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MONTHLY LABOR REVIEW

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In this issue:

Prices in 1983, workers' purchasing power,
and social security and pensions



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MONTHLY LABOR REVIEW

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Robert W. Fisher, Executive Editor

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Labor Month In Review



EXAMINING WORK. What is the nature of work, the origin of the work ethic, the role of leisure? The Council of Scholars of the Library of Congress considered these and related questions at a Washington, D.C., symposium April 26 and 27. Some excerpts from the discussion.

Robert L. Heilbroner, New School for Social Research: Is a world without work imaginable? Would it be enduring? A world of laziness or indolence, a world without challenge, or a world in which protracted efforts, individual or collective, did not exist would be a "lifeless life." But that is not what we mean by a world without work. What is at question is the possibility of a world in which human activity was not subject to the direction and will of others—a world not without effort, but without submissive effort.

Could our existing industrial civilization allow its processes of production to proceed unregulated, unsupervised, without direction from above—be that direction imposed by a central planning board, a market mechanism, or some combination of both. To ask that question is to answer it. Industrial civilization is too interdependent and too dangerous to allow itself to be run by free activity, without discipline and direction, which means without work. Work is essential to maintain civilization—not merely to sustain its life, but to sustain its order.

But what kind of order? What kind of life? That is, of course, the ultimate question. In the past, the directing, order-bestowing force within work has been that of domination—the largely unchallengeable hegemony of some small group whose objectives and values channeled the efforts of the enormous mass of humanity into patterns that satisfied their superiors. Thus the civilizations built by the work of the ancient Chinese and Aztecs and Egyptians and Europeans. Thus the civilization built in America today. Can that essential

guiding force become the expression of all members of society, not just of its privileged rulers? Can work become the submission of all to their own intelligence and purpose, gathered and expressed through the institutions of a profoundly democratic rule? Who can presume to answer such questions? But who, looking into the deepest meaning of the act of work, can fail to ask them?

Theodore Caplow, University of Virginia: Today's blue-collar workers have more free time than their remote predecessors, but most of the improvement occurred before 1950. Today's white-collar workers do not have more free time. And in the higher white-collar occupations, they probably have less. But leisure is not subjectively or objectively equivalent to free time. Few people regard the free time they experience in jail or in a hospital as leisure. Homeless men on skid row have much free time but little leisure. Elected officials and independent professionals, with the longest workweeks in the labor force, are conspicuously active in leisure pursuits. The conversion of free time into leisure calls for substantial resources—money, information, equipment, and social networks.

Any stratification of a population by wealth, power, or prestige may be expected to have two distinct effects on leisure activities. First, high status persons will engage in more leisure activities than low status persons whether or not they have more free time. Second, particular leisure activities have traditionally been identified with particular status levels.

Leisure activities are both literally and metaphorically capital-intensive. They require a good deal of economic capital, the amount increasing steeply as participation becomes more intense. They require social capital as well—the relatives, friends, and associates who provide companionship and backing. The distribution of access to both kinds of capital (roughly measured by income

and occupation) is as unequal as ever but the influence of that inequality on leisure activities is steadily diminishing.

Ruth Schwartz Cowan, State University of New York, Stony Brook: We have discovered in the years since the end of World War II that, for the first time in our history, married women and mothers can manage full-time employment without either forsaking or even threatening the standard of living. But the price women continue to pay for their devotion to, or at least involvement in, housework (in addition to their exhaustion) is the price of the unequal and segregated labor force.

Household technologies have developed in a pattern very different from market technologies, and housework has, consequently, developed a labor process which is very different from market work. Women have been assigned principal responsibility for this labor process since the earliest stages of industrialization, and consequently they have been socialized very differently from men. Had housework been industrialized in exactly the same manner as market work, then housewives would not be trained to anticipate work that was essentially feudalistic—without paychecks and time clocks, without supervisors and job descriptions, without specialization and managerial control.

Thus the fact that housework and household technologies developed in the unique way that they did becomes the single most salient fact in explaining, not only why unequal pay and sexual segregation persist in the labor force, but also why women continue to have so much difficulty defining themselves as workers in the same sense as men.

The Council of Scholars, made up of 27 scholars from various fields and specialties, advise the Library of Congress on its collections and deliberates on issues such as creativity and work and prepares an inventory of knowledge of those issues. □

Inflation remained low in 1983 in face of strong recovery

Consumer prices rose by less than 4 percent, about the same as in the recession year of 1982; producer prices of finished goods inched up by less than 1 percent, registering the lowest increase in nearly 20 years

CRAIG HOWELL, ANDREW CLEM, AND ROGER BURNS

Inflation in both retail and primary markets was unusually low in 1983, particularly in light of the sharp price increases recorded in most other recent years.

The 3.8-percent increase in the Consumer Price Index for All Urban Consumers (CPI-U) for 1983 compares with a 3.9-percent rise in 1982 and was the smallest December-to-December increase since the 3.4-percent rise in 1972, when price controls were in effect. Although the overall increase in 1983 was virtually the same as in 1982, the major components behaved somewhat differently as the economy recovered from the 1981-82 recession.¹ Larger, although still moderate, advances in the transportation and the apparel and upkeep categories offset smaller increases in all major categories of consumer spending. (See table 1.)

In 1983, the Producer Price Index (PPI) for Finished Goods moved up 0.6 percent, after climbing 3.7 percent the year before and 7.1 percent in 1981. The 1983 rise was the smallest for any year since the 0.5-percent increase between December 1963 and December 1964. The consumer foods index increased 2.2 percent in 1983, virtually the same as in the preceding year. The finished energy goods index dropped 9.0 percent over the year, after showing almost no change in 1982. After advancing 5.3 percent in 1982, prices for finished consumer goods other than foods and energy moved up 1.8 percent in 1983. Capital equipment prices rose 2.0 percent, about half as much as in 1982.

The intermediate goods index rose 1.8 percent, following

a nominal increase the preceding year, and crude material prices advanced 4.8 percent, far more than the 0.4 percent rise in 1982. Within both the intermediate and the crude goods categories in 1983, prices for foodstuffs climbed briskly, indexes for energy goods declined, and prices of other materials generally rebounded with the improvement in overall economic conditions. (See table 2.)

Strong economic recovery

The low rate of inflation experienced during 1983 accompanied a vigorous economic resurgence from a period that saw virtually no net growth from late 1979 through late 1982. The upturn was paced by expanded consumer spending, facilitated by increased personal income. Encouraged by this release of pent-up consumer demand, business firms stopped liquidating their inventories during 1983 and tried to rebuild them, further stimulating the recovery. Residential housing construction registered its best year since 1978, even though the persistence of unusually high interest rates prevented a runaway boom. Spending for capital equipment lagged, as frequently happens during the early stages of a recovery; by the end of the year, however, business demand for some types of investment goods, notably computers and motor vehicles, was quite strong. Improved productivity and moderate wage increases helped to retard the growth of unit labor costs and thus contributed to keeping inflation low.

One continued relative weakness lay in foreign demand for American agricultural commodities and manufactured products. Although the value of American exports was somewhat larger at the end of 1983 than the unusually low

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level at the end of 1982, the volume of imports into this country surged during 1983. This situation reflected the sluggish state of the recovery in many industrialized and Third World countries, as well as the impact of the high level of the dollar that made some American products too expensive to compete well in foreign markets. The other side of the coin was the attractive low pricing of foreign-made goods in American markets. Prices for all goods imported by the United States averaged 2.4 percent lower in the fourth quarter of 1983 than in the corresponding quarter of the preceding year. This frequently secured a greater market share for imports and thereby exercised a powerful restraint on the ability of domestic producers to raise prices to take advantage of improved demand.

We will next examine price changes during 1983 for all major expenditure categories within the Consumer Price Index. Then we will focus on price changes for those components of the Producer Price Index which do not overlap with categories of the CPI. (Price movements for consumer energy goods—gasoline, home heating fuel, and natural gas—are discussed at both the retail and the primary market levels because of important distinctions between what affects

the CPI and what affects the PPI for those items.)

Consumer prices: food and housing

Food and beverages. The food and beverage component of the Consumer Price Index rose 2.7 percent in 1983, the third consecutive small annual increase. The slowdown in food prices, which began in early 1981, predates the deceleration in the overall CPI. Those factors—meats, poultry, and fresh produce—which had contributed the most to the rapid runup of food prices prior to 1981 were largely responsible for the subsequent moderation. This moderate pattern continued through the first half of 1983.

The summer drought, however, had a differential impact on prices for meats, poultry, fresh fruits, and fresh vegetables. Supply shortages led to sharp increases in poultry, eggs, and fresh vegetable prices. Higher feed costs, however, induced owners to market their livestock sooner and resulted in further price reductions for pork and beef throughout 1983. The effect on fresh fruits was temporary as midyear price increases were followed by declines in the fall.

Other major food groups—cereal and bakery products,

Table 1. Percent changes in selected consumer price indexes (CPI-U), 1982-83

Index	Relative importance Dec. 1983	Percent change		Contribution		Compound annual rate, seasonally adjusted except as noted, for 3 months ended—			
		Dec. 1981 to Dec. 1982	Dec. 1982 to Dec. 1983	Dec. 1981 to Dec. 1982	Dec. 1982 to Dec. 1983	1983			
						March	June	Sept.	Dec.
All Items	100.0	3.9	3.8	100.0	100.0	1.2	5.4	4.5	4.0
Food	18.7	3.1	2.6	13.4	12.9	3.2	1.7	1.1	4.3
Commodities less food and energy	26.5	5.8	5.0	48.8	34.4	5.7	3.2	6.8	4.6
Energy	11.9	1.3	-5	3.7	-1.5	-23.3	19.1	3.4	-1.7
Services less energy	42.9	3.4	4.8	34.1	54.2	4.3	4.8	5.2	5.3
All Items	100.0	3.9	3.8	100.0	100.0	1.2	5.4	4.5	4.0
Services	47.5	4.3	4.8	47.5	59.2	4.4	4.8	5.1	4.9
Commodities	52.4	3.6	2.9	52.5	40.8	-1.6	5.8	4.4	3.3
All Items	100.0	3.9	3.8	100.0	100.0	1.2	5.4	4.5	4.0
Food and beverages	19.8	3.2	2.7	14.4	13.9	3.3	1.9	1.1	4.3
Food at home	12.6	2.2	1.9	6.6	6.3	3.6	.6	-4	3.7
Food away from home	6.1	5.0	4.1	6.8	6.6	2.6	4.0	4.5	5.4
Alcoholic beverages	1.1	4.0	3.4	1.0	1.0	4.4	3.6	3.7	1.8
Housing	37.6	3.6	3.5	43.5	34.8	1.8	4.6	4.3	3.5
Shelter	21.5	2.4	4.7	19.7	26.6	3.6	5.4	5.6	4.4
Renters' costs	7.0	—	5.1	—	9.3	4.5	4.8	6.8	4.3
Rent, residential ¹	6.0	6.6	4.9	8.7	7.6	4.9	4.0	6.2	4.2
Homeowners' costs ¹	13.9	—	4.5	—	16.6	3.6	5.3	5.2	3.9
Homeownership	—	1.4	—	9.3	—	3.6	1.3	—	—
Fuel and other utilities	8.2	9.7	1.8	17.3	3.9	-2.6	5.0	4.0	1.0
Household furnishings and operation	7.9	3.5	2.0	6.5	4.4	1.4	1.9	1.5	3.4
Apparel and upkeep	5.1	1.6	2.9	2.0	4.0	2.9	4.4	3.9	.6
Apparel commodities	4.4	.9	2.5	.9	2.9	2.9	4.0	3.7	-.4
Apparel services	.8	6.2	5.0	1.1	1.0	3.4	6.2	5.3	5.1
Transportation	21.8	1.7	3.9	8.6	22.4	-6.6	10.9	7.6	4.4
Private transportation	20.3	1.4	3.9	6.4	20.9	-7.1	11.2	7.7	4.5
Public transportation ¹	1.5	6.5	3.8	2.2	1.5	-1.2	7.8	6.1	2.6
Medical care	6.1	11.0	6.4	13.8	10.1	8.9	5.8	6.0	4.8
Medical care commodities	1.0	9.6	7.6	2.0	1.9	8.3	7.3	6.8	7.8
Medical care services	5.1	11.2	6.1	11.8	8.1	9.1	5.5	5.7	4.4
Entertainment	4.2	5.6	3.9	5.2	4.3	4.7	2.0	4.3	4.6
Other goods and services	5.2	12.1	8.0	12.6	10.5	9.8	6.7	7.4	7.9

¹Not seasonally adjusted.

Table 2. Percent changes in selected producer price indexes by stage of processing, 1982-83

Index	Relative importance Dec. 1983	Percent change		Compound annual rate, seasonally adjusted except as noted, for 3 months ended—			
		Dec. 1981 to Dec. 1982	Dec. 1982 to Dec. 1983	March 1983	June 1983	Sept. 1983	Dec. 1983
Finished goods	100.0	3.7	0.6	-3.2	2.6	2.0	1.0
Finished consumer foods	23.9	2.1	2.2	2.3	-.9	2.5	5.4
Finished energy goods	11.9	-.1	-9.0	-32.3	12.9	-1.3	-9.5
Finished consumer goods excluding foods and energy	41.8	5.3	1.8	1.0	2.2	2.7	1.2
Capital equipment	22.2	3.9	2.0	2.1	1.7	2.1	2.1
Intermediate materials, supplies, and components	100.0	.2	1.8	-2.8	2.9	5.2	2.3
Intermediate foods and feeds	5.2	0	9.1	7.7	4.2	35.0	-5.7
Intermediate energy goods	15.4	-.7	-4.4	-27.1	6.0	5.6	2.4
Intermediate materials excluding foods and energy	79.3	.6	2.8	1.5	2.8	3.6	3.3
Crude materials for further processing	100.0	.4	4.8	3.2	1.1	9.9	6.2
Crude foodstuffs and feedstuffs	52.8	1.5	8.1	13.3	-5.8	15.6	12.4
Crude energy materials ¹	31.3	2.6	-4.6	-9.2	-5.1	-1.7	-2.1
Crude nonfood materials excluding energy	15.9	-7.6	15.8	-1.5	49.1	16.6	3.4

¹Not seasonally adjusted.

NOTE: Data reflect revisions in not seasonally adjusted indexes through September 1983, as well as the recalculation of seasonally adjusted data from January 1979 through December 1983, effective with the release of January 1984 indexes.

dairy products, processed fruits and vegetables, and other foods at home—registered very moderate increases, similar to those in 1982. The other two components of the food and beverages indexes—restaurant meals and alcoholic beverages—rose 4.1 and 3.4 percent, somewhat less than in 1982.

Housing. The housing index rose 3.5 percent in 1983, slightly less than in 1982. Despite the similarity, the composition of the change was notably different between 1982 and 1983. Shelter costs were up 4.7 percent, following a 2.4-percent increase in 1982. The fuels and utilities and the household furnishings and operations groups, however, both registered smaller increases in 1983. Household fuel prices went up only 0.7 percent, compared with a 10.5-percent increase in 1982. Lighter energy demand and abundant supplies were reflected in all components of household fuels. Fuel oil prices continued their downward movement, dropping 10.9 percent, compared with a decline of 0.7 percent in 1982. Natural gas prices increased 5.2 percent, after spurring 25.4 percent the year before, as the long-term take-or-pay contracts which had ballooned prices in 1982 were allowed to lapse early in 1983. With abundant and relatively cheap supplies of energy to lower the fuel costs of generating electricity, electric bills rose 3.2 percent, half the increase in 1982.

Telephone services increased 3.6 percent—down from 7.3 percent in 1982—as only moderate rate changes were made prior to the January 1, 1984, restructuring of the telephone industry. Water and sewerage maintenance charges increased 8.5 percent, compared with 9.2 percent in 1982 and 14.8 percent in 1981. Prices for household furnishings and operations went up 2.0 percent, compared with 3.5

percent in 1982. Textile housefurnishings increased 3.7 percent, while prices for television and sound equipment dropped 2.2 percent.

Transportation and apparel

Transportation. The 3.9-percent rise in the transportation component in 1983 followed a 1.7-percent increase in 1982 and compared with a 10.9-percent average annual increase in the years following the first energy crisis in 1973 through 1981. A smaller decline in gasoline prices and larger increases in automobile prices were primarily responsible for the greater, but still moderate, rise in transportation costs in 1983.

After 3 years of declines, sales of new cars rose sharply in 1983. Retail prices for new vehicles rose 3.3 percent, compared with 1.5 percent in the preceding year. Prices for used cars continued to increase sharply, advancing 14.4 percent, following a 10.9-percent rise in 1982. The indexes for tires and auto finance charges registered declines in each of the past 2 years. However, auto insurance, registration, license, and inspection fees increased, as did charges for automobile maintenance and repairs.

Motor fuel prices declined an additional 1.7 percent in 1983, after dropping 6.5 percent in 1982. The 1983 decline occurred in spite of a 5-cent-a-gallon increase in the Federal excise tax imposed in April. Following 6 months of increases, declining demand for gasoline together with ample supplies led to a resumption in the fourth quarter of the pattern of dropping prices. From their peak level of March 1981, gasoline prices declined 11.0 percent. Prices for public transportation continued to decelerate for the third consecutive year and registered a modest 3.8-percent rise in 1983. Intercity bus fares were the only major exception,

advancing 7.4 percent after posting a 3.4-percent increase in 1982.

Apparel and upkeep. The index for apparel and upkeep advanced 2.9 percent in 1983, compared with a 1.6-percent rise in 1982. A turnaround in women's apparel prices—particularly dresses—was largely responsible for the modest acceleration. Negotiated wage increases in the women's apparel industry, which had been postponed, took effect in late 1982, followed by wage increases scheduled for 1983. In addition, an expanding economy and the recent trend for retailers to carry lower inventories meant that sales were less widespread. However, prices of apparel for men, boys, girls, and infants and toddlers decelerated over the year. Price increases of sewing materials and notions continued to ease. After registering their smallest rise in 30 years in 1982 (up 0.1 percent), footwear prices rose a modest 1.0 percent in 1983. Apparel services registered a 5.0-percent rise, following increases of 6.2 and 9.4 percent in 1982 and 1981. Increased prices for precious metals helped to induce a turnaround in the category for jewelry and luggage.

Health care and other expenses

Medical care. The 6.4-percent advance in the cost of medical care in 1983 followed increases of 10 percent or more in each of the preceding 4 years. The smaller increase last year reflected a slowdown in prices for both medical care services and medical care commodities. Indexes for both prescription drugs and for over-the-counter drugs and medical supplies rose at a slower rate than in 1982. Hospital and medical care services other than professional services advanced 10.4 percent, compared with 12.6 percent in 1982. Charges for professional services, which had risen more slowly in 1982 than in any of the previous 9 years, moved up 7.6 percent, accelerating slightly.

Entertainment. Prices for entertainment, which have been decelerating yearly since 1980, rose 3.9 percent in 1983. Most of the abatement came from the slowdown of price increases for reading materials and toys, hobbies, and other entertainment goods. Within the reading material index, steep price declines for paperback books can be attributed to increased competition as more publishers entered the expanding market. The index for toys, hobbies, and other entertainment rose 1.5 percent, compared with 3.6 percent in 1982. Uncharacteristic price decreases for music equipment and photographic equipment were caused by growing competition in each market and lower prices for silver, a major raw material in film. Increases in charges for most entertainment services decelerated slightly in 1983.

Other goods and services. The index for other consumer goods, while posting a smaller increase in 1983 (up 8.0 percent) than in 1982 (up 12.1 percent), still registered a larger advance than any other major category. Cigarette

prices increased 10.4 percent, after rising 21.5 percent in 1982. Legislation passed in the summer of 1982, effective January 1, 1983, doubled the Federal excise tax on cigarettes, from 8 to 16 cents per pack. Sharp monthly increases were recorded from September 1982 through January 1983, as manufacturers began phasing in the effect of the tax increase immediately, apparently to avoid the impact of a large one-time increase. Further advances were reflected in 1983 as a number of States raised taxes on cigarettes, and three wholesale price increases were passed through directly to retail. The index for personal and educational expenses decelerated in 1983, but still increased at nearly a double-digit level, as increases in tuition fees moderated slightly.

Producer prices: energy trends

Prices received for domestic production of energy showed widespread and substantial decreases during 1983. After relatively little net change over the course of 1982, the Producer Price Indexes for finished, intermediate, and crude energy all moved down during most of 1983. Prices for most refined petroleum products fell at double-digit rates, as the economic recovery failed to absorb enough of the worldwide surplus of oil. (Prices for major refined petroleum products and natural gas are lagged 1 month in the Producer Price Index.)

The index for finished energy goods dropped 9.0 percent between December 1982 and December 1983. Producer prices for gasoline declined 10.0 percent over the year, reflecting lower prices for both domestic and imported crude petroleum. Demand for gasoline edged up slightly from 1982 levels, and inventories remained ample. Gasoline prices fell sharply early in the year and then rebounded somewhat during the spring, as increased consumer confidence led to more leisure driving.

In a similar fashion, the index for home heating oil declined 15.8 percent, with nearly all of the decrease occurring in the first few months of 1983. Generally warm weather and conservation efforts by consumers were responsible for the weak level of demand during the year. Total demand for distillate fuel oils in 1983 was nearly identical to year-earlier levels; because commercial demand for diesel and other fuels improved with the recovery, it is evident that a reduction occurred in demand for home heating oil.

Producer prices for natural gas moved down 4.3 percent over the year, the first annual decrease in 20 years. Expanded drilling activity in recent years led to high inventory levels, as demand remained flat. Prices for natural gas imported from Canada fell particularly sharply, in reflection of the strength of the U.S. dollar in exchange markets.

The Producer Price Index for intermediate energy goods fell 4.4 percent in 1983. Prices for gasoline, kerosene, and diesel fuel plummeted in the early months of the year but turned up in most succeeding months. Jet fuel prices followed the traditional pattern of more gradual change (jet fuel prices are largely set in advance by contract); decreases

persisted through most months of the year.

Residual fuel oil prices also declined early in the year but then turned up to end the year 3.6 percent above the year-earlier level. This reflected long-term structural changes in the petroleum refining industry, which have led to the production of a smaller share of residual fuel relative to gasoline and other fuels. In particular, the cessation of the Federal entitlements program in 1981 caused the shutdown of many smaller, obsolescent refineries, which were geared to produce a relatively high proportion of residual fuel.

The index for electric power rose 1.9 percent over the year, the smallest annual increase since 1972. This largely resulted from moderation in the costs of coal, natural gas, and residual fuel oil. Weak demand led to a 6.1-percent downturn in prices for liquefied petroleum gas.

The PPI for crude energy fell 4.6 percent in 1983, after a small increase in 1982 and steep advances in each of the 3 preceding years. Prices for domestic crude petroleum fell for the second consecutive year. With the global crude oil market remaining in surplus during 1983, the Organization of Petroleum Exporting Countries (OPEC) experienced some difficulty in maintaining discipline early in the year. At the March meeting of OPEC, the benchmark price for crude oil was reduced to \$28 per barrel, after which prices stabilized. Prices for coal edged up marginally during the year, the first time since 1976 that an increase of less than 1 percent had been registered. Although electric utility demand for coal continued to be firm, the strength of the U.S. dollar contributed to a sharp drop in export sales.

Capital equipment

Prices received by producers of capital equipment moved up 2.0 percent over the year, following an advance of 3.9 percent in 1982. This slowdown was broad-based; few types of capital equipment climbed more than in 1982, and even fewer rose more than 5 percent. The real level of expenditures on new plant and equipment was about 3.5 percent less in 1983 than the year before, which in turn was 5.5 percent below the 1981 level. Demand for new structures and machinery needed to expand capacity had generally not turned up strongly by the end of the year. Firms were usually able to meet improved demand out of existing facilities. High-technology devices for making the current level of output more efficiently were generally preferred over machinery that could be used to boost the level of production.

Prices for equipment related to energy exploration and development were particularly weak during 1983, reflecting the continued sluggishness in price movements for crude oil, as well as the downturn in natural gas prices. The deceleration in price increases for agricultural equipment (from 5.9 percent in 1982 to 2.8 percent in 1983) was in part due to the impact of Government farm programs, which induced many farmers to plant considerably less than in most other recent years. Intensified competition from imports, which accounted for more than one-third of all sales,

was a major influence in restraining price increases for machine tools, as domestic production almost sank to Depression levels. Construction machinery prices moved up 1.6 percent, only one-third as much as in 1982; foreign demand was poor, the recovery in residential construction activity leveled off by midyear, and demand for commercial structures was weak in the wake of a serious overexpansion in office building construction during the last several years in some urban areas. Prices for office and store machines and for motor vehicles also rose considerably less than in 1982, even though demand for these items was quite strong.

Intermediate goods less foods and energy

In 1983, producer prices for intermediate goods other than foods and energy moved up 2.8 percent, compared with the slight 0.6-percent rise in the previous year. Although the economic upturn did spur price boosts for a number of products, in general those increases which did occur were moderated by persistent overcapacity in most industries. The relatively mild acceleration in 1983 was concentrated in the manufacturing materials categories, in which prices for many items rebounded after falling in the 1981-82 recession.

Manufacturing materials. The durable manufacturing materials index rose 4.3 percent in 1983, compared with a 1.5-percent drop in the preceding 12 months. These movements were virtually mirrored by those of the steel mill products index. The steel industry began an uncertain recovery during the year in the wake of capacity utilization rates below 40 percent, lower than at any time since the Depression. Among various types of steel mill products, there were disparities in market demand, and, consequently, in price movements. Net total 1983 shipments of steel sheet and strip jumped 24.6 percent over 1982 levels, mainly because of increased demand from automobile manufacturers. This enabled producer prices for hot rolled and cold rolled sheet and strip to rise 7.1, and 10.1 percent, respectively, over the year. Because of the generally stagnant state of the capital equipment and commercial construction sectors, 1983 shipments of hot rolled bars, plates, and structural shapes changed little from the low level of 1982, and prices moved up only 3.5 percent. At the same time, the slump in the oil exploration and drilling industry was responsible for the 35.5-percent drop in shipments of steel pipes and tubing, with prices for the overall category of steel pipes and tubing falling 3.3 percent.

Movements in nonferrous metals prices were mixed in 1983. Primary aluminum, lead, and zinc prices rebounded at double-digit rates after falling substantially the year before. Improved conditions in the transportation equipment, construction, and consumer durables sectors resulted in greater demand for aluminum. However, the markets for copper and tin were burdened with continued excess worldwide inventories as the major Third World mining countries pushed their exports to repay debts. Copper prices fell for the fourth

consecutive year, partly because of a long-term shift toward alternative materials, such as optical fibers in telecommunications and plastics in construction. Tin prices recovered only part of the losses experienced in 1982, as the U.S. Government liquidated a portion of its tin stockpiles. Precious metals prices moved down sharply as the strength of the U.S. dollar, high interest rates, and an improved inflationary outlook tarnished the speculative and investment appeal of gold and silver.

After three years of weakness, prices for hardwood lumber climbed 15.0 percent as consumer demand for furniture strengthened in line with the recovery in residential housing sales. However, flat glass prices rose only 2.1 percent, the least in 10 years, mainly because of reduced costs for natural gas, a critical input.

The index for nondurable manufacturing materials moved up 2.4 percent, after falling 3.7 percent in 1982. Although the industrial recovery stimulated demand for many materials, price increases were held in check by continued declines in world crude oil prices. The index for industrial chemicals inched up slightly after falling in 1982. Likewise, prices for plastic resins and materials turned up 5.1 percent after declining through most of 1982. Improved demand from the housing, automotive, and export markets boosted prices for certain resins considerably.

Unprocessed synthetic fiber prices edged down for the second consecutive year, largely because of reduced exports to China and flat petrochemical costs. Steady increases in raw cotton prices, however, along with higher prices for processed synthetic yarns, led to upturns in the indexes for processed yarns, gray fabrics, and finished fabrics. The economic recovery also contributed to modest price upturns for woodpulp, paper, and paperboard. Reduced oilseed harvests were responsible for sharp increases for inedible fats and oils and thus for paint materials.

Construction materials. Producer prices for construction materials and components moved up 3.4 percent in 1983, compared with a 1.2-percent rise in 1982. The pace of residential building activity soared early in the year and then fluctuated in the later months in response to changing prospects for the availability of mortgage credit. However, commercial construction suffered a substantial decline, partly because of an emerging surplus of office space in many cities. The number of new private housing units started in 1983 reached 1.7 million, 62 percent higher than a year before. At the same time, total real nonresidential fixed investment in structures fell 7 percent.

The surge in housing construction caused prices for softwood lumber to rise rapidly during the first half of the year. Having kept their inventories at low levels during the recession, American lumber mills responded by quickly expanding production. However, the market outlook clouded somewhat as mortgage interest rates turned up at midyear. Supplies began to exceed demand during the summer, lead-

ing to declining prices during the second half. Still, prices for softwood lumber in December 1983 were 11.8 percent higher than a year earlier, the first significant increase in 5 years. Similarly, prices for plywood moved up after falling in 1981 and 1982, and millwork prices rose more than in the previous 2 years combined.

The most dramatic price increase in the construction area was for gypsum products, prices of which surged 26.6 percent, the sharpest rise since 1978. Strong residential demand for wallboard surpassed the modest growth in output which occurred, and by autumn shortages were reported in Northeast and Southern States. The largest four firms in the gypsum industry produce nearly 80 percent of total output, and their predominance in the market enabled them to make up for previous weak profits by instituting unusually steep price increases throughout 1983.

Strong demand also led to substantial price increases for plastic construction products and structural clay products. However, declining energy prices and weak demand from the commercial construction industry were responsible for the slight price advances for concrete products and fabricated structural metal products. Similarly, reduced petroleum prices were the main reason for the 4.1-percent drop in the index for asphalt roofing.

Other intermediate goods Among other areas of the intermediate goods index, price increases in the range of 4 to 6 percent were recorded for several industrial products benefiting from the recovery. These included electric motors and generators, rubber hose, photographic supplies, and electronic components. In the last grouping, particularly large advances took place for tubes, relays, and certain integrated circuits which were suddenly in short supply after a long period of weak demand because of a slump in computer sales.

However, demand in agriculture-related industries weakened in 1983, as farmers cut back their crop planting under the Government's Payment-in-Kind (PIK) program. Prices for both mixed fertilizers and pesticides showed small decreases over the year.

Grains and feedstuffs

The most significant determinants of 1983 price movements for grains and feedstuffs were the PIK program and the unusually hot and dry summer. These two influences overshadowed the decline in exports which continued as in other recent years. The PIK program, designed to reduce grain surpluses, had an unexpectedly high participation rate from farmers. As a result, planted acreage was well below the planned Government targets. This restricted the amount of harvested grain available for market to a greater extent than anticipated, creating large price increases early in the year. In addition, the summer drought, described as the worst in 50 years, reduced yields for most grains and feedstuffs. Only the winter wheat crop, most of which had been

harvested before the onset of the heat wave, escaped virtually unscathed.

Planted acreage for corn was down 29 percent from the previous year, the reduction triggered by the PIK program. Yields for corn were off 29 percent because of the drought. As a result, prices for corn climbed 38 percent over the year, the largest annual increase since 1973. Hard hit by the summer heat wave, soybean prices jumped 37 percent. (Soybeans were not directly affected by PIK as they were not included in that program.) Fourth-quarter prices fell when farmers, prompted by high September prices, released more of their stocks to the market. At the same time, export demand declined because of the strong dollar and a change in U.S. credit policy towards foreign purchasers, and because demand for soybean oil, an important derivative, dropped in the face of competition from Malaysian palm oil. Prices for hay soared a record 52.6 percent over the year. Hay stocks, already drawn down by a poor 1982 crop, were in high demand as animal feed during the snowy first quarter of 1983. The summer drought and the early winter storms of December had an even stronger upward impact on hay prices later in 1983.

Wheat prices rose in the first quarter because of the PIK program announcement but fell in the second quarter, with the abundant harvests for winter wheat. Because wheat can partly substitute for most other grains and feedstuffs, wheat prices were drawn up by prices for corn and soybeans in the third quarter and fell with soybean prices in October and November. Wheat prices increased again with the rising demand for animal feed in storm-plagued December, leaving the year-end price level almost unchanged from the year before.

Price-sensitive industrial materials

The Producer Price Index for crude materials other than food and energy, which measures changes in prices of raw industrial commodities usually responsive to cyclical shifts in general economic conditions, advanced 15.8 percent from December 1982 to December 1983. This upturn followed declines of 11.4 percent in 1981 and 7.6 percent in 1982.

Prices for ferrous and aluminum base scrap soared during 1983. Demand from steel mills and aluminum mills advanced considerably, while stocks remained low as scrap-generating industrial production picked up slowly. Iron and steel scrap prices climbed 52 percent, following declines in each of the preceding 2 years. Demand for scrap is tied to manufacturers' orders for steel products, whereas supplies of scrap are determined in part by the current level of pro-

duction of finished steel products, which generates scrap. Thus, during a recovery, when production is struggling to meet manufacturers' needs, scrap supplies typically lag behind demand, which may spur large price increases. Expanded production of automobiles towards the end of 1983 increased ferrous scrap supplies, moderating price increases.

Prices for aluminum base scrap surged a record 117.6 percent. The extended period of stagnation from late 1979 to late 1982 had brought aluminum scrap prices down to extraordinarily low levels. But by the end of 1983, the recovery had returned prices to their December 1979 levels. In addition to improved domestic demand, aluminum scrap prices were supported by substantial purchases from Japan.

Copper base scrap prices advanced strongly in the first half of 1983 but fell back in the second half, ending the year unchanged following 3 years of declines. The midyear rally was largely due to speculation that the recovery would soon manifest itself in higher demand for copper products. These expectations, given some support by purchases from China, ultimately proved premature, causing prices to fall at year's end.

Prices for cattle hides, raw cotton, and crude natural rubber climbed as demand returned strongly with the recovery. Cattle hide prices, after falling in each of the preceding 3 years, were up despite increased supplies from higher slaughter rates. Prices were pulled up by demand from the apparel industry, which also boosted prices for raw cotton. Foreign and domestic demand for U.S. cotton was also bolstered by some crop damage here and abroad. Following 2 years of decline, natural rubber prices climbed nearly one-third, the largest annual advance since 1973. Demand rose with the world recovery, while production capacity declined in exporting countries.

Prices for construction sand and gravel advanced with higher demand from the construction industry. With construction demand down during the recession, sand and gravel price increases had become smaller each year from 1980 through 1982 in accord with the dwindling rate of inflation. But price increases accelerated in the latter half of 1983 as the 1982 highway construction legislation took effect and residential construction increased.

Falling prices for leaf tobacco at year's end were partly due to high inventories and a 5-percent drop in cigarette consumption. Potash prices fell in midyear following the reduced fertilizer needs of the smaller crop plantings in the spring. Prices rebounded in the fourth quarter in anticipation of larger plantings in 1984, pushing price levels higher than the year before. □

FOOTNOTE

¹ Data for 1983 are not strictly comparable with previous years, however, because of a technical change in the treatment of homeownership. Through December 1982, the CPI-U used an asset approach to measure shelter costs of homeowners. A flow-of-services approach for that component called "rental equivalence" was introduced in January 1983. This change not only affected the manner in which homeowners' costs were measured, but

also affected the relative weighting structure. See Robert F. Gillingham and Walter Lane, "Changing the treatment of homeownership in the CPI," *Monthly Labor Review*, June 1983, and "Changing the homeownership component of the Consumer Price Index to rental equivalence," *CPI Detailed Report*, January 1983.

Workers' purchasing power rises despite slowdown in wage and salary gains

There is no clear relationship between changes in the purchasing power of wages and salaries and the business cycle; changes in purchasing power reflect the greater volatility of price, rather than wage, changes

RICHARD SCHUMANN

Changes in the purchasing power of wages and salaries, as measured by the constant-dollar Employment Cost Index (ECI), show a dramatic reversal during the last 4 years (1980–83) from the trend of the preceding 4 years (1976–79). The rate of change declined steadily from 1976 through March 1980, but since then has generally been rising. During the last 2 years, purchasing power has actually increased. (See chart 1.) This improvement occurred despite a sharp drop in the rate of increase in wages and salaries, as measured by the current-dollar ECI. The explanation for this apparent anomaly is that although the rate of wage and salary increase has been dropping, the rate of price increase has declined even faster.

This article examines fluctuations in the purchasing power of wages and salaries for private industry workers, as well as for major industry and occupation categories, over the 1976–83 period. The critical determinant of purchasing power changes has been the rate of increase in consumer prices. There appears to be no clear relationship between the stage of the business cycle and changes in purchasing power but, consistently, the ECI adjusted for price changes (constant-dollar ECI) rose most when prices rose least, and vice versa. Fluctuations in purchasing power reflect the greater volatility of price increases, compared with wage and salary gains, over the past 8 years: pay increases trail price changes during periods of rapid price rises, and exceed price increases when the rate of price change is low.

Over the 8-year period studied, purchasing power decreased for most workers. However, changes were not uni-

form across the economy. Some groups lost more purchasing power than others, and a few groups even experienced an increase. None of the occupational or industry groups studied gained purchasing power during the 1979–80 period of high price inflation, no matter the size of their wage and salary increases.

How change in purchasing power is measured

The measure of purchasing power used for the analysis in this article was the constant-dollar ECI for wages and salaries. The constant-dollar ECI was calculated by first converting both the ECI and the Consumer Price Index for All Urban Consumers (CPI-U) to a common base of September 1975 = 100. The converted ECI was then divided by the converted CPI-U for the same period. The result is an index which measures the amount of goods and services which could be purchased with the wages and salaries paid for an hour of labor in the current period, compared with what could have been purchased in the base period.

For example, a constant-dollar index of 105.0 indicates that current wages could purchase 5 percent more goods and services than wages in the base period, even though wages unadjusted for price changes may have increased by more or less than 5 percent (or may have even decreased).¹

The ECI is used in this analysis because it measures changes in wage and salary rates, not changes in earnings, which are affected by hours worked as well as shifts in the composition of the work force. The appendix provides an explanation of how the ECI differs from earnings series.

Cyclical behavior of purchasing power

The relationship between price increases and rates of wage and salary change over the 1976–83 period is shown in

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chart 1. When the current-dollar curve for the ECI is above that for the CPI, purchasing power is increasing; when it is below the CPI curve, purchasing power is declining. Purchasing power increased in the early (1976-77) and latter (1982-83) parts of the period studied.

The critical determinant of changes in purchasing power in recent years has been the rate of price inflation. The following tabulation shows annualized percent changes in wages and salaries in private industry and in the Consumer Price Index over the 1975-83 period, by stage of the business cycle. The months chosen for comparison are those closest to the officially designated turning points and consistent with the ECI's reference months. The latest expansion is incomplete, not yet having reached its peak.

	<i>Current-dollar ECI</i>	<i>Consumer Price Index</i>	<i>Constant-dollar ECI</i>
Expansion:			
September 1975-			
December 1979 ..	7.6	8.3	-.6
Contraction:			
December 1979-			
June 1980	9.4	16.0	-5.9
Expansion:			
June 1980-			
June 1981	9.3	9.6	-.3
Contraction:			
June 1981-			
December 1982 ..	6.8	5.1	1.5
Expansion:			
December 1982-			
December 1983 ..	5.0	3.8	1.1

There is no clear relationship between the stage of the business cycle and changes in purchasing power, but there is a pattern in that the largest price increases are associated with decreases in constant-dollar wages and salaries, and the smallest price increases are found with constant-dollar pay increases.

The relationship between the CPI and constant-dollar ECI resulted, in part, from the nature of the price changes and conditions in the labor market. This conclusion is supported by a review of wage and price developments over the history of the ECI series.

The early part of the 1975-80 expansion saw increases in real wages and salaries as inflation moderated from the high levels of 1973-74, and wage and salary rates rose about 7 percent in both 1976 and 1977. (See table 1.) A strong labor market, as reflected in the decline in the unemployment rate from a high of 9.2 percent in May 1975 to 6.4 percent in December 1977, contributed to the steady increase in wages and salaries. During 1978 and 1979, prices rose dramatically, largely in response to increases in the cost of oil, while wage gains were slower.²

The brief 1980 recession did not have a dampening effect on wages. They continued to rise at an annualized rate of

9.4 percent even though unemployment increased from 5.9 to 7.8 percent during the period. The short duration of the recession limited its impact on employers, particularly those with labor contracts which did not expire during the period. During this recessionary period, prices rose at an annualized rate of more than 16 percent. These increases generated large wage gains for workers covered by automatic cost-of-living escalator clauses, further offsetting the wage dampening effects of the recession.

During the 1980-81 expansion, wage and salary increases peaked at 9.3 percent and essentially remained at that rate, while unemployment moderated to 7.0 percent. Price increases slowed to 9.6 percent, a sharp drop from the rate of the previous 2 years, but still a historically high level.

The 1981-82 recession saw wage and salary increases decline sharply, from 9.3 percent for the year ended June 1981 to 6.3 percent for the year ended December 1982. Over the same period, the labor market deteriorated as unemployment rose from 7.0 percent in July 1981 to 10.8 percent in November 1982. The rate of price increase dropped dramatically, from 8.9 percent for the year ended June 1981 to 3.9 percent for the year ended December 1982.

The most recent economic expansion, which began in December 1982, is following a trend similar to that of the early period of the 1975-80 expansion. Purchasing power increased 1.1 percent during the first year of the current expansion, as the decline in the rate of wage increase was more than offset by the continued drop in the rate of price increase. The labor market tightened somewhat as unemployment declined during the period, dropping from 10.8 percent in December 1982 to 8.2 percent in December 1983.

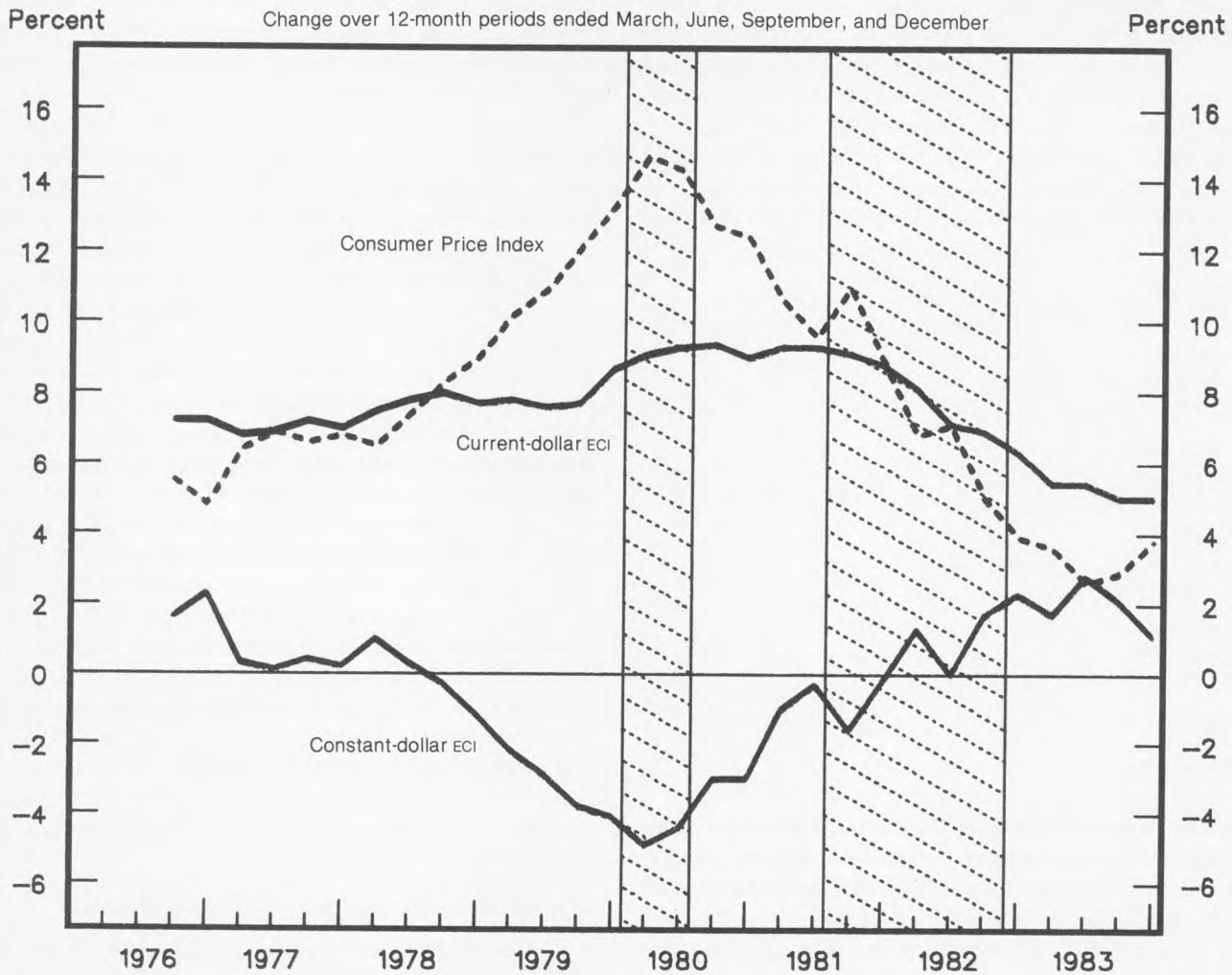
The cyclical pattern of wage movements for most occupation and industry groups was similar to that for all private industry workers.

Recent shifts in the pattern of wage changes

The contraction that began in mid-1981 marked a turning point in the relative rates of pay increase for white-collar workers compared with blue-collar, and for manufacturing workers compared with those in nonmanufacturing industries. The following tabulation shows annualized percent increases in private industry wage and salary rates, and in the CPI-U.

	<i>September 1975- June 1981</i>	<i>June 1981- December 1983</i>
All private industry	8.1	6.0
White collar	7.7	6.6
Blue collar	8.5	5.3
Service workers	8.2	6.3
Manufacturing	8.4	5.6
Nonmanufacturing	7.9	6.3
Union	8.8	6.4
Nonunion	7.7	5.8
Consumer Price Index	9.2	4.6

Chart 1. Changes in current- and constant-dollar wage and salary component of the Employment Cost Index and in the Consumer Price Index for All Urban Consumers, 1976-83



NOTE: Shaded areas indicate recessionary period.

During the September 1975–June 1981 period, blue-collar workers and workers in manufacturing industries received larger wage and salary increases than white-collar workers and workers in nonmanufacturing industries. This relationship held even during the brief 1980 recession. However, this pattern reversed during the 1981–82 recession. There was a dramatic slowdown in the rates of wage and salary increase for all worker groups, but the declines for blue-collar workers and those in manufacturing were unusually sharp. During 1983, the first year of the most recent expansion, a reversal of the usual pattern also occurred when nonunion wage increases exceeded those of union workers.

Blue-collar occupations, and workers in manufacturing industries were affected more than other workers by the

economic conditions of 1981–82. Unemployment among blue-collar workers was 16.1 percent in the fourth quarter of 1983, up from 9.8 percent in the second quarter of 1981, greatly exceeding the 5.4-percent and 3.9-percent rates for white-collar workers. Similarly, unemployment in manufacturing peaked at 14.2 percent in the fourth quarter of 1982, up from 7.6 percent in the second quarter of 1981.

Union workers, who are heavily concentrated in blue-collar jobs and in manufacturing industries, were affected by the deteriorating labor market. They continued to receive larger wage increases than nonunion workers during the 1981–82 recessionary period, but for the year ended in December 1983, wage increases for nonunion workers (5.2 percent) exceeded those for union workers (4.6 percent).

Table 1. Percent changes in the wage and salary component of the ECI and in the CPI-U for the 12 months ended in December

Characteristic	1976	1977	1978	1979	1980	1981	1982	1983
Private industry								
Current dollar . . .	7.2	7.0	7.7	8.7	9.0	8.8	6.3	5.0
Constant dollar . .	2.3	0.2	-1.2	-4.1	-3.0	-0.2	2.3	1.1
Occupational group								
White collar:								
Current dollar . . .	6.6	6.5	7.2	8.6	8.7	9.1	6.4	6.0
Constant dollar . .	1.9	-0.4	-1.6	-4.0	-3.3	0.1	2.5	2.1
Blue collar:								
Current dollar . . .	8.0	7.7	8.2	9.0	9.6	8.6	5.6	3.8
Constant dollar . .	3.2	0.8	-0.8	-3.8	-2.5	-0.4	1.7	0.0
Service workers:								
Current dollar . . .	7.9	6.4	8.7	7.2	8.1	8.3	8.5	4.6
Constant dollar . .	3.1	-0.5	-0.2	-5.5	-3.8	-0.6	4.5	0.7
Industry division								
Manufacturing:								
Current dollar . . .	7.5	7.8	8.3	8.6	9.4	8.7	5.6	4.3
Constant dollar . .	2.6	1.0	-0.7	-4.2	-2.7	-0.3	1.8	0.4
Nonmanufacturing:								
Current dollar . . .	7.1	6.5	7.4	8.8	8.8	9.0	6.5	5.4
Constant dollar . .	2.3	-0.5	-1.3	-4.1	-3.1	0.0	2.5	1.6
Bargaining status								
Union:								
Current dollar . . .	8.1	7.6	8.0	9.0	10.9	9.6	6.5	4.6
Constant dollar . .	3.3	0.7	-1.0	-3.9	-1.2	0.5	2.5	0.8
Nonunion:								
Current dollar . . .	6.8	6.6	7.6	8.5	8.0	8.5	6.1	5.2
Constant dollar . .	2.0	-0.4	-1.3	-4.2	-3.9	-0.4	2.2	1.4
Consumer Price Index	4.8	6.8	9.0	13.3	12.4	8.9	3.9	3.8

Clearly, relative rates of wage and salary changes among various subgroups shifted during the June 1981–December 1983 period. The rate of increase dropped for all subgroups, but the decline was greatest for those who had posted the highest rates of increase in the earlier period. This shift reflects factors such as competition from imports, deregulation, and the growth of nonunion establishments as well as recessionary effects. In the last 3 years, wage cuts or freezes have been frequent in such heavily unionized industries as automobiles, steel, construction, airlines, and trucking as unemployment was especially high in these areas.

