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Labor Month In Review



A VIEW OF THE 80'S. The Congressional Research Service of the Library of Congress reported to the Congress on employment trends in the 1980's from a national, industrial, and regional perspective. The report, based in large part on BLS data, was prepared by Linda LeGrande and Mark Jickling. Excerpts:

National trends. The first two-thirds of the 1980's can be divided into 2 distinct periods. The earlier years are marked by two recessions. The economy barely had an opportunity to recover from the January-July 1980 downturn before it was hit by the much more severe and protracted July 1981-November 1982 recession.

While overall employment headed downward between 1979 and 1982, service sector jobs rose by 3.8 percent, or 2.4 million. Once the economy began its recovery, job growth in the sector became more robust: 6.9 million jobs were added, producing a 10.5-percent rate of gain.

The performance of the goods-producing sector contrasts sharply with that of the service-producing sector. The goods sector lost 2.6 million or 10 percent of its jobs between 1979 and 1982. Some 85 percent of the cutbacks occurred in manufacturing, with durable goods producers accounting for three-fourths of the lost manufacturing jobs.

Between 1982 and 1985, total employment in the goods-producing sector rebounded. It regained 47 percent (1.2 million) of the jobs lost during the recession period. Most of the sector's components expanded employment. However, the mining industry, which actually increased employment during the two recessions, cut its work force between 1982 and 1985.

Despite the relatively good economic climate and employment gains of the past few years, total employment in the goods-producing sector in 1985 was 1.4 million jobs (5.3 percent) below its 1979 level. Some of the industries having smaller

work forces in 1985 than in 1979 may eventually return to their prerecession size. Other industries with fewer jobs at mid-decade may be undergoing a structural transformation from which they might emerge with permanently smaller work forces.

Regional trends. Five of the nine regions actually reported increased total nonfarm employment during the two recessions: West South Central (9.5 percent) Mountain (3.9 percent), South Atlantic (3.1 percent), and Pacific and New England (1 percent each).

The East North Central bore the brunt of the recessions' impact; 8.1 percent of the region's nonfarm jobs disappeared. The East South Central and West North Central regions experienced job losses of 4.9 percent and 4.2 percent, respectively. The economic downturn had much less of an influence in the Middle Atlantic region, where employment fell less than 1 percent.

Regional nonfarm employment rebounded across the board between 1982 and 1985. Most regions that reported employment gains during the recession period grew at a faster rate, however, than the four regions that were adversely affected by the downturn of the business cycle.

While only the West South Central and Middle Atlantic regions recorded manufacturing job losses during both the recovery and recession periods, manufacturing employment in four other regions—New England, East South Central, and East and West North Central—failed to rebound enough between 1982 and 1985 to reach or surpass its prerecession level.

Economic diversification. Given the relative imperviousness of the service-producing *vis-a-vis* the goods-producing sector to the ups and downs of the business cycle, one might argue that

States should target their economic development efforts toward business and professional service firms, banks and insurance companies, consumer-oriented enterprises, and the like. Given the relatively better performance of high tech *vis-a-vis* smokestack manufacturing industries during the 1980's recessions, one might argue that States should encourage the expansion of already existing high tech firms within their borders and the (re)location of new high tech firms to their towns.

However, today's high-flying industry may be tomorrow's problem-plagued industry. In addition, high tech manufacturing cannot be every State's solution, because it is expected to continue to contribute only a small share of future new jobs. Moreover, some States may be better able than others to alter their industrial mix. To attract different industries, a State must have or be able to provide the requisite infrastructure for them.

To assist those States that choose to change their industrial structures, the Federal Government might act as an information clearinghouse. In such a capacity, a government agency could collect and disseminate case studies of various areas' experiences with economic diversification. States then might more easily study the issue before proceeding and perhaps be able to avoid problems encountered elsewhere during their diversification efforts. In addition, the Government could provide States with information concerning any financial resources available to them in their development activities.

Economic diversification is desirable if one's goal is to moderate employment fluctuations. It is not a panacea, however. Some States may be better able than others to change their industrial mix. Some States may want to consider using other adjustment measures in combination with diversification to mitigate the effects of the transition process on certain industries and their workers. □

Health insurance trends in cost control and coverage

An analysis of changes in company health plans between 1979 and 1984 shows that employers often sought to contain rising expenditures, in some cases, increasing the cost to workers; improvements in benefits, however, continued

ROBERT N. FRUMKIN

Influenced by rapidly rising costs of health care, companies often raised their employees' share of the total health care bill and also modified plans to encourage use of less costly health services during the 1979-84 period. At the same time, however, some health plans improved benefit features, such as increasing the maximum lifetime payments under major medical plans.

Although cost containment efforts and benefit improvements were common, approaches to achieve these objectives varied. To analyze these efforts, the Bureau of Labor Statistics traced provisions of 209 employee health plans for the 1979-84 period.

These plans were found in 173 establishments and covered at least 1.8 million workers.¹ The plans were mainly those of large companies, with 61 percent covering 1,000 workers or more (6 percent of the plans covered at least 25,000). While clearly not a representative sample of all health insurance plans, they do cover a substantial number of both union and nonunion workers, and offer insights into plan provisions over the 5 years studied. All but 11 of the health plans changed at least one of the features reviewed in this article between 1979 and 1984.

The 209 plans analyzed in this article comprise all plans common to both the 1979 and 1984 Bureau of Labor Statistics Employee Benefits Surveys. This annual survey provides data on the incidence and detailed provisions of bene-

fit plans financed at least partially by medium and large companies. Under health plans, the survey covers provisions for hospital, surgical, medical, major medical, extended care, and other benefits. It also looks at methods of funding benefits (but not actual employer costs) and the incidence and amounts of employee contributions for individual and family coverage.²

Measures taken

Efforts to curb costs stemmed from rapid increases in health care outlays. Total national health expenditures rose from \$215.1 billion in 1979 to \$387.4 billion 5 years later.³ This increase reflects both the introduction of new and expensive treatments for many illnesses and a sharp rise in prices for health services. Over the 1979-84 period, the medical care component of the Consumer Price Index rose at a 9.6-percent annual rate, compared with 7.4 percent for the index as a whole. Such cost increases helped to drive up employer financing of group health insurance, from \$51.3 billion in 1979 to \$96.9 billion in 1984.⁴

Cost containment measures took many forms. Quite noticeable were actions that increased the worker's share of health care costs. For example, a number of the plans were redesigned to eliminate basic coverage for certain types of care and transfer payment arrangements entirely under a major medical plan. (See table 1.) Basic plans, applying to an individual category of care—hospital, surgical, or medical—typically provide "first-dollar" coverage; that is, an insured individual is not required to make an initial payment for care.

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Conversely, major medical plans—which cover several categories of expenses—eliminate “first-dollar” coverage and require cost-sharing by the employee through deductibles and coinsurance provisions. A deductible is a specified amount an insured individual must pay toward health care expenses before any benefits are provided by the plan. Slightly more than one-fifth of the plans increased the size of the deductible in existing major medical insurance policies between 1979 and 1984. Expenses in excess of the deductible are shared by the individual and the insurance plan on the basis of a specified coinsurance rate; plans typically pay 80 percent of covered charges, while the insured pays the remaining 20 percent.

Table 1. Summary of changes in 209 health insurance plans, 1979 and 1984

Change	Number of plans changed	Percent of plans changed
Cost containment		
Basic coverage eliminated for:		
Hospital benefits	27	12.9
Surgical benefits	28	13.4
Medical benefits	23	11.0
Diagnostic x ray and laboratory benefits	21	10.0
Major medical plans:		
Increased deductible	46	22.0
Increased employee's coinsurance payments	4	1.9
Increased maximum limits on employee's expenses	9	4.3
Eliminated maximum limit on employee's expenses	1	.5
Decreased lifetime maximum benefit	7	3.3
Converted to self-insured plan	38	18.2
Converted to partly insured and partly self-insured plan	16	7.7
Converted to comprehensive major medical plan	26	12.4
Reduced first dollar coverage	4	1.9
Added extended care facility benefit ¹	34	16.3
Added home health care benefit ¹	62	29.7
Employee-paid premiums increased or added:		
For employee coverage	30	14.4
For family coverage	68	32.5
Coverage improvements		
Basic hospital benefits:		
Increased duration	18	8.6
Increased daily payments	16	7.7
Basic surgical benefits:		
Increased maximum scheduled allowance	30	14.4
Added full coverage for outpatient care	17	8.1
Basic medical benefits: ²		
Increased duration	8	3.8
Increased payment per visit	25	12.0
Added payment for office visit	7	3.3
Diagnostic x ray and laboratory benefits:		
Raised ceiling on annual payments	74	35.4
Major medical benefits:		
Decreased deductible	12	5.7
Decreased employee's coinsurance payments	9	4.3
Decreased maximum limits on employee's expenses	25	12.0
Introduced maximum limit on employee's expenses	42	20.1
Increased lifetime maximum benefit	118	56.5
Added benefits	8	3.8
Increased first dollar coverage	14	6.7
Employee-paid premiums reduced or eliminated:		
For employee coverage	16	7.7
For family coverage	22	10.5

¹ Also a coverage improvement.

² Includes payments for treatment in hospital and in physician's office.

Some employers also modified their approach to funding benefits. They substituted, either completely or partially, self-funding for the purchase of a health insurance policy from a commercial insurance company, such as Aetna, or an association of hospitals or physicians (Blue Cross-Blue Shield). Employers who insure their own benefits have greater control over plan design and, therefore, can control costs more directly. Growth in this type of funding was most pronounced for major medical benefits, for which the number of self-insured plans more than doubled—from 27 in 1979 to 65 in 1984. (See table 2.) Nevertheless, commercial insurance continued to be the most common method of funding both basic and major medical insurance benefits in 1984.

Still another form of cost containment provided alternatives to care in a hospital. Thirty-four of the plans added coverage for expenses in an extended care facility, such as noncustodial care in a nursing home, and 62 introduced home health care benefits.

Spurred by the passage of the Health Maintenance Organization Act of 1973, more employers have offered the choice of an HMO as an alternative to other health insurance benefits.⁵ Usually providing comprehensive health care at a fixed fee, Health Maintenance Organizations have been viewed as a possible lower cost alternative to other health care. These organizations encourage preventative medicine and have lower hospitalization rates for their members. There were 11 HMOs among the 209 plans in both 1979 and 1984.

Changes in benefit financing also affected employees. In both years of this study, the majority of the plans examined were noncontributory, that is, employers paid all of the insurance premiums. The following tabulation shows, however, that in the jointly financed plans, the amount of employee contributions nearly doubled from 1979 to 1984.

		Number of plans		Average employee monthly contribution	
		1979	1984	1979	1984

Jointly financed coverage:

Employee	61	67	\$ 6.43	\$11.57
Family	100	92	17.07	33.22

Although cost containment efforts attracted most attention, benefit improvements were not ignored between 1979 and 1984, particularly in the area of major medical benefits. Slightly more than half the 209 plans studied increased maximum lifetime benefits under major medical provisions, and 67 improved financial protection against catastrophic illnesses by either introducing a ceiling on employees' “out-of-pocket” expenses (42 plans) or lowering an existing ceiling (25 plans). A third of the plans raised maximum annual payments for diagnostic x ray and laboratory benefits. Table 1 shows the frequency of a variety of other health insurance coverage improvements.

Table 2. Funding media for selected types of coverage in 209 health insurance plans, 1979 and 1984

Funding media	Basic hospital ¹		Basic surgical ¹		Basic medical ¹		Major medical ²	
	1979	1984	1979	1984	1979	1984	1979	1984
Total	209	209	209	209	209	209	209	209
Coverage provided	187	161	165	156	126	115	186	194
Blue Cross-Blue Shield	53	49	45	37	44	36	20	27
Commercial carrier	99	61	88	68	58	43	139	102
Independent health plans	35	51	32	51	24	36	27	65
Labor/management ³	24	40	21	40	13	25	27	65
Health Maintenance Organization ⁴	11	11	11	11	11	11	-	-
Coverage not provided	22	48	44	53	83	94	23	15

¹Basic benefits apply to individual categories of expenses such as hospital, surgical, or medical expenses. They generally apply without deductible or coinsurance provisions.

²Major medical benefits cover many categories of expenses, some of which are not covered under basic benefits, and others for which basic coverage limits have been exhausted. Major medical benefits are characterized by deductible and coinsurance provisions that are applied across categories of care.

³Includes plans that are financed by general revenues of a company on a pay-as-you-go basis, plans financed through contributions to a trust fund established to pay benefits, and plans operating

their own facilities if at least partially financed by employer contributions. Includes plans that are administered by a commercial carrier through Administrative Services Only contracts.

⁴Includes federally qualified (those meeting standards of the Health Maintenance Organization Act of 1973, as amended) and other HMOs delivering comprehensive health care on a prepayment rather than fee-for-service basis. All HMOs are included here regardless of sponsorship, for example, Blue Cross-Blue Shield or a commercial insurance carrier.

NOTE: Dash indicates no plans in this category.

The following sections of this article explore the interplay between cost containment and benefit improvements as found in individual health insurance areas.

Hospital benefits

The average expense for a day of hospital care increased from \$217 in 1979 to \$411 in 1984, according to the American Hospital Association.⁶ Over this period, more employees were required to share in the cost if hospitalized. For example, 27 of the 209 plans studied adopted this requirement by eliminating basic coverage. This raised the number of plans studied with only major medical coverage for hospitalization from 22 to 48. (See table 3.)

Also, more employees with basic hospital benefits were required to pay a deductible before their confinements were covered. In 1984, 17 of the plans imposed a deductible, compared with 12 plans in 1979. The type of deductible varied from no benefit coverage for the first day in the hospital to a specified dollar amount. The most common deductible was \$100 for the first day in the hospital.

The average daily cost for a semiprivate room rose from \$134 in 1979 to \$209 in 1984.⁷ As in 1979, most plans in 1984 based payment for a hospital confinement on the semiprivate room rate, automatically allowing benefit levels to keep pace with inflation. Roughly 10 percent of the plans in both years paid a cash room-and-board allowance, for a daily average of \$68 in 1979 and \$113 in 1984.

Eighteen of the plans increased the maximum duration of hospital coverage. At least half of the plans, 68 in 1979 and 62 in 1984, provided hospital benefits for 365 days or more; nearly all plans covered at least 70 days.

Extended care benefits

To counter the sharp rise in hospital costs, benefit provisions for medical care outside hospitals are becoming more prominent. Benefits may cover medical treatment at an extended care facility or at home, both less costly than long-term hospitalization. As noted, a day's cost for hospitalization averaged \$411 in 1984, compared with \$150 for

confinement in an extended care facility and \$40 for home care.⁸

The potential cost advantages of alternative health care over hospitalization prompted a net increase in the number of plans providing coverage for extended care facility (28 plans) and home care (59). (See table 4.) Two-fifths of the plans covering extended care facilities in 1979 modified their terms by 1984, changing either a benefit provision (such as duration or dollar amount of coverage) or type of coverage (such as converting from major medical to basic benefits), or both. Extended care benefits commonly are available only after hospitalization, however.

Surgical benefits

Cost containment also affected surgical benefits. Twenty-eight of the plans eliminated first-dollar coverage for surgery in 1984. (See table 1.) Also, as an incentive to reduce costs, 17 plans with deductibles or coinsurance, or both, for surgery performed on an inpatient basis offered full payment for surgery performed on an outpatient basis.

In 1984, 153 of the plans paid all or a percent of the "usual, customary, and reasonable" charges for surgical procedures, up 14 plans from 1979.⁹ This approach automatically links benefit levels to rising costs. The remaining 56 plans specified cash allowances for covered surgical procedures; of these, 30 had increased the allowance after 1979, raising the average allowance for the most expensive covered procedure from \$925 to \$1,400.

Medical benefits

One plan in the study added in-hospital medical benefits after 1979, resulting in all having this benefit by 1984. Ninety-four plans, up from 82 in 1979, covered in-hospital medical visits under major medical benefits only; consequently, they did not provide first-dollar coverage. (See table 3.) Payments were based on usual, customary, and reasonable arrangements in 171 plans, 11 more than in 1979. Visits to a physician's office were covered by 206 plans in 1984, up 6 plans from 1979. Coverage for 1984 was

through major medical benefits in 171 plans and through combined basic and major medical benefits in 21. All major medical arrangements were on a usual, customary, and reasonable basis.

In 1984, 16 plans included some form of cost sharing other than a general deductible or coinsurance requirement for visits to a doctor's office, up 5 plans from 1979. Devices ranged from co-payments by the insured of from \$1 to \$10 per visit to no payment by the insurance plan for the first visit or a specified number of visits. Employee co-payments were generally associated with Health Maintenance Organizations, with the most common being \$2 per visit.

Diagnostic x ray and laboratory benefits

All of the health insurance plans in the study provided diagnostic x ray and laboratory benefits in both 1979 and 1984. However, the number of plans providing this service through both basic and major medical benefits declined from 144 to 93; 28 additional plans provided this service through basic benefits only in 1984, and 23 provided it through major medical benefits only. (See table 3.)

Plans usually paid for diagnostic care on a usual, customary, and reasonable basis in both years. Of the 60 plans designating cash allowances in 1984, 34 had increased scheduled payments for this service over the 5 years studied; consequently, the average maximum allowance increased from \$175 to \$310 per year. If diagnostic care were done on an outpatient basis, 63 plans paid the full cost in 1984, compared with 35 plans in 1979.

Major medical benefits

All but 15 of the plans studied provided major medical benefits in 1984; 23 plans did not provide this benefit in 1979. The 11 Health Maintenance Organizations by their nature preclude separate major medical provisions and the remaining four plans provided basic benefits only, but were sufficiently comprehensive to counter the need for a separate major medical plan. Changes that reduced costs or improved benefits were made more often to major medical provisions than to any other health benefit examined.¹⁰

Major medical plans typically include two cost-sharing features—deductibles and coinsurance requirements. All but two of the major medical plans in 1984 called for a deductible, as did all such plans studied in 1979. Deductibles were typically established on a yearly basis and were commonly \$100 per person in 1979 and 1984. By 1984, however, 41 plans required more than \$100, compared with 16 plans in 1979. Also, four plans changed to a deductible of 1 percent of earnings. Previously, two of these plans had a deductible of \$50 and two, a deductible of \$100.

There are two types of major medical insurance: supplemental and comprehensive. Supplemental benefits provide additional coverage to the separate basic plans. Comprehensive plans stand alone and combine the types of benefits found in basic and major medical plans. Because comprehensives eliminate nearly all first-dollar coverage, they offer greater savings opportunities in insurance premiums than basic/supplemental plans. From 1979 to 1984, the number of comprehensive plans in the study nearly doubled, from 31 to 57 plans.

Coinsurance provisions were found in all of the major medical plans studied in both years. The coinsurance rate paid by the plans, most commonly 80 percent, changed very little during this period. In 1984, 20 of 194 major medical plans paid more than 80 percent of the health care expenses, while one plan paid less; this compared with 16 and none, in 1979.

A significant improvement in major medical benefits was adding financial protection against catastrophic illnesses. This provision limits the yearly "out-of-pocket" expenses an insured individual must pay. It was part of 156 plans in 1984, compared with 106 in 1979. In both years, the majority of plans set the limit at \$1,000 a year.

Maximum benefits payable under a major medical plan are specified on a per disability or, more commonly, on a lifetime basis. In 1979 and 1984, the most common lifetime maximum benefit was \$250,000 among the plans studied. Since 1979, however, 118 plans raised their benefit ceilings, while eight eliminated them entirely. The results are as follows:

Table 3. Distribution of 209 health insurance plans by benefit arrangement for selected categories of care, 1979 and 1984

Category	Benefit arrangement							
	Basic benefit only		Major medical benefit only		Basic and major medical benefits		Care not provided	
	1979	1984	1979	1984	1979	1984	1979	1984
Hospital care	41	34	22	48	146	127	-	-
Extended care facility	46	58	39	56	20	19	104	76
Home health care	23	51	10	37	7	12	169	109
Surgical care	74	70	44	53	91	86	-	-
Medical care-in hospital	32	22	82	94	94	93	1	-
Medical care-office visit	15	14	165	171	20	21	9	3
Diagnostic x ray and laboratory benefit	40	68	25	48	144	93	-	-

¹Basic benefits apply to individual categories of expenses, such as hospital, surgical, or medical expenses. They generally apply without deductible or coinsurance provisions.

²Major medical benefits cover many categories of expenses, some of which are not covered under basic benefits, and others for which basic coverage limits have been exhausted. Major medical benefits are characterized by deductible and coin-

surance provisions that are applied across categories of care.

NOTE: A given plan may offer categories of care under different types of payment, for example, hospital care as a benefit (typically no initial payment by the employee), visits to a physician's office as major medical benefit (cost shared by employer and employee), and surgical care as first a basic benefit and then as a major medical benefit. Dash indicates no plans in this category.

Table 4. Extended care benefit changes in 209 health insurance plans, 1979 and 1984

Action taken by 1984	Extended care facility		Home health care ¹	
	Number of plans	Percent of plans	Number of plans	Percent of plans
Total	209	100.0	209	100.0
Added benefit	34	16.3	62	29.7
Eliminated benefit	6	2.9	3	1.4
Changes in existing benefits ²	44	21.1	14	6.7
Basic benefits provision ²	30	14.4	9	4.3
Duration	15	7.2	8	3.8
Dollar amount	14	6.7	1	.5
Other ³	3	1.4	—	—
Changes in type of coverage	21	10.0	8	3.8
From basic only to major medical only	4	1.9	—	—
From basic only to basic and major medical	2	1.0	1	.5
From major medical only to basic only	6	2.9	3	1.4
From major medical only to basic and major medical	1	.5	1	.5
From basic and major medical to basic only	2	1.0	1	.5
From basic and major medical to major medical only	6	2.9	2	1.0
Benefit unchanged	49	23.4	21	10.0
No benefit in either year	76	36.4	109	52.2

¹ Includes care provided by a Visiting Nurse Association and related benefits.

³ Includes an addition of a basic benefits deductible, elimination of a copayment, and a change from a first-dollar coverage to a limit on the number of days covered.

² The total is less than the sum of the individual items because more than one change may have occurred for one benefit.

NOTE: Dash indicates no plans in this category.

	1979	1984
Plans with maximum lifetime benefits	156	156
Below \$250,000	86	36
\$250,000	58	55
Above \$250,000	12	65
Plans with unlimited lifetime benefits	30	38
Average lifetime maximum benefit	\$193,000	\$450,000

Other health benefits

Other health insurance benefits examined in this study included provisions for mental health care, prescription drugs, private duty nursing, dental care, and vision care. As the following tabulation shows, mental health care, prescription drugs, and private duty nursing were found in 95 percent or more of the plans. Dental coverage was prevalent in 1979 and showed substantial growth by 1984, but vision care continued to be covered in a minority of the plans.

Coverage	1979	1984
Number of plans with—		
Mental health	208	209
Basic benefits only	26	19
Major medical only	24	50
Basic and major medical	158	140
Prescription drug	205	204
Basic benefits only	29	25
Major medical only	170	170
Basic and major medical	6	9
Private duty nursing	199	203
Basic benefits only	15	7
Major medical only	181	192
Basic and major medical	3	4
Dental	116	173
Vision care	53	62

Major medical plans, rather than basic plans, generally provide coverage for private duty nursing and prescription

drug care. Both dental and vision care benefits were provided either as part of a comprehensive health insurance package or as a free-standing plan. In nearly all cases, dental benefits entailed a deductible separate from that for other health benefits, and covered at least a portion of usual, customary, and reasonable charges, or provided scheduled cash allowances.

New ways to cut costs

Aside from revising plan provisions, such as increasing major medical deductibles, cost containment efforts have promoted new types of features. None was in a majority of the plans studied in 1984, and because of their relative rarity at the time, these features were not analyzed in 1979. The following tabulation shows the number and percent of plans with a specific cost-containment provision:

	Number	Percent
Second opinion provision before elective surgery	91	44
Higher rate of payment for testing prior to hospital admission	86	41
Hospice care	22	10
Routine physical examination	17	8
Higher rate of payment for generic drugs	7	3
Reduced or no plan coverage for nonemergency weekend hospital admissions	6	3

Cost containment efforts go beyond the provisions considered in this article. Incentives for use of preferred provider organizations, intensified claims review procedures, and introduction of health education and health promotion (“wellness”) plans are other approaches that have emerged recently to halt rising health care costs. These items, however, are beyond the current scope of the Bureau’s Employee Benefits Survey.¹¹ □

—FOOTNOTES—

¹ The number of plans exceeds the number of establishments because some establishments maintained more than one plan, either giving employees a choice of plans or providing distinct plans for different employee groups. The total number of workers covered by the 209 plans is unknown because some of the plans were in multi-establishment companies and covered employees in units other than those surveyed. The employment figure cited in the text reflects plan participation in surveyed establishments only.

² Survey results are published in an annual BLS bulletin and special analyses of individual benefit areas, such as health insurance and retirement plans, are featured periodically in the *Monthly Labor Review*.

The survey covers, on a sample basis, private sector establishments in the United States, excluding Alaska and Hawaii, employing at least 50, 100, or 250 workers, depending on the industry. Industrial coverage includes: mining; construction; manufacturing; transportation, communications, electric, gas, and sanitary services; wholesale trade; retail trade; finance, insurance, and real estate; and selected services. The survey analyzes benefit plans paid for wholly or partly by employers; benefits financed entirely by employees are excluded. Findings for 1984 are reported in *Employee Benefits in Medium and Large Firms*, Bulletin 2237 (Bureau of Labor Statistics, 1985). For information on the background and conduct of the survey, see Robert Frumkin and William Wiatrowski, "Bureau of Labor Statistics takes a new look at employee benefits," *Monthly Labor Review*, August 1982, pp. 41–45.

³ *Health Care Financing Review*, Winter 1984, p. 3; and Fall 1985, p. 3.

⁴ Data from the U.S. Department of Commerce, Bureau of Economic Analysis.

⁵ Unpublished data from the Bureau of Labor Statistics' 1984 Area Wage Surveys show that 48 percent of office workers and 33 percent of plant

workers were in establishments that offered a Health Maintenance Organization plan. The Area Wage Surveys cover a cross-section of industries in metropolitan areas. For more detailed information on these plans, see Allan Blostin and William Marclay, "HMOs and other health plans: coverage and employee premiums," *Monthly Labor Review*, June 1983, pp. 28–33.

⁶ *Hospital Statistics 1985* (Chicago, American Hospital Association), text table 8, p. 20.

⁷ *Source Book of Health Insurance Data 1980/1981*, Health Insurance Institute, p. 48, and *Source Book of Health Insurance Data 1984/1985*, p. 44.

⁸ *Business Insurance*, May 28, 1984, pp. 47–49.

⁹ Most commonly found in Blue Shield plans, the usual, customary, and reasonable approach pays all or a percent of the charge of a participating physician for covered services if it is: not more than the physician's usual charge; within the customary range of fees in the given geographic area; and is reasonable, considering medical circumstances.

¹⁰ For a closer look at major medical provisions, see Douglas Hedger and Donald Schmitt, "Major medical coverage during a period of rising costs," *Monthly Labor Review*, July 1983, pp. 11–16.

¹¹ For more detailed discussions of cost containment, see Richard F. O'Brien, "Health Care Cost Containment: An Employer's Perspective," *Labor Law Journal*, August 1985, pp. 468–73; Karen Ignagni, "Organized Labor's Perspective on Rising Health Costs," *Labor Law Journal*, August 1985, pp. 473–76; William G. Williams, "Health Care Cost-Containment Techniques," in Jerry S. Rosenbloom, ed., *The Handbook of Employee Benefits* (Homewood, Ill., Dow Jones-Irwin, 1984), pp. 251–72; and *World of Work Report*, November 1985, pp. 1–2.

A note on communications

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

Computer manufacturing enters a new era of growth

Strong gains in output and employment are estimated to 1995; not surprisingly, the most optimistic of three projections does not match the extraordinary pace the industry has set in the last 25 years

MARCUS E. EINSTEIN AND JAMES C. FRANKLIN

From the early 1960's through the mid-1980's, the outlook for growth in the computer manufacturing industry was, for most of the period, unusually optimistic. Even the 1981-82 recession seemed to have little effect on the industry's growth. In 1985, however, the outlook for the industry clouded considerably. Business demand for computers fell, as well as the demand for home computers. Some companies reported huge losses, and several went bankrupt. Even firms in Silicon Valley, an important center for computer manufacturing, laid off workers. The industry is now apparently at a turning point, entering an era of slower growth.

To provide some insights into the current situation, the Bureau of Labor Statistics undertook a study that focused on the development of alternative projections of industry output and employment. This article presents the results of that study.

For several decades, the Bureau of Labor Statistics has developed projections of the U.S. economy under alternative sets of assumptions. The latest set of three projections, to 1995, were published in the November issue of the *Monthly Labor Review*.¹ These and previous BLS projections were based on alternative macroeconomic assumptions, such as the unemployment rate, productivity growth, and labor force growth. While the projections for the computer manufacturing industry presented in this study reflect the recent economic projections, industry alternatives that assume different circumstances regarding the pace of technological development in the industry are also explored.

The results of this study are based on the assumption that

although significant technological advances will be forthcoming during the projection period, none will have the dramatic impact of the introduction of the minicomputer in the mid-1960's or the microcomputer in the mid- to late 1970's. The analysis shows rates of projected growth of both output and employment varying significantly under the alternative scenarios. In all scenarios, the growth rate for the computer manufacturing industry is projected to exceed the average for the economy as a whole and to have one of the highest growth rates among manufacturing industries. However, the highest projected growth rate is still below that experienced over the past decades. This should come as no surprise given the rapid expansion of the industry and its present size.

Historical overview

Over the last 25 years, the computer and peripheral equipment manufacturing industry (SIC 3573-4)² has been one of the more dynamic and fastest-growing industries in the U.S. economy. Industry products represented more than 20 percent of all business investment in 1984, and computers are one of the few manufacturing industries in which the United States still shows a sizable world trade surplus, estimated at \$6.8 billion in 1985.³ In addition, computers recently have become a factor in purchases of goods by households. Virtually nonexistent in 1975, personal computers are now estimated to be in 10 percent of households. Employment growth in the computer manufacturing industry has also played an increasingly more important role in the economy. With employment growth averaging more than 6 percent annually from 1960 through 1984, the industry has been adding new jobs at a rate 10 times faster than for all manufacturing.

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Technological development. The development of the computer manufacturing industry can be traced, in part, through a continuous stream of technological breakthroughs in computer engineering. These advances, primarily in the area of miniaturization, have transformed the computer from a "30-ton" monster to a 2- or 3-pound machine small enough to sit comfortably on a person's lap.

Prior to 1965, the industry primarily produced large mainframe computing systems. Annual unit sales grew on average by 33 percent between 1960 and 1964. (See table 1.) Because of the size and expense of these systems, most buyers or lessees were large institutions, such as banks, insurance companies, or government agencies.

The still young industry recognized the potential demand for a smaller and less expensive system than the mainframe. This led to the development of the minicomputer. Introduced in 1965, the "minis" were very well received and for the next 10 years annual unit sales increased on average by 50 percent. (See table 1.) However, because minicomputers were much cheaper, the dollar value of sales grew less rapidly, at an average annual rate of about 10 percent.

Increased miniaturization, declining component costs, and other technical developments led to the introduction of the personal computer in 1975. Initially developed by enter-

prising computer engineers and sold in kits via mail order, the personal computer since has become the dominant product of the industry in terms of unit sales, accounting for more than 96 percent of domestic consumption for all computers. Over the 1975-84 period, annual growth in unit sales of the personal computer averaged 95 percent. On a value basis, however, personal computers represent only 35 percent of industry sales because the unit prices of personal computers are much lower.

Capital expenditures. Throughout the 1960's, business investment in computer equipment grew 10 percent a year, on average, or at roughly the same rate as overall capital investment. Purchases of computer equipment represented, on average, a relatively constant 3 to 4 percent of all capital expenditures. However, beginning about 1970, businesses started to devote more of their investment dollars to computerizing their operations and, as a result, the share of total business investment expenditures attributed to computers grew to 9.6 percent in 1979. (See table 2.)

Emerging from the high inflation period of the 1970's, marked by increased labor costs and increased competition from abroad, American industry began searching for a means to increase productivity by modernizing plants and

Table 1. Domestic consumption of micro, mini, and mainframe computers,¹ 1960-84

[Dollars in millions]

Year	Total		Micro				Mini				Mainframe			
	Units	Dollars	Units		Dollars		Units		Dollars		Units		Dollars	
			Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
1960	1,790	\$ 590.0	-	-	-	-	-	-	-	-	1,790	100.0	\$ 590	100.0
1961	2,700	880.0	-	-	-	-	-	-	-	-	2,700	100.0	880	100.0
1962	3,470	1,090.0	-	-	-	-	-	-	-	-	3,470	100.0	1,090	100.0
1963	4,200	1,300.0	-	-	-	-	-	-	-	-	4,200	100.0	1,300	100.0
1964	5,600	1,670.0	-	-	-	-	-	-	-	-	5,600	100.0	1,670	100.0
1965	5,610	1,798.6	-	-	-	-	260	4.6	\$ 28.6	1.6	5,350	95.4	1,770	98.4
1966	7,635	2,680.4	-	-	-	-	385	5.0	40.4	1.5	7,250	95.0	2,640	98.5
1967	11,920	3,968.0	-	-	-	-	720	6.0	68.5	1.7	11,200	94.0	3,900	98.3
1968	10,180	4,900.4	-	-	-	-	1,080	10.6	100.4	2.0	9,100	89.4	4,800	98.0
1969	7,770	4,302.2	-	-	-	-	1,770	22.8	152.2	3.5	6,000	77.2	4,150	96.5
1970	8,320	3,809.6	-	-	-	-	2,620	31.5	209.6	5.5	5,700	68.5	3,600	94.5
1971	10,400	4,118.4	-	-	-	-	2,800	26.9	218.4	5.3	7,600	73.1	3,900	94.7
1972	14,310	5,270.7	-	-	-	-	3,610	25.2	270.7	5.1	10,700	74.8	5,000	94.9
1973	19,270	5,768.9	-	-	-	-	5,270	27.3	368.9	6.4	14,000	72.7	5,400	93.6
1974	17,480	6,777.2	-	-	-	-	8,880	50.8	577.2	8.5	8,600	49.2	6,200	91.5
1975	23,470	6,128.3	5,100	21.7	\$ 76.5	1.2	11,670	49.7	641.8	10.5	6,700	28.6	5,410	88.3
1976	49,550	6,770.1	25,800	52.1	374.1	5.5	17,000	34.3	816.0	12.1	6,750	13.6	5,580	82.4
1977	91,950	8,563.4	58,500	63.6	760.5	8.9	24,550	26.7	1,202.9	14.0	8,900	9.7	6,600	77.1
1978	152,650	10,283.9	115,600	75.7	1,098.2	10.7	29,550	19.4	1,595.7	15.5	7,500	4.9	7,590	73.8
1979	202,330	10,855.5	160,000	79.1	1,488.0	13.7	35,130	17.4	2,037.5	18.8	7,200	3.5	7,330	67.5
1980	301,850	13,431.2	250,500	83.0	2,104.2	15.7	41,450	13.7	2,487.0	18.5	9,900	3.3	8,840	65.8
1981	439,900	14,842.2	385,100	87.5	2,503.1	16.9	44,100	10.0	2,699.1	18.2	10,700	2.5	9,640	64.9
1982	793,420	17,311.3	735,000	92.6	4,190.0	24.2	47,820	6.0	2,821.3	16.3	10,600	1.4	10,300	59.5
1983	1,315,405	19,110.0	1,260,000	95.8	5,300.0	27.7	45,420	3.4	3,330.0	17.4	9,985	0.8	10,480	54.9
1984	2,182,005	22,295.0	2,100,000	96.2	7,750.0	34.8	72,130	3.3	4,185.0	18.8	10,700	0.5	10,360	46.4

¹ Micro, mini, and mainframe are defined in terms of price: micro-\$1,000 to \$19,999; mini-\$20,000 to \$249,999; mainframe-\$250,000 and over.

NOTE: Because microcomputers exclude units with list prices less than \$1,000, the sales of most personal home computers are not reflected in these figures.

SOURCE: Computer and Business Equipment Manufacturers Association.

curtailing labor costs. The computer manufacturing industry encouraged increased use and extended applications of the computer as one possible solution. Manufacturers began offering microcomputers that were built with mass-produced microprocessors and invited anyone who was interested to write the software. The result for the computer buyer was hardware and software that were both more adaptable and less expensive than the minicomputer. Aided further by changes in the tax treatment for capital expenditures in the Economic Recovery Tax Act of 1981, businesses generally responded by increasing capital spending and by devoting a larger share to computers. Business investment in computers surged over the 1980–84 period and increased from 12 percent of total investment in 1980 to more than 20 percent in 1984. (See table 2.)

Foreign trade. America's early lead in computer technology allowed U.S. manufacturers to dominate world markets during most of the 1970's. U.S. exports of computers grew from \$1.3 billion in 1972 to more than \$4 billion in 1978 (both stated in current prices). In the late 1970's, imports began to appear in U.S. markets. However, despite foreign competition, the computer industry's trade balance continued to grow, peaking in 1981 at \$7 billion.

Since 1981, however, trade surpluses have been declining steadily, in part because of competition from East Asian and Pacific Basin countries. As a result of a number of factors, including intense price competition, many U.S. computer manufacturing companies moved their production operations to the Far East, including Singapore and Hong Kong, which offered government incentives for local investment and lower labor and materials costs. In addition, the Japanese entered the world market using the high-volume, price-cutting techniques which they had successfully used in other electronic product markets. In 1984, however, the U.S. computer industry still had a trade surplus of \$5.9 billion, as shown below (millions in current dollars):⁴

Year	Exports	Imports	Trade balance
1977	\$ 3,264	\$ 253	\$3,011
1978	4,129	757	3,372
1979	5,500	969	4,531
1980	7,606	1,159	6,447
1981	8,652	1,647	7,005
1982	9,118	2,296	6,822
1983	10,569	4,362	6,207
1984	13,511	7,575	5,936

Personal consumption. The history of the home segment of the computer industry is short, spanning only the last 10 years. As noted, the first home, or personal, computers were produced about 1975. They came in kit form and were sold mostly to hobbyists. Fueled by technological improvements, plummeting prices, and widespread interest and publicity about computers, home computer sales grew rapidly from around 210,000 units in 1978 to more than 5 million machines in 1984.⁵ This growth slackened recently and is a factor in bringing the computer industry to an important

Table 2. Purchases of producers' durable equipment, 1960–84

[1977 dollars in billions]

Year	Total business investment	Business investment, in office, computing, and accounting machinery ¹	Computing equipment as percent of total
1960	53.4	1.5	2.8
1961	52.1	1.4	2.7
1962	57.6	1.4	2.4
1963	61.6	1.8	2.9
1964	68.9	2.0	2.9
1965	80.9	2.3	2.8
1966	91.9	3.1	3.4
1967	90.7	3.2	3.5
1968	95.3	3.2	3.4
1969	102.6	4.0	3.9
1970	100.0	4.0	4.0
1971	99.4	4.0	4.0
1972	110.4	4.9	4.4
1973	130.1	5.7	4.4
1974	132.0	7.0	5.3
1975	116.4	6.4	5.5
1976	123.7	8.1	6.5
1977	143.1	10.0	7.0
1978	162.8	13.0	8.0
1979	173.0	16.7	9.6
1980	167.7	20.2	12.0
1981	174.4	25.8	14.8
1982	162.6	29.4	18.1
1983	174.4	34.3	20.2
1984	209.9	43.5	20.7

¹ Data available only at SIC 357 or three-digit level; however, sic 3573-4 accounts for approximately 95 percent of sic 357.

SOURCE: U.S. Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts, converted to 1977 dollars by the authors, using BLS industry price index.

juncture—posing the prospect for much slower growth in the future than experienced over most of the last 25 years. Many initial buyers may have been caught up in the “faddish” element of the computer revolution and perhaps initially did not fully understand the limitations of the machines and the difficulties of use. As skepticism grew and price wars accelerated, consumers apparently began to delay purchases, waiting for even lower prices, for more user-friendly software, and simpler and easier to use machines.

Employment. The computer manufacturing industry has also experienced dramatic changes in employment. From 1960 through 1984, employment growth averaged more than 6 percent annually, while employment growth for all of manufacturing averaged only 0.6 percent. As a consequence, computer manufacturing accounted for nearly 14 percent of the growth in wage and salary employment in manufacturing over the 1960–84 period, although in 1984 it still represented less than 2.5 percent of all manufacturing jobs. (See table 3.)

Although overall employment in the computer manufacturing industry has been increasing, the percentage of employees in production occupations has been declining. In the mid-1960's, when the industry was producing mainframe and minicomputer systems, production worker employment was as high as 47 percent of the total. However, the ratio steadily declined with a growing emphasis on research and

development activities, expanding at a rate of almost 18 percent annually, along with continuing automation of the production line. A slight resurgence in production employment occurred in the first few years of the personal computer. As new companies entered the market at a rapid pace, production workers were actually increasing faster than overall industry employment, reaching 41 percent of industry employment in 1979. Since then, growth in production-related occupations has slowed owing to the concentration on research and development expenses, increased automation of the production line, and the movement offshore of production facilities.

Currently, more than 25 percent of employment in the computer manufacturing industry consists of engineers, technicians, and systems analysts. The relatively high concentration of these occupations can be explained by the high priority of research and development operations. In 1983-84, computer manufacturers spent more than \$6 billion on R&D activities, representing more than 7 percent of sales.⁶

In contrast to the high percentage of engineers, technicians, and computer analysts employed in the computer manufacturing industry, only 38 percent of all employees were in production-related occupations in 1984. This is one of the lowest ratios of production workers to total employment for any manufacturing industry, far below the manufacturing average of 68.7 percent. Here are the data for 1967-84:

Year	Wage and salary employees (thousands)	Production occupations (thousands)	Ratio of production occupations to total
1967	145.1	68.2	.47
1970	193.8	75.0	.39
1975	210.4	76.9	.37
1977	239.1	95.8	.40
1979	318.9	131.4	.41
1982	403.3	153.4	.38
1984	460.9	174.3	.38

Projections

What follows is a number of different scenarios for output and employment growth of the computer industry over the 1984-95 period. (See table 4.) Nine scenarios were developed by combining three possible assumptions concerning implementation rates of technological advances along with the three levels of overall economic growth, described in the article entitled "Economic outlook to 1995: new assumptions and projections," which appeared in the November 1985 issue of the *Review*.

Output and employment projections reflecting the combination of the medium technological implementation rate with the varying economic growth levels were developed by the model described in the above article.⁷ Additional output projections were made by pairing assumptions reflecting both a lesser and greater rate of technological development and implementation with each of the same three levels of

economic growth and then analyzing the resulting expected impact on demand, production, and employment.⁸

Although there are nine alternative scenarios, the emphasis in this article is on the following three: low rate/low economic growth, medium rate/medium economic growth, high rate/high economic growth. These three scenarios will be referred to subsequently as the low, medium, and high scenarios.

A breakdown of the projected annual growth rates during the 1984-95 period for the components of demand is shown in table 5. The projections for the medium case were taken directly from the macro projections in the November article. The projected growth rates for the low and high scenarios were estimated through analysis of the possible interaction between the technological rates and the various rates of economic growth. This analysis by its nature was judgmental and subjective, particularly in that the assumed rates of technological use are broad in nature and are not specific to any given technology.

Before continuing, a caveat is in order. The constant dollar value of the computer manufacturing industry's output is difficult to measure because of the combination of unit price declines and increased unit capabilities, especially over the last several years. This problem arises because the fast pace of technological development, especially for the microcomputer, virtually redefines the product within a period of a few years. Consequently, it is difficult to make a unit price comparison as the product "unit" is not strictly comparable over the period of technological change.

In December, the Bureau of Economic Analysis released a new deflator for this industry. The deflator increases the historical real output of the computer manufacturing industry, compared with the real output as measured by the defla-

Table 3. Total employment for all of manufacturing and computer manufacturing, 1960-84, selected years

[Numbers in thousands]

Year	Total manufacturing	Computer manufacturing	Computer manufacturing as percent of total
1960	17,152	116	0.7
1965	18,400	148	.8
1970	19,664	236	1.2
1975	18,614	238	1.3
1976	19,305	239	1.2
1977	20,014	262	1.3
1978	20,851	297	1.4
1979	21,401	339	1.6
1980	20,668	376	1.8
1981	20,559	407	2.0
1982	19,154	424	2.2
1983	18,825	440	2.3
1984	19,779	479	2.4
Average annual rate of change (compound rate)			
1960-84	0.6	6.1	-
1960-65	1.4	5.0	-
1965-70	1.3	9.8	-
1970-75	-1.1	0.2	-
1975-80	2.1	9.6	-
1980-84	-1.1	6.2	-

SOURCE: Bureau of Labor Statistics data compiled from Current Employment Survey; prior to 1967, computer employment data are from Department of Commerce, *County Business Patterns*.

Table 4. Output and employment in computer manufacturing under alternate projections of economic growth and technological development, 1984-95

[1977 dollars in millions]

Rate of technological development	Economic projections			Compound annual rate of growth ¹		
	Low	Medium	High	Low	Medium	High
Output						
Low -----	\$78,773	\$92,915	\$106,857	5.7	7.3	8.6
Medium -----	92,793	104,315	117,846	7.2	8.4	9.6
High -----	102,861	122,107	138,300	8.3	10.0	11.2
Employment						
Low -----	627,000	685,000	715,000	2.5	3.3	3.7
Medium -----	679,000	713,000	741,000	3.2	3.7	4.1
High -----	705,000	723,000	760,000	3.6	3.8	4.3

¹ In 1984, output was \$43,021 million, and employment totaled 479,000 jobs.

NOTE: See text for discussion of problems of measuring constant dollar output. Employment covers wage and salary jobs.

tor used in this study. The Bureau of Labor Statistics has also undertaken an effort to improve measures of price changes among the range of computer products. Preliminary results of these studies indicate that the historical measure of real output on which the original projections were based is probably understated. Because this study presents alternatives to those projections, however, that output measure is used in the interest of continuity. The use of this historical output series, however, should not be construed as implying a final decision on the relative merits of alternative measures.

Technological factors. One of the most influential technological advances during the next 10 years is expected to be continued increases in computing power. This year, the first "micron" computer chips are expected to become available in the semiconductor marketplace. These chips have 4 times the storage capacity of the 256K RAM chips. Half-micron and quarter-micron computer chips with even greater storage capacity are widely predicted by the mid-1990's. Each successive generation of micron and sub-micron computer chips should spur the development of computers with increased computing power.⁹

This power should enable software designers to develop more complex programs for the personal computer. With continued advances in hardware and software, tasks that now require mini or mainframe computers can be expected to be accomplished in the future with the use of personal computers. Software also can be expected to continue to become easier to use. Additional computing power should facilitate greater use of artificial intelligence techniques in software designs, resulting in a variety of decisionmaking software that develop analytical conclusions based on user-defined parameters.

Both software and hardware are also expected to become increasingly targeted for specialty markets both in business and in the home. Doctors have a need for diagnostic and other medical software. Lawyers require specialized word-processing software. Other markets include computer-aided design and engineering, scientific research and development, and total factory automation. Small businesses also

often have specialized tasks to perform that require different capabilities than the spreadsheet, word processing, and inventory and accounting software that is generally available. This is expected to change over the course of the next 10 years as software becomes more specialized for business purposes. In the home, as well, the computer should become more accepted as a useful appliance with an increased variety of specialized programs that focus on hobbies, educational interests, entertainment, and productivity in the household.¹⁰

The linking of microcomputers to each other and shared data bases also is an innovation that should stimulate investment demand for computers. Businesses want the ability to communicate among their mainframes, mini-, and microcomputers regardless of the manufacturer. Through 1985, computer equipment by different manufacturers was for the most part incompatible in such a network; however, it is expected that this problem will abate through the mid-1990's.

Telecommunications networks that provide electronic banking, brokerage, shopping, and data retrieval services should play a more influential role in the future growth of the computer industry. These networks offer convenient banking, brokerage, and shopping services. They also supply a necessary adjunct to microcomputers in providing access to data bases. Telecommunications networks undoubtedly will influence the personal computer market for homes and businesses as they expand their markets and services.

