8	6.8	6.8
Italy ^{1, 2}	6.2	7.7	7.3	7.7	7.4	7.6	7.9	7.9	7.8
Sweden ³	2.6	1.9	2.6	2.6	2.0	1.9	1.9	1.7	1.7
United Kingdom	11.2	10.2	11.2	11.1	10.9	10.5	10.0	9.4	9.0
Civilian labor force basis									
United States	7.0	6.2	7.0	6.8	6.6	6.3	6.0	5.9	5.7
Canada	9.6	8.9	9.7	9.4	9.6	9.1	8.8	8.2	7.9
Australia	8.1	8.1	8.3	8.4	8.3	8.2	8.0	8.0	-
Japan	2.8	2.9	2.9	2.9	3.0	3.1	2.8	2.8	-
France	10.7	11.1	10.8	10.8	11.2	11.2	11.1	10.8	10.8
Germany	7.2	6.9	6.9	6.8	6.8	6.9	7.0	7.0	6.9
Italy ^{1, 2}	6.3	7.9	7.4	7.8	7.6	7.8	8.1	8.0	8.0
Sweden ³	2.7	1.9	2.6	2.6	2.0	1.9	1.9	1.7	1.7
United Kingdom	11.2	10.3	11.3	11.2	11.0	10.6	10.0	9.5	9.0

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.

³ Break in series beginning in 1987. The 1986 rate based on the new series was 2.2 percent.

- 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	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987
Labor force										
United States	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461	117,834	119,865
Canada	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639	12,870	13,121
Australia	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272	7,562	7,736
Japan	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820	59,410	60,050
France	22,460	22,670	22,800	22,930	23,160	23,130	23,290	23,340	23,480	23,610
Germany	26,000	26,250	26,520	26,650	26,700	26,650	26,760	26,980	27,180	27,260
Italy	20,570	20,850	21,120	21,320	21,410	21,590	21,670	21,800	21,990	22,340
Netherlands	5,010	5,100	5,310	5,520	5,570	5,600	5,620	5,710	5,760	5,780
Sweden	4,203	4,262	4,312	4,327	4,350	4,369	4,385	4,418	4,437	4,480
United Kingdom	26,260	26,350	26,520	26,590	26,740	26,790	27,180	27,370	27,540	27,760
Participation rate¹										
United States	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8	65.3	65.6
Canada	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2	65.7	66.2
Australia	61.9	61.6	62.1	61.9	61.7	61.4	61.5	61.8	63.0	63.0
Japan	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3	62.1	61.9
France	57.5	57.5	57.2	57.1	57.1	56.6	56.6	56.2	56.2	56.0
Germany	53.3	53.3	53.2	52.9	52.6	52.3	52.4	52.6	53.0	53.1
Italy	47.8	48.0	48.2	48.3	47.7	47.5	47.3	47.2	47.5	48.2
Netherlands	48.8	49.0	50.2	51.4	51.2	50.9	50.5	50.7	50.8	50.5
Sweden	66.1	66.6	66.9	66.8	66.8	66.7	66.6	66.9	67.2	67.4
United Kingdom	62.8	62.6	62.5	62.2	62.3	62.1	62.6	62.7	62.7	63.0
Employed										
United States	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150	109,597	112,440
Canada	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311	11,634	11,955
Australia	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670	6,952	7,177
Japan	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260	57,740	58,320
France	21,250	21,300	21,330	21,200	21,240	21,170	20,980	20,900	20,970	20,970