Changes in purchasing power, 1975–83

From September 1975, when data for the ECI were first collected, through December 1983, purchasing power for private industry workers declined 2.5 percent, as wage increases of 80.9 percent were offset by price increases of 85.5 percent. (See table 2.) Workers in virtually all occupational and industry groups experienced a decline in purchasing power. Purchasing power rose only for groups with consistently above-average annual wage increases during the entire 8-year period and for those with unusually large wage gains during the latter half (1979–81), when prices rose rapidly.

Among the groups with a rise in purchasing power were workers in transportation, communications, and public utilities, whose wage and salary increases exceeded the average

for all workers in 6 of the 8 years studied; union workers, whose wage and salary increases were below the average for all workers only in 1983; and professional and technical workers, whose salary gains were substantially above the average during 1979–81, after trailing those of most other groups during 1975–78.

Declines in purchasing power were the greatest for managers and administrators, salesworkers, and workers in construction and wholesale and retail trade industries. Increases for managers and administrators exceeded the average for all workers only in 1983. The salesworkers and construction series do not include data for some quarters before March 1977, a period during which purchasing power was rising, but both series have lagged the average for all workers over the last several years. Wholesale and retail trade is strongly affected by changes in the salesworker category.

Summary

The period studied (1975–83) begins shortly after the trough of a severe recession. Constant-dollar wages were increasing early in the period as the moderate rate of wage increase was higher than the increase in consumer prices. The period ends shortly after the trough of another severe recession. Constant-dollar wages are again increasing as the moderate rate of wage increase is higher than the increase in consumer prices. Between the two troughs, there was a period of severe wage and price acceleration, followed by

Table 2. Percent change in the wage and salary component of the ECI, current- and constant-dollar, September 1975–December 1983

Characteristic	Current dollar	Constant dollar
All private industry workers	80.9	-2.5
Occupational group:		
White-collar workers	79.8	-3.1
Professional and technical	86.7	0.3
Managers and administrators	71.2	-7.7
Salesworkers ¹	58.9	-6.7
Clerical workers	83.7	-1.0
Blue-collar workers	82.2	-1.8
Craftworkers	82.0	-1.9
Operatives, except transport	85.0	-0.3
Transport equipment operatives	76.3	-5.0
Nonfarm laborers	80.8	-2.5
Service workers	83.5	-1.1
Industry division:		
Manufacturing	82.0	-1.9
Durable goods ²	71.5	-2.5
Nondurable goods ²	66.1	-5.5
Nonmanufacturing	80.3	-2.8
Contract construction ³	68.5	-7.0
Transportation, communication, and public utilities	94.7	5.0
Wholesale and retail trade	73.3	-6.6
Services	80.9	-2.5
Bargaining status:		
Union	89.5	2.2
Nonunion	76.7	-4.7

¹Change from March 1977 to December 1983.

²Change from September 1976 to December 1983.

³Change from March 1976 to December 1983.

a period of sharp wage and price deceleration. During this middle period, prices rose more than wages, so constant-dollar wages declined.

The decline in constant-dollar wages that occurred during the period of high wage and price inflation was greater than

the increase in constant-dollar wages that resulted during the period of moderate wage and price inflation. Consequently, over the entire period constant-dollar wages declined. In December 1983, constant-dollar wages were 2.5 percent below the level of September 1975.³ □

—FOOTNOTES—

¹The measure of purchasing power used in this article is an index of the quantity of goods and services that could be purchased with an hour's wages. In fact, though, movements in purchases may not correspond to movements in wage rates. Individuals may increase purchases more than the increase in their wage rate by drawing on savings or receiving transfer payments, or may purchase less by saving or paying taxes. Because the CPI is an expenditure-based index, income taxes are excluded. For research purposes, Robert Gillingham and John Greenlees have defined and estimated a price index which incorporates income taxes. For a brief description of their research, see *Problems in Measuring Consumer Prices*, Report 697 (Bureau of Labor Statistics, 1983), p. 3.

²Voluntary wage and price guidelines, administered by the Council on Wage and Price Stability, were in effect from the 4th quarter 1978 to the 4th quarter 1980. It is uncertain what impact those guidelines had on wage and price changes during the period.

³Beginning with the index for January 1983, the method of pricing owner-occupied housing in the official CPI-U was changed from the "asset price" approach to a rental equivalence approach. Prior to that time, an experimental CPI measure using the rental equivalence approach was available; that index did not rise as rapidly as the CPI-U over the 1976-82 period. For a discussion of methods for pricing housing, see *Problems in Measuring Consumer Prices*, Appendix B.

APPENDIX: How ECI wage rate change is calculated

The ECI eliminates the impact of employment shifts by collecting wage rates for specific occupations and using fixed occupation and industry weights in the calculation of indexes. Consider the case of an employer with two types of workers, electricians and janitors. In March 1982, he employs 10 electricians at \$10 per hour and 10 janitors at \$5 per hour. The average wage (and average earnings) is \$7.50.

	Number	Wage	Aggregate wage
Electricians	10	\$10	\$100
Janitors	10	5	50
	20		150

Average wage (earnings): $\$150 \div 20 = \7.50

In March 1983, both groups are given a 10-percent wage increase, but now only 5 janitors are employed. Average earnings increase to \$9.17.

	Number	Wage	Aggregate wage
Electricians	10	\$11.00	\$110.00
Janitors	5	5.50	27.50
	15		137.50

Average earnings: $\$137.50 \div 15 = \9.17

Earnings change: $\$9.17 \div \$7.50 = 1.22$ (or a 22-percent increase)

But when fixed employment weights are used (that is, the number of janitors remains fixed at 10), the average change in wage rates is calculated, not the change in average hourly earnings.

	Number	Wage	Aggregate wage
Electricians	10	\$11.00	\$110.00
Janitors	10	5.50	55.00
	20		165.00

Average wage rate: $\$165 \div 20 = \8.25

Wage rate change: $\$8.25 \div \$7.50 = 1.10$ (or a 10-percent increase)

In this case, the increase is 10 percent, the size of the wage rate increase which was granted to both occupations. If consumer prices had also increased 10 percent, then the purchasing power of wage rates would have been unchanged for both electricians and janitors separately as well as for the two combined. The change in the purchasing power of earnings, calculated by dividing the relative increase in average earnings by the change in the price index, would give different results: purchasing power would have remained unchanged for the two occupations separately but would have increased 11 percent for the two combined.

How social security payments affect private pensions

Coordinating the two sources of retirement income tends to lower employer costs for private pension plans, and results in private pensions which replace a larger percentage of preretirement earnings for higher paid workers

DONALD BELL AND DIANE HILL

Many workers look forward to receiving benefits from private pension plans as well as from social security. Half of all full-time wage and salary workers in private industry in May 1979 were covered by pension plans;¹ nearly all of them were also under the social security system. This dual retirement income has fostered interest in coordinating public and private plans. Often, social security payments are considered when setting the terms of private pension plans.

There are two types of private pensions plans: defined contribution plans, which require an employer to contribute a specified amount of money into a pension fund; and defined benefit plans, which provide specified benefits according to a formula taking into account an employee's years of service, or earnings, or both. A defined contribution plan does not promise a predetermined level of benefits—the benefits paid at retirement depend on the amount credited to an employee. In a defined benefit plan, pension benefits are predetermined and the employer must make contributions adequate to finance those benefits. Both types of plans may reflect the existence of social security (Old-Age, Survivors, and Disability Insurance) either implicitly, by informally providing lower annuities than would be the case if social security benefits were not available; or explicitly, by formally recognizing the existence of social security.²

Plans which explicitly acknowledge social security benefits are called *integrated plans*. Their formulas generally recognize not only the level but also the underlying structure of social security benefits. For example, social security benefits as a percent of preretirement earnings (replacement rates) are greater for low-wage earners than for high-wage earners. Some employers counter this difference by using a

benefit formula which results in greater replacement rates under the private plan for high-wage earners. Internal Revenue Service regulations, discussed later, govern the extent to which this is permissible.

Proponents of integrated private plans maintain that coordinating private pensions and social security benefits yields equitable retirement income for all workers, regardless of earnings, while keeping employer costs within reasonable bounds. (Employers often contend that their payment of social security taxes should be considered when determining outlays for private benefits.³) On the other hand, critics stress that integrated private plans may provide low benefits—or none at all—to low-wage earners.⁴

Information on integrated private pension plans was obtained from the Bureau of Labor Statistics' annual survey on the incidence and characteristics of employee benefit plans in medium and large firms.⁵ Of the 914 defined benefit pension plans studied in 1981, 521, or nearly three-fifths, were integrated. Most of the integrated plans (60 percent) reduced private pensions by a portion of the social security payment. The remainder (40 percent) were coordinated with social security through percent-of-earnings benefit formulas that applied different percentages to earnings above and below specified dollar levels.

Defined benefit plans which integrate by deducting a portion of the social security payments are called *offset plans*. Those which establish higher pension formulas for earnings above a specified level than for those below are called *excess plans*; the earnings level is related to the maximum wage subject to social security taxation (the "taxable wage base"), which was \$29,700 in 1981. (Integrated defined contribution plans, excluded from this study, follow the excess approach; contribution rates, expressed as a percent of earnings, are higher on earnings above a specified level than below.)

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Offset plans

Sixty percent of all the integrated plans included in the study were offset plans. The formula in an offset plan and its effect on replacement rates (annuity as a percent of earnings in the final year of work) are illustrated in the following:

Two employees retired at the beginning of 1981 after 30 years of service; one earned \$20,000 in 1980 and the other, \$30,000. Both employees were covered by a private pension plan with a typical offset provision which provides pensions equal to 1.5 percent of average earnings in the five highest

earnings years ("high-five" average earnings) multiplied by years of service, less 50 percent of primary social security benefits (excluding benefits for spouses or other dependents). The workers' earnings were not constant over the years. Therefore, it is necessary to estimate their earnings in each of the years affecting the private pension and social security benefit calculations. The estimated "high-five" average earnings used here were calculated from assumed earnings histories developed by the Social Security Administration, which also provided the social security benefits. Replacement rates were calculated by dividing each benefit by the workers' earnings in the last year of work.⁶

Glossary of pension terms

Analysis of pension plan provisions is complicated by technical terms which permeate the pension literature. The use of these terms cannot be avoided. However, each of the technical terms used in this article is defined below.

Career earnings formula. A formula which bases pension benefits on average earnings in all years of credited service.

Defined benefit plan. A pension plan which includes a formula for calculating retirement benefits (such as a specified percent of earnings or flat dollar amount per year of service) and obligates the employer to provide the benefits so determined. Therefore, employer contributions are not fixed, but are whatever is needed, together with earnings of pension fund investments, to finance the required benefits.

Defined contribution plan. A pension plan that obligates the employer to contribute money to a pension fund according to a formula (such as a specified percent of earnings). Benefits are not fixed, but depend on the amount of employer contributions and the earnings of pension fund investments.

Early retirement. Retirement before the normal retirement age. Early retirement pensions depend on earnings and service, but are reduced for each year prior to the normal retirement age.

Excess plan. An integrated pension plan which provides relatively higher pensions on earnings above a specified level than on earnings below that level. A pure excess plan calculates pensions only on earnings above the specified level, while a step-rate excess plan has separate calculation formulas for earnings above and below the specified level.

Flat-benefit plan. An excess plan that expresses pensions as flat percentages of earnings, independent of length of service.

Integrated pension plan. A private pension plan that is explicitly coordinated with social security, either through the offset or excess approach. A common objective is to recognize employer costs for social security in setting private pension benefits. In addition, integrated private pension plans often provide greater benefits relative to preretirement earnings for the higher-paid workers.

Integration level (breakpoint). The level above and below which excess plans apply different percent-of-earnings formulas. The integration level may be the "social security taxable wage base" or a specified dollar amount, usually the taxable wage base at the time the excess formula was developed.

Normal retirement. Retirement at the earliest age specified in a pension plan for retirement with all accrued pension benefits by virtue of earnings and service, without reduction due to age.

Offset plan. An integrated pension plan that reduces private benefits by a portion of an employee's social security benefit.

Old-Age, Survivors, and Disability Insurance (OASDI). The old-age insurance program established by the Social Security Act, referred to as "social security" in text.

Replacement rate. Retirement annuity as a percent of earnings in the final year of work.

Taxable wage base. The maximum wage or salary subject to payroll taxation for social security purposes. The wage base was \$29,700 in 1981, the year covered by this study.

Terminal (final) earnings formula. A formula that bases pension benefits on average earnings in the final years of credited service—often the last 3 or 5 years.

Unit benefit plan. An excess plan that expresses pensions as percentages of earnings per year of service.

Earnings in last year of work	\$20,000	\$30,000
(1) "High-five" average earnings	17,119	25,683
(2) Private pensions, before offset		
(1) × .015 × 30	7,704	11,557
Replacement rate	38.5	38.5
(3) Social security benefit	7,884	8,124
Replacement rate	39.4	27.1
(4) Private pension, after offset		
(2) - ½ of (3)	3,762	7,495
Replacement rate	18.8	25.0
(5) Offset pension plus social security		
(4) + (3)	11,646	15,619
Replacement rate	58.2	52.1

Prior to calculation of the social security offset, private pensions replace 38.5 percent of preretirement earnings for both the \$20,000 and the \$30,000 worker (2). However, after deducting half the social security benefit paid to these workers, the \$30,000 worker receives a greater private pension proportionate to preretirement earnings than does the \$20,000 worker (4). But the replacement rate for combined social security and offset private benefits is higher for the \$20,000 worker; this stems from the social security benefit formula, which yields a higher replacement rate for the \$20,000 worker, (3) and (5).

Offset plans use a variety of approaches to determine the social security deduction. (See table 1.) One-fourth of the offset plans in the 1981 study specified deductions independent of an employee's length of service: they generally

called for flat percentage deductions, averaging 60 percent of primary social security benefits. However, a majority of the offset plans (three-fourths) specified a percentage deduction which varied with length of service. These percentage offsets ranged from 0.75 percent to 5 percent per year of service, but the effect of this formula was usually limited by either a ceiling on the size of the offset (usually 50 percent) or a curb on the years of service included in the calculation (typically 25 to 40 years). In cases where deductions varied by length of service, offsets for retirements after 30 years of service averaged 49 percent of the primary social security benefit in capped plans; this was higher than the 33-percent average found in plans without a ceiling on the maximum offset.⁷ (It is possible that uncapped formulas include lower percent-per-year offsets in recognition of their potential impact on long-service employees retiring after 35 years or more on the job.) In all cases, the amount of the offset is fixed at the time of retirement and subsequent changes in social security benefits, either legislated or cost-of-living adjustments, do not affect private pension payments.

Excess plans

Two-fifths of the integrated pension plans were excess plans. These plans contained percent-of-earnings benefit formulas which applied a higher percentage rate to earnings above a specified level (the breakpoint or integration level) than to those below. Excess plans achieve patterns of replacement rates relative to preretirement earnings similar to those under offset plans. This is illustrated in the following:

Two employees retired at the beginning of 1981 after 30 years of service, with earnings in 1980 of \$20,000 and \$30,000. Their pension plan provided benefits per year of service equal to 1 percent of career average annual earnings up to \$7,800, and 1.5 percent of earnings above this level. (The estimates of social security benefits were provided by the Social Security Administration; estimates of career average earnings are based on the Social Security Administration's assumed earnings histories.)

Earnings in last year of work	\$20,000	\$30,000
(1) Career average earnings	9,340	14,011
(2) Pension on earnings to \$7,800		
\$7,800 × .01 × 30	2,340	2,340
(3) Pension on excess earnings		
Earnings over		
\$7,800 × .015 × 30	693	2,795
(4) Total private pension		
(2) + (3)	3,033	5,135
Replacement rate	15.2	17.1
(5) Social security benefit	7,884	8,124
Replacement rate	39.4	27.1
(6) Pension plus social security		
(4) + (5)	10,917	13,259
Replacement rate	54.6	44.2

Table 1. Incidence of social security integration in defined benefit plans by type of formula, private pension plans in medium and large firms, 1981

Integration status	Pension benefits formula			
	All plans	Terminal earnings	Career earnings	Other ¹
Defined benefit plans:				
Number	914	510	151	253
Percent	100	100	100	100
Percent with integrated formula ² ..	57	81	60	6
Offset ³	34	56	7	6
Based on service	26	44	3	3
Not based on service	8	12	3	3
Flat percent	7	11	2	3
Dollar amount	1	1	1	—
Excess	23	25	54	—
Pure excess ⁴	1	1	1	—
Step-rate	22	24	53	—
Integrated at social security tax base breakpoint	12	15	20	—
Integrated at specified dollar breakpoint	10	9	33	—
Percent without integrated formula	43	19	40	94

¹Primarily plans providing stipulated dollar benefits per year of service or dollar schedules of benefits varying by length of service.

²Plans with integrated formulas may contain either minimum or alternative formulas which are not integrated with social security benefits, or both. In plans with two integrated formulas, the formula yielding the larger benefit was tabulated.

³Includes private pensions offset by railroad retirement benefits.

⁴All "pure" excess plans in this study integrated at a specified dollar breakpoint, rather than the social security taxable wage base.

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no plans in the category.

Because the two workers had career average earnings exceeding the breakpoint, each obtained the same pension benefits at the 1-percent accrual rate (2). However, the \$30,000 worker, with greater earnings above \$7,800 received more benefits from the 1.5-percent rate (3) and, as a result, a higher overall private pension replacement rate (4). Nevertheless, as in the offset plan example, the replacement rate for *combined* social security and private benefits is higher for the \$20,000 worker than for the \$30,000 worker (6).

Excess plan formulas differ considerably in such areas as the integration level and the formula components. Some plans specify the "social security taxable wage base" as the integration level; others specify a dollar amount, typically the taxable wage base in effect at the time the pension formula was adopted. Excess plans commonly calculate benefits as a percentage of average annual earnings multiplied by years of service (unit-benefit plans); some, following Internal Revenue Service guidelines, calculate benefits as a flat percent of earnings of retirees with 15 years or more of service (flat-benefit plans).

A limited number of excess plans—1 percent of all the pension plans studied—calculated pension benefits only on earnings above specified dollar breakpoints (pure excess plans). The remainder contained separate pension calculation percentages for different earnings levels (step-rate plans).

Slightly more than half of the step-rate excess plans designated the "social security taxable wage base" as the integration level. Accordingly, they adjust automatically to changes in this base. Most of these plans specified either a career average of social security tax bases (68 plans) or the social security tax base in each year worked (28 plans). The remainder used the average social security tax base during the final 3 or 5 years of service. On average, step-rate excess plans integrating at the social security tax base provided benefits per year of service equal to 1.05 percent of earnings up to the tax base, and 1.64 percent of higher earnings—a spread of 0.59 percentage points.⁸

The remaining half of the step-rate excess plans integrated at a specific dollar figure. For the most part, these plans did not regularly adjust the integration level to match changes in the social security tax base. For example, one plan specified a \$6,600 breakpoint; it provided benefits equal to 1 percent of the first \$6,600 of career average annual earnings and 2 percent of higher earnings, multiplied by years of service. The breakpoint in this instance was the 1966 social security taxable wage base (\$6,600).

Among the step-rate excess plans citing dollar amounts as breakpoints, the specified earnings level ranged from \$3,000 to \$24,000 per year and averaged \$7,282. Benefits averaged 0.99 percent of earnings below the breakpoint and 1.65 percent above, a spread of 0.66 percentage points. This was slightly more than the 0.59 points under plans using a social security tax base integration level.⁹

Alternative formulas and minimum benefits

Integrated pension formulas may result in nominal private annuities for low-paid or short-service employees. Many of the pension plans studied contained provisions to counter this possibility. Two approaches were used. In the first, an integrated plan specified a minimum level of private benefits; in the second, a pension plan with an integrated formula also contained an alternative formula which was not integrated with social security. The retiree's private annuity is based on the formula which yields the higher benefit.

The following tabulation of the 521 integrated pension plans in the 1981 survey indicates the relative importance of plans with minimum benefit provisions and alternative, nonintegrated formulas. (Sums of individual items may not equal totals because some plans contained both minimum benefits and alternative formulas.)

	Offset plans	Excess plans	
		Pure	Step-rate
Number	310	7	204
Percent	100.0	100.0	100.0
With minimum benefits			
or alternative formulas ..	50.0	57.0	40.7
Minimum benefits	6.8	—	6.4
Alternative formulas ..	44.5	57.0	35.8
Without minimum benefits			
or alternative formulas ..	50.0	43.0	59.3

Relation of formulas and integration

Table 1 shows the overall extent to which private pension plans were integrated with social security. It also indicates a strong relationship between the benefit formula of a private pension plan and the incidence and form of integration. For example, integration was largely confined to private pension plans which calculated benefits as percentages of preretirement earnings. Integration provisions were found in three-fifths of the plans calculating pensions as a percentage of career earnings and in four-fifths of those using terminal-earnings formulas which base pensions on earnings in the last years of service.

Furthermore, terminal and career earnings plans use different approaches to integration. Career earnings plans typically used step-rate excess formulas, whereas the terminal earnings plans applied the offset approach in a majority of the cases.

The incidence of integration declined substantially among plans without career or terminal earnings formulas. Benefits were coordinated with social security in 6 percent of the 253 plans which did not have a percentage-of-earnings benefit formula; these plans mainly stipulated dollar benefits per year of service or dollar schedules of benefits varying by length of service.

Influence of collective bargaining. Collectively bargained pension plans tend to exclude integration provisions. Inte-

Table 2. Incidence of social security integration in defined benefit plans, by collective bargaining status, private pension plans in medium and large firms, 1981

Integration status	All plans		Union-management plans		Nonunion plans	
	Number	Percent	Number	Percent	Number	Percent
Total defined benefit plans . . .	914	100	280	100	634	100
With integrated formula . . .	521	57	41	15	480	76
Offset	310	34	25	9	285	45
Excess	211	23	16	6	195	31
Pure	7	1	—	—	7	1
Step-rate	204	22	16	6	188	30
Integrated at social security tax base breakpoint	108	12	8	3	100	16
Integrated at specified dollar breakpoint	96	10	8	3	88	14
Without integrated formula	393	43	239	85	154	24

NOTE: Because of rounding, sums of individual items may not equal totals. Dashes indicate no plans in the category.

grated formulas were found in 76 percent of the nonunion plans in the 1981 study, compared with 15 percent of the union-management plans. (See table 2.) This contrast helps explain the patterns shown in table 1. Career and terminal earnings formulas—which generally are integrated—typically are found in nonunion plans. On the other hand, bargained plans—which generally exclude integration provisions—most commonly contain dollar amount formulas.

The proportion of union-management plans in 1981 with integration formulas is markedly below that recorded in two earlier BLS analyses.¹⁰ A study of 300 pension plans under collective bargaining in late 1952 found offset provisions in 140 of the plans. A second study, of 300 bargained plans in effect in the fall of 1959, found integration provisions in 120 of the plans—79 integrated by the offset method and 43 by excess formulas (2 plans used both offset and excess formulas). Although differences in survey scope and method preclude precise comparison among the three studies, the data clearly indicate that integration is less common in union-management pension plans today than 30 years ago.

Integration provisions in early bargained plans—mainly offset formulas—partly mirrored union efforts to encourage employer support for expanded social security benefits.¹¹ More recently, union-management plans have tended to drop integration provisions as social security benefits improved.

Impact of Internal Revenue Service rules. Income tax considerations greatly affect the way private pension plans integrate with social security. Since passage of the Revenue Act of 1942, Federal tax breaks have been denied to pension plans which discriminate in favor of officers, shareholders, supervisory, or other highly paid employees with respect to coverage, benefits, or contributions. Integrated private plans can qualify for tax advantages as long as combined pension and social security replacement rates are no higher for employees earning more than the social security taxable wage

base than for lower earning individuals.

Internal Revenue Service rules take account of the variations in pension plan integration. Under current rules, an offset plan can reduce benefits up to 83⅓ percent of primary social security benefits payable at the time of retirement (the amount of the retiree's offset cannot be changed because of subsequent social security benefit adjustments). IRS rules with respect to step-rate excess plans prescribe maximum spreads between percentages applicable to earnings above and to those below the integration level.¹²

Integration formulas and replacement rates

The wide variety of integration formulas in pension plans makes it difficult to summarize their effects on retirement income. A common approach focuses on a limited number of hypothetical offset and excess plans drawn up to illustrate typical integration formulas; pensions are calculated for workers at different earnings levels retiring under each of these plans.

An alternative approach is to calculate benefits for a representative sample of actual pension plans. This alternative approach is possible here because of the availability of the detailed provisions of individual pension plans. Subsamples were taken of the integrated pension plans found in the 1981 BLS study of employee benefit plans—to obtain reasonable balance, every fifth offset plan and every third step-rate excess plan was selected. For each of these plans, pension benefits were calculated for two workers retiring at the beginning of 1981 after 30 years of service, and with final earnings of \$20,000 and \$30,000.

Considering the small samples (54 offset and 66 step-rate excess plans), it is not possible to present useful information on levels of pension benefits. However, the pattern of replacement rates by earnings level is instructive. (See table 3.) Both under the offset and excess plans analyzed, the higher paid employee, on average, received a greater private

Table 3. Average replacement rates for employees retiring in 1981 after 30 years of service under a sample of integrated private pension plans in medium and large firms

Benefit ¹	Earnings in 1980	
	\$20,000	\$30,000
Offset plans:		
Private pension benefit	25.9	30.0
Private pension plus social security	65.3	57.0
Excess plans, step rate:		
Integrated at dollar breakpoint:		
Private pension benefit	24.5	26.3
Private pension plus social security	63.9	53.4
Integrated at social security tax base:		
Private pension benefit	27.2	28.3
Private pension plus social security	66.5	55.3

¹Benefits resulting from integration were calculated for a random sample of one-fifth of the offset plans found in the 1981 BLS survey of employee benefit plans and one-third of the step-rate excess plans. These ratios were selected to obtain a reasonable balance between the two types of plans, considering the resources available for this analysis. Social security benefits included in the calculations are those shown in the text table on page 17.

pension as a percent of preretirement earnings. Nevertheless, in all three cases in table 3, this result was more than countered by the effects of the social security benefit formula. On average, combined replacement rates for \$20,000 workers were 8 percentage points or more higher than for \$30,000 workers.¹³

Provisions for early retirement

Our analysis is primarily concerned with integration of social security and private benefits for workers retiring at their pension plans' normal retirement age (most commonly, age 65). However, nearly all (98 percent) of the participants in the private pension plans covered by the 1981 survey could retire early with reduced benefits (typically under age

62, the earliest age for receipt of social security pensions).¹⁴

One-fifth of the offset plans directly reduced the effect of the offset for early retirees. A group of 33 plans delayed imposition of the social security offset for early retirees until age 62 or—occasionally—age 65. In effect, those plans provided a supplemental pension until commencement of social security benefits. An additional 30 plans did not delay the offset for early retirees, but lessened its size permanently.

The remaining offset plans did not contain such provisions. Their benefits were calculated using the normal retirement formula, then were reduced by the prescribed offset formula using a projected social security benefit for retirement at age 65, and then were reduced again for early receipt of benefits.¹⁵ □

FOOTNOTES

¹An additional 10 percent of the full-time workers in the private sector were employed by firms with retirement plans, but were excluded from participation primarily because they failed to meet age or service eligibility requirements or both. See *Patterns of Worker Coverage by Private Pension Plans* (U.S. Department of Labor, Labor-Management Services Administration, Pension and Welfare Benefit Programs, 1980), pp. iii, v. This report is based on data collected in the Current Population Survey, conducted by the Bureau of the Census.

²The concepts of implicit and explicit coordination of private and public benefits are developed in Dan M. McGill, *Fundamentals of Private Pensions*, 4th ed. (Homewood, Ill., Richard D. Irwin, Inc., 1979), p. 177.

³In 1981, both workers and employers paid a 6.65-percent levy (5.35 percent for social security and 1.3 percent for health insurance) on the first \$29,700 of covered earnings (the taxable wage base). Some analysts contend that part of the employer payroll tax may be shifted back onto workers in the form of reduced wages. See Daniel S. Hamermesh, "New Estimates of the Incidence of the Payroll Tax," *Southern Economic Journal*, April 1979, pp. 1208-19.

⁴For an analysis of these issues, together with a review of recent proposals for changes in regulations governing pension plan integration, see James H. Schulz and Thomas D. Leavitt, *Pension Integration: Concepts, Issues and Proposals* (Washington, Employee Benefit Research Institute, 1983), pp. 37-65.

⁵These surveys are conducted in private sector establishments in the United States, excluding Alaska and Hawaii, employing at least 50, 100, or 250 workers, depending on the industry. Industry 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 sample selected for the 1981 survey included 1,505 establishments, designed to provide representative data for the 21.5 million employees in 43,325 establishments within the scope of the study. Major findings of the 1981 survey are reported in *Employee Benefits in Medium and Large Firms, 1981*, Bulletin 2140 (Bureau of Labor Statistics, 1982). For additional information on 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.

⁶For more detailed illustrations of the effects of offset formulas on replacement rates, see Ray Schmitt, *Integrated Pension Plans: An Analysis of Earnings Replacement* (Washington, Congressional Research Service, The Library of Congress, 1981).

⁷Typically, plans specified a percent-per-year-of-service offset, either uncapped or with a maximum offset. Eight of the plans, however, contained a flat percentage offset—commonly 50 percent—but reduced it for each year of service less than a specified number—often 30 years. The effect was a capped offset varying with length of service.

⁸When considering these averages, keep in mind that they were computed for a group of plans employing both different definitions of the

integration level and a variety of pension calculation formulas—for example, percent of career average annual earnings, percent of earnings in each year worked, and percent of annual earnings in the highest 3 or 5 earnings years. The percentage adopted in a given plan is likely to be influenced by the type of benefit formula selected. A more intensive analysis than is possible here would provide separate averages and spreads for each type of pension formula. Furthermore, in calculating averages, flat percent benefit formulas were prorated to obtain percent-per-year benefits.

⁹Data in this article are influenced by the restriction of the Bureau's employee benefits plan survey to medium and large firms. It is likely that a greater percentage of smaller plans are integrated than larger plans. In particular, the limited incidence of pure excess plans indicated by table 1 may stem from the survey's exclusion of small plans. On the other hand, defined benefit plans are more frequently integrated than defined contribution plans, which were excluded from this analysis. For a review of earlier studies of integration practices, see Schulz and Leavitt, *Pension Integration*, pp. 24-35.

¹⁰*Pension Plans Under Collective Bargaining*, Bulletin 1147 (Bureau of Labor Statistics, 1953), p. 20; *Pension Plans Under Collective Bargaining*, Bulletin 1284 (Bureau of Labor Statistics, 1961), p. 7.

¹¹See Harry Becker, "Labor's Approach to the Retirement Problem," in *Proceedings of Second Annual Meeting, New York City, December 29-30, 1949* (Champaign, Ill., Industrial Relations Research Association, 1950), pp. 124-25; and Burton A. Zorn, "Bargaining Over Pensions," in Emanuel Stein, ed., *Proceedings of New York University Third Annual Conference on Labor* (Albany, N.Y., Matthew Bender & Co., 1950), p. 104.

¹²For a detailed treatment of IRS rules, see McGill, *Fundamentals of Private Pensions*, pp. 177-200. The Tax Equity and Fiscal Responsibility Act of 1982 contained provisions affecting integration. For defined contribution plans, effective in 1984, the maximum spread between contribution rates above and below the taxable base may not exceed the social security tax rate levied on employers. Tax Equity and Fiscal Responsibility Act restrictions also apply to "top-heavy" plans—those providing more than a specified percentage of total benefits to "key" employees; beginning in 1984, these plans must provide minimum nonintegrated benefits or contributions for nonkey employees. See Schulz and Leavitt, *Pension Integration*, pp. 60-61.

¹³An interesting question concerns the extent to which designers of integrated pension plans adopt the maximum percentage spreads and offsets allowed by Internal Revenue Service rules. The complexity, both of the rules and the pension formulas, prevented analysis of this point with the resources available for this study.

¹⁴*Employee Benefits in Medium and Large Firms*, p. 33.

¹⁵Nonintegrated pension plans may include supplementary benefits for workers retiring early and not yet eligible for social security pensions. A Bureau analysis of these supplementary benefits is currently in progress.

Recessionary impacts on the unemployment of men and women

Both sexes had higher levels of unemployment in 1982 than in 1975, but the interyear difference was far greater for men; changes in the industrial mix of the labor force tending to reduce unemployment were overwhelmed by cyclical increases in unemployment in specific industries and in the number of new jobseekers

SIGURD R. NILSEN

In 1982, the annual average unemployment rate for men was 9.9 percent and the rate for women was 9.4 percent.¹ (See table 1.) This was the first time since 1947 that the men's unemployment rate exceeded that for women. This article seeks to explain this reversal by discussing the factors behind the differing impacts of the 1973-75 and 1981-82 recessions, on men and women. The factors contributing to the unemployment change are estimated and their magnitudes compared to determine the source of the sex differences. In addition, sex differences in unemployment change between metropolitan and nonmetropolitan areas² are compared because economic opportunities for women in nonmetropolitan areas have historically differed from those of their metropolitan counterparts. Several analyses have attributed these differences to slack labor demand for women in other than metropolitan areas.³

The basic hypothesis is that changes in the industry composition of the labor force and differences in the sectors affected by the 1980-82 recessionary period as compared with the 1973-75 recession have contributed to the significant rise in the unemployment rate for men and the reversed relative position of men's and women's unemployment rates.⁴ Changes in the industry-specific unemployment rates of women relative to men, reflecting, among other things,

changes in the commitment of women to the labor force, are also expected to have contributed to the reversal of the rates.⁵ Finally, it is hypothesized that sex differences in the sources of unemployment change will be similar for metropolitan and nonmetropolitan areas, reflecting a continued convergence in labor force characteristics of the two types of areas.⁶

Unemployment changes of men and women

When comparing the year 1975 to 1982, we find that the women's labor force increased nearly 30 percent and that of men grew by only 12 percent. (See table 2.) The period 1975 to 1982 saw a recovery from the 1973-75 recession and entry into a sustained period of recession beginning in 1980 and ending in 1982. The number of unemployed women in 1982 was 31 percent greater than the 1975 level. This was commensurate with the increase in the women's labor force and resulted in an increase in the unemployment rate for women of only 0.1 percentage point above the 1975 level. During the same period, the unemployment of men increased by 41 percent, more than 3 times their rate of labor force increase. As a result, their unemployment rate in 1982 was a full 2 percentage points above the 1975 level and 0.5 points above the 1982 rate for women.

The trends for women in metropolitan and nonmetropolitan areas were similar; however, those for men were significantly different between the two types of areas. The

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Table 1. Annual average unemployment rates by residence and sex, 1973, 1975, 1979, and 1982
[In percent]

Residence and sex	1973	1975	1979	1982
United States, Total	4.9	8.5	5.8	9.7
Men	4.1	7.9	5.1	9.9
Women	6.0	9.3	6.8	9.4
Metro areas, Total	5.1	8.7	5.8	9.5
Men	4.4	8.3	5.2	9.8
Women	6.3	9.2	6.7	9.2
Nonmetro areas, Total	4.4	8.0	5.7	10.1
Men	3.6	6.9	4.8	10.1
Women	5.7	9.6	7.0	10.0

unemployment of nonmetro men increased by 64 percent between 1975 and 1982, while in metro areas the increase was a comparatively modest 32 percent. (See table 2.) Thus, while the rate of growth in unemployment for metro men was about 2-1/2 times the rate of their increase in the labor force, the unemployment of nonmetro men rose at a rate 5 times their rate of labor force growth. The resultant increase in the unemployment rate for men in nonmetropolitan areas contributed to the closing of the gap between the rates of unemployment for men and women. This gap had traditionally been much greater in nonmetropolitan areas compared with metropolitan areas.

During 1973-75, the U.S. male unemployment rate increased by 3.8 percentage points from the 1973 prerecession level. (See table 1.) During the same period, the unemployment rate for women increased by 3.3 points. The female rate peaked at 9.3 percent in 1975, 1.4 points above the male rate. Because the prerecession unemployment rate for women was about 2 points above the rate for men, the greater recessionary effect for men reduced the male-female gap by only 0.5 points.

During the 1980-82 recessionary period, the unemployment rate for men increased by 4.8 percentage points above the 1979 level. For women, the unemployment rate rose by

2.6 points, 2.2 points less than the increase for men. This not only closed the male-female gap in unemployment rates, but pushed the male rate above the female rate for the first time since 1947. Similar trends occurred in both metropolitan and nonmetropolitan areas.

Decomposing the change in unemployment

The change in unemployment for men and women from 1975 to 1982 was decomposed into four components to determine why male unemployment increased more than female unemployment during 1980-82.⁷

Conceptually, the procedure used to determine the sources of unemployment change begins by taking the 1975 employment conditions and labor force characteristics as given. These conditions include the size of the labor force, the number of unemployed persons, and the industry distribution of the labor force and of the unemployed. Then, one at a time, in a sequential manner, the changes which have occurred in the labor force are updated to the 1982 conditions. At each stage, the change in joblessness is estimated. This procedure provides an estimate of the impact on the number unemployed of each type of change in the labor force.

Four sources of unemployment change are identified. They are changes in: (1) the size of the labor force, (2) the industry distribution of the labor force, (3) the sex-specific industry unemployment rates, and (4) the number of unemployed new labor force entrants. The first factor is a control for the change in the size of the labor force. The second factor reflects the effect on the number unemployed of structural changes in the industry composition of the labor force. The third and fourth factors are intended to gauge cyclical impacts on unemployment change. A change in one factor estimates an independent effect when the remaining factors are held constant at 1975 levels. By estimating these effects separately by sex, it is possible to determine if men and women have been affected differently by these changes at the national level, then for metropolitan and nonmetropolitan areas.⁸

Table 2. Labor force and unemployment by residence and sex, 1975 and 1982
[In thousands]

Residence and sex	Labor force				Unemployment			
	1975	1982	Change		1975	1982	Change	
			Number	Percent			Number	Percent
United States, Total	92,613	110,204	17,591	19.0	7,830	10,678	2,848	36.4
Men	55,615	62,450	6,835	12.3	4,385	6,180	1,795	40.9
Women	36,997	47,754	10,757	29.1	3,445	4,498	1,053	30.6
Metro, Total	64,227	76,465	12,238	19.1	5,570	7,273	1,703	30.6
Men	38,212	42,995	4,783	12.5	3,180	4,208	1,028	32.3
Women	26,014	33,469	7,455	28.7	2,390	3,065	675	28.2
Nonmetro, Total	28,386	33,740	5,354	18.9	2,260	3,405	1,145	50.7
Men	17,403	19,455	2,053	11.8	1,205	1,972	767	63.7
Women	10,983	14,285	3,302	30.1	1,055	1,433	378	35.8

Sources of unemployment change

Almost 1.8 million more men and 1 million more women were unemployed in 1982 than in 1975. If no structural change had occurred in the labor force between the 2 years, and the impact of the 1980–82 period was similar to that of 1973–75, (that is, industries were affected by the downturn to the same degree) then the only change to occur in the labor force would have been the increase in its size, and the increase in unemployment would have been approximately 1.5 million persons. This describes the factor 1 effect presented in table 3—the difference in unemployment resulting from a change in the size of the labor force. For men, the rise in unemployment because of factor 1 is 539,000, barely 30 percent of the total increase in male unemployment. For women, the unemployment increase is more than 1 million, which is 95 percent of their total increase in unemployment. What this means is that more than 70 percent of the total increase in the unemployment of men in 1982 above 1975 is because of other factors—changes in: the distribution of the labor force among industries, industry unemployment rates, and the ability of new labor force entrants to obtain work. For women, these factors contribute only 5 percent to the total increase in unemployment in 1982 above the 1975 level.

The increase in unemployment caused by factor 1 was greater for women than for men for two reasons. First, the women's labor force growth was both proportionately and absolutely greater than men's (an increase of 10.6 million for women compared with 6.8 million for men). Second, the unemployment rates used in step 1 are the 1975 rates. In that year, the rate for women was 9.3 percent, 1.4 points greater than that for men. Use of these rates in the calculations results in a much greater increase in the number of unemployed women.

The distribution of the labor force among industries changed as a result of developments in the economy as a whole, in the structure of the demand for goods and services, and in the competitive position of domestically produced goods relative to foreign goods. The manufacturing sector experienced a substantial loss in its share of the labor force, and was characterized by high unemployment rates, particularly during recessions. The "other services" industries have been the largest gainers in their share of the labor force and tend to have low unemployment rates, even during recessions.⁹

Thus, factor 2, changes in unemployment resulting from changes in the industry composition of the labor force, had a net negative effect on unemployment over the period. That is, its effect was to reduce joblessness as the structure of the economy continued to shift from manufacturing to a services orientation.

For men, the decrease in unemployment attributable to factor 2 is 13,000, compared with 42,000 for women. (See table 3.) While women accounted for only 43 percent of

Table 3. Unemployment change by source, 1975–82

[In thousands]

Factor	Total United States		Metro		Nonmetro	
	Men	Women	Men	Women	Men	Women
Total	1,794	1,054	1,028	675	767	378
1—Change in size of labor force	539	1,002	398	685	142	317
2—Change in industry distribution	-13	-42	-3	-33	-9	-25
3—Change in industry unemployment rates	1,119	44	548	-6	572	64
4—Change in unemployed new entrants	149	50	85	29	62	22

the labor force in 1982, their reduction in unemployment because of shifts in the industry composition of the labor force was three times that for men. The disproportionately large decrease for women did not result from a greater shift away from the manufacturing sector for women than for men. (See table 4.) Rather, it was due to the much greater difference in female unemployment rates between the manufacturing sector and the "other services" industries as compared with the difference in male unemployment rates. In 1975, the unemployment rate for women in manufacturing was 15.2 percent, while the corresponding rate in other services was only 7.4 percent. Therefore, a net reduction in the unemployment rate of 7.8 points resulted from the shift. For men, the reduction was only 2.2 points because their rate of unemployment in manufacturing was only 9.1 percent, compared with 6.9 percent in other services.

Changes in industry unemployment rates between 1975 and 1982 reflect differences in the industries affected by the recessions. The differences by sex reflect differences in the distribution of the industry effects between men and women. This effect is measured by factor 3. For men, these changes meant more than 1.1 million additional unemployed, the largest single contribution to the increase in the unemployment of men. For women, barely 44,000 were added to the unemployed because of changes in industry unemployment rates. (See table 3.)

The difference in the magnitude of the factor 3 effect between men and women demonstrates an important peculiarity of the 1980–82 recessionary period. While unemployment rates increased from the 1979 prerecessionary levels for both sexes, the increases for women above the 1975 recession levels were relatively small, while those for men were substantial. The data in table 5 indicate that the unemployment rates for women in industries which account for significant portions of the female labor force are still greater than the unemployment rates for men in these industries.¹⁰ However, the differences between the unemployment rates for men and women were much smaller in 1982 than in 1975. Thus, while the effect of the 1980–82 downturns on women was only slightly more severe than that of 1973–75, the effect on men was significantly greater.

Why this occurred is a topic for speculation. While the data used here do not permit causal analysis, several hypotheses are consistent with the findings. Data on the increases in labor force participation rates for women indicate that they no longer leave the labor market as they once did during childbearing and child rearing years.¹¹ Labor force participation rates for women who are married with their spouses present have risen faster than such rates for any other group of workers. Therefore, women are less likely to lose job seniority by interrupting their careers. In some heavily unionized industries, such as manufacturing, this could be particularly significant. Thus, while women still have higher unemployment rates in most industries, the male-female differential has declined.

Factor 4, the change in the number of unemployed new labor force entrants, brought about increases in unemployment of 149,000 for men and 50,000 for women. (See table 3.) This is an indication that the 1980–82 recessionary period was more severe than that of 1973–75 for both sexes. If conditions had been the same in 1982 as in 1975, the number of unemployed new labor force entrants would have increased in proportion to the growth of the labor force, the factor 1 effect. But, because the factor 4 effect is positive, the number of unemployed new labor force entrants must have risen as a proportion of the labor force. The higher level for men of this factor is partially a function of the larger size of their labor force and the very high unemployment rates in some traditionally male-dominated industries such as construction, mining, and durable goods manufacturing.

Metro-nonmetro comparison

The patterns for metropolitan and nonmetropolitan areas followed patterns of sex differences in the sources of unemployment change similar to those of the nation as a whole. (See table 3.) For women, the trends and relative magnitudes

Table 5. Percentage point differences in rates and areas of unemployment between men and women by industry, 1975 and 1982

Industry	Total United States		Metro		Nonmetro	
	1975	1982	1975	1982	1975	1982
Total	1.4	-.5	.9	-.6	2.7	-.1
Wage and salary	.7	-1.2	.3	-1.2	1.8	-1.1
Agriculture	2.1	4.2	-.1	1.9	2.9	6.3
Mining	-.6	-9.7	-3.0	-8.5	.7	-7.1
Construction	-10.3	-6.7	-11.2	-6.2	-8.5	-7.7
Manufacturing	6.1	2.7	5.2	2.3	8.2	3.3
Durable	6.7	2.0	5.2	1.2	10.0	3.9
Nondurable	6.6	4.6	5.7	4.5	8.1	4.9
Transportation	.1	-1.8	-.3	-2.2	1.6	0.0
Wholesale and retail trade	2.7	1.6	2.2	1.1	4.1	2.9
Finance, insurance, and real estate	1.4	.5	1.3	.4	1.7	.8
Private household	-1.8	-1.9	-2.3	2.3	-1.5	-.5
Other services	.5	-1.1	.3	-1.0	2.4	-1.4
Government	.9	.4	1.1	.4	1.0	.2

NOTE: A positive number indicates that the rate for women exceeds the rate for men, a negative number means that the rate for men exceeds that for women.

of each of the sources of unemployment change were nearly identical for metro and nonmetro areas. In contrast, for men, although the trends were similar, the relative effect of the cyclical factors was much greater for nonmetro areas.

Joblessness among metro men increased by about 1 million, of which 635,000 resulted from the combined effect of the two cyclical factors, changes in industry unemployment rates and the change in the number of unemployed new labor force entrants. In nonmetro areas, of the 767,000 additional jobless men, 634,000 resulted from the effect of the two cyclical factors. This greater relative cyclical impact indicates that nonmetro men were more adversely affected by the 1980–82 recessionary period than were metro men. In addition, the recessionary effect was significantly greater for nonmetro men during the 1980–82 period than it was during the 1973–75 recession.

Summary and implications

Both sexes had higher levels of unemployment in 1982 than in 1975, but the difference between the 2 years was much greater for men than for women. This article has presented a procedure for decomposing the change in the number unemployed between the two dates into its component parts, so that structural and cyclical factors could be separated from effects of changes in the size of the labor force. By comparing the differences in the importance of the various factors by sex, it was possible to determine why unemployment for men was much more adversely affected than that for women during the 1980–82 downturns.

Once the increase in unemployment due to growth in the labor force was controlled for, about 1.25 million more men were jobless in 1982 than in 1975, compared with only 52,000 more women. The year-to-year difference for men was largely because of an increase in industry-specific unemployment rates. For women, the 1980–82 recessionary period was only slightly more severe than the earlier period.

Table 4. Percentage point difference in the distribution of the labor force by industry and sex for metro and nonmetro areas, 1982 compared with 1975

Industry	Total United States		Metro		Nonmetro	
	Men	Women	Men	Women	Men	Women
Agriculture	.1	.1	.1	.1	.3	.1
Mining	.4	.2	.3	.3	.7	.1
Construction	.2	.3	.2	.3	.0	.3
Manufacturing	-2.7	-1.7	-2.4	-1.3	-3.5	-2.5
Durable	-1.9	-.3	-1.8	.0	-2.3	-.8
Nondurable	-.8	-1.4	-.7	-1.3	-1.3	-1.8
Transportation	0	.2	-.3	.3	.7	.0
Wholesale and retail trade	.8	.2	.7	-.2	.9	1.1
Finance, insurance, and real estate	.2	1.1	.3	1.2	.0	1.1
Private household	0	-1.2	.0	-1.0	.1	-1.8
Other services	2.7	3.0	3.0	3.0	2.0	3.1
Government	-1.6	-2.2	-1.8	-2.5	-1.0	-1.3

NOTE: A positive number indicates that a sector had a greater share of the labor force in 1982 than in 1975.

Industry groups of Manufacturing, Wholesale and retail trade, Other services, and Government, combined, accounted for 83 percent of the female labor force in 1982. Of these, no single industry group represented less than 15 percent of the total female labor force.

However, comparison of the numbers of unemployed new labor force entrants suggests that the 1980–82 recessionary period was more severe than the earlier one for workers of both sexes.

Going one step further and looking at the distribution of the effects of the 1980–82 recessionary period between metro and nonmetro areas provides an indication of whether the effects were equally distributed geographically. It was shown that nonmetropolitan areas experienced a disproportionately large share of the unemployment increase. Of the net increase in the unemployment of men, nonmetro areas accounted for 50 percent more than their representative share. For women, although the increase in unemployment was relatively small, it was confined to nonmetro areas. Metropolitan women showed a slight decrease in unemployment.