The optical laser disk as a medium for data storage is another development likely to contribute to the growth of the computer industry. The optical disk can store roughly a thousand times the amount of information that can be stored on a 5 1/4-inch floppy disk. This makes the disk an ideal medium for data storage as an accessory to the microcomputer, which has limited ability to store raw data. The dissemination of data bases on optical disks is already a reality in the form of encyclopedias.¹¹

The development of more powerful microcomputers, the increased availability of more specialized and more power-

ful software and the advances in networking, telecommunications, and optical disk technology are all expected to provide the stimulus for additional growth in the computer industry through 1995. The extent that these expected advances contribute to the computer industry's growth is dependent upon the pace of adoption. Without specific references to any given technological development, the implementation rates presented in the projection scenarios are specified in terms of their effect on growth prospects for the industry.

Business investment and government spending. A moderate rate of technological development and implementation combined with a generally favorable economy is assumed to encourage both business investment and government spending in the medium scenario. Business investment in computer equipment is projected to grow annually at a rate of 8.3 percent. Federal Government spending is projected to grow 7.1 percent annually and State and local government spending, 6.5 percent.

In the low scenario, a low rate of technological development and implementation coupled with a generally sluggish economy is assumed to hamper both business investment and government spending. Consequently, business investment is projected to have a growth rate of 5.8 percent annually. The annual growth rate for Federal spending is a projected 4.7 percent and for State and local spending, 3.6 percent.

In the high scenario, with the combination of a rapid rate of technological development and implementation and a strong, investment-oriented economy, business investment is projected to grow at an annual rate of 10.9 percent. Government spending on computers at the Federal level is projected to rise at an annual rate of 9.3 percent and at the State and local level, 8.1 percent.

Personal consumption. The growth rates projected for

personal consumption of the computer are high in all three alternatives. However, the overall impact on the industry in all cases is relatively low because personal consumption only represents from 6 to 8 percent of total industry production from a value viewpoint. Personal consumption is projected at about \$8 billion, reflecting a 20.9-percent annual growth rate in the moderate alternative.

In the low scenario, a slow rate of development of a wide variety of specialized, user-friendly software is assumed to somewhat reduce consumer demand. As a result, the projected annual growth rate is 15.9 percent.

In the high scenario, the assumption of a strong economy coupled with the development of a wide variety of consumer software should have a stimulative effect on personal consumption. In this alternative, personal consumption is projected to grow at an annual rate of 24.3 percent.

Foreign trade. In the medium scenario, by 1995, the foreign exchange rate of the U.S. dollar is assumed to fall gradually to the level of 1980. The world economy is assumed to roughly parallel the generally favorable economy of the United States. These assumptions combined with a moderate rate of technological implementation are expected to stimulate exports for a projected 10.5-percent growth rate. Imports are projected to have an 11.8-percent annual growth rate, reflecting a strong domestic demand for computer products.

In the low scenario, the assumptions of a continuation of a strong U.S. dollar, a generally sluggish worldwide economy, as well as a slow rate of technological development and implementation are projected to hamper the growth in U.S. exports of computer products. Under these assumptions, U.S. computer firms should continue to find competition with foreign firms difficult and to move offshore to take advantage of lower labor and materials costs to remain competitive. Exports are projected to grow at an annual rate of 7.8 percent and imports at a rate of 9.5 percent.

Table 5. Alternative projections of output and consumption for computer manufacturing, 1984-95

[1977 dollars in millions]

Item	1977	1984	1995			Compound rate of growth			
			Low	Medium	High	1977-84	1984-95		
							Low	Medium	High
Industry output	\$12,920	\$43,021	\$78,773	\$104,315	\$138,300	18.8	5.6	8.4	11.2
Intermediate use	3,176	9,809	18,429	23,701	31,320	17.5	5.9	8.3	11.1
Final users:									
Personal consumption	86	1,000	5,049	8,071	10,932	42.0	15.9	20.9	24.3
Business investment	6,159	26,529	49,311	63,590	82,437	23.2	5.8	8.3	10.9
Government									
Federal	1,078	5,564	9,255	11,828	14,773	26.4	4.7	7.1	9.3
State and local	121	626	926	1,246	1,477	26.5	3.6	6.5	8.1
Exports	3,215	10,525	23,982	31,472	41,071	18.5	7.8	10.5	13.2
Imports	-493	-8,392	-22,804	-28,569	-34,274	49.9	9.5	11.8	13.6

NOTE: Consumption totals exceed industry output slightly because a small percentage of total commodity output is produced as a secondary product by other industries. See text for discussion

of problems of measuring constant dollar output for this industry.

Table 6. Alternative projections of employment for selected groups in computer manufacturing, 1984-95

[Numbers in thousands]

Occupation	1984		1995 low projections		1995 medium projections		1995 high projections	
	Employment	Percent	Employment	Percent	Employment	Percent	Employment	Percent
Total employment—sic 3573-4	479.0	100.0	627.0	100.0	713.0	100.0	760.0	100.0
Managerial and management-related occupations	75.2	15.7	98.4	15.7	111.9	15.7	121.6	16.0
Engineers	59.4	12.4	94.0	15.0	101.2	14.2	129.2	17.0
Computer systems analysts	7.7	1.6	10.7	1.7	12.8	1.8	15.2	2.0
Technician occupations	57.5	12.0	92.8	14.8	95.5	13.4	121.6	16.0
Marketing and sales occupations	13.4	2.8	21.9	3.5	20.0	2.8	21.3	2.8
Administrative support occupations	87.7	18.3	102.8	16.4	117.6	16.5	125.4	16.5
Precision production occupations	27.8	5.8	34.5	5.5	40.6	5.7	41.6	5.5
Handworking occupations, including assemblers and fabricators	80.0	16.7	81.5	13.0	109.8	15.4	98.8	13.0

In the high scenario, the following conditions are assumed: the foreign exchange rate of the U.S. dollar declines to its 1980 level at a faster pace than in the medium scenario, the economic growth of the major trading partners of the United States roughly parallels the high growth of the U.S. economy, and there is a high rate of technological development and implementation. Under these assumptions, both foreign and domestic demand for computer equipment is expected to be high. The competitiveness of U.S. computer firms should also increase under these assumptions as the cost advantage of foreign labor and materials is reduced. Export growth is projected to increase at an annual rate of 13.2 percent, while imports are projected to have an annual growth rate of 13.6 percent.

Output. The output projections derived in the alternative demand scenarios previously discussed indicate that the computer manufacturing industry should remain vigorous. The projected growth rates for output during the 1984-95 period under the various scenarios range from 5.6 to 11.2 percent. However, as seen in table 4, the range is much narrower when focusing on all but the two most extreme scenarios. These rates, while slow by historical standards for this industry, would still exceed the rates of all but a handful of manufacturing industries even under the high growth scenario.¹² The output growth projected for this industry in all scenarios would approximately double the historical relationship of the computer industry to total manufacturing.

The medium scenario would result in a projected annual growth rate of 8.4 percent, a pace nearly 3 times faster than for all manufacturing industries.¹³ The low scenario reflects an industry growing only half as fast as it did between 1960 and 1984. However, at a 5.6-percent annual growth rate this still would be 2.5 times the projected rate of growth for all of manufacturing.¹⁴ The surging demand and increased competitiveness of U.S. computer manufacturers anticipated in the high scenario results in a projected annual growth rate of 11.2 percent.

Employment. The range of projected growth for employ-

ment, varying from 2.5 to 4.3 percent annually, is much narrower than the range for projected output growth. These projections assume continued improvements in productivity, accelerating in tandem with faster output growth. The anticipated gains in productivity are due to the assumption of some continued movement to offshore manufacturing sites, improvements in the production process utilizing automation and robotics, and the introduction of simpler but more powerful components.

Employment in the medium scenario is projected to reach 713,000 by 1995. Although this means the industry would grow at half its historical rate of employment growth, it would be expanding about 6 times faster than all manufacturing industries and would be one of the fastest-growing industries in the economy.¹⁵

The assumption of a moderate but continuous stream of technological advances described in this scenario can be expected to foster an increase in the number of engineers, technicians, and computer systems analysts. (See table 6.) As a group, they are projected to increase 4.8 percent annually and account for 29.4 percent of industry employment, 13 percent greater than their share in 1984. Production workers, however, are not anticipated to fare as well. Assumptions of continued gains in productivity would result in a projected decline in these occupations of 6 percent in terms of proportion of industry employment.

Reduced demand resulting from the conditions described in the low scenario would likely mean intense price-competition and tight profit margins. This in turn would sharply curtail employment, projected at 627,000 in 1995. New jobs would fall to 149,000. While indicating slow growth in the computer industry, these new jobs would represent almost 50 percent of the new manufacturing jobs projected in the low growth alternative.¹⁶

Production workers would be the most affected in this low scenario. Assuming the continued movement of the production process overseas, handworking occupations, including assemblers and fabricators, would see their share of industry employment decline by 22 percent. Precision production occupations would decrease by 10 percent. Reduced revenues for computer manufacturers assumed in this scenario

would limit funds available for research and development, thereby lessening the rate at which new products enter the market. Under these conditions, engineers, technicians, and computer systems analysts would experience slow growth. They would, however, increase their share of industry employment as an offset to the decline of production workers.

Given the overall favorable conditions for domestic manufacturing coupled with accelerated implementation of technological advances assumed in the high scenario, employment in this industry is projected to reach 760,000 jobs in 1995. This would represent a vigorous 4.3-percent growth rate, nearly 17 percent faster than the rate projected in the medium scenario.

Despite the reduced movement to offshore manufacturing sites assumed in this scenario, the gap between the projected rates of growth for output and employment would continue to widen, assuming the achievement of higher productivity through technological advancements in product components and production methods. More funds are assumed to be devoted to R&D activities; therefore, engineers, technicians, and computer systems analysts are projected to more than double their 1984 employment and account for 35 percent of industry employment. Precision production and handworking occupations are projected to increase 30 percent in the high scenario. However, the share of industry employment represented by these occupations would decline nearly 18

percent as a result of assumed acceleration in productivity.

Summary and conclusions

The computer manufacturing industry has received a great deal of attention in the last 25 years. The advent of the microcomputer and the subsequent explosive expansion of output reinforced a perception that the industry's potential for growth was enormous. The slump of 1985, however, brought the realization that there were limits to this rapid growth. Given the assumptions used in this study, the computer manufacturing industry is seen as being strong and viable and likely to continue to grow, but at a less rapid rate than in the past. This is hardly surprising. The industry is maturing. Historically, the computer manufacturing industry has experienced periodic waves of rapid expansion; each wave precipitated by the introduction of a major technological advance, such as the mainframe, the minicomputer, and finally, the microcomputer. Now, after the microcomputer and without a new revolutionary computer on the horizon, the industry seems to be entering a period of stable growth that is characteristic of a maturing industry. Still, even without any new revolutionary breakthroughs anticipated through 1995, it is expected that the computer manufacturing industry will continue to be one of the strongest manufacturing industries. □

FOOTNOTES

¹ See Betty W. Su, "The economic outlook to 1995: new assumptions and projections"; Howard N Fullerton, Jr., "The 1995 labor force: BLS' latest projections"; Valerie A. Personick, "A second look at industry output and employment trends through 1995"; and George T. Silvestri and John M. Lukasiewicz, "Occupational employment projections: the 1984-95 outlook," *Monthly Labor Review*, November 1985, pp. 3-59.

² The Office of Economic Growth and Employment Projections uses a 156-order industry sectoring plan for projection purposes. Under this plan, SIC 3573-4 accounts for one sector. This industry sector includes manufacturers whose primary product is electronic computing and peripheral equipment and calculating and accounting machines other than electronic computing equipment. However, because the production of computers and peripheral equipment accounts for the overwhelming majority of this industry, the focus of this article is on computers and peripheral equipment.

³ See *U.S. Industrial Outlook 1986* (U.S. Department of Commerce, International Trade Administration), p. 28-1.

⁴ U.S. Department of Commerce, Bureau of the Census, Foreign Trade Division data.

⁵ *Statistical Abstract of the United States, 1984* (U.S. Department of Commerce, Bureau of the Census), table 1422. See also *The Wall Street Journal*, June 4, 1985.

⁶ *Business Week*, Mar. 22, 1985, p. 176.

⁷ Su, "Economic outlook to 1995." The following is a brief description of the three assumed economic growth levels:

High: Projected real GNP annual growth 1984-95 is 3.8 percent. Declining unemployment to 5.0 percent in 1995. High rate of business investment due to low capital costs and high profits. Declining foreign exchange rate of the U.S. dollar.

Medium: Projected real GNP annual growth 1984-95 is 2.9 percent. Declining unemployment to 6.0 percent in 1995. Strong rate of business investment. Declining foreign exchange rate of the U.S. dollar.

Low: Projected real GNP annual growth 1984-95 is 2.2 percent. Unemployment remains around 7.0 percent. Slow rate of business investment. Continuation of a strong U.S. dollar relative to foreign currencies.

In all three scenarios, the real economic growth of the Nation's major trading partners is assumed to more or less parallel that of the United States.

⁸ For employment projections, see Personick, "A second look at industry output."

⁹ See John W. Wilson, "Super Chips," *Business Week*, June 10, 1985.

¹⁰ For related information, see William M. Bulkeley, "Faster Cheaper Machines Seen Edging into Growing Super Minicomputer Field," *The Wall Street Journal*, June 23, 1985, p. 6; Richard Brandt, "Finding the Missing Link in Automation," *Business Week*, June 17, 1985; Pete Carey, "The Future of the Micro—Looking Ahead at the Next Decade," *Popular Computing*, January 1985, pp. 89, 90, 178-79; and Kevin Anderson, "Personal Computers Search for a Niche," *USA Today*, June 10, 1985, p. E-1.

¹¹ Mark Lewyn, "Future Looks Bright for Optical Disk Systems," *USA Today*, July 17, 1985, p. B-1.

¹² Based upon projections data in the November 1985 issue of the *Monthly Labor Review*.

¹³ Personick, "A second look at industry output," p. 29.

¹⁴ *Ibid.*

¹⁵ *Ibid.*, p. 28.

¹⁶ *Ibid.*

NOTE: Sources of additional information on topics discussed in this article include: John W. Wilson, "America's High-Tech Crises," *Business Week*, Mar. 11, 1985, pp. 56-62, 67; "Computer Industry's Rapid Growth is Slowing," *The Wall Street Journal*, May 24, 1985, p. 6; Andrew Pollack, "Computer Makers in a Severe Slump," *The New York Times*, June 10, 1985, pp. D-1, D-5; and John W. Wilson, "Computers: When Will the Slump End?" *Business Week*, Apr. 21, 1986, pp. 58-61.

Work, poverty, and the working poor: a multifaceted problem

New study shows that most able-bodied heads of poor households demonstrate strong labor force attachment, but their employment tends to be intermittent, low-paying, or both

SHELDON DANZIGER AND PETER GOTTSCHALK

In 1984, the poverty rate for all households in the United States was slightly less than the rate for 1967 and at about the same as that in 1971.¹ About one-fourth of all heads of household whom we classified as "expected to work" had low weekly earnings. However, about 60 percent of these households escaped poverty.

This article describes changes from 1967 to 1984 in the economic status of households headed by persons who are expected to work. It compares the situations of households that are "poor" with those headed by "low earners." Excluded from the group expected to work are householders who are over age 65, the disabled, students, or women with a child under age 6.² Our results cast doubt on a common perception that most poor households are impoverished because their heads, though capable of doing so, do not work.³

A household is classified as poor if its cash income, of all types and from all household members, falls below the official poverty line for a household of its size. We define low earners as household heads with weekly earnings below \$204 per week in 1984 dollars. Such persons could not earn the poverty-line annual income for a family of four if they worked 52 weeks a year.⁴

Households headed by low earners are not necessarily poor. Whether or not the household is poor depends on the

household's own poverty line and its annual cash income. Similarly, poor households do not necessarily have heads with low weekly earnings.⁵

As the following tabulation shows, there were 93.5 million households in the United States in 1984. Of these, 65.33 million had a head whom we classify as expected to work. Among this group of households, 17.03 million had low weekly earnings, but not all of them were poor:

All households (millions)	93.50
Head expected to work	65.33
Low weekly earners	17.03
Household is poor	6.09
Household is not poor	10.94
Others (earned above \$204/week)	48.30
Household is poor .....	.57
Household is not poor	47.73
Head not expected to work	28.17
Household is poor	7.50
Household is not poor	20.67

By having a smaller family or other sources of household income, 10.94 million households were able to escape poverty. The heads of almost all poor households in which the head was expected to work had low weekly earnings (6.09 out of 6.66 million), while very few households in which the head did not have low weekly earnings were poor (0.57 out of 48.30 million). Thus, about 10 percent (6.66

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out of 65.33 million) of all households in which the head was expected to work were poor in 1984.

Recent trends

Table 1 shows changes in the incidence of household poverty and the composition of all households and all poor households, classified by the characteristics of the household head, for selected years from 1967 to 1984. The poverty rate for all households declined from 17.1 percent in 1967 to 13.1 percent in 1979 and then rose to 15.2 percent in 1984, a rate that is quite close to that of 1971.

The proportion of all household heads expected to work declined slightly from 71.3 percent in 1967 to 69.9 percent in 1984. Among poor households, the proportion expected to work increased from 37.1 to 47.0 percent over this period, primarily because of the rapid decline in the incidence of poverty among the elderly. By implication, at most only half of the poverty population could be *directly* affected by increases in the demand for labor, inducements to supply more labor, or requirements to work.

The data in table 1 show that among all poor household heads expected to work in 1984, roughly equal proportions either did not work at all during the year, worked between 1 and 47 weeks, or worked all year. This is in contrast to 1967, when more than half of those expected to work (20.0 out of 37.1 percent) worked all year. An important cause of

the decline in year-round work was the doubling of the unemployment rate between 1967 and 1984.

Incidence of low weekly earnings

Between 1967 and 1979, the incidence of household heads with low weekly earnings as a proportion of all household heads expected to work averaged 19.4 percent, but increased to 26.1 percent by 1984. In 1984, 21.1 percent of all such men and 44.9 percent of the women had low weekly earnings. Thus, a substantial proportion of household heads could not keep a family of four out of poverty even if they worked 52 weeks at their current weekly earnings.⁶ The following tabulation shows the incidence of low weekly earnings among male and female household heads who could be expected to work:

	1967	1971	1979	1984
Low weekly earners:				
All households	19.4	19.1	19.7	26.1
Men	13.9	14.1	14.4	21.1
Women	53.4	47.8	42.4	44.9

There were major differences in the incidence of, and trend in, low weekly earnings among male and female household heads. The incidence among men was much lower than that for women in every year studied. However, the incidence increased for men and decreased for women.

These trends did not change when we redefined the low earnings population as those whose weekly wage was insufficient to keep a family of three out of poverty—that is, the cutoff was lowered from \$204 to \$159 in 1984 dollars. The incidence of low weekly earnings for all household heads increased from 15.2 to 20.0 percent between 1967 and 1984 under this definition.

Escaping from poverty

Because the earnings of household heads can be supplemented by other sources of income and because the poverty threshold depends on family size, our measure of low earnings does not necessarily mean that the household is poor. Most poor household heads who are expected to work had low weekly earnings (91.4 percent), but most heads with low weekly earnings escaped poverty (64.2 percent).

Table 2 shows the methods by which households headed by those with low earnings escaped poverty. We classify low-earning household heads who escape poverty into one of the eight mutually exclusive categories shown. The classification is hierarchical: any household head who fits more than one category is classified only in the one closest to the top of the table.

Escape from poverty because of small family size indicates that even though the head's weekly earnings times 52 weeks was below the poverty line for a family of four, actual annual earnings did exceed the poverty line for this house-

Table 1. Percent distribution of all households and poor households by selected characteristics of household head, selected years, 1967-84

Characteristic	1967	1971	1979	1984
All households	100.0	100.0	100.0	100.0
Head not expected to work	28.7	29.4	30.3	30.1
Elderly	19.3	19.5	19.6	20.0
Women, child under 6	2.0	2.4	2.8	3.1
Student	2.2	2.2	2.4	2.5
Disabled	5.3	5.3	5.5	4.6
Head expected to work	71.3	70.6	69.7	69.9
Weeks worked:				
0	3.9	4.5	4.4	5.9
1 to 47	7.2	9.8	9.8	10.0
48 to 52	60.2	56.4	55.4	54.0
Poor households	100.0	100.0	100.0	100.0
Head not expected to work	62.9	62.5	61.5	53.0
Elderly	40.4	34.7	27.6	20.1
Women, child under 6	7.0	9.8	12.6	12.8
Student	5.5	6.5	7.7	7.7
Disabled	10.0	11.5	13.6	12.3
Head expected to work	37.1	37.5	38.5	47.0
Weeks worked:				
0	8.3	10.1	11.8	15.1
1 to 47	8.8	12.2	14.0	16.8
48 to 52	20.0	15.2	12.9	15.1
Household poverty rate	17.1	15.0	13.1	15.2
Unemployment rate	3.8	5.6	5.8	7.7

NOTE: Columns may not add to subtotals because of rounding. Data for all tables are authors' computations from March 1968, 1972, 1980, and 1985 Current Population Survey data tapes.

Table 2. Percent distribution of all low-earning households escaping poverty by source of escape, selected years, 1967-84

Source	1967	1971	1979	1984
Percentage of all low-earning households escaping poverty	60.0	63.3	67.0	64.2
Total sources of escape	100.0	100.0	100.0	100.0
1. Family size less than four persons	52.5	50.2	47.7	43.5
2. Earnings of members other than head	26.0	23.6	23.6	27.1
3. Private income other than earnings ¹	8.3	11.7	11.6	13.4
4. Public cash transfers ²	8.9	10.1	13.4	11.6
Combinations of sources:				
5. 2 and 3	0.8	1.2	0.8	0.8
6. 2 and 4	1.7	1.4	1.2	1.5
7. 3 and 4	1.7	1.6	1.5	1.8
8. 2, 3, and 4	0.1	0.2	0.2	0.2

NOTE: Totals may not add to 100.0 because of rounding. These sources of escape are computed in a hierarchical, mutually exclusive fashion in the order shown in rows 1-8.

¹ Private income other than earnings includes self-employment income from farm and non-farm businesses, interest, dividends, rents, royalties, income from estates or trusts, private pensions, alimony, child support, and any other source of money income which was regularly received.

² Cash transfers include benefits from Aid to Families with Dependent Children, Supplemental Security Income, General Assistance, unemployment compensation, workers' compensation, government employee pensions, veterans' pension and compensation, and Social Security and railroad retirement.

hold. In other words, this household had fewer than four members.

For each of the next three categories—earnings of other household members, other private income (which includes interest, dividends, rents, private pensions, and so forth), and public cash transfers—we use the following procedure. First, we compute the gap between the household's poverty line and the head's earnings. If the amount of income from the first of these sources exceeds this gap, the household was taken out of poverty by this source. If not, we compare the next source to the poverty gap. If no single source exceeds the gap, but some combination of sources does, the household is classified into the appropriate combination shown in rows 5 through 8. For example, consider a household of four persons, two parents and two children, with a poverty gap that is \$2,000 after the head's earnings have been counted. If the wife earned more than \$2,000 and the household received more than \$2,000 in transfers, the household would be categorized as escaping from poverty because of the earnings of members other than the head (row 2). However, if the wife earned \$1,999 instead, the household would be counted as escaping because of cash transfers (row 4). If both amounts were \$1,999, then escape would be via the combination of other earnings and transfers (row 6).

In every year, at least 60 percent of households whose heads were low earners escaped poverty. The largest category of escape (row 1) indicates that the earnings of the head exceeded the household's poverty threshold, implying a

household of fewer than four persons. The next most important source was the earnings of other household members. Other private income sources and cash transfers follow in roughly equal importance. However, the role played by cash transfers is small, owing in part to the hierarchical nature of our classification, but also to the unavailability of cash transfer programs for many of those expected to work and the relatively small average level of benefits for recipients.⁷

Characteristics of the poor, expected to work

Table 3 shows selected demographic and economic characteristics of poor households in which the head is expected to work. Although only about 10 percent of all households in which the head was expected to work were poor in 1984, they represented almost half of all poor households.

The top panel of table 3 further classifies poor households headed by persons expected to work by sex, race, Hispanic origin, and presence of children. In 1984, roughly half of these households (51.4 percent) consisted of single individuals or childless couples. Of the remaining 48.6 percent with children, 27.6 percent were white, 13.2 were non-white, and 7.8 percent were Hispanic. Thus, while a majority of poor households with children were white, nonwhites and Hispanics were overrepresented.

Between 1967 and 1984, households headed by women with children over age 6 increased from 13.4 to 17.7 percent of poor household heads who are expected to work. This trend toward the feminization of poverty was more pronounced among all poor households, as the percentage of such households headed by women with children under age 6 increased from 7.0 to 12.8 percent over the study period. (See table 1.)

The bottom panel of table 3 shows, for poor households in which there were children and a head expected to work, the proportion who received cash transfers, the weeks worked per year by the heads, the average amounts of household transfers, and the earnings of heads who worked, in constant 1984 dollars. Between 1967 and 1984, the share of those who received transfers increased from 17.1 to 38.2 percent for male-headed households, and from 48.9 to 61.5 percent for households headed by women. Most of the increase for men was attributed to the increased Social Security, disability, and unemployment insurance benefits; most, for women, to increased welfare receipts. The average transfer amount (in 1984 dollars) peaked at \$3,336 for men and \$5,425 for women in 1971. Between 1971 and 1984, the average benefit declined substantially for single mothers.

The fact that fewer than 40 percent of poor male household heads and only about 60 percent of all poor female household heads received transfers in 1984 indicates a substantial and growing gap in the safety net for many poor children.

There was a sharp decrease between 1967 and 1984 in the proportion of men who headed poor households and worked

all year (from 71.8 to 45.6 percent) and a sharp increase in the proportion of those who did not work at all (from 7.8 to 17.0 percent). This undoubtedly reflects increased unemployment rates, but may also reflect increased participation in transfer programs.⁸ For women, the percentage who did not work at all diminished somewhat over the period, and the proportion working full year declined considerably (from 32.6 to 21.4 percent). Nonetheless, nearly half of the men and about 20 percent of the women (with children over age 6) who headed poor households worked all year in 1984.

For male household heads who worked, earnings in constant dollars declined substantially over the analysis period, reflecting both the decline in weeks worked and the increased incidence of low weekly earnings. Nonetheless, in every year studied, earnings were much more important to these households than were transfers. For female household heads who worked, earnings in constant dollars increased somewhat over the period. However, because more female-than male-headed households received transfers and fewer had a working head, transfers were their most important income source.

Table 3. Selected characteristics of poor households headed by those expected to work, selected years, 1967-84

Characteristic	1967	1971	1979	1984
Demographic composition:				
Total	100.0	100.0	100.0	100.0
White, non-Hispanic:				
Men with children	29.5	22.9	18.5	19.5
Women with children over age 6	7.8	7.4	9.0	8.1
Nonwhite, non-Hispanic:				
Men with children	11.5	8.5	5.7	6.2
Women with children over age 6	5.6	6.4	7.7	7.0
Hispanic:				
Men with children	(1)	4.6	4.3	5.2
Women with children over age 6	(1)	1.3	2.4	2.6
Households without children	45.6	49.0	52.3	51.4
Transfer reciprocity and earnings:				
Male head with children:				
Percent receiving cash transfers	17.1	20.4	32.3	38.2
Average household transfers ²	\$2,871	\$3,336	\$3,086	\$3,260
Percent working 0 weeks	7.8	10.6	10.7	17.0
Percent working 48 weeks or more	71.8	69.3	52.7	45.6
Average earnings of head ³	\$6,650	\$5,820	\$4,860	\$4,484
Female head with children over age 6:				
Percent receiving cash transfers	48.9	62.3	61.9	61.5
Average household transfers ²	\$4,529	\$5,425	\$4,637	\$3,925
Percent working 0 weeks	55.7	63.6	50.6	50.3
Percent working 48 weeks or more	32.6	25.5	18.3	21.4
Average earnings of head ³	\$3,531	\$3,699	\$3,783	\$3,818

¹ Data relating to 1967 are not available for Hispanics. Both white and nonwhite categories for that year include Hispanics.

² In constant 1984 dollars for recipients. Cash transfers include benefits from Aid to Families with Dependent Children, Supplemental Security Income, General Assistance, unemployment compensation, workers' compensation, government employee pensions, veterans' pension and compensation, and Social Security and railroad retirement.

³ In constant 1984 dollars for heads with earnings.

Table 4. Federal direct tax bill for a family of four with poverty-line earnings, selected years, 1965-84¹

Year	Poverty-line earnings	Personal income tax ²	Social Security tax (employee's share)	Total Federal tax	Effective tax rate ³ (in percent)
1965	\$ 3,223	\$ 31.22	\$116.83	\$ 148.05	4.4
1969	3,743	104.02	179.66	283.68	7.6
1971	4,137	54.18	215.12	269.30	6.5
1973	4,540	33.60	265.59	299.19	6.6
1974 ⁴	5,038	3.32	294.72	298.04	5.9
1975	5,500	-250.00	321.75	71.75	1.3
1977	6,191	-180.90	362.17	181.27	2.9
1978	6,662	-133.80	403.05	269.25	4.0
1980	8,414	-54.00	515.78	461.78	5.5
1982	9,860	285.00	660.62	945.62	9.6
1984	10,609	366.00	710.80	1,076.80	10.1

¹ The family of four is hypothetical. We assume it consists of a married couple with two children not living on a farm; has only one earner per family; and that all its income is from wages and salaries.

² The data from 1975 to 1984 include the earned income tax credit. A negative entry represents a refund to the family.

³ Defined as total Federal tax as a percentage of family income.

⁴ The Tax Reduction Act of 1975 rebated \$100 of 1974 personal income taxes to a family at this income level.

Federal taxes of the working poor

While some able-bodied heads of poor households receive transfers, the majority of them work and pay taxes. Table 4 shows the amount of taxes that a hypothetical family of four at the poverty line (a low weekly earner by our definition) would have paid in Federal income tax and Social Security tax if he or she had worked all year and had had no other source of income.

In 1984, this family would have paid \$366 in personal income taxes and \$711 in Social Security taxes, or 10.1 percent of household income. Not only is this tax burden high in an absolute sense, but it is also high in comparison with the taxes imposed on similar poor households in earlier years. Although Social Security taxes steadily increased between 1965 and 1984, they were offset by reductions in Federal income taxes during the 1970's. The result was a decline in effective tax rates from 4.4 percent in 1965 to a low of 1.3 percent in 1975. This stands in sharp contrast to the steady increase in the effective tax rate on working poor households after 1975. Thus, if taxes were subtracted from the earnings data, the increased incidence of low weekly earnings over the 1967-84 period would be even greater than that shown in the text tabulation (p. 18). Moreover, a family with earnings only and a family with earnings and welfare benefits at a given income below the poverty level will be counted as equally poor in the census data, but the family with earnings only will have a lower spendable income owing to taxation.

OUR RESULTS SHOW THAT:

- Poverty for all households in 1984 was somewhat below the rate for 1967 and at about the same level as it was in 1971. Large changes have occurred, however, in the

- labor market characteristics of the poor during the period.
- The majority of the heads of poor households are not expected to work because they are either over 65 years of age, disabled, students, or women with children under 6 years of age.
 - About a quarter of all household heads who are expected to work have low weekly earnings. About 60 percent of their households nevertheless escape poverty.
 - Among the remaining poor households with an able-bodied head, most have substantial labor market attach-

ment. About half of all poor able-bodied mothers whose youngest child is over age 6 work at some point during the year, as compared with about 80 percent of men who head poor households with children.

- Despite this work effort, poor households remain in poverty because of low annual earnings, which reflect both low weekly earnings and less than full-year work. And most of these households would remain poor even if their heads worked a full year at their current weekly earnings rate.

—FOOTNOTES—

ACKNOWLEDGMENT: The authors acknowledge the contribution of Christine Ross and George Slotsve who provided valuable research assistance, and Elizabeth Evanson, editorial assistance.

¹ A household consists of a family or an unrelated individual. This differs from the Census Bureau's definition of a household which "consists of all persons who occupy a housing unit." *Characteristics of Households and Persons Receiving Selected Noncash Benefits: 1984*, Series P-60, No. 150, p. 109. For example, if an unrelated individual resides in the same housing unit as a family of four, we would have two households and the Census would have one. Our definition is consistent with the assumption that the family and the unrelated person do not pool their incomes; the Census definition is consistent with income-pooling.

² While child care responsibilities may complicate labor market opportunities for single-parent households with a child over 6, we nevertheless classify such persons as expected to work because this is consistent with existing welfare policies.

³ Throughout this paper, we use the official measure of poverty as defined by the Census Bureau. This measure is based on cash income and does not account for the receipt of in-kind benefits, such as medicare, medicaid, and food stamps. Inclusion of benefits would lower the extent of poverty in any year, but would not alter the trends in work effort and the incidence of low earnings discussed here.

Data for valuing in-kind benefits are available only for the years since 1979. All the data presented are based on computations by the authors from the computer tapes of the March 1968, 1972, 1980, and 1985 Current Population Surveys, conducted by the Bureau of the Census.

⁴ In 1984, the poverty level for a family of four was \$10,609. We define

any household head with weekly earnings below \$204 as a low earner, regardless of his or her own household size. The poverty line for every family size is fixed in real terms and varies over time only because of changes in the Consumer Price Index. The same is true for our low-earnings threshold.

⁵ For example, a head of a household of four persons who earns \$250 per week would not be counted as a low earner even if she or he worked only 10 weeks in the last year. If this were the household's only income for that year, the household would be poor. However, the householder would not be classified as a low earner because her or his household would escape poverty through full-year work. Also, consider the head of a two-person household who earns \$150 per week for 50 weeks, or \$7,500 per year. We classify this head as a low earner, but the household is not poor because the poverty line for a two-person household is \$6,762.

⁶ Note that if a head did not work at all during the year, we consider him or her as a low earner, along with those whose weekly earnings fell below our threshold.

⁷ When we recompute the low earnings cutoff on the basis of a poverty line for a family of three, the importance of family size obviously decreases. Nonetheless, a family size of less than three persons is still the largest single source of escape for households whose heads have low weekly earnings.

⁸ We have shown elsewhere that the increased transfers can account for, at most, small declines in work effort over this period. See Sheldon Danziger and Peter Gottschalk, "The Poverty of Losing Ground," *Challenges*, May-June 1985, pp. 32-38.

The declining middle class: a further analysis

*The proportion of employment in
higher paying occupations increased
for all groups during 1973-82;
but the earnings distribution
of these occupations shifted to include
more lower paying positions*

PATRICK J. McMAHON AND JOHN H. TSCHETTER

Some observers argue that jobs in the U.S. economy are shifting from middle paying to low and high paying. Some attribute the shift, or bipolarization, to declining employment in smokestack industries and growth of high tech industries, low paying occupations, and service-producing industries.¹ Others attribute the shift to the movement of the baby-boom generation into the labor market.² Robert Lawrence of The Brookings Institution found bipolarization occurring between 1969 and 1983, and cited the changing age distribution of the labor force as the most compelling explanation.

Other observers argue that, while the events used to explain the bipolarization might be occurring, occupational shifts are not responsible. Neal Rosenthal of the Bureau of Labor Statistics looked at median weekly earnings by occupation and found a slight shift away from the middle paying jobs between 1973 and 1982.³ More importantly, however, he found a decline in the proportion of lower paying jobs, which does not support the notion of bipolarization.

In this article, we replicate Lawrence's and Rosenthal's studies to determine why their respective results differ. We

extended Rosenthal's analysis of occupational employment to the 1973-85 period and to several broad population groups and found, as he did, that the changes in occupational structure—whether caused by changing technologies, changing industrial employment patterns, or other factors—almost always caused a *declining* proportion of employment in lower paying occupations. We extended Lawrence's analysis of earnings distributions to the 1973-85 period and found, as he did, an *increasing* proportion of lower paying jobs. Why do the results of the two analyses differ? Further analysis showed that within occupational earnings groups, the earnings distributions had shifted downward, that is, each group included more lower paying positions.

Several caveats to these discussions should be noted. Discussions of the declining proportion of middle-income earners can focus on changes in the earnings distribution of individuals or changes in the earnings distribution of families. Changes in the earnings distribution of individuals may be caused by changes in the occupational structure of the economy that reflect changes in industrial structure and technology. In addition, changes in the earnings distribution within each occupation and changes in relative earnings among occupations can affect the earnings distribution of individuals. Changes in the earnings distribution of families are affected not only by these same factors but also by changes in family structure. For example, increasing

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numbers of dual-earner families can lead to an increase in the proportion of families with high earnings and increasing numbers of single-person households can lead to an increase in the proportion of families with low earnings.

Issues of the debate

Of the many issues on structural and technological change, the one that currently attracts considerable attention and concern is the changing employment patterns—the employment decline in large heavy manufacturing industries and in blue-collar occupations, and the employment increase in high technology manufacturing and service-producing industries and in white-collar and service occupations. For example, 43 percent of the full-time wage and salary workers were employed in blue-collar and farm occupations in 1973, compared with only 35 percent in 1982.

Apprehension about these changes is widespread. In many countries, rising unemployment is considered the most striking social—perhaps even political—aspect of this structural change. Joyanna Moy has shown that the U.S. economy has proved to be more dynamic than most others, and so the alarm is less about a lack of jobs than about the growing proportion of “wrong types” of jobs.⁴ The focus of the debate on structural change in the United States has been on the apparent loss of middle earnings jobs, which some argue have been replaced by both low and high earnings jobs.

The debate has become more complicated because additional explanations of the apparent bipolarization have been offered and bipolarization is thought to be affecting different population groups unequally. According to Lawrence, men are believed to have borne the brunt of bipolarization; women have not even experienced bipolarization.⁵ Further, Lawrence says the entry of the baby-boom generation into the labor market and the resulting changes in the age distribution of the work force provide a more powerful explanation of bipolarization.

One major problem in this debate is the type of evidence offered. Some put forth anecdotal evidence. Others offer “hard” evidence, but for only a few industries or occupations—for example, the rapid growth of a few very low paying occupations and a few very high paying occupations in the service sector combined with the decline of a few middle paying occupations in the goods-producing sector. However, the evidence usually becomes less compelling when a broader focus is taken.⁶ A few offer systematic or comprehensive data; these observers, however, cannot agree on who comprises the middle class over time. Some use occupations to define the middle class; others use earnings. In this analysis, we use one data base for both the occupational and earnings approaches, and then reconcile the conflicting findings.

Rosenthal’s occupational approach

Like Rosenthal, we analyzed the declining middle-class

thesis using data from the Current Population Survey on usual weekly earnings and on employment of full-time wage and salary workers by detailed occupation. The analysis identifies the effect of changes in occupational structure on the distribution of full-time workers among three earnings groups: low, middle, and high. We revised Rosenthal’s original analysis to ensure a consistent data base for our analysis.⁷ Because of substantial changes in occupational definitions introduced in 1983, shifts between 1982 (and earlier years) and 1985 cannot be measured.

To test the effect of changes in occupational structure on the distribution of workers into low, middle, and high earnings groups between the beginning and ending years, we (1) arrayed the detailed occupations in the ending year by usual weekly earnings and arranged them into thirds (bottom, middle, or top), with each third containing the same number of occupations; (2) summed the number of workers in the occupations in each third and calculated a percent distribution of the employment; and (3) arrayed employment in the beginning year for each occupation in the same order as in the ending year, and calculated the beginning-year percent distribution for each third. Consequently, an occupation was in the same third in the beginning year as it was in the ending year. Rosenthal analyzed 416 detailed occupations for 1973 and 1982; we analyzed 504 occupations for 1983 and 1985. The 1982, 1983, and 1985 data are annual averages; the 1973 data relate only to May.

All full-time workers. If bipolarization were occurring, the proportion of total employment in the middle third would decline between 1973 and 1982, and the bottom and top thirds would show an increase. The following tabulation shows the distribution of employment of full-time wage and salary workers in 1973 and 1982 by usual median weekly earnings in 1982, based on the occupational approach:

	Usual weekly earnings	Percent distribution of employment	
		1973	1982
Top third	\$382 to \$773	25.2	29.0
Middle third	264 to 382	34.2	32.5
Bottom third	71 to 264	40.6	38.5

The share of employment in the top third increased appreciably, the bottom share decreased, and the middle decreased, but less than the bottom third. Based on the declining proportion of employment in the bottom third, we agree with Rosenthal’s conclusion that changes in occupational structure alone from 1973 to 1982, whether caused by technological change, the shift from goods- to service-producing industries, or other factors, do not support the notion of bipolarization.

The following tabulation shows our findings on the distribution of employment in 1983 and in 1985 by usual median

weekly earnings in 1985, based on the occupational approach:

	Usual weekly earnings	Percent distribution of employment	
		1983	1985
Top third	\$439 to \$931	29.5	29.7
Middle third	301 to 439	33.6	34.1
Bottom third	100 to 301	37.0	36.3

The top and middle thirds increased, and the bottom third decreased. The changes in occupational structure since 1983 also are *contrary* to the bipolarization thesis.

Population groups. Have blacks, whites, men, women, youth, and adults all benefited from these occupational trends which have caused a declining proportion of lower paying occupations? To answer this question, we need to identify the changes in occupational structure of full-time workers in the three earnings groups separately for each of the six population groups. To do this, we (1) summed separately by population group the number of workers in each occupation for 1973 and 1982 according to Rosenthal's 1982 rankings for total employment by occupation, and (2) calculated the percent distribution of employment by usual weekly earnings class for each population group. The occupational structure varies considerably by population group and the respective structures are changing. More than half of the youth, women, and blacks who worked full time were in low paying occupations in 1982. (See table 1.) Nearly 40 percent of the men who worked full time were in high paying occupations, compared with only 14 percent of their

female counterparts.

For each group, the share of employment in the top third increased several percentage points between 1973 and 1982. However, only for women did the share of employment increase in the middle third. Men accounted for the largest decline in the share of middle paying occupations. Only younger workers did not experience a decline in the share of employment in the bottom third. Despite the varying patterns among the groups, the shifts in occupational structure of full-time workers do not support the notion of bipolarization, where employment in both the lower paying and higher paying occupations grows as a percent of total employment, while employment in middle paying occupations declines.

Lawrence's earnings approach

In Lawrence's analysis of the declining middle-class thesis, he distributed full-time workers into earnings classes that are a fixed or constant percentage of the median weekly earnings for all full-time workers. With this approach, Lawrence did find evidence of bipolarization between 1969 and 1983.⁸ He said the most compelling explanation for the findings lies in demographic factors, not declining employment in smokestack industries or increasing employment in service industries. Further, he found the shifting age distribution to be the most important demographic factor.

The major difference between the occupational and earnings approaches is how the bottom, middle, and top earnings classes are tracked over time. In the occupational approach, one assumes that the "class" of occupations is stable over time. Thus, we only have to determine to which class an occupation belonged for a given year. In the earnings approach, one assumes that earnings levels which divide classes of workers are a fixed or constant percentage of the median weekly earnings for all full-time wage and salary workers. Thus, we only have to calculate the earnings groups for a given year.

We replicated elements of Lawrence's methodology for the 1973-85 period.⁹ (Because of the changes in occupational definitions in 1983, it is not possible to calculate the 1969-83 shifts with the occupational approach.) Like Lawrence, we used the CPS data on usual weekly earnings of full-time wage and salary workers. To measure the changes in employment distribution by earnings groups between 1973, 1982, and 1985, we (1) arrayed the full-time workers in 1982 by usual weekly earnings and arranged them into thirds (bottom, middle, and top), with each third containing about the same number of workers; (2) assumed that the earnings level (or brackets) which divide the earnings groups are the same percentage of the median weekly earnings for full-time workers in both 1973 and 1985 as in 1982; and (3) arrayed the workers in the respective earnings classes in 1973 and in 1985 and calculated the distribution for each class. (The median usual weekly earnings of full-time workers used here are \$152 for 1973, \$300 for 1982, and \$349 for 1985.)

Table 1. Employment distribution for selected groups by earnings, based on the occupational approach, 1973 and 1982

[In percent]

	1973	1982
Youth, 16-24 years:		
Top third	11.4	14.5
Middle third	32.3	29.2
Bottom third	56.3	56.3
Adults, 25 years and older:		
Top third	28.6	32.0
Middle third	34.6	33.2
Bottom third	36.8	34.7
Men:		
Top third	34.9	39.0
Middle third	39.3	36.4
Bottom third	25.8	24.6
Women:		
Top third	7.5	13.9
Middle third	24.9	26.7
Bottom third	67.6	59.4
Whites:		
Top third	26.8	30.6
Middle third	34.6	33.0
Bottom third	38.6	36.4
Blacks:		
Top third	10.6	15.3
Middle third	31.2	29.9
Bottom third	58.2	54.8

If bipolarization were occurring, the proportion of total employment in the middle third would show a decline over time and the bottom and top thirds would show increases. The following tabulation shows the distribution of employment in 1973, 1982, and 1985 by usual weekly earnings in 1982, based on the earnings approach:

	<i>Usual weekly earnings</i>	<i>Percent distribution of employment</i>		
		1973	1982	1985
Top third	Over \$385	33.3	33.5	32.6
Middle third	\$239 to \$385	34.8	33.5	31.7
Bottom third	Under \$239	31.9	33.1	35.7

The shifts over the 1973 to 1982 period support the notion of bipolarization—declining employment share for the middle third, increasing shares for the bottom and top thirds. During the 1983–85 period, only the share for the bottom third increased; the shares for both the middle and top thirds decreased. While the shifts for the entire 1973–85 period do not support the bipolarization thesis because the top third decreased, they are of considerable concern because they show an increasing proportion of low paying jobs and a declining proportion of middle paying jobs.

Reconciling the findings

The most striking difference between the occupational and earnings approaches is the declining employment share in the bottom third with the occupational approach (1.9 percentage points), but an increasing share with the earnings approach (1.2 percentage points). To reconcile these conflicting findings, the two methods were combined. We (1) calculated for each detailed occupation the employment distribution by usual weekly earnings class in both 1973 and 1982, where the earnings class is defined by the earnings approach; (2) aggregated the individual occupations according to their rankings in the occupational approach; and (3) calculated the percentage distribution with the low, middle, and high paying occupations by earnings class.

As shown in the following tabulation, there has been a change in the earnings distribution of occupations, a downward shift:

<i>Occupational approach</i>	<i>Earnings approach</i>		
	<i>1973</i>		
	<i>Top</i>	<i>Middle</i>	<i>Bottom</i>
All full-time workers	33.3	34.8	31.9
Top third	68.1	25.4	6.5
Middle third	35.9	43.3	20.7
Bottom third	9.6	33.4	57.0
	<i>1982</i>		
All full-time workers	33.5	33.5	33.1
Top third	63.8	27.2	9.0
Middle third	34.5	42.1	23.4
Bottom third	9.7	30.9	59.4

Within those occupations ranked in the top third, the proportion of wage and salary workers who would fall in the

top earnings category declined over the 1973–82 period, while the proportion of workers in the middle and bottom earnings categories increased. And different patterns hold for each group of occupations. Within those occupations ranked in the middle third, the proportion of wage and salary workers in the top and middle earnings category declined over the 1973–82 period, while the proportion in the bottom earnings categories increased. Within those occupations ranked in the bottom third, the proportion of wage and salary workers who would fall in the middle earnings category declined, while the proportion in the top and bottom earnings categories increased.

There are many possible explanations for the changes in earnings distribution within the occupational groupings. Unfortunately, sufficient data are not available to evaluate the impact of individual factors, and it is likely that there would be interactions among the factors. The following discussion highlights possible explanations for the changes.