Germany	25,130	25,470	25,750	25,560	25,140	24,750	24,790	24,950	25,210	25,370
Italy	19,720	19,930	20,200	20,280	20,250	20,320	20,390	20,490	20,610	20,590
Netherlands	4,750	4,830	4,980	5,010	4,980	4,890	4,930	5,110	5,200	5,240
Sweden	4,109	4,174	4,226	4,219	4,213	4,218	4,249	4,293	4,319	4,396
United Kingdom	24,610	24,940	24,670	23,800	23,710	23,600	24,000	24,310	24,450	24,910
Employment-population ratio²										
United States	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1	60.7	61.5
Canada	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4	59.4	60.3
Australia	58.0	57.8	58.3	58.4	57.3	55.3	56.0	56.6	57.9	57.9
Japan	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6	60.4	60.1
France	54.4	54.0	53.5	52.8	52.3	51.8	51.0	50.4	50.2	49.7
Germany	51.5	51.7	51.7	50.8	49.6	48.6	48.5	48.7	49.1	49.4
Italy	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4	44.6	44.4
Netherlands	46.3	46.4	47.0	46.6	45.8	44.5	44.3	45.4	45.9	45.8
Sweden	64.6	65.3	65.6	65.1	64.7	64.4	64.5	65.0	65.4	66.2
United Kingdom	58.8	59.2	58.1	55.7	55.3	54.7	55.3	55.7	55.7	56.6
Unemployed										
United States	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312	8,237	7,425
Canada	908	836	865	898	1,314	1,448	1,399	1,328	1,236	1,167
Australia	405	408	409	394	495	697	642	602	610	629
Japan	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560	1,670	1,730
France	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,440	2,510	2,620
Germany	870	780	770	1,090	1,560	1,900	1,970	2,030	1,970	1,890
Italy	850	920	920	1,040	1,160	1,270	1,280	1,310	1,380	1,760
Netherlands	260	270	330	510	590	710	690	600	560	540
Sweden	94	88	86	108	137	151	136	125	118	84
United Kingdom	1,650	1,420	1,850	2,790	3,030	3,190	3,180	3,060	3,090	2,850
Unemployment rate										
United States	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2	7.0	6.2
Canada	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5	9.6	8.9
Australia	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3	8.1	8.1
Japan	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6	2.8	2.9
France	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4	10.7	11.1
Germany	3.3	3.0	2.9	4.1	5.8	7.1	7.4	7.5	7.2	6.9
Italy	4.1	4.4	4.4	4.9	5.4	5.9	5.9	6.0	6.3	7.9
Netherlands	5.2	5.3	6.2	9.2	10.6	12.7	12.3	10.5	9.7	9.3
Sweden	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8	2.7	1.9
United Kingdom	6.3	5.4	7.0	10.5	11.3	11.9	11.7	11.2	11.2	10.3

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 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	1975	1976	1977	1979	1980	1981	1982	1983	1984	1985	1986
Output per hour														
United States	62.2	80.8	93.4	92.9	97.1	100.0	101.4	101.4	103.6	105.9	112.0	118.1	124.2	128.8
Canada	50.7	75.6	90.3	88.6	94.8	100.0	102.0	98.2	102.9	98.3	105.4	116.8	119.7	119.4