The structural factor, reflecting the effect of the changes in the industry structure of the labor force, acted to reduce

joblessness in 1982. However, the cyclical effects—changes in industry unemployment rates and the change in the number of unemployed new entrants—contributed to significant increases in the unemployment of both sexes. The high unemployment of men in 1982 relative to 1975 results from two factors. First, the industries where men predominate were hit particularly hard during the 1980–82 recessionary period, and second, the distribution of effects between men and women was more evenly spread during 1980–82 than in 1973–75. However, in most industry groups, women's unemployment rates still exceed those of men.

When comparing the recessionary periods, one finds that the effects of the most recent downturns were more evenly distributed between men and women. However, this more equal distribution of effects meant that men were much more severely affected by the 1980–82 episodes than by the earlier recession. □

—FOOTNOTES—

¹ Annual average data obtained from the Current Population Survey are used throughout this analysis. Annual averages are used because no seasonally adjusted data series exists with a metropolitan, nonmetropolitan breakdown.

² Metropolitan counties are Standard Metropolitan Statistical Areas (SMSA's) as designated by the Office of Management and Budget in 1973, after the 1970 census data had become available. Except in New England, an SMSA is a county or group of contiguous counties that contains at least one city of 50,000 inhabitants or more, or twin cities with a combined population of at least 50,000. In addition, contiguous counties are included in an SMSA if, according to certain criteria, they are socially and economically integrated with the central city. The population living outside of SMSA's constitutes the nonmetro population.

³ David L. Brown and Jeanne M. O'Leary, *Labor Force Activity of Women in Metropolitan and Nonmetropolitan America*, Rural Development Research Report 15 (Washington, U.S. Department of Agriculture, September 1979); Lillian Chenoweth and Elizabeth Maret-Havens, "Women's labor force participation—a look at some residential patterns," *Monthly Labor Review*, March 1978, pp. 38–41.

⁴ Norman Bowers, "Have employment patterns in recessions changed?" *Monthly Labor Review*, February 1981, pp. 15–28, suggests that changes in the industry mix of the labor force has moderated recessionary impacts in the post World War II period.

⁵ Karl E. Taeuber, "Demographic Trends Affecting the Future Labor Force," *Demographic Trends and Full Employment*, Special Report 12 (National Commission for Manpower Policy, December 1976), discusses some of the changes in women's labor force behavior and the impact on employment trends. Also Valerie Kincade Oppenheimer, *Work and the Family: A Study in Social Demography* (New York, Academic Press, 1982), concludes that women's employment patterns are becoming more continuous, rather than a stable pattern of intermittent labor force participation.

⁶ James D. Schaub, *The Nonmetro Labor Force in the Seventies*, Rural Development Research Report 33 (Washington, U.S. Department of Agriculture, November 1981).

⁷ The years 1975 and 1982 were selected for comparison because they represent similar points on an economic cycle. Both years contain the official trough of a recession. The 1975 trough occurred in March following the peak of November 1973. The 1982 trough occurred in November. The beginning of that cycle was in July 1981; however, another cycle immediately preceded it. The earlier cycle began in January 1980 and hit bottom in July 1980. These two cycles have been combined and are referred to as the 1980–82 recessionary period because no recovery from the first recession was evident, particularly in employment, before the latter cycle began.

⁸ The sum of the four factors will equal the total change in unemployment.

⁹ "Other services" industries includes business and repair services, personal services, entertainment and recreation services, and professional and related services.

Michael A. Urquhart, "The service industry: is it recession proof?" *Monthly Labor Review*, October 1981, pp. 12–18, discusses why the services are less affected by recessions and; Michael A. Urquhart and Marilyn A. Hewson, "Unemployment continued to rise in 1982 as recession deepened," *Monthly Labor Review*, February 1983, pp. 3–12, presents a new view of the effect of the 1980–82 period on the manufacturing sector.

¹⁰ The other services sector is the only industry with a significant proportion of the female labor force where the unemployment rate for women was less than the rate for men in 1982.

¹¹ Howard N. Fullerton, "How accurate were projections of the 1980 labor force?" *Monthly Labor Review*, July 1982, pp. 15–21, Allyson Sherman Grossman, "More than half of all children have working mothers," *Monthly Labor Review*, February 1982, pp. 41–43; and Taeuber, "Demographic Trends," present findings on different aspects of the changed behavior of women in the labor market and the implications of these changes for the rate of increase of the women's labor force.

In addition, it should be noted that although the rate of increase in the labor force participation rate for women has slowed, the rate is still increasing, while the labor force participation rate for men is continuing a decline which began around 1950.

Industrial democracy: made in the U.S.A.

*Labor-management cooperation to improve
the quality of products, worklife,
and the effectiveness of companies
can be traced to the early 19th century*

HENRY P. GUZDA

According to industrial relations expert Milton Derber, participatory management programs, shop committee plans, works councils, and similar employer-employee cooperative efforts can be classified as "industrial democracy."¹ There was a proliferation of such programs in the 1970's, spawning a plethora of books, articles, and pamphlets which dissected the concepts and drew philosophical guidelines for their implementation and expected results. Some publications cite these experiments as unique or novel, but, as Sanford Jacoby of the University of California at Los Angeles management school noted, the common presumption that these are new solutions to lagging productivity is wrong.² "The hand of the past," said historian Richard B. Morris, "is still writ large in . . . the labor relations of this country, and the early concepts and procedures often forecast the shape of things to come."³

Assuming that quality-of-worklife programs have two common threads, the quality of employees' work experiences and the improvement of organizational effectiveness, one finds the roots of industrial democracy in the United States, not in Germany or Japan, with certain appendages of the idea grafted from Great Britain.⁴

'Mutual dependency'

The British mercantile system restricted manufacturing in the American colonies but that did not completely suffocate industrial experiences. In two early 18th century man-

ufacturing enterprises run by the Moravian religious order at Wachovia, N.C., and Bethlehem, Pa., groups of journeymen often cooperated with master craftsmen, suggesting improvements in product quality and proposing methods for increased output. These efforts, stated historian Carl Bridenbaugh, "were conducted on a wage earning economy; they were not communistic." It may have been the first American experiment in participatory management.⁵

But the true antecedents of our modern system of labor relations were formed in the 19th century, coinciding with rapid industrial growth. At one time, class distinctions between employers and journeymen were vague and ill-defined—most masters graduated from working ranks—until rapidly expanding economies of scale soon drew definable, if not bold, lines. An early report of the Department of the Interior claimed that by 1832 a distinction had arisen between "work-people" and employers.⁶ John Commons, the dean of labor historians, focused on 1837 as the beginning of adversarial labor-management relations but noted that more than 200 strikes had occurred between 1820 and 1837.

Paradoxically, the period between 1820 and 1840 was marked by the "ascendancy of the common man," in the words of the French writer Alexis de Tocqueville. Developing political institutions tried to gain working-class support by emphasizing that workers and employers had a mutual dependency. The philosophical forebears of both the Republican and Democratic parties agreed on the concept of mutual dependency but disagreed on the means to achieve it.

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Philosophical mutual dependency developed because of declining economic conditions. Cheaper, inferior goods imported from Europe captured portions of the American market, adversely affecting both workers and domestic manufacturers. This, at times, created a common bond between highly skilled workers and their employers.

Among the woodworking trades, this mutual dependency led to the creation of the first labor-management committees. In 1828, a joint committee of employers and journeymen cabinet and chairmakers in Philadelphia published a list of prices so that each group "may become thoroughly acquainted with the principles upon which work is founded. . . ." The price book prescribed standards for quality work and furnished diagrams of the finished product. The joint committee concluded, "Two classes of men are each, in their several capacities, essential requisite to the well being of the other."⁷

Although not common, such cooperative efforts were not unique. A committee of seven journeymen and seven employers in the Cincinnati chairmaking industry also worked out price and standards lists. A similar price list "to promote uniform justice between carpenters and employers" was in effect in Washington, D.C., during the late 1820's. Other Washington area building trades unions compiled price lists in advance and submitted them to employers in an early collective bargaining procedure.⁸

In 1837, the Nation experienced one of the first economic depressions of its young history, temporarily derailing the progress of labor-management cooperation. The union movement had grown despite developing employer resistance, but the depression virtually destroyed it. As historians note, the growth of the factory system, although originally idyllic in Lowell and Waltham, Mass., evolved into a system of severe competition intent on reducing costs and increasing profits. This nurtured the ills of child and female labor exploitation, paternalism, company stores, hazards in the workplace, and labor-management conflict.⁹

Production cooperation

Between 1840 and 1860, the philosophies of employers and employees polarized. Many mill, mine, and factory owners extended social and economic distances by appearing to treat working people as chattel, paying the lowest wages possible, and blaming working class miseries on a lack of initiative. Among the alternatives to such a philosophy was worker control over the means of production, referred to as the cooperative movement or production cooperation.

Although it had converts in the United States, the cooperative movement developed on a broader scale in England. One of the most celebrated experiences, and the one most cited by historians, was in the town of Rochdale. In the so-called Rochdale Experiment, working class shareholders in jointly owned enterprises received fixed dividends on invested capital. Excess profits were reinvested in new

ventures such as insurance companies, foundries, factories, and so forth. The objectives of this experiment were to: (1) manufacture articles the society deemed necessary to provide employment to members; (2) provide quality products for distribution in growing markets; and (3) promote a philosophy that working people were not inferior.¹⁰

Production cooperation spread throughout Great Britain. By 1865, Parliament had legalized "industrial partnerships" among workers and cooperative enterprises had sprouted in Scotland, Wales, and Ireland. Guild Socialists adopted the concept and promoted it well into the 1940's.¹¹

Some workers in the United States established manufacturing cooperatives well before the Rochdale experiment. (New York Cordwainers had one as early as 1835 and several cooperative foundries were established in the early 1840's.) One of the most significant American labor leaders to embrace the tenets of the British experiment was William Sylvis, president of the Iron Molders Union and founder of the National Labor Union (1866-1868). Sylvis advocated the creation of industrial cooperatives so that workers could control the means of production for their own profit.¹²

The cooperative experiments in factory ownership almost exclusively resulted from input by organized labor. The Knights of Labor, for example, established more than 200 cooperatives during the 1880's. Most of these cooperative experiments began out of necessity. For example, when a particular garment manufacturer in Indianapolis relocated his operation in the South to escape unions and be closer to the textile mills of the Southeastern Piedmont region, the Knights purchased the factory. The Martha Washington Cooperative Association, formed by the women members of the local union, elected a managerial staff for the factory and planned to cooperate in the production of high quality goods. However, this experiment apparently failed during the recession of 1893; as historian Mary Beard said, "most of these cooperative enterprises failed for one reason or another."¹³

Shop councils emerge

Following the Civil War, an ever-widening rift between capital and labor alarmed moderates from labor, business, and the public. Violent railroad labor disputes in 1877 destroyed portions of Chicago, Pittsburgh, and several other cities. In 1886, the Chicago Haymarket Square riot outside the struck International Harvester Company intensified that fear. The 1894 Pullman Strike, led by socialist Eugene V. Debs, raised the possibility of class revolution. The Central Labor Union had informed a joint session of Congress as early as 1883 that unless capital-labor relations improved there would be "bloody revolution."¹⁴ To compound matters, some employers believed that workers had little cause for complaint, as exemplified by this testament: "American laborers should be contented and manly in the sphere wherein God has placed them."¹⁵

There was never a scarcity of reformist ideas to solve

capital-labor problems, but some struck familiar chords. In 1885, the well-known reformer, Washington Gladden, wrote that the future of such relations would be marked by "the principle of cooperation."¹⁶ In 1889, economist Richard Ely called for the creation of "worker councils."¹⁷ But, in 1886, J. C. Bayles, editor of *Iron Age* magazine, had devised a highly publicized plan calling for a return to the cooperation that had existed between masters and journeymen in the early years of the Republic.¹⁸ He developed a model for electing shop workers' representatives to an industry- or plant-wide problem-solving body of managers and employees. Calling the representatives "shop councils," Bayles clearly specified that these entities were not to be new forms of arbitration or collective bargaining, but a means of real labor-management cooperation.

The first practical application of Bayles' "shop council" concept to improve product quality and output was in the industrial heartland of Pennsylvania. In 1904, the Nernst Lamp Co. of Pittsburgh established a representative shop council of workers and managers. The company, with a poor quality product, had been threatened by bankruptcy until implementation of shop council suggestions improved marketing techniques and product quality, resulting in an 800-percent sales increase in only 18 months.¹⁹

The success of the Pittsburgh company spawned a similar experiment in Philadelphia. The Nelson Valve Co. established a plan of shop committee representation with an industrial congress composed of a senate for managers and a house for workers. Each body debated issues to improve product quality and working conditions separately before presenting them at joint sessions, with all results forwarded to the plant superintendent. Although the employees and foremen at both Pennsylvania plants liked the concept, changes in ownership eventually terminated the programs.²⁰

Holbrook J. Porter, an industrial relations manager, was the architect of both Pennsylvania plans. As superintendent of the physical plant at Columbia University in the 1880's, Porter had instituted weekly meetings with his janitors and maintenance men to get their opinions and suggestions on improving operations. When the owners of the two Pennsylvania companies asked Porter to help them overcome financial difficulties, he adapted Bayles' theories to his own to set up the respective representation plans.²¹

The success of Porter's theories fostered a proliferation of employee representation plans. In 1911, the progressive garment manufacturer, Hart, Schaffner, and Marx, established probably the best known (and sometimes cited erroneously as the first) industrial democracy program. Two years later, the Packard Piano Co. implemented a "works plan of industrial representation." The Printz-Biederman Co. and the White Motor Co., both in Cleveland, introduced "departmental shop committee representation plans" in 1914. Between 1911 and 1917, more than 100 companies introduced employee representation plans.²²

"Capital cannot move a wheel without labor, nor can

labor advance beyond a more primitive existence without capital," said John D. Rockefeller, while inaugurating one of the most controversial industrial democracy programs in U.S. history. In 1914, an intense strike had crippled operations at Rockefeller's Colorado Fuel and Iron Co. mines. The strike degenerated into open industrial violence resulting in the deaths of two women and several children, and touching off a national outrage.

Rockefeller, described by historians as a dedicated "welfare capitalist," wanted to make amends and restore peace. He blamed "outside agitators" from the United Mine Workers for all problems and, in 1915, implemented an employee representation plan to give workers a voice in operations without having to deal with organized labor. The Colorado Fuel & Iron plan permeated every facet of life in the company town, including social and recreational concerns. Organized labor complained that this was not industrial democracy but "paternalism" and "company unionism." Many employers, however, praised Rockefeller for setting a progressive precedent in labor-management relations. The controversy over this kind of plan had even greater impact following World War I.²³

Government steps in

Following the U.S. entry into World War I, President Woodrow Wilson's administration sought to prevent work stoppages in vital war production and related industries. Among the many ideas proposed was one calling for the creation of plant-level advisory committees of employees and managers to study and suggest ways of improving production outlays while maintaining industrial peace. Secretary of Labor William B. Wilson ardently promoted the plan, believing that the spirit of cooperation between labor and management would transcend the war and continue into peacetime. Largely through his efforts, government-sponsored labor adjustment agencies such as the Fuel Adjustment Agency, Shipbuilding Labor Adjustment Board, and National War Labor Board created employee representation plans for their jurisdictions.²⁴

The benchmark for all war agencies was the labor board. A tripartite, quasi-judicial body of labor, management, and public representatives, the board, with jurisdiction over the majority of plants and factories involved in war production, promoted industrial equity to prevent strikes and increase productivity. It experimented with many progressive ideas, including maintaining "living wage standards," mandating overtime compensation, maintaining safety and health standards, and prohibiting discrimination in pay and employment because of race, creed, sex, or union affiliation.²⁵

The War Labor Board also ordered industrialists to create "shop council" plans for their factories. The first were at the General Electric plant in Pittsfield, Mass., and the Bethlehem Steel works in Pennsylvania. The board issued administrative guidelines for the implementation of "shop councils" and ordered their creation in 88 major plants.

This gave workers, most for the first time, a definite voice in management. Following this example, the shipbuilding board ordered the creation of 31 councils and by the end of the war, Government boards had created more than 225 shop councils. Private firms sometimes voluntarily created employee representation plans, and one Labor Department official remarked, "There was a deluge of works councils."²⁶

Whether called the "Bridgeport Plan," "General Electric Plan," or "Proctor & Gamble Employees Conference Plan," all works councils, shop committees, and employee representation plans were basically the same. Commissioner of Labor Statistics, Royal Meeker, commented that there was a "monotonous sameness" about these plans. They consisted of a representative body of employees, chosen from a variety of work stations (departments, floors, shops, and so forth), who met separately before meeting with managers or sat in joint session with them. These industrial congresses discussed and debated a wide range of topics, particularly: labor turnover and productivity; living and working conditions; terms of employment; and social and recreational needs of employees.²⁷

In most cases, the employee representation plans set up by Government order were used to full advantage by organized labor. Although officially operating under the "open shop" principle, these plans soon became avenues for organized labor to meet with employers on an equitable level. When the Federal Government seized the railway lines in 1917, the Director General of the U.S. Railroad Administration, William Gibbs McAdoo, faced a maze of problems including low productivity and manpower shortages. In 1918, he issued two general orders directing the managers on all lines to establish committees of employers and employees to discuss and try to solve problems. W.S. Carter, former president of the Brotherhood of Locomotive Firemen and McAdoo's labor director, stated that these orders gave railroad union labor an aspect of equal participation with railroad officials and, consequently, a strategic position more advanced than any ever before enjoyed by organized workers. However, many railroad officials did not like sharing managerial decisions, and, once the Government returned the railroads to private ownership in 1920, management either abolished the employee representation plans or converted them into company unions.²⁸

The end of the war affected other labor programs. Employers, generally, wanted a return to prewar normalcy. In many industries, especially those in which Government boards had ordered the creation of worker-manager councils, employers unilaterally disbanded the cooperative plans. Company officials at Bethlehem Steel's main plant abolished the shop council program and refused to honor the collective bargaining agreement negotiated with organized labor less than 1 month after the armistice. Another employer admitted that "we would not have started the employees' committee had we not been forced to do so."²⁹

A determined Wilson administration tried to reverse the trend back toward prewar conditions. The National War Labor Board ruled that employees and employers had to continue to comply with the wartime orders because the emergency period existed even after the armistice. President Wilson supported the board's orders in a proclamation of December 2, 1918. Board Cochairmen William H. Taft and Basil Manley wrote to Bethlehem Steel President Eugene Grace, "This is a question of the good faith of your company . . . if the award of the board should now be repudiated, your workmen would have every right to feel they had been deceived and grossly imposed upon by your company."³⁰ Yet Bethlehem Steel, General Electric, and a host of other industrial giants rejected such pleas, and the postwar years witnessed the highest incidence of strikes in U.S. history until the years following World War II.

Secretary of Labor Wilson firmly believed in labor-management cooperation. In regard to works councils and similar experiments, he felt that "there were no preconceived ideas and fixed prejudices about the relationships that should exist between employer and employee." Wilson persuaded the President to arrange for two national industrial conferences in 1919, with representatives from labor, management, and the public attending. Intended to promote cooperation, the first conference fell apart when employers totally alienated the labor representatives. The second conference accomplished little more than to illustrate that some employers had found use for employee representation plans.³¹

The 1920's, called the "open shop era," were years when employers sought to reduce the power and influence that organized labor had attained during the war. Many employers enthusiastically adopted employee representation plans based on the paternalistic model of Rockefeller's Colorado Fuel & Iron Company. A union partisan, commenting on the plan set up by the Pennsylvania Railroad, said, "What sort of industrial democracy is that which supervises every action of the men, does not allow them to have department meetings as a rule, and initiates every step taken by them?"³²

Experiments abroad

While the United States struggled with postwar labor relations, Great Britain scored better, especially in regard to industrial democracy. Prior to and during the war, strikes continuously plagued the country, particularly in the crucial munitions, shipyard, and railway industries. This forced Parliament to look for remedies. A subcommittee of the British Cabinet Reconstruction Committee, under the deputy speaker of the House of Commons, John H. Whitley, submitted five separate reports on industrial problems, basically advocating worker representation in the decision-making process of industry. The committee recommended the establishment of joint industrial councils (Whitley Councils) at three levels: factory, district, and total industry. The final report emphasized that workers should have equal standing with employers at all levels.³³

The relationship between Whitley Committee findings and U.S. industrial democracy programs is not clear. Committee members knew about the U.S. programs and considered them in the process of study. Officials from the Bureau of Labor Statistics visited England before U.S. entry into the war (1915–16) to study that country's labor problems, and to exchange ideas with labor ministry officials. In 1919, Secretary Wilson sent a delegation of U.S. employers to monitor the Whitley Councils. Britain, however, had had employee representation plans in effect long before the war, plus the experience of "Rochdale" type cooperatives. Apparently, both nations borrowed from each other.³⁴

Whitley Councils continued through the 1940's, but suffered resentment. One British employer commented, "Whitley Councils are a most expensive luxury with any advantage on one side only, that of labour."³⁵ The more militant trade unions, dedicated to abolishing all private ownership of industry, also opposed labor-management cooperation, although most unions approved and supported the concept. Some of the militants, particularly the railroad engineers, eventually dropped opposition to the councils and established joint committees with employer federations.³⁶

Other nations, excited by the promises of democratic self-determination in Woodrow Wilson's peace plans, adopted works council programs. The Austrian government passed "works councils" legislation in 1919, and the new German government followed a year later. The grand duke of Luxembourg decreed the establishment of works councils in October 1920. In the same year, Sweden enacted a law stating, "works councils shall be instituted in industries with a view of giving workers a greater insight into production. . . ." Even Japan, emerging as a world power after World War I, copied the "works council" concept from the West; its plans, however, were more paternalistic than democratic. In October 1919, the first International Labor Conference of the League of Nations, held in Washington, D.C., and chaired by Secretary Wilson, encouraged the expansion of worker councils in all new democratic nations.³⁷

A need for efficiency

Only a few industrial democracy programs remained in existence in the United States between 1920 and 1930, mostly in the hosiery, textile, railroad, and garment industries. However, many new representation plans appeared to be attempts to circumvent unionism by adopting the format of the Colorado Fuel & Iron plan.

One of the exceptions to the paternalistic plans, and probably the best plan introduced during the period, was at the Baltimore & Ohio Railroad. In 1923, industrial relations manager Otto Beyer and Machinists' Union President William Johnston coauthored a shop committee plan of representation acceptable to B&O President Danial Willard, who used it at the Glenwood Maintenance Plant in the Pittsburgh district—a particularly troublesome site with high labor unrest and low productivity. The committee representatives

did not discuss issues traditionally reserved for collective bargaining, instead limiting themselves to methods to improve work and product quality. Otto Beyer commented, "The men became very active in observing opportunities for improvements, working out practical suggestions and presenting them at their local union meetings . . . for submission to shop management." By 1927, the B&O plan was working so well that management accepted 83 percent of all suggestions.³⁸

In the 1920's, the quest for efficiency made two strange bedfellows: the American Federation of Labor (AFL) and the disciples of Frederick Taylor's scientific method of management. Work-rule changes based on Taylor's time and motion studies had sparked strikes during the war, and organized labor generally held them as anathema. Yet Taylor, before his death in 1915, began to actively solicit the cooperation of labor in the stewardship of efficient production techniques in industry. Taylor's disciples continued to promote cooperation and AFL President Samuel Gompers and his successor, William Green, appeared often as guest speakers before the Taylor Society. In 1927, Green said, "If given the opportunity we will earnestly and sincerely in all efforts promote efficiency in management with the high standard of American workmanship."³⁹

Both American workers and employers needed to promote efficiency as the Nation slumped into the Great Depression of the 1930's. Poor economic conditions forced labor and management to experiment with new ideas. For example, by the late 1930's, when many small steel mills verged on bankruptcy, employers began to cooperate with the Steel Workers' Organizing Committee of the new Congress of Industrial Organizations (CIO) to solve problems. Two pioneers in this drive were Clinton Golden, Pittsburgh area director of the committee, and Joseph Scanlon, open hearth furnace operator, local union president, and father of the Scanlon joint-stock ownership plan. These men had approached several area steel plant superintendents and proposed to improve production, stabilize employment fluctuations, and participate in productivity research through union participation in the managerial process. Several plants in the upper Ohio Valley improved efficiency and attained solvency as a result of adopting the recommendations of labor-management committees.⁴⁰

CIO President Philip Murray fully endorsed the concept. He coauthored a book on the Golden-Scanlon model with Morris Cooke (Frederick Taylor's prize student), setting standards for codetermination of production procedures and administrative policies to increase distribution and output of goods and services.⁴¹ Known as the Murray plan, their concept called for cooperation at both the shop and factory level, and eventually at the "intra and inter industry levels." Murray and Cooke called their representative bodies "Industry Councils" and they would cause considerable controversy during World War II.⁴²

The U.S. entry into the war, as in the previous conflict,

necessitated cooperation from management and labor. Only weeks after the Japanese attack on Pearl Harbor, President Franklin D. Roosevelt created a War Production Board to coordinate industrial output. The director of the board, Donald Nelson, adapted parts of the Murray plan to stimulate production; yet he never fully embraced it.

Nelson inherited basic strategies for his task from two predecessor agencies: the Defense Advisory Committee and Office of Production Management. Sidney Hillman, labor director of both of those agencies between 1940 and 1942, former president of the Amalgamated Clothing Workers, and contributor to the Hart, Schaffner, and Marx plan, advocated the Murray idea for industry. Actually, Hillman favored the "Reuther Corollary" to the Murray plan, which was based on the results of a 1942 study conducted for Murray by Walter Reuther of the United Auto Workers. The "Corollary" called for small groups of autoworkers to devise methods that would efficiently upgrade and retool auto assembly lines to produce airplanes. "If accepted," as one student of industrial democracy noted, "these industry councils proposed by Reuther and Murray guaranteed that management would cooperate with labor in making industrial decisions."⁴³

Donald Nelson, however, knew that employers would not accept such an idea, and called for the creation of voluntary labor-management committees at plant levels as a compromise. Murray and Clinton Golden, vice chairman of the War Production Board, accepted this to prevent employers from abandoning the cooperative production program.

Thus, labor-management committees were formed, but workers did not participate in the decision-making process to any considerable degree, and there were no industrywide councils as proposed by Murray. Internal memoranda of the War Production Board emphasized that "the whole drive may succeed or fail depending on our ability to promote a give and take spirit between labor and management," but employers would not "give" in the area of labor encroachment on managerial prerogatives. Murray, nonetheless, supported the committees, and actually confused matters by claiming that they "were directly in line with our industry council proposals." This alarmed overcautious employers who accused Donald Nelson of "sabotaging" and "sovietizing" industry. Charles Wilson, President of General Motors, candidly stated, "There will be none of this equal voice bunk at GM."⁴⁴

The refusal by many giant industries to fully cooperate set the tone for the overall program. When Theodore Quinn, director of the War Production Board's production drive, pleaded with some industry leaders to cooperate and involve labor in their decision-making process, the Ford Motor Co. responded: "We have not been able to find any examples where labor has run manufacturing plants as well as management."⁴⁵

Yet, there were some success stories in the War Produc-

tion Board's production drive. The Westinghouse Electric Co. in Springfield, Mass., established a quality improvement plan committee in 1942 to reduce rates of waste and scrap which had run as high as 15 percent. The Quality Improvement Committee of three representatives each from labor and management met with committees of foremen and employees from various shops, which submitted suggestions made by small work area subcommittees. Waste levels were reduced by more than 50 percent throughout the plant. Experiments such as this one, however, were rare.⁴⁶

In 1945, the War Production Board estimated that more than 5,000 labor-management committees had been formed. About 2,000 of them existed only on paper, and only one-third of the actual committees had representation plans to solicit suggestions from employees. Only about 500 committees took active roles in production-related issues such as "work quality, material conservation, plant lighting and layout, tool and equipment care, and production. . . ."⁴⁷

Other countries grasp the concept

The post-World War II period mirrored the first postwar period. Employers wanted to return to "normalcy," while workers, beneficiaries of government-induced industrial freedoms during the war, wanted to retain their advanced status. President Harry S. Truman, like Woodrow Wilson, tried to reduce tensions and promote industrial cooperation by calling a National Labor-Management Conference. Many employers at this 1945 meeting concurred with the opinion: "Management members cannot agree to joint management of enterprise. [It] has functions that must not and cannot be compromised."⁴⁸ In the wake of this failed conference, the United States witnessed the most intensive wave of strikes in its history. Although some forms of labor-management cooperation continued, most employee representation programs fell by the wayside.

Philip Murray did not forget. He warned as late as 1951 that "in the future, unless some comprehensive plan is undertaken within industry . . . we may find [foreign nations outproducing us and unemployed Americans walking the street]." His comments focused on European and Asian nations which had grasped the American concept of industrial democracy.⁴⁹

On April 10, 1946, Germany, with a history of prewar codetermination, reintroduced the works council in industry under law No. 22, issued by the American Allied Control Commission. German employers resisted the reintroduction of worker participation into the managerial process, but the Allied command insisted that they cooperate with trade unions on works councils.⁵⁰

The most surprising implementation of industrial democracy was in Japan. Except for a few isolated experiments after World War I, democracy had not been practiced in Japanese industry. Three million unskilled workers lived and toiled under a feudalistic "padrone system." After World War II, General Douglas MacArthur, the Supreme Com-

mander of Allies in the Pacific, imposed industrial democracy on Japan. He stripped the huge industrial trust combine (the *Zaibatsu*) of power for a time, and abrogated all antilabor and anti-civil rights laws by his directive of October 4, 1945.⁵¹

The United States, according to several scholars, took pride in Japanese achievement and developed a sense of responsibility for its direction. Japanese growth, they claimed, stemmed from the U.S. policy and Japan's adoption of newly introduced techniques and methods of production. Several U.S. management experts, most notably William E. Deming, lectured and worked with Japanese public and private leaders on quality control methods—from which came the quality circle program. As one expert noted, "Even Japanese critics of the former political and economic activities of Westerners . . . are keenly alive to and anxious to share in the benefits of Western technology and Western methods of economic organizations." Japan's postwar economic recovery and new production techniques (for example, labor-management cooperation) were products of American social, economic, and military influences.⁵²

In a recent NBC News *White Paper*, "IF JAPAN CAN, WHY CAN'T WE?" it was suggested that copying Japan's methods might not work for U.S. industry. That may or may not be true because of cultural or other differences between the nations, but it does not explain why American ideologies lay dormant here while flourishing abroad. There are many theories, including those stating that economically ravaged

and defeated nations were ripe for experimentation, especially when it was forced upon them.

The United States survived the war in relatively good shape, and industrial production soared after 1946. Trade unions, assisted by favorable New Deal legislation, grew in power to the point that Congress restrained them under the Taft-Hartley Act of 1947 and the Landrum-Griffin Act of 1959. Under these conditions and given the historical relationship between capital and labor, an adversarial, not cooperative, spirit has pervaded U.S. labor relations. And, during recent years, as inexpensive, high-quality manufactured products labeled "made in Japan" captured markets previously the domain of American firms, we looked overseas for answers to our problems of lagging productivity instead of within.

Today, as U.S. firms once again experiment with industrial democracy in the form of quality of worklife programs and similar efforts, our own past warrants a second look. Although most earlier attempts at labor-management cooperation did not endure, they were not necessarily undertaken in vain. One historian has described presidential labor-management committees as "productive failures,"⁵³ perhaps a fitting definition for the majority of participatory management committees in the past. They produced favorable results when they were needed most and only failed when social, economic, or political conditions changed. Industrial democracy does have a place in the American system of labor relations, for it was born here. □

—FOOTNOTES—

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¹Milton Derber, *The American Idea of Industrial Democracy: 1865–1965* (Urbana, University of Illinois Press, 1970), pp. 4–6.

²Sanford Jacoby, "Union Management Cooperation: Past, Present, and Future," Working Paper No. 44 (Los Angeles, UCLA Institute of Industrial Relations, July 1982), p. 1; and Thomas Kochan, Daniel J. B. Mitchell, and Lee Dryer, eds., *Industrial Relations Research in the 1970s: Review & Appraisal* (Madison, Wis., Industrial Relations Research Association, 1982).

³Richard B. Morris, *Government and Labor in Early America* (New York, Columbia University Press, 1946), p. viii.

⁴Robert Chisolm, "Quality of Working Life: Critical Issues for the 80s," *Public Productivity Review*, March 1983, pp. 101–12; and Robert Irving, "Is America Turning It Around in Quality?" *Iron Age*, July 22, 1983, pp. 40–41.

⁵Carl Bridenbaugh, *The Colonial Craftsman* (Chicago, University of Chicago Press, 1950), pp. 27–28, 118.

⁶*Report of Special Agent Carroll Wright on the Factory System in the U.S.* (Bureau of the Census, 1884), pp. 16–20.

⁷*The Philadelphia Cabinet & Chair Makers Union Book of Prices: Established by a Committee of Employers & Journeymen* (Philadelphia, William Stavely, 1828), p. 1a.

⁸*The Bill of Prices of the Chairmakers of Cincinnati: Agreed to by the Journeymen and Employers in Joint Committee, September 6, 1831*; W.Q. Force, *The Builders Guide* (Washington, Peter Force, 1842), p. i–iv.

⁹John R. Commons and Associates, *History of Labour in the United States* (New York, The Macmillan Co., 1918), pp. 381–423; *Radical*

Reformer and Workingman's Advocate, Aug. 29, 1835, p. 2; *Report of Special Agent Carroll Wright on the Factory System in the U.S.* (Bureau of the Census, 1884), pp. 16–20; H.C. Carey, *Essay on the Rate of Wages* (Philadelphia, Carey, Lea & Blanchard, 1835), pp. 88–90; and W. Scoresby, *American Factories & Their Female Operatives* (London, Longman, Brown, Green & Longman, 1845).

¹⁰Arthur Acland and Benjamin Jones, *Workingmen Co-operators* (Manchester, U.K., The Cooperative Union Ltd., 1884), pp. 19–20; and George D. Cole, *A Century of Cooperation* (Manchester, U.K., The Cooperative Union Ltd., 1944), pp. 57–75.

¹¹Acland and Jones, *Workingmen Co-operators*, pp. 28–30; and Cole, *Century of Cooperation*, pp. 57–75.

¹²Jonathan Grossman, *William Sylvius* (New York, Columbia University Press, 1945), pp. 190–91; and *Iron Molders Journal*, March 1868, p. 217.

¹³*By-Laws and Charter of the M.W.C.A., 1887*, in the Terrence V. Powderly Papers, Reel No. 91, Series E, The Catholic University of America.

¹⁴U.S. Senate, Committee on Education and Labor, *Report on the Relations between Capital and Labor*, 48th Cong., 1885, p. 861.

¹⁵Henry Sage, "Address on the Labor Problem in the U.S." (U.S. Department of Labor Library, 1886.)

¹⁶Washington Gladden, *Working People and Their Employers* (New York, Funk & Wagnalls, 1885), pp. 30, 42–44.

¹⁷Richard Ely, *Introduction to Political Economy* (New York, Eaton & Mains, 1889), pp. 236–37.

¹⁸J.C. Bayles, *The Shop Council* (New York, David Williams Pub., 1886), pp. 7–27.

¹⁹H.F.J. Porter, "The Higher Law in the Industrial World," *Engineering Magazine*, August 1905, pp. 641–46; Katherine Glover, "One Shop Steps Toward Industrial Democracy," *Outlook*, Mar. 13, 1909, reprint; National Industrial Conference Board, "Works Councils in the

U.S.," Research Report No. 21, October 1919, pp. 4-7.

²⁰Glover, "Industrial Democracy"; and National Industrial Conference Board, "Works Councils in the U.S.," pp. 4-7.

²¹K.H. Condit, "Solving the Labor Problem," *The American Machinist*, Aug. 14, 1919, pp. 301-03; and National Industrial Conference Board, "Works Councils in the U.S.," pp. 4-7.

²²National Industrial Conference Board, "Works Councils in the U.S.," pp. 4-7.

²³J.D. Rockefeller, "The Colorado Industrial Plan," Address to the Employees of the Colorado Fuel & Iron Co., 1916; *22nd Annual Report of the Colorado Fuel & Iron Co.*, 1916, pp. 4-5; and E.S. Cordick, "Some Results of Cooperation between Management and Men," *Industrial Management*, July 1921, pp. 32-33.

²⁴U.S. Department of Labor, Working Conditions Service, "Address by William Leiserson on Employment Management, Employee Representation, and Industrial Democracy," May 23, 1919.

²⁵"The National War Labor Board," in *Special Publication of the War Labor Policies Board* (U.S. Department of Labor, 1918), pp. 5-8.

²⁶U.S. National War Labor Board, *Permanent Docket, no.'s 19 & 22*, in historical collection, U.S. Department of Labor Library; National War Labor Board, *Procedures for the Election of Shop Councils*, Oct. 4, 1918; and "Works Councils in the United States," *Industrial Management*, December 1919, p. 491.

²⁷Royal Meeker, "Employee Representation in the Management of Industry," unpublished, in U.S. Department of Labor Library Vertical File.

²⁸"Results of Cooperation of Workers and Managers in the Railroad Industry," *Monthly Labor Review*, July 1927, pp. 29-31; Unedited report on *The Efficiency of Railroads Under Federal Control*, pp. 50-75, in William G. McAdoo Papers, subject file: Director General, Box 557, Library of Congress Manuscript Division.

²⁹Paul Douglas, "Shop Committees: Substitute for, or Supplement to, Trade Unions," *Journal of Political Economy*, February 1921, pp. 106-07; and "Works Councils in the United States," *Industrial Management*, p. 491.

³⁰Letter from William H. Taft and Basil Manley to Eugene Grace, Dec. 6, 1918, file 129/3-C, Records of the Secretaries of Labor, National Archives Record Group 174.

³¹William B. Wilson to the War Labor Conference Board, Feb. 25, 1918, in Permanent Docket of NWLB; Woodrow Wilson to William B. Wilson, Nov. 19, 1919; and William B. Wilson to Woodrow Wilson, Nov. 20, 1919, file 13/178, National Archives Record Group 174.

³²Fannia Cohn, "Company Unions and Worker Education," *Labor Age*, October 1926, reprint; and Douglas, "Shop Committees," pp. 106-08.

³³Great Britain, *Interim Report of the Reconstruction Committee on Joint Standing Industrial Councils*; and *Joint Industrial Councils in Great Britain*, Bulletin 225 (Bureau of Labor Statistics, 1919), pp. 12-15, 229-37.

³⁴Alexander Bing, "Work of the Wage Adjustment Boards," *Journal of Political Economy*, June 1919, pp. 429-31; and *Report of the Employers Industrial Commission*, Apr. 1, 1919, file 162/16, National Archives Record Group 174.

³⁵A.E. Smith (General Secretary, National Union of Vehicle Builders) to Jean Flexner, Dec. 13, 1922; (similar documents in Great Britain, Trade Union Documents and Constitutions Relating to Joint Industrial Councils, 1919-1925), U.S. Department of Labor Library.

³⁶*General Letter to Communists, Trade-Unionists, and Co-Operators*, from B. Dubowski, Secretary, Guild of Clothiers, 1922; *Memorandum Agreement between Engineering and National Employers Federation and Amalgamated Engineering Unions* (London), 1922, p. 3; Great Britain, *Summary of Interdepartmental Committee's Report: Application of Whitley Report to Government Industrial Establishments* (confidential) HQ 16/7; and Helen Marot, "Reconstruction at Work," *The Dial*, Oct. 19, 1918, pp. 302-03.

³⁷International Labor Office (ILO), Austria, *Act & Order: Works Councils*, Legislative Series 1919, Austria 9, 10, 19, 20; ILO Germany, *Act: Works Councils*, Legislative Series 1920, Germany 9, 10; ILO Luxembourg, *Decree: Works Councils*, Legislative Series 1920, Lux-1; ILO Norway, *Act: Works Council*, Legislative Series 1920, Nor-1; Ernst Wigforss, "Industrial Democracy in Sweden," *International Labour Review*, May 1924,

pp. 667-79; *The Kanegafuci Spinning Co. Ltd: Its Construction and How it Cares for Its Employees* (Osaka, Sanseisha Ltd., 1919); and *Report on the 1st International Labor Conference of the League of Nations*, October 29 through November 29, 1919, file 167/125, National Archives Record Group 174.

³⁸Otto S. Beyer, "B&O Engine #1003," *The Survey*, Jan. 1924, pp. 311-17; and "Results of Cooperation of Workers and Management in the Railroad Industry," *Monthly Labor Review*, July 1927, pp. 29-31.

³⁹William Green, "Address before the Conference on the Elimination of Waste in Industry," Philadelphia, April 1927, reprint; and *Bulletin of Taylor Society*, June 1927, pp. 407-10.

⁴⁰Theodore Quinn, *The Original Manual for Labor Management Committees* (New York, T.K. Quinn Co., 1945), pp. 5-7; and Sanford Jacoby, "Union Management Cooperation," pp. 22-27.

⁴¹See Philip Murray and Morris Cooke, *Organized Labor and Production* (New York, Harper Brothers, 1940). This monograph traced the origins of labor-management cooperation to the early years of the United States and followed it up to the 1940's specifically citing the contributions made by Whitleyism and Taylorism.

⁴²Jacoby, "Union Management Cooperation," pp. 22-27; and Philip Murray and Morris Cooke, *Organized Labor and Production*, pp. 216, 220-21.

⁴³Sidney Hillman to Donald Nelson, Feb. 16, 1942, file 245. 1c; "Labor Policies of the NDAC & OPM," May 1940-April 1942, file 240.3 R, WPB Records, National Archives Record Group 179; and Jacoby, "Union Management Cooperation," pp. 22-27.

⁴⁴*United Automobile Worker*, Packard Local #190 Edition, April 1942, p. 2a; Archibald MacLeish, Director WPB, Office of Facts & Figures, to Donald Nelson, Feb. 6, 1942, file 245.12 c Donald Nelson, Radio Address of Mar. 2, 1942, file 245.132 b; Phillip Murray and Michael Straus to Donald Nelson, Feb. 6, 1942, file 245.14 c WPB Records, National Archives Record Group 179; Interview by Dorothea Deschweinitz with WPB Information Director Bruce Catton, July 27, 1945, cited in Deschweinitz, *Unpublished History of War Production Board*, 1946, p. 27.

⁴⁵Phillips Garman to W.E. Chalmers, Office of Production Management, "Controversial Situations in the WPB's Production Drive," July 1943, file 245.13; C.E. Wilson to John P. Lewis, Managing Editor, *PM Magazine*, and others, "Protests against Newspaper Publishers," October-November 1942, file 024-61 c; Anthony Luchek to Phillips Garman, "Labor Relations at Ford," July 1943, file 245 c; Henry Ford II to J.A. Krug, June 27, 1945, file 631.10431, National Archives Record Group 179.

⁴⁶War Production Board, War Production Drive Division, *The Labor-Management Production Committee of the Westinghouse Electric and Manufacturing Co. and the United Electrical, Radio, and Machine Workers, CIO, Local No. 202*, July 1944, pp. 22-25.

⁴⁷Frank McElroy and Alexander Moros, "Joint Production Committees," *Monthly Labor Review*, August 1948, pp. 123-26.

⁴⁸U.S. Department of Labor, Division of Labor Standards, *Report of the President's National Labor-Management Conference*, Bulletin 77 (Washington, Government Printing Office, 1946), pp. 56-57.

⁴⁹*Proceedings of the 13th Constitutional Convention*, CIO, New York, Nov. 5-9, 1951, pp. 253-54.

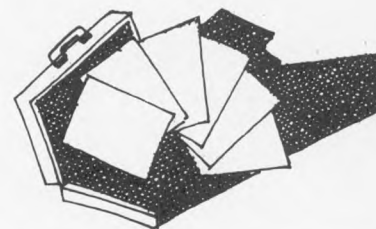
⁵⁰U.S. Zone of Military Government in Germany, Manpower Division, *Labor Relations in Western Germany: Visiting Expert, Report No. 2*, October 1948; and Oscar Weigert, "Labor Relations in the U.S. Zone of Germany," *Monthly Labor Review*, April 1948, pp. 380-85.

⁵¹Chester Hepler, "The Labor Boss System in Japan," *Monthly Labor Review*, January 1949, pp. 47-48; Supreme Commander for Allied Powers and Far Eastern Command, *Selected Data on the Occupation of Japan* (undated), p. 71; and Lawrence Rosinger, "The Occupation of Japan," *Foreign Policy Reports*, May 15, 1947, p. 50.

⁵²William Sebald and C. Nelson Spinks, *Japan: Prospects, Potions, Opportunities* (Washington, American Enterprise Institute, 1967), pp. 26-39; George Munchus, "Employer-Employee Based Quality Circles in Japan: Human Resource Policy Implications for American Firms," *Academy of Management Review*, February 1983, p. 225; and G.C. Allen, "Western Enterprise in the Far East," *International Affairs*, July 1954, p. 294.

⁵³William T. Moye, "Presidential Labor-Management Committees: Productive Failures," *Industrial & Labor Relations Review*, October 1980, p. 50.

Conference Papers



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Most U.S. workers still may be fired under the employment-at-will doctrine

JACK STIEBER

Each year, American employers in the private sector fire about three million employees for noneconomic reasons.¹ Such terminations are called "discharge for cause." While there are no reliable comparative figures, it is clear from the literature and discussions with scholars and practitioners in other countries that discharge for cause occurs much more frequently in the United States than in other industrialized nations.²

The reasons for this are not entirely clear, although there is little doubt that among the contributing factors are the greater concern with job security in other countries, the generally higher unemployment rate in the United States which makes it easier for employers to replace discharged workers, a strong dedication to individualism and property rights in the United States, and the existence of laws prohibiting unjust discharge in other countries.

There is no such general statutory prohibition in the United States. Protection against unjust discharge is provided to a minority of all employees through collective bargaining,³

antidiscrimination laws, civil service, and teacher tenure laws.⁴

All other employees are subject to the employment-at-will doctrine. This common-law doctrine holds that an employment having no specific term may be terminated by either party with or without notice or cause. As one court put it 100 years ago: employment relationships of an indefinite duration may be terminated at any time without notice "for good cause, for no cause, or even for cause morally wrong"⁵

In recent years, however, an increasing number of State court decisions have found exceptions to the employment-at-will doctrine.⁶ What are these exceptions that have aroused so much concern among employers and encouraged false hopes of winning large jury awards among discharged employees?

The three theories most commonly advanced in support of wrongful discharge suits have been based on claims of violation of public policy, the existence of an implied contract, and the covenant of good faith and fair dealing.

The public policy exception

The most widely accepted common-law limitation to the employment-at-will doctrine has been the public policy exception, which argues that an employer may not fire an employee for reasons that contravene fundamental principles of public policy. Some 20 States have recognized this exception in cases in which an employee was fired for refusing to commit an unlawful act, for performing an important public obligation, or for exercising a statutory right or privilege.⁷ Typical cases involved firing an employee for refusing to give false testimony at a trial or administrative hearing, serving on a jury, reporting illegal conduct by an employer, that is, "whistle-blowing," refusing to violate a professional code of ethics, filing a worker's compensation claim, or refusing to take a polygraph test.

Here are a few examples of such cases:

In one of the earliest cases, the California Court of Appeals ruled in 1959 that it was against public policy for the Teamsters' Union to discharge a business agent for refusing to give false testimony before a legislative committee. Such action rendered the union liable for damages to the business agent.⁸

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In 1978, the Michigan Appeals Court held that an employee stated a valid cause for relief when he alleged that he was discharged for refusing to manipulate and adjust sampling results in pollution control reports which were required by law.⁹

In a 1981 Illinois case, the employee alleged that he was fired for offering information to the police about possible criminal behavior on the job by another employee and for agreeing to assist in the investigation. The court held that there is a clear public policy favoring investigation and prosecution of criminal offenses.¹⁰

The implied contract exception

The implied contract exception, which is recognized in 13 States, has found an implied promise of job tenure for employees with records of satisfactory performance, in employee handbooks, personnel manuals, or oral statements made during employment interviews.¹¹ Examples of such cases include:

The Michigan Supreme court held in 1980 that an employer who has a written policy or has made an oral statement that an employee would not be discharged without just cause must adhere to such policy.¹²

The California Court of Appeals, in a 1981 decision, found that evidence supported the claim that an implied promise was made to the employee based on the 32-year duration of his employment, his promotions and commendations, assurances he received, and the employer's personnel policies. The employee claimed that he was discharged for refusing to participate in negotiations with a union because of a purported "sweetheart agreement" which enabled the company to pay women lower wages than male employees.¹³

In another 1981 case, originating in New York, the employee signed an application stating that employment would be subject to the company's employee handbook, which said that dismissal would occur only for just and sufficient cause. He also received oral assurances of job security. The New York Court of Appeals held that there was sufficient evidence of a contract and a breach of contract to sustain a cause for action.¹⁴

The good faith and fair dealing exception

This exception, which has been clearly recognized in only three States, California, Massachusetts, and Montana, holds that no matter what an employer says or does to make it clear that employment is at-will and that an employee may be dismissed without cause, he must deal with the employee fairly and in good faith.