The downward shift might be an experience or tenure effect. Three elements are required to make this point. First, earnings within an occupation are positively related both to occupational tenure (length of time in the occupation) and to job tenure (length of time with the current employer).¹⁰ Second, women, on average, have less experience or tenure than men within individual occupations; younger workers have less experience than older workers. Third, a greater percentage of the full-time workers in 1982, compared with 1973, were under age 35, and a greater percentage were women. Thus, the younger, more female 1982 work force, compared with the 1973 work force, implies less experience or tenure within individual occupations and, thus, smaller earnings. For example, there was a dramatic increase in the percentage of high paying jobs which were held by women over the period, from 11 percent in 1973 to 19 percent in 1982. Such a large change suggests a significantly different tenure mix in the high paying occupations. Similar but less dramatic changes occurred for the middle and low paying occupations.

The explanation for the changing earnings distributions within the occupational groupings might be a cohort effect. According to Richard Freeman, Robert Lawrence, and others, the baby-boom generation is so large that the earnings within the generation are depressed when compared with other generations.¹¹ If their thesis is valid, then the changing mix of generations within the work force that began in the early 1970's would have had a negative effect on the earnings distributions. Lawrence found this to be the most compelling explanation.

The changes in earnings distributions within occupations might be an industry effect. Of the 416 occupations in the 1982 analysis, 274 had full-time workers in both the goods- and service-producing industries. The median usual weekly earnings were higher in goods-producing industries for 181 of those occupations. The absolute difference in earnings across the 274 occupations was \$78 (the difference without

regard to sign). Most earnings studies only compare the median weekly earnings or hourly earnings of industries, not the occupational earnings by industry.

The changes in employment are sensitive to the economy's movement through the various stages of a business cycle. The 1973-82 shifts occurred as the economy moved from a business cycle peak to a trough. The entry-level earnings for most occupations may have been depressed when compared with 1973 because 1982 was the low point of the business cycle.

Finally, in response to innovations, international competition, cost consciousness, or other demand-oriented factors, companies might have made some significant changes in organizational structure. For example, they may have reduced the levels of management; substituted entry and mid-level personnel for senior personnel; and contracted for goods and services, rather than providing similar services with inhouse staff. At some point, such changes would affect the earnings distributions of individual occupations.

Part-time workers

At some point, the potential substitution of part-time workers for full-time workers must be considered when examining trends in the number of middle-class workers. (Rosenthal's findings did not change when part-time workers were included in his original analysis.) Substitution could consist of long-term, secular trends (such as businesses expanding working hours or employers accommodating workers seeking part-time work) or it could be a cyclical phenomenon, for example, decreasing work hours during a recession as demand slackens.

The percentage of all employed persons working part time is indicative of these phenomena. The following tabulation shows the proportion of workers on full- and part-time schedules, selected years, 1973-85:

	1973	1982	1983	1985
Full-time	83.0	79.5	79.7	81.0
Part-time for economic reasons .	3.0	6.2	6.2	5.2
Voluntary part-time	14.0	14.3	14.1	13.8

The percentage of employed persons voluntarily working part time has changed little over the last 12 years; the percentage working part time for economic reasons has fluctuated with the movement of the economy through business cycles.

To estimate the impact of part-time employment on detailed occupations by usual weekly earnings class, we (1) arrayed the detailed occupations in 1985 by the usual weekly earnings of full-time workers and arranged them into

thirds; (2) summed total workers, full-time workers, and part-time workers in each third and calculated the respective distributions of employment; and (3) arrayed the total, full-time, and part-time workers for each occupation in the same order as in 1985, and calculated the respective 1983 distributions. (The data do not permit distinguishing between types of part-time workers.) The following tabulation shows the distribution of total, full-time, and part-time employment in 1983 and 1985, based on occupational earnings:

	Total		Full-time		Part-time	
	1983	1985	1983	1985	1983	1985
Top third	25.2	25.6	29.5	29.7	7.5	7.4
Middle third	30.2	31.0	33.6	34.1	16.5	17.3
Bottom third	44.6	43.5	37.0	36.3	76.1	75.3

The share of middle earners increased slightly for each distribution. Part-time workers were certainly concentrated in occupations ranked in the bottom third; but the share of part-time workers in the bottom third declined over the period.

We can conclude from this calculation that the patterns of occupational shifts whether measured in terms of all workers, full-time workers, or part-time workers are comparable. Therefore, the substitution of part-time workers for full-time workers is not a valid explanation for the declining proportion of workers in low paying occupations.

TWO STUDIES OF THE DECLINING MIDDLE-INCOME thesis were analyzed to put them on equal footing. The original studies were based on different periods as well as different approaches. Our reconciliation showed that there was a significant change in the earnings distribution in all three occupational earnings groups—top, middle, and bottom—between 1973 and 1982.

One should be cautious in applying these findings to the future because we were not able to identify the cause of the changing earnings distributions. And the trends for some of the possible variables offered as explanations will be considerably different during the next decade, compared with the past decade. For example, according to BLS' labor force projections, the 1995 labor force will be older and more experienced than the current labor force.¹² Thus, if tenure and experience were the proper explanation for the 1973-82 earnings shifts within occupations, then the shifts might reverse during the next decade. However, the recent trends for the cohort effect—the presence of the baby-boom generation in the labor market—will continue through the next decade. □

ACKNOWLEDGMENT: The authors thank Robert Z. Lawrence of The Brookings Institution and Neal H. Rosenthal of the Bureau of Labor Statistics for their helpful comments.

¹R. Kuttner, "The Declining Middle," *The Atlantic Monthly*, July 1983, pp. 60–72; L. S. Thurow, "The Disappearance of the Middle Class," *The New York Times*, Feb. 5, 1984, p. F3; B. Steinberg, *Deindustrialization and the Two Tier Society* (AFL-CIO, Industrial Union Department, 1985); and M. Harrington and M. Levinson, "The Perils of a Dual Economy—A Growing Trend in the American Occupational Structure," *Dissent*, Fall 1985, pp. 417–26.

The intellectual stimulus to the debate initially came from B. Bluestone and B. Harrison, *The Deindustrialization of America* (New York, Basic Books, Inc., 1982). Proponents of the disappearing middle class have since construed the decline in employment in the smokestack and goods-producing industries along with a simultaneous growth in the high tech and service-producing industries as synonymous with a bipolarization of the earnings structure. They often point to the differential growth rates of employment in a small number of occupations identified with these industries. The argument is loose and no evidence to support a bipolarization in the earnings distribution arising from shifts in the occupational structure has ever been published.

²Robert Z. Lawrence, "Sectoral Shifts and the Size of the Middle Class," *Brookings Review*, Fall 1985, pp. 3–10.

³Neal H. Rosenthal, "The shrinking middle class: myth or reality?" *Monthly Labor Review*, March 1985, pp. 3–10.

⁴Joyanna T. Moy, "Recent trends in unemployment and the labor force, 10 countries," *Monthly Labor Review*, August 1985, pp. 9–22.

⁵Lawrence, "Sectoral Shifts."

⁶Rosenthal, "The shrinking middle class." Rosenthal examined the linkages between several phenomena—declining employment in smokestack industries, rapid growth of service industries, and so forth—on earnings distribution. He found that, in each instance, when comprehensive data were reviewed, the impact of each phenomenon on the earnings distribution was either negligible or nonexistent.

⁷Rosenthal's data were recalculated for two reasons. First, BLS periodically revises its procedures for estimating median weekly earnings. The median weekly earnings in this article for the detailed occupations are estimated based on \$10 centered intervals. Data for the median weekly earnings of full-time workers are based on the "true" median of the sample. The medians are revised because earnings tend to be clustered at certain points, usually around \$50 intervals. This clustering can affect the estimated changes in median earnings. Second, the May 1973 data used were revised to include only those responding to the usual weekly earnings question. Rosenthal included all respondents in his calculation. This second revision was necessary for subsequent analysis in this article. The two revisions had a very slight impact, certainly not a qualitative impact.

⁸Lawrence, "Sectoral Shifts."

⁹Lawrence's calculations involved four steps: he (1) centered the earnings of the middle class around the median usual earnings of men (\$379) as of 1983; (2) calculated the 1983 employment distribution of full-time workers by usual weekly earnings class; (3) centered the middle class for 1969 around the median usual weekly earnings of men in 1969 (\$142) and assumed the earnings brackets were the same percentage of male medium weekly earnings in both 1969 and 1983; and (4) calculated the 1969 employment distribution using the 1969 earnings class. The usual weekly earnings for Lawrence's middle class were \$250 to \$499 in 1983, and \$94 to \$187 in 1969. Between 1969 and 1983, the change in male weekly earnings and change in the Consumer Price Index were nearly equal.

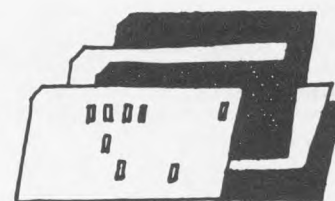
Because of his approach, Lawrence might have overstated the decline in the proportion of workers in the bottom earnings group. First, he centered his middle class about the median weekly earnings of men in both 1969 and 1983. He might have centered his middle class about the median weekly earnings for all full-time workers, as we have done in our analysis. Thus, his middle class is not divided evenly between workers with earnings above and below the median for all full-time workers. Further, he uses the male median weekly earnings over time to establish the earnings levels which divide the classes. We used total median weekly earnings. If he had used the median weekly earnings for all full-time workers, the earnings levels which divided the middle and lower earnings groups would have been \$10 higher in 1983. With his approach (male earnings), the proportion of workers in the bottom third declined 3 percentage points; with our approach (full-time workers' earnings), the proportion of workers would have increased slightly. Thus, his results would have been qualitatively different with a different median.

The earnings approach (and the occupational approach) was not sensitive to the boundaries chosen to divide the classes of workers or to the number of classes considered. The middle might have been represented by 50 percent of the work force; shifts between 3, 4, or 10 classes might have been considered.

¹⁰The literature on earnings is extensive, but usually focuses on earnings differences by sex or race. Recent research by the BLS on earnings differences between men and women was published in a series of articles in the June 1984 *Monthly Labor Review*. In one of the articles, Earl Mellor showed that women receive less pay than men in almost all occupational groups which employ both men and women. For most jobs, full-time usual weekly earnings of women in 1982 were 60 to 80 percent of those of men. Readers should be wary of interpreting these differences as evidence of discrimination for many of the reasons discussed by Mellor.

¹¹See Lawrence, "Sectoral Shifts"; Richard B. Freeman, "The effect of demographic factors on age-earnings profiles," *Journal of Human Resources*, 14, 1979, pp. 289–318; Finis Welch, "Effects of cohort size on earnings," *Journal of Political Economy* 87, 1979, pp. 565–98; and Louise B. Russell, *The Baby Boom Generation and the Economy* (Washington, The Brookings Institution, 1982).

¹²Howard N. Fullerton, Jr., "The 1995 labor force: BLS' latest projections," *Monthly Labor Review*, November 1985, pp. 17–25.



Weekly earnings in 1985: a look at more than 200 occupations

EARL F. MELLOR

This summary presents 1985 annual average data on the median weekly earnings of workers in more than 200 occupational categories. The data are obtained through the Current Population Survey (CPS), a nationwide sample survey conducted for the Bureau of Labor Statistics by the Bureau of the Census. Covered are wage and salary workers (excluding the incorporated self-employed) who usually work full time (35 hours or more per week).

First published in 1982, this annual series is also available in unpublished form back to 1979.¹ When making year-to-year comparisons, several caveats must be taken into account. One concerns the occupational classification system. The present system, developed for the 1980 census, was introduced into the CPS in 1983.² Because the new classification system is vastly different from the previous one, 1983–85 data are not comparable with those available for 1979–82.

Another caveat relates to the procedure currently used to estimate median weekly earnings. Prior to 1983, medians were estimated using the linear interpolation of \$50- to \$100-wide intervals. Medians for 1983 and 1984 were initially estimated via the interpolation of \$10-wide uncentered intervals. This change was introduced to reduce a systematic upward bias resulting from the use of wider uncentered intervals for earnings data, which are subject to a high incidence of rounding by CPS respondents. In 1985, the procedure was changed back to \$50-wide intervals, but these were centered on multiples of \$50. This newer procedure lessens the sometimes erratic movements in medians caused by having a large number of narrow intervals. The data for 1983 and 1984 have been revised using the new procedure and are available from BLS on request, but earlier medians are still based on the old (pre-1983) procedures.

As in previous years, the data in table 1 are limited to those occupations with at least 50,000 employed wage and

salary workers who usually work full time. The table presents median weekly earnings in 230 non-overlapping occupational groupings, and male-female comparisons are shown for 85 such groupings.

Obviously, within each of the occupations shown, there is likely to be a wide range of money earned among individual workers. This is because each occupational group still has many different jobs for which data are not tallied separately. Each occupation has specialties with differences in skill levels, market demand for the jobs, and other variables. Also, workers in each specialty may have different duties, responsibilities, work schedules, and job tenure.

In addition, caution must be used in interpreting differences between groups, particularly when either the number of workers in a job category is small or there are comparatively small differences between earnings medians. This is because the estimates are based on a sample and, accordingly, are subject to sampling errors.

—FOOTNOTES—

¹ Data for 1981 appear in "1981 Weekly Earnings of Men and Women Compared in 100 Occupations" (News Release, March 7, 1982) and in Nancy F. Rytina, "Earnings of men and women: a look at specific occupations," *Monthly Labor Review*, April 1982, pp. 25–31. For 1982 data, see Earl F. Mellor, "Investigating the differences in weekly earnings of women and men," *Monthly Labor Review*, June 1984, pp. 17–28. For 1983 data, see Earl F. Mellor, "Weekly earnings in 1983: a look at more than 200 occupations," *Monthly Labor Review*, January 1985, pp. 54–59; however, these data were subsequently revised. The revised data for 1983 and 1984 are available by either writing to the Bureau of Labor Statistics or calling (202) 523–1371. For more information on the nationwide sample survey from which these earnings data were obtained, see Earl F. Mellor, *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982), or Earl F. Mellor, "Earnings statistics from the Current Population Survey," *BLS Measures of Compensation*, Bulletin 2239 (Bureau of Labor Statistics, 1986).

² The system evolved from the Standard Occupational Classification System which was adopted in 1977 and revised in 1980. See *Standard Occupational Classification Manual* (U.S. Department of Commerce, Office of Federal Statistical Policy and Standards, 1980). The relationship between the 1980 census system and the classification system is shown in *Census of Population: 1980, Classified Index of Industries and Occupations*, Report PHC80-R4, final ed. (U.S. Bureau of the Census, 1983).

³ For information on the standard error and other limitations of the data, see *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982). For information on other data series on earnings from the Current Population Survey and other BLS surveys, see *BLS Measures of Compensation*.

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Table 1. Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Total	77,002	\$343	45,589	\$406	31,414	\$277	68.2	40.8
Managerial and professional specialty occupations	19,381	488	11,078	583	8,302	399	68.4	42.8
Executive, administrative, and managerial occupations	9,328	497	5,835	593	3,492	383	64.6	37.4
Administrators and officials, public administration	411	510	248	584	164	439	75.2	39.9
Financial managers	372	581	237	677	135	400	59.1	36.3
Personnel and labor relations managers	105	540	57	631	48	-	-	45.7
Purchasing managers	101	676	78	714	23	-	-	22.8
Managers, marketing, advertising, and public relations	389	627	301	712	87	413	58.0	22.4
Administrators, education and related fields	424	561	240	639	184	479	75.0	43.4
Managers, medicine and health	94	490	37	-	57	469	-	60.6
Managers, properties and real estate	190	366	116	410	74	323	78.8	38.9
Management-related occupations	2,834	450	1,504	515	1,330	382	74.2	46.9
Accountants and auditors	1,064	458	592	519	472	383	73.8	44.4
Underwriters, and other financial officers	561	468	282	556	278	397	71.4	49.6
Management analysts	78	583	53	693	25	-	-	32.1
Personnel, training, and labor relations specialists	316	454	135	551	181	384	69.7	57.3
Buyers, wholesale and retail trade, except farm products	157	416	79	490	78	310	63.3	49.7
Inspectors and compliance officers, excluding construction	157	459	121	477	35	-	-	22.3
Professional specialty occupations	10,053	481	5,243	571	4,810	408	71.5	47.8
Engineers, architects, and surveyors	1,678	649	1,559	662	119	524	79.2	7.1
Architects	75	488	62	507	12	-	-	16.0
Engineers	1,585	661	1,479	673	107	544	80.8	6.8
Aerospace engineers	87	691	82	699	5	-	-	5.7
Chemical engineers	57	723	53	731	4	-	-	7.0
Civil engineers	201	629	192	643	10	-	-	5.0
Electrical and electronic engineers	520	664	477	672	43	-	-	8.3
Industrial engineers	174	598	157	608	17	-	-	9.8
Mechanical engineers	257	665	244	676	13	-	-	5.1
Mathematical and computer scientists	518	605	361	642	157	512	79.8	30.3
Computer systems analysts and scientists	317	602	228	625	88	523	83.7	27.8
Operations and systems researchers and analysts	157	616	107	663	51	519	78.3	32.5
Natural scientists	327	580	266	599	61	462	77.1	18.7
Chemists, except biochemists	104	588	85	601	20	-	-	19.2
Biological and life scientists	61	506	43	-	18	-	-	29.5
Health diagnosing occupations	243	595	186	633	57	504	79.6	23.5
Physicians	209	607	158	656	51	507	77.3	24.4
Health assessment and treating occupations	1,435	435	238	507	1,197	424	83.6	83.4
Registered nurses	1,010	434	66	492	945	431	87.6	93.6
Pharmacists	120	566	85	600	36	-	-	30.0
Dietitians	71	336	3	-	68	339	-	95.8
Therapists	188	406	53	422	135	400	94.8	71.8
Inhalation therapists	56	391	25	-	32	-	-	57.1
Teachers, college and university	459	581	330	638	129	487	76.3	28.1
Teachers, except college and university	2,873	412	864	478	2,008	394	82.4	69.9
Teachers, prekindergarten and kindergarten	216	276	2	-	214	277	-	99.1
Teachers, elementary school	1,204	412	206	468	998	403	86.1	82.9
Teachers, secondary school	1,074	439	526	485	549	408	84.1	51.1
Teachers, special education	185	393	27	-	158	386	-	85.4
Teachers, not elsewhere classified	193	408	104	460	90	379	82.4	46.6
Counselors, educational and vocational	146	488	71	549	75	425	77.4	51.4
Librarians, archivists, and curators	163	398	27	-	136	390	-	83.4
Librarians	153	391	21	-	132	388	-	86.3
Social scientists and urban planners	193	518	114	580	79	447	77.1	40.9
Economists	82	624	50	715	31	-	-	37.8
Psychologists	86	472	45	-	41	-	-	47.7
Social, recreation, and religious workers	723	357	413	373	309	342	91.7	42.7
Social workers	387	376	143	421	244	356	84.6	63.0
Recreation workers	56	231	23	-	33	-	-	58.9
Clergy	234	338	224	341	10	-	-	4.3
Lawyers and judges	341	724	251	782	89	557	71.2	26.1
Lawyers	317	719	232	776	85	558	71.9	26.8
Writers, artists, entertainers, and athletes	955	417	562	490	393	346	70.6	41.2
Designers	302	437	167	537	135	296	55.1	44.7
Actors and directors	51	487	32	-	19	-	-	37.3
Painters, sculptors, craft artists, and artist printmakers	85	400	50	466	35	-	-	41.2
Photographers	56	346	43	-	12	-	-	21.4
Editors and reporters	175	430	92	480	83	397	82.7	47.4
Public relations specialists	116	460	60	585	56	381	65.1	48.3
Technical, sales, and administrative support occupations	23,425	307	8,803	420	14,622	269	64.0	62.4
Technicians and related support occupations	2,762	398	1,563	472	1,200	331	70.1	43.4
Health technologists and technicians	841	319	167	381	674	311	81.6	80.1
Clinical laboratory technologists and technicians	248	376	68	394	180	367	93.1	72.6
Radiologic technicians	97	371	26	-	70	355	-	72.2
Licensed practical nurses	277	294	11	-	266	293	-	96.0
Engineering and related technologists and technicians	843	417	700	436	143	344	78.9	17.0
Electrical and electronic technicians	286	426	252	436	34	-	-	11.9
Drafting occupations	278	399	229	414	49	-	-	17.6
Surveying and mapping technicians	61	371	56	358	4	-	-	6.6
Science technicians	187	393	129	417	58	318	76.3	31.0
Chemical technicians	89	412	67	420	22	-	-	24.7

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Technicians, except health, engineering, and science	891	486	567	517	324	395	76.4	36.4
Airplane pilots and navigators	55	738	54	743	1	—	—	1.8
Computer programmers	500	502	327	519	173	454	87.5	34.6
Legal assistants	119	347	31	—	89	333	—	74.8
Sales occupations	7,156	335	4,227	431	2,929	226	52.4	40.9
Supervisors and proprietors	2,010	385	1,371	438	639	276	63.0	31.8
Sales representatives, finance and business services	1,333	430	760	507	574	332	65.5	43.1
Insurance sales	365	415	237	478	128	345	72.2	35.1
Real estate sales	282	406	126	507	157	323	63.7	55.7
Securities and financial services sales	200	593	144	674	57	425	63.1	28.5
Advertising and related sales	126	422	59	500	67	357	71.4	53.2
Sales occupations, other business services	360	397	195	489	165	302	61.8	45.8
Sales representatives, commodities, except retail, including sales engineers	1,258	481	1,048	499	210	364	72.9	16.7
Sales workers, retail and personal services	2,539	210	1,041	285	1,498	180	63.2	59.0
Sales workers, motor vehicles and boats	218	393	203	400	15	—	—	6.9
Sales workers, apparel	156	184	34	—	123	171	—	78.8
Sales workers, furniture and home furnishings	98	271	51	311	46	—	—	46.9
Sales workers, radio, television, hi-fi, and appliances	105	315	80	334	25	—	—	23.8
Sales workers, hardware and building supplies	146	250	121	263	26	—	—	17.8
Sales workers, parts	134	255	119	261	15	—	—	11.2
Sales counter clerks	71	200	21	—	50	169	—	70.4
Cashiers	878	178	167	209	711	172	82.3	81.0
Street and door-to-door sales workers	71	288	30	—	41	—	—	57.7
Administrative support occupations, including clerical	13,507	286	3,013	391	10,494	270	69.1	77.7
Supervisors, administrative support	697	420	333	514	365	358	69.6	52.4
Supervisors, general office	404	399	147	550	257	343	62.4	63.6
Supervisors, financial records processing	95	419	31	—	64	380	—	67.4
Supervisors, distribution, scheduling, and adjusting clerks	151	466	125	485	26	—	—	17.2
Computer equipment operators	691	311	253	395	437	278	70.4	63.2
Computer operators	686	311	251	395	435	278	70.4	63.4
Secretaries, stenographers, and typists	3,938	276	92	341	3,846	275	80.6	97.7
Secretaries	3,251	279	58	369	3,193	279	75.6	98.2
Typists	646	259	28	—	617	259	—	95.5
Information clerks	827	242	93	352	734	236	67.0	88.8
Interviewers	123	263	20	—	104	258	—	84.6
Transportation ticket and reservation agents	92	392	33	—	60	309	—	65.2
Receptionists	434	225	13	—	421	224	—	97.0
Records processing occupations, except financial	612	274	116	326	497	268	82.2	81.2
Order clerks	174	346	36	—	138	336	—	79.3
Personnel clerks, except payroll and timekeeping	57	323	4	—	53	319	—	93.0
Library clerks	53	246	11	—	42	—	—	79.2
File clerks	197	234	38	—	159	231	—	80.7
Records clerks	110	286	22	—	88	274	—	80.0
Financial records processing occupations	1,705	275	195	361	1,510	268	74.2	88.6
Bookkeepers, accounting, and auditing clerks	1,311	272	133	331	1,178	267	80.7	89.9
Payroll and timekeeping clerks	161	302	24	—	138	296	—	85.7
Billing clerks	126	264	17	—	109	256	—	86.5
Cost and rate clerks	73	305	20	—	52	265	—	71.2
Duplicating, mail and other office machine operators	55	244	17	—	39	—	—	70.9
Communications equipment operators	182	308	23	—	159	295	—	87.4
Telephone operators	177	302	21	—	156	292	—	88.1
Mail and message distributing occupations	660	429	465	446	196	366	82.1	29.7
Postal clerks, excluding mail carriers	234	457	146	474	88	437	92.2	37.6
Mail carriers, postal service	235	466	203	470	32	—	—	13.6
Mail clerks, excluding postal service	123	240	62	262	62	223	85.1	50.4
Messengers	69	224	54	230	14	—	—	20.3
Material recording, scheduling, and distributing clerks	1,504	305	926	332	578	270	81.3	38.4
Dispatchers	172	321	97	385	75	276	71.7	43.6
Production coordinators	168	384	87	475	81	328	69.1	48.2
Traffic, shipping, and receiving clerks	471	287	352	302	119	243	80.5	25.3
Stock and inventory clerks	475	299	278	324	198	268	82.7	41.7
Weighers, measurers, and checkers	65	276	33	—	32	—	—	49.2
Expeditors	89	318	37	—	52	262	—	58.4
Adjusters and investigators	659	312	174	439	485	286	65.1	73.6
Insurance adjusters, examiners, and investigators	209	339	64	455	145	307	67.5	69.4
Investigators and adjusters, except insurance	316	311	80	481	236	285	59.3	74.7
Eligibility clerks, social welfare	59	288	5	—	54	276	—	91.5
Bill and account collectors	75	264	24	—	51	256	—	68.0
Miscellaneous administrative support occupations	1,975	261	328	352	1,647	252	71.6	83.4
General office clerks	489	267	100	322	389	258	80.1	79.6
Bank tellers	357	219	20	—	336	218	—	94.1
Data-entry keyers	307	277	32	—	274	268	—	89.3
Statistical clerks	75	322	21	—	54	321	—	72.0
Teachers' aides	165	196	12	—	153	192	—	92.7
Service occupations	7,910	216	3,947	272	3,963	185	68.0	50.1
Private household occupations	342	132	13	—	330	130	—	96.5
Child care workers, private household	142	88	5	—	137	86	—	96.5
Private household cleaners and servants	164	154	5	—	159	153	—	97.0
Protective service occupations	1,483	381	1,327	391	156	278	71.1	10.5
Supervisors, protective service occupations	127	485	121	494	6	—	—	4.7
Supervisors, police and detectives	70	534	68	540	2	—	—	2.9

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Firefighting and fire prevention occupations	211	436	208	439	3	—	—	1.4
Firefighting occupations	190	437	188	438	1	—	—	.5
Police and detectives	628	424	565	432	63	352	81.5	10.0
Police and detectives, public service	416	452	382	455	34	—	—	8.2
Sheriffs, bailiffs, and other law enforcement officers	75	390	69	406	6	—	—	8.0
Correctional institution officers	137	352	114	364	23	—	—	16.8
Guards	516	248	432	257	84	212	82.5	16.3
Guards and police, excluding public service	480	252	413	257	68	219	85.2	14.2
Service occupations, except protective and household	6,085	203	2,607	230	3,477	188	81.7	57.1
Food preparation and service occupations	2,281	180	1,018	205	1,264	167	81.5	55.4
Supervisors, food preparation and service	177	231	80	284	97	207	72.9	54.8
Bartenders	169	202	88	227	81	177	78.0	47.9
Waiters and waitresses	542	170	119	236	423	159	67.4	78.0
Cooks, except short order	871	186	478	207	392	168	81.2	45.0
Food counter, fountain and related occupations	71	147	17	—	53	143	—	74.6
Kitchen workers, food preparation	66	169	23	—	44	—	—	66.7
Waiters/waitresses' assistants	102	165	61	159	41	—	—	40.2
Health service occupations	1,219	210	150	242	1,069	207	85.5	87.7
Dental assistants	107	224	3	—	104	223	—	97.2
Health aides, except nursing	247	233	41	—	205	230	—	83.0
Nursing aides, orderlies, and attendants	866	202	106	234	760	199	85.0	87.8
Cleaning and building service occupations, except household	1,884	226	1,253	253	630	195	77.1	33.4
Supervisors, cleaning and building service workers	149	298	102	340	47	—	—	31.5
Maids and housemen	361	188	72	235	289	178	75.7	80.1
Janitors and cleaners	1,329	235	1,039	247	290	205	83.0	21.8
Personal service occupations	701	203	186	240	514	192	80.0	73.3
Hairdressers and cosmetologists	277	201	34	—	243	195	—	87.7
Attendants, amusement and recreation facilities	63	227	35	—	28	—	—	44.4
Child care workers, except private household	140	169	15	—	125	163	—	89.3
Precision production, craft, and repair occupations	10,932	397	10,026	408	906	268	65.7	8.3
Mechanics and repairers	3,897	400	3,752	400	144	392	98.0	3.7
Supervisors, mechanics and repairers	270	520	246	521	24	—	—	8.9
Mechanics and repairers, except supervisors	3,627	393	3,506	393	120	378	96.2	3.3
Vehicle and mobile equipment mechanics and repairers	1,462	351	1,449	352	13	—	—	.9
Automobile mechanics	662	309	658	310	4	—	—	.6
Bus, truck, and stationary engine mechanics	304	384	302	384	2	—	—	.7
Aircraft engine mechanics	86	491	81	496	4	—	—	4.7
Small engine repairers	56	286	56	286	0	—	—	.0
Automobile body and related repairers	147	310	147	310	1	—	—	.7
Heavy equipment mechanics	160	459	159	459	0	—	—	.0
Industrial machinery repairers	524	404	510	406	14	—	—	2.7
Electrical and electronic equipment repairers	648	495	588	499	60	455	91.2	9.3
Electronic repairers, communications and industrial equipment	131	393	122	385	9	—	—	6.9
Data processing equipment repairers	115	500	102	508	13	—	—	11.3
Telephone line installers and repairers	68	523	67	521	2	—	—	2.9
Telephone installers and repairers	227	530	196	539	31	—	—	13.7
Heating, air conditioning, and refrigeration mechanics	208	370	208	370	0	—	—	.0
Miscellaneous mechanics and repairers	747	393	715	399	32	—	—	4.3
Office machine repairers	61	380	58	385	3	—	—	4.9
Millwrights	85	497	83	502	3	—	—	3.5
Construction trades	3,361	393	3,308	394	53	265	67.3	1.6
Supervisors, construction occupations	430	504	426	506	5	—	—	1.2
Construction trades, except supervisors	2,931	377	2,882	378	49	—	—	1.7
Brickmasons and stonemasons	108	349	108	350	0	—	—	.0
Carpet installers	51	295	51	298	1	—	—	2.0
Carpenters	812	337	806	338	6	—	—	.7
Drywall installers	101	380	99	383	2	—	—	2.0
Electricians	547	456	539	458	8	—	—	1.5
Electrical power installers and repairers	102	510	101	508	2	—	—	2.0
Painters, construction and maintenance	257	304	242	306	15	—	—	5.8
Plumbers, pipefitters, and steamfitters	361	431	357	431	4	—	—	1.1
Concrete and terrazzo finishers	67	334	67	334	0	—	—	.0
Insulation workers	52	380	50	383	2	—	—	3.8
Roofers	99	272	97	272	3	—	—	3.0
Structural metalworkers	58	494	57	495	1	—	—	1.7
Extractive occupations	181	501	179	499	1	—	—	.6
Supervisors, extractive occupations	53	679	53	674	1	—	—	1.9
Precision production occupations	3,493	394	2,786	429	708	253	59.0	20.3
Supervisors, production occupations	1,294	468	1,105	490	189	303	61.8	14.6
Precision metalworking occupations	837	416	787	426	51	264	62.0	6.1
Tool and die makers	134	491	131	496	3	—	—	2.2
Machinists	479	409	459	415	19	—	—	4.0
Sheet metal workers	111	415	104	418	7	—	—	6.3
Precision woodworking occupations	69	282	59	294	11	—	—	15.9
Precision textile, apparel, and furnishings machine workers	127	242	68	279	59	211	75.6	46.5
Precision workers, assorted materials	489	273	199	328	290	248	75.6	59.3
Electrical and electronic equipment assemblers	319	254	90	281	229	246	87.5	71.8
Precision food production occupations	329	286	255	317	74	198	62.5	22.5
Butchers and meatcutters	235	297	195	323	40	—	—	17.0
Bakers	69	267	48	—	21	—	—	30.4

Table 1. Continued—Median weekly earnings of wage and salary workers who usually work full time in occupations employing 50,000 or more, by sex, 1985 annual averages

[Numbers in thousands]

Occupation	Both sexes		Men		Women		Ratio female/male earnings times 100	Percent female workers
	Employed	Weekly earnings	Employed	Weekly earnings	Employed	Weekly earnings		
Precision inspectors, testers, and related workers	132	409	102	448	30	-	-	22.7
Inspectors, testers, and graders	126	413	99	448	27	-	-	21.4
Plant and system operators	217	484	211	484	6	-	-	2.8
Stationary engineers	99	495	97	493	2	-	-	2.0
Operators, fabricators, and laborers	14,067	295	10,585	325	3,482	216	66.5	24.8
Machine operators, assemblers, and inspectors	7,181	287	4,403	341	2,778	216	63.3	38.7
Machine operators and tenders, except precision	4,741	272	2,839	326	1,902	207	63.5	40.1
Metalworking and plastic working machine operators	447	336	370	354	77	265	74.9	17.2
Lathe and turning machine operators	67	339	60	349	8	-	-	11.9
Punching and stamping press machine operators	117	320	85	340	32	-	-	27.4
Grinding, abrading, buffing, and polishing machine operators	132	318	115	331	17	-	-	12.9
Metal and plastic processing machine operators	157	304	117	345	39	-	-	24.8
Molding and casting machine operators	98	278	63	342	35	-	-	35.7
Woodworking machine operators	116	244	104	247	12	-	-	10.3
Sawing machine operators	77	237	72	239	5	-	-	6.5
Printing machine operators	380	329	288	368	92	247	67.1	24.2
Printing machine operators	258	339	223	362	35	-	-	13.6
Typesetters and compositors	57	284	17	-	39	-	-	68.4
Textile, apparel, and furnishings machine operators	1,148	192	240	243	908	182	74.9	79.1
Winding and twisting machine operators	72	221	16	-	56	217	-	77.8
Textile sewing machine operators	686	178	73	217	613	175	80.6	89.4
Pressing machine operators	117	198	41	-	76	173	-	65.0
Laundering and drycleaning machine operators	110	195	39	-	71	178	-	64.5
Machine operators, assorted materials	2,473	302	1,709	334	764	234	70.1	30.9
Packaging and filling machine operators	350	248	139	283	211	230	81.3	60.3
Mixing and blending machine operators	121	328	113	331	7	-	-	5.8
Separating, filtering, and clarifying machine operators	51	441	45	-	6	-	-	11.8
Painting and paint spraying machine operators	179	298	151	310	28	-	-	15.6
Furnace, kiln, and oven operators, excluding food	102	406	98	406	4	-	-	3.9
Slicing and cutting machine operators	194	274	152	304	43	-	-	22.2
Photographic process machine operators	78	261	34	-	43	-	-	55.1
Fabricators, assemblers, and hand working occupations	1,653	316	1,165	361	488	239	66.2	29.5
Welders and cutters	533	371	506	377	27	-	-	5.1
Assemblers	979	298	583	355	397	243	68.5	40.6
Production inspectors, testers, samplers, and weighers	787	311	398	388	389	250	64.4	49.4
Production inspectors, checkers, and examiners	629	321	313	406	315	255	62.8	50.1
Production testers	62	354	39	-	23	-	-	37.1
Graders and sorters, except agricultural	86	213	37	-	49	-	-	57.0
Transportation and material moving occupations	3,648	360	3,459	369	189	252	68.3	5.2
Motor vehicle operators	2,511	343	2,357	353	154	246	69.7	6.1
Truckdrivers, heavy	1,526	363	1,501	366	25	-	-	1.6
Truckdrivers, light	425	275	395	280	30	-	-	7.1
Driver-sales workers	179	399	170	407	9	-	-	5.0
Busdrivers	210	344	136	403	74	262	65.0	35.2
Taxicab drivers and chauffeurs	94	262	87	266	7	-	-	7.4
Transportation occupations, except motor vehicles	204	559	201	563	3	-	-	1.5
Rail transportation occupations	145	599	143	602	2	-	-	1.4
Locomotive operating occupations	57	582	56	587	1	-	-	1.8
Water transportation occupations	59	463	58	466	1	-	-	1.7
Material moving equipment operators	932	360	900	364	32	-	-	3.4
Operating engineers	142	395	138	393	4	-	-	2.8
Crane and tower operators	89	438	89	438	0	-	-	0
Excavating and loading machine operators	96	385	94	388	1	-	-	1.0
Grader, dozer, and scraper operators	82	357	80	362	2	-	-	2.4
Industrial truck and tractor equipment operators	369	318	360	319	9	-	-	2.4
Handlers, equipment cleaners, helpers, and laborers	3,238	251	2,724	261	514	209	80.1	15.9
Helpers, construction and extractive occupations	140	216	137	217	3	-	-	2.1
Helpers, construction trades	121	216	118	217	3	-	-	2.5
Construction laborers	583	276	567	279	16	-	-	2.7
Production helpers	73	281	57	285	16	-	-	21.9
Freight, stock, and material handlers	968	254	818	264	150	205	77.7	15.5
Garbage collectors	53	247	53	250	1	-	-	1.9
Stock handlers and baggers	347	217	263	229	84	181	79.0	24.2
Machine feeders and offbearers	85	258	58	269	27	-	-	31.8
Garage and service station related occupations	177	198	170	200	7	-	-	4.0
Vehicle washers and equipment cleaners	160	205	144	203	16	-	-	10.0
Hand packers and packagers	236	222	86	247	150	215	87.0	63.6
Laborers, except construction	867	273	715	291	152	207	71.1	17.5
Farming, forestry, and fishing occupations	1,288	212	1,150	216	138	185	85.6	10.7
Farm operators and managers	65	291	58	309	7	-	-	10.8
Farm managers	55	303	50	317	5	-	-	9.1
Other agricultural and related occupations	1,145	207	1,016	210	129	186	88.6	11.3
Farm occupations, except managerial	663	195	587	198	76	176	88.9	11.5
Farm workers	606	193	542	195	64	178	91.3	10.6
Related agricultural occupations	482	228	430	232	53	204	87.9	11.0
Supervisors, related agricultural occupations	80	300	79	302	1	-	-	1.3
Groundskeepers and gardeners, except farm	354	218	333	220	21	-	-	5.9
Forestry and logging occupations	55	269	52	276	2	-	-	3.6

NOTE: Dashes indicate median, percent, or ratio not shown where base is less than 50,000.

Estimating the number of undocumented aliens

JEFFREY S. PASSEL

Prior to January 1986, the Census Bureau's postcensal population estimates included no allowance for undocumented immigration.¹ Even though there was widespread recognition of the phenomenon, the only estimates of the magnitude of undocumented immigration, particularly of the annual flow, were based on little more than speculation. Research conducted at the Census Bureau over the last several years² has shown that undocumented aliens appearing in censuses and surveys can provide a basis for measuring at least a portion of undocumented migration to the United States.

Estimates of the number of undocumented aliens included in the 1980 census were derived by comparing two different sets of estimates:³ (1) estimates of the total number of aliens included in the 1980 census; and (2) estimates of the number of aliens residing legally in the United States at the census date, derived primarily from the Immigration and Naturalization Service (INS) data. The difference between the two estimates is assumed to be the result of undocumented aliens being included in the 1980 census.

Both sets of data used to derive the estimates—1980 census data on the foreign-born population and 1980 alien registration data from INS—required a number of corrections and modifications to account for known deficiencies. The census data were corrected for nonreporting of country of birth, misreporting of citizenship status, and misreporting of nativity. The INS data were corrected for underregistration and nonreporting of country of birth.

A comparison of the independently derived estimates of the legally resident population on April 1, 1980, with the 1980 census count of aliens shows that 2,057,000 undocumented aliens were included in the 1980 census. Of these, 1,131,000, or 55 percent, were born in Mexico. No single country other than Mexico accounts for as much as 5 percent of the total. An estimated 1,517,000, or 75 percent, of the undocumented immigrants counted in the census entered the United States during the 1970's, with 946,000 (or 46 percent) entering during the 5 years prior to the 1980 census.

A supplement to the April 1983 Current Population Survey (CPS) provided data on country of birth, year of immigration, and citizenship that were used to estimate growth of

the undocumented alien population since the 1980 census.⁴ An estimate of the foreign-born population residing legally in the country in 1983 was first developed by carrying forward the estimate for 1980 by adding legal immigration and by subtracting mortality and emigration during the intervening period. The difference between the estimated legally resident foreign-born population and the total foreign-born population in the April 1983 CPS gives the number of undocumented aliens in 1983. Because the CPS sample is smaller than the census and because of other inherent limitations, the 1983 estimate of undocumented aliens is less precise than the estimate for 1980. In spite of such limitations, the research shows that the undocumented alien population grew by between 100,000 and 300,000 per year between 1980 and 1983.

On the basis of these studies, the Census Bureau's postcensal estimates have been revised to allow for net annual undocumented immigration of 200,000 for every year since 1980. Approximately 70 percent of the undocumented immigrants are Hispanic. The items needed to develop further estimates of undocumented aliens were included in a supplement to the June 1986 CPS. On the basis of these data, the Census Bureau plans to update the estimates of growth in the undocumented alien population and, if necessary, revise the estimates of net annual undocumented immigration. Until the research based on the June 1986 CPS supplement is completed, the figure of 200,000 will continue to be used for net annual undocumented immigration. □

—FOOTNOTES—

¹ Various terms have been used to refer to this group of noncitizens present in the United States who entered illegally or who violated their conditions of entry. In addition to undocumented immigrants, some examples include illegal aliens, undocumented workers, nonlegal residents, and illegal entrants.

² Robert Warren and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census, forthcoming in *Demography*"; Jeffrey S. Passel and Karen A. Woodrow, "Geographic Distribution of Undocumented Immigrants: Estimates of Undocumented Aliens Counted in the 1980 Census by State," *International Migration Review* 18, Fall 1984, pp. 642-71; Passel and Woodrow, "Growth of the Undocumented Alien Population in the United States, 1979-1983, as Measured by the Current Population Survey and the Decennial Census," paper presented at the 1985 annual meeting of the Population Association of America, Boston, MA, March 1985.

³ Details of the estimation procedure can be found in "A Count of the Uncountable." It must be stressed that the research regarding undocumented aliens included in the 1980 census did not compromise the confidentiality of U.S. census data that is required by law. No attempt was made to determine the legal status of individual aliens. The estimates were developed by comparing statistical aggregates, not by determining the legal status of individuals.

⁴ The estimation procedures and underlying assumptions are described in "Growth of the Undocumented Alien Population."

Jeffrey S. Passel is chief of the Population Analysis Staff, Population Division, Bureau of the Census. This report is drawn from "Changes in the Estimation Procedure in the Current Population Survey Beginning January 1986," *Employment and Earnings*, February 1986.



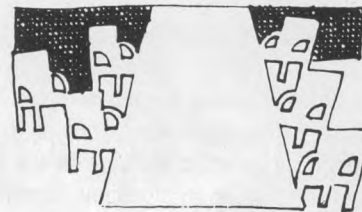
Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in October is based on information collected by the Bureau's Office of Wages and Industrial Relations. 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	Southeastern States Boilermaker Employers (Interstate)	Boilermakers	7,000
	Independent Contractors (Southern and Western Florida)	Operating Engineers	1,200
Food products	Keebler Co. (Interstate)	Bakery, Confectionery and Tobacco Workers	3,550
	Hershey Foods Corp. (Pennsylvania)	Bakery, Confectionery and Tobacco Workers	2,800
Paper	James River Corp., Dixie Northern Division (Naheola, AL)	Paperworkers	1,300
Stone, clay, and glass products	Owens-Illinois, Inc. (Vineland, NJ)	Flint Glass Workers	1,600
	Anchor Hocking Corp. (Lancaster, OH)	Flint Glass Workers	4,000
	Owens-Illinois, Inc. (Toledo, OH)	Flint Glass Workers	1,200
Primary metals	Allegheny Ludlum Industries, Inc. (Interstate)	Steelworkers	5,400
	Lukens Steel Co. (Coatesville, PA)	Steelworkers	1,400
	Lone Star Steel Co. (Texas)	Steelworkers	2,300
	Laclede Steel Co. (Alton, IL)	Steelworkers	2,000
	Cyclops Corp., Empire-Detroit Steel Division (Mansfield, OH)	Steelworkers	1,100
Fabricated metal products	Kohler Co. (Wisconsin)	Auto Workers	3,000
Machinery	Koppers Co., Inc., Metal Products Division (Baltimore, MD)	Machinists	1,350
	Outboard Marine Corp., Johnson Outboard Division (Waukegan, IL)	Marine and Machinists Association (Ind.)	1,700
Electrical products	Bendix Corp. (Sidney, NY)	Machinists	2,100
Transportation equipment	Boeing Co. (Interstate)	Machinists	26,000
	General Dynamics Corp., Quincy Shipbuilding Division (Quincy, MA)	Marine and Shipbuilding Workers	2,300
	Boeing Co., Boeing Vertol Division (Philadelphia, PA)	Auto Workers	2,400
	Lockheed-Georgia Co. (Interstate)	Machinists	10,000
	Lockheed Aircraft Corp., Lockheed-California Co. (California)	Machinists	10,000
	Lockheed Aircraft Corp., Missile & Space Division (California)	Machinists	5,000
	McDonnell Douglas Corp. (California)	Machinists	3,500
	McDonnell Douglas Corp. (California)	Auto Workers	4,800
	McDonnell Douglas Corp. (Arkansas and Oklahoma)	Auto Workers	1,800
Transit	Greyhound Lines, Inc. (Interstate)	Transit Union	12,700
Air transportation	United Airlines, ground service (Interstate)	Machinists	15,500
Retail trade	The Great Atlantic and Pacific Tea Co. (New York)	Food and Commercial Workers	8,800
	Jewel Food Stores (Illinois and Indiana)	Retail, Wholesale and Department Store	18,000
	Kroger Co. (Cincinnati, OH)	Food and Commercial Workers	3,300
	Giant Eagle Food Stores (Pittsburgh, PA)	Food and Commercial Workers	3,500
	Kohl's Food Stores (Wisconsin)	Food and Commercial Workers	3,000
Restaurants	East Bay Restaurant Association (San Francisco, CA)	Hotel Employees and Restaurant Employees	2,000
	On-Sale Liquor Store Dealers (Minneapolis, MN)	Hotel Employees and Restaurant Employees	1,500
Hospitals	Kaiser Permanente (Northern California)	Service Employees	6,400
Public			
Education	California: Los Angeles Community College faculty	State, County and Municipal Employees	1,800
	Tennessee: Memphis Board of Education, custodial and cafeteria employees	Teachers	4,800

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

Developments in Industrial Relations



AT&T, IBEW lead communications contracts

The first round of bargaining in the telephone communications industry since the court-ordered breakup of the Bell System led off with a settlement between American telephone & Telegraph Co. and the International Brotherhood of Electrical Workers (IBEW). Prior to 1984, AT&T settlements with the IBEW and the Communications Workers (CWA) set a pattern for settlements between the two unions and 22 operating companies. The companies retained their identities but now are formed into seven regional firms.

Despite the auspicious leadoff settlement in the 1986 negotiations, 155,000 CWA-represented workers struck six AT&T units. The major issues leading to the stoppage reportedly were company demands for elimination of the automatic cost-of-living pay adjustment clause, elimination of incentive pay for manufacturing workers, and replacement of some high paid technicians jobs with lower paid technician assistants jobs.

AT&T and the CWA settled on national issues in mid-June, but the workers remained out pending completion of negotiations on other issues at two units. Later in the month, AT&T Information Systems and the CWA settled for 35,000 workers, following a settlement for a unit of 12,000 workers performing government work.

The 3-year IBEW contract, which was later automatically modified to contain additional terms won by the CWA, provided for four new programs to increase worker job security, reflecting their concern over the job losses resulting from the more competitive atmosphere in the communications industry following the breakup of the Bell system.

Under the first of the new programs, the company will publish annual Opportunities Outlook Reports and Placement Reports. These will inform employees about emerging jobs and qualifying knowledge and skills. The knowledge and skills will be offered under a training and retraining program financed by AT&T and administered by an AT&T-IBEW National Partnership Committee. Relevant training gained by employees under this program will be considered by the company in selecting workers for future job openings.