Japan	23.2	64.8	83.1	87.7	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.5	163.7	168.2
Belgium	33.0	60.4	78.8	86.5	95.3	100.0	111.9	119.2	127.6	135.2	148.2	154.4	159.0	163.1
Denmark	37.2	65.6	83.3	94.6	98.2	100.0	106.5	112.3	114.2	114.6	120.2	118.6	118.3	119.9
France	36.4	69.6	82.3	88.5	95.1	100.0	109.7	110.6	114.0	122.0	125.2	129.0	133.0	135.6
Germany	40.3	71.2	84.0	90.1	96.5	100.0	108.2	108.6	111.0	112.6	119.2	123.6	128.7	130.6
Italy	35.4	72.7	90.9	91.1	98.9	100.0	110.5	116.9	124.8	129.6	135.7	144.4	146.6	148.3
Netherlands	32.4	64.3	81.5	86.2	95.8	100.0	112.3	113.9	116.9	119.4	127.5	140.5	145.1	144.7
Norway	54.6	81.7	94.6	96.8	99.7	100.0	107.1	106.7	107.0	109.8	117.2	123.9	125.2	124.4
Sweden	42.3	80.7	94.8	100.2	101.7	100.0	110.9	112.7	113.2	116.5	125.5	131.0	136.1	136.4
United Kingdom	55.9	80.4	95.5	94.9	99.1	100.0	102.5	101.8	107.0	113.5	123.2	129.8	134.7	139.5
Output														
United States	52.5	78.6	96.3	84.9	93.1	100.0	108.1	103.2	104.8	98.4	104.7	117.5	122.5	125.9
Canada	41.3	73.5	93.5	89.9	96.5	100.0	108.5	103.6	107.4	93.6	99.6	114.9	121.2	123.9
Japan	19.2	69.9	91.9	86.2	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.4	179.3	182.1
Belgium	41.9	78.6	96.4	92.7	99.7	100.0	104.1	106.8	105.7	110.1	114.8	117.5	119.9	122.0
Denmark	49.2	82.0	95.9	95.0	99.6	100.0	105.4	110.1	106.6	108.3	115.6	119.7	123.4	126.7
France	35.4	73.3	88.6	90.0	96.1	100.0	105.3	104.6	102.9	104.0	103.8	104.0	103.3	103.0
Germany	50.0	86.6	96.1	91.0	98.0	100.0	106.6	106.6	104.9	102.4	103.6	106.4	110.1	112.8
Italy	36.4	78.0	90.5	86.9	97.9	100.0	108.6	115.4	115.1	113.4	111.5	116.2	118.0	121.9
Netherlands	44.8	84.4	95.8	92.7	99.0	100.0	106.1	106.6	106.7	105.0	107.0	113.3	116.0	117.3
Norway	55.1	86.9	99.5	101.0	101.4	100.0	100.3	98.8	97.7	97.4	97.2	102.6	105.2	107.0
Sweden	52.6	92.5	100.3	106.1	106.1	100.0	103.6	104.0	100.6	100.1	105.2	111.5	115.3	115.2
United Kingdom	71.2	95.0	104.8	96.3	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.5	95.2	96.2
Total hours														
United States	84.4	97.3	103.1	91.4	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	98.7	97.8
Canada	81.4	97.2	103.6	101.5	101.8	100.0	106.3	105.5	104.3	95.2	94.5	98.3	101.2	103.8
Japan	82.7	107.9	110.7	98.2	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	109.6	108.3
Belgium	127.1	130.2	122.3	107.1	104.6	100.0	93.0	89.6	82.8	81.4	77.5	76.1	75.4	74.8
Denmark	132.4	125.1	115.2	100.4	101.4	100.0	99.0	98.0	93.4	94.5	96.2	100.9	104.3	105.7
France	97.2	105.3	107.7	101.7	101.2	100.0	95.9	94.6	90.3	85.2	82.9	80.6	77.7	75.9
Germany	123.8	121.7	114.4	101.0	101.6	100.0	98.5	98.1	94.6	91.0	86.9	86.1	85.6	86.4
Italy	102.8	107.4	99.6	95.4	99.0	100.0	98.2	98.7	92.2	87.5	82.2	80.5	80.5	82.2
Netherlands	138.4	131.2	117.6	107.6	103.3	100.0	94.4	93.6	91.2	88.0	83.9	80.6	79.9	81.1