In 1977, the Massachusetts Appellate Court ignored an explicit written contract that reserved to the employer the right to fire an employee for any reason. The employee, a 61-year-old salesman with 40 years of service, claimed that he was fired to avoid paying him sales commissions on a multimillion dollar order. The court held it was for a jury

to decide if the employer's motive in firing him was suspect. If it so found, then the discharge was wrongful because the law imposed a covenant of good faith and fair dealing on every contract.¹⁵

In a 1980 California case, the court found that an employee could sue for wrongful discharge in both contract and tort, in the case of an employee with 18 years of satisfactory service with an employer which had violated its own specific procedures for adjudicating employee disputes. The court further held that, if a jury found that the employer had acted in bad faith, the company could be held responsible for pain and suffering and be assessed punitive damages.¹⁶

In 1983, the Montana Supreme Court approved a jury award of \$50,000 to a cashier who alleged that she was discharged without warning and was forced to sign a letter of resignation. The employer claimed she was fired for carelessness, incompetency, and insubordination. The court said that there was sufficient evidence for the jury to find fraud, oppression, or malice and held that an employer's breach of good faith and fair dealing is a tort for which punitive damages may be imposed.¹⁷

Courts take narrow view

The principles and decisions just discussed may not appear surprising or unreasonable to nonlawyers. They merely support what most people would regard as fair and decent behavior on the part of employers towards employees: that employers should not penalize employees for refusing to commit unlawful acts, for exercising their lawful rights, or for behaving as good citizens; that employers should not take advantage of employees by virtue of the power they have over their economic welfare; and that they should treat employees fairly. It may, therefore, come as a surprise to learn that most courts do not look at it this way; that they interpret the public policy exception so narrowly as to give it only very limited application; that they do not regard written or oral policy statements as binding on employers; and that they do not hold that employers must behave fairly and in good faith towards their employees.

Consider, for example, the following court rulings:

The District of Columbia Court of Appeals in 1981 rejected a public policy exception in a case in which an employee claimed that his employer had required that he testify in an administrative proceeding, and then fired him in retaliation for testifying truthfully against the employer's interests.¹⁸

In another 1981 case, the Indiana Appeals Court held that an employee, who reported alleged misconduct by his superiors and questioned the safety of drugs marketed by the company, failed to state a claim for wrongful discharge because he was not exercising a statutory right or complying with a statutory duty.¹⁹

In 1980, a New York court ruled that a bank employee, who alleged that he had been discharged because he had

uncovered evidence of illegal foreign currency manipulation, was terminable at-will because he had no written employment contract.²⁰

Even under the most liberal interpretation of the employment-at-will doctrine, the recognized exceptions apply to only a minute proportion of the three million employees who are discharged each year. The overwhelming majority of discharged employees are fired for such everyday occurrences as: excessive absenteeism or tardiness, sleeping on the job, fighting in the workplace, horseplay, insubordination, using abusive or profane language, falsifying company records or application forms, dishonesty, theft, disloyalty to their employer, negligence, incompetence, refusal to accept a job assignment, refusal to work overtime, and possession or use of intoxicants or drugs.²¹ In more than half of the discharges for the above reasons, arbitrators selected under union-management agreements have found insufficient evidence to support the discharge penalty and have reinstated the employee with full, partial, or no backpay depending on the circumstances in each case.²² Yet none of these discharges would qualify as an exception to the employment-at-will doctrine if they occurred in a non-unionized company.

An exclusive remedy

Another limitation to the applicability of the public policy and implied contract exceptions to the employment-at-will doctrine is that they are used almost exclusively by executives, managerial, and higher-level employees, who constitute only a small minority of all employees. One study of 92 wrongful discharge cases found only eight which involved so-called "secondary market" employees.²³ Typical job titles of plaintiffs in wrongful discharge cases are: company vice presidents, sales managers, marketing directors, foremen, physicians, sales representatives, pharmacists, and department managers.

The rarity of hourly and lower level salaried employees among wrongful discharge plaintiffs is due to several factors. Such employees are less likely to consult attorneys than higher level employees. Even when they do consult attorneys, they are less likely to pursue their claims because they and their lawyers have lower expectations concerning their rights in general and their rights to job security in particular. The contingent fee system, under which most wrongful discharge suits are taken, discourages attorneys from representing low-income employees because they can expect smaller returns from such cases.

A second explanation for underrepresentation of low-income employees in court cases is the inherent bias in the nature of the public policy and implied contract exceptions. The likelihood of low-income employees being fired for refusing to commit unlawful acts, such as testifying falsely at a hearing or trial or falsifying company records, is small because these employees do not usually have access to information relevant to such acts. Similarly, discharge for

performing an important public obligation or "blowing the whistle" on illegal conduct by an employer is more likely to occur among upper level, technical, or professional employees because they are in a better position to detect dangerous or illegal practices. There is also a greater willingness by such employees to question decisions of their employers.

The implied contract exception has little relevance to lower level employees because they are rarely in a position to inquire about future job security when they apply for a job. Nor are they likely to read carefully an employee handbook which may give rise to an implied contract obligation. Even if they were aware of such a handbook provision, most employees would not realize that it could be used to bring a court suit for wrongful discharge.

The only category of exception which might be considered equally applicable to both lower and upper level employees is that based on a statutory right or privilege, such as being fired for filing a worker's compensation claim.²⁴

Unionization as a solution

In principle there is widespread agreement that the employment-at-will doctrine has no economic or moral justification in a modern industrialized Nation. The idea that there is equity in a rule under which the individual employee and the employer have the same right to terminate an employment relationship at will is obviously fictional in a society in which most workers are dependent upon employers for their livelihood. Recognizing the problem is, however, more difficult than finding an acceptable solution.

The best protection against unjust discharge is afforded by a collective bargaining agreement containing a grievance and arbitration procedure. Put in its simplest form, one answer to the employment-at-will problem is: Let those who want protection against unjust discharge join a union.

But this is both an oversimplification and an illusory solution. Many workers who join unions do not receive the benefits of unionization because they represent a minority of the bargaining unit in which they are employed. Thus, under the National Labor Relations Act, if less than 50 percent of the employees vote to unionize, 100 percent remain unprotected against unjust discharge. In 1981, unions won only 43 percent of NLRB certification elections, the lowest proportion in 25 years.²⁵ This indicates that joining a union does not guarantee protection against unjust discharge. In addition, protection of the right to organize does not apply to several million supervisory employees under the National Labor Relations Act.

The illusory nature of unionization as a solution to the employment-at-will doctrine is even more evident from the fact that the percentage of organized employees decreased from 35 percent of the nonagricultural labor force in 1955 to 23 percent in 1980.²⁶ Thus, the tide of unionization has been receding rather than advancing, leaving an ever-increasing number of employees without protection against unjust discharge. There is no evidence that this trend is

likely to be reversed in the foreseeable future.

The voluntary approach

Voluntary employer action to provide due process, including impartial arbitration, for discharged employees, has been proposed by the American Arbitration Association and is supported by progressive employer representatives as the best way to deal with the employment-at-will issue.²⁷ As in other fields of human behavior, voluntarism is always preferable to compulsion in labor-management relations. Unfortunately, the record provides little basis for optimism that voluntary employer action is the key to the problem. Only a handful of employers—all of them very large—have adopted voluntary arbitration for their nonunion employees. Most nonunion employers, who have recognized that employees should have an outlet for their grievances, have instituted systems wherein some higher level of management reviews and has the final word on employee discharges.

Voluntary systems, though laudable, do not begin to approach the magnitude of the problem posed by employment-at-will. Few employers will voluntarily adopt impartial arbitration, and those most in need of outside review are least likely to provide it. According to a Conference Board study, nonunion complaint systems enjoy little credibility among employees and terminations are rarely appealed through such systems.²⁸

The judicial remedy

A third solution, which finds support among many lawyers, would place its faith in the judiciary to circumvent the anachronistic employment-at-will doctrine. Those who support this approach point to court decisions over the last decade as evidence that the courts can and will find a way to protect employees generally against capricious and arbitrary discharge.

However, the courts themselves have begun to draw back from some of their earlier decisions in wrongful discharge cases in favor of the view that it is up to the legislature to explicitly strike down the doctrine. Thus, the New York Court of Appeals has allayed concerns among employers resulting from its 1982 decision upholding the right of an employee to sue his employer for wrongful discharge. In a 1983 case, the court barred a complaint of wrongful discharge by an employee of 23 years who claimed that he was fired in reprisal for disclosing top management accounting improprieties. The court said:

If the rule of nonliability for termination of at-will employment is to be tempered, it should be accomplished through a principled statutory scheme, adopted after opportunity for public ventilation, rather than in consequence of judicial resolution of the partisan arguments of individual adversarial litigants . . . In sum, under New York law as it now stands, absent a constitutionally impermissible purpose, a statutory proscription, or an express limitation in the individual contract of employment, an employer's right at any time to terminate an employment at will remains unimpaired.²⁹

The statutory approach

The above failings in the unionization, voluntary employer action, and judiciary approaches to doing away with the employer-at-will doctrine lead to a consideration of Federal or State legislative action. As noted, legislative bodies are much better equipped than the courts to deal with the myriad problems that must be dealt with in devising a workable solution to protect employees against unjust discharge.

I recognize that some of the issues that must be dealt with in legislation do not have perfect answers. But the failure to find the ideal solution to every problem should not be used as an excuse to do nothing. The injustice done by the employment-at-will doctrine to thousands of discharged employees is too great to allow it to continue for want of a perfect substitute. The application of such a standard to other laws would have resulted in no action to prohibit discrimination in employment on grounds of race, sex, or national origin, to provide protection against occupational hazards in the workplace, and to guarantee that employees receive the benefits to which they are entitled in pension plans. Most of us would agree that on balance these laws have served a useful purpose despite many problems in their implementation. I am confident that a law to protect employees against unjust discharge would yield equally desirable results. □

FOOTNOTES

¹Derived from table B-1:—Monthly labor turnover rates (per 100 employees) in manufacturing industries, by class of turnover, *Monthly Labor Review*, January 1954, p 86; J. Medoff, "Layoffs and Alternatives Under Trade Unions in U.S. Manufacturing," *The American Economic Review*, 1979, pp. 380, 389; J. Stieber and R. Block, *Discharged Workers and the Labor Market* (U.S. Department of Labor, Employment and Training Administration, 1983).

²J. Stieber and J. Blackburn, eds., *Protecting Unorganized Employees Against Unjust Discharge* (East Lansing, Michigan State University, School of Labor and Industrial Relations, 1980), pp. 46–80.

³The 22 million American workers covered by such agreements have better protection against being disciplined or discharged without just cause than workers in any other country. Thousands of discharge cases are appealed to arbitration each year, of which about 50 percent result in reinstatement of the employee with full, partial, or no backpay because of a finding that the discharge was without just cause. G. Adams, *Grievance Arbitration of Discharge Cases* 41 (1978); K. Jennings and R. Wolters, "Discharge Cases Reconsidered," *The Arbitration Journal*, 1976, pp. 164–80; F. Holly, "The Arbitration of Discharge Cases: A Case Study," 10 *National Academy of Arbitrators Proceedings*, pp. 1–16 (1957); D. Jones, "Ramifications of Back Pay Awards in Suspension and Discharge Cases," 22 *National Academy of Arbitrators Proceedings*, 1957, pp. 163–74.

⁴Title VII of the Civil Rights Act of 1964, 42 U.S.C. par. 621–634 (1976 Supp. II 1978 and Supp. III 1979); Employment Opportunities for Handicapped Individuals Act, 29 U.S.C. par. 795–795j (Supp. II, 1979).

⁵*Payne v. Western & Atlantic R.R.*, 81 Tenn. 507, 519–20 (1884).

⁶*The Employment-At-Will Issue*, A BNA Special Report (Washington, Bureau of National Affairs, Inc. 1982).

⁷See footnote 6.

⁸*Peterman v. International Brotherhood of Teamsters, Local 396*, 174 C.A. 2d 184, 344 P. 2d 25, 1959.

⁹*Trombetta v. Detroit, Toledo and Ironton R. Co.*, 81 Mich. App. 489, 265 N.W. 2d 385, 1978.

¹⁰*Palmetteer v. International Harvester Co.*, 85 Ill. 2d 124, 421 N.E.

2d 876, 1981.

¹¹ *The Employment-At-Will Issue*, footnote 6.

¹² *Toussant v. Blue Cross and Blue Shield of Michigan*, 408 Mich. 579, 292 N.W. 2d 880, 1980.

¹³ *Pugh v. See Candies Inc.*, 116 Cal. App. 3d 311, 171 Cal. Rptr. 917 1981.

¹⁴ *Weiner v. McGraw-Hill*, 83 A.D. 2d 810, 442 N.Y.S. 2d 11 (1st Dept. 1981).

¹⁵ *Fortune v. National Cash Register*, 373 Mass. 96, 364 N.E. 2d 1251, 1977.

¹⁶ *Cleary v. American Airlines Inc.*, 111 Cal. App. 3d 443. 168 Cal. Rptr. 722, 1980.

¹⁷ *Gates v. Life of Montana Insurance Co.*, Mont. Sup. Ct. No. 83-468, Aug. 5, 1983.

¹⁸ *Ivy v. Army Times Publishing Co.*, 428 A. 2d 831 (D.C. 1981).

¹⁹ *Campbell v. Eli Lilly & Co.*, 413 N.E. 2d 1054 (Ind. App. 1980), affirmed 421 N.E. 2d 1099, 1981.

²⁰ *Edwards v. Citibank*, 100 Misc 2d 59, 418 N.Y.S. 269 (Supp. Ct. N.N. Co. 1979), affirmed 74 A.D. 2d 553, 425 N.Y.S. 327 (1st dept. appeal dismissed), 51 N.Y. 2d 875, 433 N.Y.S. 2d 1020, 1980.

²¹ F. Elkouri and E. Elkouri, *How Arbitration Works*, 3d. ed. BNA (1973), 652-66.

²² See footnote 3.

²³ "Protecting Employees-At-Will Against Wrongful Discharge: The Public Policy Exception." *Harvard Law Review*, June 1983, p. 1941.

²⁴ *Ibid.*, pp. 1942-47.

²⁵ Speech by K. Moffett, *Daily Labor Report* No. 12, Sept. 7, 1983.

²⁶ Bureau of Labor Statistics News, Sept. 3, 1979; *BLS Earnings and Other Characteristics of Organized Workers*, May 1980 (1981).

²⁷ Stieber and Blackburn, *Protecting Unorganized Employees Against Unjust Discharges*, pp. 4-20; J. Schauer, discussion of "Due Process for Nonunionized Employees." *IRRA Proceedings*, 1979, pp. 180-2.

²⁸ The Conference Board, *Nonunion Complaint Systems: A Corporate Appraisal*, 1980: "Policies for Unorganized Employees." *PPF Survey* No. 125, BNA, April 1979.

²⁹ *Murphy v. American Home Products Corp.*, N.Y. Ct. App. No. 35, Mar. 29, 1983.

Easing the worker's transition from job loss to employment

RUTH H. FEDRAU

One of the most sensitive and difficult issues surrounding work force reductions is that of when advance notice should be given. It has been addressed through labor-management contracts, through voluntary employer response, and in some few cases, through State legislation. Ann Lawrence and Paul Chown note, "About 15 percent of all union contracts now require advance notification of plant closures or union participation in the decision to close. Many more contain less specific language which requires some notice of layoffs, for whatever reason."¹ Voluntary advance notification also occurs frequently.

Experience suggests that early notification can be useful

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to both the company and affected employees. It allows the firm more time to plan the phase-out schedule and to prepare its work force for the termination via placement assistance. More important, it provides the affected workers with time to plan for a new career or retraining for a new occupation. Advance planning, therefore, on the part of the company and employees, can assist to reduce the stress accompanying such events. Moreover, in the majority of cases, advance notification does not result in productivity loss. On the contrary, workers are less likely to respond in a punitive manner when they perceive that their employer recognizes that the layoff and job transition process is a difficult one and the employer is therefore attempting to buffer the impact.

Business trade associations have responded to this issue by encouraging their members to provide as much notice as possible. The threat of State plant closing legislation, in particular, has stimulated State and national business groups to issue voluntary guidelines and technical assistance manuals for work force reduction planning. The California Manufacturers Association, for example, has issued guidelines that contain the following language: "At the heart of any closure plan must be a logical notification program aimed at informing employees, the community, and certain governmental agencies and/or elected officials . . . it is urged that, whenever possible, the greatest amount of advance notice of closure be given." A specific period is not suggested. Similar statements have been issued by the Business Roundtable, the National Association of Manufacturers, and the U.S. Chamber of Commerce.

It is worth mentioning that the issue of advance notice extends beyond plant closings, layoffs, and terminations. A number of labor-management contracts now contain provisions governing advance notice of technological change. This is a complicated issue given the fact that, legally, the definition of "technological change" has not been clarified. We assume that, with the accelerating pace of technology in manufacturing and other sectors, such agreements are likely to become more common.

The role of the employer and union

The affected employer's active participation in an early response program creates good will among the employees and the community, enhances the possibility of an orderly closure of the facility, and reduces societal costs.

— For example, such participation mitigates costs to both the employer and the public sector by reducing the time that unemployment insurance and other benefits are paid to employees and helps return workers to their role as taxpayers. It also reinforces worker's security by planning for continuity of employment through immediate job placement or early enrollment in appropriate training programs.

If there is a union contract, local members typically serve on a steering committee, encourage the membership to uti-

lize employee development center services, and work to gain the support of other unions to assist in job development and placement.

When the labor contract includes retraining or other benefits to be provided as a part of their termination, the project can offer a coordinated approach to the delivery of those benefits. In addition, it provides funds which can be matched with State and local resources.

Participation by both groups, especially at the plant level, is particularly crucial to the success of the project.

State funds under Title III of the Job Training Partnership Act and community resources are matched more readily when some funding or in-kind resources are provided by the company and the union. Many vocational education institutions, private industry councils, and social service agencies provide financial or service-related resources, or both, to company-sponsored projects. Strong company involvement acts as an incentive to gain the support of these groups. In most States, the act requires some kind of match.

Worker assistance centers

The worker assistance center has consistently proven to be the most cost-effective, efficient approach for laid-off workers. It is now state-of-the-art. It allows for an intensive reemployment effort to be mounted on behalf of the workers, direct participation by the company and union, and effective coordination of funds and resources. The center is established at the plant site or at a readily accessible community location. It becomes the focus for all employee assistance activities. These activities are intensive, targeted to the company and worker needs, and in operation for a specific period—before, during, and after the layoff period.

Services provided at the center can be flexible but focus on the employment requirements of the work force. Program components proven to be most useful are:

- A company/union steering committee, which directs and oversees the entire project and staff.
- Surveys and assessment. Surveys to design the program which will satisfy employer and worker requirements: (1) an employee survey to provide planners with information about employee plans and needs; (2) a labor market survey to indicate the industries, employers or occupations targeted for job development and retraining; and (3) an assessment of vocational education institutions; capabilities to retrain workers or develop the classes necessary for retraining.
- Self-help job search assistance, including job search workshops.
- Testing and skills assessment, combined with vocational and career counseling.
- Personal counseling services, including psychological and financial counseling.
- Occupational retraining programs, customized for individual employers; basic education services, including general equivalency diploma instruction and other

workshops, developed as needed by the participants.

- When possible, short-term skills-related courses are developed at the plant site, utilizing plant equipment.
- An aggressive program of job development (using steering committee, community, and private center expertise and effort) designed to identify appropriate job openings, market workers to employers, and coordinate area job development and economic development efforts to tap employment opportunities in a systematic way.
- An ongoing social service and health referral system.
- When appropriate, relocation assistance for individuals unable to find jobs in the commuting area.

The final point to be made concerning private sector planning for work force reductions is the advantage of cooperating with the public sector to develop placement programs and comprehensive worker assistance centers. The State of California pioneered efforts along this line, working with a number of large corporations and smaller companies to develop plant-based and community-based employee assistance centers. The passage of the Title III Dislocated Workers Program (as part of the Job Training Partnership Act) in October 1982 has accelerated this trend; however, since the act is still in its infancy, it is not yet possible to indicate if companies will step forward to request State assistance or how many States will organize their Title III programs to encourage direct employer involvement.

Bureaucratic snares

The author works with a number of companies and unions to design and effect work force reduction programs, often in conjunction with States and private industry councils. Our experience indicates, however, that State bureaucratic practices could inhibit the growth of such partnership efforts.

Problems encountered include arbitrary and uncertain fiscal periods—hence, the first 3 months of a 2-year center must be submitted as a separate proposal; required affirmative action planning when it is clear that the target population is plant employees; requirements for detailed descriptions of the company's or union's accounting systems; administrative cost limitations more severe than the already strict limits contained in the Job Training Partnership Act; required descriptions of training curricula for courses that should not be designed until worker skills assessment and job development have taken place (so that training is geared to matching worker skills with existing job openings); and long delays in funding decisions.

Under these conditions, setting up a "pre-intervention" program before layoffs occur is particularly difficult because the pre-termination phase is not likely to include many of the job placements, on-the-job training placements, or highly specialized retraining programs that look so attractive in funding proposals. The emphasis before termination is generally on counseling, job search instruction, skills assessment, and job development so that intensive retraining and

job placement can begin immediately upon termination.

However, public administrators are attempting to adopt their programs to the private sector's requirements. State Job Training Coordinating Councils and Private Industry Councils must play a key role in evolving Title III of the Job Training Partnership Act from a makeshift program based on past bureaucratic practice to a successful government-company-union-community initiative. One of the contributions business can make is to actively participate on both types of councils to help make the public-private system work. □

—FOOTNOTE—

¹ Ann Lawrence and Paul Chown, *Plant Closings and Technological Change: A Guide for Union Negotiators* (Berkeley, University of California, Institute of Industrial Relations, 1983).

What do unions get in return for concessions?

PETER CAPPELLI

Unions have been making labor cost concessions in order to lower labor costs and improve employment security. Similarly, management may agree to improve other aspects of employment relations as a means of securing union approval of concession deals, particularly when the firm needs such concessions to stay in business. Just how badly management needs these labor cost concessions will determine how much it is willing to give the unions in order to secure those concessions.

An interesting question concerns the characteristics of the improvements that unions are getting in return for labor cost concessions. The range of potential improvements is constrained by economic pressures that are outside the firm; improvements in current wages, benefits, and work rules, for example, would all raise current labor costs, thereby reducing employment security for union members, leaving them worse off and defeating the purpose of negotiating the concessions in the first place. The improvements that unions gain, therefore, are likely to be in areas other than those which raise current labor costs, such as:

Symbolic improvements. These include management actions which essentially leave the union no better off but demonstrate that it still has bargaining power. Perhaps the best examples are equality of sacrifice provisions in the auto industry which force management to suffer the same employment and wage cuts that the unions accept. For example,

the United Auto Workers forced General Motors to rescind an improved bonus plan for management instituted just after the union agreed to new concessions. Similar actions occurred at International Harvester. Equality of sacrifice provisions may also give unions power over unorganized, white-collar workers. After these provisions were introduced at General Motors, white-collar workers there invited the United Auto Workers to discuss with them the advantages of organizing.¹ Other examples include management "pledges" to consider union interests in future actions. These symbolic gestures serve a political function for the unions by demonstrating to their members that the union is not being pushed around by management and that the crisis is a genuine one, the burden of which is being shared with management.

Job security. Some improvements attempt to improve job security directly. For example, at Xerox, the company exchanged employment security and no-layoff clauses at one plant in return for union concessions over work rules. United Airlines made a similar trade with its pilots. In the auto industry, selected plants are experimenting with lifetime employment guarantees for senior workers in return for concessions. The most common of these cases, however, are those where employers agree not to go ahead with a planned closing or layoff in return for concessions.

Implicit job security. These changes indirectly improve job security by influencing business decisions that affect employment. Promises to limit "outsourcing" at Ford and Caterpillar, for example, and to guarantee plant investment at certain rubber plants create circumstances that will improve job security. One could also argue that improved supplemental unemployment benefits plans, the guaranteed income stream arrangements in the auto industry, improved severance payments, and so forth, all increase the fixed costs of labor (given the same level of costs) and make layoffs less likely.²

Contingent compensation. Arrangements of this sort promise improvements in future compensation in return for current labor cost concessions. They include not only stockownership plans and profit sharing, particularly common in air transport, but also arrangements that tie future wages to improvements in the firm's economic performance. At American Motors and the Quality Aluminum Co., for example, wage concessions are to be paid back based on improved company performance.

Say in company decisions. Formal arrangements to involve the unions in company business decisions have been the most publicized, although perhaps least common, form of improvements. They range from putting union leaders on company boards in return for concessions (as at Pan American, Chrysler, and McCreary Tire) to shopfloor participation plans, such as the job committees in the auto industry. These arrangements are often limited to particular

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issues at a given time, such as decisions about equipment purchases and subsequent manning levels.

Union bargaining gains. These improvements cover a range of issues, all of which help to meet the unions' particular needs with respect to its bargaining relationship with the employer. They include union recognition arrangements (such as the one between the United Rubber Workers and Goodrich), prohibitions on "double-breasted" operations, that is, companies operating both union and nonunion entities (such as that secured by the Teamsters Master Freight Agreement), and continuous information about company performance and future plans (which meatpacking companies are providing at the plant level to the United Food and Commercial Workers union).

The distribution of these improvements is weighted toward gainsharing and job security items. One would expect the improvement secured by unions to reflect not only their needs in specific situations but also the needs and interests of management. It has been argued that the most pressing concern for unions in this recent period has been job security.³ It is, therefore, not surprising to find improvements concentrated in areas concerned with improving job security. Strong opposition from management seems to explain why there are not even more explicit job guarantees.

The widespread acceptance of gainsharing and contingent compensation arrangements reflects not only acceptance by management but also similar interest from the unions. For the unions, the "givebacks" associated with concession bargaining cause political problems with the members, and it is important for the union not just to get back something in return for concessions but to get back something that looks a lot like that which was given up. Contingent compensation fills that role. It also places an ostensible limit on the duration of the concessions (for example, until business picks up), making them seem temporary and less permanent. For management, these contingent arrangements buy time now and cost money only if conditions improve—an advantageous trade for firms currently facing a crisis.

Will 'givebacks' change bargaining?

The fact that improvements of this sort are being written into contracts suggests that they will continue at least for a

few years; the question remains as to how they will change existing union-management relations. The contingent compensation arrangements provide obvious changes first because they shift some aspects of business risks from the firm to the workers. For the workers, pay levels will no longer be stable and predictable across circumstances. The experience with profit sharing indicates that whether these arrangements work depends largely on how objective the factors are to which pay is tied and how closely they are tied to current worker performance.⁴ Another consequence of contingent pay arrangements is that they are likely to focus the union's interests more clearly on business decisions of the firm—to the extent that these decisions influence performance and pay. For example, in air transport, pilots at certain carriers have tried to influence the market strategy of firms. Their motivation, in part, is that concession deals have shifted a significant share of their earnings into stock, and they are concerned with the long-run value of that stock. Stockownership arrangements give unions a clear mechanism for exerting influence on these business decisions. The United Steelworkers, for example, has recently been called to advise its stockholding members on proxy votes by employers.⁵

More explicit arrangements for participation, such as board appointments, provide another vehicle through which the unions can pursue their interest in business decisions. The most obvious and likely channel of influence, however, would be collective bargaining in which many of these issues have already been raised. Certainly if pay is being tied to performance along certain dimensions, the union will seek to influence those dimensions in bargaining. □

—FOOTNOTES—

¹ "Executive Givebacks," *Dun's Business Month*, July 1982, p. 33.

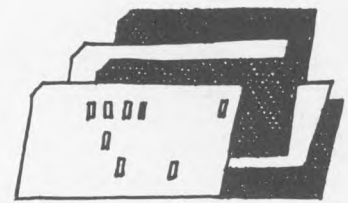
² Peter Cappelli and Barry Nalebuff, "Supplemental Unemployment Plans and Firm Responses" (Massachusetts Institute of Technology, January 1983); and Peter Cappelli, "Auto industry experiments with Guaranteed Income Stream," *Monthly Labor Review*, forthcoming.

³ William M. Davis, "Collective bargaining in 1983: a crowded agenda," *Monthly Labor Review*, January 1983, pp. 3-16.

⁴ Bill Auszieker, "Creative Collective Bargaining Revised: The Kaiser Long-Range Sharing Plan," *IRRA Proceedings*, Winter 1982.

⁵ "Executive Givebacks."

Research Summaries



A comparison of pension benefit increases and inflation, 1973-79

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It has been suggested that after retirement, pension benefits remain relatively constant in nominal terms. If there were no postretirement benefit adjustments, the real value of pension benefits would decline in the presence of inflation. The objective of this study has been to examine the actual benefit increase experience of a sample of pension plans to provide the first comprehensive assessment of the change in real benefits in relation to inflation. Our study shows that from 1973 to 1979, most retirees in the sample of plans used received at least one increase in benefits and many received substantial nominal benefit increases. However, *real* benefits did decline. Postretirement increases amounted to approximately two-fifths of the rise in the Consumer Price Index from 1973 to 1979. Benefit increases tended to be larger for plans with a large number of beneficiaries, for collectively bargained plans, and for individuals who had been retired for a longer period of time.

Method used

The data used in this study came from the Pension Benefit Master File created by the U.S. Department of Labor's Office of Pension and Welfare Benefit Programs. The sources of data in the file are the Arthur Young and Company Survey of Private Pension Benefit Amounts conducted in 1980 for the Labor Department, and social security information from the Summary Earnings Record and a standard summarization of the Master Beneficiary Record, known as the Survey Benefit Summary Record.

The Private Pension Plan Benefit Amounts Survey is a random sample of private pension plans for which the 1975 series 5500 forms¹ were filed with the Department of Labor.

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The Arthur Young survey collected information regarding actual benefit amounts paid to beneficiaries on Dec. 31, 1978, for 671,000 retirees under 446 plans of 371 sponsors. (Sponsors are employers or the joint board of trustees that establish and maintain the plan.) The survey also obtained detailed descriptions of actual changes in benefits between Jan. 1, 1973, and Jan. 1, 1979, for the responding firms.

The master file information reported by employers dealt with individuals receiving benefits in December 1978 and included data on age, year of retirement, years of credited service, sex, race, marital status, social security reported earnings, and the current pension benefit received. In addition, plan characteristics such as union status, type of plan, plan size, and industrial category were also reported. Specific questions were asked concerning any postretirement increases in benefits that were awarded between Jan. 1, 1973 and Jan. 1, 1979. Plan sponsors were asked to indicate the size and method of all increases, the date of the increase, and what type of beneficiaries were eligible for the increases. Only defined benefit plans are included in the present analysis.

To augment these data, the individuals were matched with social security information on the earnings histories of the beneficiaries. By using the social security number and the first six letters of the last name of the recipient/participant, the data in the Arthur Young survey were matched with the Summary Earnings Record and the Survey Benefit Summary Record. Due to limitations in the number of records the Social Security Administration was able to process, only a 50-percent sample of the five largest plans was taken. However, the weights for individuals in these plans were doubled to make up for this. A total of 389,309 records for 426 plans was matched.

Table 1. Percent of persons retired before 1973 awarded postretirement increases in benefits, by plan size, 1973-78

Year	All plans	Number of recipients in plan in 1979					
		1-99	100-499	500-999	1,000-4,999	5,000-9,999	10,000 and over
1973	37.4	4.7	5.2	9.5	2.7	7.8	77.0
1974	48.6	8.1	17.3	42.6	16.4	47.8	74.3
1975	51.7	10.4	17.4	20.5	3.7	56.2	83.7
1976	39.6	9.6	9.9	11.1	31.4	27.9	65.8
1977	53.3	9.1	26.5	49.8	13.3	27.9	89.2
1978	44.7	9.6	28.4	14.3	11.0	72.6	57.9

Table 2. Average pension benefits for persons retired before 1973¹ and benefit changes as a percent of the Consumer Price Index, 1973-79

Year	Mean benefit	Percent of 1973 benefit	Percent (annual increase) ²	Percent change in CPI ³	Benefit change as a percent of CPI change
1973	\$2,128	100.0	—	—	—
1974	2,205	103.6	3.6	11.0	32.7
1975	2,296	107.9	4.1	9.1	45.1
1976	2,384	112.0	3.8	5.8	65.5
1977	2,452	115.2	2.9	6.5	44.6
1978	2,563	120.4	4.5	7.7	58.4
1979	2,638	124.0	2.9	11.3	25.7
Change, 1973-79 . . .	510	24.0	24.0	63.3	37.9

¹The sample comprised 139,316 persons who retired in 1972 or earlier. The observations are weighted by plan weights representing the incidence of similar plans in the pension universe.

²The percent increase represents the percentage change in nominal benefits from the preceding year.

³The percent change in the Consumer Price Index is the percentage change in the average annual CPI from the preceding year.

Using the detailed description of pension plans obtained from the Arthur Young survey, we estimated annual retirement benefits for individuals from the responding firms for the years 1973 to 1978. As we were primarily concerned with the effect of inflation on initial benefit amounts and on postretirement pension adjustments for this period, we included in our sample only those retirees for whom annual retirement benefits could be constructed. We eliminated from our sample nonretirees and persons who received a lump-sum benefit during the period. Benefit amounts for many recipients could not be calculated because the data were missing or there were severe reporting errors in key variables such as years of service, years of retirement, and age at retirement. Sample averages were substituted for the reported value when only one or two variables were missing or implausible. This produced a working sample of 292 plans and 327,173 recipients.

The analysis of postretirement increases in this study is based on a sample of defined benefit plans with positive sample weights. This sample of 267 plans and 287,547 recipients was divided into two groups, with most plans represented in both groups. The first group (254 plans and 133,698 recipients) consisted of those who retired *between* 1973 and 1978.² The second group (189 plans and 150,868 recipients) consisted of those who retired *before* 1973.³ This second group is the only sample referred to hereafter in this report.

A further adjustment in the second group was necessary. Three plans in our sample showed an average percent increase in nominal benefits of more than 190 percent. This unusually large increase is probably attributable to incomplete or inaccurate information about how benefit increases between 1973 and 1979 were calculated. Our deletion of these plans from the second group left 186 plans and 139,316 recipients. This sample was used to construct averages for the estimated benefits from 1973 to 1979.

In constructing annual pension benefits for 1973-79, we

had to examine individuals in each plan carefully to determine if they were eligible to receive an increase. Then using the increase formula in the specific plan, the magnitude of the increase for each individual was calculated. The benefit data for each individual were constructed by assuming that the benefit received on Dec. 31, 1978, was the benefit the individual would receive for all of 1979. The 1978 benefit was equal to the 1979 benefit unless a benefit increase was awarded during 1978. If there was a 1978 increase, then the 1978 benefit was considered equal to the 1979 benefit minus the 1978 increase. This is equivalent to assuming that all benefit increases awarded during a year become effective at the beginning of the following year. Basing the annual increases on data from the Pension Benefit Master File survey, benefits for 1973 to 1979 could be constructed. This procedure understates the benefit increases by delaying all increases until the end of the year. In addition, it results in a sample period of 1973-79. If we had assumed that the Dec. 31, 1978, benefit was the benefit for all of 1978 and increases became effective at the beginning of each year, then the sample period would have been 1972-78. This would have made a substantial difference when comparing benefit changes to changes in the Consumer Price Index because the 1979 increase in consumer prices exceeded the 1972 increase.

Finally, all observations were weighted by plan weights provided by the U.S. Department of Labor. These weights are used to make the master file data representative of the defined benefit pension system.

Postretirement increases

Our investigation shows that during the mid-1970's, the beneficiaries in our sample who had retired before 1973 received sizable postretirement increases. These adjustments raised nominal benefits but were not large enough to prevent declines in the real value of benefits in the presence of the relatively high rates of inflation prevailing at that time. We examined the trend in average benefits by using a sample of persons who retired prior to 1973. Thus, these retirees received benefits in each year for which benefits could be calculated from the survey data. By focusing only on those persons already receiving benefits in 1973, we eliminated the effects of new retirees entering beneficiary

Table 3. Average real benefit for persons who retired before 1973¹

Year	Average real benefit in 1973 dollars	Percent of 1973 benefit	Average annual change
1973	\$2,128	100.0	—
1974	1,987	93.4	-6.6
1975	1,897	89.1	-4.5
1976	1,861	87.4	-1.9
1977	1,798	84.5	-3.4
1978	1,746	82.0	-2.9
1979	1,614	75.8	-7.6

¹Nominal values shown in table 2 deflated by the Consumer Price Index.

Table 4. Average pension benefit for persons retired before 1973,¹ and benefit changes as a percent of the Consumer Price Index, 1972-78

Year	Average benefit	Percent of 1972 benefit	Percent (annual increase) ²	Percent change in the CPI ³	Benefit change as a percent of the CPI change
1972	\$2,128	100.0	—	—	—
1973	2,205	103.6	3.6	6.2	58.1
1974	2,296	107.9	4.1	11.0	37.3
1975	2,384	112.0	3.8	9.1	41.7
1976	2,452	115.2	2.9	5.8	50.0
1977	2,563	120.4	4.5	6.5	69.2
1978	2,638	124.0	2.9	7.7	37.7
Change, 1972-78	510	24.0	24.0	55.9	42.9

¹See footnote 1 in table 2.²See footnote 2 in table 2.³See footnote 3 in table 2.

status during the period. As a result, all benefit increases represent changes in postretirement benefits and do not reflect the effect of rising initial benefits.

Incidence of increases. Approximately three-fourths of all pre-1973 retirees received at least one postretirement increase in their pension benefits between 1973 and 1979. Almost one-quarter of all sampled pre-1973 retirees received an increase in every year during the mid-1970's. The following tabulation shows the distribution of retirees by the number of increases received during the period:

Number of increases	Percent of recipients
0	25.4
1	10.8
2	16.9
3	11.0
4	6.8
5	4.6
6	24.5

In any given year, one-third to one-half of all retirees in our sample were receiving postretirement benefit increases. Table 1 shows that the proportion of retirees receiving benefit increases varied considerably by plan size. In the smallest plans not more than 10 percent of the retirees received increases in any given year, while more than 50 percent of those in the largest plans were awarded benefit increases in any given year. These data suggest there was a substantial number of increases in pension benefits during the mid-1970's.

Trend in average benefits

Average benefits from 1973 to 1979 for persons retired before 1973 are shown in table 2. The average nominal pension benefit for these individuals rose from \$2,128 in 1973 to \$2,638 in 1979, an increase of 24 percent. The average annual increase during the 1970's ranged from 2.9 percent to 4.5 percent. Thus pension benefits were far from being constant in nominal terms.

Despite this increase, the real value of pension benefits as related to the CPI declined during the mid-1970's. (See table 3.) The CPI (1967 = 100) rose from 133.1 in 1973 to 217.4 in 1979, an increase of 63.3 percent. Thus, when the average real benefit is calculated by deflating the values shown in table 2, real benefits (reported in 1973 dollars) declined throughout the period. The average real benefit in 1973 dollars is \$2,128 in 1973 and drops to \$1,614 in 1979, a loss of 24.2 percent. If there had been no increases in nominal benefits, the real benefit would have been only \$1,303 and the real value would have fallen by 38.8 percent.

Thus, despite regular increases in average nominal benefits of approximately 3.5 percent, the real value declined in each year. The decade of the 1970's was a period of relatively high inflation, and the lowest annual increase in the CPI during 1973-79 was 5.8 percent. Table 2 shows the increase in pension benefits and the increase in consumer prices. During this period, the average annual benefit increase represented between 25.7 and 65.5 percent of the annual increase in the CPI.

The effect of the assumptions concerning the timing of benefit increases can be shown by reproducing tables 2 and 3, but assuming benefit increases are effective at the *beginning* of the year they are awarded and the Dec. 31, 1978, benefit is the benefit for all of 1978. This results in the same nominal benefit values, except they cover 1972-78 instead of 1973-79. Table 4 shows that using this alternative set of assumptions raises the ratio of nominal benefit increases to CPI increases from 37.9 in table 2 to 42.9 in table 5. This table shows that under these assumptions the loss in real benefits in 1972-78 is 20.5 percent. Tables 4 and 5 suggest that benefit adjustments were slightly more generous than shown by our primary assumptions. The basic finding is, however, unaffected. Throughout the remainder of this analysis, only numbers consistent with our primary assumptions are reported.

Plan size and benefit increases

The magnitude of postretirement increases varies substantially by plan size. These differences are reflected in the trend of average benefits by plan size shown in tables 6

Table 5. Average real benefit¹ for persons retired before 1973 as a percent of the 1972 benefit, 1972-78

Year	Average real benefit in 1973 dollars	Percent of 1972 benefit	Percent annual change
1972	\$2,260	100.0	—
1973	2,205	97.6	-2.4
1974	2,070	91.6	-6.1
1975	1,968	87.1	-4.9
1976	1,914	84.7	-2.7
1977	1,879	83.1	-1.8
1978	1,797	79.5	-4.4

¹Nominal values for benefits deflated by the Consumer Price Index.

Table 6. Average benefits by plan size for persons retired before 1973¹ in dollars and index (1973 = 100),² 1973-79

Year	Number of recipients in plan in 1979					
	1-99	100-499	500-999	1,000-4,999	5,000-9,999	10,000 and over
1973 ..	\$1,835	\$2,073	\$2,057	\$2,256	\$2,242	\$2,149
1974 ..	1,841	2,097	2,079	2,259	2,258	2,305
1975 ..	1,849	2,157	2,162	2,318	2,339	2,434
1976 ..	1,870	2,203	2,212	2,322	2,477	2,553
1977 ..	1,880	2,222	2,216	2,421	2,530	2,659
1978 ..	1,889	2,324	2,333	2,448	2,563	2,841
1979 ..	1,899	2,381	2,341	2,472	2,712	2,927

[1973 = 100]						
1973 ..	100.0	100.0	100.0	100.0	100.0	100.0
1974 ..	100.3	101.2	101.1	100.1	100.7	107.3
1975 ..	100.8	104.1	105.1	102.7	104.3	113.3
1976 ..	101.9	106.3	107.5	102.9	110.5	118.3
1977 ..	102.5	107.2	107.7	107.3	112.8	123.7
1978 ..	102.9	112.1	113.4	108.5	114.3	132.2
1979 ..	103.5	114.9	113.8	109.6	121.0	136.2

¹Observations are weighted by plan weights. (See table 2.)

²Benefits in each year as a percent of benefits in 1973.

through 8. Nominal benefits in 1973 range from \$1,835 for the smallest plans to more than \$2,200 for plans with more than 1,000 recipients. The differences in average benefits by plan size increase over time because the larger plans are more likely to award increases in postretirement benefits. Table 6 shows that the average benefit for persons in plans with fewer than 100 recipients rose by only 3.5 percent between 1973 and 1979, while plans with between 100 and 9,999 recipients raised benefits between 10 and 21 percent. The largest plans with more than 10,000 recipients increased benefits by 36.2 percent during the period.

As table 7 shows, these increases were not sufficient to maintain the real value of benefits during retirement. The

Table 7. Average real benefit for persons retired before 1973 in dollars¹ and index (1973 = 100),² 1973-79

Year	Number of recipients in plan in 1979					
	1-99	100-499	500-999	1,000-4,999	5,000-9,999	10,000 and over
1973 ..	\$1,835	\$2,073	\$2,057	\$2,256	\$2,242	\$2,149
1974 ..	1,658	1,890	1,874	2,035	2,035	2,078
1975 ..	1,527	1,781	1,785	1,914	1,931	2,010
1976 ..	1,460	1,720	1,726	1,813	1,934	1,992
1977 ..	1,379	1,629	1,625	1,776	1,855	1,950
1978 ..	1,287	1,582	1,589	1,668	1,746	1,935
1979 ..	1,163	1,457	1,433	1,513	1,660	1,792

[1973 = 100]						
1973 ..	100.0	100.0	100.0	100.0	100.0	100.0
1974 ..	90.4	91.2	91.1	90.2	90.8	96.7
1975 ..	83.2	85.9	86.8	84.8	86.1	93.5
1976 ..	79.6	83.0	83.8	80.4	86.3	92.7
1977 ..	75.1	78.6	79.0	78.7	82.7	90.7
1978 ..	70.1	76.3	77.2	73.9	77.9	90.0
1979 ..	63.4	70.3	69.7	67.1	74.0	83.4

¹Nominal dollar values in table 6 deflated by the Consumer Price Index. Real benefits are shown in 1973 dollars.

²Benefits in each year as a percent of benefits in 1973.

first part of table 7 illustrates the decline in real dollar values by plan size while the lower half of the table shows the real value of benefits in subsequent years as a percent of 1973 values. For persons in the smallest plans, the average benefit declines by 36.6 percent; in plans with 100 to 9,999 recipients, the real value fell by approximately 30 percent; and in the largest plans, by only 16.6 percent.

Incidence of benefit increases by plans

Although most *retirees* in this sample received a benefit increase after retirement, only 21.6 percent of the *plans* with at least one retiree in 1973 awarded any increase in benefits between 1973 and 1979. These seemingly contradictory findings are reconciled by noting that most plans in the sample have only a small number of beneficiaries and these small plans tended to give no postretirement increases. For example, only 17.0 percent of plans with fewer than 100 recipients in 1979 granted any increase, while all of the plans with more than 10,000 recipients provided at least one increase and 23.3 percent of these large plans awarded an increase each year. The relatively low proportion of all plans awarding increases is largely caused by the dominance of small plans. Table 8 indicates that 84.4 percent of all plans represented by this survey had fewer than 100 recipients in 1979. The number of increases provided by the large plans is generally consistent with that reported by Francis King in his review of three surveys of benefit increases during the 1970's.⁴

Collective bargaining status

In addition to plan size, the number of benefit increases and the amount of the increase are influenced by the collective bargaining status of the plan. The following data show that 80 percent of beneficiaries in collectively bargained plans received at least one increase in retirement benefits between 1973 and 1979, while almost 40 percent received an increase every year. Beneficiaries in nonunion plans had fewer total increases and also were more likely

Table 8. Percent of plans with persons who were retired before 1973 that awarded benefit increases, by plan size, 1973-78¹

Number of increases	Number of recipients in 1979					All plans	
	1-99	100-499	500-999	1,000-4,999	5,000-9,999		10,000 and over
0	83.0	61.2	24.7	45.9	16.9	0.0	78.4
1	3.6	9.8	43.5	12.8	13.7	14.9	5.3
2	4.8	23.7	15.3	33.8	40.4	0.0	7.7
3	2.5	1.7	6.4	0.0	0.0	27.3	2.5
4	1.3	0.0	0.0	0.0	0.0	34.4	1.2
5	0.3	0.0	10.1	0.0	21.7	0.0	6.6
6	4.5	3.5	0.0	7.5	7.3	23.3	4.4
Percent of all plans in this category	84.4	12.0	2.0	1.0	0.4	0.3	100.0

¹Percents are calculated from a weighted sample of plans.

to have received no increase during the sample period:

Number of increases	Percent of recipients	
	Union	Nonunion
0	20.2	32.3
1	7.5	16.5
2	15.6	19.5
3	5.6	20.0
4	5.1	9.5
5	7.0	0.8
6	38.9	1.5

Our analysis also shows that in any given year, 45 to 66 percent of union retirees received an increase. By contrast, only 11 to 43 percent of nonunion retirees received an increase in a given year. □

—FOOTNOTES—

¹The 5500 forms are used for the annual reports required by ERISA on the financial status of pension plans.

²Two subsamples were created from this sample for use in a regression analysis that is available in the full study. One subsample consisting of 121,103 recipients for whom all values were present for the independent variables—union status, number of beneficiaries in plan in 1979, years of service, age at retirement, sex, race, industry code, year of retirement, and salary average—was used to estimate initial benefits at retirement. Another subsample consisting of 103,579 recipients who retired between 1973 and 1977 for whom all values were available for the same independent variables was used in the regressions to estimate the percent changes in benefits between the year of retirement and 1979.

³Regression analysis for percent change in benefits for 1950–72 retirees was based on a subsample of 137,038 observations from this group with no missing values in the independent variables. This analysis is reported in the full study and is further extended in Steven G. Allen, Robert L. Clark, and Daniel A. Sumner, "Post-Retirement Adjustments of Pension Benefits," Faculty Working Paper No. 44, January 1984, North Carolina State University.

⁴Francis King in "Indexing Retirement Benefits," *The Gerontologist*, December 1982, pp. 488–92, reports that 75 percent of the plans in the 1980 Bankers Trust Survey provided at least one increase between 1975–79, 85 percent of the plans in the Hewitt Associates Survey awarded at least one increase between 1975 and 1981, and 56 percent of the plans in the Hay Associates Survey granted increases in 1981.

Poverty estimates lowered by inclusion of noncash benefits

The number of persons estimated to be below the poverty level would be significantly reduced if the value of noncash benefits (food, housing, and medical care) were included in the determination of such estimates, according to a study by the U.S. Bureau of the Census. Depending on which noncash benefits are included and which method is used to count them, the inclusion of noncash benefits as income would lower the poverty rate between 9 and 33 percent in 1982.

In August 1982, 34.4 million persons, or 15 percent of the population, were officially below the poverty level (cash income only). But, including the value of food stamps, free

or lower-priced school lunches, public or other subsidized housing, medicaid, and medicare reduces the estimate to between 22.9 million (10 percent) and 31.4 million people (13.7 percent).

Measured by money income alone, the official number of poor persons increased by 8.3 million, from 26.1 million in 1979 to 34.4 million in 1982. When noncash benefits are added to money income, the number of poor persons increased between 7.8 and 8.9 million (depending on how noncash benefits were valued), up from 15.1 million in 1979.

The official poverty rate rose 28 percent, from 11.7 percent of the population to 15.0 percent over the 1979–82 period. By contrast, under the alternate estimate (which includes noncash benefits), the poverty rate rose even faster, between 37 and 47 percent depending on the valuation of the noncash benefits. (This apparent anomaly is explained by the difference between the poverty bases in 1979: the alternative estimate (cash and noncash benefits) that year was 15.1 million in contrast to the official estimate of 26.1 million persons.)