"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 third facet of increased job security is a Transfer Consideration Plan to enable workers to make their career interests and choices known to the company and to ensure that the interests and choices are considered in selecting workers for jobs. A feature of this plan is a provision permitting workers to transfer among the AT&T divisions.

The fourth approach is the establishment of an Employment Opportunities Review System under which current and laid-off employees will be informed of, and can apply for, jobs which would have been filled by new hires.

In the wage area, rates at the top of the progression schedule (which covers about 90 percent of the employees) for each grade were increased by 2 percent, intermediate steps were increased by smaller amounts, and starting rates were not changed. The increase was effective June 1, 1986, and will be followed by a May 31, 1987, and May 29, 1988, increase in rates ranging from 3 percent at the top progression step down to nothing in the starting step. All employees on the payroll at the time of an increase—including those in starting steps—were assured a raise of at least \$1 a week.

The provision for automatic annual cost-of-living pay adjustments was retained in the contract but will be inoperative. Apparently, the union pressed for retention of the language to increase its chances of regaining an operating provision in the future. Under the 1983 agreements, workers represented by the IBEW (and those represented by the CWA) received adjustments in August of 1984 and 1985 totaling about \$3.70 a week plus 4.5 percent of individual wage rates.

The number of pay grades was reduced to three, from 10, at manufacturing plants in Omaha, NE, Shreveport, LA, Little Rock, AR, Columbus, OH, Montgomery, IL, and Denver, CO, resulting in additional pay increases for some employees. Also, wage incentives were discontinued at these plants. In exchange, employees received lump-sum payments (up to \$7,000, varying by plant location or job grade) or increases in base pay rates.

In a move to reduce costs, the parties established a "Technician Assistant" job to perform certain "menial job functions" previously performed by highly paid "Systems Technicians." The Technician Assistants will start at \$200 a week and progress to \$360 a week over a 30-month period. At the time of settlement, the maximum was \$633 for Systems Technicians. In a related action, the parties also established a "Senior Technician" job, paying 5 percent more

than the Systems Technician job. Because a surplus of Systems Technicians was expected to develop, AT&T agreed to temporarily offer workers in the job category increases in pensions as an inducement to retire.

Other terms included—

- A 4-percent increase in pensions effective October 1, 1986, for employees retiring after May 31, 1986, and a 4-percent increase on October 1, 1988, for those retiring on or after that date.
- A 4.5-percent increase in pensions effective January 1, 1988, for all employees who retired prior to January 1, 1985. Those retiring between January 1, 1985, and January 1, 1988, will receive a prorated portion of the 4.5-percent increase.
- Addition of a new top wage bracket of \$700 or more per week to the Savings and Security Plan, permitting allotments of up to \$40 a week. All participants may now designate part or all of their allotment as "pre-tax" allotments under Section 401(k) of the Internal Revenue Code.
- Revision of the medical plan to cover extended health care facilities, home health care agencies, birthing centers, and chemical dependency.
- A \$250 increase, to \$1,000, in the annual limit on covered dental charges.

Following the settlements with AT&T, the unions' bargaining attention shifted to the seven regional operating companies and the major question was to what extent the companies would follow the terms of the AT&T accords. Contracts at the regional companies were generally scheduled to expire on August 9, 1986 (the same as the original expiration date at AT&T). Early in 1986, AT&T and the CWA and IBEW had moved their contract expiration date to May 31, 1986.

The first accord at an operating company came in late June, when Illinois Bell Telephone Co. and the IBEW settled for 12,800 installation and repair technicians, data processors, and marketing and sales employees. Bargaining was continuing for 2,300 directory assistance operators represented by the CWA.

The 3-year Illinois Bell-IBEW accord provided for an initial wage increase and a \$400 lump-sum payment for an average of 2.5 percent. In the second and third years, all employees will receive 2-percent pay increases. The cost-of-living pay adjustment formula was continued, but the annual adjustments will occur only if the CPI rises more than 2 percent during a 12-month period and is subject to a 5.5-percent limit on the rise.

Other terms included—

- A "success sharing plan" under which employees will receive annual lump-sum payments of at least 1 percent (of earnings) and as much as 2 percent, using a formula based on the company's return on equity and measures of customer satisfaction.

- A 4-percent increase in pensions in 1987 and 1989.
- Continuation of job training programs that have been successful in helping make job transitions, according to the company.
- An expanded health care program called "healthchoice" offering employees the choice of a preferred provider plan that eliminate deductibles.

Illinois Bell is part of Ameritech, one of the two regional operating companies that decided to have its component companies bargain individually with the unions. The other regional company using this approach is U.S. WEST. The five regional companies bargaining as a unit with the unions were NYNEX, Bell South, Bell Atlantic, Pacific Telesis, and Southwestern Bell.

Auto Workers, Caterpillar agree on concessions

The Auto Workers agreed to a 28-month contract with Caterpillar, Inc., that essentially froze wages and included changes in the job structure intended to hold down labor costs, despite an increase in profits at the company. (Caterpillar earned a \$139 million profit during the second quarter of 1986, up from \$50 million in the second quarter of 1985.) In return, Caterpillar agreed to establish a job security program and an employee development and training program to help reduce the number of workers on layoff. The accord covered 16,600 active and 13,000 laid-off workers in six States. Much of Caterpillar's problems in selling its construction equipment and diesel engines result from increasing penetration of U.S. market by foreign manufacturers.

Under the new Protected Employee Group program, 90 percent of the employees in the bargaining unit will be protected against layoffs resulting from economic conditions or marketplace changes, "sourcing" decisions, introduction of new technology, productivity improvements, and consolidation of operations. Exclusions from the job guarantee include temporary layoffs of up to 6 weeks a year; work force cuts resulting from labor disputes or sale or cessation of operations; and layoffs resulting from events beyond the company's control. Caterpillar will commit a total of \$21 million to this program and to the job retraining program, which will also use any available financial support from Federal and State governments.

The retraining program is aimed at providing new skills for workers. It will particularly aid senior employees who in the past might have been laid off because they lacked skills needed to move into other jobs. Reportedly, 1,000 to 1,200 of such laid-off employees will be retrained and rehired during the next 18 months.

The provisions for automatic quarterly cost-of-living pay adjustments was continued at 1-cent-an-hour for each 0.26-point movement in the BLS CPI-W (1967=100), subject to a total diversion of 23 cents an hour over the term. The diverted money will be used to help pay for the job training program and other contract provisions.

Current employees will receive a \$180 immediate lump-sum payment, and those returning from layoff by July 10, 1987, will receive this payment when they resume work.

For current employees, normal pension rates were increased by \$3.05 a month for each year of credited service; the "30-and-out" pension was increased to as much as \$1,205 a month; and, if Caterpillar requests employees to retire early to reduce employment levels, the company has the option of adding a \$300 a month inducement to regular early pensions. All current retirees will receive a \$1 a month increase in their benefit rate plus \$200 payments in December of 1986 and 1987.

Other provisions included a 4-cent-an-hour increase in the company's maximum financing of Supplemental Unemployment Benefits, which will help to eliminate the reduction in benefits being suffered by laid-off employees because of the large number drawing from the fund; an additional paid holiday, the birthday of Dr. Martin Luther King, Jr.; and changes in the profit-sharing plan that will raise payouts by 75 percent, according to the union.

Elsewhere in the industry, Deere & Co. and the Auto Workers agreed to extend their contract to October 17, 1986, from May 30, 1986, to await the outcome of the Caterpillar talks. (After the Caterpillar settlement, Deere and the UAW changed their expiration date to late August.) Deere, the Nation's largest farm equipment manufacturer, reported a \$33.4 million loss during the quarter ending April 30, and was in the process of reducing operations. The union's contracts with J.I. Case Co. for its original farm equipment operations and for those it purchased from International Harvester Co. (now Navistar International Corp.) in 1985 expire in February 1987. Navistar now manufactures only trucks. Its contract with the Auto Workers was scheduled to expire September 30, 1986.

Strike against Weyerhaeuser ends

A 6-week strike against Weyerhaeuser Co.'s forest product operations in Oregon and Washington ended when members of two unions approved new contracts that cut wages more than 20 percent. One of the unions, the Woodworkers, settled first for 6,200 employees it represents at logging operations, followed by the Lumber Production and Industrial Workers unit of the Carpenters union, which agreed to similar terms for 1,000 workers it represents at lumber mills. It was not immediately clear if other forest products firms in the Pacific Northwest would settle with the unions on similar terms, reflecting the difficulties the employers (and employees) have been experiencing in recent years as a result of increasing competition from lower cost operators in the region, in the South, and in Canada.

The 2-year Weyerhaeuser contract calls for an average pay cut of \$2.90 an hour and benefit cuts of about \$1. Prior to the settlements, mill workers averaged \$18.19 an hour in wages and benefits and loggers averaged \$22.36, according

to the company.

The compensation cut was about the same as in an earlier company offer the workers had overwhelmingly rejected. A major difference that influenced the vote on the second accord was the dropping of a company proposal that promotions and job retention be based on employee "competence," rather than seniority.

During the last 20 years, collective bargaining had been relatively stable in the industry, with the larger companies settling with the unions on uniform terms that were then extended to other companies. In 1983, the larger companies and the unions agreed on a wage and benefit package, but Louisiana-Pacific Corp. refused to follow the pattern and countered a union strike by hiring replacements and continuing operations. Eventually, the unions lost the right to represent workers at the company's western operations. In late 1985, Potlatch Corp. closed certain unprofitable operations in Idaho, reopening them only after 850 members of the Woodworkers union agreed to compensation cuts.

The 1986 round of bargaining was drastically changed when the pattern-setting Western States Wood Products Employers Association (also known as the "Big Seven") broke up and announced that the companies would bargain individually, and in some cases, on a mill-by-mill basis.

To counter this fragmented approach, the two unions attempted to coordinate their bargaining efforts and demands by forming a Forest Products Joint Bargaining Board. One of the Board's goals was to move toward eliminating the compensation differential between regions by winning larger increases for southern workers in negotiations scheduled for 1987.

Copper industry gains labor costs reductions

The copper mining and processing industry, plagued by severe financial problems resulting from worldwide overproduction, gained some reductions in labor costs in midyear settlements. Kennecott, the domestic industry's largest producer, indicated that lower costs would enable it to reopen its large Bingham Canyon, UT, mine and recall 2,000 employees who lost their jobs when operations shut down in 1985. The 14 unions attempted to tailor each of the copper accords to the condition of the company. The unions, led by the Steelworkers, comprised the Nonferrous Industry Coordinating Committee. About 8,000 active and 5,000 laid-off workers were covered by the settlements, compared with about 25,000 active employees in the late 1970's.

The first settlement, which occurred just before the contract expiration date for all the major companies, involved 3,000 employees of Newmont Mining Corp.'s Magma Copper Co. and Pinto Valley Copper Co. facilities in Arizona. It provided for a pay cut of 20 percent, resulting in hourly rate ranges of \$9 to \$12.60 at Magma and \$8.88 to \$13 at Pinto Valley. The cut, which reportedly averaged \$2.82 an hour, could be alleviated or eliminated under a new bonus

plan contingent on rises in copper prices. In 1987, the quarterly payments will be calculated at 10 cents per hour for each one-cent rise in the price of a pound of copper above 70 cents, an extra 15 cents for each one-cent rise above 80 cents, and an additional 25 cents for each one-cent rise above 90 cents, up to \$1. In 1988, the formula will be 15 cents for each one-cent rise from 71 to 90 cents and 25 cents for each one-cent rise from 91 cents to \$1. Employees may take the money in cash or in a 401(k) savings plan, or a combination of the two. At the time of settlement, the price of copper was 63 cents a pound.

Other wage terms included termination of the provision for automatic cost-of-living pay adjustments, which had provided the only pay increase under the prior contract.

Benefits also were standardized at the two companies, resulting in pension improvements at Magma and health insurance improvements at Pinto Valley. A new health insurance cost containment plan requires deductible and co-insurance payments by the workers.

Newmont estimated that the employee sacrifices would cut labor costs to less than 50 percent of production costs, from 52 percent. The company lost \$34.2 million in 1985.

The second settlement in the bargaining round involved 1,650 ASARCO employees who agreed to a 3-year contract that called for an initial wage cut of \$3.50 an hour. In the second year, there will be a 75-cent-an-hour wage increase, followed by a \$1 increase in the final year. As at Newmont, the cost-of-living provision was terminated. Benefits were unchanged, except for adoption of annual health insurance deductibles of \$100 for single employees and \$300 for families. The ASARCO operations are located in Texas, Arizona, Washington, and New Jersey.

Kennecott Corp. took the firmest stand against the unions, contending that it required a larger cut than the other companies because its compensation levels were \$4-\$5 an hour higher. Kennecott said its wage and benefit costs averaged \$24 an hour, and asked for an \$8 reduction.

Under the 4-year contract, compensation was reduced by \$5.40 an hour or about 22 percent. The wage portion of compensation, which averaged about \$13.50, was cut an average of \$3.22. Cost-of-living adjustments also were terminated. The terms for the 1,500 active and 5,000 laid-off employees included a \$1,000 lump-sum payment to active employees within 60 days.

Employees will now be required to pay 20 percent of health insurance premium costs and \$350 annual deductibles if they are single and \$700 if married. Deductibles also were instituted for dental coverage, vision coverage was eliminated, vacation pay was reduced, and a number of local contracts were consolidated to cut costs by eliminating or changing work rules. At the time of settlement, Kennecott reportedly had 1,500 contracts with 41 local unions.

Another major producer, Phelps Dodge Corp., was not involved in the negotiations because the unions were decertified as bargaining agents earlier in the year. The events

leading to the employee vote to terminate union representation began in 1983, when Phelps Dodge refused to accept the settlement pattern of the other companies, leading to a strike that eventually proved unsuccessful as the company moved toward full output by hiring replacement workers.

Alcoa-Reynolds contracts

In similar settlements, the Aluminum Co. of America and Reynolds Metals Co. gained some labor cost reductions from the United Steelworkers and the Aluminum, Brick and Glass Workers, but the reductions were less than that negotiated last year by Kaiser Aluminum and Chemicals Corp. (See *Monthly Labor Review*, June 1985, p. 50.)

The new Alcoa-Reynolds contracts provide for a 95-cent-an-hour reduction in labor compensation, which reportedly totaled about \$24, including \$13 in pay. Both unions agreed to eliminate extended vacations—10 weeks of paid time off employees had received once every 7 years instead of the regular annual vacation for that year. (Employees will be paid for the amount of time off they had accrued at the time of termination.) The unions also agreed to eliminate vacation bonuses—amounts ranging from \$30 to \$112.50 per week (varying by the time of year when vacation is taken) added to regular vacation pay as an inducement to vacation at times other than the traditional summer months. (This provision had been suspended during the final 2 years of the 1983 contracts.)

The balance of the 95-cent reduction was attained differently by the two unions. For employees represented by the Steelworkers, changes included reducing the existing cost-of-living pay allowance to 32.6 cents, from 63 cents. For employees represented by the Aluminum Workers, only 2.4 cents was cut from the 56-cent cost-of-living allowance, but they gave up a \$700 annual allocation from the company that had been used to cover their health insurance deductible and co-insurance payments, with any unused portion of the \$700 paid to them at yearend.

There was no provision for specified wage increases, but both contracts provided for the continuation of quarterly cost-of-living adjustments, calculated at 1-cent-an-hour for each 0.3-index point rise in the BLS CPI-W (1967=100) in excess of 3 percent a year. Previously, the calculation rate was 1 cent for each 0.26-point rise in excess of 2.3 percent a year for the Aluminum Workers and in excess of 1.5 percent a year for the Steelworkers.

All four agreements provide for joint committees to consider the possibility of establishing profit-sharing plans.

The Aluminum Workers represent 8,000 workers at Alcoa and 6,000 at Reynolds, and the Steelworkers represent 7,000 at Alcoa and 3,600 at Reynolds. The unions, which coordinated their bargaining, began a walkout on June 1, but limited it to Alcoa because of the company's "belligerent attitude" and because it is the "major company

in the industry," according to a Steelworkers official. Members of both unions began returning to work after a tentative settlement on July 2. In Massena, NY, and Warrick, IN, 3,500 Aluminum Workers stayed out longer over local issues.

States not allowed to quit Social Security system

A recent decision of the Supreme Court held that States may not pull their employees out of the Social Security system. The case was initiated by the State of California, several State agencies, taxpayers, and a group called Public Agencies Opposed to Social Security Entrapment, which challenged a 1983 law prohibiting a State or any of its agencies from withdrawing from the system. The parties contended that the amendment to the Social Security Act violated a 1951 amendment that gave them the right to stay outside the system and, if they joined, to withdraw after 10 years' participation, after giving 2 years' notice. The amendment negated notices California had filed on behalf of about 70 political units for 34,000 employees.

In the unanimous opinion, written by Justice Lewis F. Powell, Jr., the Court said the 1983 law "simply was part of a regulatory program over which Congress retained authority to amend in the exercise of its power to provide for the general welfare."

In seeking a review of a Federal district judge's finding that the amendment was unconstitutional, the Federal Government had argued that the benefit rights of 9 million State and local government employees would be threatened if such withdrawals were permitted, and that the entire system would be threatened if such withdrawals were permitted to continue. Government entities that have withdrawn or attempted to withdraw have contended they could obtain better benefits at lower costs by other means, such as State-backed pension plans.

The decision in the case, *Bowen, Secretary of Health and Human Services et al vs. Public Agencies Opposed to Social Security Entrapment et al*, does not apply to political units not now in the system, unless they choose to join.

Supreme Court hears sexual harassment case

The Supreme Court unanimously ruled that sexual harassment of an employee by a supervisor violates Title 7 of the Civil Rights Act of 1964, which prohibits racial and sexual discrimination. In one opinion, written by Justice William H. Rehnquist and joined by four other justices, the Court held that sexual harassment that is "sufficiently severe or pervasive" to create "a hostile or abusive work environment" is a violation even if the sexual demands are not tied to employment benefits.

However, Rehnquist said companies are not "always automatically liable for sexual harassment by their supervisors." According to his reasoning, an employer's lack of knowledge of sexual harassment by a supervisor "does not

necessarily insulate that employer from liability," but he did not issue a precise rule on employer liability. Rehnquist also said the appellate court had erred in prohibiting the defendant from presenting testimony intended to show that the employee's dress and conversation invited advances by the supervisor.

Justice Thurgood Marshall, joined by three other justices, agreed that "workplace sexual harassment is illegal," but disagreed on the issue of employer liability. Marshall contended that employers should be held liable for sexual harassment by their employees "regardless of lack of knowledge or any other mitigating factor." This position, which backed the guidelines adopted by the Equal Employment Opportunity Commission (EEOC) in 1980, was opposed by the present EEOC and the Department of Justice. In a joint brief, they argued that penalties should be imposed only on employers who know or should know of sexually offensive conditions or who do not provide reasonable means for bringing complaints to the employers' attention and seek remedies.

The case, *Meritor Savings Bank v. Vinson*, arose when Mechelle Vinson accused her supervisor, Sidney L. Taylor, of pressuring her into a sexual relationship. Taylor denied the charge, and the Washington, DC, bank contended that it was not aware of any sexual harassment by Taylor. A federal district judge ruled in favor of the defendants, but this decision was reversed by the U.S. Court of Appeals for the District of Columbia, leading to the Supreme Court appeal.

Military pension formula revised

President Ronald Reagan signed the Military Retirement Reform Act of 1986, intended to induce members of the Armed Forces to prolong their careers by revising the pension formula. The new formula applies to people entering the Armed Forces after August 1, 1986, and attaining the existing minimum 20 years' service required for normal retirement.

Under the new formula, those retiring at or after age 62 with 20 years' service will receive a pension equal to 40 percent of their average annual basic pay during their highest three consecutive years. Those with longer service will receive an additional 2.5 percent of the average annual basic pay figure for each year in excess of 20, up to a maximum pension of 75 percent after 30 years or more of service.

Those retiring before age 62 will receive a benefit ranging from 40 percent for 20 years' service to 75 percent for 30 years. When these retirees attain age 62, their pensions will automatically increase to the amount they would have received by retiring at age 62 with the same length of service.

In another change, service members retiring before age 62 will receive automatic annual percentage adjustments in their pension equal to any rise in the BLS-Consumer Price

Index over a 12-month period, less 1 percentage point. On attaining age 62, their benefit rate will be restored to the amount they would have received if the 1-percentage point withholding had not occurred. Thereafter, any annual increases under the provision will again be reduced by 1 percentage point.

Those retiring at age 62 or later will continue to receive the full amount of any annual increases. Previously, all retirees received the full amount of any annual increases, regardless of age.

Previously, age was not a factor in calculating pensions, which ranged from 50 percent after 20 years service to 75 percent after 30 years or more.

New York City imposes residency requirements

New York City joined the list of cities imposing residency requirements on municipal employees when the city council approved a bill requiring employees hired on or after September 1, 1986, to be residents or to move into the city within 90 days. Ultimately, the requirement will apply to 80,000 city employees. It does not apply to 180,000 employees in the city's uniformed services or in independent agencies created by the State.

In 1978, the city council had adopted a bill requiring all municipal employees to reside in the city. However, in 1980 the State's Court of Appeals held that the city did not have jurisdiction over the independent agencies and that the city's law was superseded by a State law requiring the uniformed employees to reside in the city's five boroughs or in six nearby New York counties.

While the city council was approving the new 1986 residency requirement, the State legislature approved a bill permitting uniformed employees who have been living in New York State but outside of New York City and the six nearby counties to remain where they are. The bill also requires city employees living outside the State to move into the metropolitan area within 1 year. Those hired for the uniformed services in the future will have to reside in the city or the six nearby counties.

A number of major cities have adopted employee residency requirements, including Boston, Philadelphia, Chicago, Detroit, Cleveland, and Buffalo. Generally, backers contend such requirements are proper because the employees serve the public better if they reside where they work, the employees are more readily available for emergency situations, and they aid the city's economy by spending part of their pay locally.

Critics generally contend that residency requirements unfairly limit where employees may live and are particularly onerous for low-income employees.

Hospital contracts

A 3-month strike against hospitals in Kentucky, West Virginia, and Virginia ended when members of the United

Steelworkers union approved a 3-year contract with the Appalachian Regional Hospitals, operator of the nine institutions (employees remained on strike at another institution in Man, WV). Two of the hospitals settled in mid-June, and the others settled at the end of the month, breaking the tradition of negotiating master contracts covering all 10 hospitals.

Wage terms were the same at all locations: an increase of 3.9 percent or an average of 28 cents an hour in the first year, 3.7 percent or 26 cents in the second year, and 3.5 percent or 25 cents in the final year.

There were no changes in benefits, but there were numerous changes in job bumping, seniority, and absenteeism provisions. According to an official of the hospital agency, some of the 1,850 licensed practical nurses and clerical, technical, and service employees might not be recalled because the hospitals operated efficiently during the stoppage and some patients had been lost to competing hospitals.

In Philadelphia, 5,000 workers engaged in sit-down strikes lasting about 4 hours before settling with eight hospitals and several clinics. The nurses, aides, orderlies, and other employees won wage increases of 5 percent in the first year, 4 percent in the second year, and 3 percent in the final year. Prior to the settlement, pay reportedly averaged \$8.50 an hour.

Benefit changes negotiated by the National Union of Hospital and Health Care Employees include a reduction in the surcharge the hospitals had been applying to employees' medical bills in order to cut a fund surplus; a 12.2-percent (of payroll) employer payment to the fund (formerly 12 percent), subject to a further increase in the third year if required to maintain current benefit levels; adoption of a program to contain cost increases for medical care; and adoption of a preferred provider organization among the hospitals guaranteeing that workers will be treated without cost in the hospital where they are employed.

The union said that hospitals also generally agreed to a number of "social" demands, such as giving 6 months' notice of cuts or elimination of service; formation of joint committees to find alternative uses for underutilized beds; giving union and community leaders a voice in adding or terminating hospital services; prohibiting volunteers from performing duties of employees in the bargaining unit; and establishing committees to control the use of part-time employees.

Food and Commercial Workers settlements

In New York State, a 3-year settlement between P&C Food Markets, Inc., and United Food and Commercial Workers Local 1 does not provide for a wage increase in the first year, but the 4,200 workers will receive lump-sum payments later. The payments—quarterly in the second year and semiannual in the third—will be calculated at 30 cents for each work, vacation, and holiday hour for full-time

employees and at 15 cents for part-time employees. At the time of settlement, pay rates were \$11.85 an hour for top-rated meatcutters. Top rates for clerks were \$10.325 an hour for those hired before May 23, 1983, and \$8.80 for those hired later.

Cost-reducing changes won by the 66 stores included elimination of the cost-of-living pay adjustment clause; reduced premium pay for some holiday, weekend, and overtime work; and eligibility of part-timers for health insurance after 6 months' service (formerly 3 months).

In north central Pennsylvania, the United Food and Commercial Workers and Riverside Supermarkets agreed on wage cuts in exchange for a moratorium on closing any of the 22 stores during the 3-year contract term. The company had closed 20 stores and laid off 1,800 employees during the last 2 years, citing intense competition from nonunion grocery stores with lower labor costs.

The maximum pay cut of 89 cents an hour (to \$11.03) applied to meat department managers. The cut was 77 cents (to \$9.64) for top-rated meat cutters, and 69 cents (to \$8.63) for top rated grocery clerks. Pay was not reduced for workers in the lowest grades.

All employees except courtesy clerks will receive 10-cent wage increases in May and November of 1988.

Job and wage security provided for New UPI workers

New UPI, Inc., the successor to financially troubled United Press International, negotiated a 1-year contract that provides job and wage protection for the 750 employees remaining in the bargaining unit. Since 1984, when the union agreed to a 25-percent pay cut to aid the news service, which is operating under protection of the bankruptcy court, hundreds of employees have lost their jobs.

Under the accord, which expires April 20, 1987, wages are set at 105 percent of the levels in effect immediately prior to the cut; company debts to the union and the employees will be paid in full (compared with 40 percent to most other creditors); the company will not reduce the number of full-time permanent employees in the unit during the agreement term, and will consider the possibility of increasing the work force; a profit-sharing plan will be established; and the company will invest \$15 million in new equipment over the next 2½ years. □

ERRATA

In the research summary "Displaced workers: one year later," which appeared in the July issue, the last sentence beginning on p. 40 contains an incorrect figure. The sentence should read:

Among the unemployed of January 1984, 50 percent or more of both white and Hispanic workers were employed in 1985, compared with 42 percent of black workers.

In table 2, p. 41, two labor force classifications were transposed (the data are correct as shown). The top classification of the second category should read "From unemployed to—" and the top classification of the third category "From not in labor force to—." The correct table appears below.

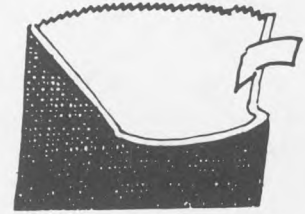
Table 2. Labor force transition rates for displaced workers by sex, race, and Hispanic origin, January 1984 to January 1985
[Percent]

Labor force category	Displaced workers, 20 years and over ¹						Others, 20 years and over
	Total	Men	Women	White	Black	Hispanic origin ²	
From employed to—							
Employed	87.9	88.8	85.9	87.8	89.1	80.8	89.4
Unemployed	7.8	9.2	4.6	7.7	8.4	11.5	3.0
Not in labor force	4.3	1.8	9.5	4.5	3.5	8.5	7.6
From unemployed to—							
Employed	53.0	53.5	52.1	55.3	42.4	50.0	47.8
Unemployed	27.5	31.8	18.7	24.3	42.4	15.0	26.3
Not in labor force	19.5	14.6	28.8	20.3	15.2	35.0	25.9
From not in labor force to—							
Employed	19.8	17.1	21.8	19.5	15.3	32.0	10.8
Unemployed	5.5	8.9	2.7	4.2	12.6	4.0	2.5
Not in labor force	74.6	73.7	75.5	76.3	72.1	64.0	86.7

¹ Data refer to persons age 20 and over with tenure of 3 years or more who lost or left a job between January 1979 and January 1984 because of plant closings or moves, slack work, or the abolishment of their positions or shifts.

² Hispanics are included in both the white and black population groups.

NOTE: The transition rate represents the proportion of workers in the first labor force category in January 1984 who were in the second labor force category in January 1985.



Book Reviews

Building bridges

Employing Bureaucracy: Managers, Unions, and the Transformation of Work in American Industry, 1900–1945. By Sanford M. Jacoby. New York, Columbia University Press, 1985. 377 pp. \$35.

In the late 1970's, many industrial relations scholars proclaimed that labor history and industrial relations had little in common, and that the former was of little use in formulating public policy. Cross-disciplinary interest in labor and economic history, however, has experienced a marked revival in popularity, most recently exemplified by the joint sessions held at the respective annual meetings of the Industrial Relations Research Association and the American Historical Association. Sanford M. Jacoby, Professor of Industrial Relations at the UCLA Graduate School of Management, has contributed to the revival with this excellent historical analysis of the evolution of the American labor market through the interactions of employers, workers, and the Federal Government. Jacoby states that a primary purpose of this book is "to rebuild the bridge between labor economics and economic history."

Jacoby takes the reader on a chronological journey that begins before the turn of the century through the World War II period, analyzing the macroeconomic, social, and political forces that influenced and directed our internal labor market. The first chapters revolve around efforts to stabilize industry in the late 19th and early 20th centuries, acknowledged as the formative period of modern industrial capitalism, through social and economic planning. Industrial engineers, social welfare workers, political reformers, liberal trade unionists, and progressive employers led this search for order by focusing on the problems of American workers—job alienation, unemployment and job security, labor turnover and unrest—and in implementing corrective workplace innovations—employee stock ownership plans, work-sharing plans, pension plans, and fringe benefits. This collectively fit under the umbrella of personnel management, a fairly new and unwelcomed concept to the generic employer of the early 1900's. In fact, it took the crises of war and depression, thoroughly covered in the second segment of the book, to dislodge most employers from a market oriented

and incongruous employment system to a professional personnel management structure as an intrinsic part of corporate employment policy.

Between world conflict and economic malaise, the average employer unsuccessfully fought for a regression to the status quo of pre-World War I. At the center of this struggle was the factory foreman, and Jacoby highlights his metamorphosis from shop floor autocrat to marginal manager in the production process. He also illustrates that foremen allied with production and marketing managers in opposition to the new managerial order and for retention of the production oriented but dehumanizing "drive system" of labor relations. As Jacoby also notes, the wounds of propersonnel management advocates were often self-inflicted; philosophical divisions within ranks were deleterious to the cause.

The central theme of *Employing Bureaucracy* is that the transformation of the workplace was not the result of a free labor market but a reaction to it. Sophisticated personnel practices (that is, structured work rules, job classifications, and other bureaucratic facets of corporate employment policy) developed from employer responses to trade union pressures and equitable government legislation. For example, Jacoby illustrates that personnel departments flourished following enactment of the National Industrial Recovery Act (NRA), and subsequent Wagner Act, in direct correlation to the institutionalization of collective bargaining through the labor adjustment machinery created by the legislation; this followed patterns set in the World War I period, when similar adjustment mechanisms tried to prevent production defeating disputes in a tight labor market.

In tracing the evolution of this phase of the work process, the author provides a well constructed and meticulously researched narrative on the related segments of trade unionism, welfare capitalism, Taylorism, and vocational education. If you want to read about ethno-cultural divisions in the workplace, rank and file militancy, or class collaboration, you will have to look elsewhere. Jacoby eschews Marxist and other radical theories for traditional industrial relations history. Undoubtedly, some reviewers will criticize this and cite the lack of new information or theory as shortcomings of the book. But, while some information has been studied and published previously, the holistic value of the work is

significant. With the exception of works like Daniel Nelson's *Workers and Managers: Origins of the New Factory System in the United States*, labor history has lacked this type of study in recent years.

It would have been interesting if Jacoby had touched on and at least compared the theories of more radical labor scholars to his own, for example, in regard to some of the Keynesian-corporatist paradigms postulated in explaining the failure of true working class solidarity in the United States. If there is criticism of the book, this would have to be included as a minor point. *Employing Bureaucracy*, therefore, should be read in conjunction with such neo-Marxist interpretations as *Segmented Work, Divided Workers*, by Daniel Gordon, Richard Edwards, and Michael Reich. A good non-Marxist complement to the book, analyzing some of the same material, is *The Second Industrial Divide* by Michael Piore and Charles Sabel.

As the author notes, history is an imperfect guide for public policy, but any study of labor market transitions without institutional memory is seriously flawed. In an alleged era of industrial transition marked by concessionary negotiations, employer demands for more flexible work patterns, and worker participation in managerial decisionmaking, industrial relations policymakers should understand that these are all products of a historical progression. Labor's house has many rooms, but in recent years access between them has been blocked. Perhaps this book will help to open some doors, even if few scholars choose to enter.

—HENRY P. GUZDA

Bureau of Labor Management Relations
and Cooperative Programs
U.S. Department of Labor

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ERRATA

In "Labor and management continue to combat mutual problems," by George Ruben, *Monthly Labor Review*, January 1986, the discussion of the contract between the Clothing and Textile Workers Union and the shirt, cotton garments, and pants industry contains incorrect dates (page 9, second column, fourth paragraph). The second sentence should read:

The 3-year accord provided for a lump-sum payment of \$500 by December of 1985, followed by payments in December of 1986 and 1987 equal to 6.5 percent of individual employee's earnings (exclusive of any lump-sum payment) during the preceding 12 months.

The contract between the Clothing and Textile Workers Union and the men's and boys' tailored clothing industry was for 2 years, not 3 years as reported in the article.

Current Labor Statistics



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Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	September 5	August	October 3	September	November 7	October	1; 4-21
Producer Price Index	September 12	August	October 10	September	November 14	October	2; 33-35
Consumer Price Index	September 23	August	October 23	September	November 25	October	2; 30-32
Real earnings	September 23	August	October 23	September	November 25	October	14-17
Major collective bargaining settlements .....	.....	.....	October 27	1st 9 months	.....	.....	3; 25-28
Employment Cost Index .....	.....	.....	October 28	3rd quarter	.....	.....	1-3; 22-24
Productivity and costs: Nonfarm business and manufacturing	October 29	3rd quarter	2; 42-44
U.S. Import and Export Price Indexes	October 30	3rd quarter	36-41
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NOTES ON CURRENT LABOR STATISTICS

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

General notes

The following notes apply to several tables in this section:

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect on the data of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might prevent short-term evaluation of the statistical series. Tables containing data that have been adjusted are identified as "seasonally adjusted." (All other data are not seasonally adjusted.) Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years. (Seasonally adjusted data appear in tables 1-3, 4-10, 13, 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 1986 issue of the *Review*, to reflect experience through 1985.

Annual revisions of the seasonally adjusted payroll data shown in tables 13, 14, and 18 were made in the July 1986 *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 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The \$2 (or any other resulting values) are described as "real," "constant," or "1967" 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 two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. 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 annual 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 Prices and 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*, Volumes I and II, Bulletins 2134-1 and 2134-2 (Bureau of Labor Statistics, 1982 and 1984, respectively), as well as the additional bulletins, articles, and other publications noted in the separate sections of the *Review's* "Current Labor Statistics Notes." Historical data for many series are provided in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). Users may also wish to consult *Major Programs, Bureau of Labor Statistics*, Report 718 (Bureau of Labor Statistics, 1985).

EMPLOYMENT 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 59,500 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

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

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

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the 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 1985.

Additional sources of information

For detailed explanations of the data, see *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 1, and for additional data, *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). A detailed description of the Current Population Survey as well as additional data are available in the monthly Bureau of Labor Statistics periodical, *Employment and Earnings*. Historical data from 1948 to 1981 are available in *Labor Force Statistics Derived from the Current Population Survey: A Databook*, Vols. I and II, Bulletin 2096 (Bureau of Labor Statistics, 1982).

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 250,000 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 all 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 non-supervisory 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 Earner and Clerical Workers (CPI-W). The **Hourly Earnings Index** is calculated from average hourly earnings data adjusted to exclude the effects of two types of changes that are unrelated to underlying wage-rate developments: fluctuations in overtime premiums in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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

The **Diffusion Index**, introduced in 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 1986 data, published in the July 1986 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 1984; seasonally adjusted data have been revised back to January 1981. These revisions were published in the *Supplement to Employment and Earnings* (Bureau of Labor Statistics, 1986). Unadjusted data from April 1985 forward, and seasonally adjusted data from January 1982 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 16 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.

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

Additional sources of information

Detailed 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 2134-1 (Bureau of Labor Statistics, 1982), chapter 2. For additional data, see *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985).

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 2134-1 (Bureau of Labor Statistics, 1982), chapter 4.

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 and on wages and salaries are available for private nonfarm workers excluding proprietors, the self-employed, and household workers. Both 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 2,200 private nonfarm establishments providing about 12,000 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.

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. 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 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 data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980 to produce, when combined with the wages and salaries series, a measure of the percent change in employer costs for employee total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy (excluding Federal employees). Historical indexes (June 1981 = 100) of the quarterly rates of change are presented in the May issue of the BLS monthly periodical, *Current Wage Developments*.

Additional sources of information

For a more detailed discussion of the Employment Cost Index, see the *Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 11, 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

(wages and benefits 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 after contract ratification—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 hourly earnings, excluding overtime, at the time the agreement is reached. Compensation changes are calculated by dividing the change in the value of the newly negotiated wage and benefit package by existing average hourly compensation, which includes the cost of previously negotiated benefits, legally required social insurance programs, and average hourly earnings.

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

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

Notes on the data

Care should be exercised in comparing the size and nature of the settlements in State and local government with those in the private sector because of differences in bargaining practices and settlement characteristics. A principal difference is the incidence of cost-of-living adjustment (COLA) clauses which cover only about 2 percent of workers under a few local government settlements, but cover 50 percent of workers under private sector settlements. Agreements without COLA's tend to provide larger specified wage increases than those with COLA's. Another difference is that State and local government bargaining frequently excludes pension benefits which are often prescribed by law. In the private sector, in contrast, pensions are typically a bargaining issue.

Additional sources of information

For a more detailed discussion on the series, see the *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 10. 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 monthly 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 data appear in the BLS

monthly 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 (1967 = 100, 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 1972-73 buying habits of about 80 percent of the noninstitutional population of the United States at that time, compared with 40 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 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country are used to develop the "U.S. city average." Separate estimates for 28 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.

Additional sources of information

For a discussion of the general method for computing the CPI, see *BLS Handbook of Methods, Volume II, The Consumer Price Index*, Bulletin 2134-2 (Bureau of Labor Statistics, 1984). 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*, June 1982, pp. 9-14.

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 in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes currently contains about 3,200 commodities and about 60,000 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 1976, 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 1972. The detailed data are aggregated to obtain indexes for stage-of-processing groupings, commodity groupings, durability-of-product groupings, and a number of special composite 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 2134-1 (Bureau of Labor Statistics, 1982), chapter 7.

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 1977 = 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 1980.

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.

Additional sources of information

For a discussion of the general method of computing International Price Indexes, see *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 8.

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).

PRODUCTIVITY DATA

(Tables 2; 42-47)

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 input measures, such as output per unit of labor input (output per hour) or output per unit of capital input, as well as measures of multifactor productivity (output per unit of labor and capital inputs combined). The Bureau indexes show the change in output relative to changes in the various inputs. The measures cover the business, nonfarm business, manufacturing, and nonfinancial corporate sectors.

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

Definitions

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

Multifactor productivity is the ratio output per unit of labor and capital inputs combined. 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 change in 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 and the value of inventory 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

Output measures for the business sector and the nonfarm business sector exclude the constant dollar value of owner-occupied housing, rest of world, households and institutions, and general government output from the constant dollar value of gross national product. 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 estimates of 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 2134-1 (Bureau of Labor Statistics, 1982), chapter 13. Historical data for selected industries are provided in the Bureau's *Handbook of Labor Statistics*, 1985, Bulletin 2217.

International comparisons

Description of the series

Comparative measures of labor force, employment, and unemployment (tables 45 and 46) are prepared regularly for the United States, Canada, Australia, Japan, France, Germany, Great Britain, Italy, the Netherlands, and Sweden. Unemployment rates, approximating U.S. concepts, are prepared monthly for most of the countries; the other measures, annually.

The Bureau of Labor Statistics also prepares international comparisons of manufacturing labor productivity and labor costs (table 47) that cover the United States and 11 foreign countries—those listed above plus Belgium and Norway. 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 are unavailable. The U.S. measures are described in the notes on U.S. productivity measurement; the measures for foreign countries are compiled from various national and international data sources.

Definitions

Output measures are constant value output (value added) from the national accounts of each country, except for those for Japan prior to 1970 and for the Netherlands for 1969 forward, which are indexes of industrial production. The national accounting methods for measuring real output differ considerably among the 12 countries, but 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 and compensation measures refer to all employed persons including the self-employed in the United States and Canada, and to all wage and salary employees in the other countries. *Hours* refer to hours *paid* in the United States, hours *worked* in the other countries. *Compensation (labor costs)* includes not only all payments made directly to employees and employer expenditures for social insurance and private benefit plans, but changes in significant employment or payroll taxes that are not compensation to employees but are labor costs to employers (France, Sweden, and the United Kingdom). Self-employed workers are included in the U.S. and

Canadian figures by assuming that their hourly compensation is equal to the average for wage and salary employees.

Notes on the data

The data for the foreign countries in tables 45 and 46 have been adjusted, where necessary, for greater comparability with U.S. definitions of employment and unemployment. The adjusted statistics have been adapted to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics relate to the civilian population age 16 and over in the United States, France, and Sweden, and from 1973 forward, Great Britain; 15 and over in Canada, Australia, Japan, Germany, and the Netherlands; and 14 and over in Italy. Prior to 1973, the data for Great Britain related to persons age 15 and over. The institutional population is included in the denominator of the labor force participation rates and employment-population ratios for Japan and Germany.

For most of the countries in table 47, 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 1976) refer to manufacturing and mining less energy-related products. For all countries, manufacturing includes the activities of government enterprises.

In addition, for all countries, preliminary estimates for recent years are generally based on current indicators of manufacturing output, employment and hours, and hourly compensation until national accounts and other statistics used for the long-term measures become available.

Additional sources of information

For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B and Supplements to Appendix B. Additional detail is also found in the *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982), chapter 16. Additional international comparison statistics are available in the *Handbook of Labor Statistics*, Bulletin 2217 (Bureau of Labor Statistics, 1985). The most recent statistics are presented and analyzed annually in the *Monthly Labor Review*, typically in the December issue (for the previous year) and in February.

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 Occupational Safety and Health Statistics.

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 Occupational Safety and Health Statistics.

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 2134-1 (Bureau of Labor Statistics, 1982), chapter 17; *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	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II
Employment data										
Employment status of the civilian noninstitutionalized population (household survey) ¹										
Labor Force participation rate	64.4	64.8	64.4	64.5	64.8	64.7	64.7	64.9	65.1	65.3
Employment-population ratio	59.5	60.1	59.7	59.8	60.1	60.0	60.1	60.4	60.5	60.6
Unemployment rate	7.5	7.2	7.4	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Men	7.4	7.0	7.3	7.1	7.1	7.1	7.0	6.9	6.8	7.1
16 to 24 years	14.4	14.1	14.5	13.8	14.1	14.2	14.0	14.0	13.3	14.5
25 years and over	5.7	5.3	5.5	5.4	5.4	5.4	5.3	5.2	5.3	5.4
Women	7.6	7.4	7.6	7.5	7.6	7.5	7.4	7.2	7.3	7.3
16 to 24 years	13.3	13.0	13.1	12.9	13.1	13.0	12.7	13.1	13.2	13.2
25 years and over	6.0	5.9	6.0	5.9	6.0	6.0	5.9	5.5	5.7	5.7
Unemployment rate, 15 weeks and over	2.4	2.0	2.3	2.1	2.0	2.0	2.0	1.9	1.9	1.9
Employment, nonagricultural (payroll data): ¹										
Total	94,496	97,614	94,977	95,907	96,581	97,295	97,897	98,668	99,403	99,855
Private sector	78,472	81,199	78,914	79,736	80,341	80,958	81,414	82,069	82,731	83,144
Goods-producing	24,727	24,930	24,891	24,943	24,970	24,947	24,866	24,937	25,028	24,953
Manufacturing	19,378	19,314	19,489	19,486	19,439	19,323	19,241	19,261	19,284	19,197
Service-producing	69,769	72,684	70,086	70,964	71,611	72,347	73,031	73,731	74,375	74,902
Average hours										
Private sector	35.2	34.9	35.1	35.1	35.0	34.9	34.9	34.9	34.9	34.8
Manufacturing	40.7	40.5	40.6	40.5	40.4	40.4	40.6	40.8	40.7	40.7
Overtime	3.4	3.3	3.3	3.4	3.3	3.2	3.3	3.5	3.4	3.4
Employment Cost Index										
Percent change in the ECI, compensation: ²										
All workers (excluding farm, household, and Federal workers)	-	-	1.3	1.2	1.3	.7	1.6	.6	1.1	.7
Private industry workers	-	-	.8	1.3	1.2	.8	1.3	.6	1.1	.8
Goods-producing ³	-	-	.9	1.1	1.5	.7	.6	.6	1.1	.9
Servicing-producing ³	-	-	.7	1.4	1.0	1.0	1.8	.5	1.1	.6
State and local government workers	-	-	3.5	1.0	1.2	.2	3.4	.7	1.0	.6
Workers by bargaining status (private industry)										
Union	-	-	.7	1.1	.7	.6	.8	.5	1.0	.2
Nonunion	-	-	.9	1.3	1.6	1.0	1.4	.6	1.2	.9

¹ Quarterly data seasonally adjusted.

² Quarterly changes calculated using the last month of each quarter.

³ Goods-producing industries include mining, construction, and manufacturing. Service-producing industries include all other private sector industries.

- Data not available.

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

Selected measures	1984	1985	1984		1985				1986		
			III	IV	I	II	III	IV	I	II	
Compensation data: ^{1, 2}											
Employment Cost Index--Compensation (wages, salaries, benefits)											
Civilian nonfarm	-	-	1.3	1.2	1.3	0.7	1.6	0.6	1.1	0.7	
Private nonfarm	-	-	.8	1.3	1.2	.8	1.3	.6	1.1	.8	
Employment Cost Index--Wages and Salaries											
Civilian nonfarm	-	-	1.3	1.2	1.2	.9	1.7	.6	1.0	.8	
Private nonfarm	-	-	.8	1.2	1.2	1.1	1.3	.6	1.0	.9	
Price data¹											
Consumer Price Index (All urban consumers): All items	4.0	3.8	1.2	.3	1.0	1.1	.7	.9	-.4	.6	
Producer Price Index											
Finished goods	1.7	1.8	-.5	.9	.0	.7	-1.4	2.5	-3.1	.3	
Finished consumer goods	1.6	1.5	-.5	.8	-.3	.7	-1.4	2.5	-4.0	.2	
Capital equipment	1.8	2.7	-.5	1.1	1.3	.4	-1.4	2.5	.2	.5	
Intermediate materials, supplies, components	1.3	-.3	-.4	-.1	-.4	.2	-.5	.4	-3.0	-.7	
Crude materials	-1.6	-5.6	-2.0	-1.2	-3.1	-2.1	-4.5	4.3	-7.7	-2.1	
U.S. Export Price Index	-	-	-	-	-	-	-	-	-	-	
U.S. Import Price Index	-	-	-	-	-	-	-	-	-	-	
Productivity data¹											
Output per hour of all persons:											
Business sector	2.3	1.0	-.3	-.1	.9	2.7	3.4	-3.2	3.3	-.3	
Nonfarm business sector	1.8	.5	-.7	-.4	.3	1.8	2.2	-3.5	4.3	-.5	
Nonfinancial corporations ³	2.0	1.2	-1.6	1.1	.8	2.2	4.9	-2.8	-.5	-2.3	

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. Productivity data are seasonally adjusted.

² Excludes Federal and private household workers.

³ Output per hour of all employees.

- Data not available.