Norway	101.0	106.4	105.1	104.3	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	84.0	86.0
Sweden	124.4	114.6	105.7	105.9	104.3	100.0	93.4	92.3	88.9	85.9	83.9	85.1	84.7	84.5
United Kingdom	127.3	118.1	109.8	101.5	99.0	100.0	98.0	90.1	80.6	76.2	72.2	71.2	70.7	69.0
Compensation per hour														
United States	36.5	57.4	68.8	85.1	92.1	100.0	118.6	132.4	145.2	157.5	162.4	168.0	176.9	182.7
Canada	27.5	47.9	60.0	78.9	90.3	100.0	118.6	131.3	151.1	167.0	177.2	185.5	194.7	202.3
Japan	8.9	33.9	55.1	84.2	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.9	152.0	157.3
Belgium	13.8	34.9	53.5	79.0	89.5	100.0	117.5	130.4	144.5	150.7	159.7	173.0	184.9	191.8
Denmark	12.6	36.3	56.1	81.0	90.4	100.0	123.1	135.9	149.7	162.9	174.2	184.4	196.1	207.7
France	15.1	36.5	52.1	76.5	88.7	100.0	128.4	148.5	172.0	203.9	225.2	247.3	267.3	279.2
Germany	18.8	48.0	67.5	84.5	91.3	100.0	116.1	125.6	134.5	141.0	148.3	155.5	164.9	172.5
Italy	8.4	26.1	43.7	70.2	84.2	100.0	134.7	160.2	198.4	238.3	282.8	314.5	347.3	362.1
Netherlands	12.5	39.0	60.5	82.2	91.9	100.0	117.0	123.6	129.1	137.5	144.0	150.0	157.7	161.5
Norway	15.8	37.9	54.5	77.2	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	204.8	224.6
Sweden	14.7	38.5	54.2	77.3	91.5	100.0	120.1	133.6	148.1	158.9	173.3	189.7	212.4	228.1
United Kingdom	15.1	31.3	47.5	76.0	88.3	100.0	137.4	167.4	193.9	209.3	224.4	238.8	254.6	273.5
Unit labor costs: National currency basis														
United States	58.7	71.0	73.7	91.7	94.9	100.0	117.0	130.6	140.1	148.7	145.0	142.2	142.4	141.8
Canada	54.2	63.4	66.5	89.1	95.3	100.0	116.2	133.7	146.7	170.0	168.1	158.8	162.6	169.4
Japan	38.4	52.3	66.4	96.0	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.0	92.9	93.5
Belgium	41.7	57.8	67.9	91.2	93.9	100.0	105.0	109.4	113.2	111.4	107.8	112.1	116.3	117.6
Denmark	33.8	55.4	67.4	85.6	92.1	100.0	115.7	121.0	131.1	142.2	144.9	155.4	165.7	173.2
France	41.5	52.5	63.4	86.5	93.3	100.0	117.0	134.3	151.0	167.2	179.9	191.6	200.9	205.9
Germany	46.6	67.4	80.3	93.8	94.6	100.0	107.3	115.7	121.2	125.2	124.4	125.8	128.1	132.1
Italy	23.7	36.0	48.1	77.1	85.1	100.0	121.9	137.0	158.9	184.0	208.4	217.8	236.9	244.1
Netherlands	38.5	60.7	74.3	95.4	96.0	100.0	104.1	108.5	110.4	115.2	113.0	106.8	108.7	111.6
Norway	29.0	46.4	57.6	79.7	89.1	100.0	108.2	120.0	133.4	142.1	148.0	152.0	163.5	180.5
Sweden	34.8	47.7	57.2	77.1	90.0	100.0	108.3	118.6	130.9	136.3	138.1	144.8	156.1	167.3
United Kingdom	27.1	38.9	49.8	80.2	89.1	100.0	134.1	164.5	181.2	184.4	182.2	183.9	189.0	196.1
Unit labor costs: U.S. dollar basis														
United States	58.7	71.0	73.7	91.7	94.9	100.0	117.0	130.6	140.1	148.7	145.0	142.2	142.4	141.8
Canada	59.4	64.5	70.6	93.1	102.7	100.0	105.4	121.5	130.0	146.3	144.9	130.3	126.5	129.5