The Census Bureau study investigates three valuation approaches and three combinations of benefits, yielding nine different estimates of poverty. The three valuation approaches used in the study were:

- The *market value* approach assigns a value to the non-cash benefit that is equal to the private market price of the goods and services received by recipients. For example, the market value of food stamps is the face value of the stamps.
- The *cash equivalent* approach assigns a value equal to the amount of cash that the recipient would accept in lieu of the goods or services. For example, a person might trade some of his food stamps for a lesser amount of cash which could be spent on other services or commodities.
- The *poverty budget share* approach does not attempt to value the noncash benefit directly, but, instead measures the amount by which the poverty threshold could be reduced for the family receiving the benefit. This reduction is equal to the average dollar amount of the goods or services consumed by households with money income approximately equal to the poverty level. Poverty budget share is a more limited valuation approach than the other two because it is relevant only for the purpose of determining poverty status.

Each of the valuation approaches was used to assign values to three different combinations of food, housing, and medical benefits. Because medical benefits represent such a large proportion of the total noncash benefits and because of various problems in valuing these benefits, one set of estimates was derived based on food and housing benefits alone. Furthermore, the question of whether to include or

exclude institutional health care benefits resulted in two additional estimates based on food, housing, and medical care.

The effect of noncash benefits on the estimated number of poor varies for different subgroups of the population. Noncash benefits have their largest effect on poverty estimates for the aged (persons 65 years old and over) if the value of medical benefits, mainly in the form of medicare, are included. The poverty rate for this group, 14.6 percent in 1982, is reduced by as much as 76 percent, to a rate of 3.5 percent, when medical benefits are considered. Other population subgroups are also greatly affected. For example, the poverty rate for blacks, 35.6 percent, is reduced by as much as 40 percent, while the poverty rate for whites is

decreased by 31 percent, using the value of all food, housing, and medical benefits. Furthermore, the poverty rate for families maintained by women, with no husband present, is reduced by as much as 39 percent.

Estimating the value of noncash benefits is considered difficult and controversial by economists and social scientists. There are various strengths and weaknesses associated with each valuation approach and with the data used in the estimates. Details of these problems are discussed in the comprehensive report, *Estimates of the Poverty Population Including the Value of Noncash Benefits: 1979-1982*, Technical Paper No. 51, which may be ordered from the Customer Services Branch (Publications), DUSD, Bureau of the Census, Washington, D.C. 20233. The cost is \$5. □

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.

Research Notes



Social cost-of-living indexes estimated

The individual cost-of-living index measures the relationship between prices and the welfare of a consumer or household. Calculation of the index may be based on econometric estimates of utility function parameters derived from a complete system of corresponding consumer demand equations. Such indexes can be used to compare the impact of price changes on the welfare of different households. If the indexes are aggregated over a group of households, the result is a group cost-of-living index that, at least implicitly, reflects distributional judgments concerning the welfare of different households. Because an explicit valuation of distributional judgments requires some very strong assumptions, this aspect of group cost-of-living indexes is usually ignored in conventional applications.

In this context, a recent paper by Dale Jorgenson and Daniel Slesnick, entitled "Individual and Social Cost of Living Indexes," has two distinguishing features. First, it advances the econometric approach to cost-of-living measurement by presenting a model of consumer behavior that incorporates recent developments in demand theory and employs novel empirical methods. Although the model has been described in earlier papers by the authors, this is its first application to cost-of-living measurement. Second, the paper presents a major, although somewhat controversial, innovation in cost-of-living measurement: an empirical application of the theory of a social cost-of-living index, which is a summary measure of the welfare effect of price changes on society as a whole.

The foundation of the authors' study is an econometric model of aggregate consumer behavior. Such models often ignore the important link between individual and aggregate consumer behavior that arises from the fact that aggregate demand functions are the sum of individual demand functions. The consequence is that the implications of the theory of consumer behavior for aggregate demand functions are obscured. Jorgenson and Slesnick rigorously forge this link with a model that incorporates recent advances in the theory of exact aggregation. Indeed, exact aggregation is the key-

stone of their model. This theory provides the restrictions on individual demand functions that are necessary if aggregate demand functions are to be expressed in terms of functions dependent upon individual expenditures and attributes, such as demographic characteristics that give rise to differences in preferences. A striking implication of this approach is that systems of demand functions for individuals with common demographic characteristics can be recovered uniquely from the aggregate system of demand functions. This permits the authors to take full advantage of all the implications of the theory of the individual consumer in specifying a model of aggregate consumer behavior. The restrictions inherent in theories of exact aggregation and utility maximization considerably simplify the specification of individual and aggregate demand functions.

Individual consumer expenditures are functions of the logarithm of income (total expenditures), a vector of demographic characteristics, and the logarithm of prices. Parameters in these functions vary only among goods. Aggregate consumer expenditure functions, obtained through exact aggregation across households, depend upon prices and two statistics that summarize, respectively, the distribution of expenditures over all consuming units and the joint distribution of expenditures and demographic characteristics. The aggregate functions are estimated empirically by pooling cross-sectional data on individual expenditure patterns from the 1972 panel of the Bureau of Labor Statistics Consumer Expenditure Survey (CES) with time-series data on aggregate expenditure patterns from the 1958-74 National Income and Product Accounts (NIPA). The summary statistics that appear in the aggregate expenditure function are constructed using data from Current Population Survey reports. Consumption categories in NIPA and the CES are sufficiently similar that the authors were able to relate the time-series data to the cross-sectional data using interindustry transaction data. The cross-sectional data are used to identify the total expenditure and demographic parameters in the expenditure functions, and the time-series data identify the price parameters.

The estimated econometric model serves as the apparatus for constructing individual, group, and social cost-of-living indexes. Conceptually, the three indexes are analogous in that they represent the ratio of expenditure required to attain a specified level of welfare at current-period prices to the expenditure required for that same level of welfare at ref-

"Research Notes" are brief reports on selected research published elsewhere that is related to the work of the Bureau. They are prepared by the authors, the MLR staff, or others.

erence-period prices. Individual welfare is represented by a translog indirect utility function that includes a set of demographic variables to capture differences in preferences among consuming units. This function generates the individual expenditure functions. The authors conclude that, under conditions of exact aggregation, the translog function provides a cardinal measure of welfare.

Interpersonal comparability is achieved through the introduction of equivalence scales. Restrictions on the individual utility function required for the use of equivalence scales lead to identification of all the parameters of the function, a necessary condition for constructing a social welfare function. Given the empirical forms for individual welfare and expenditure functions, the cost-of-living index is computed as described above. An important aspect of the individual cost-of-living index is that the validity of the modified translog function as a representation of the preferences of individual consumers is, in principle, empirically verifiable.

Construction of a social (group) cost-of-living index requires a social welfare function that provides criteria for balancing individual gains and losses. The authors meticulously derive such a function using results obtained in recent research on social choice theory. The result is a utilitarian social welfare function that is essentially an aggregate weighting of individual welfare functions in which the weights are the household equivalence scales. Social expenditure functions are derived from the welfare function, and empirical forms for these functions are based on the estimated econometric model; the social cost-of-living index is then constructed as described above.

It must be emphasized that a critical difference exists between the individual and social indexes. A social welfare function generally will not be known, and any proposed representation is not empirically verifiable. Consequently, no presumption can be made regarding maximization of society's welfare. The implication is that statements concerning an increase or decrease in society's welfare based on changes in a social cost-of-living index will depend upon an empirically untestable welfare function.

Jorgenson and Slesnick illustrate the behavior of each of the three indexes over the 1958–78 period. The results reveal a substantial diversity in individual cost-of-living indexes and rates of inflation between whites and nonwhites, between rural and urban consumers, and among households with different base levels of welfare. Group cost-of-living indexes for 21 different types of households, classified by demographic characteristics such as age of household head, region, and race also show substantial diversity. Large estimated differences in cost-of-living indexes among individuals and groups suggest a need for further investigation of population-specific indexes. For this purpose, an econometric approach such as that presented by Jorgenson and Slesnick has considerable advantages over other analytical techniques. Finally, the social cost-of-living index was found

to have increased at an average annual rate of 3.94 percent between 1959 and 1978, although it is difficult to judge this result, for the reasons discussed above.

In summary, the Jorgenson and Slesnick paper makes an ambitious and provocative contribution to the measurement of the cost of living. Their model adheres rigorously to consumer demand theory and is made operational with readily available data. It offers one way to construct cost-of-living indexes for various population groups and allows for community substitution in response to price changes. Application of the model to social cost-of-living measurement also represents a significant step beyond previous empirical research in this area. However, as in the case of any attempt to construct a social cost-of-living index, the paper is almost certain to inspire controversy.—James E. Duggan, Division of Price and Index Number Research, Bureau of Labor Statistics. □

Job vacancies versus unemployment

A common idea often occurs to people after reading the "help wanted" ads in the newspapers. Because so many jobs are available, there must be some problem in the way openings and people are matched. If only the jobs could be filled more quickly, unemployment would disappear.

In "Structural/Frictional vs. Deficient Demand Unemployment: Some New Evidence," Katherine G. Abraham provides carefully researched facts and an analysis of this issue. Using two techniques and a number of data sources, Abraham consistently finds that the number of persons seeking jobs far exceeds the number of job openings. In the late 1970's, there was an average of five unemployed persons or more for every vacant job, the author estimates.

The first section of the article, which appeared in the September 1983 issue of the *American Economic Review*, presents information from programs that attempted to collect vacancy data directly from establishments. The information available is limited to selected cities, States, or particular industrial sectors. A discussion of the most common statistical problems inherent in such data is provided, and the data are adjusted accordingly. The author believes that, on average, vacancies are underreported, and should be adjusted upwards by about 1.3 to 2.2 times the original estimates.

Unemployment data for the various geographic areas and periods are then matched with the vacancy data. For all but one of the programs studied, Abraham finds that vacancies were fewer than the number of unemployed persons. Only when the area unemployment rate fell below 3 percent were vacancies greater. The relationship between unemployment and vacancies, labeled the Beveridge curve by economists, is found to be strongly negative: when unemployment is high, vacancies are low.

The author then uses the results from the specialized surveys to build estimates of vacancy rates for the Nation as a whole. The national unemployment rate would have to

fall below 4 percent before vacancies would exceed the number unemployed.

In the second section of the paper, Abraham uses an entirely different data source to corroborate the results of the first part. Job tenure data from the Current Population Survey supplements of January 1963, 1968, 1973, and 1978 are used to calculate a "new hire" rate. With an estimate of the average amount of time a job remains vacant, this figure can be related to a theoretical vacancy rate. The conclusions are very similar to those of the first section.

A concluding section relates the findings to macro-economic theory and policy. While training programs or job openings may have positive aspects, they cannot be expected to have much impact on the aggregate unemployment rate. If every job opening were immediately filled with an unemployed person, three other persons would remain in the jobless queue.—Francis Horvath, Office of Employment and Unemployment Statistics, Bureau of Labor Statistics. □

Employment attachment: Japan vs. U.S.

A long-term employment relationship often has been cited as one of the key reasons for Japan's high labor productivity. However, recent discussions suggest that the United States also enjoys strong employer-employee attachments. Can economic theory shed light on the differences in the strength of employment relationships between the two countries?

In *Employment Tenure and On-the-job Training: Firm-Size Differences in Japan and the United States*, Masanori Hashimoto and John Raisian discuss two salient differences between the Japanese and the U.S. labor markets—the strength of employer-employee attachment (as measured by the durability of employment relationships) and the extent of on-the-job investments in human capital.

Although male workers in both countries exhibit long employment tenure, duration generally is longer in Japan than in the United States. One explanation for this difference is the extent of on-the-job investment in firm-specific human capital, which, in turn, determines employment tenure and earnings. Japanese workers invest more in firm-specific human capital than their American counterparts. Although one rarely hears of employee stock plans in Japanese firms, Japanese workers in effect have such plans in human, rather than physical, capital.

In both countries, employment tenure is longer and employees tend to invest more in on-the-job training in larger firms, although this tendency is weaker in the United States. Education is positively associated with investments in both countries, regardless of firm size.

The authors also discuss several hypotheses about why investments in firm-specific capital differ by firm size and between the two countries. This paper was presented at a Department of Labor Research Seminar on January 20, 1984.

—Anna Hill, MLR □

Technical Note



BLS to improve urban sample in 1987 revision of the CPI

The Bureau of Labor Statistics plans to improve the sample of urban areas in which BLS gathers prices for monthly preparation of the Consumer Price Index, beginning in 1987. In doing so, BLS will publish a number of local indexes less frequently in order to devote more resources to improving the national index.

The selection of the new sample of urban areas is one of the major early steps in the periodic revision of the CPI. The CPI is updated and refined about once every decade to take account of population shifts and changes in consumer buying habits and to introduce technical improvements. Since World War II, major revisions have been introduced in 1953, 1964, and 1978. The revision program now in progress will result in release of a revised CPI in 1987.

Janet L. Norwood, commissioner of labor statistics, said the new sample will include the Nation's largest metropolitan areas and other urban areas chosen by a probability sampling method to represent scientifically all of the remaining urban areas in the United States.

Population shifts noted

Norwood pointed out that the new city sample reflects the population shifts of the past decade and, thus, will more accurately measure consumer price movements in the years ahead.

In addition to the national index for all cities, the Bureau now publishes indexes for 28 urban areas. In 1987, it will continue to publish indexes for all but one of these areas—Northeast (Scranton–Wilkes-Barre) Pennsylvania. Price data will continue to be gathered in that area, but on a smaller scale than currently and publication of a separate index will be discontinued. In this and 63 other urban areas where data are to be collected, samples will be insufficient for calculation of a local index.

The new publication plan for local area indexes, beginning with the index for January 1987, is summarized below.

- Monthly indexes will continue to be published for the four largest metropolitan areas. (Because of sample design considerations, the index for the Detroit area will no longer be published monthly.) The four metropolitan areas:
Northeast: New York–Northern New Jersey–Long Island, NY-NJ-CT; Philadelphia–Wilmington–Trenton, PA-DE-NJ-MD;
North Central region: Chicago–Gary–Lake County, IL-IN-WI;
West: Los Angeles–Anaheim–Riverside, CA.

- Bimonthly indexes will be published, as in the past, for the next 11 largest areas, including Detroit:

Northeast: Boston–Lawrence–Salem, MA-NH; Pittsburgh–Beaver Valley, PA;

North Central region: Cleveland–Akron–Lorain, OH; Detroit–Ann Arbor, MI; St. Louis–East St. Louis, MO-IL;

South: Baltimore, MD; Dallas–Fort Worth, TX; Houston–Galveston–Brazoria, TX; Miami–Fort Lauderdale, FL; Washington, DC-MD-VA;

West: San Francisco–Oakland–San Jose, CA.

- A semiannual average will be published for 12 areas now published bimonthly:

Northeast: Buffalo–Niagara Falls, NY;

North Central region: Cincinnati–Hamilton, OH-KY-IN; Kansas City, MO, Kansas City, KS; Milwaukee, WI; Minneapolis–St. Paul, MN-WI;

South: Atlanta, GA

West: Anchorage, AK; Denver–Boulder, CO; Honolulu, HI; Portland–Vancouver, OR-WA; San Diego, CA; Seattle, Tacoma, WA.

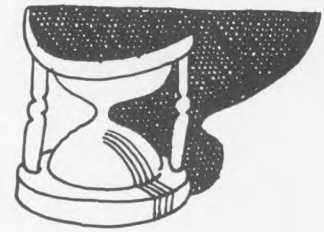
The changes in local area publication result from the requirement to allocate the sample to reflect population shifts in the 1980 Census in such a way as to provide the most accurate national CPI possible with the funds available. As a result, some areas will no longer have samples sufficient to permit more frequent publication.

The Bureau also will continue to publish separate indexes for four regions of the United States and for groups of cities within these regions, classified by size. Minor adjustments in the size groupings also are being planned, and separate indexes for nonmetropolitan urban places in the Northeast and West will be discontinued.

Selection of other samples

The city sample is one of several samples that must be selected in the process of revising the CPI. The others include:

- A sample of consumer units within each urban area for a Consumer Expenditure Survey that shows how much consumers spend for various goods and services.
- A sample of the outlets where consumers shop in each urban area.
- A sample of unique items selected from the outlet sample and representing the goods and services that consumers purchase—the so-called marketbasket that is priced for the monthly calculation of change in the CPI.
- A sample of housing units in each urban area, including both owner-occupied and rental dwellings, used to calculate changes in the residential rent and owners' equivalent rent components of the CPI. □



Major Agreements Expiring Next Month

This list of selected collective bargaining agreements expiring in June is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1000 workers or more.

Employer and location	Industry	Labor organization ¹	Number of workers
Allied Building Metal Industries, Inc. (New York, N.Y.)	Construction	Iron Workers	1,100
Allied Underwear Association, Inc. (New York, N.Y.)	Apparel	Ladies' Garment Workers	3,000
Associated Building Contractors of Northwestern Ohio, Inc., 2 agreements (Ohio)	Construction	Laborers; Carpenters	2,500
Associated Corset and Brassiere Manufacturers, Inc. (New York, N.Y.)	Apparel	Ladies' Garment Workers	1,000
Associated General Contractors of America, Inc.:			
Alaska Chapter	Construction	Carpenters	1,800
Detroit Chapter and 2 others (Michigan)	Construction	Laborers	3,500
Nevada Chapter and 2 others, 2 agreements	Construction	Carpenters; Teamsters	3,600
New Jersey Chapter	Construction	Operating Engineers	6,900
New York State Chapter	Construction	Laborers	1,250
Rhode Island Chapter	Construction	Carpenters	1,500
Utah Chapter, 2 agreements	Construction	Operating Engineers; Carpenters	5,200
Association of Motion Picture and Television Producers, Inc. (Interstate)	Motion Pictures	Directors Guild (Ind.)	7,000
Building Trades Employers Association of the City of New York (New York)	Construction	Lathers	1,200
Cedars-Sinai Medical Center (Los Angeles, Calif.)	Hospitals	Service Employees	2,000
Cerro Corp., Cerro Metal Products Division (Pennsylvania)	Primary metals	Auto Workers	1,000
Construction Employers of the Hudson Valley, Inc. (New York)	Construction	Laborers	1,000
Detroit Edison Co. (Michigan)	Utilities	Utility Workers	3,500
Dry Cargo agreement, Atlantic and Gulf Coasts (Interstate) ²	Water transportation	Masters, Mates and Pilots	1,400
Dry Cargo Vessel Companies and Agents (Interstate) ²	Water transportation	Maritime Union	15,000
Dry Cargo Vessels, Pacific Coast (Interstate) ²	Water transportation	Marine Engineers	4,000
Elevator Manufacturers' Association of New York, Inc. (New York, N.Y.)	Construction	Elevator Constructors	2,000
Employing Metallic Furring and Lathing Contractors Association of New York (New York)	Construction	Lathers	1,150
Greater Blouse, Skirt and Undergarment Association, Inc. (New York)	Apparel	Ladies' Garment Workers	2,000
GTE Lenkurt, Inc. (San Carlos, Calif.)	Electrical products	Electrical Workers (IBEW)	1,000
Hammermill Paper Co., Erie Division (Pennsylvania)	Paper	Paperworkers	1,250
Honeywell, Inc., Process Control Division (Fort Washington, Pa.)	Instruments	Electronic Workers (IUE)	1,100
Howmet Turbine Components Corp., Muskegon County Operations (Michigan)	Transportation equipment	Auto Workers	1,600
Huffy Corp., Ohio Bicycle Division (Celina, Ohio)	Transportation equipment	Steelworkers	1,500
Illinois Power Co. (Illinois)	Utilities	Electrical Workers (IBEW)	1,250
Independent shops, cloth hats and caps (New York, N.Y.) ²	Apparel	Clothing and Textile Workers	1,800
John Hancock Mutual Life Insurance Co. (Interstate)	Insurance	Insurance Workers	6,000
Kansas City Power and Light Co., Production Department (Missouri)	Utilities	Electrical Workers (IBEW)	1,000
Long Island Lighting Co., 2 agreements (New York)	Utilities	Electrical Workers (IBEW)	4,150
Mechanical Contractors Association (Interstate)	Construction	Plumbers	8,000
Metropolitan Lithographers Association, Inc. (Interstate)	Printing and publishing	Amalgamated Lithographers of America, Local One	5,200
Ohio Edison Co. (Akron, Ohio)	Utilities	Utility Workers	2,000

See footnotes at end of table.

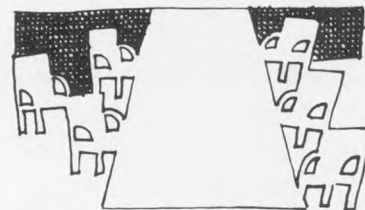
Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Labor organization ¹	Number of workers
Plumbing and Air Conditioning Contractors of Arizona (Phoenix, Ariz.)	Construction	Plumbers	5,000
Potlatch Corp., Northwest Paper Division (Minnesota)	Paper	Firemen and Oilers; Paperworkers	1,500
Respective Chicago Dealers' Associations and Independents, Standard Automotive Agreement—sales and service (Illinois)	Retail trade	Machinists	3,000
Rockwell International Corp. (Interstate)	Transportation equipment	Auto Workers	11,000
Sheet Metal and Air Conditioning Contractors Association of New York City, Inc. (New York)	Construction	Sheet Metal Workers	3,200
South Central Employers, field construction (Interstate) ²	Construction	Boilermakers	2,300
Spokane Food agreement (Spokane, Wash.) ²	Retail trade	Food and Commercial Workers	1,450
Standard Freightship agreement (Interstate) ²	Water transportation	Seafarers	15,000
Standard Tanker agreement (Interstate) ²	Water transportation	Seafarers	15,000
Tanker Companies; Atlantic and Gulf Coasts, Licensed Deck Officers (Interstate) ²	Water transportation	Masters, Mates and Pilots	1,000
Tanker Vessels Companies, Unlicensed personnel (Interstate) ²	Water transportation	Maritime Union	6,000
Tanker Vessels agreement, Pacific Coast (Interstate) ²	Water transportation	Marine Engineers	6,500
Textron, Inc., Bell Helicopter Co. Division, 2 agreements (Texas)	Transportation equipment	Auto Workers	5,300
True Temper Corp. (Interstate)	Fabricated metal products	Steelworkers	1,200
Union Painting Contractors Association and 1 other (Interstate)	Construction	Painters	1,500
Union Carbide Corp., Nuclear Division (Oak Ridge, Tenn.)	Chemicals	Atomic Trades and Labor Council: Machinists	4,250
Zenith Radio Corp. (Chicago, Ill.)	Electrical products	Independent Radionic Workers of America (Ind.)	1,450

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

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

Developments in Industrial Relations



Auto manufacturers share profits with employees

The continuing high level of sales of domestic automobiles was reflected in manufacturers' profits, and in their profit-sharing and bonus payments to employees. Despite these auspicious circumstances, it appears that the coming 1984 bargaining between the Auto Workers and General Motors Corp. and Ford Motor Co. will be very difficult. One reason is that the large profits have whetted the employees' appetite for restoration of the compensation cuts they accepted in their 1982 settlements. (See *Monthly Labor Review*, April 1982, pp. 62-64, and May 1982, pp. 59-60.) Another reason is that increased international competition in the industry has forced the domestic auto manufacturers to operate on a "leaner" basis, which means that their increase in output has been accomplished with a less than proportionate recall of laid-off workers. As a result, some laid-off workers may never be recalled. (At General Motors, 75,000 workers were still on layoff in February 1984, compared with 165,000 a year earlier.) Concern about employment was intensified by the inadvertent release of a General Motors internal bargaining document indicating that the company planned further employment cuts in coming years, and that in the 1984 bargaining it will seek to tie employee pay strictly to profit levels. This would replace the historical practice of providing specified annual wage increases and automatic cost-of-living adjustments, which must be paid regardless of corporate operating results.

At General Motors, the 1983 profit was \$3.73 billion, exceeding the record \$3.5 billion earned in 1978. Of the total, \$322 million was distributed to 531,000 hourly and "nonexecutive" salary employees. The payout averaged \$640 for employees who worked a "normal" schedule in 1983 and was the first payout possible under the profit-sharing plan negotiated in 1982 for the 350,000 hourly GM employees represented by the union. Subsequently, GM extended the same plan to 181,000 workers who are not represented by a union. Union officials hailed the payout announcement but noted that the distribution did not come close to matching the approximate \$4,500 to \$6,200 in

wages and benefits each worker had given up over the term of the 1982 agreement. UAW Vice President Donald Ephlin said that in the 1984 talks, "We will be discussing a sweetening of the formula," citing "the great disparity" between bonuses paid to GM executives and the profit-sharing distribution to the union-represented workers. The stock and cash distribution to 5,800 GM executives averaged \$31,000 each.

At Ford, where the 1983 profit was a record \$1.867 billion, the profit-sharing distribution averaged \$440 for the 115,000 workers the UAW represents. This was less than at GM despite the fact that the Ford formula is more generous. The GM employees were willing to accept their less generous formula because GM has historically been more profitable than Ford.

After the Ford-GM announcements of profit-sharing distributions, UAW delegates to a special convention set additional union objectives for the coming negotiations. The goals included curbs on overtime work, reduced work time, improved training and retraining provisions, specified wage increases, and continuation of the provision for automatic cost-of-living pay adjustments. UAW President Owen Bieber said that the union will work with the companies to reduce health care costs but would not agree to any provisions which would require employees to begin paying the costs.

At Chrysler Corp., the 1983 profit was a record \$700.9 million, exceeding the \$422.6 million for 1976. Chrysler workers did not share in the profit because in their December 1982 settlement they exchanged their profit-sharing plan for immediate pay increases to reduce the wage disparity between them and Ford-GM employees resulting from earlier concessionary settlements. In 1983, Chrysler and the UAW negotiated a contract running to October 1985, which will bring pay and benefit levels up to those in the 1982-84 Ford and GM contracts. (See *Monthly Labor Review*, October 1983, pp. 37-38, for terms of the Chrysler contract.)

American Motors Corp. reported a \$258.3 million loss for 1983, but it did earn a \$7.5-million profit in the fourth quarter, after 14 consecutive unprofitable quarters. The employees are not covered by a profit-sharing plan. However, under an Employee Investment Plan, they lent the company \$110 million to be repaid with interest, beginning in 1985. Their contract, negotiated in 1982, expires in September 1985. (See *Monthly Labor Review*, July 1982, p. 54.)

"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.

Tire companies adopt 7-day work schedules

In recent months, the major domestic tire producers have moved to meet increasing demand by negotiating changes in work schedules to permit greater use of facilities. A major change was conversion to a 7-day-a-week operation, with employees working regular hours on weekends at straight-time rates. Previously, the workers generally received time-and-a-half pay for all Saturday work and double time pay for all Sunday work.

One of the conversions was at General Tire & Rubber Co.'s Charlotte, N.C., plant, where a 3-year settlement with United Rubber Workers Local 850 ended a 4-month strike.

In addition to the schedule change, about half the workers will get immediate wage increases which will widen the skill differential between job grades. Other terms of the contract included employee payment of a larger part of hospital medical-surgical costs; an increase in pension rates to \$15 a month for each of the first 15 years of service, \$16.50 for each of the following 15 years, and \$17 for each year in excess of 30; and a profit-sharing plan.

The terms at the Charlotte plant were similar to those in earlier settlements at General Tire plants in Waco, Tex., and Mayfield, Ky.

At Firestone Tire & Rubber Co., some plants were already under 7-day-a-week schedules, as provided for under the 3-year master agreement negotiated in 1982, while others were being converted to such schedules under recently negotiated supplements to the master agreement.

A Goodyear Tire & Rubber Co. plant in Tyler, Tex. shifted to 7-day-a-week operation. The change was part of a settlement which included several changes designed to reduce labor costs, in return for a \$250 million company investment to convert the plant from production of bias ply tires to radial tires.

At a Goodyear plant in Gadsden, Ala., employees rejected the 7-day-a-week operation because many "did not want to give up overtime opportunities or be inconvenienced by weekend workdays," according to the company. Goodyear claims the proposed schedule change would have added 250 jobs to the 3,600 at the plant, which produces radial tires.

Dockworkers resolve local issues

Prolonged bargaining between East and Gulf Coast stevedoring companies and the International Longshoremen's Association ended when the parties agreed on the last of the local supplements to the coastwide master contract. They had agreed on the wage and benefit terms of the master contract in April 1983, however, a legal dispute over cargo containerization rules led the union to schedule a ratification vote in which members were urged to reject that settlement. This could have led to a strike but the union canceled the ratification vote and negotiated a stopgap 106-day master agreement, during which talks on local issues were expected

to be concluded, regardless of the outcome of the court case. (See *Monthly Labor Review*, January 1984, p. 40.)

The master agreement, effective through September 30, 1986, contained the same terms for the 50,000 workers as the 1983 settlements—wage increases of \$1 an hour on October 1 of 1983, 1984, and 1985, and a \$1.25-an-hour increase in employer payments to benefit funds. (See *Monthly Labor Review*, October 1983, p. 40.)

The settlements on local issues, which were preceded by strikes of up to 2 weeks in Baltimore, Philadelphia, Wilmington, Del., and Boston, varied.

- At the port of New York City-New Jersey, the pension was changed to \$950 a month for employees retiring at age 62 or later with 40 years of service, from \$750 for those retiring at age 62 or later after 35 years of service. Eligibility requirements also were tightened for paid vacations and for the guaranteed annual income plan, under which employees who worked at least 700 hours in 1965 (the year before the plan was established) are assured of 2,080 hours of work or pay each year.
- At ports between Lake Charles, La., and Brownsville, Tex., eligibility requirements for the guaranteed annual income plan also were tightened.
- At Baltimore, the guaranteed annual income level was maintained at 1,900 hours for those previously eligible, and set at 1,100 hours for those hired before October 1, 1983, and not previously eligible. Workers hired after that date are not covered.
- At ports from North Carolina to Florida, the guaranteed annual income was raised to 1,725 hours a year, from 1,250 hours, but any holiday and vacation pay is now deducted. The settlement also added a fifth week of paid vacation for employees with 15 years of service and a sixth week for those with 20 years of service.
- In Hampton Roads, Va., the guaranteed annual income was reduced to 1,500 hours, from 1,800.
- In Philadelphia, the guaranteed annual income was reduced to 1,500 hours, from 1,900.
- In Mobile, Ala., a paid holiday was added, bringing the total to 16 a year.

The local agreements in some ports, such as New Orleans, La., and Miami and Fort Lauderdale, Fla., did not provide for any major changes in wages and benefits.

Unions act to regain share of construction jobs

In the Washington, D.C., area, building trades unions entered an agreement with a contractors' association designed to regain the increasing share of construction work lost to nonunion firms in recent years. John O'Connor, acting head of the AFL-CIO's Washington Building and Construction Trades Council, said that he considered the "market recovery agreement" a "turning point" and that the concessions were necessary "to get our people back to work." At the time of the settlement, union members reportedly

were performing approximately 20 percent of the building work in the area, compared with about 75 percent several years earlier. An important factor in the nonunion firms' ability to underbid the union contractors apparently is lower employee compensation, which ranges from about \$10 to \$12 an hour, compared with about \$16 to \$22 an hour for union workers.

Under the new agreement, which culminated a year of negotiations, 15 unions and the 34-member Construction Contractors Council agreed to strive for improvements in labor and management practices to cut costs, rather than relying solely on wage cuts. Seven unions did not participate in the plan because their trade was not threatened by non-union competition, or for other reasons.

The accord, based on a "model" agreement developed by the AFL-CIO's Building and Construction Trades Department, called for the unions to reduce wage and benefit costs by 20 percent. Five of the trades attained the goal by reducing pay by 10 percent and accepting other changes, including increased use of lower paid "helpers," and regular pay instead of time-and-a-half for work performed on Saturday to make up for work canceled because of bad weather. The 10 other trades attained the entire 20-percent reduction through changes in work rules and staffing requirements.

The contractors agreed to further reduce costs by evaluating their operating procedures and making necessary changes, and they agreed to employ only unionized subcontractors. Finally, union and management agreed to a "no-strike/no-lockout" provision and to resolve all disputes through a joint committee.

The agreement was signed in February, but the approach had actually been applied several months earlier in individual settlements between unions and builders. According to a union official, the approach had contributed to the winning of \$300 million in project contracts by local union firms since its inception.

Understanding ends nursing home dispute

A dispute between the Nation's largest nursing home chain and the Food and Commercial Workers and Service Employees unions ended when the parties signed a letter of understanding that was expected to lead to a more amicable relationship. The unions had initiated a "corporate campaign" against Beverly Enterprises, Inc., early in 1983, claiming that the firm was making improper efforts to thwart

the unions' joint organizing efforts and, in cases where the unions were successful, was refusing to bargain in good faith. The unions also claimed that Beverly was not providing adequate patient care and employee working conditions. As part of the campaign, which was terminated under the accord, the unions sought shareholder support for resolutions on patient care, issued reports critical of Beverly, and pressed the Securities and Exchange Commission to require the chain to provide more financial information in its required reports to the agency.

Not all aspects of the accord were divulged but the parties said that it "defines guidelines for an ongoing relationship," that "resolution of disputes will be handled through a national labor/management task force that will meet regularly," and that all concerned parties were "committed to making this understanding work to the benefit of health care in this country."

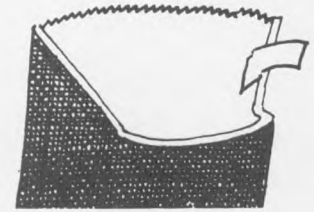
The letter "reaffirms the principles of employee freedom of choice on union representation," and Beverly agreed to work toward a "noncoercive" atmosphere during future organizing efforts. However, a company representative said that Beverly will not necessarily be neutral with regard to unionization, that management still believes the best relationship with their employees is a direct relationship.

Beverly is now committed to bargain with the unions when they win a representation election or when the chain acquires a nursing home where the unions already hold bargaining rights. This is a reversal of the anti-union attitude Beverly had previously demonstrated, according to William Wynn, president of the Food and Commercial Workers union.

During their organizing campaign—which will be continued—the unions won 28 of 41 representation elections at company facilities. Beverly owns or operates 800 nursing homes in 37 States.

The "corporate campaign" was one of several that unions have mounted in recent years. The most famous, involving J.P. Stevens & Co. and the Clothing and Textile Workers, ended with a settlement in October 1983. (See *Monthly Labor Review*, January 1984, p. 41.) Another recent accord that provided for a lessening of labor-management discord was between Litton Industries, Inc., and the AFL-CIO's Industrial Union Department. Currently, the Auto Workers union has a campaign underway against General Dynamics Corp., which it describes as "the nation's premier symbol of the arrogance of corporate power." About 1,400 UAW members have been on strike against the company's Electric Boat Division in Groton, Conn., since June 9, 1983. □

Book Reviews



Key to improving performance?

Management Support Systems: A Pragmatic Approach.

By Harry Katzan, Jr. New York, Van Nostrand Reinhold Co., 1984. 115 pp., bibliography.

The debate over, and suggestions for, the application of electronic computing capabilities to the management function has taken place since those "early" days in which computers served mostly as accounting and recordkeeping machines. In fact, those functions probably still predominate. But as the capability and efficiency of computers increased, more and more possibilities were apparent. Systems were seen as providing information in forms useful for "higher level" management, for transforming offices through electronic word processing, filing, and communications, and, more recently, for supporting directly the decision process including its more subjective and probabilistic aspects. For all of the change, and for all of the substantial gains in efficiency of data and information handling, though, the search for the optimum use of computing capability in aid of the management function continues. In *Management Support Systems*, Harry Katzan has proposed an operational framework in which most current computer-based information systems (database, management information, decision-support, and office information/automation) would be viewed and constructed in an integrated manner.

Katzan defines a "management support system" as a "computer-based information system that supports executive, management, and administrative activity through informational and computational resources." He contends that management style and the overall organizational environment are important in determining "how a person views information" and "how effective a management support system could be in (a particular) organizational setting." The author attributes many of the weaknesses of previous computer-based information systems to the failure to account adequately for these broader concerns.

Effective management support ranges from the concept of a database and its development to modeling and other simulation facilities. Apart from the technical characteristics of this scheme (databases, relational software, prototyping, and so on), Katzan proposes an "information center" as a distinct organizational entity which provides services such

as direct assistance, consulting, and education to the end-user of information. Katzan uses specific cases in an explanatory sense, and includes numerous diagrams of varying degrees of usefulness, some of which will be heavy going for the reader who does not have a computer systems background.

The author is correct in his formal recognition of the importance of perception, organization, and management style in defining a "system" to support management. As he points out, it is true that in time "buzzwords" of new systems are removed from their original context (in which they described a particular system approach or environment, for example, "management information system", or "MIS"; "decision support system", or "DSS") to a marketing one. However, Katzan's criticism of this tendency may be a bit overdone because it does not do justice to the intellectual concept which first led to the terminology. After all, "management support system" could also become a buzzword. It is quite possible, as many of the authors cited in Katzan's bibliography have done, to use the concept of "decision support system" as a useful framework for systems development in an intellectual, as opposed to a commercial or bureaucratic, way.

The danger in Katzan's approach is in expanding the definition of a concept so that it includes every conceivable thing that touches it. When a management support system is defined to include the entire computer system and organizational and psychological environments, many of the specific suggestions and analyses become difficult to evaluate outside a particular organizational or temporal setting. That is, what Katzan is suggesting may or may not be effective in any one place or time, depending on all these factors.

In summary, the author's general view, which extends the consideration of information systems development beyond the computer environment, and his general focus on adaptability to the varying needs of the end-user of information, are good (if not original) steps. This book provides some useful topics for consideration.

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Publications received

Agriculture and natural resources

- Duncan, Marvin and Mark Drabenstott, "Better Times Ahead for Agriculture," *Economic Review*, Federal Reserve Bank of Kansas City, December 1983, pp. 22-36.
- Farnsworth, Richard L. and Joe Moffitt, "Farmers' Perceptions and Information Sources: A Quantitative Analysis," *Agricultural Economics Research*, January 1984, pp. 8-11.
- Organization for Economic Co-operation and Development, "Aid to Food and Agriculture: A Permanent Challenge," *The OECD Observer*, November 1983, pp. 12-16.
- Paarlberg, Philip L., "When Are Export Subsidies Rational?" *Agricultural Economics Research*, January 1984, pp. 1-7.

Economic growth and development

- Eichner, Alfred S., "Budgeting for Peace and Growth," *Challenge*, January-February 1984, pp. 9-20.
- Fellner, William, ed., *Essays in Contemporary Economic Problems: Disinflation*. Washington, American Enterprise Institute for Public Policy Research, 1984. 324 pp.
- Galbraith, John Kenneth, "Keynes, Roosevelt, and the Complementary Revolutions," *Challenge*, January-February 1984, pp. 4-8.

Economic and social statistics

- Green, Gordon and John Coder, "Counting What You Keep," *American Demographics*, February 1984, pp. 22-27.
- Grossman, Sanford J. and Oliver D. Hart, *Implicit Contracts Under Asymmetric Information*. Reprinted from the *Quarterly Journal of Economics*, Vol. 98, Supplement 1983, pp. 123-56. Cambridge, Mass., National Bureau of Economic Research, Inc. (NBER Reprint, 430.) \$1.50.
- Jaeger, Richard M., *Statistics: A Spectator Sport*. Beverly Hills, Calif., Sage Publications, 1983. 350 pp. \$27.95, cloth; \$14.95, paper.
- Lazer, William, "How Rising Affluence Will Reshape Markets," *American Demographics*, February 1984, pp. 16-21.
- Robey, Bryant and Cheryl Russell, "Trends: All Americans," *American Demographics*, February 1984, pp. 32-35.

Education

- Blakemore, Arthur E. and Stuart A. Low, "Scholarship Policy and Race-Sex Differences in the Demand for Higher Education," *Economic Inquiry*, October 1983, pp. 504-19.
- "Federal Involvement in Education: In Pursuit of Equity and Quality," *IFG Policy Notes*, Institute for Research on Educational Finance and Governance, Fall 1983, pp. 1-2.
- Schoeny, Donna Hager and Larry E. Decker, eds., *Community, Educational, and Social Impact Perspectives*. Lanham, Md., University Press of America, Inc., 1983. 227 pp. \$22.50, cloth; \$10.75, paper.

Health and safety

- Aaron, Henry J. and William B. Schwartz, *The Painful Prescription: Rationing Hospital Care*. Washington, The Brookings Institution, 1984. 161 pp. \$22.95, cloth; \$8.95, paper.
- Bequele, Assefa, "The Cost and Benefits of Protecting and Saving Lives at Work: Some Issues," *International Labour Review*, January-February 1984, pp. 1-16.

Hausman, Jerry A., Bart D. Ostro, David A. Wise, *Air Pollution and Lost Work*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1983, 34 pp. (NBER Working Paper Series, 1263.) \$1.50.

International Labour Office, *Accident Prevention: A Workers' Education Manual*. Geneva, International Labour Office, 1983, 175 pp. Available in the United States from the Washington branch of ILO.

U.S. Department of Health and Human Services, *A Report to Congress on the Evaluation of Health Manpower Shortage Area Criteria, 1983*. Rockville, Md., U.S. Department of Health and Human Services, Public Health Service, Health Resources and Services Administration, 1983, 189 pp.

Industrial relations

- Blumrosen, Alfred W. and James M. Culp, "Reducing the Workweek to Expand Employment: A Survey of Industrial Response," *Employee Relations Law Journal*, Winter 1983-84, pp. 393-415.
- Cook, Alice H., Val R. Lorwin, Arlene Kaplan Daniels, eds., *Women and Trade Unions in Eleven Industrialized Countries*. Philadelphia, Pa., Temple University Press, 1984. 327 pp. \$34.95.
- Ehrenberg, Ronald G., Leif Danziger, Gee San, *Cost-of-Living Adjustment Clauses in Union Contracts: A Summary of Results*. Reprinted from the *Journal of Labor Economics*, July 1983, pp. 215-45. Cambridge, Mass., National Bureau of Economic Research, Inc., 1983. (NBER Reprint, 440.) \$1.50.
- Landau, C. E., "Recent Legislation and Case Law in the EEC on Sex Equality and Employment," *International Labour Review*, January-February 1984, pp. 53-70.

Industry and government organization

- Badaracco, Joseph L., Jr. and David B. Yoffie, "Industrial Policy: It Can't Happen Here," *Harvard Business Review*, November-December 1983, pp. 96-105.
- Reich, Robert B., *The Next American Frontier*. New York, Times Book Co., Inc., 1983, 324 pp. \$16.60.

International economics

- Bernstein, Paul, "Swedish Wage-Earner Fund: The Eighth Episode," *World of Work Report*, February 1984, pp. 5-6.
- Brada, Josef C. and Jose A. Mendez, "Regional Economic Integration and the Volume of Intra-Regional Trade: A Comparison of Developed and Developing Country Experience," *Kyklos*, Vol. 36, 1983, Fasc. 4, pp. 589-603.
- Brander, James and Paul Krugman, "A 'Reciprocal Dumping' Model of International Trade," *Journal of International Economics*, November 1983, pp. 313-21.
- Clausen, A. W., "Let's Not Panic About Third World Debts," *Harvard Business Review*, November-December 1983, pp. 106-14.
- Enders, Walter and Harvey E. Lapan, "On the Relationship Between the Exchange Regime and the Portfolio Rules of Optimizing Agents," *Journal of International Economics*, November 1983, pp. 199-224.
- Feldstein, Martin, "Why the Dollar is Strong," *Challenge*, January-February 1984, pp. 37-41.
- Goode, Richard, *Government Finance in Developing Countries*. Washington, The Brookings Institution, 1984. 334 pp. \$31.95, cloth; \$11.95, paper.
- Hamilton, Bob and John Whalley, "Optimal Tariff Calculations in Alternative Trade Models and Some Possible Implications

for Current World Trade Arrangements," *Journal of International Economics*, November 1983, pp. 323-48.

- International Labour Organization, *Collective Bargaining: A Response to the Recession in Industrialized Market Economy Countries*. Geneva, International Labour Office, 1984, 275 pp. Distributed in the United States by the Washington Branch of ILO.
- *World Labour Report: Vol. I, Employment, Incomes, Social Protection, New Information Technology*. Geneva, International Labour Organization, 1984, 215 pp. \$25.65. Available in the United States from the Washington Branch of ILO.
- Jones, Ronald W. and Fumio Dei, "International Trade and Foreign Investment: A Simple Model," *Economic Inquiry*, October 1983, pp. 449-64.
- Koskela, Erkki and Matti Virén, "National Debt Neutrality: Some International Evidence," *Kyklos*, Vol. 36, 1983, Fasc. 4, pp. 575-88.
- Levin, Jay H., "The J-Curve, Rational Expectations, and the Stability of the Flexible Exchange Rate System," *Journal of International Economics*, November 1983, pp. 239-51.
- Yano, Makoto, "Welfare Aspects of the Transfer Problem," *Journal of International Economics*, November 1983, pp. 277-89.

Labor and economic history

- Newman, Robert J., *Growth in the American South: Changing Regional Employment and Wage Patterns in the 1960s and 1970s*. New York, New York University Press, 1984, 227 pp. \$30.
- Willenz, June A., *Women Veterans: America's Forgotten Heroines*. New York, Continuum Publishing Co., 1983, 252 pp. \$19.50.

Labor force

- Ahmad, Zubeida, "Rural Women and Their Work: Dependence and Alternatives for Change," *International Labour Review*, January-February 1984, pp. 71-86.
- Best, Fred J. and Sherry M. Bell, *Labor Demand Forecasting for Los Angeles: Can Existing Systems Be Improved?* Los Angeles, Calif., Los Angeles Business Labor Council, 1983, 80 pp.
- Brown, Charles, *Military Enlistments: What Can We Learn from Geographic Variation?* Cambridge, Mass., National Bureau of Economic Research, Inc., 1984, 40 pp. (NBER Working Paper Series, 1261.) \$1.50.
- Butler, Robert N., "Current Data Inconclusive About Aged's Health and Work," *Aging and Work*, Vol. 6, No. 3, 1983, pp. 187-95.
- Clark, Robert L., *Sources of Labor Market Problems of Older Persons Who Are Also Women, Handicapped, and/or Members of Minority Groups*. Washington, National Commission for Employment Policy, 1983, 38 pp. (Research Report Series, 83-05.)
- Feldman, Jacob J., "Work Ability of the Aged Under Conditions of Improving Mortality," *Aging and Work*, Vol. 6, No. 3, 1983, pp. 197-213.
- Hausman, Jerry and Paul Ruud, *Family Labor Supply with Taxes*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1984, 15 pp. (NBER Working Paper Series, 1271.) \$1.50.
- Hoop, Charles C. and Joseph N. Wolzansky, "Matching White-Collar Skills to the Work," *Harvard Business Review*, November-December 1983, beginning on p. 64.

- Johnson, Terry R., Katherine P. Dickinson, Richard W. West, *Older Workers' Responses to Job Displacement and the Assistance Provided by the Employment Service*. Washington, National Commission for Employment Policy, 1983, 31 pp. (Research Report Series, 83-13).
- Leontief, Wassily and Faye Duchin, *The Impacts of Automation on Employment, 1963-2000*. New York, New York University, Institute for Economic Analysis, 1983, 353 pp.
- Levitan, Uri, "Working and Aging in the Kibbutz: Some Relevance for the Larger Society," *Aging and Work*, Vol. 6, No. 3, 1983, pp. 215-26.
- Mayer, Jean, "Regional Employment Development: The Evolution of Theory and Practice," *International Labour Review*, January-February, 1984, pp. 17-34.
- Osterman, Paul, ed., *Internal Labor Markets*. Cambridge, Mass., The MIT Press, 1984, 296 pp. \$30.
- Reubens, Beatrice G., ed., *Youth at Work: An International Survey*. Totowa, N.J., Rowman & Allanheld, Publishers, 1983, 347 pp. \$48.50.
- Schwartz, Gail Garfield and William Neikirk, *The Work Revolution*. New York, Rawson Associates, 1983, 255 pp., bibliography. \$14.95.
- Shapiro, David and Steven H. Sandell, *Age Discrimination and Labor Market Problems of Displaced Older Male Workers*. Washington, National Commission for Employment Policy, 1983, 16 pp. (Research Report Series, 83-10.)
- van Ginneken, Wouter, "Employment and the Reduction of the Work Week: A Comparison of Seven European Macro-Economic Models," *International Labour Review*, January-February 1984, pp. 35-52.
- White, Barbara Ann, "Optimal Strategies for Workers on Temporary Layoff," *Economic Inquiry*, October 1983, pp. 520-44.