3. Alternative measures of wage and compensation changes

Components	Quarterly Average						Four quarters ended in--					
	1985				1986		1985				1986	
	I	II	III	IV	I	II	I	II	III	IV	I	II
Average hourly compensation:¹												
All persons, business sector	4.2	5.1	4.4	3.8	2.5	2.7	3.9	4.5	4.4	4.4	3.9	3.3
All employees, nonfarm business sector	3.9	4.6	3.2	3.7	3.1	2.2	3.9	4.2	4.0	3.9	3.6	3.1
Hourly earnings index:²												
All private nonfarm	-	-	-	-	-	-	-	-	-	-	-	-
Employment Cost Index--compensation:												
Civilian nonfarm ³	1.3	.7	1.6	.6	1.1	.7	4.8	4.6	4.9	4.3	4.1	4.0
Private nonfarm	1.2	.8	1.3	.6	1.1	.8	4.4	4.2	4.7	3.9	3.8	3.8
Union .....	.7	.6	.8	.5	1.0	.2	3.5	3.1	3.2	2.6	2.9	2.5
Nonunion	1.6	1.0	1.4	.6	1.2	.9	4.9	4.9	5.4	4.6	4.2	4.2
State and local governments	1.2	.2	3.4	.7	1.0	.6	6.3	6.1	6.0	5.7	5.5	5.8
Employment Cost Index--wages and salaries:												
Civilian nonfarm ³	1.2	.9	1.7	.6	1.0	.8	4.4	4.5	5.0	4.4	4.2	4.1
Private nonfarm	1.2	1.1	1.3	.6	1.0	.9	4.1	4.3	4.8	4.1	3.9	3.7
Union .....	.7	1.1	.9	.5	.7	.4	3.0	3.4	3.6	3.1	3.2	2.5
Nonunion	1.4	1.1	1.5	.6	1.1	.9	4.6	4.8	5.4	4.6	4.3	4.1
State and local governments	1.0	.2	3.5	.8	1.0	.4	5.6	5.5	5.6	5.6	5.5	5.7
Total effective wage adjustments⁴												
From current settlements .....	.7	.8	1.2	.5	.6	.7	3.6	3.5	3.5	3.3	3.1	2.9
From prior settlements	-.1	.2	.2	.1	.0	.2	.7	.9	.9	.7	.6	.5
From cost-of-living provision .....	.6	.5	.5	.2	.4	.6	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living provision .....	.1	.1	.4	.1	.2	.0	.7	.7	.8	.7	.8	.7
Negotiated wage adjustments from settlements⁴												
First-year adjustments	3.3	2.5	2.0	2.1	1.0	1.3	2.4	2.4	2.4	2.3	2.0	1.7
Annual rate over life of contract	3.2	2.8	3.1	1.9	1.6	2.0	2.3	2.4	2.5	2.7	2.5	2.3
Negotiated wage and benefit adjustments from settlements:⁵												
First-year adjustment	3.6	3.5	2.0	2.0	.4	.7	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	2.7	3.4	3.0	1.4	1.3	1.6	2.6	2.7	2.7	2.6	2.6	2.0

¹ Seasonally adjusted.

² Production or nonsupervisory workers.

³ Excludes Federal and household workers.

⁴ Limited to major collective bargaining units of 1,000 workers or more. The

most recent data are preliminary.

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

- Data not available.

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

(Numbers in thousands)

Employment status	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL															
Noninstitutional population ^{1, 2}	178,080	179,912	179,967	180,131	180,304	180,470	180,642	180,810	181,361	181,512	181,678	181,843	181,998	182,183	182,354
Labor force ²	115,241	117,167	116,976	117,069	117,522	117,814	117,832	117,927	118,477	118,779	118,900	118,929	119,351	119,796	119,744
Participation rate ³	64.7	65.1	65.0	65.0	65.2	65.3	65.2	65.2	65.3	65.4	65.4	65.4	65.6	65.8	65.7
Total employed ²	106,702	108,856	108,575	108,936	109,251	109,513	109,671	109,904	110,646	110,252	110,481	110,587	110,797	111,353	111,554
Employment-population ratio ⁴	59.9	60.5	60.3	60.5	60.6	60.7	60.7	60.8	61.0	60.7	60.8	60.8	60.9	61.1	61.2
Resident Armed Forces ¹	1,697	1,706	1,704	1,726	1,732	1,700	1,702	1,698	1,691	1,691	1,693	1,695	1,687	1,680	1,672
Civilian employed	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Agriculture	3,321	3,179	3,120	3,095	3,017	3,058	3,070	3,151	3,299	3,096	3,285	3,222	3,160	3,165	3,112
Nonagricultural industries	101,685	103,971	103,751	104,115	104,502	104,755	104,899	105,055	105,655	105,465	105,503	105,670	105,950	106,508	106,769
Unemployed	8,539	8,312	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190
Unemployment rate ⁵	7.4	7.1	7.2	6.9	7.0	7.0	6.9	6.8	6.6	7.2	7.1	7.0	7.2	7.0	6.8
Not in labor force	62,839	62,744	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610
Men, 16 years and over															
Noninstitutional population ^{1, 2}	85,156	86,025	86,052	86,132	86,217	86,293	86,374	86,459	86,882	86,954	87,035	87,120	87,195	87,288	87,373
Labor force ²	65,386	65,967	65,884	65,945	66,074	66,227	66,176	66,139	66,679	66,838	66,864	66,757	66,943	66,964	66,936
Participation rate ³	76.8	76.7	76.6	76.6	76.6	76.7	76.6	76.5	76.7	76.9	76.8	76.6	76.8	76.7	76.6
Total employed ²	60,642	61,447	61,273	61,510	61,629	61,656	61,731	61,793	62,458	62,243	62,288	62,254	62,190	62,322	62,365
Employment-population ratio ⁴	71.2	71.4	71.2	71.4	71.5	71.4	71.5	71.5	71.9	71.6	71.6	71.5	71.3	71.4	71.4
Resident Armed Forces ¹	1,551	1,556	1,554	1,574	1,580	1,551	1,552	1,549	1,539	1,539	1,540	1,541	1,533	1,525	1,518
Civilian employed	59,091	59,891	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847
Unemployed	4,744	4,521	4,611	4,435	4,445	4,571	4,445	4,346	4,221	4,595	4,577	4,503	4,754	4,642	4,571
Unemployment rate ⁵	7.3	6.9	7.0	6.7	6.7	6.9	6.7	6.6	6.3	6.9	6.8	6.7	7.1	6.9	6.8
Women, 16 years and over															
Noninstitutional population ^{1, 2}	92,924	93,886	93,915	93,999	94,087	94,177	94,266	94,351	94,479	94,558	94,643	94,723	94,803	94,895	94,981
Labor force ²	49,855	51,200	51,092	51,124	51,448	51,587	51,655	51,788	51,797	51,941	52,036	52,172	52,408	52,832	52,808
Participation rate ³	53.7	54.5	54.4	54.4	54.7	54.8	54.8	54.9	54.8	54.9	55.0	55.1	55.3	55.7	55.6
Total employed ²	46,061	47,409	47,302	47,426	47,622	47,857	47,939	48,111	48,187	48,009	48,194	48,333	48,608	49,031	49,189
Employment-population ratio ⁴	49.6	50.5	50.4	50.5	50.6	50.8	50.9	51.0	51.0	50.8	50.9	51.0	51.3	51.7	51.8
Resident Armed Forces ¹	146	150	150	152	152	149	149	149	152	152	153	154	154	155	154
Civilian employed	45,915	47,259	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035
Unemployed	3,794	3,791	3,790	3,698	3,826	3,730	3,716	3,677	3,610	3,932	3,842	3,839	3,800	3,801	3,619
Unemployment rate ⁵	7.6	7.4	7.4	7.2	7.4	7.2	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9

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		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
TOTAL															
Civilian noninstitutional population ¹	176,383	178,206	178,263	178,405	178,572	178,770	178,940	179,112	179,670	179,821	179,985	180,148	180,311	180,503	180,682
Civilian labor force	113,544	115,461	115,272	115,343	115,790	116,114	116,130	116,229	116,786	117,088	117,207	117,234	117,664	118,116	118,072
Participation rate	64.4	64.8	64.7	64.7	64.8	65.0	64.9	64.9	65.0	65.1	65.1	65.1	65.3	65.4	65.3
Employed	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Employment-population ratio ²	59.5	60.1	60.0	60.1	60.2	60.3	60.3	60.4	60.6	60.4	60.4	60.4	60.5	60.8	60.8
Unemployed	8,539	8,312	8,401	8,133	8,271	8,301	8,161	8,023	7,831	8,527	8,419	8,342	8,554	8,443	8,190
Unemployment rate	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
Not in labor force	62,839	62,744	62,991	63,062	62,782	62,656	62,810	62,883	62,885	62,733	62,778	62,914	62,647	62,387	62,610
Men, 20 years and over															
Civilian noninstitutional population ¹	76,219	77,195	77,243	77,306	77,389	77,498	77,566	77,651	78,101	78,171	78,236	78,309	78,387	78,484	78,586
Civilian labor force	59,701	60,277	60,158	60,269	60,407	60,526	60,553	60,548	61,212	61,183	61,268	61,053	61,208	61,387	61,323
Participation rate	78.3	78.1	77.9	78.0	78.1	78.1	78.1	78.0	78.4	78.3	78.3	78.0	78.1	78.2	78.0
Employed	55,769	56,562	56,403	56,636	56,751	56,849	56,897	56,982	57,706	57,384	57,459	57,391	57,312	57,560	57,499
Employment-population ratio ²	73.2	73.3	73.0	73.3	73.3	73.4	73.4	73.4	73.9	73.4	73.4	73.3	73.1	73.3	73.2
Agriculture	2,418	2,278	2,230	2,231	2,171	2,188	2,210	2,278	2,349	2,258	2,411	2,347	2,278	2,320	2,266
Nonagricultural industries	53,351	54,284	54,173	54,405	54,580	54,661	54,687	54,704	55,356	55,127	55,048	55,043	55,034	55,241	55,233
Unemployed	3,932	3,715	3,755	3,633	3,656	3,677	3,656	3,566	3,507	3,799	3,809	3,663	3,897	3,827	3,824
Unemployment rate	6.6	6.2	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2
Women, 20 years and over															
Civilian noninstitutional population ¹	85,429	86,506	86,575	86,652	86,727	86,810	86,901	86,988	87,112	87,185	87,263	87,355	87,444	87,547	87,629
Civilian labor force	45,900	47,283	47,190	47,340	47,558	47,663	47,713	47,870	47,895	47,921	47,952	48,107	48,409	48,805	48,916
Participation rate	53.7	54.7	54.5	54.6	54.8	54.9	54.9	55.0	55.0	55.0	55.0	55.1	55.4	55.7	55.8
Employed	42,793	44,154	44,070	44,197	44,363	44,609	44,656	44,882	44,980	44,710	44,797	45,009	45,284	45,701	45,918
Employment-population ratio ²	50.1	51.0	50.9	51.0	51.2	51.4	51.4	51.6	51.6	51.3	51.3	51.5	51.8	52.2	52.4
Agriculture	595	596	596	581	557	609	591	597	696	593	598	576	609	565	608
Nonagricultural industries	42,198	43,558	43,474	43,616	43,806	44,000	44,065	44,285	44,284	44,117	44,199	44,433	44,675	45,136	45,309
Unemployed	3,107	3,129	3,120	3,143	3,195	3,054	3,057	2,988	2,915	3,211	3,155	3,097	3,125	3,104	2,998
Unemployment rate	6.8	6.6	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	14,735	14,506	14,445	14,448	14,456	14,463	14,472	14,474	14,458	14,465	14,485	14,484	14,480	14,472	14,467
Civilian labor force	7,943	7,901	7,924	7,734	7,825	7,925	7,864	7,811	7,678	7,984	7,987	8,074	8,047	7,923	7,833
Participation rate	53.9	54.5	54.9	53.5	54.1	54.8	54.3	54.0	53.1	55.2	55.1	55.7	55.6	54.7	54.1
Employed	6,444	6,434	6,398	6,377	6,405	6,355	6,416	6,342	6,269	6,467	6,532	6,492	6,515	6,411	6,465
Employment-population ratio ²	43.7	44.4	44.3	44.1	44.3	43.9	44.3	43.8	43.4	44.7	45.1	44.8	45.0	44.3	44.7
Agriculture	309	305	294	283	289	261	269	276	254	246	276	298	274	280	238
Nonagricultural industries	6,135	6,129	6,104	6,094	6,116	6,094	6,147	6,066	6,015	6,221	6,256	6,194	6,241	6,131	6,227
Unemployed	1,499	1,468	1,526	1,357	1,420	1,570	1,448	1,469	1,409	1,517	1,455	1,582	1,532	1,512	1,368
Unemployment rate	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
White															
Civilian noninstitutional population ¹	152,347	153,679	153,717	153,819	153,938	154,082	154,203	154,327	154,784	154,889	155,005	155,122	155,236	155,376	155,502
Civilian labor force	98,492	99,926	99,705	99,817	100,179	100,533	100,478	100,533	100,961	101,232	101,248	101,249	101,515	101,975	101,922
Participation rate	64.6	65.0	64.9	64.9	65.1	65.2	65.2	65.1	65.2	65.4	65.3	65.3	65.4	65.6	65.5
Employed	92,120	93,736	93,378	93,684	94,055	94,369	94,507	94,585	95,165	94,803	94,958	95,081	95,180	95,731	95,760
Employment-population ratio ²	60.5	61.0	60.7	60.9	61.1	61.2	61.3	61.3	61.5	61.2	61.3	61.3	61.3	61.6	61.6
Unemployed	6,372	6,191	6,327	6,133	6,124	6,164	5,971	5,948	5,796	6,429	6,290	6,168	6,335	6,244	6,162
Unemployment rate	6.5	6.2	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0
Black															
Civilian noninstitutional population ¹	19,348	19,664	19,675	19,700	19,728	19,761	19,790	19,819	19,837	19,863	19,889	19,916	19,943	19,974	20,002
Civilian labor force	12,033	12,364	12,354	12,289	12,378	12,412	12,457	12,522	12,548	12,545	12,656	12,740	12,781	12,754	12,601
Participation rate	62.2	62.9	62.8	62.4	62.7	62.8	62.9	63.2	63.3	63.2	63.6	64.0	64.1	63.9	63.0
Employed	10,119	10,501	10,499	10,560	10,500	10,566	10,518	10,657	10,737	10,690	10,791	10,856	10,889	10,825	10,836
Employment-population ratio ²	52.3	53.4	53.4	53.6	53.2	53.5	53.1	53.8	54.1	53.8	54.3	54.5	54.6	54.2	54.2
Unemployed	1,914	1,864	1,855	1,729	1,878	1,846	1,939	1,865	1,810	1,855	1,865	1,884	1,892	1,929	1,766
Unemployment rate	15.9	15.1	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0

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		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Hispanic origin															
Civilian noninstitutional population ¹	11,478	11,915	11,933	11,969	12,004	12,040	12,075	12,111	12,148	12,184	12,219	12,255	12,290	12,326	12,362
Civilian labor force	7,451	7,698	7,713	7,781	7,844	7,854	7,782	7,772	7,787	7,943	7,920	7,975	8,002	8,110	8,123
Participation rate	64.9	64.6	64.6	65.0	65.3	65.2	64.4	64.2	64.1	65.2	64.8	65.1	65.1	65.8	65.7
Employed	6,651	6,888	6,870	6,973	7,026	6,982	6,953	6,962	6,998	6,969	7,105	7,144	7,123	7,251	7,274
Employment-population ratio ²	57.9	57.8	57.6	58.3	58.5	58.0	57.6	57.5	57.6	57.2	58.2	58.3	58.0	58.8	58.8
Unemployed	800	811	843	808	818	872	829	810	789	974	815	832	878	858	849
Unemployment rate	10.7	10.5	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5

¹ The population figures are not seasonally adjusted.

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

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

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

6. Selected employment indicators, monthly data seasonally adjusted

(In thousands)

Selected categories	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC															
Civilian employed, 16 years and over	105,005	107,150	106,871	107,210	107,519	107,813	107,969	108,206	108,955	108,561	108,788	108,892	109,110	109,673	109,882
Men	59,091	59,891	59,719	59,936	60,049	60,105	60,179	60,244	60,919	60,704	60,748	60,713	60,657	60,797	60,847
Women	45,915	47,259	47,152	47,274	47,470	47,708	47,790	47,962	48,035	47,857	48,041	48,179	48,454	48,876	49,035
Married men, spouse present ..	39,056	39,248	39,096	39,142	39,103	39,272	39,314	39,278	39,615	39,382	39,365	39,555	39,614	39,626	39,611
Married women, spouse present	25,636	26,336	26,316	26,392	26,531	26,702	26,721	26,804	26,958	26,593	26,656	26,802	26,920	27,427	27,523
Women who maintain families ..	5,465	5,597	5,607	5,627	5,556	5,514	5,605	5,693	5,702	5,733	5,771	5,812	5,718	5,668	5,829
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,555	1,535	1,479	1,456	1,438	1,465	1,537	1,572	1,673	1,519	1,689	1,587	1,480	1,498	1,486
Self-employed workers	1,553	1,458	1,474	1,444	1,414	1,436	1,361	1,409	1,492	1,444	1,453	1,475	1,486	1,504	1,427
Unpaid family workers	213	185	170	176	179	172	158	164	163	156	172	180	186	154	171
Nonagricultural industries:															
Wage and salary workers	93,565	95,871	95,523	95,791	96,546	96,530	96,676	96,921	97,911	97,516	97,698	97,831	97,994	98,372	98,206
Government	15,770	16,031	15,949	16,075	16,145	16,213	16,157	16,194	16,418	16,104	16,095	16,187	16,325	16,387	16,647
Private industries	77,794	79,841	79,574	79,716	80,401	80,317	80,519	80,727	81,494	81,412	81,604	81,643	81,669	81,984	81,559
Private households	1,238	1,249	1,251	1,295	1,266	1,271	1,197	1,131	1,256	1,197	1,213	1,321	1,275	1,279	1,243
Other	76,556	78,592	78,323	78,421	79,135	79,046	79,322	79,596	80,238	80,216	80,390	80,322	80,394	80,705	80,317
Self-employed workers	7,785	7,811	7,724	7,874	7,846	7,991	8,013	7,903	7,655	7,669	7,644	7,571	7,757	7,807	8,081
Unpaid family workers	335	289	277	303	266	248	249	250	273	270	240	253	229	235	254
PERSONS AT WORK PART TIME¹															
All industries:															
Part time for economic reasons ..	5,744	5,590	5,596	5,680	5,554	5,475	5,498	5,494	5,543	5,377	5,538	5,923	5,980	5,537	5,399
Slack work	2,430	2,430	2,414	2,480	2,433	2,251	2,306	2,303	2,364	2,369	2,330	2,603	2,659	2,434	2,484
Could only find part-time work ..	2,948	2,819	2,766	2,835	2,815	2,897	2,883	2,864	2,883	2,703	2,953	2,974	2,893	2,810	2,624
Voluntary part time	13,169	13,489	13,634	13,622	13,496	13,713	13,645	13,556	13,958	13,817	13,754	13,933	13,638	14,268	13,991
Nonagricultural industries:															
Part time for economic reasons ..	5,512	5,334	5,328	5,413	5,299	5,241	5,295	5,294	5,275	5,158	5,301	5,621	5,673	5,320	5,191
Slack work	2,291	2,273	2,251	2,319	2,292	2,115	2,196	2,195	2,208	2,224	2,159	2,430	2,523	2,308	2,323
Could only find part-time work ..	2,866	2,730	2,686	2,740	2,730	2,801	2,784	2,760	2,776	2,636	2,861	2,849	2,790	2,724	2,579
Voluntary part time	12,704	13,038	13,235	13,179	13,053	13,277	13,194	13,122	13,441	13,369	13,285	13,599	13,191	13,779	13,656

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		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CHARACTERISTIC															
Total, all civilian workers	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9
Both sexes, 16 to 19 years	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5
Men, 20 years and over	6.6	6.2	6.2	6.0	6.1	6.1	6.0	5.9	5.7	6.2	6.2	6.0	6.4	6.2	6.2
Women, 20 years and over	6.8	6.6	6.6	6.6	6.7	6.4	6.4	6.2	6.1	6.7	6.6	6.4	6.5	6.4	6.1
White, total	6.5	6.2	6.3	6.1	6.1	6.1	5.9	5.9	5.7	6.4	6.2	6.1	6.2	6.1	6.0
Both sexes, 16 to 19 years	16.0	15.7	16.1	15.2	15.3	17.0	15.5	15.9	14.9	16.2	14.5	16.4	16.0	16.2	15.0
Men, 16 to 19 years	16.8	16.5	17.1	17.2	16.2	18.5	15.8	16.2	14.7	16.5	15.3	17.2	17.3	17.8	15.3
Women, 16 to 19 years	15.2	14.8	15.0	13.0	14.4	15.3	15.1	15.5	15.1	15.8	13.7	15.6	14.7	14.4	14.7
Men, 20 years and over	5.7	5.4	5.6	5.3	5.2	5.2	5.2	5.1	5.0	5.4	5.5	5.2	5.5	5.4	5.5
Women, 20 years and over	5.8	5.7	5.7	5.7	5.7	5.5	5.4	5.4	5.3	5.9	5.8	5.5	5.5	5.4	5.3
Black, total	15.9	15.1	15.0	14.1	15.2	14.9	15.6	14.9	14.4	14.8	14.7	14.8	14.8	15.1	14.0
Both sexes, 16 to 19 years	42.7	40.2	41.2	35.3	38.8	39.7	40.8	41.6	41.9	39.1	43.7	42.6	40.8	40.2	38.6
Men, 16 to 19 years	42.7	41.0	43.1	34.9	41.1	41.0	45.2	41.0	41.3	38.7	44.1	41.4	40.8	38.5	41.6
Women, 16 to 19 years	42.6	39.2	39.0	35.9	36.1	38.2	36.0	42.3	42.4	39.5	43.4	43.7	40.8	41.9	35.1
Men, 20 years and over	14.3	13.2	12.8	11.9	13.3	13.7	13.7	13.1	12.7	13.3	12.6	12.6	12.7	13.3	12.7
Women, 20 years and over	13.5	13.1	13.1	13.1	13.5	12.1	13.6	12.6	12.0	12.5	12.2	12.5	12.8	12.8	11.9
Hispanic origin, total	10.7	10.5	10.9	10.4	10.4	11.1	10.7	10.4	10.1	12.3	10.3	10.4	11.0	10.6	10.5
Married men, spouse present	4.6	4.3	4.4	4.1	4.3	4.2	4.3	4.3	4.3	4.5	4.5	4.2	4.5	4.5	4.4
Married women, spouse present	5.7	5.6	5.7	5.4	5.6	5.3	5.5	5.3	5.1	5.5	5.6	5.3	5.4	5.2	5.3
Women who maintain families	10.3	10.4	10.3	10.8	11.3	10.4	10.0	9.4	9.9	9.9	10.1	9.4	10.2	10.1	9.2
Full-time workers	7.2	6.8	7.0	6.8	6.8	6.8	6.7	6.6	6.4	6.9	6.9	6.7	7.0	6.7	6.6
Part-time workers	9.3	9.3	9.4	9.0	9.3	9.6	8.8	9.0	8.4	9.4	9.1	9.6	9.2	9.1	9.0
Unemployed 15 weeks and over	2.4	2.0	2.0	2.0	2.0	2.0	1.9	1.9	1.8	2.0	1.9	1.8	1.9	2.0	1.9
Labor force time lost ¹	8.6	8.1	8.2	8.1	8.1	7.9	7.9	7.8	7.6	8.1	8.1	8.1	8.3	8.1	7.7
INDUSTRY															
Nonagricultural private wage and salary workers	7.4	7.2	7.3	7.1	7.2	7.1	7.0	6.9	6.7	7.2	7.2	7.2	7.3	7.1	7.2
Mining	10.0	9.5	9.9	8.6	8.9	7.7	7.3	10.3	10.9	9.2	10.4	12.8	13.7	17.6	17.0
Construction	14.3	13.1	13.4	13.1	13.6	13.5	13.4	12.6	12.9	13.2	13.0	12.0	13.3	12.1	13.2
Manufacturing	7.5	7.7	7.9	7.8	7.7	7.5	7.7	7.3	7.0	7.2	7.2	6.8	7.5	7.3	6.9
Durable goods	7.2	7.6	7.9	7.9	7.7	7.3	7.6	7.3	7.0	7.4	6.8	6.8	7.3	7.1	6.7
Nondurable goods	7.8	7.8	7.9	7.6	7.8	7.8	7.8	7.3	7.1	7.0	7.7	6.8	7.7	7.5	7.2
Transportation and public utilities	5.5	5.1	5.7	4.5	5.3	5.1	5.1	5.0	4.3	5.3	6.1	5.6	5.3	5.5	6.1
Wholesale and retail trade	8.0	7.6	7.6	7.7	7.8	7.7	7.5	7.6	7.2	7.8	7.6	8.1	8.1	7.7	7.8
Finance and service industries	5.9	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.2	5.9	5.7	5.9	5.5	5.4	5.7
Government workers	4.5	3.9	4.0	3.9	3.8	3.9	3.6	3.8	3.4	3.8	4.0	3.5	3.7	3.6	3.2
Agricultural wage and salary workers	13.5	13.2	14.0	14.0	13.3	12.9	12.5	10.6	10.9	14.3	11.9	13.4	15.8	13.2	11.6

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		1985							1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Total, 16 years and over	7.5	7.2	7.3	7.1	7.1	7.1	7.0	6.9	6.7	7.3	7.2	7.1	7.3	7.1	6.9	
16 to 24 years	13.9	13.6	13.9	13.0	13.3	13.9	13.5	13.3	13.0	13.6	13.2	13.9	14.2	13.5	13.0	
16 to 19 years	18.9	18.6	19.3	17.5	18.1	19.8	18.4	18.8	18.4	19.0	18.2	19.6	19.0	19.1	17.5	
16 to 17 years	21.2	21.0	21.7	19.1	20.3	22.7	21.4	21.1	20.9	21.8	19.4	20.9	21.1	20.6	19.4	
18 to 19 years	17.4	17.0	17.3	16.8	16.7	17.8	16.9	17.5	16.4	17.2	17.1	18.9	17.5	17.9	15.7	
20 to 24 years	11.5	11.1	11.2	10.8	10.9	10.9	11.0	10.6	10.4	10.8	10.6	10.9	11.7	10.7	10.8	
25 years and over	5.8	5.6	5.6	5.5	5.6	5.4	5.4	5.3	5.1	5.7	5.7	5.4	5.5	5.6	5.4	
25 to 54 years	6.1	5.8	5.9	5.8	5.8	5.7	5.6	5.5	5.4	5.9	5.9	5.8	5.9	5.9	5.8	
55 years and over	4.5	4.1	4.4	4.1	4.1	3.9	3.8	3.9	3.9	4.4	4.3	3.9	3.6	3.7	3.8	
Men, 16 years and over	7.4	7.0	7.2	6.9	6.9	7.1	6.9	6.7	6.5	7.0	7.0	6.9	7.3	7.1	7.0	
16 to 24 years	14.4	14.1	14.6	13.8	13.8	14.6	13.9	13.5	12.8	13.6	13.6	14.5	15.0	14.0	13.5	
16 to 19 years	19.6	19.5	20.5	19.6	19.3	21.5	19.4	19.3	18.2	19.3	18.9	20.2	20.4	20.1	18.2	
16 to 17 years	21.9	21.9	22.1	21.9	20.7	24.0	20.9	21.6	20.9	23.2	20.0	21.2	21.6	19.4	20.0	
18 to 19 years	18.3	17.9	18.7	18.1	18.3	19.9	18.7	18.0	16.2	16.6	17.8	19.7	19.6	20.4	16.1	
20 to 24 years	11.9	11.4	11.6	10.9	11.0	11.1	11.2	10.6	10.3	10.7	11.0	11.6	12.2	11.0	11.2	
25 years and over	5.7	5.3	5.4	5.3	5.3	5.3	5.2	5.1	5.0	5.5	5.5	5.2	5.4	5.5	5.5	
25 to 54 years	5.9	5.6	5.6	5.6	5.5	5.5	5.4	5.4	5.3	5.7	5.7	5.5	5.8	5.8	5.8	
55 years and over	4.6	4.1	4.6	3.8	4.0	4.1	4.0	3.9	3.9	4.4	4.3	3.9	3.8	4.1	3.9	
Women, 16 years and over	7.6	7.4	7.4	7.3	7.5	7.3	7.2	7.1	7.0	7.6	7.4	7.4	7.3	7.2	6.9	
16 to 24 years	13.3	13.0	13.1	12.2	12.9	13.1	13.1	13.2	13.2	13.6	12.7	13.2	13.3	13.0	12.5	
16 to 19 years	18.0	17.6	17.9	15.3	16.9	17.9	17.4	18.3	18.5	18.6	17.5	19.0	17.6	18.0	16.6	
16 to 17 years	20.4	20.0	21.2	15.8	19.8	21.2	22.0	20.6	20.8	20.2	18.7	20.5	20.5	21.9	18.7	
18 to 19 years	16.6	16.0	15.7	15.3	14.9	15.5	15.1	16.9	16.5	17.7	16.3	18.1	15.3	15.1	15.3	
20 to 24 years	10.9	10.7	10.7	10.7	10.9	10.7	10.8	10.6	10.5	11.0	10.1	10.0	11.1	10.4	10.4	
25 years and over	6.0	5.9	5.9	5.8	6.0	5.6	5.6	5.4	5.3	5.9	5.9	5.8	5.7	5.7	5.4	
25 to 54 years	6.3	6.2	6.2	6.1	6.2	5.9	5.9	5.7	5.6	6.2	6.3	6.2	6.1	6.1	5.7	
55 years and over	4.2	4.1	4.2	4.5	4.2	3.7	3.6	3.9	3.8	4.4	4.4	3.8	3.4	3.1	3.6	

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

(Numbers in thousands)

Reason for unemployment	Annual average		1985							1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Job losers	4,421	4,139	4,206	4,144	4,142	4,040	4,081	3,933	3,776	4,162	4,246	4,034	4,311	4,335	3,937	
On layoff	1,171	1,157	1,134	1,112	1,167	1,161	1,175	1,132	1,163	1,152	1,164	1,028	1,133	1,066	1,079	
Other job losers	3,250	2,982	3,072	3,032	2,975	2,879	2,906	2,801	2,613	3,010	3,082	3,006	3,178	3,269	2,858	
Job leavers	823	877	894	875	852	911	808	876	996	1,001	1,002	1,110	975	1,013	1,034	
Reentrants	2,184	2,256	2,184	2,191	2,335	2,237	2,226	2,225	2,066	2,292	2,197	2,191	2,217	2,064	2,223	
New entrants	1,110	1,039	1,098	941	918	1,045	1,055	1,033	1,025	1,097	1,000	1,059	1,062	1,059	965	
PERCENT OF UNEMPLOYED																
Job losers	51.8	49.8	50.2	50.8	50.2	49.1	50.0	48.8	48.0	48.7	50.3	48.1	50.3	51.2	48.3	
On layoff	13.7	13.9	13.5	13.6	14.2	14.1	14.4	14.0	14.8	13.5	13.8	12.2	13.2	12.6	13.2	
Other job losers	38.1	35.9	36.6	37.2	36.1	35.0	35.6	34.7	33.2	35.2	36.5	35.8	37.1	38.6	35.0	
Job leavers	9.6	10.6	10.7	10.7	10.3	11.1	9.9	10.9	12.7	11.7	11.9	13.2	11.4	12.0	12.7	
Reentrants	25.6	27.1	26.1	26.9	28.3	27.2	27.2	27.6	26.3	26.8	26.0	26.1	25.9	24.4	27.2	
New entrants	13.0	12.5	13.1	11.5	11.1	12.7	12.9	12.8	13.0	12.8	11.8	12.6	12.4	12.5	11.8	
PERCENT OF CIVILIAN LABOR FORCE																
Job losers	3.9	3.6	3.6	3.6	3.6	3.5	3.5	3.4	3.2	3.6	3.6	3.4	3.7	3.7	3.3	
Job leavers .....	.7	.8	.8	.8	.7	.8	.7	.8	.9	.9	.9	.9	.8	.9	.9
Reentrants	1.9	2.0	1.9	1.9	2.0	1.9	1.9	1.9	1.8	2.0	1.9	1.9	1.9	1.7	1.9	
New entrants	1.0	.9	1.0	.8	.8	.9	.9	.9	.9	.9	.9	.9	.9	.9	.8	

10. Duration of unemployment, monthly data seasonally adjusted

(Numbers in thousands)

Weeks of unemployment	Annual average		1985							1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	
Less than 5 weeks	3,350	3,498	3,525	3,422	3,484	3,430	3,465	3,374	3,311	3,562	3,589	3,628	3,705	3,384	3,394	
5 to 14 weeks	2,451	2,509	2,514	2,508	2,505	2,536	2,448	2,460	2,441	2,622	2,640	2,685	2,737	2,708	2,486	
15 weeks and over	2,737	2,305	2,329	2,274	2,307	2,277	2,205	2,188	2,056	2,340	2,258	2,135	2,209	2,320	2,256	
15 to 26 weeks	1,104	1,025	1,078	1,047	1,035	1,057	894	973	969	1,149	1,099	1,001	1,072	1,036	1,066	
27 weeks and over	1,634	1,280	1,251	1,227	1,272	1,220	1,311	1,215	1,087	1,191	1,159	1,134	1,137	1,284	1,190	
Mean duration in weeks	18.2	15.6	15.5	15.5	15.5	15.4	15.7	15.4	14.9	15.3	14.4	14.3	14.4	15.2	15.0	
Median duration in weeks	7.9	6.8	7.1	7.2	6.9	7.0	6.9	6.9	6.8	6.9	6.8	6.5	6.6	7.3	7.1	

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

State	June 1985	June 1986	State	June 1985	June 1986
Alabama	8.6	10.0	Montana	7.1	7.2
Alaska	9.1	10.8	Nebraska	5.2	4.5
Arizona	7.3	7.1	Nevada	7.8	5.9
Arkansas	8.2	8.9	New Hampshire	4.0	3.2
California	7.6	6.5			
			New Jersey	5.5	5.0
Colorado	5.8	6.8	New Mexico	9.2	9.7
Connecticut	5.0	3.7	New York	6.6	6.0
Delaware	5.2	5.3	North Carolina	5.5	5.5
District of Columbia	8.4	7.2	North Dakota	5.6	6.3
Florida	6.9	6.0			
			Ohio	8.5	8.7
Georgia	6.9	6.1	Oklahoma	7.1	9.0
Hawaii	6.2	5.5	Oregon	8.4	8.9
Idaho	7.3	7.8	Pennsylvania	9.1	7.3
Illinois	9.4	8.4	Rhode Island	4.9	3.6
Indiana	7.7	6.6			
			South Carolina	7.1	6.7
Iowa	7.4	6.5	South Dakota	4.8	4.2
Kansas	4.7	5.2	Tennessee	7.7	7.8
Kentucky	9.0	8.9	Texas	7.7	11.1
Louisiana	11.9	13.6	Utah	5.7	5.4
Maine	5.0	4.9			
			Vermont	4.5	4.4
Maryland	4.4	3.9	Virginia	5.7	5.1
Massachusetts	3.9	3.7	Washington	7.6	7.7
Michigan	10.2	9.4	West Virginia	11.7	10.9
Minnesota	5.3	5.0	Wisconsin	6.6	6.6
Mississippi	10.6	12.6			
Missouri	6.2	5.9	Wyoming	6.7	9.3

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

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

(In thousands)

State	June, 1985	May, 1986	June, 1986 ^p	State	June, 1985	May, 1986	June, 1986 ^p
Alabama	1,427.9	1,444.5	1,442.8	Nebraska	653.7	662.8	660.1
Alaska	239.0	229.0	234.7	Nevada	449.9	463.3	464.4
Arizona	1,271.0	1,348.8	1,332.6	New Hampshire	471.6	484.8	494.5
Arkansas	802.6	824.8	818.2				
California	11,030.2	11,205.0	11,234.3	New Jersey	3,466.4	3,517.0	3,564.5
				New Mexico	521.1	522.0	525.0
Colorado	1,432.2	1,448.7	1,459.6	New York	7,810.1	7,909.2	7,957.2
Connecticut	1,582.7	1,607.7	1,622.6	North Carolina	2,659.5	2,717.7	2,730.3
Delaware	297.2	297.9	301.0	North Dakota	255.4	251.6	252.0
District of Columbia	629.6	645.0	649.2				
Florida	4,415.8	4,560.7	4,550.7	Ohio	4,411.9	4,533.2	4,547.7
				Oklahoma	1,190.1	1,162.4	1,156.6
Georgia	2,580.9	2,627.5	2,639.8	Oregon	1,042.4	1,051.9	1,065.6
Hawaii	422.7	429.8	429.8	Pennsylvania	4,767.2	4,828.1	4,854.4
Idaho	342.1	334.9	337.6	Rhode Island	429.3	430.9	431.4
Illinois	4,802.6	4,785.4	4,800.2				
Indiana	2,177.1	2,262.6	2,253.6	South Carolina	1,311.0	1,345.0	1,354.9
				South Dakota	255.0	252.5	256.3
Iowa	1,085.2	1,089.1	1,081.3	Tennessee	1,867.3	1,932.3	1,926.8
Kansas	984.0	996.9	997.2	Texas	6,707.2	6,692.2	6,689.5
Kentucky	1,258.0	1,279.3	1,278.0	Utah	625.9	636.8	639.7
Louisiana	1,605.2	1,543.7	1,527.5				
Maine	469.8	472.4	481.8	Vermont	225.5	225.9	228.1
				Virginia	2,481.2	2,541.4	2,558.8
Maryland	1,911.2	1,932.7	1,952.8	Washington	1,726.7	1,760.9	1,774.0
Massachusetts	2,964.4	2,987.8	3,001.9	West Virginia	605.3	611.7	601.4
Michigan	3,525.4	3,586.4	3,599.0	Wisconsin	2,005.1	2,019.2	2,046.4
Minnesota	1,891.0	1,907.1	1,921.0				
Mississippi	838.7	852.7	848.0	Wyoming	215.1	202.4	204.7
Missouri	2,115.4	2,162.8	2,155.6	Puerto Rico	685.1	707.7	703.8
Montana	288.0	278.4	284.4	Virgin Islands	36.7	36.6	36.5

^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		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^P	July ^P
TOTAL	94,496	97,614	97,672	97,890	98,128	98,428	98,666	98,910	99,296	99,429	99,484	99,783	99,918	99,864	100,253
PRIVATE SECTOR	78,472	81,199	81,222	81,428	81,592	81,853	82,073	82,281	82,659	82,748	82,785	83,072	83,198	83,163	83,533
GOODS PRODUCING	24,727	24,930	24,875	24,880	24,843	24,903	24,931	24,977	25,101	25,038	24,945	25,038	24,965	24,857	24,883
Mining	966	930	928	922	917	913	907	901	897	880	852	821	790	773	769
Oil and gas extraction	607	585	585	581	577	571	565	560	556	541	518	488	461	448	444
Construction	4,383	4,687	4,679	4,702	4,728	4,754	4,765	4,787	4,901	4,864	4,838	4,972	4,974	4,939	4,992
General building contractors	1,161	1,251	1,246	1,257	1,267	1,276	1,283	1,287	1,330	1,320	1,298	1,315	1,314	1,295	1,295
Manufacturing	19,378	19,314	19,268	19,256	19,198	19,236	19,259	19,289	19,303	19,294	19,255	19,245	19,201	19,145	19,122
Production workers	13,285	13,130	13,079	13,078	13,029	13,059	13,074	13,100	13,111	13,097	13,061	13,060	13,025	12,989	12,974
Durable goods	11,505	11,516	11,483	11,473	11,421	11,447	11,453	11,461	11,466	11,455	11,418	11,415	11,378	11,313	11,302
Production workers	7,739	7,660	7,621	7,619	7,572	7,594	7,594	7,595	7,595	7,579	7,545	7,547	7,519	7,469	7,460
Lumber and wood products	704	700	698	700	702	705	708	710	716	716	715	719	719	721	720
Furniture and fixtures	487	493	492	495	491	493	493	494	494	494	493	494	496	495	498
Stone, clay, and glass products	593	591	589	591	590	591	591	593	596	597	594	600	599	597	591
Primary metal industries	857	813	807	798	795	797	801	803	798	795	787	785	780	763	764
Blast furnaces and basic steel products	334	305	305	302	304	304	302	303	300	299	293	291	288	287	284
Fabricated metal products	1,463	1,468	1,465	1,463	1,459	1,460	1,459	1,456	1,455	1,452	1,450	1,451	1,447	1,439	1,434
Machinery, except electrical	2,198	2,182	2,176	2,164	2,147	2,146	2,139	2,133	2,137	2,127	2,118	2,111	2,100	2,090	2,085
Electrical and electronic equipment	2,208	2,207	2,196	2,195	2,179	2,181	2,179	2,182	2,182	2,181	2,177	2,177	2,175	2,149	2,169
Transportation equipment	1,901	1,971	1,970	1,977	1,970	1,987	1,993	1,998	1,996	1,998	1,989	1,986	1,972	1,974	1,965
Motor vehicles and equipment	862	876	874	876	871	873	870	872	867	864	858	854	839	838	828
Instruments and related products	714	723	724	724	723	722	723	725	724	725	726	723	721	717	711
Miscellaneous manufacturing industries	382	369	366	366	365	365	367	367	368	370	369	369	369	368	365
Nondurable goods	7,873	7,798	7,785	7,783	7,777	7,789	7,806	7,828	7,837	7,839	7,837	7,830	7,823	7,832	7,820
Production workers	5,546	5,470	5,458	5,459	5,457	5,465	5,480	5,505	5,516	5,518	5,516	5,513	5,506	5,520	5,514
Food and kindred products	1,612	1,608	1,604	1,608	1,607	1,610	1,612	1,623	1,623	1,631	1,632	1,633	1,640	1,651	1,646
Tobacco manufactures	64	65	64	64	65	64	65	64	64	63	63	63	62	62	62
Textile mill products	746	704	698	698	697	699	701	702	702	705	707	703	705	707	709
Apparel and other textile products	1,185	1,125	1,122	1,117	1,121	1,121	1,122	1,130	1,133	1,122	1,117	1,119	1,113	1,107	1,108
Paper and allied products	681	683	683	682	682	683	687	686	687	687	688	689	689	690	687
Printing and publishing	1,376	1,435	1,440	1,442	1,442	1,447	1,454	1,457	1,461	1,467	1,469	1,472	1,474	1,478	1,480
Chemicals and allied products	1,049	1,046	1,045	1,043	1,042	1,040	1,037	1,035	1,034	1,032	1,031	1,028	1,024	1,026	1,025
Petroleum and coal products	189	178	178	177	171	171	170	169	168	167	166	166	166	164	162
Rubber and misc. plastics products	780	790	784	787	785	790	794	798	802	803	804	800	796	796	791
Leather and leather products	189	166	167	165	165	164	164	164	163	162	160	157	154	151	150
SERVICE-PRODUCING	69,769	72,684	72,797	73,010	73,285	73,525	73,735	73,933	74,195	74,391	74,539	74,745	74,953	75,007	75,370
Transportation and public utilities	5,159	5,242	5,241	5,219	5,257	5,260	5,272	5,277	5,286	5,277	5,280	5,266	5,265	5,177	5,274
Transportation	2,917	3,006	3,006	2,983	3,023	3,026	3,040	3,046	3,056	3,048	3,053	3,040	3,037	3,039	3,048
Communication and public utilities	2,242	2,236	2,235	2,236	2,234	2,234	2,232	2,231	2,230	2,229	2,227	2,226	2,228	2,138	2,226
Wholesale trade	5,555	5,740	5,740	5,762	5,777	5,796	5,809	5,809	5,830	5,843	5,841	5,864	5,872	5,830	5,847
Durable goods	3,276	3,409	3,416	3,424	3,432	3,442	3,451	3,460	3,470	3,482	3,480	3,485	3,488	3,454	3,488
Nondurable goods	2,279	2,331	2,324	2,338	2,345	2,354	2,345	2,349	2,360	2,361	2,361	2,379	2,384	2,376	2,359
Retail trade	16,545	17,360	17,404	17,464	17,489	17,543	17,589	17,622	17,734	17,795	17,828	17,851	17,911	17,932	18,002
General merchandise stores	2,267	2,320	2,325	2,328	2,326	2,329	2,326	2,317	2,328	2,333	2,333	2,342	2,344	2,345	2,356
Food stores	2,637	2,779	2,795	2,805	2,813	2,828	2,845	2,870	2,880	2,891	2,901	2,910	2,917	2,931	2,929
Automotive dealers and service stations	1,799	1,892	1,897	1,904	1,910	1,916	1,918	1,922	1,929	1,938	1,939	1,940	1,944	1,947	1,951
Eating and drinking places	5,388	5,715	5,734	5,749	5,761	5,772	5,783	5,801	5,831	5,854	5,868	5,859	5,889	5,918	5,946
Finance, insurance, and real estate	5,689	5,953	5,964	5,988	6,014	6,038	6,070	6,095	6,123	6,157	6,184	6,228	6,261	6,294	6,330
Finance	2,854	2,979	2,985	2,998	3,011	3,024	3,039	3,053	3,066	3,082	3,095	3,120	3,137	3,157	3,176
Insurance	1,757	1,830	1,832	1,839	1,846	1,852	1,862	1,868	1,878	1,889	1,900	1,910	1,918	1,926	1,941
Real estate	1,078	1,144	1,147	1,151	1,157	1,162	1,169	1,174	1,179	1,186	1,189	1,198	1,206	1,211	1,213
Services	20,797	21,974	21,998	22,115	22,212	22,313	22,415	22,501	22,585	22,638	22,707	22,825	22,924	23,073	23,197
Business services	4,057	4,452	4,462	4,504	4,542	4,567	4,604	4,631	4,660	4,687	4,698	4,750	4,755	4,793	4,841
Health services	6,122	6,310	6,301	6,333	6,350	6,375	6,401	6,424	6,447	6,471	6,497	6,511	6,543	6,570	6,598
Government	16,024	16,415	16,450	16,462	16,536	16,575	16,593	16,629	16,637	16,681	16,699	16,711	16,720	16,701	16,720
Federal	2,807	2,875	2,879	2,886	2,899	2,895	2,904	2,913	2,918	2,918	2,923	2,914	2,899	2,907	2,910
State	3,734	3,848	3,851	3,855	3,878	3,895	3,901	3,904	3,916	3,924	3,927	3,938	3,936	3,917	3,924
Local	9,482	9,692	9,720	9,721	9,759	9,785	9,788	9,812	9,803	9,839	9,849	9,859	9,885	9,877	9,886

^P = preliminary

revision.