Japan	28.5	39.1	65.6	86.7	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.3	148.7
Belgium	30.0	41.7	62.7	89.1	87.2	100.0	128.3	134.3	109.6	87.2	75.5	69.5	70.2	94.3
Denmark	29.5	44.4	67.2	89.6	91.5	100.0	132.0	129.0	110.3	102.3	95.1	90.1	93.9	128.4
France	41.6	46.7	70.2	99.3	96.1	100.0	135.2	156.4	136.4	124.9	116.1	107.8	110.0	146.2
Germany	25.9	42.9	70.4	88.7	87.3	100.0	135.9	147.9	124.9	119.7	113.1	102.6	101.1	141.3
Italy	33.7	50.6	73.1	104.3	90.5	100.0	129.5	141.4	123.2	119.9	121.1	109.5	109.6	144.5
Netherlands	25.1	41.2	65.6	92.8	89.1	100.0	127.4	134.1	108.9	105.8	97.1	81.6	80.4	111.9
Norway	21.7	34.5	53.4	81.4	86.9	100.0	113.8	129.3	123.6	117.1	107.9	99.1	101.3	129.8
Sweden	30.1	41.1	58.7	83.2	92.3	100.0	112.9	125.3	115.4	96.9	80.4	78.2	81.1	104.9
United Kingdom	43.6	53.5	70.0	102.0	92.1	100.0	163.1	219.2	210.2	184.8	158.3	140.9	140.5	164.9

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								
	1978	1979	1980	1981	1982	1983	1984	1985	1986
PRIVATE SECTOR³									
Total cases	9.4	9.5	8.7	8.3	7.7	7.6	8.0	7.9	7.9
Lost workday cases	4.1	4.3	4.0	3.8	3.5	3.4	3.7	3.6	3.6
Lost workdays	63.5	67.7	65.2	61.7	58.7	58.5	63.4	64.9	65.8
Agriculture, forestry, and fishing³									
Total cases	11.6	11.7	11.9	12.3	11.8	11.9	12.0	11.4	11.2
Lost workday cases	5.4	5.7	5.8	5.9	5.9	6.1	6.1	5.7	5.6
Lost workdays	80.7	83.7	82.7	82.8	86.0	90.8	90.7	91.3	93.6
Mining									
Total cases	11.5	11.4	11.2	11.6	10.5	8.4	9.7	8.4	7.4
Lost workday cases	6.4	6.8	6.5	6.2	5.4	4.5	5.3	4.8	4.1
Lost workdays	143.2	150.5	163.6	146.4	137.3	125.1	160.2	145.3	125.9
Construction									
Total cases	16.0	16.2	15.7	15.1	14.6	14.8	15.5	15.2	15.2
Lost workday cases	6.4	6.8	6.5	6.3	6.0	6.3	6.9	6.8	6.9
Lost workdays	109.4	120.4	117.0	113.1	115.7	118.2	128.1	128.9	134.5
General building contractors:									
Total cases	15.9	16.3	15.5	15.1	14.1	14.4	15.4	15.2	14.9
Lost workday cases	6.3	6.8	6.5	6.1	5.9	6.2	6.9	6.8	6.6
Lost workdays	105.3	111.2	113.0	107.1	112.0	113.0	121.3	120.4	122.7
Heavy construction contractors:									
Total cases	16.6	16.6	16.3	14.9	15.1	15.4	14.9	14.5	14.7
Lost workday cases	6.2	6.7	6.3	6.0	5.8	6.2	6.4	6.3	6.3
Lost workdays	110.9	123.1	117.6	106.0	113.1	122.4	131.7	127.3	132.9
Special trade contractors:									
Total cases	15.8	16.0	15.5	15.2	14.7	14.8	15.8	15.4	15.6
Lost workday cases	6.6	6.9	6.7	6.6	6.2	6.4	7.1	7.0	7.2
Lost workdays	111.0	124.3	118.9	119.3	118.6	119.0	130.1	133.3	140.4
Manufacturing									
Total cases	13.2	13.3	12.2	11.5	10.2	10.0	10.6	10.4	10.6
Lost workday cases	5.6	5.9	5.4	5.1	4.4	4.3	4.7	4.6	4.7
Lost workdays	84.9	90.2	86.7	82.0	75.0	73.5	77.9	80.2	85.2
Durable goods									
Lumber and wood products:									
Total cases	22.6	20.7	18.6	17.6	16.9	18.3	19.6	18.5	18.9
Lost workday cases	11.1	10.8	9.5	9.0	8.3	9.2	9.9	9.3	9.7