Management and organization theory

- Bledsoe, Ralph C., "Technology and Government Management," *The Bureaucrat*, Winter 1983-84, pp. 29-34.
- Budd, John F., Jr.; Bruce C. Pennington, consulting ed., *Corporate Video in Focus: A Management Guide to Private TV*. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1983, 210 pp. \$10.95.
- Cooper, Elizabeth A. and Gerald V. Barrett, "Equal Pay and Gender: Implications of Court Cases for Personnel Practices," *The Academy of Management Review*, January 1984, pp. 84-94.
- Cummings, Larry L., "Compensation, Culture, and Motivation: A Systems Perspective," *Organizational Dynamics*, Winter 1984, pp. 33-44.
- Howard, Ann, Keitaro Shudo, Miyo Umeshima, "Motivation and Values Among Japanese and American Managers," *Personnel Psychology*, Winter 1983, pp. 883-98.
- Imberman, Woodruff, "Who Strikes—and Why," *Harvard Business Review*, November-December 1983, beginning on p. 18.
- Jackofsky, Ellen F., "Turnover and Job Performance: An Integrated Process Model," *The Academy of Management Review*, January 1984, pp. 74-83.
- Leavitt, Roy L., ed., *Employee Assistance and Counseling Programs: Help for Employees . . . High Returns for Companies (Proceedings of a Research Utilization Workshop on Employer Sponsored Human Services)*. New York, Community Council of Greater New York, 1983, 71 pp.
- Matzer, John, Jr., ed., *Creative Personnel Practices: New Ideas for Local Government*. Washington, International City Man-

- agement Association, 1984, 247 pp. \$19.50, paper.
- Shrivastava, Paul and Ian I. Mitroff, "Enhancing Organizational Research Utilization: The Role of Decision Makers' Assumptions," *The Academy of Management Review*, January 1984, pp. 18-26.
- Stonich, Paul J. "The Performance Measurement and Reward System: Critical to Strategic Management," *Organizational Dynamics*, Winter 1984, pp. 45-57.
- Yankelovich, Daniel and John Immerwahr, "Putting the Work Ethic to Work," *Society*, January-February 1984, pp. 58-76.

Monetary and fiscal policy

- Abrams, Richard K., Richard Froyen, Roger N. Waud, "The State of the Federal Budget and the State of the Economy," *Economic Inquiry*, October 1983, pp. 485-503.
- Drabenstott, Mark, Marvin Duncan, Anne O'Mara McDonley, "Fiscal Condition of Tenth District States," *Economic Review*, Federal Reserve Bank of Kansas City, January 1984, pp. 9-26.
- Hansson, Ingemar and Charles Stuart, "Taxation, Government Spending, and Labor Supply: A Diagrammatic Exposition," *Economic Inquiry*, October 1983, pp. 584-87.
- Miller, Glenn H., Jr., Karlyn Mitchell, Dan Hoxworth, "The U.S. Economy and Monetary Policy in 1983," *Economic Review*, Federal Reserve Bank of Kansas City, December 1983, pp. 3-21.
- Pardee, Scott E., "Prospects for LDC Debt and the Dollar," *Economic Review*, Federal Reserve Bank of Kansas City, January 1984, pp. 3-8.
- Roley, V. Vance and Rick Troll, "The Impact of Discount Rate Changes on Market Interest Rates," *Economic Review*, Federal Reserve Bank of Kansas City, January 1984, pp. 27-39.

Productivity and technological change

- Leonard, Jonathan S., *Anti-Discrimination or Reverse Discrimination: The Impact of Changing Demographics, Title VII and Affirmative Action on Productivity*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1983, 40 pp. (NBER Working Paper Series, 1240.) \$1.50.
- MacDonald, Stuart, D. McL. Lamberton, Thomas Mandeville, eds., *The Trouble with Technology: Explorations in the Process of Technological Change*. New York, St. Martin's Press, 1983, 224 pp., \$25.
- Mohnen, Pierre A., M. Ishaq Nadiri, Ingmar R. Prucha, *Research and Development Expenditure (R&D), Production Structure, and Productivity Growth in the U.S., Japanese, and German Manufacturing Sectors*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1984, 51 pp. (NBER Working Paper Series, 1264.) \$1.50.
- Peitchinis, Stephen G., *Computer Technology and Employment: Retrospect and Prospect*. New York, St. Martin's Press, 1983, 191 pp., bibliography, \$35.
- Rosenbrock, H. H., "Robots and People," *Work and People*, Vol. 9, No. 2, 1983, pp. 14-21.
- Stollery, Kenneth R., *Productivity Trends and their Causes in the Canadian Mining Industry, 1957-79*. Ottawa, Ontario, Economic Council of Canada, 1983, 86 pp., bibliography. (Discussion Paper 248.)
- Sylos-Labini, Paolo, "Factors Affecting Changes in Productiv-

ity," *Journal of Post Keynesian Economics*, Winter 1983-84, pp. 161-79.

Wages and compensation

- Hamermesh, Daniel S., *New Measures of Labor Cost: Implications for Demand Elasticities and Nominal Wage Growth*. Reprinted from *The Measurement of Labor Cost*, Jack E. Triplett, ed. Cambridge, Mass., National Bureau of Economic Research, Inc., 1983. (NBER Reprint, 439.) \$1.50.
- Reichenberg, Neil E., ed., "Special Issue: Comparable Worth," *Public Personnel Management*, Winter 1983, pp. 323-466.
- U.S. Bureau of Labor Statistics, *Industry Wage Survey: Computer and Data Processing Services, October 1982*. Prepared by Carl Barsky. Washington, 1983, 52 pp. (Bulletin 2184.) Stock No. 029-001-02791-5. \$2, Superintendent of Documents, Washington 20402.
- Varadarajan, Poondi and Charles M. Futrell, "Marketing Executives' Perceptions of the Determinants of Salary Increases: A Factor Analytic Study," *Akron Business and Economic Review*, Winter 1983, pp. 6-13.

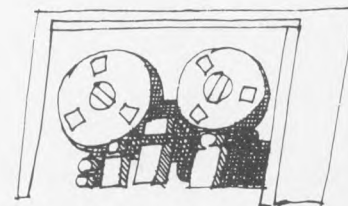
Welfare programs and social insurance

- Gunderson, Morley, *Economics of Poverty and Income Distribution*. Toronto, Ontario, Canada, Butterworth & Co., Ltd., 1983, 171 pp. (Studies in Law and Economics.) \$39.95, Butterworth, Scarborough, Ontario.
- Gustman, Alan L. and Thomas L. Steinmeier, *A Structural Retirement Model*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1983, 53 pp. (NBER Working Paper Series, 1237.) \$1.50.
- Mouly, Jean, "The Economic Productivity of Social Programs," *International Social Security Review*, March 1983, pp. 327-334.
- Necheles-Jansyn, Ruth F., "Retirement in Academe: Special Case or Social Model?" *Aging and Work*, Vol. 6, No. 3, 1983, pp. 175-85.
- Poats, Rutherford M., "Towards More Effective Campaigns Against Poverty," *The OECD Observer*, November 1983, pp. 5-11.
- Rice, Dorothy P., "Long-Term Care of the Elderly and Disabled," *International Social Security Review*, March 1983, pp. 299-326.
- Thompson, Lawrence H., "The Social Security Reform Debate," *Journal of Economic Literature*, December 1983, pp. 1425-67.

Worker training and development

- Reesman, Cilla J., Kalman Rupp, Richard E. Mantovani, *Coordination and Cooperation Between Senior Community Service Employment Program (SCSEP) and Comprehensive Employment and Training Act (CETA)*. Washington, National Commission for Employment Policy, 1983, 13 pp. (Research Report Series, 83-03).
- Rupp, Kalman and others, *Eligibility and Participation Rates of Older Americans in Employment and Training Programs*. Washington, National Commission for Employment Policy, 1983, 25 pp. (Research Report Series, 83-11).
- Edward C. Bryant, Richard E. Mantovani, *Factors Affecting the Participation of Older Americans in Employment and Training Programs*. Washington, National Commission for Employment Policy, 1983, 23 pp. (Research Report Series, 83-04). □

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NOTES ON CURRENT LABOR STATISTICS

This section of the *Review* presents the principal statistical series collected and calculated by the Bureau of Labor Statistics. A brief introduction to each group of tables provides definitions, notes on the data, sources, and other material usually found in footnotes.

Readers who need additional information are invited to consult the BLS regional offices listed on the inside front cover of this issue of the *Review*. Some general notes applicable to several series are given below.

Seasonal adjustment. Certain monthly and quarterly data are adjusted to eliminate the effect of such factors as climatic conditions, industry production schedules, opening and closing of schools, holiday buying periods, and vacation practices, which might otherwise mask short-term movements of the statistical series. Tables containing these data are identified as "seasonally adjusted." Seasonal effects are estimated on the basis of past experience. When new seasonal factors are computed each year, revisions may affect seasonally adjusted data for several preceding years.

Seasonally adjusted labor force data in tables 3-8 were revised in the February 1984 issue of the *Review*, to reflect experience through 1983.

Beginning in January 1980, the BLS introduced two major modifications in the seasonal adjustment methodology for labor force data. First, the data are being seasonally adjusted with a new procedure called X-11/ARIMA, which was developed at Statistics Canada as an extension of the standard X-11 method. A detailed description of the procedure appears in *The X-11 ARIMA Seasonal Adjustment Method* by Estela Bee Dagum (Statistics Canada Catalogue No. 12-564E, February 1980). The second change is that seasonal factors are now being calculated for use during the first 6 months of the year, rather than for the entire year, and then are calculated at mid-year for the July-December period. Revisions of historical data continue to be made only at the end of each calendar year.

Annual revision of the seasonally adjusted payroll data shown in tables 11, 13, and 15 were made in July 1983 using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 29 and 30 are usually introduced in the September issue. Seasonally adjusted indexes and percent changes from month to month and from

quarter to quarter are published for numerous Consumer and Producer Price Index series. However, seasonally adjusted indexes are not published for the U.S. average. All Items CPI. Only seasonally adjusted percent changes are available for this series. **Adjustments for price changes.** Some data are adjusted to eliminate the effect of changes in price. These adjustments are made by dividing current dollar values by the Consumer Price Index or the appropriate component of the index, then multiplying by 100. For example, given a current hourly wage rate of \$3 and a current price index number of 150, where 1967 = 100, the hourly rate expressed in 1967 dollars is \$2 ($\$3/150 \times 100 = \2). The resulting values are described as "real," "constant," or "1967" dollars.

Availability of information. Data that supplement the tables in this section are published by the Bureau of Labor Statistics in a variety of sources. Press releases provide the latest statistical information published by the Bureau; the major recurring releases are published according to the schedule given below. More information from household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau. Comparable household information is published in a two-volume data book—*Labor Force Statistics Derived From the Current Population Survey*, Bulletin 2096. Comparable establishment information appears in two data books—*Employment and Earnings, United States*, and *Employment and Earnings, States and Areas*, and their annual supplements. More detailed information on wages and other aspects of collective bargaining appears in the monthly periodical, *Current Wage Developments*. More detailed price information is published each month in the periodicals, the *CPI Detailed Report* and *Producer Prices and Price Indexes*.

Symbols

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

Schedule of release dates for BLS statistical series

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation	May 4	April	June 1	May	July 6	June	1-11
Producer Price Index	May 11	April	June 15	May	July 13	June	23-27
Consumer Price Index	May 22	April	June 22	May	July 24	June	19-22
Real earnings	May 22	April	June 22	May	July 24	June	12-16
Productivity and costs:							
Nonfinancial corporations	May 29	1st quarter	.....	.....	.....	.....	29-32
Nonfarm business and manufacturing . . . . .	.....	.....	.....	.....	July 31	2nd quarter	29-32
Major collective bargaining settlements . . . . .	.....	.....	.....	.....	July 27	1st half	36-37
Employment Cost Index . . . . .	.....	.....	.....	.....	July 31	2nd quarter	33-35

EMPLOYMENT DATA FROM THE HOUSEHOLD SURVEY

EMPLOYMENT DATA in this section are obtained from the Current Population Survey, a program of personal interviews conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. The sample consists of about 60,000 households selected to represent the U.S. population 16 years of age and older. Households are interviewed on a rotating basis, so that three-fourths of the sample is the same for any 2 consecutive months.

Definitions

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

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

rate for all civilian workers represents the number unemployed as a percent of the civilian labor force.

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

Notes on the data

From time to time, and especially after a decennial census, adjustments are made in the Current Population Survey figures to correct for estimating errors during the preceding years. These adjustments affect the comparability of historical data presented in table 1. A description of these adjustments and their effect on the various data series appear in the Explanatory Notes of *Employment and Earnings*.

Data in tables 2-8 are seasonally adjusted, based on the seasonal experience through December 1983.

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

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

[Numbers in thousands]

Employment status and sex	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Noninstitutional population ^{1,2}	173,939	175,891	175,320	175,465	175,622	175,793	175,970	176,122	176,297	176,474	176,636	176,809	177,219	177,363	177,510
Labor force ²	111,872	113,226	112,399	112,646	112,619	113,573	113,489	113,799	113,924	113,561	113,720	113,824	113,901	114,377	114,598
Participation rate ³	64.3	64.4	64.1	64.2	64.1	64.6	64.5	64.6	64.6	64.3	64.4	64.4	64.3	64.5	64.6
Total employed ²	101,194	102,510	100,980	101,277	101,431	102,411	102,889	103,166	103,571	103,665	104,291	104,629	104,876	105,576	105,826
Employment-population rate ⁴	58.2	58.3	57.6	57.7	57.8	58.3	58.5	58.6	58.7	58.7	59.0	59.2	59.2	59.5	59.6
Resident Armed Forces ¹	1,668	1,676	1,664	1,671	1,669	1,668	1,664	1,682	1,695	1,695	1,685	1,688	1,686	1,684	1,686
Civilian employed	99,526	100,834	99,316	99,606	99,762	100,743	101,225	101,484	101,876	101,970	102,606	102,941	103,190	103,892	104,140
Agriculture	3,401	3,383	3,386	3,392	3,374	3,479	3,499	3,449	3,308	3,240	3,257	3,356	3,271	3,395	3,281
Nonagricultural industries	96,125	97,450	95,930	96,214	96,388	97,264	97,726	98,035	98,568	98,730	99,349	99,585	99,918	100,496	100,859
Unemployed	10,678	10,717	11,419	11,369	11,188	11,162	10,600	10,633	10,353	9,896	9,429	9,195	9,026	8,801	7.7
Unemployment rate ⁵	9.5	9.5	10.2	10.1	9.9	9.8	9.3	9.3	9.1	8.7	8.3	8.1	7.9	7.7	62.912
Not in labor force	62,067	62,665	62,921	62,819	63,003	62,220	62,481	62,323	62,373	62,913	62,916	62,985	63,318	62,986	
Men, 16 years and over															
Noninstitutional population ^{1,2}	83,052	84,064	83,789	83,856	83,931	84,014	84,099	84,173	84,261	84,344	84,423	84,506	84,745	84,811	84,880
Labor force ²	63,979	64,580	64,096	64,311	64,348	64,778	64,840	64,807	64,877	64,709	64,846	64,838	64,930	65,093	65,156
Participation rate ³	77.0	76.8	76.5	76.7	76.7	77.1	77.1	77.0	77.0	76.7	76.8	76.7	76.6	76.8	76.8
Total employed ²	57,800	58,320	57,423	57,589	57,744	58,369	58,592	58,607	58,828	58,950	59,389	59,580	59,781	60,147	60,290
Employment-population rate ⁴	69.6	69.4	68.5	68.7	68.8	69.5	69.7	69.6	69.8	69.9	70.3	70.5	70.5	70.9	71.0
Resident Armed Forces ¹	1,527	1,533	1,528	1,530	1,528	1,525	1,521	1,538	1,549	1,543	1,534	1,537	1,542	1,540	1,542
Civilian employed	56,271	56,787	55,895	56,059	56,216	56,844	57,071	57,069	57,279	57,407	57,855	58,043	58,239	58,607	58,748
Unemployed	6,179	6,260	6,673	6,722	6,604	6,409	6,248	6,200	6,049	5,759	5,457	5,258	5,149	4,946	4,867
Unemployment rate ⁵	9.7	9.7	10.4	10.5	10.3	9.9	9.6	9.6	9.3	8.9	8.4	8.1	7.9	7.6	7.5
Women, 16 years and over															
Noninstitutional population ^{1,2}	90,887	91,827	91,532	91,609	91,691	91,779	91,871	91,949	92,036	92,129	92,214	92,302	92,474	92,552	92,630
Labor force ²	47,894	48,646	48,303	48,335	48,271	48,795	48,649	48,992	49,047	48,852	48,874	48,986	48,971	49,283	49,442
Participation rate ³	52.7	53.0	52.8	52.8	52.6	53.2	53.0	53.3	53.3	53.0	53.0	53.1	53.0	53.2	53.4
Total employed ²	43,395	44,190	43,557	43,688	43,687	44,042	44,297	44,559	44,743	44,715	44,902	45,049	45,094	45,429	45,536
Employment-population rate ⁴	47.7	48.1	47.6	47.7	47.6	48.0	48.2	48.5	48.6	48.5	48.7	48.8	48.8	49.1	49.2
Resident Armed Forces ¹	139	143	136	141	141	143	143	144	146	152	151	151	144	144	144
Civilian employed	43,256	44,047	43,421	43,547	43,546	43,899	44,154	44,415	44,597	44,563	44,751	44,898	44,950	45,285	45,392
Unemployed	4,499	4,457	4,746	4,647	4,584	4,753	4,352	4,433	4,304	4,137	3,972	3,937	3,876	3,855	3,905
Unemployment rate ⁵	9.4	9.2	9.8	9.6	9.5	9.7	8.9	9.0	8.8	8.5	8.1	8.0	7.9	7.8	7.9

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

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

³Labor force as a percent of the noninstitutional population.

⁴Total employed as a percent of the noninstitutional population.

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

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

[Numbers in thousands]

Employment status	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
TOTAL															
Civilian noninstitutional population ¹	172,271	174,215	173,656	173,794	173,953	174,125	174,306	174,440	174,602	174,779	174,951	175,121	175,533	175,679	175,824
Civilian labor force	110,204	111,550	110,735	110,975	110,950	111,905	111,825	112,117	112,229	111,866	112,035	112,136	112,215	112,693	112,912
Participation rate	64.0	64.0	63.8	63.9	63.8	64.3	64.2	64.3	64.3	64.0	64.0	64.0	63.9	64.1	64.2
Employed	99,526	100,834	99,316	99,606	99,762	100,743	101,225	101,484	101,876	101,970	102,606	102,941	103,190	103,892	104,140
Employment-population ratio ²	57.8	57.9	57.2	57.3	57.3	57.9	58.1	58.2	58.3	58.3	58.6	58.8	58.8	59.1	59.2
Unemployed	10,678	10,717	11,419	11,369	11,188	11,162	10,600	10,633	10,353	9,896	9,429	9,195	9,026	8,801	8,772
Unemployment rate	9.7	9.6	10.3	10.2	10.1	10.0	9.5	9.5	9.2	8.8	8.4	8.2	8.0	7.8	7.8
Not in labor force	62,067	62,665	62,921	62,819	63,003	62,220	62,481	62,323	62,373	62,913	62,916	62,985	63,318	62,986	62,912
Men, 20 years and over															
Civilian noninstitutional population ¹	73,644	74,872	74,528	74,611	74,712	74,814	74,927	75,012	75,115	75,216	75,327	75,433	75,692	75,786	75,880
Civilian labor force	57,980	58,744	58,268	58,512	58,546	58,844	58,982	58,954	59,012	58,949	59,053	59,050	59,299	59,394	59,388
Participation rate	78.7	78.5	78.2	78.4	78.4	78.7	78.7	78.6	78.6	78.4	78.4	78.3	78.3	78.4	78.3
Employed	52,891	53,489	52,673	52,830	52,963	53,492	53,765	53,804	53,947	54,140	54,457	54,658	54,999	55,266	55,368
Employment-population ratio ²	71.8	71.4	70.7	70.8	70.9	71.5	71.8	71.7	71.8	72.0	72.3	72.5	72.7	72.9	73.0
Agriculture	2,422	2,429	2,425	2,421	2,440	2,497	2,521	2,475	2,431	2,376	2,336	2,374	2,356	2,409	2,364
Nonagricultural industries	50,469	51,058	50,248	50,409	50,523	50,995	51,244	51,329	51,516	51,764	52,121	52,284	52,643	52,857	53,004
Unemployed	5,089	5,257	5,595	5,682	5,583	5,352	5,217	5,150	5,065	4,809	4,596	4,392	4,300	4,128	4,020
Unemployment rate	8.8	8.9	9.6	9.7	9.5	9.1	8.8	8.7	8.6	8.2	7.8	7.4	7.3	7.0	6.8
Women, 20 years and over															
Civilian noninstitutional population ¹	82,864	84,069	83,699	83,794	83,899	84,008	84,122	84,224	84,333	84,443	84,553	84,666	84,860	84,962	85,064
Civilian labor force	43,699	44,636	44,259	44,311	44,331	44,684	44,647	44,896	45,062	44,936	44,953	45,024	44,981	45,258	45,459
Participation rate	52.7	53.1	52.9	52.9	52.8	53.2	53.1	53.3	53.4	53.2	53.2	53.2	53.0	53.3	53.4
Employed	40,086	41,004	40,368	40,531	40,583	40,847	41,123	41,298	41,550	41,570	41,738	41,843	41,798	42,138	42,315
Employment-population ratio ²	48.4	48.8	48.2	48.4	48.4	48.6	48.9	49.0	49.3	49.2	49.4	49.4	49.4	49.6	49.7
Agriculture	601	620	632	621	605	634	613	627	581	597	638	653	625	640	574
Nonagricultural industries	39,485	40,384	39,736	39,910	39,978	40,213	40,510	40,671	40,969	40,973	41,100	41,190	41,174	41,498	41,741
Unemployed	3,613	3,632	3,891	3,780	3,748	3,837	3,524	3,598	3,512	3,366	3,215	3,181	3,182	3,120	3,144
Unemployment rate	8.3	8.1	8.8	8.5	8.5	8.6	7.9	8.0	7.8	7.5	7.2	7.1	7.1	6.9	6.9
Both sexes, 16 to 19 years															
Civilian noninstitutional population ¹	15,763	15,274	15,429	15,389	15,342	15,303	15,257	15,204	15,154	15,120	15,072	15,022	14,981	14,931	14,880
Civilian labor force	8,526	8,171	8,208	8,152	8,073	8,377	8,196	8,267	8,155	7,981	8,029	8,062	7,935	8,041	8,065
Participation rate	54.1	53.5	53.2	53.0	52.6	54.7	53.7	54.4	53.8	52.8	53.3	53.7	53.0	53.9	54.2
Employed	6,549	6,342	6,275	6,245	6,216	6,404	6,337	6,382	6,379	6,260	6,411	6,440	6,392	6,488	6,457
Employment-population ratio ²	41.5	41.5	40.7	40.6	40.5	41.8	41.5	42.0	42.1	41.4	42.5	42.9	42.7	43.5	43.4
Agriculture	378	334	329	350	329	348	365	347	296	267	283	329	290	346	343
Nonagricultural industries	6,171	6,008	5,946	5,895	5,887	6,056	5,972	6,035	6,083	5,993	6,128	6,111	6,102	6,142	6,114
Unemployed	1,977	1,829	1,933	1,907	1,857	1,973	1,859	1,885	1,776	1,721	1,618	1,622	1,543	1,553	1,608
Unemployment rate	23.2	22.4	23.6	23.4	23.0	23.6	22.7	22.8	21.8	21.6	20.2	20.1	19.4	19.3	19.9
White															
Civilian noninstitutional population ¹	149,441	150,805	150,382	150,518	150,671	150,810	150,959	151,003	151,021	151,175	151,324	151,484	151,939	152,079	152,285
Civilian labor force	96,143	97,021	96,265	96,450	96,472	97,235	97,255	97,498	97,507	97,339	97,559	97,724	97,813	98,167	98,424
Participation rate	64.3	64.3	64.0	64.1	64.0	64.5	64.4	64.6	64.6	64.4	64.5	64.5	64.4	64.6	64.6
Employed	87,903	88,893	87,530	87,854	88,004	88,836	89,260	89,503	89,693	89,851	90,430	90,779	91,044	91,544	91,845
Employment-population ratio ²	58.8	58.9	58.2	58.4	58.4	58.9	59.1	59.4	59.4	59.8	59.9	59.9	60.2	60.3	60.5
Unemployed	8,241	8,128	8,735	8,596	8,468	8,399	7,995	7,995	7,814	7,488	7,129	6,945	6,768	6,623	6,580
Unemployment rate	8.6	8.4	9.1	8.9	8.8	8.6	8.2	8.2	8.0	7.7	7.3	7.1	6.9	6.7	6.7
Black															
Civilian noninstitutional population ¹	18,584	18,925	18,823	18,851	18,880	18,911	18,942	18,966	18,994	19,026	19,057	19,086	19,196	19,222	19,248
Civilian labor force	11,331	11,647	11,573	11,651	11,645	11,718	11,741	11,724	11,720	11,565	11,623	11,550	11,660	11,881	11,867
Participation rate	61.0	61.5	61.5	61.8	61.7	62.0	62.0	61.8	61.7	60.8	61.0	61.0	60.7	61.7	61.7
Employed	9,189	9,375	9,249	9,245	9,277	9,339	9,443	9,408	9,504	9,449	9,563	9,582	9,707	9,958	9,896
Employment-population ratio ²	49.4	49.5	49.1	49.0	49.1	49.4	49.9	49.6	50.0	49.7	50.2	50.2	50.6	51.8	51.4
Unemployed	2,142	2,272	2,324	2,406	2,368	2,379	2,298	2,316	2,216	2,116	2,060	2,068	1,953	1,923	1,972
Unemployment rate	18.9	19.5	20.1	20.7	20.3	20.3	19.6	19.8	18.9	18.3	17.7	17.8	16.7	16.2	16.6
Hispanic origin															
Civilian noninstitutional population ¹	9,400	12,771	9,551	9,665	9,747	9,738	9,640	9,690	9,700	9,745	9,677	9,735	9,778	9,906	10,080
Civilian labor force	5,983	8,119	6,070	6,161	6,139	6,202	6,090	6,145	6,202	6,165	6,232	6,267	6,336	6,292	6,484
Participation rate	63.6	63.6	63.6	63.7	63.0	63.7	63.2	63.4	63.9	63.3	64.4	64.4	64.8	63.5	64.3
Employed	5,158	6,995	5,114	5,259	5,284	5,336	5,339	5,350	5,392	5,398	5,463	5,540	5,627	5,652	5,751
Employment-population ratio ²	54.9	54.8	53.5	54.4	54.2	54.8	55.4	55.2	55.6	55.4	56.5	56.9	57.6	57.1	57.1
Unemployed	825	1,124	956	902	855	866	751	795	810	767	769	727	708	639	733
Unemployment rate	13.8	13.8	15.7	14.6	13.9	14.0	12.3	12.9	13.1	12.4	12.3	11.6	11.2	10.2	11.3

¹The population figures are not seasonally adjusted.

²Civilian 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.

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4. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Civilian employed, 16 years and over	99,526	100,834	99,316	99,606	99,762	100,743	101,225	101,484	101,876	101,970	102,606	102,941	103,190	103,892	104,140
Men	56,271	56,787	55,895	56,059	56,216	56,844	57,071	57,069	57,279	57,407	57,855	58,043	58,239	58,607	58,748
Women	43,256	44,047	43,421	43,547	43,546	43,899	44,154	44,415	44,597	44,563	44,751	44,898	44,950	45,285	45,392
Married men, spouse present	38,074	37,967	37,545	37,602	37,616	37,911	38,254	38,281	38,232	38,240	38,388	38,494	38,682	38,911	38,927
Married women, spouse present	24,053	24,603	24,220	24,361	24,304	24,416	24,618	24,905	24,921	24,953	25,057	25,140	24,947	25,212	25,239
Women who maintain families	5,099	5,091	5,093	4,969	4,991	5,029	5,071	5,096	5,124	5,172	5,236	5,254	5,293	5,346	5,444
MAJOR INDUSTRY AND CLASS OF WORKER															
Agriculture:															
Wage and salary workers	1,505	1,579	1,558	1,578	1,588	1,624	1,631	1,628	1,572	1,505	1,481	1,512	1,443	1,560	1,515
Self-employed workers	1,636	1,565	1,584	1,595	1,558	1,591	1,573	1,564	1,515	1,527	1,556	1,572	1,613	1,609	1,580
Unpaid family workers	261	240	265	219	233	252	251	240	236	227	224	265	233	232	198
Nonagricultural industries:															
Wage and salary workers	88,462	89,500	88,078	88,390	88,584	89,345	89,687	90,032	90,743	90,617	91,094	91,422	91,641	92,379	92,819
Government	15,562	15,537	15,479	15,524	15,530	15,514	15,593	15,671	15,560	15,578	15,585	15,481	15,535	15,822	15,813
Private industries	72,945	73,963	72,599	72,866	73,054	73,831	74,094	74,361	75,183	75,039	75,509	75,941	76,106	76,557	77,006
Private households	1,207	1,247	1,234	1,221	1,238	1,295	1,276	1,270	1,279	1,278	1,216	1,241	1,197	1,219	1,155
Other	71,738	72,716	71,365	71,645	71,816	72,536	72,818	73,091	73,904	73,761	74,293	74,700	74,909	75,339	75,851
Self-employed workers	7,262	7,575	7,456	7,504	7,448	7,510	7,595	7,641	7,656	7,695	7,800	7,734	7,936	7,849	7,755
Unpaid family workers	401	376	344	354	345	352	322	375	380	405	474	450	364	330	326
PERSONS AT WORK¹															
Nonagricultural industries															
Full-time schedules	72,245	73,624	72,035	73,567	72,949	73,071	73,844	73,499	74,666	75,047	75,398	75,802	76,237	76,715	77,004
Part time for economic reasons	5,852	5,997	6,169	6,077	5,965	5,886	5,700	5,866	6,027	5,724	5,848	5,712	5,943	5,808	5,463
Usually work full time	2,169	1,826	1,934	1,888	1,748	1,777	1,781	1,742	1,771	1,617	1,719	1,672	1,771	1,611	1,472
Usually work part time	3,683	4,171	4,235	4,189	4,217	4,109	3,919	4,124	4,256	4,107	4,129	4,040	4,172	4,197	3,991
Part time for noneconomic reasons	12,455	12,417	12,246	12,589	12,156	11,956	12,582	12,588	12,629	12,502	12,588	12,659	12,527	12,545	12,515

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

5. Selected unemployment indicators, seasonally adjusted

[Unemployment rates]

Selected categories	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
CHARACTERISTIC															
Total, all civilian workers	9.7	9.6	10.3	10.2	10.1	10.0	9.5	9.5	9.2	8.8	8.4	8.2	8.0	7.8	7.8
Both sexes, 16 to 19 years	23.2	22.4	23.6	23.4	23.0	23.6	22.7	22.8	21.8	21.6	20.2	20.1	19.4	19.3	19.9
Men, 20 years and over	8.8	8.9	9.6	9.7	9.5	9.1	8.8	8.7	8.6	8.2	7.8	7.4	7.3	7.0	6.8
Women, 20 years and over	8.3	8.1	8.8	8.5	8.5	8.6	7.9	8.0	7.6	7.5	7.2	7.1	7.1	6.9	6.9
White, total	8.6	8.4	9.1	8.9	8.8	8.6	8.2	8.2	8.0	7.7	7.3	7.1	6.9	6.7	6.7
Both sexes, 16 to 19 years	20.4	19.3	21.1	20.3	19.9	20.1	19.4	19.5	18.2	18.5	17.2	17.0	16.2	16.5	17.1
Men, 16 to 19 years	21.7	20.2	22.6	21.4	20.4	20.4	20.3	20.7	18.9	19.8	17.6	17.5	17.8	16.4	17.3
Women, 16 to 19 years	19.0	18.3	19.6	19.1	19.4	19.7	18.4	18.2	17.4	16.9	16.6	16.5	14.5	16.7	16.8
Men, 20 years and over	7.8	7.9	8.5	8.5	8.4	7.9	7.7	7.7	7.3	6.9	6.7	6.3	6.1	5.8	
Women, 20 years and over	7.3	6.9	7.5	7.3	7.2	7.4	6.8	6.7	6.6	6.3	6.0	5.9	6.0	5.8	5.9
Black, total	18.9	19.5	20.1	20.7	20.3	20.3	19.6	19.8	18.9	18.3	17.7	17.8	16.7	16.2	16.6
Both sexes, 16 to 19 years	48.0	48.5	45.1	49.1	48.4	49.8	48.4	51.4	51.1	48.7	47.3	49.0	47.9	43.5	46.7
Men, 16 to 19 years	48.9	48.8	46.5	48.6	52.1	50.7	48.3	53.7	52.7	45.6	44.9	46.4	47.1	46.7	44.4
Women, 16 to 19 years	47.1	48.2	43.5	49.6	44.1	48.7	48.4	48.8	49.2	52.2	50.0	51.9	48.8	39.9	49.6
Men, 20 years and over	17.8	18.1	19.1	20.0	19.5	18.9	18.6	18.2	16.9	16.3	15.6	15.1	14.8	14.1	15.4
Women, 20 years and over	15.4	16.5	17.4	16.9	17.0	16.9	16.2	16.4	16.1	15.9	15.6	15.9	14.3	14.4	13.5
Hispanic origin, total	13.8	13.8	15.7	14.6	13.9	14.0	12.3	12.9	13.1	12.4	12.3	11.6	11.2	10.2	11.3
Married men, spouse present	6.5	6.5	7.1	7.1	7.0	6.7	6.2	6.3	6.1	5.7	5.5	5.2	5.0	4.9	4.7
Married women, spouse present	7.4	7.0	7.5	7.4	7.4	7.6	7.0	6.9	6.8	6.3	6.0	6.1	6.0	5.9	5.8
Women who maintain families	11.7	12.2	13.3	13.0	12.7	12.5	11.8	11.8	12.0	11.4	10.5	10.9	10.7	11.0	11.0
Full-time workers	9.6	9.5	10.2	10.2	10.0	9.7	9.4	9.3	9.1	8.7	8.2	8.0	7.8	7.5	7.5
Part-time workers	10.5	10.4	10.6	10.5	10.9	11.8	10.2	10.2	10.1	10.0	9.8	9.8	9.2	9.3	9.2
Unemployed 15 weeks and over	3.2	3.8	4.1	4.0	4.1	4.0	3.9	3.6	3.5	3.3	3.1	3.0	2.9	2.6	2.5
Labor force time lost ¹	11.0	10.9	11.7	11.5	11.5	11.1	10.7	10.7	10.5	10.0	9.7	9.4	9.2	8.9	8.8
INDUSTRY															
Nonagricultural private wage and salary workers															
Mining	13.4	17.0	19.2	20.3	20.8	17.9	16.6	14.9	16.9	12.1	12.8	12.4	10.9	12.2	11.2
Construction	20.0	18.4	20.2	20.0	20.0	18.4	18.0	17.9	18.1	15.8	15.6	16.3	15.0	15.1	13.3
Manufacturing	12.3	11.2	12.8	12.5	12.3	11.6	10.7	11.2	10.2	9.6	8.9	8.3	8.4	7.5	7.5
Durable goods	13.3	12.1	14.3	13.7	13.5	12.5	11.4	11.7	10.9	10.2	9.0	8.3	8.0	7.3	7.8
Non-durable goods	10.8	10.0	10.8	10.8	10.6	10.2	9.7	10.5	9.3	8.7	8.7	8.2	8.9	7.8	7.2
Transportation and public utilities	6.8	7.4	7.6	7.7	7.3	7.8	7.3	7.7	7.4	7.2	6.7	6.5	5.1	5.9	5.0
Wholesale and retail trade	10.0	10.0	10.9	10.4	10.2	10.2	9.8	9.8	9.5	9.8	9.1	8.8	8.4	8.3	8.3
Finance and service industries	6.9	7.2	7.3	7.3	7.5	7.2	7.3	7.2	7.0	6.9	6.7	6.6	6.3	6.3	6.4
Government workers	4.9	5.3	5.7	5.8	5.6	5.1	5.4	5.1	5.0	5.1	4.9	5.0	5.0	4.5	4.4
Agricultural wage and salary workers	14.7	16.0	15.9	16.8	16.8	16.5	15.0	15.1	16.5	16.2	15.7	15.6	15.5	14.0	14.6

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

6. Unemployment rates by sex and age, seasonally adjusted

[Civilian workers]

Sex and age	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Total, 16 years and over	9.7	9.6	10.3	10.2	10.1	10.0	9.5	9.5	9.2	8.8	8.4	8.2	8.0	7.8	7.8
16 to 24 years	17.8	17.2	18.2	18.1	18.0	17.6	16.8	17.2	16.5	16.3	15.4	14.9	14.8	14.2	14.4
16 to 19 years	23.2	22.4	23.6	23.4	23.0	23.6	22.7	22.8	21.8	21.6	20.2	20.1	19.4	19.3	19.9
16 to 17 years	24.9	24.5	25.4	25.8	25.6	25.6	25.1	24.8	24.0	24.0	21.9	22.9	21.9	22.1	23.1
18 to 19 years	22.1	21.1	22.6	21.9	21.3	22.3	20.8	21.6	20.5	20.3	19.3	18.8	17.6	17.5	18.1
20 to 24 years	14.9	14.5	15.4	15.4	15.5	14.5	13.9	14.4	13.8	13.6	13.0	12.2	12.5	11.6	11.6
25 years and over	7.4	7.5	8.1	8.0	7.9	7.9	7.4	7.3	7.2	6.8	6.5	6.4	6.2	6.1	5.9
25 to 54 years	7.9	8.0	8.7	8.5	8.5	8.3	7.9	7.8	7.7	7.2	6.9	6.8	6.5	6.4	6.3
55 years and over	5.0	5.3	5.4	5.5	5.3	5.5	5.3	5.1	5.2	5.0	4.9	4.9	4.7	4.3	4.3
Men, 16 years and over	9.9	9.9	10.7	10.7	10.5	10.1	9.9	9.8	9.6	9.1	8.6	8.3	8.1	7.8	7.7
16 to 24 years	19.1	18.4	19.4	19.5	19.5	18.6	18.4	18.6	17.6	17.3	15.9	15.6	15.6	14.6	14.6
16 to 19 years	24.4	23.3	25.1	24.4	23.9	24.0	23.8	24.3	22.8	22.5	20.2	20.4	20.8	19.7	20.0
16 to 17 years	26.4	25.2	26.3	26.9	26.7	26.0	27.3	26.0	23.9	24.3	22.0	23.3	21.6	21.6	23.0
18 to 19 years	23.1	22.2	24.4	22.9	22.3	22.8	21.2	23.2	22.2	21.6	19.6	18.9	19.6	18.1	18.2
20 to 24 years	16.4	15.9	16.6	17.0	17.3	15.9	15.8	15.7	15.0	14.7	13.8	13.3	13.1	12.1	11.9
25 years and over	7.5	7.8	8.4	8.4	8.2	7.9	7.6	7.5	7.0	6.8	6.5	6.2	6.1	5.9	5.9
25 to 54 years	8.0	8.2	9.0	8.9	8.8	8.4	8.1	8.0	8.0	7.4	7.1	6.7	6.6	6.4	6.1
55 years and over	5.1	5.6	5.8	6.1	5.8	5.5	5.5	5.4	5.6	5.4	5.4	5.4	4.8	4.5	4.6
Women, 16 years and over	9.4	9.2	9.9	9.6	9.5	9.8	9.0	9.1	8.8	8.5	8.2	8.1	7.9	7.8	7.9
16 to 24 years	16.2	15.8	16.8	16.6	16.3	16.4	15.0	15.7	15.2	15.1	14.7	14.0	13.9	13.7	14.2
16 to 19 years	21.9	21.3	21.9	22.3	22.0	23.1	21.5	21.1	20.6	20.5	20.1	19.8	18.0	18.9	19.8
16 to 17 years	23.2	23.7	24.4	24.7	24.4	25.2	22.6	23.4	24.0	23.6	21.8	22.5	22.2	22.6	23.1
18 to 19 years	21.0	19.9	20.6	20.7	20.2	21.7	20.5	19.9	18.5	18.8	19.0	18.7	15.4	16.9	18.1
20 to 24 years	13.2	12.9	14.1	13.6	13.4	12.9	11.7	12.8	12.5	12.3	12.0	11.0	11.7	11.0	11.3
25 years and over	7.3	7.2	7.7	7.5	7.5	7.8	7.1	7.0	6.9	6.5	6.2	6.3	6.2	6.1	6.0
25 to 54 years	7.7	7.7	8.3	8.0	8.1	8.1	7.6	7.5	7.3	7.0	6.6	6.8	6.5	6.5	6.5
55 years and over	4.8	4.7	4.8	4.6	4.7	5.5	5.1	4.7	4.5	4.4	4.1	4.3	4.5	4.0	3.9

7. Unemployed persons by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Job losers	6,258	6,258	6,848	6,767	6,753	6,525	6,235	6,133	5,938	5,601	5,226	5,017	4,825	4,737	4,614
On layoff	2,127	1,780	2,005	1,979	1,958	1,841	1,735	1,660	1,562	1,392	1,321	1,283	1,238	1,272	1,254
Other job losers	4,141	4,478	4,843	4,788	4,795	4,684	4,500	4,473	4,376	4,209	3,905	3,734	3,588	3,465	3,360
Job leavers	840	830	888	816	808	799	752	799	858	866	868	855	809	772	756
Reentrants	2,384	2,412	2,460	2,491	2,404	2,436	2,415	2,479	2,362	2,322	2,250	2,246	2,192	2,153	2,208
New entrants	1,185	1,216	1,182	1,251	1,246	1,412	1,229	1,214	1,234	1,127	1,154	1,150	1,175	1,092	1,213
PERCENT DISTRIBUTION															
Total unemployed	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Job losers	58.7	58.4	60.2	59.8	60.2	58.4	58.6	57.7	57.1	56.5	55.0	54.1	53.6	54.1	52.5
On layoff	19.9	16.6	17.6	17.5	17.5	16.5	16.3	15.6	15.0	14.0	13.9	13.8	13.7	14.5	14.3
Other job losers	38.8	41.8	42.6	42.3	42.8	41.9	42.3	42.1	42.1	42.4	41.1	40.3	39.9	39.6	38.2
Job leavers	7.9	7.7	7.8	7.2	7.2	7.2	7.1	7.5	8.3	8.7	9.1	9.2	9.0	8.8	8.6
Reentrants	22.3	22.5	21.6	22.0	21.4	21.8	22.7	23.4	22.7	23.4	22.7	24.2	24.4	24.6	25.1
New entrants	11.1	11.3	10.4	11.0	11.1	12.6	11.6	11.4	11.9	11.4	12.1	12.4	13.1	12.5	13.8
PERCENT OF CIVILIAN LABOR FORCE															
Job losers	5.7	5.6	6.2	6.1	6.1	5.8	5.6	5.5	5.3	5.0	4.7	4.5	4.3	4.2	4.1
Job leavers	.8	.7	.8	.7	.7	.7	.7	.7	.8	.8	.8	.8	.7	.7	.7
Reentrants	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.1	2.1	2.0	2.0	2.0	1.9	2.0
New entrants	1.1	1.1	1.1	1.1	1.1	1.3	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.1

8. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
Less than 5 weeks	3,883	3,570	3,535	3,595	3,568	3,630	3,529	3,633	3,740	3,504	3,328	3,382	3,233	3,359	3,386
5 to 14 weeks	3,311	2,937	3,173	3,139	3,012	2,950	2,841	2,951	2,784	2,725	2,616	2,504	2,556	2,484	2,539
15 weeks and over	3,485	4,210	4,587	4,396	4,510	4,486	4,398	4,078	3,889	3,655	3,527	3,369	3,201	2,984	2,873
15 to 26 weeks	1,708	1,652	1,861	1,691	1,774	1,593	1,794	1,597	1,383	1,372	1,337	1,284	1,166	1,173	1,114
27 weeks and over	1,776	2,559	2,726	2,705	2,736	2,893	2,604	2,481	2,506	2,283	2,190	2,085	2,035	1,810	1,759
Mean duration in weeks	15.6	20.0	19.2	19.2	20.2	21.4	21.3	19.9	20.2	20.1	20.2	19.6	20.5	18.8	18.8
Median duration in weeks	8.7	10.1	10.4	10.8	11.9	10.8	10.1	9.4	9.4	9.5	9.4	9.0	9.2	8.3	8.3

EMPLOYMENT, HOURS, AND EARNINGS DATA FROM ESTABLISHMENT SURVEYS

EMPLOYMENT, HOURS, AND EARNINGS DATA in this section are compiled from payroll records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies by 189,000 establishments representing all industries except agriculture. In most industries, the sampling probabilities are based on the size of the establishment; most large establishments are therefore in the sample. (An establishment is not necessarily a firm; it may be a branch plant, for example, or warehouse.) Self-employed persons and others not on a regular civilian payroll are outside the scope of the survey because they are excluded from establishment records. This largely accounts for the difference in employment figures between the household and establishment surveys.

Definitions

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

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

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

in manufacturing (the only sector for which overtime data are available) and the effects of changes and seasonal factors in the proportion of workers in high-wage and low-wage industries.

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

The Diffusion Index, introduced in table 17 of the May 1983 issue, represents the percent of 186 nonagricultural industries in which employment was rising over the indicated period. One-half of the industries with unchanged employment are counted as rising. In line with Bureau practice, data for the 3-, 6-, and 9-month spans are seasonally adjusted, while that for the 12-month span is unadjusted. The diffusion index is useful for measuring the dispersion of economic gains or losses and is also an economic indicator.

Notes on the data

Establishment data collected by the Bureau of Labor Statistics are periodically adjusted to comprehensive counts of employment (called "benchmarks"). The latest complete adjustment was made with the release of May 1983 data, published in the July 1983 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 1981; seasonally adjusted data have been revised back to January 1978. Unadjusted data from April 1982 forward, and seasonally adjusted data from January 1979 forward are subject to revision in future benchmarks. Earlier comparable unadjusted and seasonally adjusted data are published in a *Supplement to Employment and Earnings* (unadjusted data from April 1977 through February 1983 and seasonally adjusted data from January 1974 through February 1983) and in *Employment and Earnings, United States, 1909-78*, BLS Bulletin 1312-11 (for prior periods).

A comprehensive discussion of the differences between household and establishment data on employment appears in Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9-20. See also *BLS Handbook of Methods*, Bulletin 2134-1 (Bureau of Labor Statistics, 1982).

9. Employment by Industry, selected years, 1950-83

[Nonagricultural payroll data, in thousands]

Year	Total	Private sector	Goods-producing				Service-producing									
			Total	Mining	Construction	Manufacturing	Total	Transportation and public utilities	Wholesale and retail trade			Finance, insurance, and real estate	Services	Government		
									Total	Wholesale trade	Retail trade			Total	Federal	State and local
1950	45,197	39,170	18,506	901	2,364	15,241	26,691	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1955	50,641	43,727	20,513	792	2,839	16,882	30,128	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1960 ¹	54,189	45,836	20,434	712	2,926	16,796	33,755	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1964	58,283	48,686	21,005	634	3,097	17,274	37,278	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	50,589	21,926	632	3,232	18,062	38,839	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	53,116	23,158	627	3,317	19,214	40,743	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	54,413	23,308	613	3,248	19,447	42,495	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	56,058	23,737	606	3,350	19,781	44,160	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	58,189	24,361	619	3,575	20,167	46,023	4,442	14,706	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	58,325	23,578	623	3,588	19,367	47,302	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	58,331	22,935	609	3,704	18,623	48,278	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	60,341	23,668	628	3,889	19,151	50,007	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	63,058	24,893	642	4,097	20,154	51,897	4,656	16,607	4,277	12,329	4,045	12,857	13,732	2,663	11,068
1974	78,265	64,095	24,794	697	4,020	20,077	53,471	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	62,259	22,600	752	3,525	18,323	54,345	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	64,511	23,352	779	3,576	18,997	56,030	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	67,344	24,346	813	3,851	19,582	58,125	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	71,026	25,585	851	4,229	20,505	61,113	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,823	73,876	26,461	958	4,463	21,040	63,363	5,136	20,192	5,204	14,989	4,975	17,112	15,947	2,773	13,147
1980	90,406	74,166	25,658	1,027	4,346	20,285	64,748	5,146	20,310	5,275	15,035	5,180	17,890	16,241	2,866	13,375
1981	91,156	75,126	25,497	1,139	4,188	20,170	65,659	5,165	20,547	5,358	15,189	5,298	18,619	16,031	2,772	13,259
1982	89,596	73,793	23,907	1,143	3,911	18,853	65,689	5,081	20,401	5,280	15,122	5,340	19,064	15,803	2,739	13,064
1983	89,978	74,234	23,646	1,021	3,947	18,678	66,332	4,941	20,513	5,232	15,281	5,454	19,680	15,744	2,752	12,992

¹ Data include Alaska and Hawaii beginning in 1959.