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

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

Industry	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^P	July ^P
	PRIVATE SECTOR	35.2	34.9	34.8	34.9	34.9	34.9	34.8	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.6
CONSTRUCTION	37.8	37.7	-	-	-	-	-	-	-	-	-	-	-	-	-
MANUFACTURING	40.7	40.5	40.4	40.6	40.7	40.7	40.7	40.9	40.8	40.7	40.7	40.7	40.7	40.6	40.6
Overtime hours	3.4	3.3	3.2	3.3	3.3	3.4	3.4	3.6	3.5	3.4	3.4	3.4	3.4	3.4	3.4
Durable goods	41.4	41.2	41.1	41.3	41.3	41.3	41.3	41.6	41.5	41.4	41.4	41.3	41.2	41.3	41.1
Overtime hours	3.6	3.5	3.4	3.4	3.5	3.5	3.6	3.7	3.6	3.5	3.6	3.6	3.4	3.5	3.4
Lumber and wood products	39.9	39.9	39.8	40.1	40.1	40.2	39.9	40.2	40.4	40.0	40.2	40.3	40.3	40.1	40.2
Furniture and fixtures	39.7	39.4	39.0	39.3	39.4	39.5	39.4	39.9	40.0	39.7	39.4	39.1	39.4	39.5	39.4
Stone, clay, and glass products	42.0	41.9	41.9	42.0	42.0	42.1	41.8	41.8	42.7	41.9	41.9	42.4	42.3	42.2	42.2
Primary metal industries	41.7	41.5	41.4	41.7	41.5	41.8	41.9	42.1	41.9	42.1	41.9	41.3	41.7	41.6	41.3
Blast furnaces and basic steel products	40.7	41.1	41.2	41.5	41.1	41.6	41.9	41.9	41.7	41.8	41.7	40.5	41.5	41.2	40.9
Fabricated metal products	41.4	41.3	41.4	41.4	41.5	41.5	41.5	41.6	41.5	41.5	41.4	41.2	41.1	41.1	41.1
Machinery except electrical	41.9	41.5	41.4	41.6	41.6	41.5	41.6	41.7	41.6	41.6	41.6	41.8	41.8	41.7	41.5
Electrical and electronic equipment	41.0	40.6	40.4	40.7	40.5	40.6	40.9	41.1	41.0	40.9	41.0	41.1	41.0	41.0	40.9
Transportation equipment	42.7	42.6	42.6	42.9	42.9	42.8	42.7	43.0	42.8	42.7	42.7	42.1	41.9	42.2	41.9
Motor vehicles and equipment	43.8	43.5	43.4	43.7	43.6	43.7	43.6	44.0	43.6	43.4	43.3	41.9	41.8	42.4	41.9
Instruments and related products	41.3	41.0	40.8	40.9	40.9	40.9	41.0	41.6	41.1	41.2	41.3	41.3	40.9	41.0	40.5
Miscellaneous manufacturing	39.4	39.4	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurable goods	39.7	39.6	39.4	39.6	39.8	39.8	39.8	40.0	39.9	39.7	39.8	39.9	39.9	39.8	39.9
Overtime hours	3.1	3.1	3.0	3.1	3.1	3.2	3.2	3.4	3.3	3.2	3.2	3.3	3.4	3.2	3.4
Food and kindred products	39.8	40.0	40.0	40.0	40.1	40.2	40.0	40.1	40.1	39.8	39.9	40.2	40.2	40.1	40.2
Tobacco manufactures	38.9	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
Textile mill products	39.9	39.7	39.2	40.0	40.5	40.7	40.8	41.0	40.8	40.6	40.7	41.3	41.1	40.7	41.1
Apparel and other textile products	36.4	36.4	36.4	36.4	36.6	36.6	36.8	36.8	36.7	36.3	36.5	36.9	36.5	36.6	36.9
Paper and allied products	43.1	43.1	42.9	43.1	43.1	43.2	43.3	43.5	43.6	43.5	43.5	43.0	43.2	43.1	43.1
Printing and publishing	37.9	37.8	37.5	37.9	37.9	37.9	37.9	38.1	38.0	38.0	38.0	38.0	38.0	37.9	37.9
Chemicals and allied products	41.9	41.9	41.8	41.9	41.7	41.8	41.9	42.0	41.9	41.8	41.9	41.9	42.0	41.8	41.9
Petroleum and coal products	43.7	43.0	43.0	43.3	43.3	44.2	43.2	43.6	43.5	43.7	43.8	43.6	43.4	44.1	43.9
Leather and leather products	36.8	37.2	-	-	-	-	-	-	-	-	-	-	-	-	-
TRANSPORTATION AND PUBLIC UTILITIES	39.4	39.5	39.3	39.5	39.5	39.5	39.4	39.5	39.4	39.5	39.6	39.2	39.2	39.0	39.3
WHOLESALE TRADE	38.5	38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.5	38.4	38.5	38.5	38.4	38.3	38.2
RETAIL TRADE	29.8	29.4	29.4	29.4	29.4	29.3	29.3	29.2	29.3	29.3	29.3	29.2	29.2	29.1	29.1
SERVICES	32.6	32.5	32.4	32.5	32.4	32.5	32.4	32.5	32.6	32.6	32.5	32.5	32.5	32.4	32.3

- Data not available.
P = preliminary

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

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

Industry	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^P	July ^P
PRIVATE SECTOR	\$8.32	\$8.57	\$8.52	\$8.52	\$8.67	\$8.64	\$8.66	\$8.71	\$8.72	\$8.74	\$8.73	\$8.72	\$8.72	\$8.71	\$8.70
Seasonally adjusted	-	-	8.55	8.59	8.62	8.63	8.65	8.70	8.68	8.71	8.73	8.72	8.73	8.75	8.73
MINING	11.63	11.98	11.92	11.99	12.05	12.00	12.07	12.27	12.24	12.32	12.35	12.43	12.44	12.51	12.42
CONSTRUCTION	12.13	12.31	12.21	12.28	12.46	12.42	12.28	12.47	12.34	12.35	12.22	12.29	12.33	12.31	12.33
MANUFACTURING	9.19	9.53	9.55	9.49	9.57	9.56	9.63	9.74	9.70	9.70	9.72	9.70	9.71	9.70	9.72
Durable goods	9.74	10.10	10.10	10.06	10.15	10.15	10.22	10.34	10.27	10.29	10.30	10.28	10.28	10.26	10.25
Lumber and wood products	8.03	8.22	8.22	8.27	8.33	8.30	8.29	8.35	8.30	8.36	8.33	8.32	8.37	8.45	8.37
Furniture and fixtures	6.84	7.17	7.20	7.20	7.27	7.29	7.32	7.38	7.36	7.31	7.35	7.36	7.39	7.45	7.42
Stone, clay, and glass products	9.57	9.84	9.90	9.87	9.91	9.87	9.91	9.95	9.96	9.94	9.93	10.00	10.04	10.03	10.07
Primary metal industries	11.47	11.68	11.78	11.63	11.69	11.61	11.77	11.84	11.81	11.96	11.99	12.00	12.02	11.95	12.02
Blast furnaces and basic steel products	12.98	13.34	13.49	13.36	13.43	13.32	13.43	13.44	13.48	13.81	13.80	13.82	13.86	13.89	14.00
Fabricated metal products	9.40	9.70	9.70	9.64	9.74	9.71	9.76	9.91	9.85	9.85	9.88	9.84	9.85	9.88	9.87
Machinery, except electrical	9.96	10.29	10.31	10.26	10.38	10.41	10.48	10.55	10.50	10.53	10.58	10.55	10.55	10.55	10.58
Electrical and electronic equipment	9.04	9.47	9.47	9.50	9.54	9.55	9.61	9.68	9.60	9.60	9.62	9.62	9.64	9.60	9.61
Transportation equipment	12.20	12.72	12.65	12.65	12.78	12.78	12.85	13.06	12.91	12.87	12.90	12.83	12.79	12.77	12.70
Motor vehicles and equipment	12.73	13.42	13.35	13.31	13.48	13.44	13.52	13.81	13.66	13.59	13.66	13.54	13.47	13.42	13.30
Instruments and related products	8.84	9.16	9.17	9.19	9.25	9.24	9.27	9.39	9.32	9.39	9.41	9.41	9.40	9.41	9.46
Miscellaneous manufacturing	7.05	7.30	7.32	7.28	7.33	7.32	7.37	7.48	7.48	7.50	7.51	7.50	7.54	7.54	7.61
Nondurable goods	8.38	8.71	8.75	8.70	8.73	8.72	8.79	8.87	8.86	8.86	8.88	8.88	8.90	8.90	8.98
Food and kindred products	8.39	8.57	8.57	8.50	8.53	8.51	8.61	8.71	8.72	8.71	8.74	8.75	8.78	8.73	8.69
Tobacco manufactures	11.22	11.94	12.83	12.34	11.34	11.31	11.97	11.78	11.89	12.38	12.76	12.84	13.38	13.69	13.84
Textile mill products	6.46	6.71	6.69	6.72	6.75	6.76	6.79	6.83	6.85	6.83	6.86	6.87	6.88	6.86	6.89
Apparel and other textile products	5.55	5.73	5.70	5.69	5.75	5.74	5.75	5.80	5.82	5.79	5.80	5.81	5.78	5.80	5.75
Paper and allied products	10.41	10.82	10.91	10.86	10.91	10.91	10.97	11.07	11.02	10.99	11.03	11.05	11.12	11.14	11.30
Printing and publishing	9.41	9.71	9.69	9.76	9.81	9.78	9.83	9.92	9.85	9.86	9.90	9.87	9.91	9.88	9.95
Chemicals and allied products	11.07	11.56	11.59	11.60	11.65	11.70	11.80	11.85	11.86	11.81	11.78	11.82	11.89	11.95	12.08
Petroleum and coal products	13.44	14.06	14.05	14.02	14.09	13.99	14.07	14.24	14.26	14.21	14.22	14.16	14.02	14.15	14.36
Rubber and miscellaneous plastics products	8.29	8.54	8.55	8.52	8.56	8.54	8.63	8.73	8.69	8.69	8.72	8.68	8.75	8.75	8.81
Leather and leather products	5.71	5.82	5.84	5.81	5.83	5.77	5.83	5.83	5.86	5.83	5.86	5.89	5.88	5.88	5.93
TRANSPORTATION AND PUBLIC UTILITIES	11.12	11.40	11.37	11.42	11.54	11.48	11.59	11.61	11.59	11.64	11.62	11.55	11.54	11.57	11.62
WHOLESALE TRADE	8.89	9.16	9.14	9.12	9.22	9.16	9.23	9.33	9.28	9.36	9.33	9.29	9.29	9.33	9.32
RETAIL TRADE	5.85	5.94	5.90	5.88	5.98	5.95	5.97	5.99	6.03	6.04	6.03	6.01	6.00	5.99	5.97
FINANCE, INSURANCE, AND REAL ESTATE	7.63	7.94	7.88	7.91	8.04	8.01	8.06	8.15	8.14	8.28	8.30	8.29	8.31	8.37	8.29
SERVICES	7.59	7.89	7.80	7.82	7.99	7.99	8.05	8.12	8.12	8.17	8.18	8.12	8.10	8.10	8.05

- 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		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June ^P	July ^P
PRIVATE SECTOR															
Current dollars	\$292.86	\$299.09	\$299.05	\$299.90	\$303.45	\$301.54	\$301.37	\$306.59	\$302.58	\$300.66	\$302.93	\$301.71	\$302.58	\$303.98	\$302.63
Seasonally adjusted	-	-	297.54	299.79	300.84	301.19	301.02	303.63	303.80	303.98	304.68	303.46	303.80	303.63	302.06
Constant (1977) dollars	172.78	170.42	170.11	170.30	171.83	170.36	169.59	172.05	169.32	168.82	171.05	170.94	170.85	170.78	-
MINING	503.58	519.93	510.18	519.17	526.59	518.40	521.42	537.43	543.46	522.37	522.41	522.06	519.99	524.17	519.16
CONSTRUCTION	458.51	464.09	471.31	471.55	479.71	475.69	450.68	460.14	459.05	434.72	444.81	462.10	467.31	466.55	469.77
MANUFACTURING															
Current dollars	374.03	385.97	382.96	384.35	390.46	390.05	393.87	406.16	394.79	390.91	395.60	392.85	394.23	395.76	390.74
Constant (1977) dollars	220.67	219.93	217.84	218.26	221.10	220.37	221.65	227.92	220.92	219.49	223.38	222.58	222.60	222.34	-
Durable goods	403.24	416.12	410.06	412.46	420.21	419.20	424.13	439.45	425.18	421.89	426.42	423.54	423.54	424.76	416.15
Lumber and wood products	320.40	327.98	326.33	334.94	338.20	335.32	327.46	335.67	329.51	328.55	333.20	334.46	338.99	344.76	335.64
Furniture and fixtures	271.55	282.50	275.76	283.68	289.35	291.60	291.34	303.32	289.98	284.36	288.12	286.30	288.21	295.02	287.15
Stone, clay, and glass products	401.94	412.30	418.77	418.49	421.18	419.48	414.24	414.92	414.34	403.56	412.10	425.00	428.71	429.28	427.98
Primary metal industries	478.30	484.72	485.34	480.32	486.30	480.65	491.99	504.38	493.66	503.52	504.78	499.20	501.23	499.51	494.02
Blast furnaces and basic steel products	528.29	548.27	558.49	550.43	553.32	544.79	557.35	564.48	556.72	578.64	576.84	569.38	576.58	579.21	575.40
Fabricated metal products	389.16	400.61	395.76	397.17	405.18	403.94	406.02	422.17	407.79	403.85	409.03	403.44	404.84	408.04	399.74
Machinery, except electrical	417.32	427.04	420.65	422.71	431.81	430.97	438.06	452.60	437.85	437.00	442.24	437.83	437.83	439.94	432.72
Electrical and electronic equipment	370.64	384.48	376.91	383.80	387.32	387.73	396.89	408.50	394.56	389.76	395.38	392.50	393.31	393.60	386.32
Transportation equipment	520.94	541.87	531.30	530.04	544.43	545.71	551.27	577.25	555.13	545.69	552.12	542.71	537.18	540.17	524.51
Motor vehicles and equipment	557.57	583.77	571.38	565.68	585.03	585.98	588.12	625.59	595.58	583.01	592.84	574.10	567.09	573.03	549.29
Instruments and related products	365.09	375.56	369.55	373.11	380.18	376.07	382.85	400.01	383.05	384.99	389.57	385.81	382.58	385.81	379.35
Miscellaneous manufacturing	277.77	287.62	282.55	284.65	293.20	295.00	296.27	304.44	297.70	294.75	299.65	297.75	297.08	299.34	295.27
Nondurable goods	332.69	344.92	343.88	345.39	349.20	347.93	351.60	359.24	352.63	347.31	352.54	351.65	354.22	356.00	356.51
Food and kindred products	333.92	342.80	342.80	342.55	348.02	343.80	346.12	354.50	347.93	339.69	344.36	346.50	352.08	350.95	349.34
Tobacco manufactures	436.46	444.17	434.94	457.81	434.32	444.48	435.71	448.82	448.25	453.11	478.50	469.94	504.43	524.33	501.01
Textile mill products	257.75	266.39	258.23	270.14	275.40	276.48	279.75	283.45	278.80	274.57	278.52	278.92	282.08	281.95	279.05
Apparel and other textile products	202.02	208.57	206.34	208.25	210.45	211.23	212.75	215.18	213.01	207.28	211.70	211.48	210.97	214.60	210.45
Paper and allied products	448.67	466.34	465.86	465.89	473.49	472.40	477.20	490.40	479.37	472.57	477.60	474.05	479.27	480.13	484.77
Printing and publishing	356.64	367.04	361.44	370.88	374.74	371.64	375.51	384.90	371.35	370.74	377.19	374.07	374.60	371.49	374.12
Chemicals and allied products	463.83	484.36	482.14	482.56	486.97	486.72	495.60	503.63	495.75	492.48	494.76	495.26	499.38	501.90	503.74
Petroleum and coal products	587.33	604.58	606.96	607.07	621.37	619.76	610.64	622.29	616.03	612.45	621.41	615.96	605.66	624.02	633.28
Rubber and miscellaneous plastics products	345.69	350.99	347.13	346.76	351.82	350.99	356.42	366.66	359.77	356.29	360.14	356.75	360.50	361.38	357.69
Leather and leather products	210.13	216.50	219.00	216.71	219.21	216.95	219.21	220.96	217.41	209.88	212.72	213.81	215.80	221.68	216.45
TRANSPORTATION AND PUBLIC UTILITIES	438.13	450.30	449.12	454.52	458.14	453.46	457.81	460.92	452.01	456.29	457.83	450.45	450.06	454.70	458.99
WHOLESALE TRADE	342.27	351.74	352.80	351.12	354.97	351.74	355.36	360.14	355.42	355.68	357.34	355.81	356.74	359.21	357.89
RETAIL TRADE	174.33	174.64	177.59	176.99	175.81	173.74	173.73	178.50	173.06	172.74	174.27	173.69	174.60	176.71	177.91
FINANCE, INSURANCE, AND REAL ESTATE	278.50	289.02	286.04	287.13	293.46	290.76	291.77	299.11	296.30	304.70	304.61	301.76	301.65	306.34	300.10
SERVICES	247.43	256.43	255.84	256.50	258.88	259.68	260.02	263.90	263.09	264.71	265.03	263.09	262.44	264.06	263.24

- 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					
	July 1985	May 1986	June 1986 ^P	July 1986 ^P	July 1985	Mar. 1986	Apr. 1986	May 1986	June 1986	July 1986 ^P
PRIVATE SECTOR (In current dollars)	164.6	168.7	168.8	168.6	165.0	168.5	168.4	168.7	169.2	169.0
Mining ¹	178.9	181.1	181.5	181.1	-	-	-	-	-	-
Construction	149.5	150.7	150.5	150.5	149.9	149.2	150.6	151.0	151.4	151.0
Manufacturing	169.1	172.5	172.2	172.6	169.0	171.8	172.0	172.5	172.4	172.5
Transportation and public utilities	165.2	169.1	169.7	169.6	166.2	170.2	169.3	170.1	170.9	170.6
Wholesale trade ¹	168.5	171.4	172.1	172.1	-	-	-	-	-	-
Retail trade	154.9	157.9	157.7	157.6	155.3	157.4	157.3	157.2	157.6	157.9
Finance, insurance, and real estate ¹	170.7	179.3	180.4	179.3	-	-	-	-	-	-
Services	166.7	173.2	173.3	172.6	167.7	174.0	173.1	173.4	174.3	173.6
PRIVATE SECTOR (In constant dollars)	93.6	95.2	94.8	-	93.9	95.1	95.4	95.4	95.2	-

¹ This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.
- 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												
1984	67.8	72.7	67.6	67.6	62.4	65.4	62.2	55.9	50.5	63.0	53.5	57.0
1985	52.4	47.8	53.8	49.2	51.6	47.0	56.2	56.8	50.8	61.9	57.6	59.5
1986	59.7	53.5	45.1	54.1	49.2	45.9	50.8	-	-	-	-	-
Over 3-month span												
1984	76.5	75.1	75.9	71.4	71.6	68.1	63.2	58.1	56.8	53.5	58.1	53.0
1985	51.1	49.7	46.2	46.2	45.1	51.4	49.7	51.1	55.1	55.9	61.4	60.5
1986	58.1	54.3	51.1	49.7	48.1	46.5	-	-	-	-	-	-
Over 6-month span												
1984	78.1	76.5	77.0	75.1	69.2	65.1	63.2	59.2	58.6	53.2	49.7	54.9
1985	49.2	47.8	43.0	45.9	44.3	44.3	48.9	50.8	54.1	57.0	57.0	55.9
1986	53.8	53.8	47.6	46.5	-	-	-	-	-	-	-	-
Over 12-month span												
1984	81.1	78.1	72.2	72.2	68.9	67.8	65.7	62.7	59.7	54.6	51.4	48.6
1985	46.2	45.7	46.8	43.8	44.9	47.3	47.6	48.9	47.3	49.5	48.9	49.5
1986	50.3	-	-	-	-	-	-	-	-	-	-	-

- 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. 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	1977	1978	1979	1980	1981	1982	1983	1984	1985
Noninstitutional population	160,689	163,541	166,460	169,349	171,775	173,939	175,891	178,080	179,912
Labor force									
Total (number)	100,665	103,882	106,559	108,544	110,315	111,872	113,226	115,241	117,167
Percent of population	62.6	63.5	64.0	64.1	64.2	64.3	64.4	64.7	65.1
Employed									
Total (number)	93,673	97,679	100,421	100,907	102,042	101,194	102,510	106,702	108,856
Percent of population	58.3	59.7	60.3	59.6	59.4	58.2	58.3	59.9	60.5
Resident Armed Forces	1,656	1,631	1,597	1,604	1,645	1,668	1,676	1,697	1,706
Civilian									
Total	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Agriculture	3,283	3,387	3,347	3,364	3,368	3,401	3,383	3,321	3,179
Nonagricultural industries	88,734	92,661	95,477	95,938	97,030	96,125	97,450	101,685	103,971
Unemployed									
Total (number)	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Percent of labor force	6.9	6.0	5.8	7.0	7.5	9.5	9.5	7.4	7.1
Not in labor force (number)	60,025	59,659	59,900	60,806	61,460	62,067	62,665	62,839	62,744

20. Annual data: Employment levels by industry

(Numbers in thousands)

Industry	1977	1978	1979	1980	1981	1982	1983	1984	1985
Total employment	82,471	86,697	89,823	90,406	91,156	89,566	90,200	94,496	97,614
Private sector									
Goods-producing	67,344	71,026	73,876	74,166	75,126	73,729	74,330	78,472	81,199
Mining	24,346	25,585	26,461	25,658	25,497	23,813	23,334	24,727	24,930
Construction	813	851	958	1,027	1,139	1,128	952	966	930
Manufacturing	3,851	4,229	4,463	4,346	4,188	3,905	3,948	4,383	4,687
Service-producing	19,682	20,505	21,040	20,285	20,170	18,781	18,434	19,378	19,314
Transportation and public utilities	58,125	61,113	63,363	64,748	65,659	65,753	66,866	69,769	72,684
Wholesale trade	4,713	4,923	5,136	5,146	5,165	5,082	4,954	5,159	5,242
Retail trade	4,708	4,969	5,204	5,275	5,358	5,278	5,268	5,555	5,740
Finance, insurance, and real estate	13,808	14,573	14,989	15,035	15,189	15,179	15,613	16,545	17,360
Services	4,467	4,724	4,975	5,160	5,298	5,341	5,468	5,689	5,953
Government	15,303	16,252	17,112	17,890	18,619	19,036	19,694	20,797	21,974
Government									
Federal	15,127	15,672	15,947	16,241	16,031	15,837	15,869	16,024	16,415
State	2,727	2,753	2,773	2,866	2,772	2,739	2,774	2,807	2,875
Local	3,377	3,474	3,541	3,610	3,640	3,640	3,662	3,734	3,848
State and local	9,023	9,446	9,333	9,765	9,619	9,458	9,434	9,482	9,692

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	1977	1978	1979	1980	1981	1982	1983	1984	1985
Private sector									
Average weekly hours	36.0	35.8	35.7	35.3	35.2	34.8	35.0	35.2	34.9
Average hourly earnings (in dollars)	5.25	5.69	6.16	6.66	7.25	7.68	8.02	8.32	8.57
Average weekly earnings (in dollars)	189.00	203.70	219.91	235.10	255.20	267.26	280.70	292.86	299.09
Mining									
Average weekly hours	43.4	43.4	43.0	43.3	43.7	42.7	42.5	43.3	43.4
Average hourly earnings (in dollars)	6.94	7.67	8.49	9.17	10.04	10.77	11.28	11.63	11.98
Average weekly earnings (in dollars)	301.20	332.88	365.07	397.06	438.75	459.88	479.40	503.58	519.93
Construction									
Average weekly hours	36.5	36.8	37.0	37.0	36.9	36.7	37.1	37.8	37.7
Average hourly earnings (in dollars)	8.10	8.66	9.27	9.94	10.82	11.63	11.94	12.13	12.31
Average weekly earnings (in dollars)	295.65	318.69	342.99	367.78	399.26	426.82	442.97	458.51	464.09
Manufacturing									
Average weekly hours	40.3	40.4	40.2	39.7	39.8	38.9	40.1	40.7	40.5
Average hourly earnings (in dollars)	5.68	6.17	6.70	7.27	7.99	8.49	8.83	9.19	9.53
Average weekly earnings (in dollars)	228.90	249.27	269.34	288.62	318.00	330.26	354.08	374.03	385.97
Transportation and public utilities									
Average weekly hours	39.9	40.0	39.9	39.6	39.4	39.0	39.0	39.4	39.5
Average hourly earnings (in dollars)	6.99	7.57	8.16	8.87	9.70	10.32	10.79	11.12	11.40
Average weekly earnings (in dollars)	278.90	302.80	325.58	351.25	382.18	402.48	420.81	438.13	450.30
Wholesale trade									
Average weekly hours	38.8	38.8	38.8	38.5	38.5	38.3	38.5	38.5	38.4
Average hourly earnings (in dollars)	5.39	5.88	6.39	6.96	7.56	8.09	8.55	8.89	9.16
Average weekly earnings (in dollars)	209.13	228.14	247.93	267.96	291.06	309.85	329.18	342.27	351.74
Retail trade									
Average weekly hours	31.6	31.0	30.6	30.2	30.1	29.9	29.8	29.8	29.4
Average hourly earnings (in dollars)	3.85	4.20	4.53	4.88	5.25	5.48	5.74	5.85	5.94
Average weekly earnings (in dollars)	121.66	130.20	138.62	147.38	158.03	163.85	171.05	174.33	174.64
Finance, insurance, and real estate									
Average weekly hours	36.4	36.4	36.2	36.2	36.3	36.2	36.2	36.5	36.4
Average hourly earnings (in dollars)	4.54	4.89	5.27	5.79	6.31	6.78	7.29	7.63	7.94
Average weekly earnings (in dollars)	165.26	178.00	190.77	209.60	229.05	245.44	263.90	278.50	289.02
Services									
Average weekly hours	33.0	32.8	32.7	32.6	32.6	32.6	32.7	32.6	32.5
Average hourly earnings (in dollars)	4.65	4.99	5.36	5.85	6.41	6.92	7.31	7.59	7.89
Average weekly earnings (in dollars)	153.45	163.67	175.27	190.71	208.97	225.59	239.04	247.43	256.43

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

(June 1981 = 100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
										June 1986	June 1986
Civilian workers²	120.8	122.4	123.9	125.5	126.4	128.4	129.2	130.6	131.5	0.7	4.0
Workers, by occupational group:											
White-collar workers	122.1	124.0	125.5	127.3	128.3	130.7	131.6	133.1	134.2	.8	4.6
Blue-collar workers	118.6	119.6	120.9	122.2	123.1	124.4	124.9	126.2	126.8	.5	3.0
Service workers	122.1	124.6	126.8	127.8	128.0	130.9	131.8	133.1	133.7	.5	4.5
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	121.6	123.3	124.8	126.2	127.2	129.7	130.6	131.9	132.8	.7	4.4
Services	125.5	128.8	130.9	131.9	132.6	136.4	137.1	138.8	139.4	.4	5.1
Public administration ³	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9
Private industry workers	120.1	121.1	122.7	124.2	125.2	126.8	127.5	128.9	129.9	.8	3.8
Workers, by occupational group:											
White-collar workers	121.4	122.4	123.9	125.8	127.1	128.8	129.8	131.3	132.5	.9	4.2
Blue-collar workers	118.4	119.3	120.6	121.9	122.8	124.0	124.4	125.7	126.3	.5	2.9
Service workers	121.2	123.2	125.7	126.3	126.5	128.8	129.5	130.9	131.1	.2	3.6
Workers, by industry division:											
Manufacturing	119.1	120.4	122.0	123.9	124.6	125.5	126.0	127.7	128.7	.8	3.3
Nonmanufacturing	120.7	121.6	123.1	124.4	125.6	127.6	128.4	129.7	130.6	.7	4.0
State and local government workers	124.4	128.8	130.1	131.7	132.0	136.5	137.5	138.9	139.7	.6	5.8
Workers, by occupational group:											
White-collar workers	125.0	129.7	131.1	132.5	132.9	137.6	138.6	140.0	140.5	.4	5.7
Blue-collar workers	122.3	125.0	125.9	128.1	128.5	131.9	132.7	134.7	136.3	1.2	6.1
Workers, by industry division:											
Services	125.0	129.9	131.3	132.8	133.2	137.9	139.1	140.4	140.8	.3	5.7
Schools	124.7	130.6	132.0	133.4	133.7	139.1	140.3	141.5	141.7	.1	6.0
Elementary and secondary	125.7	132.1	133.5	134.4	134.6	140.9	142.0	143.0	143.2	.1	6.4
Hospitals and other services ⁴	125.7	127.9	129.2	131.1	131.5	134.1	135.2	136.8	137.9	.8	4.9
Public administration ³	123.7	126.9	128.6	130.1	130.3	134.2	134.8	136.8	138.0	.9	5.9

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 Consists of legislative, judicial, administrative, and regulatory activities.

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

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

(June 1981=100)

Series	1984			1985			1986		Percent change		
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
	June 1986										
Civilian workers ¹	118.8	120.3	121.7	123.1	124.2	126.3	127.0	128.3	129.3	0.8	4.1
Workers, by occupational group:											
White-collar workers	120.4	122.2	123.5	125.2	126.4	128.8	129.8	131.2	132.4	.9	4.7
Blue-collar workers	116.1	117.0	118.2	119.3	120.5	122.0	122.3	123.4	124.1	.6	3.0
Service workers	119.8	122.3	124.3	124.8	125.3	128.0	128.6	129.8	130.0	.2	3.8
Workers, by industry division											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Nonmanufacturing	119.7	121.3	122.6	123.9	125.0	127.6	128.4	129.6	130.4	.6	4.3
Services	123.8	127.2	128.9	129.7	130.5	134.2	134.8	136.4	137.0	.4	5.0
Public administration ²	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8
Private industry workers	118.2	119.2	120.6	122.0	123.3	124.9	125.6	126.8	127.9	.9	3.7
Workers, by occupational group:											
White-collar workers	119.9	120.9	122.3	124.0	125.5	127.3	128.3	129.6	131.1	1.2	4.5
Professional and technical	123.8	125.2	127.3	127.7	128.7	131.2	131.5	132.7	134.0	1.0	4.1
Managers and administrators	119.2	121.0	122.2	123.8	126.5	127.7	128.4	130.5	132.1	1.2	4.4
Salesworkers	111.9	110.5	111.6	116.3	117.4	119.3	122.5	122.4	124.3	1.6	5.9
Clerical workers	120.7	122.0	122.9	124.7	125.6	127.1	127.9	129.6	130.8	.9	4.1
Blue-collar workers	115.9	116.7	118.0	119.1	120.3	121.7	122.0	123.1	123.7	.5	2.8
Craft and kindred workers	117.3	118.0	119.4	120.8	122.0	123.7	123.8	125.3	125.7	.3	3.0
Operatives, except transport	115.8	116.6	117.9	118.9	120.1	121.1	121.6	122.6	123.6	.8	2.9
Transport equipment operatives	112.7	113.4	114.0	114.5	115.7	117.7	117.8	118.0	118.9	.8	2.8
Nonfarm laborers	114.1	114.7	115.9	116.7	118.5	118.6	119.8	120.0	120.3	.3	1.5
Service workers	119.3	121.2	123.7	123.8	124.4	126.3	126.6	128.0	128.0	.0	2.9
Workers, by industry division:											
Manufacturing	116.8	118.0	119.5	121.0	122.3	123.2	123.8	125.3	126.5	1.0	3.4
Durables	116.6	117.7	119.1	120.6	122.0	122.7	123.4	124.8	125.8	.8	3.1
Nondurables	117.1	118.6	120.2	121.6	122.6	124.0	124.6	126.1	127.9	1.4	4.3
Nonmanufacturing	119.0	119.9	121.2	122.6	123.9	125.9	126.6	127.7	128.7	.8	3.9
Construction	114.0	114.3	114.4	115.5	116.6	117.3	117.9	118.3	119.8	1.3	2.7
Transportation and public utilities	119.3	119.9	120.7	121.7	122.8	124.8	125.2	126.3	126.6	.2	3.1
Wholesale and retail trade	116.0	116.5	118.1	118.8	121.1	122.7	123.7	124.5	125.8	1.0	3.9
Wholesale trade	120.0	120.7	122.9	123.7	126.8	127.7	128.3	129.7	131.2	1.2	3.5
Retail trade	114.4	114.9	116.2	116.9	118.9	120.8	121.9	122.5	123.7	1.0	4.0
Finance, insurance, and real estate	116.9	115.3	115.8	122.0	121.7	124.1	126.5	126.6	128.0	1.1	5.2
Services	124.7	127.1	129.5	129.9	131.0	133.9	134.1	136.2	136.9	.5	4.5
State and local government workers	122.0	126.1	127.1	128.4	128.7	133.2	134.2	135.5	136.0	.4	5.7
Workers, by occupational group											
White-collar workers	122.5	127.1	128.0	129.3	129.6	134.3	135.3	136.6	137.0	.3	5.7
Blue-collar workers	119.6	121.9	122.5	124.2	124.5	127.9	128.4	130.4	131.9	1.2	5.9
Workers, by industry division											
Services	122.5	127.2	128.1	129.4	129.7	134.5	135.6	136.8	137.1	.2	5.7
Schools	122.3	127.8	128.7	129.9	130.2	135.8	137.0	138.0	138.2	.1	6.1
Elementary and secondary	123.0	129.3	130.2	130.8	131.1	137.5	138.5	139.4	139.4	.0	6.3
Hospitals and other services ³	123.1	125.1	125.9	127.7	128.0	130.2	130.9	132.4	133.3	.7	4.1
Public administration ²	121.3	124.4	125.7	127.0	127.2	131.4	132.0	133.8	134.6	.6	5.8

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.

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

(June 1981=100)

Series	1984			1985				1986		Percent change	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June	3 months ended	12 months ended
	June 1986										
COMPENSATION											
Workers, by bargaining status¹											
Union	121.7	122.6	123.9	124.8	125.5	126.5	127.1	128.4	128.7	0.2	2.5
Manufacturing	120.5	121.6	123.2	124.2	124.2	125.0	125.5	127.0	126.9	-.1	2.2
Nonmanufacturing	122.8	123.6	124.5	125.3	126.6	127.8	128.6	129.7	130.4	.5	3.0
Nonunion	119.2	120.3	121.9	123.8	125.0	126.8	127.5	129.0	130.2	.9	4.2
Manufacturing	117.9	119.3	120.8	123.6	124.8	125.7	126.3	128.1	129.7	1.2	3.9
Nonmanufacturing	119.8	120.7	122.4	123.9	125.1	127.3	128.1	129.5	130.4	.7	4.2
Workers, by region¹											
Northeast	120.7	122.4	123.8	125.1	126.4	128.8	129.9	131.6	133.3	1.3	5.5
South	120.7	120.7	122.2	124.2	125.2	126.5	127.2	128.7	129.6	.7	3.5
Midwest (formerly North Central)	117.9	119.7	120.8	122.0	122.7	124.2	124.6	125.9	126.2	.2	2.9
West	122.2	122.5	124.9	126.8	127.9	129.1	129.8	130.8	131.6	.6	2.9
Workers, by area size¹											
Metropolitan areas	120.6	121.5	123.2	124.7	125.7	127.3	128.1	129.5	130.5	.8	3.8
Other areas	117.4	119.0	119.8	121.4	122.5	123.9	123.9	125.5	126.4	.7	3.2
WAGES AND SALARIES											
Workers, by bargaining status¹											
Union	119.0	119.8	120.9	121.7	123.0	124.1	124.7	125.6	126.1	.4	2.5
Manufacturing	117.1	118.1	119.5	120.4	121.7	122.8	123.3	124.2	124.6	.3	2.4
Nonmanufacturing	120.7	121.3	122.1	122.8	124.1	125.3	125.9	126.9	127.4	.4	2.7
Nonunion	117.8	118.8	120.4	122.1	123.4	125.2	125.9	127.3	128.5	.9	4.1
Manufacturing	116.5	117.9	119.5	121.5	122.8	123.7	124.4	126.1	127.7	1.3	4.0
Nonmanufacturing	118.3	119.2	120.7	122.3	123.6	125.9	126.6	127.8	128.9	.9	4.3
Workers, by region¹											
Northeast	118.9	120.5	121.9	123.0	124.6	126.8	128.1	129.2	131.3	1.6	5.4
South	119.0	119.0	120.2	122.3	123.4	124.8	125.4	126.8	127.8	.8	3.6
Midwest (formerly North Central)	116.0	117.8	118.7	119.6	121.1	122.5	122.9	124.2	124.4	.2	2.7
West	119.6	120.0	122.5	124.0	125.1	126.6	127.1	128.1	128.9	.6	3.0
Workers, by area size¹											
Metropolitan areas	118.6	119.5	121.0	122.4	123.8	125.5	126.3	127.4	128.5	.9	3.8
Other areas	116.0	117.5	118.3	119.6	120.6	121.9	122.0	123.6	124.5	.7	3.2

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							
	1984	1985	1984		1985				1986	
			III	IV	I	II	III	IV	I	II ^P
Specified adjustments:										
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:										
First year of contract	3.6	2.6	2.7	3.7	3.6	3.5	2.0	2.0	0.4	0.7
Annual rate over life of contract	2.8	2.7	3.1	2.0	2.7	3.4	3.0	1.4	1.3	1.6
Wage adjustments, settlements covering 1,000 workers or more:										
First year of contract	2.4	2.3	2.1	2.3	3.3	2.5	2.0	2.1	1.0	1.3
Annual rate over life of contract	2.4	2.7	2.6	1.5	3.2	2.8	3.1	1.9	1.6	2.0
Effective adjustments:										
Total effective wage adjustment ³	3.7	3.3	1.2	.7	.7	.8	1.2	.5	.6	.7
From settlements reached in period .....	.8	.7	.2	.3	.1	.2	.2	.1	.0	.2
Deferred from settlements reached in earlier periods	2.0	1.8	.7	.2	.6	.5	.5	.2	.4	.6
From cost-of-living-adjustments clauses .....	.9	.7	.3	.2	.1	.1	.4	.1	.2	.0

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

compensation or wages.

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

^P = preliminary.

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

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--							
	1984		1985				1986	
	III	IV	I	II	III	IV	I	II ^P
Specified total compensation adjustments, settlements covering 5,000 workers or more, all industries:								
First year of contract	4.2	3.6	3.4	3.4	3.1	2.6	2.3	1.5
Annual rate over life of contract	3.2	2.8	2.6	2.7	2.7	2.7	2.6	2.0
Specified wage adjustments, settlements covering 1,000 workers or more:								
All industries								
First year of contract	3.2	2.4	2.4	2.4	2.4	2.3	2.0	1.7
Contracts with COLA clauses	4.5	2.9	2.5	2.3	1.9	1.6	1.6	1.6
Contracts without COLA clauses	2.3	2.1	2.4	2.4	2.7	2.7	2.2	1.7
Annual rate over life of contract	2.8	2.4	2.3	2.4	2.5	2.7	2.5	2.3
Contracts with COLA clauses	2.8	1.8	1.3	1.5	1.8	2.5	2.5	2.5
Contracts without COLA clauses	2.8	2.7	2.8	2.8	3.0	2.8	2.5	2.2
Manufacturing								
First year of contract	2.6	2.3	2.1	2.0	1.5	.8	.9	.1
Contracts with COLA clauses	1.5	2.1	2.0	1.9	1.5	.8	.8	.7
Contracts without COLA clauses	3.7	2.9	2.5	2.2	1.5	.9	.9	-.4
Annual rate over life of contract	2.8	1.5	1.4	1.5	1.6	1.8	1.8	1.4
Contracts with COLA clauses	1.8	1.0	.9	1.0	1.4	2.1	2.1	2.0
Contracts without COLA clauses	3.8	3.3	3.2	3.0	2.4	1.6	1.5	.9
Nonmanufacturing								
First year of contract	3.3	2.5	2.6	2.7	3.2	3.3	2.8	2.7
Contracts with COLA clauses	5.4	5.5	5.1	4.3	4.0	3.6	3.5	3.2
Contracts without COLA clauses	2.1	2.0	2.4	2.5	3.0	3.3	2.7	2.6
Annual rate over life of contract	2.8	2.9	2.8	2.9	3.3	3.3	3.0	2.9
Contracts with COLA clauses	3.1	4.8	4.0	3.8	3.9	3.6	3.6	3.3
Contracts without COLA clauses	2.6	2.6	2.7	2.8	3.2	3.3	2.9	2.8
Construction								
First year of contract .....	.9	.5	.9	1.1	1.0	1.5	1.7	2.4
Contracts with COLA clauses	4.0	4.0	4.6	9.2	(¹)	(¹)	(¹)	.7
Contracts without COLA clauses .....	.9	.4	.8	1.0	(¹)	(¹)	(¹)	2.5
Annual rate over life of contract	1.4	1.0	1.4	1.7	1.7	2.1	2.2	2.6
Contracts with COLA clauses	1.4	1.4	1.7	4.6	(¹)	(¹)	(¹)	1.1
Contracts without COLA clauses	1.4	1.0	1.4	1.7	(¹)	(¹)	(¹)	2.6

¹ Data do not meet publication standards.

^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--						
	1984	1985				1986	
	IV	I	II	III	IV	I	II ^P
For all workers:¹							
Total	3.7	3.6	3.5	3.5	3.3	3.1	2.9
From settlements reached in period .....	.8	.7	.9	.9	.7	.6	.5
Deferred from settlements reached in earlier period	2.0	2.2	1.9	1.8	1.8	1.7	1.8
From cost-of-living-adjustments clauses .....	.9	.7	.7	.8	.7	.8	.7
For workers receiving changes:							
Total	4.4	4.5	4.2	4.3	4.1	4.0	3.8
From settlements reached in period	3.0	2.9	2.9	2.8	3.4	2.9	2.5
Deferred from settlements reached in earlier period	4.0	4.2	3.9	3.7	3.7	3.5	3.4
From cost-of-living-adjustments clauses	2.7	2.3	2.3	2.8	2.2	2.5	2.1

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		Second 6 months 1985 ^P
	1984	1985	
Specified adjustments:			
Total compensation ¹ adjustments, ² settlements covering 5,000 workers or more:			
First year of contract	5.2	4.2	3.8
Annual rate over life of contract	5.4	5.1	5.3
Wage adjustments, settlements covering 1,000 workers or more:			
First year of contract	4.8	4.6	4.4
Annual rate over life of contract	5.1	5.4	5.6
Effective adjustments:			
Total effective wage adjustment ³	5.0	5.7	4.1
From settlements reached in period	1.9	4.1	3.2
Deferred from settlements reached in earlier periods	3.1	1.6	.9
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.

^P = preliminary.

29. Work stoppages involving 1,000 workers or more

Measure	Annual totals		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. ^P	Feb. ^P	Mar. ^P	Apr. ^P	May ^P	June ^P	July ^P
Number of stoppages:															
Beginning in period	62	54	9	6	11	6	3	2	4	3	3	4	6	11	11
In effect during period	68	61	13	18	20	20	13	9	7	7	9	9	11	16	21
Workers involved:															
Beginning in period (in thousands)	376.0	323.9	50.1	15.3	69.5	76.6	26.2	8.2	7.6	24.0	12.3	7.2	29.7	199.1	42.0
In effect during period (in thousands)	391.0	584.1	56.9	66.8	93.9	119.3	47.0	38.0	12.0	28.4	39.7	18.7	42.3	207.0	58.2
Days idle:															
Number (in thousands)	8,499.0	7,079.0	476.5	810.8	863.8	1,428.8	688.2	661.9	170.0	309.5	390.6	321.5	314.6	3,707.4	855.8
Percent of estimated working time ¹ .....	.04	.03	.02	.04	.04	.06	.04	.03	.01	.02	.02	.02	.02	.07	.04

¹ Agricultural and government employees are included in the total employed and total working time; private household, forestry, and fishery employees are excluded. An explanation of the measurement of idleness as a percentage of the total time worked is

found in "'Total economy' measure of strike idleness," *Monthly Labor Review*, October 1968, pp. 54-56.