Lost workdays	178.8	175.9	171.8	158.4	153.3	163.5	172.0	171.4	177.2
Furniture and fixtures:									
Total cases	17.5	17.6	16.0	15.1	13.9	14.1	15.3	15.0	15.2
Lost workday cases	6.9	7.1	6.6	6.2	5.5	5.7	6.4	6.3	6.3
Lost workdays	95.9	99.6	97.6	91.9	85.6	83.0	101.5	100.4	103.0
Stone, clay, and glass products:									
Total cases	16.8	16.8	15.0	14.1	13.0	13.1	13.6	13.9	13.6
Lost workday cases	7.8	8.0	7.1	6.9	6.1	6.0	6.6	6.7	6.5
Lost workdays	126.3	133.7	128.1	122.2	112.2	112.0	120.8	127.8	126.0
Primary metal industries:									
Total cases	17.0	17.3	15.2	14.4	12.4	12.4	13.3	12.6	13.6
Lost workday cases	7.5	8.1	7.1	6.7	5.4	5.4	6.1	5.7	6.1
Lost workdays	123.6	134.7	128.3	121.3	101.6	103.4	115.3	113.8	125.5
Fabricated metal products:									
Total cases	19.3	19.9	18.5	17.5	15.3	15.1	16.1	16.3	16.0
Lost workday cases	8.0	8.7	8.0	7.5	6.4	6.1	6.7	6.9	6.8
Lost workdays	112.4	124.2	118.4	109.9	102.5	96.5	104.9	110.1	115.5
Machinery, except electrical:									
Total cases	14.4	14.7	13.7	12.9	10.7	9.8	10.7	10.8	10.7
Lost workday cases	5.4	5.9	5.5	5.1	4.2	3.6	4.1	4.2	4.2
Lost workdays	75.1	83.6	81.3	74.9	66.0	58.1	65.8	69.3	72.0
Electric and electronic equipment:									
Total cases	8.7	8.6	8.0	7.4	6.5	6.3	6.8	6.4	6.4
Lost workday cases	3.3	3.4	3.3	3.1	2.7	2.6	2.8	2.7	2.7
Lost workdays	50.3	51.9	51.8	48.4	42.2	41.4	45.0	45.7	49.8
Transportation equipment:									
Total cases	11.5	11.6	10.6	9.8	9.2	8.4	9.3	9.0	9.6
Lost workday cases	5.1	5.5	4.9	4.6	4.0	3.6	4.2	3.9	4.1
Lost workdays	78.0	85.9	82.4	78.1	72.2	64.5	68.8	71.6	79.1
Instruments and related products:									
Total cases	6.9	7.2	6.8	6.5	5.6	5.2	5.4	5.2	5.3
Lost workday cases	2.6	2.8	2.7	2.7	2.3	2.1	2.2	2.2	2.3
Lost workdays	37.0	40.0	41.8	39.2	37.0	35.6	37.5	37.9	42.2
Miscellaneous manufacturing industries:									
Total cases	11.8	11.7	10.9	10.7	9.9	9.9	10.5	9.7	10.2
Lost workday cases	4.5	4.7	4.4	4.4	4.1	4.0	4.3	4.2	4.3
Lost workdays	66.4	67.7	67.9	68.3	69.9	66.3	70.2	73.2	70.9

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									
	1978	1979	1980	1981	1982	1983	1984	1985	1986	
Nondurable goods										
Food and kindred products:										
Total cases	19.4	19.9	18.7	17.8	16.7	16.5	16.7	16.7	16.5	
Lost workday cases	8.9	9.5	9.0	8.6	8.0	7.9	8.1	8.1	8.0	
Lost workdays	132.2	141.8	136.8	130.7	129.3	131.2	131.6	138.0	137.8	
Tobacco manufacturing:										
Total cases	8.7	9.3	8.1	8.2	7.2	6.5	7.7	7.3	6.7	
Lost workday cases	4.0	4.2	3.8	3.9	3.2	3.0	3.2	3.0	2.5	
Lost workdays	58.6	64.8	45.8	56.8	44.6	42.8	51.7	51.7	45.6	
Textile mill products:										
Total cases	10.2	9.7	9.1	8.8	7.6	7.4	8.0	7.5	7.8	
Lost workday cases	3.4	3.4	3.3	3.2	2.8	2.8	3.0	3.0	3.1	
Lost workdays	61.5	61.3	62.8	59.2	53.8	51.4	54.0	57.4	59.3	
Apparel and other textile products:										