10. Employment by State

[Nonagricultural payroll data, in thousands]

State	Feb. 1983	Jan. 1984	Feb. 1984 ^p	State	Feb. 1983	Jan. 1984	Feb. 1984 ^p
Alabama	1,285.6	1,324.4	1,329.7	Montana	263.2	266.1	266.1
Alaska	192.9	199.5	202.2	Nebraska	591.4	604.6	607.1
Arizona	1,040.0	1,101.6	1,117.5	Nevada	385.6	412.3	414.5
Arkansas	711.8	749.4	758.5	New Hampshire	385.4	412.1	413.9
California	9,709.7	10,078.7	10,108.9	New Jersey	3,030.5	3,168.8	3,169.1
Colorado	1,293.7	1,329.7	1,335.6	New Mexico	465.1	479.4	483.1
Connecticut	1,399.0	1,446.7	1,447.4	New York	7,112.6	7,268.7	7,296.4
Delaware	254.8	264.4	264.0	North Carolina	2,329.2	2,436.7	2,449.2
District of Columbia	582.7	589.7	589.6	North Dakota	240.5	244.9	244.3
Florida	3,816.1	4,059.0	4,084.0	Ohio	3,962.7	4,083.3	4,091.8
Georgia	2,197.0	2,306.1	2,320.3	Oklahoma	1,157.2	1,161.1	1,165.7
Hawaii	404.3	401.9	405.7	Oregon	931.9	965.8	970.0
Idaho	304.0	317.1	317.9	Pennsylvania	4,389.3	4,497.4	4,506.0
Illinois	4,432.8	4,468.0	4,474.2	Rhode Island	379.9	394.1	396.2
Indiana	1,955.4	2,000.5	2,010.2	South Carolina	1,145.7	1,195.2	1,202.3
Iowa	1,001.2	1,013.5	1,015.5	South Dakota	223.4	229.7	230.2
Kansas	893.6	913.9	923.9	Tennessee	1,662.2	1,745.5	1,759.4
Kentucky	1,123.7	1,158.9	1,155.8	Texas	6,107.7	6,224.9	6,257.5
Louisiana	1,546.1	1,556.1	1,563.2	Utah	549.5	579.7	579.2
Maine	400.8	408.8	411.6	Vermont	201.1	203.6	205.9
Maryland	1,646.8	1,687.5	1,700.9	Virginia	2,115.9	2,216.4	2,222.5
Massachusetts	2,588.7	2,651.2	2,666.8	Washington	1,528.6	1,578.8	1,585.6
Michigan	3,113.5	3,221.8	3,242.1	West Virginia	562.0	580.7	582.4
Minnesota	1,650.7	1,715.6	1,724.0	Wisconsin	1,801.5	1,843.6	1,850.2
Mississippi	768.7	793.0	795.4	Wyoming	198.0	198.0	197.5
Missouri	1,871.4	1,903.2	1,909.2	Virgin Islands	36.0	34.9	35.6

p = preliminary.

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11. Employment by industry division and major manufacturing group, seasonally adjusted

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^p	Mar. ^p
TOTAL	89,596	89,978	88,814	89,101	89,421	89,844	90,152	89,735	90,851	91,087	91,355	91,599	91,930	92,347	92,490
PRIVATE SECTOR	73,793	74,234	73,090	73,377	73,677	74,123	74,472	74,074	74,990	75,312	75,579	75,829	76,188	76,571	76,728
GOODS-PRODUCING	23,907	23,646	23,030	23,159	23,347	23,518	23,724	23,830	23,935	24,168	24,311	24,415	24,617	24,772	24,782
Mining	1,143	1,021	1,006	997	994	1,003	1,017	1,023	1,026	1,044	1,045	1,047	1,051	1,053	1,053
Construction	3,911	3,947	3,757	3,786	3,860	3,933	3,974	4,014	4,038	4,060	4,094	4,088	4,177	4,228	4,178
Manufacturing	18,853	18,678	18,267	18,376	18,493	18,582	18,733	18,793	18,871	19,064	19,172	19,280	19,389	19,491	19,551
Production workers	12,790	12,696	12,323	12,435	12,531	12,615	12,756	12,803	12,859	13,043	13,147	13,230	13,322	13,405	13,455
Durable goods	11,100	10,932	10,617	10,689	10,788	10,844	10,961	11,022	11,081	11,235	11,320	11,406	11,477	11,567	11,613
Production workers	7,350	7,246	6,961	7,035	7,115	7,169	7,278	7,329	7,378	7,522	7,601	7,665	7,725	7,803	7,834
Lumber and wood products	603	677	638	651	662	679	688	699	703	712	714	715	717	719	724
Furniture and fixtures	433	451	433	440	446	450	459	457	459	465	470	473	477	482	485
Stone, clay, and glass products	578	575	559	565	570	573	577	582	585	590	590	589	593	602	604
Primary metal industries	922	839	816	820	828	830	839	840	849	867	871	881	872	878	876
Fabricated metal products	1,435	1,396	1,362	1,369	1,379	1,384	1,391	1,410	1,411	1,430	1,438	1,449	1,458	1,461	1,469
Machinery, except electrical	2,267	2,088	2,030	2,031	2,064	2,066	2,094	2,109	2,115	2,131	2,158	2,172	2,187	2,202	2,214
Electric and electronic equipment	2,016	2,045	1,988	1,999	2,010	2,030	2,047	2,043	2,082	2,107	2,128	2,146	2,165	2,189	2,209
Transportation equipment	1,744	1,785	1,723	1,743	1,757	1,762	1,794	1,807	1,801	1,848	1,862	1,887	1,909	1,930	1,923
Instruments and related products	716	694	691	690	689	687	687	692	696	699	701	701	706	707	712
Miscellaneous manufacturing	386	382	377	381	383	383	385	383	380	386	388	393	393	397	397
Nondurable goods	7,753	7,747	7,687	7,705	7,738	7,772	7,771	7,790	7,829	7,852	7,874	7,912	7,912	7,924	7,938
Production workers	5,440	5,450	5,362	5,400	5,416	5,446	5,478	5,474	5,481	5,521	5,546	5,565	5,597	5,602	5,621
Food and kindred products	1,638	1,630	1,619	1,633	1,632	1,643	1,638	1,627	1,630	1,628	1,633	1,632	1,642	1,639	1,638
Tobacco manufactures	68	65	67	66	66	65	65	62	63	64	61	62	61	61	63
Textile mill products	750	744	730	733	736	745	746	752	753	759	758	759	766	763	766
Apparel and other textile products	1,164	1,169	1,143	1,149	1,153	1,159	1,180	1,175	1,177	1,191	1,199	1,206	1,210	1,214	1,215
Paper and allied products	662	659	652	654	656	657	658	659	662	665	666	670	671	674	672
Printing and publishing	1,269	1,283	1,269	1,274	1,276	1,281	1,284	1,289	1,290	1,297	1,301	1,303	1,310	1,313	1,317
Chemicals and allied products	1,079	1,059	1,056	1,058	1,058	1,056	1,059	1,056	1,060	1,061	1,061	1,064	1,065	1,065	1,066
Petroleum and coal products	201	196	199	199	198	198	197	195	195	193	192	192	192	191	192
Rubber and miscellaneous plastics products	701	727	699	707	716	721	732	739	742	753	762	769	777	786	793
Leather and leather products	221	216	216	214	214	213	213	217	218	218	218	217	218	218	216
SERVICE-PRODUCING	65,689	66,332	65,784	65,942	66,074	66,326	66,428	65,905	66,916	66,919	67,044	67,184	67,313	67,575	67,708
Transportation and public utilities	5,081	4,941	4,963	4,988	4,993	4,992	4,984	4,341	5,031	5,019	5,019	5,015	5,057	5,067	5,069
Wholesale and retail trade	20,401	20,513	20,350	20,329	20,356	20,494	20,529	20,580	20,612	20,666	20,718	20,781	20,860	20,925	20,941
Wholesale trade	5,280	5,232	5,176	5,180	5,197	5,222	5,229	5,249	5,274	5,287	5,291	5,313	5,343	5,361	5,375
Retail trade	15,122	15,281	15,174	15,149	15,159	15,272	15,300	15,331	15,338	15,379	15,427	15,468	15,517	15,564	15,566
Finance, insurance, and real estate	5,340	5,454	5,391	5,423	5,435	5,451	5,465	5,488	5,499	5,503	5,515	5,525	5,553	5,566	5,571
Services	19,064	19,680	19,356	19,478	19,546	19,668	19,770	19,835	19,913	19,956	20,016	20,093	20,101	20,241	20,365
Government	15,803	15,744	15,724	15,724	15,744	15,721	15,680	15,661	15,861	15,775	15,776	15,770	15,742	15,776	15,762
Federal	2,739	2,752	2,742	2,749	2,756	2,742	2,738	2,733	2,773	2,764	2,763	2,768	2,762	2,760	2,761
State and local	13,064	12,992	12,982	12,975	12,988	12,979	12,942	12,928	13,088	13,011	13,013	13,002	12,980	13,016	13,001

p preliminary.

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

12. Hours and earnings, by industry division, selected years, 1950-83

[Gross averages, production or nonsupervisory workers on nonagricultural payrolls]

Year	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings	Average weekly earnings	Average weekly hours	Average hourly earnings
	Private sector			Mining			Construction			Manufacturing		
1950	\$53.13	39.8	\$1.34	\$67.16	37.9	\$1.77	\$69.68	37.4	\$1.86	\$58.32	40.5	\$1.44
1955	67.72	39.6	1.71	89.54	40.7	2.20	90.90	37.1	2.45	75.30	40.7	1.85
1960 ¹	80.67	38.6	2.09	105.04	40.4	2.60	112.57	36.7	3.07	89.72	39.7	2.26
1964	91.33	38.7	2.36	117.74	41.9	2.81	132.06	37.2	3.55	102.97	40.7	2.53
1965	95.45	38.8	2.46	123.52	42.3	2.92	138.38	37.4	3.70	107.53	41.2	2.61
1966	98.82	38.6	2.56	130.24	42.7	3.05	146.26	37.6	3.89	112.19	41.4	2.71
1967	101.84	38.0	2.68	135.89	42.6	3.19	154.95	37.7	4.11	114.49	40.6	2.82
1968	107.73	37.8	2.85	142.71	42.6	3.35	164.49	37.3	4.41	122.51	40.7	3.01
1969	114.61	37.7	3.04	154.80	43.0	3.60	181.54	37.9	4.79	129.51	40.6	3.19
1970	119.83	37.1	3.23	164.40	42.7	3.85	195.45	37.3	5.24	133.33	39.8	3.35
1971	127.31	36.9	3.45	172.14	42.4	4.06	211.67	37.2	5.69	142.44	39.9	3.57
1972	136.90	37.0	3.70	189.14	42.6	4.44	221.19	36.5	6.06	154.71	40.5	3.82
1973	145.39	36.9	3.94	201.40	42.4	4.75	235.89	36.8	6.41	166.46	40.7	4.09
1974	154.76	36.5	4.24	219.14	41.9	5.23	249.25	36.6	6.81	176.80	40.0	4.42
1975	163.53	36.1	4.53	249.31	41.9	5.95	266.08	36.4	7.31	190.79	39.5	4.83
1976	175.45	36.1	4.86	273.90	42.4	6.46	283.73	36.8	7.71	209.32	40.1	5.22
1977	189.00	36.0	5.25	301.20	43.4	6.94	295.65	36.5	8.10	228.90	40.3	5.68
1978	203.70	35.8	5.69	332.88	43.4	7.67	318.69	36.8	8.66	249.27	40.4	6.17
1979	219.91	35.7	6.16	365.07	43.0	8.49	342.99	37.0	9.27	269.34	40.2	6.70
1980	235.10	35.3	6.66	397.06	43.3	9.17	367.78	37.0	9.94	288.62	39.7	7.27
1981	255.20	35.2	7.25	439.75	43.7	10.04	299.26	36.9	10.82	318.00	39.8	7.99
1982	266.92	34.8	7.67	459.23	42.6	10.78	426.45	36.7	11.62	330.65	38.9	8.50
1983	280.35	35.0	8.01	480.25	42.5	11.30	441.86	37.1	11.91	354.48	40.1	8.84
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1950				\$44.55	40.5	\$1.10	\$50.52	37.7	\$1.34			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1960 ¹				66.01	38.6	1.71	75.14	37.2	2.02			
1964	\$118.78	41.1	\$2.89	74.66	37.9	1.97	85.79	37.3	2.30	\$70.03	36.1	\$1.94
1965	125.14	41.3	3.03	76.91	37.7	2.04	88.91	37.2	2.39	73.60	35.9	2.05
1966	128.13	41.2	3.11	79.39	37.1	2.14	92.13	37.3	2.47	77.04	35.5	2.17
1967	130.82	40.5	3.23	82.35	36.6	2.25	95.72	37.1	2.58	80.38	35.1	2.29
1968	138.85	40.6	3.42	87.00	36.1	2.41	101.75	37.0	2.75	83.97	34.7	2.42
1969	147.74	40.7	3.63	91.39	35.7	2.56	108.70	37.1	2.93	90.57	34.7	2.61
1970	155.93	40.5	3.85	96.02	35.3	2.72	112.67	36.7	3.07	96.66	34.4	2.81
1971	168.82	40.1	4.21	101.09	35.1	2.88	117.85	36.6	3.22	103.06	33.9	3.04
1972	187.86	40.4	4.65	106.45	34.9	3.05	122.98	36.6	3.36	110.85	33.9	3.27
1973	203.31	40.5	5.02	111.76	34.6	3.23	129.20	36.6	3.53	117.29	33.8	3.47
1974	217.48	40.2	5.41	119.02	34.2	3.48	137.61	36.5	3.77	126.00	33.6	3.75
1975	233.44	39.7	5.88	126.45	33.9	3.73	148.19	36.5	4.06	134.67	33.5	4.02
1976	256.71	39.8	6.45	133.79	33.7	3.97	155.43	36.4	4.27	143.52	33.3	4.31
1977	278.90	39.9	6.99	142.52	33.3	4.28	165.26	36.4	4.54	153.45	33.0	4.65
1978	302.80	40.0	7.57	153.64	32.9	4.67	178.00	36.4	4.89	163.67	32.8	4.99
1979	325.58	39.9	8.16	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36
1980	351.25	39.6	8.87	176.46	32.2	5.48	209.60	36.2	5.79	190.71	32.6	5.85
1981	382.18	39.4	9.70	190.62	32.2	5.92	229.05	36.3	6.31	208.97	32.6	6.41
1982	401.70	39.0	10.30	198.10	31.9	6.21	245.44	36.2	6.78	224.94	32.6	6.90
1983	421.59	39.0	10.81	207.03	31.9	6.49	264.26	36.2	7.30	237.40	32.7	7.26

¹ Data include Alaska and Hawaii beginning in 1959.

13. Weekly hours, by industry division and major manufacturing group, seasonally adjusted

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	Mar. ^P
PRIVATE SECTOR	34.8	35.0	34.8	34.9	35.1	35.1	35.0	35.0	35.2	35.3	35.2	35.3	35.5	35.4	35.2
MANUFACTURING	38.9	40.1	39.5	40.1	40.0	40.1	40.2	40.3	40.8	40.6	40.6	40.5	41.0	41.0	40.5
Overtime hours	2.3	3.0	2.6	2.9	2.7	2.9	3.0	3.1	3.3	3.3	3.4	3.4	3.5	3.6	3.4
Durable goods	39.3	40.7	39.9	40.5	40.4	40.6	40.8	40.8	41.5	41.2	41.2	41.1	41.8	41.7	41.1
Overtime hours	2.2	3.0	2.5	2.8	2.6	2.8	3.0	3.1	3.4	3.4	3.5	3.5	3.7	3.7	3.6
Lumber and wood products	38.0	40.0	39.5	40.0	39.8	40.0	39.9	40.2	40.5	40.3	39.7	39.7	40.8	40.4	39.6
Furniture and fixtures	37.2	39.4	38.3	39.3	39.2	39.6	39.7	39.7	40.1	39.8	39.7	40.1	40.2	39.7	38.9
Stone, clay, and glass products	40.0	41.4	40.6	41.0	41.2	41.6	41.7	41.7	42.1	41.7	41.7	41.6	42.3	42.6	41.6
Primary metal industries	38.6	40.5	39.4	39.9	40.3	40.3	40.8	40.9	41.2	41.7	41.6	41.8	41.9	42.0	41.5
Fabricated metal products	39.2	40.6	39.7	40.5	40.4	40.5	40.7	40.9	41.6	41.2	41.4	41.4	41.8	41.9	41.2
Machinery, except electrical	39.7	40.5	39.7	40.2	40.0	40.4	40.7	40.7	41.2	41.3	41.3	41.4	41.8	42.0	41.5
Electric and electronic equipment	39.3	40.5	39.8	40.4	40.3	40.5	40.8	40.7	41.1	41.1	41.1	40.9	41.4	41.3	40.8
Transportation equipment	40.5	42.1	41.7	42.3	41.6	41.9	42.0	41.8	43.5	42.5	42.5	41.9	43.4	43.2	42.8
Instruments and related products	39.8	40.4	40.0	40.5	40.4	40.1	40.7	40.4	41.0	40.7	40.6	40.7	41.4	41.2	40.8
Nondurable goods	38.4	39.4	39.0	39.5	39.4	39.6	39.5	39.5	39.9	39.7	39.7	39.7	40.0	40.0	39.6
Overtime hours	2.5	3.0	2.7	3.0	2.9	3.0	3.0	3.1	3.1	3.1	3.1	3.2	3.2	3.3	3.2
Food and kindred products	39.4	39.5	39.2	39.6	39.4	39.8	39.4	39.6	39.9	39.7	39.5	39.6	39.6	39.8	39.7
Textile mill products	37.5	40.4	39.6	40.6	40.4	40.7	40.7	40.9	41.3	40.7	40.7	40.7	41.1	40.9	40.3
Apparel and other textile products	34.7	36.2	35.6	36.2	36.1	36.1	35.8	36.2	36.8	36.5	36.4	36.5	37.3	37.1	36.6
Paper and allied products	41.8	42.6	42.1	42.4	42.7	42.8	42.9	42.9	43.3	43.2	43.0	43.0	43.2	43.3	42.7
Printing and publishing	37.1	37.6	37.4	37.7	37.4	37.6	37.7	37.5	37.8	38.0	37.9	37.6	37.9	37.9	37.7
Chemicals and allied products	40.9	41.6	41.2	41.5	41.6	41.9	41.8	41.6	41.7	41.7	41.8	41.9	42.2	42.2	41.9
Petroleum and coal products	43.9	43.9	44.9	43.5	43.6	43.8	43.7	43.5	43.2	43.5	43.6	44.5	45.1	44.6	45.0
Leather and leather products	35.6	36.8	36.0	37.0	36.8	36.8	37.4	37.2	37.7	37.5	37.2	37.0	37.3	37.3	36.6
TRANSPORTATION AND PUBLIC UTILITIES	39.0	39.0	38.8	38.8	38.9	38.9	38.9	39.3	39.4	39.4	39.2	39.4	39.5	39.3	39.2
WHOLESALE AND RETAIL TRADE	31.9	31.9	31.7	31.7	31.9	32.0	31.9	31.8	31.8	32.1	32.0	32.4	32.2	32.1	31.9
WHOLESALE TRADE	38.4	38.6	38.4	38.5	38.6	38.7	38.6	38.5	38.7	38.7	38.7	38.7	38.8	38.7	38.5
RETAIL TRADE	29.9	29.8	29.7	29.6	29.9	29.9	29.8	29.7	29.7	30.0	30.0	30.4	30.1	30.0	29.9
SERVICES	32.6	32.7	32.7	32.7	32.9	32.7	32.6	32.7	32.8	32.9	32.7	32.6	32.8	32.7	32.7

p = preliminary.

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

14. Hourly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. P	Mar. P
PRIVATE SECTOR	\$7.67	\$8.01	\$7.90	\$7.94	\$7.97	\$7.97	\$8.00	\$7.94	\$8.11	\$8.15	\$8.16	\$8.16	\$8.26	\$8.24	\$8.24
Seasonally adjusted	(¹)	(¹)	7.91	7.95	7.97	8.00	8.03	7.98	8.08	8.13	8.13	8.16	8.23	8.23	8.25
MINING	10.78	11.30	11.19	11.28	11.20	11.25	11.29	11.28	11.35	11.35	11.43	11.44	11.56	11.48	11.56
CONSTRUCTION	11.62	11.91	11.95	11.90	11.80	11.74	11.78	11.84	12.03	12.04	11.89	12.01	12.07	11.98	11.96
MANUFACTURING	8.50	8.84	8.74	8.77	8.78	8.81	8.86	8.79	8.90	8.92	8.99	9.06	9.09	9.08	9.11
Durable goods	9.06	9.40	9.29	9.31	9.34	9.37	9.40	9.34	9.48	9.49	9.56	9.63	9.66	9.66	9.68
Lumber and wood products	7.46	7.79	7.68	7.74	7.78	7.85	7.82	7.83	7.88	7.87	7.80	7.80	7.88	7.88	7.83
Furniture and fixtures	6.31	6.62	6.51	6.51	6.52	6.60	6.65	6.67	6.73	6.71	6.72	6.77	6.76	6.76	6.78
Stone, clay, and glass products	8.86	9.28	9.13	9.16	9.20	9.28	9.34	9.31	9.43	9.39	9.41	9.41	9.43	9.40	9.40
Primary metal industries	11.33	11.33	11.24	11.25	11.28	11.23	11.37	11.28	11.33	11.28	11.31	11.35	11.37	11.46	11.47
Fabricated metal products	8.78	9.14	9.05	9.07	9.08	9.11	9.10	9.12	9.21	9.22	9.27	9.38	9.34	9.34	9.34
Machinery, except electrical	9.29	9.63	9.46	9.48	9.59	9.63	9.65	9.61	9.71	9.74	9.81	9.91	9.92	9.94	9.95
Electric and electronic equipment	8.21	8.67	8.60	8.60	8.60	8.63	8.69	8.64	8.75	8.73	8.78	8.86	8.89	8.86	8.87
Transportation equipment	11.12	11.68	11.49	11.53	11.52	11.63	11.62	11.53	11.80	11.88	12.02	12.06	12.08	12.05	12.18
Instruments and related products	8.10	8.54	8.47	8.46	8.48	8.48	8.57	8.53	8.61	8.60	8.62	8.70	8.74	8.71	8.75
Miscellaneous manufacturing	6.43	6.82	6.75	6.76	6.82	6.81	6.82	6.81	6.85	6.85	6.86	6.97	7.03	6.99	6.99
Nondurable goods	7.73	8.07	8.00	8.03	8.03	8.04	8.11	8.05	8.11	8.11	8.18	8.24	8.27	8.24	8.27
Food and kindred products	7.89	8.17	8.16	8.20	8.18	8.17	8.17	8.12	8.14	8.13	8.23	8.33	8.38	8.35	8.37
Tobacco manufactures	9.78	10.32	10.43	10.61	10.74	10.91	10.84	10.24	9.90	9.67	10.74	10.18	10.74	11.10	11.28
Textile mill products	5.83	6.18	6.11	6.14	6.14	6.16	6.17	6.19	6.23	6.24	6.26	6.31	6.40	6.42	6.42
Apparel and other textile products	5.20	5.37	5.33	5.35	5.33	5.36	5.35	5.35	5.39	5.43	5.45	5.46	5.51	5.46	5.50
Paper and allied products	9.32	9.93	9.67	9.72	9.81	9.91	10.06	10.02	10.11	10.10	10.19	10.23	10.22	10.21	10.25
Printing and publishing	8.75	9.12	9.03	9.03	9.05	9.06	9.10	9.14	9.25	9.24	9.27	9.31	9.28	9.30	9.30
Chemicals and allied products	9.96	10.59	10.39	10.43	10.50	10.52	10.58	10.61	10.69	10.78	10.86	10.89	10.90	10.89	10.89
Petroleum and coal products	12.46	13.28	13.28	13.27	13.17	13.17	13.20	13.16	13.36	13.36	13.44	13.57	13.47	13.43	13.56
Rubber and miscellaneous plastics products	7.65	8.02	7.92	7.95	7.97	7.96	8.06	8.03	8.08	8.12	8.10	8.18	8.20	8.19	8.19
Leather and leather products	5.32	5.53	5.52	5.52	5.51	5.49	5.52	5.50	5.56	5.55	5.56	5.60	5.67	5.67	5.67
TRANSPORTATION AND PUBLIC UTILITIES	10.30	10.81	10.68	10.72	10.74	10.73	10.86	10.68	10.90	10.93	11.01	10.98	11.05	11.01	11.00
WHOLESALE AND RETAIL TRADE	6.21	6.49	6.43	6.45	6.46	6.46	6.48	6.47	6.54	6.57	6.58	6.55	6.70	6.70	6.69
WHOLESALE TRADE	8.02	8.41	8.27	8.34	8.36	8.35	8.42	8.41	8.48	8.54	8.54	8.60	8.69	8.65	8.64
RETAIL TRADE	5.47	5.73	5.68	5.69	5.71	5.71	5.72	5.71	5.77	5.78	5.81	5.77	5.89	5.89	5.89
FINANCE, INSURANCE, AND REAL ESTATE	6.78	7.30	7.19	7.23	7.31	7.26	7.30	7.25	7.33	7.45	7.39	7.43	7.55	7.53	7.52
SERVICES	6.90	7.26	7.17	7.20	7.23	7.20	7.18	7.18	7.31	7.39	7.41	7.44	7.54	7.52	7.51

¹Not available.
p = preliminary.

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

15. Hourly Earnings Index, for production workers on private nonagricultural payrolls, by industry

[1977 = 100]

Industry	Not seasonally adjusted					Seasonally adjusted						
	Mar. 1983	Jan. 1984	Feb. 1984P	Mar. 1984P	Percent change from: Mar. 1983 to Mar. 1984	Mar. 1983	Nov. 1983	Dec. 1983	Jan. 1984	Feb. 1984P	Mar. 1984P	Percent change from: Feb. 1984 to Mar. 1984
PRIVATE SECTOR (in current dollars)	153.3	158.9	158.6	158.6	3.4	153.4	156.9	157.6	158.3	158.2	158.7	0.3
Mining	164.0	171.4	170.6	170.9	4.2	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Construction	144.2	146.3	145.2	145.1	.6	145.5	144.6	145.2	146.2	146.1	146.4	.2
Manufacturing	156.9	161.1	161.1	161.5	2.9	157.1	159.7	160.1	160.7	161.1	161.7	.4
Transportation and public utilities	155.0	160.7	160.2	160.0	3.2	155.9	158.7	158.9	160.0	159.6	160.9	.8
Wholesale and retail trade	149.9	155.7	155.6	155.5	3.8	149.6	154.1	154.8	155.2	155.1	155.3	.1
Finance, insurance, and real estate	156.7	164.5	164.0	164.0	4.7	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)	(¹)
Services	153.2	161.1	160.4	160.4	4.7	152.6	158.1	159.2	159.8	159.3	159.7	.3
PRIVATE SECTOR (in constant dollars)	95.0	95.3	94.9	(²)	(²)	94.9	94.3	94.7	94.7	94.6	(²)	(²)

¹This 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.
²Not available.

p = preliminary.

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

16. Weekly earnings, by industry division and major manufacturing group

[Gross averages, production or nonsupervisory workers on private nonagricultural payrolls]

Industry division and group	Annual average		1983										1984		
	1982	1983	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^p	Mar. ^p
PRIVATE SECTOR															
Current dollars	\$266.92	\$280.35	\$274.13	\$275.52	\$278.15	\$280.54	\$283.20	\$281.08	\$286.28	\$287.70	\$286.42	\$289.68	\$289.10	\$289.22	\$288.40
Seasonally adjusted	(¹)	(¹)	275.27	277.46	279.75	280.80	281.05	279.30	284.42	286.99	286.18	288.05	292.17	291.34	290.40
Constant (1977) dollars	167.87	171.15	169.85	169.55	170.33	171.37	172.37	170.35	172.77	173.31	172.44	174.40	173.32	173.08	(¹)
MINING	459.23	480.25	467.74	469.25	472.64	478.13	475.31	481.66	489.19	490.32	490.35	497.64	501.70	495.94	\$493.61
CONSTRUCTION	426.45	441.86	434.98	436.73	441.32	444.95	450.00	449.92	455.94	449.09	431.61	441.97	438.14	443.26	437.74
MANUFACTURING															
Current dollars	330.65	354.48	346.10	349.05	350.32	355.04	354.40	353.36	363.12	363.04	366.79	373.27	369.05	369.56	369.87
Constant (1977) dollars	207.96	216.41	214.44	214.80	214.53	216.88	215.70	214.16	219.14	218.70	220.82	224.73	221.25	221.16	(¹)
Durable goods															
Lumber and wood products	283.48	311.60	302.59	308.05	312.76	320.28	313.58	319.46	320.72	318.74	308.88	310.44	310.47	312.84	309.29
Furniture and fixtures	234.73	260.83	251.29	253.89	254.28	263.34	258.69	267.47	271.22	271.08	269.47	277.57	263.64	264.32	265.78
Stone, clay, and glass products	354.40	384.19	368.85	374.64	380.88	390.69	391.35	391.95	399.83	395.32	395.22	394.28	385.69	390.10	389.16
Primary metal industries	344.18	458.87	456.23	451.13	452.33	454.82	460.49	457.97	469.06	464.74	470.50	478.97	476.40	481.32	479.45
Fabricated metal products	344.18	371.08	361.10	364.61	366.83	371.69	365.82	372.10	381.29	380.79	385.63	396.77	386.68	387.61	386.68
Machinery except electrical	368.81	390.02	377.40	379.20	382.64	388.09	386.97	387.28	399.08	400.31	408.10	422.17	414.66	417.48	416.91
Electric and electronic equipment	322.65	351.14	344.00	344.86	345.72	350.38	350.21	349.92	358.75	358.80	363.49	370.35	366.27	364.15	364.56
Transportation equipment	450.36	491.73	480.28	484.26	482.69	491.95	484.55	475.04	505.04	506.09	515.66	522.20	518.23	516.95	522.52
Instruments and related products	322.38	345.02	340.49	339.25	341.74	340.90	344.51	343.76	353.01	350.02	353.42	360.18	359.21	357.98	358.75
Miscellaneous manufacturing	247.56	266.66	263.25	263.64	264.62	264.91	264.62	266.27	270.58	272.63	273.71	279.50	273.47	276.80	274.71
Nondurable goods															
Food and kindred products	296.83	317.96	311.20	313.97	315.58	319.19	319.53	319.59	325.21	323.59	327.20	330.42	326.67	326.30	327.49
Tobacco manufactures	310.87	322.72	316.61	318.98	321.47	325.17	322.72	324.80	328.86	323.57	327.55	332.37	330.17	327.32	328.94
Textile mill products	369.68	385.97	378.61	395.75	401.68	420.04	398.91	386.05	380.16	370.36	431.75	384.80	409.19	401.82	421.87
Apparel and other textile products	218.63	249.67	242.57	246.83	248.67	253.18	248.03	254.41	257.92	256.46	256.66	258.71	257.92	260.65	259.37
Paper and allied products	180.44	194.39	190.28	192.07	192.41	196.18	193.14	195.81	198.35	199.82	200.02	199.65	198.91	200.38	201.85
Printing and publishing	389.58	423.02	406.14	410.18	415.94	425.14	429.56	428.86	439.79	436.32	440.21	448.07	440.48	438.01	436.65
Chemicals and allied products	324.63	342.91	338.63	337.72	337.57	338.84	341.25	344.58	351.50	351.12	353.19	357.50	348.00	349.68	352.47
Petroleum and coal products	407.36	440.54	428.07	432.85	435.75	440.79	440.13	439.25	447.91	449.53	457.21	461.74	457.80	457.38	456.29
Rubber and miscellaneous plastics products	546.99	582.99	584.32	581.23	575.73	579.48	584.76	572.46	591.85	585.17	590.02	602.99	594.03	584.21	599.35
Leather and leather products	302.94	330.42	321.55	326.75	327.57	328.75	329.65	330.84	338.55	340.23	340.20	347.65	344.40	344.80	341.52
TRANSPORTATION AND PUBLIC UTILITIES	401.70	421.59	413.32	413.79	415.64	419.54	425.71	421.86	429.46	430.64	432.69	435.91	432.06	430.49	430.10
WHOLESALE AND RETAIL TRADE	198.10	207.03	201.90	203.18	205.43	207.37	210.60	209.63	209.28	210.24	209.90	214.19	211.72	211.05	211.40
WHOLESALE TRADE	307.97	324.63	316.74	319.42	321.86	323.15	326.70	325.47	328.18	331.35	331.35	335.40	335.43	332.16	331.78
RETAIL TRADE	163.55	170.75	166.42	167.29	169.59	171.87	175.03	174.16	172.52	172.82	173.14	177.72	173.17	173.17	173.76
FINANCE, INSURANCE, AND REAL ESTATE	245.44	264.26	258.84	261.00	265.35	262.09	264.99	261.73	263.88	270.44	266.78	268.97	276.33	273.34	272.22
SERVICES	224.94	237.40	233.74	234.72	236.42	236.88	237.66	237.66	239.04	242.39	241.57	242.54	245.80	245.15	244.83

¹ Not available.
p = preliminary.

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

17. Indexes of diffusion: industries in which employment increased

[In percent]

Time span	Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Over 1-month span	1982	28.5	45.4	36.0	39.0	47.6	32.8	38.4	37.1	34.1	29.3	32.0	42.2
	1983	56.5	45.7	62.4	69.1	71.0	64.5	68.5	68.0	60.8	70.7	64.5	64.0
	1984	66.9	P69.4	P65.1	—	—	—	—	—	—	—	—	—
Over 3-month span	1982	25.3	28.8	32.0	34.1	32.5	33.6	27.2	27.2	26.1	25.5	24.7	40.6
	1983	P79.3	P79.3	65.6	75.8	76.1	77.2	73.9	79.6	79.6	74.2	72.0	75.0
Over 6-month span	1982	20.2	23.7	25.3	29.8	26.1	26.1	23.4	19.1	21.2	26.1	26.6	35.8
	1983	50.5	63.2	73.4	76.3	79.3	83.6	82.5	80.4	82.0	84.1	P82.8	P82.3
Over 12-month span	1982	22.0	20.7	18.0	19.4	18.3	20.7	20.7	22.8	24.2	31.5	37.6	44.1
	1983	48.9	58.3	62.6	73.4	76.1	81.2	84.4	P87.9	P86.0	—	—	—

p = preliminary.

are counted as rising.) Data are centered within the spans. See the "Definitions" in this section.

NOTE: Figures are the percent of industries with employment rising. (Half of the unchanged components

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

UNEMPLOYMENT INSURANCE DATA

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

Definitions

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

Under both State and Federal unemployment insurance programs for civilian employees, insured workers must report the completion of at least 1 week of unemployment before they are defined as unemployed. Persons not covered by unemployment insurance (about 10 percent of the labor force) and those who have exhausted or not yet earned benefit rights are excluded from the scope of the survey. **Initial claims** are notices filed by

persons in unemployment insurance programs to indicate they are out of work and wish to begin receiving compensation. A claimant who continued to be unemployed a full week is then counted in the insured unemployment figure. The **rate of insured unemployment** expresses the number of insured unemployed as a percent of the average insured employment in a 12-month period.

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

An **application** for benefits is filed by a railroad worker at the beginning of his first period of unemployment in a benefit year; no application is required for subsequent periods in the same year. **Number of payments** are payments made in 14-day registration periods. The **average amount of benefit payment** is an average for all compensable periods, not adjusted for recovery of overpayments or settlement of underpayments. However, **total benefits** paid have been adjusted.

18. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1983												1984	
	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb. ^P	
All programs:														
Insured unemployment	5,437	5,134	4,642	3,947	3,481	3,275	2,917	2,580	2,478	2,620	2,915	3,374	3,174	
State unemployment insurance program: ¹	3,174													
Initial claims ²	2,065	2,075	1,874	1,666	1,740	1,804	1,668	1,381	1,522	1,757	2,105	2,356	1,560	
Insured unemployment (average weekly volume)	4,759	4,401	3,906	3,361	3,063	3,049	2,766	2,449	2,358	2,508	2,805	3,249	3,056	
Rate of insured unemployment	5.5	5.0	4.5	3.9	3.5	3.5	3.2	2.8	2.7	2.9	3.3	3.8	3.6	
Weeks of unemployment compensated	16,893	19,529	14,986	13,133	12,819	10,959	11,305	9,383	8,417	9,301	10,168	12,124	11,974	
Average weekly benefit amount for total unemployment	\$124.51	\$125.47	\$124.85	\$124.49	\$123.44	\$121.59	\$121.42	\$121.36	\$123.00	\$122.19	\$122.61	\$123.30	125.36	
Total benefits paid	\$2,052,899	\$2,367,752	\$1,816,539	\$1,587,888	\$1,549,758	\$1,298,189	\$1,337,442	\$1,104,362	\$1,002,141	\$1,099,862	\$1,203,605	\$1,442,144	1,455,598	
State unemployment insurance program: ¹ (Seasonally adjusted data)														
Initial claims ²	2,138	2,148	1,952	1,993	1,836	1,723	1,841	1,664	1,656	1,717	1,620	1,606	1,600	
Insured unemployment (average weekly volume)	3,979	3,884	3,774	3,538	3,301	3,303	3,026	3,088	2,617	2,677	2,721	2,486	2,416	
Rate of insured unemployment	4.6	4.5	4.3	4.1	3.8	3.8	3.5	3.6	3.1	3.1	3.2	2.9	2.8	
Unemployment compensation for ex-servicemen: ³														
Initial claims ¹	16	18	15	14	16	16	19	17	16	15	14	15	13	
Insured unemployment (average weekly volume)	37	34	30	26	25	25	26	27	28	28	27	27	24	
Weeks of unemployment compensated	143	156	117	104	107	94	108	106	107	116	113	112	99	
Total benefits paid	\$18,052	\$19,588	\$14,776	\$13,111	\$13,588	\$12,118	\$13,855	\$13,519	\$14,074	\$15,121	\$14,815	\$14,553	12,967	
Unemployment compensation for Federal civilian employees: ⁴														
Initial claims	10	11	10	9	13	12	11	11	15	13	13	16	10	
Insured unemployment (average weekly volume)	33	31	26	22	21	23	22	22	25	27	29	32	31	
Weeks of unemployment compensated	131	146	109	93	90	85	94	83	88	110	119	133	129	
Total benefits paid	\$15,076	\$16,871	\$12,422	\$10,603	\$10,272	\$9,640	\$10,760	\$9,522	\$10,144	\$12,415	\$13,888	\$15,565	15,036	
Railroad unemployment insurance:														
Applications	7	8	94	4	30	55	14	9	7	8	8	10	4	
Insured unemployment (average weekly volume)	72	65	79	90	49	49	46	41	48	40	43	51	49	
Number of payments	158	169	172	183	123	92	107	103	92	92	95	121	104	
Average amount of benefit payment	\$214.54	\$213.44	\$203.87	\$215.15	\$203.54	\$199.87	\$214.21	\$214.77	\$211.41	\$212.36	\$213.71	\$210.73	\$209.56	
Total benefits paid	\$33,100	\$36,243	\$27,783	\$29,411	\$14,984	\$17,551	\$21,789	\$20,239	\$19,531	\$19,536	\$19,870	\$23,866	\$23,228	
Employment service: ⁵														
New applications and renewals		8,381			11,987				15,595			P3,775		
Nonfarm placements		1,184			1,921				3,012			P677		

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

² Excludes transition claims under State programs.

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

⁴ Excludes data on claims and payments made jointly with State programs.

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

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

p = preliminary.

r = revised.

PRICE DATA

PRICE DATA are gathered by the Bureau of Labor Statistics from retail and primary markets in the United States. Price indexes are given in relation to a base period (1967 = 100, unless otherwise noted).

Definitions

The Consumer Price Index is a monthly statistical measure of the average change in prices in a fixed market basket of goods and services. Effective with the January 1978 index, the Bureau of Labor Statistics began publishing CPI's for two groups of the population. It introduced a CPI for All Urban Consumers, covering 80 percent of the total noninstitutional population, and revised the CPI for Urban Wage Earners and Clerical Workers, covering about half the new index population. The All Urban Consumers index covers in addition to wage earners and clerical workers, professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, retirees, and others not in the labor force.

The CPI is based on prices of food, clothing, shelter, fuel, drugs, transportation fares, doctors' and dentists' fees, and other goods and services that people buy for day-to-day living. The quantity and quality of these items is kept essentially unchanged between major revisions so that only price changes will be measured. Data are collected from more than 24,000 retail establishments and 24,000 tenants in 85 urban areas across the country. All taxes directly associated with the purchase and use of items are included in the index. Because the CPI's are based on the expenditures of two population groups in 1972-73, they may not accurately reflect the experience of individual families and single persons with different buying habits.

Though the CPI is often called the "Cost-of-Living Index," it measures only price change, which is just one of several important factors affecting living costs. Area indexes do not measure differences in the level of prices among cities. They only measure the average change in prices for each area since the base period.

Producer Price Indexes measure average changes in prices received in primary markets of the United States by producers of commodities in all stages of processing. The sample used for calculating these indexes contains about 2,800 commodities and about 10,000 quotations per month selected to represent the movement of prices of all commodities produced in the manufacturing, agriculture, forestry, fishing, mining, gas and electricity, and public utilities sectors. The universe includes all commodities produced or imported for sale in commercial transactions in primary markets in the United States.

Producer Price Indexes can be organized by stage of processing or by commodity. The stage of processing structure organizes products by degree of fabrication (that is, finished goods, intermediate or semifinished goods, and crude materials). The commodity structure organizes products by similarity of end-use or material composition.

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

In calculating Producer Price Indexes, price changes for the various commodities are averaged together with implicit quantity weights representing their importance in the total net selling value of all commodities as of 1972. The detailed data are aggregated to obtain indexes for stage of processing groupings, commodity groupings, durability of product groupings, and a number of special composite groupings.

Price indexes for the output of selected SIC industries measure average price changes in commodities produced by particular industries, as defined in the *Standard Industrial Classification Manual 1972* (Washington, U.S. Office of Management and Budget, 1972). These indexes are derived from several price series, combined to match the economic activity of the specified industry and weighted by the value of shipments in the industry. They use data from comprehensive industrial censuses conducted by the U.S. Bureau of the Census and the U.S. Department of Agriculture.

Notes on the data

Regional CPI's cross classified by population size were introduced in the May 1978 *Review*. These indexes enable users in local areas for which an index is not published to get a better approximation of the CPI for their area by using the appropriate population size class measure for their region. The cross-classified indexes are published bimonthly. (See table 20.)

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

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

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

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

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

[1967 = 100]

Year	All Items		Food and beverages		Housing		Apparel and upkeep		Transportation		Medical care		Entertainment		Other goods and services	
	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change	Index	Percent change
1967	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...	100.0	...
1968	104.2	4.2	103.6	3.6	104.0	4.0	105.4	5.4	103.2	3.2	106.1	6.1	105.7	5.7	105.2	5.2
1969	109.8	5.4	108.8	5.0	110.4	6.2	111.5	5.8	107.2	3.9	113.4	6.9	111.0	5.0	110.4	4.9
1970	116.3	5.9	114.7	5.4	118.2	7.1	116.1	4.1	112.7	5.1	120.6	6.3	116.7	5.1	115.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.3	118.6	5.2	128.4	6.5	122.9	5.3	122.4	4.8
1972	125.3	3.3	123.2	4.1	128.1	3.8	122.3	2.1	119.9	1.1	132.5	3.2	126.5	2.9	127.5	4.2
1973	133.1	6.2	139.5	13.2	133.7	4.4	126.8	3.7	123.8	3.3	137.7	3.9	130.0	2.8	132.5	3.9
1974	147.7	11.0	158.7	13.8	148.8	11.3	136.2	7.4	137.7	11.2	150.5	9.3	139.8	7.5	142.0	7.2
1975	161.2	9.1	172.1	8.4	164.5	10.6	142.3	4.5	150.6	9.4	168.6	12.0	152.2	8.9	153.9	8.4
1976	170.5	5.8	177.4	3.1	174.6	6.1	147.6	3.7	165.5	9.9	184.7	9.5	159.8	5.0	162.7	5.7
1977	181.5	6.5	188.0	8.0	186.5	6.8	154.2	4.5	177.2	7.1	202.4	9.6	167.7	4.9	172.2	5.8
1978	195.3	7.6	206.2	9.7	202.6	8.6	159.5	3.4	185.8	4.9	219.4	8.4	176.2	5.1	183.2	6.4
1979	217.7	11.5	228.7	10.9	227.5	12.3	166.4	4.3	212.8	14.5	240.1	9.4	187.6	6.5	196.3	7.2
1980	247.0	13.5	248.7	8.7	263.2	15.7	177.4	6.6	250.5	17.7	287.2	11.3	203.7	8.5	213.6	8.8
1981	272.3	10.2	267.8	7.7	293.2	11.4	186.6	5.2	281.3	12.3	295.1	10.4	219.0	7.5	233.3	9.2
1982	288.6	6.0	278.5	4.0	314.7	7.3	190.9	2.3	293.1	4.2	326.9	10.8	232.4	6.1	257.0	10.2
1983	297.4	3.0	284.7	2.2	322.0	2.3	195.6	2.5	300.0	2.4	355.1	8.6	242.4	4.3	286.3	11.4

20. Consumer Price Index for All Urban Consumers and revised CPI for Urban Wage Earners and Clerical Workers, U.S. city average—general summary and groups, subgroups, and selected items

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers					Urban Wage Earners and Clerical Workers									
	1983					1984		1983					1984		
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
All Items	293.2	301.8	302.6	303.1	303.5	305.2	306.6	292.3	300.8	301.3	301.4	301.5	302.7	303.3	
Food and beverages	281.6	285.3	285.7	285.3	286.5	291.6	294.2	282.1	285.6	285.9	285.6	286.8	291.9	294.4	
Housing	318.5	326.4	326.8	327.0	327.4	329.2	331.0	317.6	325.3	325.2	324.5	324.2	324.7	324.2	
Apparel and upkeep	192.0	200.4	200.7	200.7	199.3	196.4	196.2	191.0	199.3	199.8	199.7	198.1	195.3	195.4	
Transportation	289.9	303.7	305.0	306.3	306.3	306.0	305.8	291.1	305.5	306.9	308.2	308.2	307.9	307.7	
Medical care	351.3	361.2	362.9	364.9	366.2	369.5	373.2	348.9	359.2	360.9	362.9	364.3	367.5	371.3	
Entertainment	243.1	247.5	249.1	249.5	249.5	249.9	251.5	239.5	244.1	245.4	245.7	245.8	246.2	247.7	
Other goods and services	281.6	294.4	296.8	298.1	298.6	300.5	301.5	279.6	292.0	294.1	295.5	295.9	298.1	299.2	
Commodities	266.7	274.5	275.0	275.2	275.5	276.8	278.3	267.8	275.9	276.1	276.2	276.3	277.3	278.0	
Commodities less food and beverages	255.2	265.1	265.8	266.3	266.0	265.2	266.0	257.1	267.2	267.3	267.5	267.1	266.4	266.2	
Nondurables less food and beverages	265.2	275.8	275.2	274.5	273.5	272.3	274.0	266.9	277.9	277.4	276.6	275.4	274.2	276.0	
Durables	247.1	256.4	258.7	261.0	261.8	261.4	260.9	247.8	257.0	257.7	258.7	258.9	258.4	256.9	
Services	338.9	349.0	350.2	351.0	351.6	353.9	355.3	337.8	346.9	348.1	348.2	348.4	349.8	350.1	
Rent, residential	233.1	239.5	240.4	241.3	242.0	242.9	243.6	232.5	238.9	239.8	240.7	241.3	242.3	242.9	
Household services less rent of shelter (12/82 = 100)	101.0	105.1	104.8	104.2	104.1	105.1	105.7	...	...	...	...	...	...	...
Transportation services	299.9	305.4	307.8	310.1	310.8	314.1	314.4	296.9	301.4	303.9	306.0	306.9	310.3	310.6	
Medical care services	381.5	391.0	392.9	395.0	396.3	400.2	404.4	378.2	388.3	390.2	392.3	393.8	397.5	401.8	
Other services	272.6	282.5	285.2	286.5	287.2	288.0	289.1	270.2	279.6	282.2	283.6	284.3	285.0	286.1	
Special indexes:															
All items less food	292.6	302.3	303.2	303.9	304.0	304.8	305.9	291.9	301.5	302.1	302.3	302.1	302.3	302.4	
All items less homeowners' costs	100.2	103.2	103.5	103.6	103.7	104.3	104.8	...	...	...	...	...	...	...
All items less mortgage interest costs	...	...	...	...	...	...	...	279.0	287.5	288.1	288.3	288.5	290.0	290.9
Commodities less food	253.2	262.9	263.6	264.1	263.8	263.0	263.8	255.0	264.9	265.1	264.9	264.9	264.2	264.1	
Nondurables less food	260.5	270.6	270.2	269.5	268.5	267.4	269.1	262.2	272.8	272.3	271.5	270.4	269.4	271.1	
Nondurables less food and apparel	299.9	311.0	310.2	309.3	308.6	308.6	311.2	301.1	312.8	311.9	310.9	310.1	310.0	312.4	
Nondurables	274.6	281.8	281.7	281.1	281.2	283.2	285.3	275.6	282.8	282.7	282.1	282.2	284.1	286.3	
Services less rent of shelter (12/82 = 100)	101.0	104.2	104.5	104.7	104.8	105.7	106.3	...	...	...	...	...	...	...
Services less medical care	332.2	342.2	343.3	344.1	344.5	346.6	347.8	331.2	340.2	341.3	341.3	341.3	342.6	342.4	
Domestically produced farm foods	266.6	269.2	268.5	267.7	269.7	277.2	280.7	266.0	268.1	267.4	266.7	268.7	276.0	279.4	
Selected beef cuts	272.0	267.5	265.6	265.3	265.5	274.6	280.8	273.5	268.9	266.7	266.4	266.6	275.8	282.1	
Energy ¹	406.7	429.3	425.1	419.9	418.0	416.7	420.2	406.9	430.2	425.8	420.8	418.7	417.0	420.2	
Energy commodities ¹	401.6	422.1	418.2	414.4	411.8	409.9	414.5	401.9	423.4	419.6	415.8	412.9	410.7	414.7	
All items less energy	284.7	292.1	293.4	294.4	295.0	297.0	298.2	283.0	290.3	291.3	291.8	292.1	293.5	293.8	
All items less food and energy	282.0	290.2	291.8	293.2	293.6	294.6	295.5	280.2	288.3	289.5	290.3	290.3	290.7	290.4	
Commodities less food and energy	237.9	246.2	247.6	248.9	249.0	248.3	248.5	237.9	246.4	247.1	247.8	247.7	247.2	246.6	
Services less energy	332.9	341.6	343.3	344.9	345.5	348.1	349.5	331.4	339.0	340.8	341.6	341.8	343.4	348.3	
Purchasing power of the consumer dollar, 1967 = \$1	\$0.341	\$0.331	\$0.330	\$0.330	\$0.329	\$0.328	\$0.326	\$0.342	\$0.332	\$0.332	\$0.332	\$0.332	\$0.330	\$0.330	

See footnotes at end of table.