^P = preliminary

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

(1967=100, unless otherwise indicated)

Series	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS:															
All items	311.1	322.2	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0
All items (1957-59=100)	361.9	374.7	375.5	376.2	377.4	378.5	379.9	380.8	381.9	380.8	379.1	378.3	379.5	381.4	381.4
Food and beverages	295.1	302.0	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2
Food	302.9	309.8	309.5	309.7	309.9	309.8	311.0	313.2	315.6	315.3	315.4	316.1	317.0	317.1	320.1
Food at home	292.6	296.8	296.2	295.9	295.6	295.3	296.6	299.3	302.5	301.5	301.2	301.5	302.1	301.6	305.5
Cereals and bakery products	305.3	317.0	317.3	318.5	319.2	318.9	319.9	321.9	322.0	322.5	322.7	322.5	323.8	326.1	326.3
Meats, poultry, fish, and eggs	266.6	263.4	260.5	259.7	260.6	261.1	266.1	269.9	271.5	268.4	267.7	264.2	263.4	265.1	274.9
Dairy products	253.2	258.0	257.8	257.4	258.0	257.1	257.1	256.9	257.2	257.3	256.8	256.8	257.1	257.2	258.4
Fruits and vegetables	317.4	325.7	328.9	326.3	319.9	317.1	314.3	323.9	334.4	320.7	319.2	329.5	336.5	327.8	330.3
Other foods at home	352.2	361.1	360.6	361.7	362.6	363.0	362.2	361.3	365.7	375.1	375.7	376.1	374.6	374.1	373.7
Sugar and sweets	389.1	398.8	400.2	401.8	401.1	402.6	401.4	402.2	405.1	408.6	408.4	411.4	411.2	411.5	412.4
Fats and oils	288.0	294.4	297.8	297.1	294.8	291.2	292.1	290.3	291.4	290.2	288.5	287.2	287.0	287.3	287.3
Nonalcoholic beverages	443.0	451.7	448.2	449.6	452.8	454.1	451.7	448.8	459.7	485.3	488.0	487.4	481.9	480.0	478.3
Other prepared foods	284.9	294.2	294.5	295.8	296.3	296.8	296.8	297.3	298.0	299.5	299.3	300.2	301.4	301.7	301.8
Food away from home	333.4	346.6	347.3	348.4	349.9	350.3	351.3	352.1	353.1	354.2	355.5	357.0	358.8	360.2	360.8
Alcoholic beverages	222.1	229.5	227.8	228.9	229.3	236.4	236.2	236.2	237.5	238.3	238.8	239.5	239.4	240.1	240.4
Housing	336.5	349.9	351.6	352.9	353.8	354.4	355.0	355.8	356.8	356.5	357.0	358.0	358.5	361.2	361.5
Shelter	361.7	382.0	383.2	385.9	386.9	389.1	391.3	392.3	393.8	394.8	397.0	400.1	400.9	401.6	403.5
Renters' costs (12/82=100)	108.6	115.4	115.8	116.6	117.0	117.9	118.4	118.3	118.8	119.0	119.6	120.9	121.1	121.6	122.5
Rent, residential	249.3	264.6	265.0	266.6	267.7	269.9	271.7	272.4	273.4	273.7	275.0	277.9	278.4	279.4	281.2
Other renters' costs	373.4	398.4	405.1	409.9	410.7	412.5	408.7	398.1	401.1	404.1	405.5	410.8	411.3	415.2	420.1
Homeowners' costs (12/82=100)	107.3	113.1	113.5	114.3	114.6	115.1	115.8	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Owners' equivalent rent (12/82=100)	107.3	113.2	113.5	114.3	114.6	115.1	115.9	116.3	116.7	117.0	117.9	118.7	118.9	119.0	119.4
Household insurance (12/82=100)	107.5	112.4	112.7	113.0	113.7	114.6	114.5	115.0	115.7	117.4	118.0	118.3	118.8	118.9	119.9
Maintenance and repairs	359.2	368.9	367.8	370.6	368.7	368.5	372.7	373.7	379.1	379.6	367.5	367.6	367.1	366.6	369.2
Maintenance and repair services	409.7	421.1	421.1	425.1	421.9	422.2	426.4	426.2	432.6	432.8	422.4	424.6	425.5	427.4	430.1
Maintenance and repair commodities	262.7	269.6	267.8	269.2	268.6	268.0	271.5	273.3	277.1	277.8	266.1	264.5	262.9	260.7	262.7
Fuel and other utilities	387.3	393.6	399.9	398.9	400.5	395.6	392.1	393.3	394.6	390.0	385.5	381.8	382.5	393.8	389.4
Fuels	485.5	488.1	497.3	494.4	496.8	488.4	481.5	483.6	484.7	476.3	467.6	459.6	460.6	477.0	469.2
Fuel oil, coal, and bottled gas	641.8	619.5	601.9	594.6	601.7	615.3	641.6	657.3	650.3	591.2	549.9	518.3	496.8	486.6	459.4
Gas (piped) and electricity	445.2	452.7	467.1	465.1	466.5	453.9	440.5	439.9	442.6	444.5	442.3	439.2	444.6	466.0	462.3
Other utilities and public services	230.2	240.7	242.8	244.2	244.6	244.7	245.9	245.8	247.3	247.9	249.0	251.3	251.5	255.2	255.6
Household furnishings and operations	242.5	247.2	246.5	247.0	247.1	248.4	248.9	248.8	248.8	249.0	249.8	249.6	249.9	250.2	250.5
Housefurnishings	199.1	200.1	198.8	199.1	199.0	200.3	200.8	200.1	199.8	199.7	201.0	200.4	200.8	200.8	201.2
Housekeeping supplies	303.2	313.6	313.1	313.5	313.9	315.7	316.4	317.7	318.3	318.6	317.9	318.5	318.3	319.6	319.5
Housekeeping services	327.5	338.9	339.8	340.7	341.5	342.2	342.7	343.2	343.9	344.5	345.1	345.4	345.8	346.1	346.6
Apparel and upkeep	200.2	206.0	202.8	205.3	209.6	211.1	211.2	209.0	205.0	204.1	206.3	207.3	206.4	204.5	203.2
Apparel commodities	187.0	191.6	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0
Men's and boys' apparel	192.4	197.9	194.5	197.2	201.5	203.2	203.6	202.0	198.6	196.8	198.3	199.7	200.2	198.1	195.8
Women's and girls' apparel	163.6	169.5	163.4	167.7	176.1	177.9	176.5	172.6	164.4	163.4	167.6	168.0	164.9	161.3	159.8
Infants' and toddlers' apparel	287.0	299.7	294.5	300.6	302.0	302.1	307.0	304.1	313.9	311.6	313.1	316.6	318.5	319.7	307.5
Footwear	209.5	212.1	211.4	210.3	210.9	212.3	215.5	213.1	209.1	207.9	210.1	211.4	211.5	210.0	209.1
Other apparel commodities	216.4	215.5	216.7	217.5	215.2	214.9	214.9	214.6	215.5	216.1	214.6	215.3	215.4	215.8	218.1
Apparel services	305.0	320.9	321.4	322.9	324.1	325.7	326.3	326.9	329.8	330.7	331.5	332.9	333.6	334.3	334.6
Transportation	311.7	319.9	321.8	320.7	319.7	320.9	323.2	324.0	323.9	319.2	309.6	303.3	305.7	308.6	304.7
Private transportation	306.6	314.2	316.1	314.9	313.6	314.7	317.0	317.8	317.3	312.2	302.1	295.3	297.8	300.8	296.5
New vehicles	208.0	214.9	214.3	214.2	214.2	215.9	218.2	219.2	219.7	220.2	220.1	221.0	222.8	224.0	224.5
New cars	208.5	215.2	214.7	214.6	214.5	216.2	218.4	219.4	219.9	220.4	220.3	221.2	222.0	224.2	224.7
Used cars	375.7	379.7	376.7	374.0	374.3	375.3	376.4	375.6	374.1	370.7	367.2	364.8	363.6	362.5	360.3
Motor fuel	370.7	373.8	385.5	381.9	377.7	374.6	376.7	377.5	373.3	351.5	308.5	279.5	289.3	299.4	280.2
Gasoline	370.2	373.3	385.3	381.8	377.4	374.2	376.1	376.8	372.5	350.8	307.7	278.6	288.7	299.1	279.8
Maintenance and repair	341.5	351.4	351.1	351.9	353.5	355.7	355.8	357.5	357.9	358.9	359.3	360.6	361.3	362.1	363.4
Other private transportation	273.3	287.6	287.6	287.7	285.8	289.6	293.9	295.2	297.7	299.2	301.5	301.6	301.3	303.0	304.5
Other private transportation commodities	201.5	202.6	202.2	202.8	203.4	202.8	201.6	202.1	203.4	202.9	203.6	202.2	202.4	201.5	201.6
Other private transportation services	295.0	312.8	313.0	313.0	310.4	315.4	312.2	322.7	325.5	327.6	330.3	330.9	330.4	332.8	334.6
Public transportation	385.2	402.8	402.4	403.7	408.0	411.5	421.8	412.9	419.6	422.2	421.2	422.2	423.7	425.4	428.0
Medical care	379.5	403.1	404.0	406.6	408.3	410.5	413.0	414.7	418.2	422.3	425.8	428.0	429.7	432.0	434.8
Medical care commodities	239.7	256.7	257.8	259.3	260.2	261.3	262.7	262.9	264.5	267.4	269.4	271.3	272.3	273.3	275.4
Medical care services	410.3	435.1	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8
Professional services	346.1	367.3	368.1	370.0	371.7	373.2	375.5	377.1	378.9	381.6	385.0	386.9	388.3	390.3	391.7
Other medical care services	488.0	517.0	517.6	521.6	523.9	527.4	530.8	533.6	540.3	546.4	550.8	553.5	555.9	559.2	564.2
Entertainment	255.1	265.0	265.7	265.7	266.8	268.4	269.0	268.3	270.8	272.0	271.9	272.3	272.9	273.9	274.4
Entertainment commodities	253.3	260.6	260.8	260.5	262.5	264.0	264.0	264.0	264.7	265.2	265.0	264.8	265.3	266.1	265.8
Entertainment services	258.3														

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

(1967=100, unless otherwise indicated)

Series	Annual average		1985						1986						
	1984	1985	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
All items	311.1	322.2	322.8	323.5	324.5	325.5	326.6	327.4	328.4	327.5	326.0	325.3	326.3	327.9	328.0
Commodities	280.7	286.7	286.5	286.5	287.1	287.9	289.2	289.9	290.1	287.4	283.7	281.2	282.1	282.8	281.9
Food and beverages	295.1	302.0	301.6	301.8	302.1	302.5	303.6	305.6	307.9	307.7	307.8	308.5	309.4	309.5	312.2
Commodities less food and beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nondurables less food and beverages	275.7	282.1	282.9	283.1	284.6	285.3	286.8	286.8	284.9	278.6	268.9	262.0	263.3	264.7	259.8
Apparel commodities	187.0	191.6	188.0	190.6	195.3	196.7	196.8	194.2	189.5	188.5	190.8	191.7	190.7	188.4	187.0
Nondurables less food, beverages, and apparel	325.8	333.3	336.4	335.4	335.3	335.6	337.8	339.1	338.7	329.5	313.6	302.6	305.2	308.4	301.7
Durables	266.5	270.7	268.9	268.6	268.7	270.2	271.5	271.4	274.7	270.5	269.9	269.2	269.6	269.9	269.6
Services	363.0	381.5	383.3	384.9	386.5	387.7	388.7	389.5	391.7	393.3	394.9	396.8	397.9	401.0	402.3
Rent of shelter	107.7	113.9	114.3	115.1	115.4	116.1	116.7	117.0	117.4	117.7	118.5	119.4	119.7	119.9	120.5
Household services less rent of shelter	108.1	111.2	113.2	113.2	113.5	112.1	110.8	110.8	111.4	111.8	111.6	111.6	112.3	115.2	114.9
Transportation services	321.1	337.0	337.0	337.4	337.1	341.1	344.7	346.1	349.0	351.0	352.4	353.2	353.4	355.3	357.1
Medical care services	410.3	435.1	435.8	438.6	440.5	443.0	445.8	448.0	451.9	456.2	460.1	462.3	464.2	466.8	469.8
Other services	296.0	314.1	313.0	313.8	319.7	321.4	322.5	322.9	324.8	326.1	326.6	327.6	328.2	329.2	330.1
Special indexes:															
All items less food	311.3	323.3	324.2	325.0	326.2	327.4	328.5	328.9	329.5	328.5	326.6	325.7	326.7	328.6	328.0
All items less shelter	295.1	303.9	304.4	304.6	305.7	306.3	307.2	307.9	308.8	307.4	305.2	303.6	304.7	306.5	306.1
All items less homeowners' costs	106.3	109.7	109.9	110.1	110.4	110.7	111.1	111.3	111.6	111.2	110.5	110.1	110.4	111.1	111.0
All items less medical care	307.3	317.7	318.4	318.9	319.9	320.8	321.9	322.6	323.4	322.2	320.5	319.7	320.6	322.2	322.1
Commodities less food	267.0	272.5	272.4	273.2	273.1	274.4	275.7	274.7	270.9	265.2	261.2	262.1	263.0	262.0	262.2
Nondurables less food	270.8	277.2	277.9	278.1	279.6	280.7	282.0	282.0	280.4	274.5	265.6	259.2	260.5	261.8	257.3
Nondurables less food and apparel	311.9	319.2	321.9	321.1	321.0	322.0	324.0	325.1	324.9	316.8	302.7	292.9	295.2	298.1	292.2
Nondurables	286.6	293.2	293.5	293.7	294.6	295.1	296.4	297.4	297.7	294.3	289.5	286.3	287.4	288.2	287.1
Services less rent of shelter	108.5	113.5	114.2	114.5	115.0	115.1	115.2	115.4	116.2	116.8	117.1	117.4	117.8	119.2	119.5
Services less medical care	355.6	373.3	375.2	376.7	378.3	379.3	380.1	380.8	382.7	384.0	385.4	387.2	388.3	391.3	392.5
Energy	423.6	426.5	437.1	433.8	432.6	427.1	425.1	426.5	424.7	408.9	381.3	361.8	367.6	380.6	366.5
All items less energy	302.9	314.8	314.5	315.6	316.8	318.4	319.8	320.5	321.8	322.3	323.3	324.4	325.0	325.5	326.9
All items less food and energy	301.2	314.4	314.1	315.3	316.9	318.9	320.4	320.7	321.6	322.3	323.6	324.8	325.3	325.9	326.9
Commodities less food and energy	253.1	259.7	258.2	258.8	260.2	262.0	262.7	262.2	261.8	261.6	262.0	262.1	262.2	262.0	262.0
Energy commodities	409.8	409.9	418.1	414.0	411.2	410.1	415.2	417.9	413.2	386.5	343.0	313.3	319.3	321.7	306.6
Services less energy	356.4	375.9	376.6	378.6	380.2	382.5	384.8	385.8	387.9	389.4	391.5	393.8	394.5	395.9	397.7
Purchasing power of the consumer dollar:															
1967=\$1.00	32.1	31.0	31.0	30.9	30.8	30.7	30.6	30.5	30.5	30.5	30.7	30.7	30.6	30.5	30.5
1957-59=\$1.00	27.6	26.7	26.6	26.6	26.5	26.4	26.3	26.3	26.2	26.3	26.4	26.4	26.4	26.2	26.2
CONSUMER PRICE INDEX FOR URBAN WAGE EARNERS AND CLERICAL WORKERS:															
All items	307.6	318.5	319.1	319.6	320.5	321.3	322.6	323.4	324.3	323.2	321.4	320.4	321.4	323.0	322.9
All items (1957-59=100)	357.7	370.4	371.2	371.8	372.7	373.7	375.1	376.1	377.1	375.8	373.7	372.6	373.7	375.6	375.5
Food and beverages	295.2	301.8	301.4	301.6	301.8	302.2	303.4	305.4	307.7	307.5	307.6	308.3	309.0	309.3	312.0
Food	302.7	309.3	309.0	309.1	309.3	309.3	310.6	312.8	315.1	314.9	315.0	315.6	316.4	316.6	319.5
Food at home	291.2	295.3	294.6	294.3	294.0	293.7	295.2	297.9	300.9	300.1	299.7	299.9	300.4	300.0	303.9
Cereals and bakery products	303.7	315.4	315.7	316.8	317.6	317.3	318.2	320.4	320.9	321.1	320.9	322.1	324.1	324.5	324.6
Meats, poultry, fish, and eggs	266.0	262.7	259.7	259.0	259.9	260.4	265.4	269.2	270.7	267.7	267.2	263.5	262.6	264.2	274.0
Dairy products	252.2	256.9	256.6	256.3	256.8	255.9	255.9	255.7	256.0	256.0	255.5	255.5	255.8	255.9	257.0
Fruits and vegetables	312.5	320.3	323.9	320.6	313.6	311.2	309.4	319.3	329.7	316.0	314.6	325.0	331.6	323.5	325.6
Other foods at home	352.7	361.5	361.1	362.2	362.9	363.4	362.5	361.6	366.1	375.2	375.6	376.0	374.3	373.9	373.4
Sugar and sweets	388.6	398.3	399.8	401.4	400.8	402.2	400.9	401.8	404.7	408.1	407.8	410.9	410.6	410.9	411.9
Fats and oils	287.5	293.9	297.3	296.5	294.1	290.6	291.8	289.6	291.6	290.8	287.8	286.6	286.4	286.4	286.6
Nonalcoholic beverages	444.4	453.2	449.8	451.2	454.1	455.6	453.1	450.4	461.0	485.5	487.4	487.0	481.2	479.5	477.6
Other prepared foods	286.4	295.7	296.1	297.3	297.7	298.3	298.3	298.7	299.4	300.9	300.7	301.6	302.7	303.0	303.1
Food away from home	336.7	349.7	350.4	351.5	353.0	353.4	354.4	355.2	356.2	357.3	358.6	360.2	362.0	363.5	364.2
Alcoholic beverages	225.3	232.6	231.0	232.2	232.6	239.1	238.8	239.1	240.1	240.9	241.4	242.3	242.2	242.9	243.4
Housing	329.2	343.3	345.0	346.2	347.2	347.5	348.3	349.1	350.1	349.7	350.1	351.1	351.6	354.3	354.5
Shelter	350.0	370.4	371.5	374.0	375.0	377.1	379.3	380.4	381.8	382.9	385.0	388.1	388.8	389.4	391.5
Renters' costs (12/84=100)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rent, residential	248.6	263.7	264.1	265.7	266.8	268.9	270.7	271.5	272.5	272.8	274.1	277.0	277.5	278.5	280.3
Other renters' costs	372.4	397.9	405.2	409.6	409.8	411.6	408.0	397.5	400.8	403.5	405.4	411.6	411.3	415.5	420.4
Homeowners' costs (12/84=100)	-	103.1	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.4	108.1	108.3	108.4	108.8
Owners' equivalent rent (12/84=100)	-	103.0	103.4	104.1	104.3	104.8	105.5	105.9	106.3	106.6	107.3	108.1	108.3	108.4	108.8
Household insurance (12/84=100)	-	103.2	103.5	103.7	104.3	105.2	105.2	105.7	106.3	107.8	108.2	108.5	109.0	109.1	110.1
Maintenance and repairs	356.3	364.1	363.4	365.6	364.4	364.6	367.7	368.5	373.2	374.0	364.7	364.6	363.8	363.2	366.7
Maintenance and repair services	403.5	415.0	415.3	419.6	416.8	417.4	420.9	420.1	426.2	426.5	416.6	419.2	420.0	422.6	425.2
Maintenance and repair commodities	257.2	261.1	260.0	260.6	260.5	260.5	262.7	264.2	268.1	261.1	259.4	258.0	255.7	259.0	
Fuel and other utilities	388.6	394.7	401.2	400.1	401.9	396.3	393.2	394.3	395.6	390.9	386.3	382.8	383.0	394.9	390.3
Fuels	485.0	487.5	497.0	494.0	496.7	487.2	481.0	483.1	484.1	475.7	467.1	459.1	459.7	477.3	469.1
Fuel oil, coal, and bottled gas	644.3	622.0	604.2	596.9	604.3	618.1	644.3	659.9	652.7	593.6	552.8	521.5	499.9	489.9	462.9
Gas (piped) and electricity	444.1	451.6	466.3	464.2	465.9	452.0	439.5	438.8	441.4	443.2	441.2	438.0	443.0	465.7	461.4
Other utilities and public services	231.2	241.6	243.7	245.1	245.6	245.7	246.8	246.8	248.3	248.8	249.9	252.2	252.2	255.8	256.3
Household furnishings and operations	239.1	243.4	242.6	243.1	243.2										

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

(1967=100, unless otherwise indicated)

Area ¹	Pricing schedule ²	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
U.S. city average		-	322.8	323.5	326.0	325.3	326.3	327.9	328.0	319.1	319.6	321.4	320.4	321.4	323.0	322.9
Chicago, Ill.-Northwestern																
Ind.	M	-	324.4	325.9	323.9	323.7	324.2	330.4	331.1	311.1	312.1	309.7	309.1	309.6	315.6	316.0
Detroit, Mich.	M	-	318.0	318.0	320.0	318.8	321.7	321.0	318.4	308.3	308.3	309.3	308.1	311.0	310.2	307.5
Los Angeles-Long Beach, Anaheim, Calif.	M	-	321.3	323.9	328.2	326.8	329.4	331.3	330.9	315.8	318.0	321.6	320.2	322.7	324.5	323.8
New York, N.Y.-Northeastern N.J.	M	-	313.5	315.7	322.4	321.4	320.6	322.8	325.1	306.5	308.5	314.5	313.2	312.3	314.4	316.5
Philadelphia, Pa.-N.J.	M	-	315.5	315.8	319.1	317.8	318.9	321.7	323.0	318.6	318.5	321.4	319.7	320.8	323.5	324.6
Anchorage, Alaska (10/67 = 100)	1	10/67	283.1	-	291.2	-	288.9	-	284.1	276.0	-	284.4	-	281.8	-	276.9
Baltimore, Md.	1	-	324.0	-	331.1	-	329.1	-	330.2	323.4	-	329.5	-	326.8	-	327.9
Boston, Mass.	1	-	317.7	-	324.9	-	322.6	-	323.6	315.7	-	322.3	-	319.3	-	320.8
Cincinnati, Ohio-Ky.-Ind.	1	-	330.0	-	329.4	-	332.0	-	332.4	323.2	-	321.8	-	324.8	-	324.9
Denver-Boulder, Colo.	1	-	360.3	-	355.7	-	356.3	-	358.4	355.9	-	350.1	-	350.3	-	352.4
Miami, Fla. (11/77 = 100)	1	11/77	171.4	-	174.5	-	173.0	-	171.2	172.7	-	175.1	-	173.4	-	171.6
Milwaukee, Wis.	1	-	331.1	-	329.1	-	332.0	-	331.3	350.4	-	347.2	-	350.6	-	350.1
Northeast, Pa.	1	-	306.6	-	309.3	-	309.2	-	309.0	305.7	-	308.3	-	308.1	-	307.8
Portland, Ore.-Wash.	1	-	312.9	-	315.0	-	314.6	-	314.7	303.2	-	304.3	-	303.2	-	303.4
St. Louis, Mo.-Ill.	1	-	319.9	-	319.2	-	318.6	-	325.6	316.6	-	315.0	-	314.2	-	320.6
San Diego, Calif.	1	-	372.8	-	379.2	-	382.8	-	383.1	336.9	-	341.9	-	345.2	-	345.0
Seattle-Everett, Wash.	1	-	322.0	-	325.0	-	323.5	-	323.7	309.1	-	311.4	-	309.4	-	310.1
Washington, D.C.-Md.-Va.	1	-	323.3	-	329.1	-	329.6	-	329.3	325.9	-	330.5	-	330.2	-	330.2
Atlanta, Ga.	2	-	-	331.4	-	334.9	-	338.5	-	-	-	329.3	-	331.7	-	335.5
Buffalo, N.Y.	2	-	-	306.5	-	308.0	-	308.9	-	-	-	292.9	-	292.7	-	294.0
Cleveland, Ohio	2	-	-	348.1	-	346.9	-	350.6	-	-	-	327.0	-	324.4	-	328.2
Dallas-Ft. Worth, Tex.	2	-	-	343.4	-	341.4	-	344.7	-	-	-	337.0	-	334.1	-	337.4
Honolulu, Hawaii	2	-	-	294.2	-	299.0	-	299.2	-	-	-	301.3	-	306.0	-	306.5
Houston, Tex.	2	-	-	338.2	-	330.0	-	333.3	-	-	-	335.3	-	327.7	-	330.9
Kansas City, Mo.-Kansas	2	-	-	321.1	-	320.7	-	322.9	-	-	-	311.2	-	308.9	-	311.4
Minneapolis-St. Paul, Minn.-Wis.	2	-	-	338.8	-	338.4	-	342.1	-	-	-	334.4	-	332.3	-	336.2
Pittsburgh, Pa.	2	-	-	325.9	-	328.1	-	328.6	-	-	-	308.0	-	307.8	-	308.3
San Francisco-Oakland, Calif.	2	-	-	335.8	-	339.3	-	344.0	-	-	-	330.8	-	333.2	-	338.1
Region ³																
Northeast	2	12/77	-	171.0	-	173.7	-	174.2	-	-	-	169.0	-	171.1	-	171.6
North Central	2	12/77	-	174.3	-	173.9	-	176.1	-	-	-	171.0	-	170.0	-	172.2
South	2	12/77	-	174.5	-	175.1	-	176.3	-	-	-	174.3	-	174.1	-	175.2
West	2	12/77	-	175.9	-	176.8	-	178.7	-	-	-	173.9	-	174.5	-	176.3
Population size class ³																
A-1	2	12/77	-	172.3	-	173.9	-	175.7	-	-	-	168.3	-	169.3	-	171.0
A-2	2	12/77	-	176.6	-	177.4	-	178.9	-	-	-	173.7	-	173.8	-	175.2
B	2	12/77	-	174.9	-	175.6	-	177.0	-	-	-	172.4	-	172.7	-	174.1
C	2	12/77	-	172.5	-	173.4	-	174.7	-	-	-	173.0	-	173.4	-	174.6
D	2	12/77	-	172.3	-	172.7	-	173.4	-	-	-	173.8	-	173.6	-	174.2
Region/population size class cross classification ³																
Class A:																
Northeast	2	12/77	-	168.5	-	171.0	-	171.8	-	-	-	165.0	-	166.9	-	167.7
North Central	2	12/77	-	178.3	-	177.8	-	180.3	-	-	-	173.3	-	172.1	-	174.7
South	2	12/77	-	174.8	-	175.5	-	176.8	-	-	-	174.9	-	174.9	-	176.1
West	2	11/77	-	178.0	-	179.6	-	181.8	-	-	-	173.8	-	174.9	-	177.1
Class B:																
Northeast	2	12/77	-	173.3	-	174.7	-	175.2	-	-	-	170.4	-	171.7	-	172.2
North Central	2	12/77	-	171.5	-	172.1	-	174.1	-	-	-	168.0	-	167.7	-	169.7
South	2	12/77	-	176.0	-	177.0	-	178.5	-	-	-	172.7	-	173.2	-	174.6
West	2	12/77	-	176.9	-	176.7	-	178.3	-	-	-	177.5	-	177.1	-	178.7

See footnotes at end of table.

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

(1967 = 100, unless otherwise indicated)

Area ¹	Pricing schedule ²	Other index base	All Urban Consumers							Urban Wage Earners						
			1985		1986					1985		1986				
			July	Aug.	Mar.	Apr.	May	June	July	July	Aug.	Mar.	Apr.	May	June	July
Class C:																
Northeast	2	12/77	-	178.9	-	183.0	-	183.4	-	-	183.8	-	187.4	-	187.8	-
North Central	2	12/77	-	169.1	-	168.5	-	170.7	-	-	166.0	-	165.1	-	167.2	-
South	2	12/77	-	173.5	-	173.6	-	174.5	-	-	175.1	-	174.3	-	175.2	-
West	2	12/77	-	168.9	-	170.5	-	171.6	-	-	167.7	-	168.9	-	169.9	-
Class D:																
Northeast	2	12/77	-	173.7	-	177.9	-	176.1	-	-	173.6	-	177.2	-	175.5	-
North Central	2	12/77	-	170.7	-	170.0	-	171.3	-	-	172.7	-	171.4	-	172.6	-
South	2	12/77	-	172.8	-	173.2	-	173.9	-	-	174.5	-	174.0	-	174.6	-
West	2	12/77	-	173.3	-	172.6	-	174.1	-	-	174.8	-	173.9	-	175.4	-

¹ Area is generally the Standard Metropolitan Statistical Area (SMSA), exclusive of farms. L.A.-Long Beach, Anaheim, Calif. is a combination of two SMSA's, and N.Y., N.Y.-Northeastern N.J. and Chicago, Ill.-Northwestern Ind. are the more extensive Standard Consolidated Areas. Area definitions are those established by the Office of Management and Budget in 1973, except for Denver-Boulder, Colo. which does not include Douglas County. Definitions do not include revisions made since 1973.

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.

The population size classes are aggregations of areas which have urban population as defined:

A-1 - More than 4,000,000.

A-2 - 1,250,000 to 4,000,000.

B - 385,000 to 1,250,000

C - 75,000 to 385,000.

D - Less than 75,000.

Population size class A is the aggregation of population size classes A-1 and A-2.

- 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 all items and major groups

Series	1977	1978	1979	1980	1981	1982	1983	1984	1985
Consumer Price Index for All Urban Consumers:									
All items:									
Index	181.5	195.4	217.4	246.8	272.4	289.1	298.4	311.1	322.2
Percent change	6.5	7.7	11.3	13.5	10.4	6.1	3.2	4.3	3.6
Food and beverages:									
Index	188.0	206.3	228.5	248.0	267.3	278.2	284.4	295.1	302.0
Percent change	6.0	9.7	10.8	8.5	7.8	4.1	2.2	3.8	2.3
Housing:									
Index	186.5	202.8	227.6	263.3	293.5	314.7	323.1	336.5	349.9
Percent change	6.8	8.7	12.2	15.7	11.5	7.2	2.7	4.1	4.0
Apparel and upkeep:									
Index	154.2	159.6	166.6	178.4	186.9	191.8	196.5	200.2	206.0
Percent change	4.5	3.5	4.4	7.1	4.8	2.6	2.5	1.9	2.9
Transportation:									
Index	177.2	185.5	212.0	249.7	280.0	291.5	298.4	311.7	319.9
Percent change	7.1	4.7	14.3	17.8	12.1	4.1	2.4	4.5	2.6
Medical care:									
Index	202.4	219.4	239.7	265.9	294.5	328.7	357.3	379.5	403.1
Percent change	9.6	8.4	9.3	10.9	10.8	11.6	8.7	6.2	6.2
Entertainment:									
Index	167.7	176.6	188.5	205.3	221.4	235.8	246.0	255.1	265.0
Percent change	4.9	5.3	6.7	8.9	7.8	6.5	4.3	3.7	3.9
Other goods and services:									
Index	172.2	183.3	196.7	214.5	235.7	259.9	288.3	307.7	326.6
Percent change	5.8	6.4	7.3	9.0	9.9	10.3	10.9	6.7	6.1
Consumer Price Index for Urban Wage Earners and Clerical Workers									
All items:									
Index	181.5	195.3	217.7	247.0	272.3	288.6	297.4	307.6	318.5
Percent change	6.5	7.6	11.5	13.5	10.2	6.0	3.0	3.4	3.5

33. Producer Price Indexes, by stage of processing

(1967 = 100)

Grouping	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Finished goods	291.1	293.7	293.5	290.0	294.7	296.4	297.2	296.0	291.9	288.0	286.9	289.0	288.9	288.0
Finished consumer goods	290.3	291.8	291.4	288.2	292.3	294.4	295.4	293.8	288.4	283.4	281.6	284.2	284.1	282.7
Finished consumer goods	273.3	271.2	268.7	265.7	268.2	271.8	275.0	275.0	272.0	271.6	272.4	274.9	275.1	280.7
Finished consumer goods excluding	294.1	297.3	297.8	294.7	299.4	300.7	300.7	298.3	291.8	284.6	281.4	284.1	283.8	278.8
Nondurable goods less food	337.3	339.3	340.0	340.3	340.3	342.6	343.2	339.6	328.0	315.4	308.6	312.9	312.6	303.4
Durable goods	236.8	241.5	241.8	234.5	244.9	245.0	244.3	243.5	243.9	243.7	245.4	245.8	245.8	246.3
Capital equipment	294.0	300.5	301.0	296.3	303.5	303.8	303.7	303.9	304.3	304.3	305.6	305.8	305.8	306.4
Intermediate materials, supplies, and components	320.0	318.7	317.9	317.7	317.6	318.1	318.9	317.4	313.5	309.5	307.0	306.8	307.1	305.0
Materials and components for	301.8	299.5	299.1	298.4	298.0	297.7	297.9	297.1	296.5	296.4	295.2	295.3	295.3	295.8
Manufacturing	271.1	258.8	253.0	249.9	252.3	254.0	254.3	252.8	249.2	246.7	244.6	248.6	247.8	251.6
Materials for food manufacturing	290.5	285.9	285.8	285.1	283.3	282.8	283.1	283.8	282.4	282.5	279.0	278.0	278.0	278.2
Materials for nondurable manufacturing	325.1	320.2	320.3	319.2	318.6	317.5	317.6	313.4	313.1	313.6	313.1	313.2	313.3	313.3
Components for manufacturing	287.5	291.5	291.9	292.1	292.3	292.3	292.4	293.1	293.6	293.7	294.1	294.1	294.2	294.6
Materials and components for	310.3	315.2	316.5	315.6	315.5	315.0	315.7	316.2	316.5	317.0	318.0	318.3	317.7	318.0
Construction	566.2	548.9	539.8	542.4	542.6	550.5	557.2	540.8	500.8	453.4	430.2	425.7	429.3	401.6
Processed fuels and lubricants	302.3	311.2	310.3	309.9	310.4	309.8	310.6	311.2	310.9	312.3	312.5	313.9	313.6	314.2
Supplies	283.4	284.2	284.1	284.5	285.1	285.6	285.7	286.6	286.4	286.8	287.0	287.2	287.3	287.4
Crude materials for further processing	330.8	306.1	295.3	291.8	297.8	304.7	304.3	301.0	289.0	281.1	272.8	278.9	274.9	278.0
Foodstuffs and feedstuffs	259.5	235.0	221.0	215.4	224.6	236.6	236.8	231.7	227.2	224.4	220.1	228.9	226.1	233.6
Nonfood materials ¹	380.5	355.3	351.2	352.2	352.8	352.0	351.6	352.4	321.8	290.5	280.8	278.8	279.4	272.4
Special groupings	294.8	299.0	299.5	295.9	301.3	302.4	302.4	300.7	296.3	291.2	289.4	291.3	291.1	287.8
Finished goods, excluding foods	750.3	720.9	719.9	718.2	716.5	729.5	733.8	700.9	629.3	554.1	511.3	532.7	531.5	467.8
Finished energy goods	265.1	269.2	269.0	265.5	270.5	271.6	272.2	272.7	272.2	272.1	273.2	274.2	274.2	276.4
Finished consumer goods less energy	257.8	261.3	260.9	257.7	262.1	263.4	264.3	264.8	264.0	263.9	265.0	266.2	266.2	269.0
Finished goods less food and energy	262.3	268.7	269.4	265.7	271.6	271.8	271.4	272.1	272.5	272.5	273.7	274.2	274.1	275.0
Finished consumer goods less food and	245.9	252.1	252.9	249.6	254.9	255.0	254.6	255.5	256.0	256.0	257.1	257.7	257.6	258.6
Consumer nondurable goods less food and	239.0	246.2	247.3	247.9	248.3	248.5	248.3	250.5	251.1	251.2	251.8	252.5	252.3	253.8
Energy	325.0	325.0	324.5	324.4	324.1	324.5	325.3	323.6	319.7	315.5	312.9	312.5	312.8	310.5
Intermediate materials less foods and	253.1	232.8	227.1	225.4	228.6	231.4	232.7	232.6	228.9	227.8	226.8	229.4	229.0	230.3
Intermediate foods and feeds	545.0	528.3	519.8	522.3	522.2	529.3	536.2	520.0	482.0	437.0	414.9	410.5	413.9	387.1
Intermediate energy goods	303.8	304.0	303.9	303.4	303.4	303.2	303.5	303.4	303.0	303.3	302.8	303.0	302.9	303.4
Intermediate goods less energy	303.6	305.2	305.5	305.0	304.6	304.2	304.5	304.3	304.2	304.5	304.0	304.0	303.9	304.2
Intermediate materials less foods and	785.2	748.1	742.9	743.2	743.1	737.1	735.6	732.8	662.9	614.5	570.7	571.6	554.2	538.7
Crude energy materials	255.5	233.2	221.8	217.9	224.7	233.2	233.0	229.8	226.5	224.7	221.8	228.5	226.5	232.0
Crude materials less energy	266.1	249.7	245.8	246.7	246.5	244.6	242.9	245.8	246.5	247.9	249.1	249.3	250.0	249.2
Crude nonfood materials less energy														

¹ Crude nonfood materials except fuel.

34. Producer Price indexes, by durability of product

(1967=100)

Grouping	Annual average		1985					1986						
	1984	1985	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July
Total durable goods	293.6	297.3	297.8	295.2	298.8	298.5	298.5	298.1	298.4	298.6	299.5	299.7	299.6	300.0
Total nondurable goods	323.3	317.2	314.1	313.0	314.3	317.6	318.8	316.8	308.4	300.7	295.7	297.9	297.4	294.9
Total manufactures	302.9	304.3	303.8	302.2	304.4	305.4	306.0	304.8	301.1	297.3	296.0	296.9	297.0	295.4
Durable	293.9	298.1	298.6	296.0	299.7	299.5	299.5	299.0	299.3	299.4	300.3	300.5	300.5	300.9
Nondurable	312.3	310.5	309.0	308.4	309.2	311.4	312.5	310.6	302.9	294.9	291.2	292.8	293.1	289.2
Total raw or slightly processed goods	346.6	327.9	320.2	317.6	320.6	326.2	327.6	326.0	316.3	310.3	302.0	305.6	302.6	304.3
Durable	266.7	252.2	249.7	249.7	248.1	245.2	244.3	248.2	251.2	252.4	252.7	252.0	250.9	248.9
Nondurable	351.4	332.4	324.4	321.6	324.9	331.2	332.7	330.6	320.2	313.6	304.7	308.7	305.5	307.4

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

(1967=100)

Index	1977	1978	1979	1980	1981	1982	1983	1984	1985
Finished goods:									
Total	181.7	195.9	217.7	247.0	269.8	280.7	285.2	291.1	293.7
Consumer goods	180.7	194.9	217.9	248.9	271.3	281.0	284.6	290.3	291.8
Capital equipment	184.6	199.2	216.5	239.8	264.3	279.4	287.2	294.0	300.5
Intermediate materials, supplies, and components:									
Total	201.5	215.6	243.2	280.3	306.0	310.4	312.3	320.0	318.7
Materials and components for manufacturing	195.4	208.7	234.4	265.7	286.1	289.8	293.4	301.8	299.5
Materials and components for construction	203.4	224.7	247.4	268.3	287.6	293.7	301.8	310.3	315.2
Processed fuels and lubricants	282.5	295.3	364.8	503.0	595.4	591.7	564.8	566.2	548.9
Containers	188.3	202.8	226.8	254.5	276.1	285.6	286.6	302.3	311.2
Supplies	188.7	198.5	218.2	244.5	263.8	272.1	277.1	283.4	284.2
Crude materials for further processing:									
Total	209.2	234.4	274.3	304.6	329.0	319.5	323.6	330.8	306.1
Foodstuffs and feedstuffs	192.1	216.2	247.9	259.2	257.4	247.8	252.2	259.5	235.0
Nonfood materials except fuel	212.2	233.1	284.5	346.1	413.7	376.8	372.2	380.5	355.3
Fuel	372.1	426.8	507.6	615.0	751.2	886.1	931.5	931.3	909.6

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

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1983	1984				1985				1986	
		Dec.	Mar.	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/83=100)		99.5	100.2	101.5	99.3	98.1	97.5	97.5	96.5	96.7	97.0	96.7
Food (3/83=100)	0	108.8	106.2	109.6	103.5	96.5	95.8	94.0	90.2	93.6	90.5	89.5
Meat (3/83=100)	01	101.2	108.9	108.7	105.6	104.4	103.9	104.7	106.1	112.2	111.5	114.7
Fish (3/83=100)	03	100.4	99.8	98.7	98.0	98.7	101.0	103.6	102.6	101.8	102.2	106.2
Grain and grain preparations (3/80=100)	04	105.6	102.7	107.4	101.2	92.9	92.4	90.3	82.6	87.1	82.1	79.1
Vegetables and fruit (3/83=100)	05	116.1	116.2	126.8	125.5	114.6	119.4	120.1	126.8	118.8	115.2	125.7
Feedstuffs for animals (3/83=100)	08	117.4	106.9	98.8	83.5	82.4	72.8	68.6	75.7	83.4	88.5	85.5
Misc. food products (3/83=100)	09	101.7	104.9	110.6	109.5	108.4	110.6	109.2	108.1	107.7	106.0	104.7
Beverages and tobacco (6/83=100)	1	101.5	101.6	101.9	102.8	101.3	99.9	100.1	99.7	98.6	95.6	96.5
Beverages (9/83=100)	11	103.3	102.3	102.9	103.3	103.7	104.0	105.3	101.8	100.9	101.9	103.0
Tobacco and tobacco products (6/83=100)	12	101.4	101.6	101.8	102.7	101.1	99.5	99.6	99.5	98.4	95.1	95.9
Crude materials (6/83=100)	2	112.2	112.5	118.3	105.2	101.4	97.5	96.8	93.3	92.5	95.8	95.6
Raw hides and skins (6/80=100)	21	135.2	145.6	154.7	153.7	133.6	121.0	126.2	129.0	139.9	138.9	148.9
Oilseeds and oleaginous fruit (9/77=100)	22	96.8	93.9	104.3	79.9	74.8	71.0	71.2	64.2	63.9	66.9	65.8
Crude rubber (including synthetic and reclaimed) (9/83=100)	23	102.2	103.3	106.0	104.1	104.0	106.4	106.3	107.1	106.0	106.0	106.1
Wood	24	129.8	131.1	129.4	123.8	125.4	128.7	125.7	124.5	128.1	128.7	128.7
Pulp and waste paper (6/83=100)	25	106.0	112.5	122.1	120.8	114.2	100.5	96.1	93.8	92.7	98.8	109.7
Textile fibers	26	123.1	120.5	125.6	109.4	106.7	102.4	105.8	103.6	97.7	101.6	98.6
Crude fertilizers and minerals	27	144.8	146.6	147.7	163.0	163.2	165.6	167.9	169.4	165.5	168.0	166.1
Metalliferous ores and metal scrap	28	96.7	100.2	98.5	93.2	92.4	89.2	82.0	80.1	78.7	83.4	80.5
Mineral fuels	3	99.2	99.1	99.7	99.7	99.7	100.1	99.2	97.6	96.6	91.9	86.2
Animal and vegetable oils, fats, and waxes	4	122.0	129.8	164.5	145.7	147.9	142.0	144.5	114.5	101.4	90.8	84.4
Fixed vegetable oils and fats (6/83=100)	42	129.3	133.2	176.4	159.0	156.7	152.9	164.8	128.8	108.7	95.4	95.3
Chemicals (3/83=100)	5	98.6	101.4	99.7	98.3	97.7	97.0	96.8	97.1	96.6	96.5	95.4
Organic chemicals (12/83=100)	51	100.0	100.2	101.0	97.4	94.7	93.8	96.5	97.1	95.4	93.5	89.3
Fertilizers, manufactured (3/83=100)	56	96.8	108.3	98.9	97.4	94.8	92.5	87.9	89.8	90.0	88.6	84.0
Intermediate manufactured products (9/81=100)	-	100.0	101.0	101.3	102.0	100.4	99.4	99.2	99.2	99.1	100.3	101.2
Leather and furskins (9/79=100)	6	75.8	83.5	81.2	80.8	79.0	82.5	79.2	75.9	78.5	77.8	82.5
Rubber manufactures	61	145.0	146.7	147.5	148.9	148.5	150.2	149.0	148.3	148.7	151.0	150.0
Paper and paperboard products (6/78=100)	62	145.5	150.2	154.7	160.0	159.5	155.0	151.6	149.6	148.2	152.2	158.7
Iron and steel (3/82=100)	64	96.3	95.9	96.1	96.8	96.5	95.5	95.3	95.9	98.2	98.4	99.4
Nonferrous metals (9/81=100)	-	93.8	94.2	92.9	90.4	82.5	79.7	79.6	79.8	78.2	80.2	79.1
Metal manufactures, n.e.s. (3/82=100)	-	102.1	103.1	104.5	105.1	105.0	105.4	105.2	105.4	104.4	105.3	105.5
Machinery and transport equipment, excluding military and commercial aircraft (12/78=100)	67	137.0	138.5	139.4	140.1	141.5	142.3	142.9	143.1	143.3	144.0	144.1
Power generating machinery and equipment (12/78=100)	68	154.4	158.4	156.9	160.6	167.5	165.3	167.4	167.1	167.5	169.1	169.2
Machinery specialized for particular industries (9/78=100)	69	151.1	152.3	152.8	153.7	153.4	155.0	155.7	156.0	156.2	155.5	154.7
Metalworking machinery (6/78=100)	7	148.7	150.8	151.2	151.7	151.9	153.4	155.1	156.3	158.4	159.0	158.9
General industrial machines and parts n.e.s. 9/78=100)	71	145.9	148.6	149.0	149.3	150.2	152.4	152.0	152.4	152.2	152.3	153.3
Office machines and automatic data processing equipment	72	102.5	101.4	101.5	99.8	101.4	100.9	100.0	99.9	99.4	99.9	99.2
Telecommunications, sound recording and reproducing equipment	73	132.1	133.0	132.3	134.4	134.3	133.3	133.3	134.1	134.5	136.5	137.0
Electrical machinery and equipment	74	109.8	110.2	112.6	113.8	114.6	114.9	116.1	115.3	113.8	115.1	114.1
Road vehicles and parts (3/80=100)	75	128.8	130.2	131.2	131.0	131.8	133.1	133.9	133.8	135.0	135.5	136.4
Other transport equipment, excl. military and commercial aviation	76	179.3	183.1	187.7	189.6	191.7	195.5	196.6	199.3	200.7	203.3	205.6
Other manufactured articles	77	100.2	100.6	100.4	100.7	99.3	99.5	100.4	100.3	100.3	102.6	103.4
Apparel (9/83=100)	78	100.8	101.9	102.1	103.9	103.4	104.7	104.7	105.0	105.3	-	-
Professional, scientific, and controlling instruments and apparatus	79	171.5	171.8	172.0	175.8	171.7	175.5	178.3	178.7	178.8	182.2	183.8
Photographic apparatus and supplies, optical goods, watches and clocks (12/77=100)	8	132.0	132.0	131.3	132.7	130.3	128.0	129.1	127.5	128.5	131.6	132.9
Miscellaneous manufactured articles, n.e.s.	84	98.2	98.5	97.9	95.2	94.1	92.4	93.1	93.1	92.4	95.6	95.6
Gold, non-monetary (6/83=100)	971	96.2	95.8	93.5	81.7	79.5	69.1	75.4	77.4	77.5	81.8	82.2

- Data not available.

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

(June 1977=100, unless otherwise indicated)

Category	1974 SITC	1984			1985			1986		
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
ALL COMMODITIES (9/82=100)		98.3	96.7	95.7	93.5	93.0	92.9	94.2	88.5	83.2
Food (9/77=100)	0	103.5	102.0	98.1	98.5	96.8	94.9	102.8	113.4	104.7
Meat	01	133.8	135.4	132.3	130.4	118.2	120.6	131.2	122.7	118.5
Dairy products and eggs (6/81=100)	02	99.8	98.9	98.4	98.3	97.9	99.1	100.5	106.7	107.1
Fish	03	134.2	134.2	133.9	132.9	129.4	129.7	132.7	139.3	144.8
Bakery goods, pasta products, grain and grain preparations (9/77=100)	04	134.8	132.9	132.8	131.8	132.3	136.3	141.9	146.9	149.3
Fruits and vegetables	05	135.8	135.4	117.2	127.1	129.4	120.2	131.3	119.4	119.4
Sugar, sugar preparations, and honey (3/82=100)	06	120.3	119.0	118.5	118.4	122.6	123.1	111.9	124.6	121.6
Coffee, tea, cocoa	07	62.4	60.3	58.4	57.0	56.0	54.4	64.6	85.9	69.2
Beverages and tobacco	1	156.3	157.1	156.5	156.2	157.1	158.0	162.1	163.2	165.5
Beverages	11	153.6	153.5	152.8	154.2	154.3	156.0	159.1	161.8	163.9
Crude materials	2	102.6	100.6	98.9	94.0	93.6	91.5	91.2	94.2	95.3
Crude rubber (inc. synthetic & reclaimed) (3/84=100)	23	93.7	90.7	83.8	77.6	76.4	68.9	73.2	78.8	75.5
Wood (9/81=100)	24	103.2	99.6	104.0	100.7	106.9	101.6	99.4	104.3	106.3
Pulp and waste paper (12/81=100)	25	96.1	96.3	93.2	84.0	80.4	76.8	75.8	74.9	79.9
Crude fertilizers and crude minerals (12/83=100)	27	96.2	98.0	98.6	100.3	101.7	102.7	102.1	101.5	100.0
Metalliferous ores and metal scrap (3/84=100)	28	102.8	100.1	95.6	90.4	87.6	89.5	90.1	94.5	95.6
Crude vegetable and animal materials, n.e.s.	29	100.8	101.1	106.4	104.3	104.9	102.5	102.5	103.6	104.4
Fuels and related products (6/82=100)	3	88.0	86.9	85.2	82.9	80.9	79.8	79.1	55.3	37.4
Petroleum and petroleum products (6/82=100)	33	88.1	87.0	85.2	83.8	81.6	80.3	80.1	54.7	36.1
Fats and oils (9/83=100)	4	141.8	124.4	114.9	89.9	76.7	57.6	50.6	41.4	39.3
Vegetable oils (9/83=100)	42	143.1	125.3	115.3	89.5	75.9	56.2	48.9	39.3	37.4
Chemicals (9/82=100)	5	100.6	98.8	97.1	95.7	94.9	94.5	94.2	94.6	93.3
Medicinal and pharmaceutical products (3/84=100)	54	98.5	96.4	94.6	91.6	95.1	95.3	96.7	102.9	104.9
Manufactured fertilizers (3/84=100)	56	101.7	98.5	92.9	94.2	82.0	80.8	78.5	79.2	79.7
Chemical materials and products, n.e.s. (9/84=100)	59	-	100.0	97.5	96.1	95.6	96.9	97.8	99.9	100.2
Intermediate manufactured products (12/77=100)	6	139.6	137.2	136.8	133.1	132.4	133.6	133.4	134.0	135.6
Leather and furskins	61	145.3	144.0	140.4	135.3	133.3	137.0	141.3	141.6	143.0
Rubber manufactures, n.e.s.	62	140.8	139.6	140.5	139.5	138.6	137.3	138.1	136.5	137.7
Cork and wood manufactures	63	131.0	126.4	126.1	121.3	121.2	123.4	124.0	130.8	134.3
Paper and paperboard products	64	150.4	156.1	157.5	157.6	157.2	157.8	156.5	157.1	157.1
Textiles	65	130.1	131.6	132.9	130.4	127.5	126.5	128.1	131.2	132.9
Nonmetallic mineral manufactures, n.e.s.	66	166.6	156.6	159.4	154.3	151.8	157.6	162.3	164.2	169.6
Iron and steel (9/78=100)	67	123.8	124.7	123.7	121.0	120.1	119.1	118.3	117.3	118.1
Nonferrous metals (12/81=100)	68	96.3	90.2	87.3	81.9	82.3	83.7	80.4	79.4	78.9
Metal manufactures, n.e.s.	69	120.5	119.3	119.3	117.4	117.8	119.5	121.6	124.4	127.8
Machinery and transport equipment (6/81=100)	7	104.1	102.6	102.9	101.6	102.6	103.5	107.2	111.5	115.3
Machinery specialized for particular industries (9/78=100)	72	100.0	98.8	98.0	96.2	97.0	101.4	104.9	112.1	115.4
Metalworking machinery (3/80=100)	73	93.8	92.1	89.9	86.3	90.5	94.2	98.1	105.0	107.7
General industrial machinery and parts, n.e.s. (6/81=100)	74	94.4	92.4	91.3	89.2	91.1	94.3	98.0	103.8	109.0
Office machines and automatic data processing equipment (3/80=100)	75	96.7	94.1	92.2	89.6	89.4	90.3	93.7	96.9	100.8
Telecommunications, sound recording and reproducing apparatus (3/80=100)	76	94.8	93.6	91.3	90.0	88.8	88.3	88.6	89.4	91.6
Electrical machinery and equipment (12/81=100)	77	91.2	87.0	86.4	82.1	83.9	81.4	83.1	84.5	87.4
Road vehicles and parts (6/81=100)	78	110.4	109.8	111.3	111.5	112.1	112.7	117.8	123.4	127.1
Misc. manufactured articles (3/80=100)	8	101.5	99.7	100.0	97.0	98.0	99.6	100.8	103.3	104.8
Plumbing, heating, and lighting fixtures (6/80=100)	81	112.0	110.7	111.6	113.9	114.1	117.8	115.0	120.1	123.5
Furniture and parts (6/80=100)	82	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Clothing (9/77=100)	84	132.5	135.4	138.5	136.7	133.9	134.5	134.5	133.4	135.3
Footwear	85	140.8	138.4	142.5	137.4	136.7	142.1	142.7	147.0	142.2
Professional, scientific, and controlling instruments and apparatus (12/79=100)	87	97.8	95.6	92.9	89.2	92.3	98.8	102.4	106.4	112.5
Photographic apparatus and supplies, optical goods, watches, and clocks (3/80=100)	88	92.8	91.2	91.3	88.9	89.5	91.1	94.5	99.3	103.7
Misc. manufactured articles, n.e.s. (6/82=100)	89	104.0	98.3	96.3	91.2	95.2	96.4	97.9	102.1	103.4
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	Percentage of 1980 Trade Value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	16.294	98.5	88.8	83.0	81.5	80.9	76.2	77.5	75.5	74.7
Raw materials	30.696	102.5	100.5	99.1	97.6	97.2	96.5	95.9	96.0	94.8
Raw materials, nondurable	21.327	104.4	102.8	101.4	99.6	99.5	98.7	97.9	97.5	96.0
Raw materials, durable	9.368	97.7	95.0	93.3	92.6	91.6	91.1	91.0	92.5	91.9
Capital goods (12/82=100)	30.186	103.9	104.6	105.6	106.2	106.6	106.6	106.6	107.4	107.5
Automotive vehicles, parts and engines (12/82=100)	7.483	105.3	105.3	105.7	106.7	108.0	108.1	109.2	109.5	110.4
Consumer goods	7.467	100.9	101.3	100.8	100.9	101.1	101.9	101.4	103.7	104.5
Durables	3.965	99.6	99.4	99.3	99.1	99.2	100.4	99.5	101.8	101.8
Nondurables	3.501	102.1	103.0	102.3	102.7	103.0	103.3	103.3	105.5	107.2

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

(December 1982=100)

Category	Percentage of 1980 Trade Value	1984			1985				1986	
		June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Foods, feeds, and beverages	7.477	107.2	105.6	101.8	102.1	100.4	99.0	106.0	115.8	108.2
Petroleum and petroleum products, excl. natural gas	31.108	88.5	87.5	85.7	84.4	82.1	80.9	80.5	55.4	36.7
Raw materials, excluding petroleum	19.205	104.3	102.5	101.1	96.3	95.8	95.4	93.9	94.5	94.0
Raw materials, nondurable	9.391	102.1	101.7	100.7	95.0	93.9	93.5	91.8	91.1	89.7
Raw materials, durable	9.814	106.7	103.3	101.6	97.7	97.8	97.4	96.2	98.1	98.7
Capital goods	13.164	99.8	98.0	97.8	94.8	96.3	97.6	100.0	102.8	106.6
Automotive vehicles, parts and engines	11.750	104.9	104.0	105.2	105.4	105.9	106.4	111.4	115.6	119.0
Consumer goods	14.250	101.9	100.6	101.1	99.5	99.4	101.0	102.4	104.5	106.6
Durable	5.507	101.4	98.8	98.5	97.0	97.0	98.9	100.7	103.4	106.6
Nondurable	8.743	102.5	103.0	104.6	103.0	102.5	103.9	104.7	106.0	106.6

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

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/83=100)	112.7	105.6	103.3	99.5	99.5	96.7	98.1	97.0	95.0
Lumber and wood products, except furniture (6/83=100)	100.1	97.0	97.9	99.9	99.5	98.3	101.2	101.5	101.2
Furniture and fixtures (9/83=100)	103.1	103.5	104.9	105.2	106.5	107.1	108.4	109.2	109.7
Paper and allied products (3/81=100)	104.3	106.2	103.6	97.1	94.7	93.2	92.1	95.7	101.6
Chemicals and allied products (12/84=100)	102.3	101.3	100.7	100.3	99.6	99.7	99.2	98.9	98.3
Petroleum and coal products (12/83=100)	102.1	100.7	100.4	101.3	102.7	102.0	99.1	93.5	83.1
Primary metal products (3/82=100)	104.0	100.0	95.8	91.2	92.7	93.6	93.6	96.4	96.6
Machinery, except electrical (9/78=100)	137.9	138.0	139.9	140.4	140.5	140.6	140.5	140.6	140.3
Electrical machinery (12/80=100)	109.5	110.7	111.1	111.3	112.4	111.9	111.2	112.6	112.2
Transportation equipment (12/78=100)	157.2	157.8	158.9	160.5	161.9	162.8	164.3	165.2	166.9
Scientific instruments; optical goods; clocks (6/77=100)	153.2	156.0	153.0	154.9	156.6	156.2	156.7	159.7	161.2

¹ SIC - based classification.