Total cases	6.5	6.5	6.4	6.3	6.0	6.4	6.7	6.7	6.7	
Lost workday cases	2.2	2.2	2.2	2.2	2.1	2.4	2.5	2.6	2.7	
Lost workdays	32.4	34.1	34.9	35.0	36.4	40.6	40.9	44.1	49.4	
Paper and allied products:										
Total cases	13.5	13.5	12.7	11.6	10.6	10.0	10.4	10.2	10.5	
Lost workday cases	5.7	6.0	5.8	5.4	4.9	4.5	4.7	4.7	4.7	
Lost workdays	103.3	108.4	112.3	103.6	99.1	90.3	93.8	94.6	99.5	
Printing and publishing:										
Total cases	7.0	7.1	6.9	6.7	6.6	6.6	6.5	6.3	6.5	
Lost workday cases	2.9	3.1	3.1	3.0	2.8	2.9	2.9	2.9	2.9	
Lost workdays	43.8	45.1	46.5	47.4	45.7	44.6	46.0	49.2	50.8	
Chemicals and allied products:										
Total cases	7.8	7.7	6.8	6.6	5.7	5.5	5.3	5.1	6.3	
Lost workday cases	3.3	3.5	3.1	3.0	2.5	2.5	2.4	2.3	2.7	
Lost workdays	50.9	54.9	50.3	48.1	39.4	42.3	40.8	38.8	49.4	
Petroleum and coal products:										
Total cases	7.9	7.7	7.2	6.7	5.3	5.5	5.1	5.1	7.1	
Lost workday cases	3.4	3.6	3.5	2.9	2.5	2.4	2.4	2.4	3.2	
Lost workdays	58.3	62.0	59.1	51.2	46.4	46.8	53.5	49.9	67.5	
Rubber and miscellaneous plastics products:										
Total cases	17.1	17.1	15.5	14.6	12.7	13.0	13.6	13.4	14.0	
Lost workday cases	8.1	8.2	7.4	7.2	6.0	6.2	6.4	6.3	6.6	
Lost workdays	125.5	127.1	118.6	117.4	100.9	101.4	104.3	107.4	118.2	
Leather and leather products:										
Total cases	11.7	11.5	11.7	11.5	9.9	10.0	10.5	10.3	10.5	
Lost workday cases	4.7	4.9	5.0	5.1	4.5	4.4	4.7	4.6	4.8	
Lost workdays	72.5	76.2	82.7	82.6	86.5	87.3	94.4	88.3	83.4	
Transportation and public utilities										
Total cases	10.1	10.0	9.4	9.0	8.5	8.2	8.8	8.6	8.2	
Lost workday cases	5.7	5.9	5.5	5.3	4.9	4.7	5.2	5.0	4.8	
Lost workdays	102.3	107.0	104.5	100.6	96.7	94.9	105.1	107.1	102.1	
Wholesale and retail trade										
Total cases	7.9	8.0	7.4	7.3	7.2	7.2	7.4	7.4	7.7	
Lost workday cases	3.2	3.4	3.2	3.1	3.1	3.1	3.3	3.2	3.3	
Lost workdays	44.9	49.0	48.7	45.3	45.5	47.8	50.5	50.7	54.0	
Wholesale trade:										
Total cases	8.9	8.8	8.2	7.7	7.1	7.0	7.2	7.2	7.2	
Lost workday cases	3.9	4.1	3.9	3.6	3.4	3.2	3.5	3.5	3.6	
Lost workdays	57.5	59.1	58.2	54.7	52.1	50.6	55.5	59.8	62.5	
Retail trade:										
Total cases	7.5	7.7	7.1	7.1	7.2	7.3	7.5	7.5	7.8	
Lost workday cases	2.8	3.1	2.9	2.9	2.9	3.0	3.2	3.1	3.2	
Lost workdays	39.7	44.7	44.5	41.1	42.6	46.7	48.4	47.0	50.5	
Finance, insurance, and real estate										
Total cases	2.1	2.1	2.0	1.9	2.0	2.0	1.9	2.0	2.0	
Lost workday cases .....	.8	.9	.8	.8	.9	.9	.9	.9	.9
Lost workdays	12.5	13.3	12.2	11.6	13.2	12.8	13.6	15.4	17.1	
Services										
Total cases	5.5	5.5	5.2	5.0	4.9	5.1	5.2	5.4	5.3	
Lost workday cases	2.4	2.5	2.3	2.3	2.3	2.4	2.5	2.6	2.5	
Lost workdays	36.2	38.1	35.8	35.9	35.8	37.0	41.1	45.4	43.0	

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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