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

Industry group	1984			1985				1986	
	June	Sept.	Dec.	Mar.	June	Sept.	Dec.	Mar.	June
Manufacturing:									
Food and kindred products (6/77=100)	126.6	124.1	122.6	118.8	115.0	114.2	115.1	117.7	115.6
Textile mill products (9/82=100)	103.8	104.3	104.7	102.8	101.0	100.4	101.8	104.7	106.4
Apparel and related products (6/77=100)	129.6	133.9	138.2	135.6	133.0	133.9	134.4	133.4	135.1
Lumber and wood products, except furniture (6/77=100)	121.1	117.3	120.0	116.3	120.6	117.5	115.8	122.1	124.8
Furniture and fixtures (6/80=100)	96.9	96.2	95.6	93.9	96.1	97.7	98.2	101.2	103.5
Paper and allied products (6/77=100)	141.9	146.0	145.5	141.5	139.8	138.7	137.4	137.6	139.4
Chemicals and allied products (9/82=100)	101.8	99.8	98.2	95.3	93.9	93.3	95.8	98.6	102.1
Rubber and miscellaneous plastic products (12/80=100)	98.5	97.8	98.0	96.9	96.7	96.6	97.5	100.9	100.6
Leather and leather products	143.7	141.6	144.2	139.1	138.9	142.3	144.0	145.8	144.6
Primary metal products (6/81=100)	91.9	88.3	86.6	82.2	83.0	83.4	81.9	82.0	82.4
Fabricated metal products (12/84=100)	-	-	100.0	99.0	99.1	101.0	102.6	104.9	108.5
Machinery, except electrical (3/80=100)	97.1	95.5	94.1	91.8	93.4	96.6	100.0	105.5	108.9
Electrical machinery (9/84=100)	-	100.0	98.6	95.1	95.8	94.5	95.8	97.0	100.2
Transportation equipment (6/81=100)	111.6	110.7	112.9	113.1	114.2	114.8	119.6	123.9	128.0
Scientific instruments; optical goods; clocks (12/79=100)	95.5	94.4	93.2	90.7	91.7	94.6	98.8	103.9	109.5
Miscellaneous manufactured commodities (9/82=100)	99.1	95.8	96.4	95.1	95.1	96.6	98.7	99.9	101.7

¹ SIC - based classification.

- Data not available.

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

(1977=100)

Item	Annual average	Quarterly Indexes										
		1984	1984				1985				1986	
			IV	I	II	III	IV	I	II	III	IV	I	II
Business:												
Output per hour of all persons	105.3	103.8	104.9	105.6	105.5	105.5	105.7	106.4	107.3	106.4	107.3	107.7
Compensation per hour	168.1	163.6	165.9	167.1	169.0	170.6	172.3	174.5	176.4	178.0	179.1	180.3
Real compensation per hour	98.1	98.0	98.1	97.9	98.1	98.2	98.4	98.7	99.1	99.0	99.2	100.3
Unit labor costs	159.7	157.7	158.2	158.3	160.2	161.7	163.1	164.0	164.4	167.3	167.0	167.4
Unit nonlabor payments	156.3	150.6	154.1	156.7	157.0	157.7	158.3	160.0	161.4	159.6	162.2	163.0
Implicit price deflator	158.5	155.2	156.7	157.7	159.0	160.3	161.4	162.6	163.4	164.6	165.3	165.9
Nonfarm business:												
Output per hour of all persons	104.3	103.3	103.9	104.6	104.4	104.3	104.4	104.9	105.4	104.5	105.6	106.1
Compensation per hour	167.9	163.4	165.6	166.9	168.7	170.4	172.1	174.0	175.4	177.0	178.3	179.3
Real compensation per hour	98.0	97.9	97.9	97.8	98.0	98.1	98.2	98.4	98.5	98.4	98.8	99.7
Unit labor costs	161.0	158.2	159.4	159.5	161.5	163.3	164.8	165.9	166.3	169.3	168.8	169.1
Unit nonlabor payments	156.1	152.3	153.2	156.4	157.2	157.9	158.9	160.8	163.0	160.3	163.9	164.8
Implicit price deflator	159.3	156.2	157.2	158.4	160.0	161.4	162.7	164.1	165.2	166.2	167.1	167.6
Nonfinancial corporations:												
Output per hour of all employees	105.6	104.5	105.3	105.9	105.5	105.8	106.0	106.5	107.8	107.0	106.9	-
Compensation per hour	165.9	161.7	163.6	164.8	166.6	168.3	169.9	171.6	173.1	174.5	175.4	-
Real compensation per hour	96.8	96.8	96.8	96.8	96.7	96.8	97.0	97.0	97.2	97.0	97.1	-
Total unit costs	161.5	159.0	159.4	160.1	162.6	163.8	164.9	165.8	165.0	167.2	168.3	-
Unit labor costs	157.0	154.8	155.4	155.7	157.9	159.1	160.3	161.1	160.5	163.0	164.0	-
Unit nonlabor costs	174.6	171.4	171.1	173.1	176.4	177.5	178.5	179.8	178.3	179.8	181.1	-
Unit profits	133.4	128.6	134.4	138.5	130.3	130.5	129.3	130.2	141.7	131.2	131.7	-
Unit nonlabor payments	160.1	156.4	158.3	161.0	160.3	161.0	161.3	162.5	165.5	162.8	163.8	-
Implicit price deflator	158.1	155.3	156.4	157.5	158.7	159.8	160.6	161.6	162.2	162.9	164.0	-
Manufacturing:												
Output per hour of all persons	116.6	113.3	114.7	115.7	117.8	118.2	119.3	121.7	123.0	122.9	123.4	124.0
Compensation per hour	168.2	163.6	165.4	166.8	169.1	171.5	173.8	175.6	178.1	179.3	180.2	181.1
Real compensation per hour	98.1	97.9	97.8	97.8	98.2	98.7	99.2	99.3	100.0	99.7	99.8	100.7
Unit labor costs	144.2	144.3	144.1	144.2	143.5	145.1	145.7	144.3	144.8	145.8	146.1	146.1

- Data not available.

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

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984
Private business												
Productivity:												
Output per hour of all persons	64.8	86.1	94.8	92.5	97.6	100.5	99.3	98.7	100.6	100.8	103.7	107.1
Output per unit of capital services	98.4	98.5	103.0	96.5	96.1	101.8	100.3	95.6	94.1	89.5	92.3	97.4
Multifactor productivity	75.4	90.2	97.5	93.8	97.1	101.0	99.7	97.6	98.3	96.8	99.6	103.7
Output	53.3	78.3	91.8	89.9	93.7	105.5	107.9	106.4	109.2	106.3	111.1	121.0
Inputs:												
Hours of all persons	82.2	90.8	96.8	97.2	95.9	105.0	108.6	107.8	108.5	105.4	107.2	113.0
Capital services	54.1	79.4	89.1	93.1	97.5	103.6	107.5	111.4	116.0	118.8	120.4	124.3
Combined units of labor and capital input	70.7	86.7	94.1	95.8	96.5	104.5	108.2	109.0	111.0	109.9	111.6	116.8
Capital per hour of all persons	65.9	87.4	92.0	95.9	101.6	98.7	98.9	103.3	106.9	112.7	112.3	109.9
Private nonfarm business												
Productivity:												
Output per hour of all persons	68.0	86.8	95.3	92.9	97.8	100.6	99.0	98.2	99.6	99.9	103.5	106.3
Output per unit of capital services	98.4	98.6	103.2	96.5	96.1	101.9	100.1	95.2	93.2	88.7	91.9	96.6
Multifactor productivity	77.6	90.7	97.9	94.1	97.2	101.0	99.4	97.2	97.4	95.9	99.4	102.9
Output	52.3	77.8	91.7	89.7	93.6	105.7	108.0	106.4	108.7	105.9	111.3	121.0
Inputs:												
Hours of all persons	77.0	89.7	96.2	96.5	95.7	105.1	109.1	108.4	109.1	106.0	107.6	113.8
Capital services	53.2	78.9	88.8	93.0	97.4	103.7	107.9	111.7	116.6	119.4	121.1	125.2
Combined units of labor and capital input	67.4	85.9	93.6	95.3	96.3	104.6	108.7	109.5	111.6	110.4	112.0	117.5
Capital per hour of all persons	69.1	88.0	92.4	96.3	101.8	98.7	98.9	103.1	106.8	112.6	112.6	110.1
Manufacturing												
Productivity:												
Output per hour of all persons	60.0	79.2	93.0	90.8	97.6	100.9	101.6	101.7	104.9	107.1	111.6	115.6
Output per unit of capital services	87.9	91.8	108.2	99.6	96.1	101.5	99.5	90.7	89.9	82.9	87.6	96.0
Multifactor productivity	67.0	82.3	96.8	93.1	97.1	101.1	101.0	98.8	100.8	100.3	104.9	110.4
Output	50.7	77.0	95.9	91.9	93.6	105.3	108.2	103.5	106.1	99.3	104.4	115.3
Inputs:												
Hours of all persons	84.4	97.3	103.1	101.2	95.9	104.4	106.5	101.7	101.1	92.7	93.5	99.8
Capital services	57.6	83.9	88.6	92.2	97.4	103.8	108.8	114.1	118.0	119.8	119.2	120.2
Combined units of labor and capital inputs	75.6	93.5	99.0	98.7	96.3	104.2	107.1	104.8	105.2	99.0	99.5	104.5
Capital per hour of all persons	68.3	86.2	85.9	91.1	101.6	99.4	102.1	112.2	116.7	129.2	127.5	120.4

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

(1977 = 100)

Item	1960	1970	1973	1974	1976	1978	1979	1980	1981	1982	1983	1984	1985
Business:													
Output per hour of all persons	67.6	88.4	95.9	93.9	98.3	100.8	99.6	99.3	100.7	100.3	103.0	105.3	106.4
Compensation per hour	33.6	57.8	70.9	77.6	92.8	108.5	119.1	131.5	143.7	154.9	161.5	168.1	175.3
Real compensation per hour	68.9	90.2	96.7	95.4	98.7	100.8	99.4	96.7	95.7	97.3	98.2	98.1	98.8
Unit labor costs	49.7	65.4	73.9	82.7	94.3	107.6	119.5	132.5	142.7	154.5	156.8	159.7	164.8
Unit nonlabor payments	46.4	59.4	72.5	76.4	93.3	106.7	112.5	118.7	134.6	136.6	146.3	156.3	159.7
Implicit price deflator	48.5	63.2	73.4	80.5	94.0	107.3	117.0	127.6	139.8	148.1	153.0	158.5	163.0
Nonfarm business:													
Output per hour of all persons	71.0	89.3	96.4	94.3	98.5	100.8	99.3	98.8	99.8	99.2	102.4	104.3	104.8
Compensation per hour	35.3	58.2	71.2	78.0	92.8	108.6	118.9	131.3	143.6	154.8	161.5	167.9	174.6
Real compensation per hour	72.3	90.8	97.1	95.9	98.8	100.9	99.2	96.6	95.7	97.2	98.2	98.0	98.4
Unit labor costs	49.7	65.2	73.9	82.7	94.3	107.7	119.7	132.9	144.0	156.0	157.7	161.0	166.7
Unit nonlabor payments	46.3	60.0	69.3	74.0	93.0	105.6	110.5	118.5	133.5	136.5	148.1	156.1	160.6
Implicit price deflator	48.5	63.4	72.3	79.7	93.8	107.0	116.5	127.8	140.3	149.2	154.3	159.3	164.6
Nonfinancial corporations:													
Output per hour of all employees	73.4	91.1	97.5	94.6	98.4	100.6	99.8	99.1	99.6	100.4	103.5	105.6	106.8
Compensation per hour	36.9	59.2	71.6	78.2	92.9	108.4	118.7	131.1	143.3	154.3	159.9	165.9	172.3
Real compensation per hour	75.5	92.4	97.6	96.1	98.9	100.7	99.1	96.4	95.5	96.9	97.3	96.8	97.0
Unit labor costs	50.2	65.0	73.4	82.6	94.3	107.8	119.0	132.3	143.8	153.8	154.5	157.0	161.2
Unit nonlabor payments	51.5	60.1	68.9	73.1	93.8	104.4	108.4	118.6	137.8	142.1	152.1	160.1	163.0
Implicit price deflator	50.7	63.3	71.9	79.4	94.2	106.6	115.4	127.6	141.7	149.8	153.7	158.1	161.8
Manufacturing:													
Output per hour of all persons	62.2	80.8	93.4	90.6	97.1	101.5	101.4	101.4	103.6	105.9	112.0	116.6	121.7
Compensation per hour	36.5	57.4	68.8	76.2	92.1	108.2	118.6	132.4	145.2	157.5	162.4	168.2	176.7
Real compensation per hour	74.8	89.5	93.8	93.6	98.1	100.5	99.1	97.4	96.7	98.9	98.8	98.1	99.5
Unit labor costs	58.7	71.0	73.7	84.1	94.9	106.6	117.0	130.6	140.1	148.7	145.0	144.2	145.1
Unit nonlabor payments	60.0	64.1	70.7	67.7	93.5	101.9	98.9	97.8	111.8	114.0	128.5	136.9	134.4
Implicit price deflator	59.1	69.0	72.8	79.3	94.5	105.2	111.7	121.0	131.8	138.6	140.2	142.1	142.0

45. Unemployment rates in nine countries, quarterly data seasonally adjusted

Country	Annual average		1984	1985				1986	
	1984	1985	IV	I	II	III	IV	I	II
Total labor force basis									
United States	7.4	7.1	7.1	7.2	7.2	7.1	6.9	7.0	7.1
Canada	11.2	10.4	11.1	11.0	10.5	10.2	10.1	9.7	9.5
Australia	8.9	8.2	8.6	8.5	8.4	8.1	7.8	7.9	-
Japan	2.7	2.6	2.7	2.6	2.5	2.6	2.9	2.6	-
France	9.7	10.1	10.0	10.2	10.1	10.2	9.9	10.0	10.3
Germany	7.7	7.7	7.7	7.8	7.8	7.7	7.7	7.6	7.5
Great Britain	12.8	13.0	12.8	12.9	13.0	13.2	12.8	13.0	13.1
Italy ^{1, 2}	5.8	5.9	5.7	5.8	5.7	5.9	6.2	6.2	6.3
Sweden	3.1	2.8	3.0	3.0	2.9	2.7	2.7	2.8	2.6
Civilian labor force basis									
United States	7.5	7.2	7.2	7.3	7.3	7.2	7.0	7.1	7.2
Canada	11.3	10.5	11.1	11.1	10.6	10.2	10.1	9.7	9.6
Australia	9.0	8.3	8.6	8.6	8.5	8.2	7.9	8.0	-
Japan	2.8	2.6	2.7	2.6	2.6	2.7	2.9	2.7	-
France	9.9	10.4	10.3	10.5	10.4	10.4	10.1	10.3	10.5
Germany	7.8	7.9	7.8	7.9	8.0	7.9	7.8	7.8	7.6
Great Britain	12.9	13.2	13.0	13.1	13.2	13.4	13.0	13.1	13.3
Italy	5.9	6.0	5.8	5.9	5.8	6.0	6.3	6.3	6.5
Sweden	3.1	2.8	3.0	3.0	2.9	2.8	2.7	2.8	2.6

¹ Quarterly rates are for the first month of the quarter.

² Major changes in the Italian labor force survey, introduced in 1977, resulted in a large increase in persons enumerated as unemployed. However, many persons reported that they had not actively sought work in the past 30 days, and they have been provisionally excluded for comparability with U.S. concepts. Inclusion of such persons would more than double the Italian unemployment rate

shown.

- Data not available.

NOTE: Quarterly figures for France, Germany, and Great Britain 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, ten countries

(Numbers in thousands)

Employment status and country	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
Labor force										
United States	96,158	99,009	102,251	104,962	106,940	108,670	110,204	111,550	113,544	115,461
Canada	10,203	10,500	10,895	11,231	11,573	11,904	11,958	12,183	12,399	12,639
Australia	6,244	6,358	6,443	6,519	6,693	6,810	6,910	6,997	7,133	7,272
Japan	53,100	53,820	54,610	55,210	55,740	56,320	56,980	58,110	58,480	58,820
France	22,000	22,300	22,470	22,670	22,790	22,930	23,150	23,130	23,290	23,330
Germany	25,900	25,870	26,000	26,240	26,500	26,610	26,640	26,640	26,700	27,010
Great Britain	25,290	25,430	25,620	25,710	25,870	25,870	25,880	26,010	26,530	26,950
Italy	20,300	20,530	20,630	20,910	21,210	21,410	21,450	21,610	21,680	21,800
Netherlands	4,890	4,950	5,010	5,100	5,290	5,500	5,560	5,720	5,740	5,690
Sweden	4,149	4,168	4,203	4,262	4,312	4,326	4,350	4,369	4,385	4,418
Participation rate										
United States	61.6	62.3	63.2	63.7	63.8	63.9	64.0	64.0	64.4	64.8
Canada	61.1	61.6	62.7	63.4	64.1	64.8	64.1	64.4	64.8	65.2
Australia	62.7	62.7	62.0	61.7	62.2	62.0	61.8	61.5	61.5	61.8
Japan	62.4	62.5	62.8	62.7	62.6	62.6	62.7	63.1	62.7	62.3
France	57.3	57.6	57.5	57.5	57.2	57.1	57.1	56.6	56.7	56.5
Germany	53.8	53.4	53.3	53.3	53.2	52.9	52.5	52.3	52.7	53.4
Great Britain	63.2	63.2	63.3	63.2	63.2	62.2	61.9	61.9	62.7	63.7
Italy	47.8	48.0	47.7	47.8	48.0	48.0	47.4	47.2	47.3	47.2
Netherlands	49.1	49.0	48.8	49.0	50.0	51.3	51.2	52.1	52.0	51.2
Sweden	66.0	65.9	66.1	66.6	67.0	66.8	66.8	66.7	66.8	67.2
Employed										
United States	88,752	92,017	96,048	98,824	99,303	100,397	99,526	100,834	105,005	107,150
Canada	9,477	9,651	9,987	10,395	10,708	11,006	10,644	10,734	11,000	11,311
Australia	5,946	6,000	6,038	6,111	6,284	6,416	6,415	6,300	6,490	6,670
Japan	52,020	52,720	53,370	54,040	54,600	55,060	55,620	56,550	56,870	57,260
France	21,010	21,180	21,260	21,300	21,320	21,200	21,230	21,170	20,980	20,910
Germany	25,010	24,970	25,130	25,460	25,730	25,520	25,060	24,650	24,610	24,880
Great Britain	23,810	23,840	24,040	24,360	24,100	23,190	22,820	22,680	23,100	23,410
Italy	19,600	19,800	19,870	20,100	20,380	20,480	20,430	20,470	20,390	20,490
Netherlands	4,630	4,700	4,750	4,830	4,960	4,990	4,930	4,890	4,880	4,890
Sweden	4,083	4,093	4,109	4,174	4,226	4,218	4,213	4,218	4,249	4,293
Employment-population ratio										
United States	56.8	57.9	59.3	59.9	59.2	59.0	57.8	57.9	59.5	60.1
Canada	56.7	56.6	57.5	58.7	59.3	59.9	57.0	56.7	57.4	58.4
Australia	59.7	59.2	58.1	57.9	58.4	58.4	57.3	55.4	56.0	56.6
Japan	61.1	61.2	61.3	61.4	61.3	61.2	61.2	61.4	61.0	60.6
France	54.8	54.7	54.4	54.0	53.5	52.8	52.3	51.8	51.1	50.6
Germany	52.0	51.6	51.5	51.7	51.6	50.7	49.4	48.4	48.6	49.2
Great Britain	59.5	59.3	59.4	59.8	58.9	55.8	54.6	54.0	54.6	55.3
Italy	46.1	46.3	45.9	45.9	46.1	45.9	45.2	44.7	44.5	44.4
Netherlands	46.5	46.5	46.3	46.4	46.9	46.5	45.4	44.5	44.2	44.0
Sweden	64.9	64.8	64.6	65.3	65.6	65.1	64.7	64.4	64.7	65.3
Unemployed										
United States	7,406	6,991	6,202	6,137	7,637	8,273	10,678	10,717	8,539	8,312
Canada	726	849	908	836	865	898	1,314	1,448	1,399	1,328
Australia	298	358	405	408	409	394	495	697	642	602
Japan	1,080	1,100	1,240	1,170	1,140	1,260	1,360	1,560	1,610	1,560
France	990	1,120	1,210	1,370	1,470	1,730	1,920	1,960	2,310	2,420
Germany	890	900	870	780	770	1,090	1,580	1,990	2,090	2,130
Great Britain	1,480	1,590	1,580	1,350	1,770	2,680	3,060	3,330	3,430	3,540
Italy	700	740	760	810	830	920	1,020	1,140	1,280	1,310
Netherlands	260	250	260	270	330	510	630	830	860	800
Sweden	66	75	94	88	86	108	137	151	136	125
Unemployment rate										
United States	7.7	7.1	6.1	5.8	7.1	7.6	9.7	9.6	7.5	7.2
Canada	7.1	8.1	8.3	7.4	7.5	7.5	11.0	11.9	11.3	10.5
Australia	4.8	5.6	6.3	6.3	6.1	5.8	7.2	10.0	9.0	8.3
Japan	2.0	2.0	2.3	2.1	2.0	2.2	2.4	2.7	2.8	2.6
France	4.5	5.0	5.4	6.0	6.4	7.5	8.3	8.5	9.9	10.4
Germany	3.4	3.5	3.4	3.0	2.9	4.1	5.9	7.5	7.8	7.9
Great Britain	5.9	6.3	6.2	5.3	6.8	10.4	11.8	12.8	12.9	13.2
Italy	3.4	3.6	3.7	3.9	3.9	4.3	4.8	5.3	5.9	6.0
Netherlands	5.3	5.0	5.2	5.3	6.2	9.3	11.3	14.5	15.0	14.1
Sweden	1.6	1.8	2.2	2.1	2.0	2.5	3.1	3.5	3.1	2.8

47. Annual indexes of productivity and related measures, twelve countries

(1977 = 100)

Item and country	1960	1970	1973	1974	1976	1977	1979	1980	1981	1982	1983	1984	1985
Output per hour													
United States	62.2	80.8	93.4	90.6	97.1	100.0	101.4	101.4	103.6	105.9	112.9	118.5	121.8
Canada	50.3	76.8	91.3	93.4	96.2	100.0	104.2	101.9	104.0	101.0	107.6	111.5	115.1
Japan	23.2	64.8	83.1	86.5	94.3	100.0	114.8	122.7	127.2	135.0	142.3	152.2	159.9
Belgium	32.8	60.0	78.7	83.2	95.3	100.0	111.8	119.3	127.2	132.8	141.0	145.5	-
Denmark	37.2	65.5	83.2	86.0	98.2	100.0	106.5	112.3	114.2	114.6	117.3	118.3	118.4
France	36.4	69.6	82.2	85.2	95.0	100.0	110.3	112.0	116.4	123.5	129.3	135.0	140.2
Germany	40.3	71.2	84.0	87.4	96.5	100.0	108.2	108.6	111.0	112.6	119.0	124.7	131.9
Italy	36.5	72.7	90.9	95.3	98.9	100.0	110.5	116.9	121.0	123.4	126.6	135.0	139.1
Netherlands	32.4	64.3	81.5	88.1	95.8	100.0	112.3	113.9	116.9	119.4	126.1	139.3	-
Norway	54.6	81.7	94.6	97.7	99.7	100.0	107.1	109.3	109.7	112.6	119.2	122.3	125.0
Sweden	42.3	80.7	94.8	98.8	101.7	100.0	110.9	112.7	113.2	116.5	125.5	132.6	135.2
United Kingdom	53.8	77.6	92.9	95.2	99.1	100.0	102.2	101.2	107.9	112.7	121.2	126.2	129.7
Output													
United States	52.5	78.6	96.3	91.7	93.1	100.0	108.1	103.2	104.8	98.4	105.6	117.9	121.0
Canada	41.5	75.1	94.6	98.0	98.1	100.0	110.9	107.7	108.8	96.4	101.7	110.1	115.2
Japan	19.2	69.9	91.9	91.7	94.8	100.0	113.9	124.1	129.8	137.3	148.2	165.2	175.8
Belgium	41.7	78.1	95.8	99.6	99.5	100.0	104.2	107.2	105.9	109.1	110.7	112.8	-
Denmark	49.2	82.0	95.9	97.4	99.6	100.0	105.4	110.1	106.6	108.3	112.2	118.6	122.3
France	35.4	73.3	88.6	91.8	96.1	100.0	106.1	106.6	105.9	106.0	107.4	108.4	109.0
Germany	50.0	86.6	96.1	95.4	98.0	100.0	106.6	106.6	104.9	102.4	103.5	107.4	113.0
Italy	37.4	78.0	90.5	96.3	97.9	100.0	108.6	115.4	114.3	111.6	109.2	113.2	115.3
Netherlands	44.8	84.4	95.8	100.0	99.0	100.0	106.1	106.6	106.7	105.0	105.3	110.8	-
Norway	55.1	87.0	99.5	104.0	101.4	100.0	100.3	101.3	100.1	99.8	98.8	101.3	103.7
Sweden	52.6	92.5	100.3	105.7	106.1	100.0	103.6	104.0	100.6	100.1	105.2	112.4	114.6
United Kingdom	71.0	94.7	104.7	103.5	98.2	100.0	100.5	91.7	86.2	86.4	88.9	92.4	95.0
Total hours													
United States	84.4	97.3	103.1	101.2	95.9	100.0	106.5	101.7	101.1	92.9	93.5	99.5	99.3
Canada	82.6	97.7	103.6	105.0	102.0	100.0	106.4	105.7	104.6	95.4	94.6	98.7	100.1
Japan	82.7	107.9	110.7	106.1	100.6	100.0	99.3	101.2	102.0	101.7	104.2	108.5	110.0
Belgium	127.0	130.1	121.8	119.7	104.4	100.0	93.2	89.9	83.3	82.1	78.5	77.5	-
Denmark	132.4	125.1	115.2	113.2	101.4	100.0	99.0	98.1	93.4	94.5	95.7	100.2	103.3
France	97.2	105.3	107.8	107.8	101.2	100.0	96.2	95.2	91.0	85.9	83.0	80.3	77.8
Germany	123.8	121.7	114.4	109.2	101.6	100.0	98.5	98.1	94.6	91.0	87.0	86.2	85.7
Italy	102.3	107.4	99.6	101.0	99.0	100.0	98.2	98.7	94.5	90.4	86.2	83.9	82.9
Netherlands	138.4	131.2	117.6	113.5	103.3	100.0	94.4	93.6	91.2	88.0	83.5	79.5	-
Norway	101.0	106.4	105.1	106.5	101.7	100.0	93.6	92.6	91.3	88.6	82.9	82.8	83.0
Sweden	124.4	114.6	105.7	107.0	104.3	100.0	93.4	92.3	88.9	85.9	83.9	84.8	84.8
United Kingdom	131.9	122.1	112.7	108.7	99.0	100.0	98.3	90.7	79.9	76.7	73.3	73.2	73.3
Compensation per hour													
United States	36.5	57.3	68.8	76.2	92.1	100.0	118.6	132.4	145.2	157.5	163.2	169.1	176.6
Canada	27.1	46.5	59.2	68.5	89.9	100.0	118.3	130.6	151.5	167.1	179.3	182.1	191.4
Japan	8.9	33.9	55.1	72.3	90.7	100.0	113.4	120.7	129.8	136.6	140.7	144.8	148.3
Belgium	13.8	34.9	53.5	65.2	89.5	100.0	117.6	130.4	144.6	152.0	163.7	176.6	-
Denmark	12.6	36.3	56.1	67.9	90.4	100.0	123.1	135.9	149.6	162.9	174.3	183.9	195.5
France	15.1	36.6	52.3	62.0	88.9	100.0	129.3	147.5	170.3	200.8	226.2	246.5	262.7
Germany	18.8	48.0	67.5	76.9	91.3	100.0	116.1	125.6	134.5	141.0	148.4	155.3	164.7
Italy	8.3	26.1	43.7	54.5	84.2	100.0	134.7	160.2	197.1	237.3	276.4	303.0	334.0
Netherlands	12.5	39.0	60.5	71.9	91.9	100.0	117.0	123.6	129.1	137.5	144.7	152.8	-
Norway	15.8	37.9	54.5	63.6	88.8	100.0	116.0	128.0	142.8	156.0	173.5	188.3	205.2
Sweden	14.7	38.5	54.2	63.8	91.5	100.0	120.1	133.6	148.1	158.9	173.3	190.7	205.8
United Kingdom	14.8	30.8	44.8	56.9	88.4	100.0	137.7	165.8	188.9	206.4	222.4	237.2	257.0
Unit labor costs: National currency basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	53.9	60.6	64.8	73.3	93.5	100.0	113.5	128.1	145.7	165.4	166.7	163.2	166.3
Japan	38.4	52.3	66.4	83.6	96.2	100.0	98.8	98.4	102.0	101.2	98.9	95.1	92.7
Belgium	42.0	58.1	68.0	78.3	93.9	100.0	105.2	109.3	113.6	114.4	116.1	121.4	-
Denmark	33.8	55.4	67.4	79.0	92.1	100.0	115.7	121.0	131.1	142.2	148.6	155.5	165.1
France	41.6	52.6	63.6	72.8	93.6	100.0	117.3	131.7	146.3	162.8	175.0	182.5	187.4
Germany	46.6	67.4	80.3	88.0	94.6	100.0	107.3	115.7	121.2	125.2	124.7	124.6	124.9
Italy	22.8	36.0	48.1	57.2	85.1	100.0	121.9	137.0	162.9	192.4	218.3	224.5	240.1
Netherlands	38.5	60.7	74.3	81.6	96.0	100.0	104.1	108.5	110.4	115.2	114.7	109.7	-
Norway	29.0	46.4	57.6	65.2	89.1	100.0	108.2	117.0	130.2	138.6	145.5	154.0	164.2
Sweden	34.8	47.7	57.2	64.6	90.0	100.0	108.3	118.6	130.9	136.3	138.1	143.8	152.2
United Kingdom	27.6	39.7	48.2	59.7	89.2	100.0	134.7	163.8	175.1	183.1	183.5	187.9	198.1
Unit labor costs: U.S. dollar basis:													
United States	58.7	70.9	73.7	84.1	94.9	100.0	117.0	130.6	140.1	148.7	144.5	142.8	145.0
Canada	59.0	61.7	68.8	79.7	100.7	100.0	103.0	116.4	129.1	142.3	143.7	133.9	129.4
Japan	28.5	39.1	65.6	76.8	86.9	100.0	121.3	116.8	123.8	108.8	111.5	107.2	104.2
Belgium	30.2	42.0	62.8	72.1	87.2	100.0	128.5	134.1	109.9	89.5	81.3	75.3	-
Denmark	29.5	44.4	67.2	77.9	91.5	100.0	132.0	129.0	110.3	102.3	97.5	90.1	93.5
France	41.7	46.8	70.4	74.5	96.3	100.0	135.5	153.4	132.2	121.5	112.9	102.7	102.6
Germany	25.9	42.9	70.4	79.1	87.3	100.0	135.9	147.9	124.9	119.7	113.4	101.6	98.6
Italy	32.5	50.6	73.1	77.6	90.5	100.0	129.5	141.4	126.3	125.4	126.8	112.8	111.1
Netherlands	25.1	41.2	65.6	74.6	89.1	100.0	127.4	134.2	108.9	105.8	98.6	83.9	-
Norway	21.7	34.5	53.4	62.8	86.9	100.0	113.8	126.2	120.6	114.2	106.1	100.4	101.7
Sweden	30.1	41.1	58.7	65.1	92.3	100.0	112.9	125.3	115.4	96.9	80.4	77.7	79.1
United Kingdom	44.4	54.4	67.7	80.1	92.3	100.0	163.9	218.3	203.1	183.5	159.4	143.9	147.3

- Data not available.

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								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
PRIVATE SECTOR³									
Total cases	9.2	9.3	9.4	9.5	8.7	8.3	7.7	7.6	8.0
Lost workday cases	3.5	3.8	4.1	4.3	4.0	3.8	3.5	3.4	3.7
Lost workdays	60.5	61.6	63.5	67.7	65.2	61.7	58.7	58.5	63.4
Agriculture, forestry, and fishing³									
Total cases	11.0	11.5	11.6	11.7	11.9	12.3	11.8	11.9	12.0
Lost workday cases	4.7	5.1	5.4	5.7	5.8	5.9	5.9	6.1	6.1
Lost workdays	83.3	81.1	80.7	83.7	82.7	82.8	86.0	90.8	90.7
Mining									
Total cases	11.0	10.9	11.5	11.4	11.2	11.6	10.5	8.4	9.7
Lost workday cases	5.8	6.0	6.4	6.8	6.5	6.2	5.4	4.5	5.3
Lost workdays	114.4	128.8	143.2	150.5	163.6	146.4	137.3	125.1	160.2
Construction									
Total cases	15.3	15.5	16.0	16.2	15.7	15.1	14.6	14.8	15.5
Lost workday cases	5.5	5.9	6.4	6.8	6.5	6.3	6.0	6.3	6.9
Lost workdays	105.0	111.5	109.4	120.4	117.0	113.1	115.7	118.2	128.1
General building contractors:									
Total cases	14.5	15.0	15.9	16.3	15.5	15.1	14.1	14.4	15.4
Lost workday cases	5.2	5.7	6.3	6.8	6.5	6.1	5.9	6.2	6.9
Lost workdays	100.0	100.2	105.3	111.2	113.0	107.1	112.0	113.0	121.3
Heavy construction contractors:									
Total cases	16.3	16.0	16.6	16.6	16.3	14.9	15.1	15.4	14.9
Lost workday cases	5.5	5.7	6.2	6.7	6.3	6.0	5.8	6.2	6.4
Lost workdays	109.2	116.7	110.9	123.1	117.6	106.0	113.1	122.4	131.7
Special trade contractors:									
Total cases	15.3	15.6	15.8	16.0	15.5	15.2	14.7	14.8	15.8
Lost workday cases	5.6	6.1	6.6	6.9	6.7	6.6	6.2	6.4	7.1
Lost workdays	105.8	115.5	111.0	124.3	118.9	119.3	118.6	119.0	130.1
Manufacturing									
Total cases	13.2	13.1	13.2	13.3	12.2	11.5	10.2	10.0	10.6
Lost workday cases	4.8	5.1	5.6	5.9	5.4	5.1	4.4	4.3	4.7
Lost workdays	79.5	82.3	84.9	90.2	86.7	82.0	75.0	73.5	77.9
Durable goods									
Lumber and wood products:									
Total cases	22.1	22.3	22.6	20.7	18.6	17.6	16.9	18.3	19.6
Lost workday cases	9.7	10.4	11.1	10.8	9.5	9.0	8.3	9.2	9.9
Lost workdays	167.3	178.0	178.8	175.9	171.8	158.4	153.3	163.5	172.0
Furniture and fixtures:									
Total cases	16.9	17.2	17.5	17.6	16.0	15.1	13.9	14.1	15.3
Lost workday cases	6.0	6.0	6.9	7.1	6.6	6.2	5.5	5.7	6.4
Lost workdays	94.5	92.0	95.9	99.6	97.6	91.9	85.6	83.0	101.5
Stone, clay, and glass products:									
Total cases	16.1	16.9	16.8	16.8	15.0	14.1	13.0	13.1	13.6
Lost workday cases	6.4	6.9	7.8	8.0	7.1	6.9	6.1	6.0	6.6
Lost workdays	114.1	120.4	126.3	133.7	128.1	122.2	112.2	112.0	120.8
Primary metal industries:									
Total cases	16.6	16.2	17.0	17.3	15.2	14.4	12.4	12.4	13.3
Lost workday cases	6.3	6.8	7.5	8.1	7.1	6.7	5.4	5.4	6.1
Lost workdays	114.8	119.4	123.6	134.7	128.3	121.3	101.6	103.4	115.3
Fabricated metal products:									
Total cases	18.9	19.1	19.3	19.9	18.5	17.5	15.3	15.1	16.1
Lost workday cases	6.8	7.2	8.0	8.7	8.0	7.5	6.4	6.1	6.7
Lost workdays	109.8	109.0	112.4	124.2	118.4	109.9	102.5	96.5	104.9
Machinery, except electrical:									
Total cases	14.2	14.0	14.4	14.7	13.7	12.9	10.7	9.8	10.7
Lost workday cases	4.6	4.7	5.4	5.9	5.5	5.1	4.2	3.6	4.1
Lost workdays	70.6	69.9	75.1	83.6	81.3	74.9	66.0	58.1	65.8
Electric and electronic equipment:									
Total cases	8.5	8.6	8.7	8.6	8.0	7.4	6.5	6.3	6.8
Lost workday cases	2.8	3.0	3.3	3.4	3.3	3.1	2.7	2.6	2.8
Lost workdays	44.9	46.7	50.3	51.9	51.8	48.4	42.2	41.4	45.0
Transportation equipment:									
Total cases	12.4	11.8	11.5	11.6	10.6	9.8	9.2	8.4	9.3
Lost workday cases	4.7	5.0	5.1	5.5	4.9	4.6	4.0	3.6	4.2
Lost workdays	73.8	79.3	78.0	85.9	82.4	78.1	72.2	64.5	68.8
Instruments and related products:									
Total cases	7.2	7.0	6.9	7.2	6.8	6.5	5.6	5.2	5.4
Lost workday cases	2.4	2.4	2.6	2.8	2.7	2.7	2.3	2.1	2.2
Lost workdays	36.7	37.4	37.0	40.0	41.8	39.2	37.0	35.6	37.5
Miscellaneous manufacturing industries:									
Total cases	11.7	11.5	11.8	11.7	10.9	10.7	9.9	9.9	10.5
Lost workday cases	4.0	4.0	4.5	4.7	4.4	4.4	4.1	4.0	4.3
Lost workdays	59.4	58.7	66.4	67.7	67.9	68.3	69.9	66.3	70.2

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								
	1976	1977	1978	1979	1980	1981	1982	1983	1984
Nondurable goods									
Food and kindred products:									
Total cases	19.3	19.5	19.4	19.9	18.7	17.8	16.7	16.5	16.7
Lost workday cases	8.0	8.5	8.9	9.5	9.0	8.6	8.0	7.9	8.1
Lost workdays	123.8	130.1	132.2	141.8	136.8	130.7	129.3	131.2	131.6
Tobacco manufacturing:									
Total cases	10.0	9.1	8.7	9.3	8.1	8.2	7.2	6.5	7.7
Lost workday cases	4.1	3.8	4.0	4.2	3.8	3.9	3.2	3.0	3.2
Lost workdays	62.5	66.7	58.6	64.8	45.8	56.8	44.6	42.8	51.7
Textile mill products:									
Total cases	10.5	10.2	10.2	9.7	9.1	8.8	7.6	7.4	8.0
Lost workday cases	2.7	2.9	3.4	3.4	3.3	3.2	2.8	2.8	3.0
Lost workdays	55.5	57.4	61.5	61.3	62.8	59.2	53.8	51.4	54.0
Apparel and other textile products:									
Total cases	6.7	6.7	6.5	6.5	6.4	6.3	6.0	6.4	6.7
Lost workday cases	1.9	2.0	2.2	2.2	2.2	2.2	2.1	2.4	2.5
Lost workdays	31.0	31.7	32.4	34.1	34.9	35.0	36.4	40.6	40.9
Paper and allied products:									
Total cases	13.7	13.6	13.5	13.5	12.7	11.6	10.6	10.0	10.4
Lost workday cases	4.7	5.0	5.7	6.0	5.8	5.4	4.9	4.5	4.7
Lost workdays	94.8	101.6	103.3	108.4	112.3	103.6	99.1	90.3	93.8
Printing and publishing:									
Total cases	6.8	6.8	7.0	7.1	6.9	6.7	6.6	6.6	6.5
Lost workday cases	2.6	2.7	2.9	3.1	3.1	3.0	2.8	2.9	2.9
Lost workdays	40.3	41.7	43.8	45.1	46.5	47.4	45.7	44.6	46.0
Chemicals and allied products:									
Total cases	8.2	8.0	7.8	7.7	6.8	6.6	5.7	5.5	5.3
Lost workday cases	3.1	3.1	3.3	3.5	3.1	3.0	2.5	2.5	2.4
Lost workdays	50.6	51.4	50.9	54.9	50.3	48.1	39.4	42.3	40.8
Petroleum and coal products:									
Total cases	7.9	8.1	7.9	7.7	7.2	6.7	5.3	5.5	5.1
Lost workday cases	3.2	3.3	3.4	3.6	3.5	2.9	2.5	2.4	2.4
Lost workdays	62.5	59.2	58.3	62.0	59.1	51.2	46.4	46.8	53.5
Rubber and miscellaneous plastics products:									
Total cases	16.8	16.8	17.1	17.1	15.5	14.6	12.7	13.0	13.6
Lost workday cases	7.1	7.6	8.1	8.2	7.4	7.2	6.0	6.2	6.4
Lost workdays	113.3	118.1	125.5	127.1	118.6	117.4	100.9	101.4	104.3
Leather and leather products:									
Total cases	11.6	11.5	11.7	11.5	11.7	11.5	9.9	10.0	10.5
Lost workday cases	4.1	4.4	4.7	4.9	5.0	5.1	4.5	4.4	4.7
Lost workdays	69.0	68.9	72.5	76.2	82.7	82.6	86.5	87.3	94.4
Transportation and public utilities									
Total cases	9.8	9.7	10.1	10.0	9.4	9.0	8.5	8.2	8.8
Lost workday cases	5.0	5.3	5.7	5.9	5.5	5.3	4.9	4.7	5.2
Lost workdays	94.0	95.9	102.3	107.0	104.5	100.6	96.7	94.9	105.1
Wholesale and retail trade									
Total cases	7.5	7.7	7.9	8.0	7.4	7.3	7.2	7.2	7.4
Lost workday cases	2.8	2.9	3.2	3.4	3.2	3.1	3.1	3.1	3.3
Lost workdays	43.2	44.0	44.9	49.0	48.7	45.3	45.5	47.8	50.5
Wholesale trade:									
Total cases	8.1	8.5	8.9	8.8	8.2	7.7	7.1	7.0	7.2
Lost workday cases	3.3	3.6	3.9	4.1	3.9	3.6	3.4	3.2	3.5
Lost workdays	51.8	52.5	57.5	59.1	58.2	54.7	52.1	50.6	55.5
Retail trade:									
Total cases	7.2	7.4	7.5	7.7	7.1	7.1	7.2	7.3	7.5
Lost workday cases	2.6	2.7	2.8	3.1	2.9	2.9	2.9	3.0	3.2
Lost workdays	39.7	40.5	39.7	44.7	44.5	41.1	42.6	46.7	48.4
Finance, insurance, and real estate									
Total cases	2.0	2.0	2.1	2.1	2.0	1.9	2.0	2.0	1.9
Lost workday cases .....	.7	.8	.8	.9	.8	.8	.9	.9	.9
Lost workdays	11.6	10.4	12.5	13.3	12.2	11.6	13.2	12.8	13.6
Services									
Total cases	5.3	5.5	5.5	5.5	5.2	5.0	4.9	5.1	5.2
Lost workday cases	2.0	2.2	2.4	2.5	2.3	2.3	2.3	2.4	2.5
Lost workdays	38.4	35.4	36.2	38.1	35.8	35.9	35.8	37.0	41.1

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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