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1983					1984	1983					1984		
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
FOOD AND BEVERAGES	281.6	285.3	285.7	285.3	286.5	291.6	294.2	282.1	285.6	285.9	285.6	286.8	291.9	294.4
Food	289.0	292.6	292.9	292.5	293.9	299.4	302.1	289.3	292.6	292.9	292.6	294.0	299.4	302.1
Food at home	280.3	282.5	282.3	281.4	283.0	290.2	293.6	279.7	281.5	281.3	280.5	282.1	289.1	292.4
Cereals and bakery products	288.7	293.7	294.0	295.7	297.1	299.8	300.3	287.4	292.3	292.6	294.3	295.7	298.3	298.9
Cereals and cereal products (12/77 = 100)	154.0	158.5	158.1	157.9	158.2	159.3	160.3	154.7	159.3	158.8	158.6	158.9	160.0	161.0
Flour and prepared flour mixes (12/77 = 100)	139.8	142.9	141.4	140.8	140.1	143.0	143.4	140.1	143.4	141.9	141.3	140.4	143.3	143.8
Cereal (12/77 = 100)	169.2	177.5	177.6	177.3	178.0	178.6	180.4	171.4	179.7	179.8	179.4	180.1	180.8	182.5
Rice, pasta, and cornmeal (12/77 = 100)	145.3	146.0	145.5	146.1	146.8	146.7	147.2	146.3	147.1	146.6	147.2	148.0	147.9	148.4
Bakery products (12/77 = 100)	152.4	154.4	154.8	156.0	156.9	158.4	158.5	151.2	153.1	153.5	154.8	155.7	157.1	157.2
White bread	249.8	252.9	254.0	257.0	257.4	259.1	257.3	245.7	248.5	250.0	252.7	253.2	254.8	253.0
Other breads (12/77 = 100)	148.7	149.8	149.4	151.9	152.0	153.7	153.9	150.6	151.9	151.8	154.1	154.1	155.8	156.0
Fresh biscuits, rolls, and muffins (12/77 = 100)	153.7	152.6	154.4	155.7	157.8	157.9	158.7	149.1	148.7	150.6	151.7	153.7	153.9	154.7
Fresh cakes and cupcakes (12/77 = 100)	154.0	155.2	156.2	157.9	159.7	161.5	160.4	152.2	153.5	154.5	156.2	157.9	159.5	158.6
Cookies (12/77 = 100)	153.7	157.6	156.0	157.6	162.1	161.1	162.6	154.6	158.6	158.6	158.4	159.9	161.9	163.4
Crackers, bread, and cracker products (12/77 = 100)	146.5	148.3	147.7	147.8	148.1	151.2	152.3	147.9	149.5	149.1	149.2	149.6	152.6	153.6
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	154.2	155.9	155.8	156.8	157.7	159.7	160.4	156.8	158.6	158.5	159.6	160.4	162.4	163.2
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	155.7	161.3	161.9	160.6	161.5	163.3	163.9	149.0	154.3	154.9	154.0	154.9	156.5	157.1
Meats, poultry, fish, and eggs	264.0	258.7	257.1	256.6	259.3	268.9	273.0	263.9	258.4	256.6	256.1	258.6	268.3	272.4
Meats, poultry, and fish	271.7	264.2	261.9	260.8	261.8	269.8	273.9	271.4	263.8	261.4	260.2	261.0	269.1	273.2
Meats	273.2	262.6	260.4	258.6	258.3	266.4	270.0	272.9	262.2	260.0	258.1	257.7	265.8	269.4
Beef and veal	272.2	268.0	266.2	265.7	266.0	274.9	280.9	272.9	268.7	266.7	266.4	266.4	275.4	281.6
Ground beef other than canned	261.8	254.3	250.9	251.6	251.3	256.9	261.1	263.0	255.9	252.1	252.5	251.7	257.7	261.9
Chuck roast	286.9	269.5	265.8	266.2	266.9	282.8	293.1	295.9	277.4	273.1	274.0	275.2	291.6	302.0
Round roast	242.6	230.3	234.4	235.3	231.3	246.2	253.5	245.3	232.8	237.2	238.1	239.9	250.0	257.3
Round steak	259.8	247.4	251.5	250.0	249.9	256.2	264.5	258.0	245.7	250.9	248.6	248.0	253.0	264.0
Sirloin steak	260.3	277.3	268.4	265.3	262.7	265.7	274.6	261.7	280.1	270.1	266.9	264.1	266.0	276.5
Other beef and veal (12/77 = 100)	163.5	164.8	164.0	163.2	164.7	169.7	172.3	162.1	163.7	162.6	161.8	163.5	168.5	170.8
Pork	273.6	250.2	246.4	241.1	240.3	250.8	250.6	272.9	249.7	246.0	240.7	239.8	250.1	250.1
Bacon	294.5	269.5	262.5	253.7	253.0	259.0	267.9	299.5	273.6	266.4	256.8	256.4	262.4	271.6
Chops	252.1	229.6	227.2	222.3	219.0	236.5	230.7	250.3	227.9	225.6	220.3	217.5	234.5	228.7
Ham other than canned (12/77 = 100)	125.0	111.0	111.6	109.1	111.8	113.0	109.8	121.7	108.1	108.8	106.4	108.8	110.0	107.0
Sausage	333.9	311.3	307.4	305.0	303.4	311.0	320.0	334.8	312.2	308.4	305.9	304.2	312.2	321.1
Canned ham	276.2	252.8	251.9	248.0	246.5	252.4	251.1	280.6	258.8	257.7	254.3	252.0	257.5	255.7
Other pork (12/77 = 100)	150.4	139.0	134.4	131.5	129.9	139.7	139.3	149.5	138.2	133.9	131.1	129.3	138.9	138.7
Other meats	269.2	262.6	262.2	262.6	261.3	262.5	265.0	269.0	262.4	262.0	262.4	260.7	262.0	264.4
Frankfurters	269.4	259.8	260.8	259.7	259.0	260.0	263.5	268.6	258.6	259.7	258.8	257.5	258.9	262.0
Bologna, liverwurst, and salami (12/77 = 100)	154.5	153.0	152.8	152.8	150.4	150.6	152.4	154.5	152.9	152.8	152.8	150.2	150.4	152.3
Other luncheonmeats (12/77 = 100)	139.7	136.1	135.2	135.8	134.7	135.2	136.2	137.8	134.2	133.3	133.9	132.8	133.2	134.2
Lamb and organ meats (12/77 = 100)	137.2	133.9	133.7	134.6	136.1	137.6	138.2	140.1	136.9	136.8	137.8	139.3	140.9	141.6
Poultry	194.0	204.4	199.6	201.7	209.8	217.5	225.5	191.9	202.6	197.6	199.7	207.8	215.4	223.5
Fresh whole chicken	190.6	209.6	199.1	207.6	219.4	228.7	235.9	188.4	207.2	196.7	205.1	216.7	226.1	233.4
Fresh and frozen chicken parts (12/77 = 100)	126.2	135.9	132.2	134.1	139.4	144.7	152.2	124.6	134.2	130.5	132.1	137.2	142.5	150.2
Other poultry (12/77 = 100)	127.7	122.9	126.0	120.6	123.3	125.4	128.5	127.1	122.7	125.5	120.3	122.1	124.9	127.9
Fish and seafood	379.2	372.6	374.1	374.9	376.4	383.4	386.2	377.5	370.7	372.0	373.4	374.9	382.4	384.6
Canned fish and seafood	139.1	133.9	133.5	132.6	132.5	133.1	132.9	138.5	133.4	132.9	132.1	132.0	132.6	132.4
Fresh and frozen fish and seafood (12/77 = 100)	147.6	146.7	147.8	148.8	149.9	153.7	155.5	147.1	146.0	147.1	148.5	149.0	153.7	155.2
Eggs	169.3	193.3	200.1	208.2	234.0	266.5	270.3	170.0	194.3	201.0	209.3	235.3	268.1	271.8
Dairy products	249.7	250.2	250.1	250.2	249.9	250.8	250.9	249.1	249.4	249.2	249.3	249.0	249.8	250.1
Fresh milk and cream (12/77 = 100)	136.7	136.1	135.9	135.9	135.9	136.4	136.6	136.2	135.5	135.2	135.3	135.3	135.8	136.0
Fresh whole milk	223.4	222.6	221.9	222.1	222.3	222.7	223.3	222.6	221.7	220.9	221.2	221.4	221.7	222.3
Other fresh milk and cream (12/77 = 100)	137.3	136.4	136.6	136.4	136.2	137.3	137.0	136.8	135.8	136.0	135.8	135.6	136.7	136.4
Processed dairy products	147.4	149.0	149.2	149.3	148.8	149.3	149.3	147.7	149.3	149.4	149.5	149.0	149.6	149.5
Butter	253.6	253.9	256.2	254.8	254.1	254.7	253.4	256.2	256.4	258.7	257.4	256.6	257.1	255.9
Cheese (12/77 = 100)	145.5	146.8	146.7	146.8	146.4	147.0	146.8	145.8	147.1	147.0	147.1	146.7	147.3	147.1
Ice cream and related products (12/77 = 100)	153.1	154.4	154.9	155.3	154.0	154.8	155.6	152.2	153.5	154.0	154.2	153.0	153.8	154.4
Other dairy products (12/77 = 100)	141.6	146.0	145.2	145.7	146.0	146.1	146.2	142.3	146.5	145.8	146.1	146.5	146.7	146.7
Fruits and vegetables	278.1	297.6	296.7	288.9	292.6	311.0	321.0	274.5	293.3	292.7	285.1	289.3	307.3	317.2
Fresh fruits and vegetables	272.0	306.6	304.9	288.7	294.2	327.8	342.8	267.1	300.3	298.9	283.4	289.8	322.5	337.4
Fresh fruits	270.5	316.7	304.4	279.5	270.4	289.6	296.0	261.0	305.9	293.4	269.3	261.1	279.5	286.2
Apples	244.0	320.2	271.8	265.9	270.0	277.0	287.9	243.9	321.3	273.8	267.3	270.8	277.6	289.3
Bananas	254.0	278.6	272.8	233.1	230.0	244.3	263.2	250.9	276.5	270.3	230.7	227.8	242.4	260.7
Oranges	286.3	337.0	299.0	307.8	283.4	301.3	303.0	263.1	307.1	271.3	279.3	257.5	275.1	276.2
Other fresh fruits (12/77 = 100)	145.1	164.1	171.1	148.5	143.0	156.9	158.2	139.8	157.7	164.7	142.9	137.8	151.1	152.6
Fresh vegetables	273.4	297.2	305.5	297.4	316.6	363.6	386.6	272.7	295.4	303.9	296.2	315.7	361.4	383.8
Potatoes	240.6	336.1	316.9	305.0	317.6	342.3	359.6	236.5	330.9	311.7	300.1	314.3	337.5	353.2
Lettuce	249.0	337.0	360.4	329.8	371.8	328.3	278.5	250.0	338.2	360.9	330.0	375.0	329.8	280.2
Tomatoes	265.0	212.2	241.9	243.0	222.2	285.6	332.8	269.0	216.2	246.8				

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers					Urban Wage Earners and Clerical Workers								
	1983					1984		1983					1984	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Food at home—Continued														
Fruits and vegetables—Continued														
Processed vegetables (12/77 = 100)	138.1	140.6	141.1	141.8	142.8	144.2	144.6	136.9	139.4	140.0	140.7	141.6	143.0	143.3
Frozen vegetables (12/77 = 100)	151.2	152.4	150.6	151.8	151.5	153.3	154.2	152.7	153.9	152.0	153.4	153.2	154.9	155.8
Cut corn and canned beans except lima (12/77 = 100)	138.5	141.8	142.4	143.2	145.8	145.9	146.2	136.2	139.3	140.0	140.8	143.2	143.3	143.7
Other canned and dried vegetables (12/77 = 100)	131.1	134.0	135.7	136.0	136.8	138.7	138.8	129.8	132.6	134.2	134.5	135.3	137.1	137.1
Other foods at home	338.2	340.7	342.7	343.4	343.6	346.6	348.4	339.1	341.5	343.5	344.2	344.4	347.4	349.1
Sugar and sweets	370.7	376.4	375.5	376.0	377.7	380.0	381.2	370.6	376.2	375.3	375.7	377.6	379.7	380.7
Candy and chewing gum (12/77 = 100)	149.6	151.9	151.8	152.0	152.8	154.0	154.5	149.6	151.6	151.6	151.8	152.7	153.9	154.3
Sugar and artificial sweeteners (12/77 = 100)	165.9	170.3	169.3	170.4	171.1	170.9	171.8	167.1	171.6	170.8	171.7	172.4	172.0	173.0
Other sweets (12/77 = 100)	152.3	152.7	152.2	151.7	152.3	153.9	154.0	150.2	150.5	150.1	149.5	150.0	151.8	151.7
Fats and oils (12/77 = 100)	258.0	264.8	271.1	275.4	278.2	279.7	281.1	258.1	264.7	271.2	275.5	278.2	279.5	280.9
Margarine	255.9	259.3	264.6	268.9	273.7	278.2	280.5	255.3	257.3	262.6	267.1	271.7	276.4	278.8
Nondairy substitutes and peanut butter (12/77 = 100)	151.8	148.9	151.6	151.8	151.4	152.2	153.9	150.1	147.2	149.8	150.1	149.6	150.4	151.9
Other fats, oils, and salad dressings (12/77 = 100)	129.8	136.9	140.7	143.8	145.4	145.4	145.5	130.3	137.5	141.5	144.5	146.1	145.9	146.1
Nonalcoholic beverages	432.2	431.2	436.4	435.2	433.7	439.1	441.8	433.9	433.1	438.4	437.3	435.7	441.1	443.5
Cola drinks, excluding diet cola	312.5	312.7	317.2	315.7	314.3	319.9	318.3	310.0	310.2	314.7	313.2	311.6	317.2	315.8
Carbonated drinks, including diet cola (12/77 = 100)	147.4	147.6	150.8	149.4	148.8	149.1	152.6	144.9	145.3	148.7	147.5	146.9	147.0	150.3
Roasted coffee	365.9	353.7	352.8	355.4	354.2	359.2	364.3	360.5	348.4	347.6	350.2	349.0	353.9	358.9
Freeze dried and instant coffee	349.3	348.3	350.2	352.4	351.2	353.7	357.2	349.0	347.5	349.3	351.6	350.5	353.1	356.5
Other noncarbonated drinks (12/77 = 100)	140.6	141.0	141.9	141.8	141.8	143.8	144.5	140.8	141.3	142.2	142.1	142.2	144.2	144.8
Other prepared foods	275.1	277.8	276.8	277.9	278.2	279.9	281.4	276.8	279.4	278.2	279.4	279.7	281.5	283.0
Canned and packaged soup (12/77 = 100)	139.0	141.4	141.3	142.0	142.8	142.6	143.2	141.1	143.3	143.2	143.9	144.6	144.4	145.2
Frozen prepared foods (12/77 = 100)	152.0	155.7	154.7	156.4	155.5	157.2	156.8	151.3	154.9	153.7	155.7	154.5	156.5	156.1
Snacks (12/77 = 100)	157.6	159.9	159.0	158.6	158.9	159.5	162.8	159.6	162.0	160.8	160.7	161.0	161.6	164.9
Seasonings, olives, pickles, and relish (12/77 = 100)	161.1	158.9	159.6	160.7	160.6	161.6	162.3	160.1	158.1	158.7	159.9	159.5	160.5	161.4
Other condiments (12/77 = 100)	154.9	156.3	156.0	155.4	155.5	156.6	156.6	156.8	158.2	157.9	157.2	157.4	158.4	158.4
Miscellaneous prepared foods (12/77 = 100)	151.5	152.2	151.8	152.8	153.3	154.3	154.6	151.7	152.5	152.0	153.2	153.5	154.5	154.8
Other canned and packaged prepared foods (12/77 = 100)	146.4	147.2	146.2	147.0	148.0	149.1	149.7	147.7	148.4	147.4	148.2	149.2	150.4	150.9
Food away from home	315.2	322.2	323.9	324.8	325.5	327.2	328.5	318.4	325.4	327.2	328.0	328.7	330.4	331.7
Lunch (12/77 = 100)	153.3	155.9	156.7	157.1	157.5	158.0	158.5	155.0	157.5	158.3	158.7	159.0	159.5	160.1
Dinner (12/77 = 100)	151.7	154.9	155.5	156.2	156.5	157.6	158.1	153.4	156.6	157.2	157.9	158.3	159.3	159.9
Other meals and snacks (12/77 = 100)	154.5	159.4	160.7	160.8	161.0	162.0	162.9	155.1	159.9	161.2	161.2	161.4	162.5	163.4
Alcoholic beverages														
Alcoholic beverages at home (12/77 = 100)	137.7	141.2	141.4	140.9	140.4	140.8	141.5	139.2	143.2	143.4	143.0	142.6	142.8	143.6
Beer and ale	217.4	225.4	226.1	225.9	225.5	225.7	227.7	216.4	224.8	225.3	225.2	224.8	224.9	226.8
Whiskey	150.9	153.7	153.5	152.9	152.4	153.5	153.2	151.6	154.2	154.0	153.4	152.9	153.7	153.5
Wine	234.7	235.7	237.1	234.8	232.1	233.2	232.4	241.8	243.7	245.5	242.3	239.9	241.0	239.8
Other alcoholic beverages (12/77 = 100)	120.7	122.5	122.3	121.5	121.4	121.7	122.8	120.5	122.3	122.2	121.5	121.3	121.6	122.6
Alcoholic beverages away from home (12/77 = 100)	145.4	148.4	148.7	149.9	150.4	151.6	152.0	146.6	149.6	149.8	150.9	151.5	153.0	153.2
HOUSING														
Shelter (CPI-U)	339.2	348.5	349.8	351.1	351.8	353.2	354.0	.....	.....	.....	.....	.....	.....	.....
Renters' costs	101.2	104.4	104.8	105.0	105.1	105.7	106.0	.....	.....	.....	.....	.....	.....	.....
Rent, residential	233.1	239.5	240.4	241.3	242.0	242.9	243.6	.....	.....	.....	.....	.....	.....	.....
Other renters' costs	340.8	361.3	362.0	359.8	356.1	361.7	362.5	.....	.....	.....	.....	.....	.....	.....
Homeowners' costs ²	100.9	103.5	103.9	104.3	104.5	104.9	105.1	.....	.....	.....	.....	.....	.....	.....
Owners' equivalent rent	100.9	103.5	103.8	104.2	104.5	104.8	105.1	.....	.....	.....	.....	.....	.....	.....
Household insurance	100.9	104.0	105.5	106.1	106.1	106.6	107.1	.....	.....	.....	.....	.....	.....	.....
Maintenance and repairs	339.4	346.6	351.1	353.4	354.7	356.7	353.5	.....	.....	.....	.....	.....	.....	.....
Maintenance and repair services	373.6	387.6	397.2	398.5	400.8	402.4	400.9	.....	.....	.....	.....	.....	.....	.....
Maintenance and repair commodities	259.3	259.9	259.5	262.3	262.6	264.6	260.4	.....	.....	.....	.....	.....	.....	.....
Shelter (CPI-W)	.....	.....	.....	.....	.....	.....	.....	338.8	347.5	347.6	347.1	346.6	346.1	343.7
Rent, residential	.....	.....	.....	.....	.....	.....	.....	232.5	238.9	239.8	240.7	241.3	242.3	242.9
Other renters' costs	.....	.....	.....	.....	.....	.....	.....	339.0	358.6	359.3	357.3	352.9	359.1	360.9
Lodging while out of town	.....	.....	.....	.....	.....	.....	.....	353.6	374.8	374.2	370.9	363.9	374.0	377.9
Tenants' insurance (12/77 = 100)	.....	.....	.....	.....	.....	.....	.....	151.5	156.2	158.6	159.4	159.4	160.4	161.1
Homeownership	.....	.....	.....	.....	.....	.....	.....	376.9	386.1	385.9	384.9	384.1	382.9	379.4
Home purchase	.....	.....	.....	.....	.....	.....	.....	293.7	303.4	301.3	300.0	298.9	298.0	294.4
Financing, taxes, and insurance	.....	.....	.....	.....	.....	.....	.....	491.3	500.0	500.6	499.2	497.6	494.8	490.5
Property insurance	.....	.....	.....	.....	.....	.....	.....	417.9	434.9	437.4	438.0	437.2	438.3	439.3
Property taxes	.....	.....	.....	.....	.....	.....	.....	231.4	238.5	239.1	239.6	240.7	242.7	243.2
Contracted mortgage interest costs	.....	.....	.....	.....	.....	.....	.....	625.1	634.2	634.7	632.2	629.4	624.1	617.2
Mortgage interest rates	.....	.....	.....	.....	.....	.....	.....	211.1	207.2	208.8	208.6	208.7	207.6	207.7
Maintenance and repairs	.....	.....	.....	.....	.....	.....	.....	336.2	343.7	348.1	349.1	351.0	353.0	351.9
Maintenance and repair services	.....	.....	.....	.....	.....	.....	.....	374.5	385.5	392.5	393.3	395.6	397.6	396.8

See footnotes at end of table.

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1983			1984			1983			1984				
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Homeownership—Continued														
Maintenance and repair commodities								254.5	255.2	254.7	255.9	257.0	259.0	257.4
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)								148.0	145.8	145.7	147.3	149.1	150.8	147.6
Lumber, awnings, glass, and masonry (12/77 = 100)								122.2	125.3	124.2	123.8	123.7	125.2	125.6
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)								136.6	140.7	141.3	139.1	138.4	139.9	139.4
Miscellaneous supplies and equipment (12/77 = 100)								142.2	142.2	141.9	144.0	143.7	143.1	144.3
Fuel and other utilities	364.6	376.4	374.4	371.3	370.6	376.0	383.0	365.9	378.1	375.7	372.8	372.0	377.3	384.2
Fuels	461.5	478.3	474.4	468.1	467.4	470.4	479.6	461.2	478.3	474.0	467.8	467.2	469.9	479.1
Fuel oil, coal, and bottled gas	654.0	623.2	624.7	623.9	623.9	642.8	688.6	656.0	625.6	627.2	626.4	626.4	645.1	691.4
Fuel oil	669.7	631.2	632.6	631.5	631.5	652.7	705.0	671.3	633.7	635.1	633.9	633.9	654.9	707.6
Other fuels (6/78 = 100)	187.1	190.2	191.0	191.4	191.4	193.6	197.4	188.1	191.0	191.9	192.4	192.3	194.4	198.1
Gas (piped) and electricity	414.5	440.5	435.6	428.2	427.5	427.3	429.0	413.8	440.0	434.5	427.5	426.7	426.2	427.9
Electricity	320.1	342.3	339.2	331.8	329.8	332.8	334.2	319.4	342.6	338.8	330.8	329.0	331.9	333.3
Utility (piped) gas	560.1	590.5	582.4	576.3	578.2	571.1	573.6	557.6	586.4	578.3	574.0	575.7	568.1	570.1
HOUSING														
Fuel and other utilities														
Other utilities and public services	210.9	215.4	215.8	217.3	216.5	224.6	228.0	211.6	216.4	216.9	218.4	217.4	225.7	229.2
Telephone services	171.7	174.4	174.1	175.4	174.3	183.3	186.8	172.1	175.0	174.7	176.0	174.7	183.9	187.5
Local charges (12/77 = 100)	139.9	142.6	142.2	143.8	142.2	154.3	159.0	140.2	143.1	142.8	144.4	142.6	154.8	159.6
Interstate toll calls (12/77 = 100)	121.8	121.9	121.5	121.5	121.4	121.4	122.2	122.2	122.3	121.9	121.9	121.9	121.9	122.8
Intrastate toll calls (12/77 = 100)	115.9	118.6	119.0	119.8	119.7	122.1	122.1	115.8	118.7	119.1	119.8	119.8	122.2	122.1
Water and sewerage maintenance	343.9	356.8	361.7	363.6	364.3	367.4	369.0	347.2	361.0	366.2	367.8	368.5	371.7	373.2
Household furnishings and operations	236.7	239.9	239.4	239.9	240.5	240.4	240.4	233.4	235.8	236.2	236.7	237.3	237.3	237.4
Housefurnishings	195.9	197.6	198.0	198.4	198.8	197.9	197.6	193.8	195.6	196.0	196.4	196.9	196.3	196.0
Textile housefurnishings	228.2	231.2	228.8	229.6	230.3	227.6	232.0	232.2	234.6	232.0	233.0	233.1	230.9	235.5
Household linens (12/77 = 100)	139.0	138.1	136.0	135.7	135.6	133.0	137.4	140.7	139.0	137.0	136.4	136.2	134.1	138.5
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	145.7	150.5	149.6	151.1	152.0	151.3	152.3	149.5	154.8	153.6	155.6	156.1	155.5	156.6
Furniture and bedding	213.8	217.9	219.8	220.1	221.3	219.5	216.7	210.2	215.1	216.6	217.1	218.3	216.7	213.7
Bedroom furniture (12/77 = 100)	146.6	152.5	152.9	152.6	154.9	154.4	148.7	142.7	148.9	149.0	149.5	151.3	151.1	145.3
Sofas (12/77 = 100)	116.5	117.6	118.8	119.8	120.2	119.4	118.5	117.1	118.1	119.2	120.0	120.3	119.2	118.3
Living room chairs and tables (12/77 = 100)	121.0	124.2	125.4	125.6	124.4	124.8	124.5	121.5	125.2	126.5	126.6	125.7	125.9	125.7
Other furniture (12/77 = 100)	139.8	139.4	141.2	141.4	142.3	139.2	139.7	135.1	135.8	137.2	137.1	138.2	135.4	135.9
Appliances including TV and sound equipment	151.5	151.0	151.2	151.0	150.9	151.0	151.1	151.3	151.2	151.7	151.6	151.7	151.9	152.2
Television and sound equipment	107.1	105.1	104.9	105.0	104.8	104.9	104.5	106.1	104.2	103.9	104.1	103.9	104.0	103.5
Television	101.9	99.6	99.1	98.8	99.0	98.8	98.1	100.5	98.3	97.8	97.4	97.6	97.5	96.7
Sound equipment (12/77 = 100)	112.8	111.1	111.0	111.6	111.0	111.3	111.2	111.8	110.2	110.0	110.7	110.1	110.5	110.2
Household appliances	186.3	189.2	190.3	189.2	189.4	189.5	190.7	186.7	189.1	190.5	190.1	190.5	190.7	192.1
Refrigerators and home freezers	192.2	192.4	194.0	193.0	195.8	196.5	196.2	198.1	198.0	200.0	198.9	201.7	202.1	201.9
Laundry equipment	141.8	142.7	142.7	144.1	144.4	145.7	145.9	142.3	143.6	144.1	145.2	145.1	146.6	147.1
Other household appliances (12/77 = 100)	123.6	126.2	127.0	125.9	125.5	125.2	126.4	121.5	124.2	125.2	124.6	124.2	123.6	125.3
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	122.3	125.4	125.9	125.8	124.5	123.3	127.2	120.2	123.6	124.1	124.6	123.5	122.3	126.4
Office machines, small electric appliances, and air conditioners (12/77 = 100)	125.1	127.3	128.3	126.2	126.6	127.2	126.1	122.9	124.9	126.4	124.6	124.9	125.2	124.0
Other household equipment (12/77 = 100)	140.2	141.0	141.3	142.1	142.3	142.1	141.7	137.9	138.8	138.9	139.7	140.1	140.0	139.5
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	143.3	144.2	146.5	147.3	146.6	145.5	145.9	134.9	136.0	138.2	138.8	138.4	137.5	137.6
Clocks, lamps, and decor items (12/77 = 100)	132.3	132.9	134.0	135.5	134.1	130.9	132.0	127.3	128.4	129.3	131.0	129.6	126.6	128.1
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	145.7	147.7	145.6	146.2	147.4	149.6	148.2	141.8	143.6	141.7	142.4	143.6	145.5	144.1
Lawn equipment, power tools, and other hardware (12/77 = 100)	135.4	134.7	135.9	136.6	137.2	136.9	136.1	140.6	140.2	141.2	141.8	142.4	142.2	141.0
Housekeeping supplies	294.8	295.7	296.6	297.0	298.6	299.4	300.0	291.6	293.1	293.6	293.9	295.3	296.3	296.9
Soaps and detergents	290.1	296.1	295.2	296.7	295.9	296.3	296.5	286.1	292.0	291.1	292.7	291.8	292.2	292.3
Other laundry and cleaning products (12/77 = 100)	149.1	152.0	151.6	151.5	152.7	153.6	154.5	147.9	150.9	150.5	150.2	151.5	152.3	153.2
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	150.4	148.0	147.8	148.2	148.6	149.2	148.8	150.5	148.2	148.0	148.3	148.6	149.4	149.0
Stationery, stationery supplies, and gift wrap (12/77 = 100)	138.6	139.5	139.5	140.9	141.7	141.7	141.9	141.7	142.6	142.6	144.0	144.7	144.8	145.0
Miscellaneous household products (12/77 = 100)	154.3	154.9	155.9	155.5	156.6	157.4	158.3	149.1	149.5	150.4	150.0	151.1	152.0	152.8
Lawn and garden supplies (12/77 = 100)	144.4	140.8	144.1	143.0	145.4	145.0	145.2	137.4	134.9	137.2	136.0	138.3	138.0	138.3
Housekeeping services	315.9	320.9	321.6	322.3	322.8	324.1	324.8	315.6	320.8	321.7	322.3	322.9	324.4	325.3
Postage	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5	337.5
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	159.8	165.9	167.1	168.1	168.4	171.0	171.7	160.0	166.0	167.3	168.2	168.5	171.1	171.9
Appliance and furniture repair (12/77 = 100)	141.2	145.4	145.8	146.2	147.1	147.5	148.3	139.5	143.6	144.0	144.3	145.2	145.6	146.5
APPAREL AND UPKEEP	192.0	200.4	200.7	200.7	199.3	196.4	196.2	191.0	199.3	199.8	199.7	198.1	195.3	195.4
Apparel commodities	180.2	188.5	188.7	188.6	186.9	183.6	183.2	179.7	188.0	188.4	188.2	186.3	183.1	183.0
Apparel commodities less footwear	176.0	185.3	185.4	185.2	183.4	179.8	179.3	175.3	184.6	185.0	184.5	182.5	178.9	178.9
Men's and boys'	184.4	190.8	192.1	193.0	191.8	189.7	187.9	184.8	191.1	192.5	193.4	192.1	190.2	188.7
Men's (12/77 = 100)	116.2	120.1	120.8	121.6	120.9	119.3	118.1	116.9	120.7	121.4	122.2	121.5	118.8	118.9
Suits, sport coats, and jackets (12/77 = 100)	106.7	112.3	113.7	114.8	112.9	110.8	107.6	100.2	105.5	106.9	107.7	105.8	104.0	101.2
Coats and jackets	98.1	104.4	105.7	105.5	104.4	101.7	98.1	99.9	107.5	108.9	108.8	107.6	104.3	101.3
Furnishings and special clothing (12/77 = 100)	142.6	145.4	145.7	147.3	147.8	145.9	145.2	139.1	141.6	141.9	143.6	144.1	141.9	141.2

See footnotes at end of table.

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1983					1984		1983					1984	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Men's—Continued														
Shirts (12/77 = 100)	122.0	125.6	125.1	125.2	125.7	125.7	125.7	125.0	128.6	127.8	127.8	128.5	128.9	128.8
Dungarees, jeans, and trousers (12/77 = 100)	110.5	112.4	113.1	113.9	112.9	111.4	112.1	116.1	118.2	119.1	120.1	118.8	117.1	117.8
Boys' (12/77 = 100)	119.3	124.1	125.4	125.2	123.9	124.0	123.1	117.7	122.4	123.9	123.8	122.4	122.7	121.7
Coats, jackets, sweaters, and shirts (12/77 = 100)	108.1	119.0	120.9	119.9	118.8	118.8	118.4	109.3	120.5	122.7	122.1	120.6	121.1	120.7
Furnishings (12/77 = 100)	132.5	135.1	136.2	137.6	137.0	136.2	136.2	128.4	130.7	131.9	133.3	132.9	132.1	131.9
Suits, trousers, sport coats, and jackets (12/77 = 100)	122.9	123.7	124.7	124.4	122.7	123.3	121.6	120.2	120.8	121.8	121.6	120.0	120.6	119.0
Women's and girls'	155.7	168.8	168.6	167.0	164.9	158.8	159.0	157.2	170.2	170.4	168.6	166.0	160.0	160.7
Women's (12/77 = 100)	103.2	112.8	112.3	110.9	109.5	105.4	105.6	104.4	114.3	114.0	112.4	110.8	106.8	107.2
Coats and jackets	160.9	176.6	175.9	173.3	170.3	162.8	162.9	165.5	181.6	181.2	177.4	174.8	166.9	166.9
Dresses	154.9	176.7	173.8	171.9	172.0	164.1	166.5	140.6	162.6	158.9	158.0	157.1	150.5	153.7
Separates and sportswear (12/77 = 100)	94.6	102.5	103.9	102.0	98.9	94.5	93.0	95.3	102.9	104.2	102.4	99.4	94.7	93.3
Underwear, nightwear, and hosiery (12/77 = 100)	130.0	135.1	135.6	136.1	136.5	134.8	135.5	129.7	134.8	135.3	135.7	136.2	134.4	135.2
Suits (12/77 = 100)	79.7	94.3	89.9	85.7	81.7	75.2	75.2	95.6	115.0	112.6	105.8	100.2	93.9	95.0
Girls' (12/77 = 100)	105.1	104.5	111.4	111.8	110.2	106.6	106.4	104.9	108.3	110.4	110.8	108.8	104.8	105.6
Coats, jackets, dresses, and suits (12/77 = 100)	96.5	101.6	105.8	106.2	101.8	98.1	98.9	95.8	98.5	103.1	103.3	98.8	95.1	96.6
Separates and sportswear (12/77 = 100)	101.5	106.3	106.8	107.6	106.7	102.6	102.2	102.0	106.8	107.4	108.3	106.3	101.4	102.7
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	125.8	128.4	129.0	128.7	130.5	128.0	126.3	124.9	127.0	127.6	127.5	129.1	126.5	125.2
Infants' and toddlers'	278.8	287.4	289.0	288.7	282.7	283.6	286.2	289.5	297.9	299.9	298.1	292.1	292.4	297.0
Other apparel commodities	213.4	217.4	215.5	216.6	215.6	215.5	216.1	201.7	205.9	204.0	205.2	204.2	203.7	204.4
Sewing materials and notions (12/77 = 100)	120.5	121.9	120.4	118.6	121.4	119.8	122.4	118.5	120.2	118.5	116.8	119.3	117.7	121.1
Jewelry and luggage (12/77 = 100)	145.4	148.5	147.4	149.2	147.0	147.6	147.0	135.9	139.0	138.0	140.0	137.8	138.1	137.2
Footwear	205.6	208.0	208.6	209.1	207.9	206.7	206.4	205.2	207.6	208.1	209.1	208.3	207.3	207.0
Men's (12/77 = 100)	132.2	134.8	135.0	135.8	134.7	134.4	135.0	133.9	136.7	136.9	137.6	136.6	136.4	136.9
Boys' and girls' (12/77 = 100)	131.2	130.4	131.1	131.8	132.9	132.6	131.4	133.4	132.9	133.2	134.0	135.2	135.0	133.9
Women's (12/77 = 100)	124.6	126.8	127.1	126.7	125.2	123.7	123.5	120.4	122.3	122.6	122.9	121.7	120.3	120.3
Apparel services	285.4	293.4	294.6	296.2	297.0	298.3	299.7	283.6	291.5	292.6	294.3	295.0	296.1	297.6
Laundry and drycleaning other than coin operated (12/77 = 100)	170.3	174.4	176.0	177.0	177.7	179.0	180.2	168.8	173.3	174.3	175.4	176.0	177.3	178.5
Other apparel services (12/77 = 100)	149.1	153.7	153.8	154.5	154.5	154.2	154.4	150.3	154.8	154.9	155.6	155.6	155.4	155.5
TRANSPORTATION	289.9	303.7	305.7	306.3	306.3	306.0	305.8	291.1	305.5	306.9	308.2	308.2	307.9	307.7
Private	285.2	299.2	300.4	301.7	301.8	300.9	300.8	287.6	302.2	303.6	304.9	305.0	304.1	303.9
New cars	201.3	202.7	204.3	206.2	207.0	207.2	207.2	201.0	202.3	203.8	205.7	206.5	206.7	206.7
Used cars	309.1	343.9	350.4	356.1	357.6	357.3	357.2	309.1	343.9	350.4	356.1	357.6	357.3	357.2
Gasoline	359.4	387.1	382.4	378.1	375.2	370.3	368.8	361.2	388.8	384.3	380.1	377.0	372.1	370.7
Automobile maintenance and repair	325.9	332.3	333.5	335.2	335.4	336.1	337.4	326.6	333.0	334.1	335.6	335.9	336.6	338.1
Body work (12/77 = 100)	162.7	167.7	169.0	169.5	169.6	170.2	170.3	161.5	166.5	167.8	168.2	168.3	168.9	169.0
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	156.1	160.7	161.9	163.4	163.6	163.8	164.4	160.1	164.5	165.7	167.2	167.4	167.6	168.4
Maintenance and servicing (12/77 = 100)	151.1	152.6	152.5	152.7	152.8	152.9	153.5	151.9	151.7	151.9	152.0	152.0	152.0	152.8
Power plant repair (12/77 = 100)	155.4	158.4	159.1	160.2	160.1	160.9	161.8	154.8	157.8	158.5	159.5	159.6	160.4	161.2
Other private transportation	259.7	260.8	263.3	265.6	266.8	267.6	267.7	261.1	261.8	264.4	266.6	267.9	268.4	268.5
Other private transportation commodities	215.0	208.3	208.1	209.2	208.4	203.3	202.8	217.4	210.9	210.7	211.7	211.4	205.6	205.2
Motor oil, coolant, and other products (12/77 = 100)	154.8	154.2	152.7	152.9	153.3	153.3	153.8	153.8	153.2	152.2	151.7	152.3	152.2	152.7
Automobile parts and equipment (12/77 = 100)	136.7	131.9	131.9	132.7	132.4	128.3	127.8	138.5	133.8	133.8	134.6	134.3	130.0	129.6
Tires	190.6	181.7	181.7	183.1	182.7	175.7	174.2	194.1	185.4	185.4	187.0	186.5	178.5	177.9
Other parts and equipment (12/77 = 100)	133.7	132.9	133.0	133.0	132.9	132.1	132.0	133.6	132.8	132.8	132.9	132.7	131.9	131.8
Other private transportation services	274.1	277.3	280.5	283.1	284.8	287.2	287.5	275.2	277.8	281.1	283.7	285.4	287.6	287.7
Automobile insurance	295.6	303.8	309.4	312.8	315.0	318.8	319.8	294.9	303.4	308.8	312.1	314.3	318.0	318.9
Automobile finance charges (12/77 = 100)	165.0	156.4	157.2	159.1	160.0	160.1	159.3	164.0	155.8	156.8	158.7	159.7	159.6	158.7
Automobile rental, registration, and other fees (12/77 = 100)	140.1	146.9	147.1	147.3	147.5	148.9	149.1	140.8	147.9	148.2	148.3	148.6	148.8	150.1
State registration	184.9	195.3	195.4	195.4	195.6	195.1	195.1	184.3	195.2	195.2	195.2	195.4	195.0	195.0
Drivers' licenses (12/77 = 100)	133.5	153.0	154.0	154.5	154.5	158.0	158.0	133.7	153.4	154.4	154.8	154.8	158.3	158.3
Vehicle inspection (12/77 = 100)	128.6	139.8	139.8	139.8	139.8	139.2	139.2	129.9	140.5	140.5	140.5	140.5	139.9	139.9
Other vehicle-related fees (12/77 = 100)	156.2	160.5	160.2	160.5	160.7	163.5	163.9	164.1	167.8	167.6	167.7	167.9	170.4	171.1
Public	355.2	366.6	368.2	370.3	369.0	378.2	377.4	347.7	357.2	358.5	359.9	359.0	371.1	370.1
Airline fare	405.5	423.3	426.6	431.6	428.5	430.3	429.5	401.5	419.5	422.5	427.2	424.4	426.4	425.5
Intercity bus fare	383.8	415.1	417.7	416.0	405.5	425.3	428.2	385.4	415.3	417.6	416.9	402.6	423.9	427.1
Intracity mass transit	319.4	324.6	324.8	324.3	324.5	342.8	341.4	318.3	322.5	323.0	322.5	322.7	342.8	341.3
Taxi fare	301.2	303.5	303.1	304.7	307.6	308.2	308.3	310.8	312.7	312.2	313.5	316.7	317.2	317.5
Intercity train fare	351.8	364.8	365.4	364.8	370.7	373.7	373.5	352.2	365.4	366.1	365.6	371.3	374.0	373.8
MEDICAL CARE	351.3	361.2	362.9	364.9	366.2	369.5	373.2	348.9	359.2	360.9	362.9	364.3	367.5	371.3
Medical care commodities	216.7	226.3	227.5	228.9	229.9	231.2	232.9	217.2	226.7	227.8	229.1	230.1	231.5	233.2
Prescription drugs	205.9	216.7	218.6	220.8	222.3	223.7	226.4	207.1	218.0	219.9	222.1	223.1	225.0	227.9
Anti-infective drugs (12/77 = 100)	153.3	158.1	158.6	159.1	161.2	161.4	163.4	155.5	160.3	160.8	161.5	163.5	164.2	165.8
Tranquilizers and sedatives (12/77 = 100)	168.2	179.9	182.8	186.9	188.4	190.1	193.0	167.9	179.7	182.6	186.7	188.3	190.0	192.9
Circulatories and diuretics (12/77 = 100)	147.2	155.8	158.1	159.9	160.6	161.5	164.7	147.2	155.7	157.9	159.7	160.3	161.1	164.4
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	189.0	200.0	201.9	204.0	205.0	205.8	207.2	190.8	201.9	204.0	206.1	207.1	207.9	209.4

See footnotes at end of table.

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

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1983					1984		1983					1984	
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Pain and symptom control drugs (12/77 = 100)	168.6	177.5	178.7	180.5	181.1	182.1	183.8	170.3	179.4	180.6	182.4	183.0	184.2	185.9
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	156.4	163.8	164.2	164.7	165.7	167.1	169.8	156.7	164.1	164.5	165.1	166.2	167.4	170.4
Nonprescription drugs and medical supplies (12/77 = 100)	151.6	157.3	157.5	157.9	158.3	159.2	159.6	152.4	159.1	158.3	158.8	159.1	160.1	160.6
Eyeglasses (12/77 = 100)	134.6	137.7	137.3	137.8	137.7	137.9	138.0	133.4	136.7	136.6	136.6	136.5	136.8	137.0
Internal and respiratory over-the-counter drugs	245.1	255.6	256.1	256.4	257.5	259.4	260.1	246.4	256.9	257.4	257.7	258.8	260.6	261.4
Nonprescription medical equipment and supplies (12/77 = 100)	146.1	151.2	151.8	152.7	152.6	153.4	154.6	147.4	152.3	153.0	154.1	154.0	155.0	155.7
Medical care services	381.5	391.0	392.9	395.0	396.3	400.0	404.4	378.2	388.3	390.2	392.3	393.8	397.5	401.8
Professional services	315.4	327.6	329.7	331.7	332.9	335.9	339.8	315.7	328.0	330.1	332.0	333.3	336.3	340.3
Physicians' services	344.8	356.5	358.5	360.5	362.0	366.0	370.4	348.2	360.5	362.3	364.3	365.9	369.9	374.4
Dental services	294.0	308.3	310.7	312.9	314.0	316.0	319.8	291.8	306.1	308.5	310.7	311.8	313.9	317.8
Other professional services (12/77 = 100)	150.5	154.3	155.4	155.9	156.2	157.4	158.7	147.2	150.8	151.8	152.5	152.7	153.8	155.0
Other medical care services	461.3	467.8	469.3	471.5	473.0	477.9	482.5	457.0	463.9	465.6	467.9	469.5	474.1	479.0
Hospital and other medical services (12/77 = 100)	188.6	197.8	199.4	201.0	202.2	204.3	206.4	187.0	195.7	197.3	199.0	200.1	202.1	204.4
Hospital room	604.1	633.8	638.0	641.9	643.5	650.2	657.9	596.7	626.1	630.2	633.9	635.9	641.9	650.4
Other hospital and medical care services (12/77 = 100)	184.5	193.3	195.1	197.1	198.8	200.9	202.7	183.3	191.4	193.3	195.4	197.0	199.1	201.0
ENTERTAINMENT	243.1	247.5	249.1	249.5	249.5	249.9	251.5	239.5	244.1	245.4	245.7	245.8	246.2	247.7
Entertainment commodities	244.5	248.0	249.3	249.0	248.7	248.9	250.7	238.8	242.6	243.7	243.4	243.1	243.6	245.3
Reading materials (12/77 = 100)	156.1	161.2	163.4	162.9	162.3	160.7	164.1	155.5	160.5	162.8	162.3	161.8	160.3	163.4
Newspapers	296.5	304.0	306.9	307.7	308.2	308.6	310.2	296.4	303.9	307.0	307.8	308.3	308.6	310.4
Magazines, periodicals, and books (12/77 = 100)	162.2	168.6	171.7	170.2	168.6	165.0	171.2	162.1	168.8	170.0	170.4	168.7	164.9	171.3
Sporting goods and equipment (12/77 = 100)	133.4	134.6	134.5	134.7	135.0	136.1	135.9	127.0	128.9	128.6	128.7	129.1	130.1	130.3
Sport vehicles (12/77 = 100)	136.1	137.4	137.3	137.8	138.5	139.8	139.5	126.0	128.5	128.2	128.5	129.2	130.5	130.7
Indoor and warm weather sport equipment (12/77 = 100)	120.5	118.6	118.6	118.1	117.4	117.8	117.4	117.9	116.3	116.4	116.0	115.3	115.8	115.3
Bicycles	196.7	200.1	199.9	198.6	198.2	200.1	201.5	197.7	200.9	200.7	199.3	199.0	200.9	202.4
Other sporting goods and equipment (12/77 = 100)	132.1	134.6	134.0	134.5	134.8	135.2	134.6	131.9	134.5	133.8	134.4	134.7	134.6	134.2
Toys, hobbies, and other entertainment (12/77 = 100)	138.0	138.8	139.3	139.1	138.8	139.3	139.8	136.7	137.7	138.1	137.8	137.6	138.2	138.7
Toys, hobbies, and music equipment (12/77 = 100)	136.9	136.7	137.3	136.7	136.6	137.0	137.3	133.0	133.0	133.5	132.8	132.9	133.4	133.8
Photographic supplies and equipment (12/77 = 100)	131.2	131.0	131.9	131.7	130.2	130.1	131.9	132.3	132.1	133.0	132.7	131.2	131.2	133.0
Pet supplies and expenses (12/77 = 100)	144.9	148.5	148.5	148.8	148.9	150.1	149.9	145.9	149.6	149.6	149.9	150.1	151.1	150.9
Entertainment services	241.6	247.2	249.2	250.5	251.1	251.8	253.1	241.8	247.8	249.7	251.0	251.7	252.1	253.2
Fees for participant sports (12/77 = 100)	150.6	154.4	155.6	156.4	156.9	157.8	158.6	151.7	155.5	156.9	157.7	158.1	158.8	159.2
Admissions (12/77 = 100)	140.9	145.2	145.8	146.6	147.2	147.3	148.3	139.8	144.2	144.8	145.6	146.3	146.2	147.2
Other entertainment services (12/77 = 100)	130.3	131.0	132.6	133.3	133.0	132.9	133.4	131.2	132.3	133.6	134.4	134.0	133.9	134.4
OTHER GOODS AND SERVICES	281.6	294.4	296.8	298.1	298.6	300.5	301.5	279.6	292.0	294.1	295.5	295.9	298.1	299.2
Tobacco products	282.8	298.0	299.0	299.9	299.9	304.3	305.4	282.2	297.8	298.8	299.7	299.6	304.0	305.1
Cigarettes	290.0	306.4	307.4	308.2	308.0	312.8	313.8	288.8	305.5	306.5	307.3	307.0	311.8	312.7
Other tobacco products and smoking accessories (12/77 = 100)	147.8	151.2	151.4	152.7	153.9	154.9	156.1	147.7	151.2	151.4	152.7	153.9	154.9	156.0
Personal care	257.8	263.0	263.3	265.6	266.3	266.9	267.9	255.5	260.9	261.5	263.7	264.4	265.0	266.1
Toilet goods and personal care appliances	256.0	262.4	263.0	265.7	266.3	266.8	267.9	256.8	263.0	263.9	266.6	267.1	267.5	268.7
Products for the hair, hairpieces, and wigs (12/77 = 100)	148.1	153.0	152.7	154.5	154.0	154.3	154.7	147.4	152.0	151.9	153.6	153.1	153.2	153.8
Dental and shaving products (12/77 = 100)	159.3	160.8	163.1	166.7	167.3	167.8	168.1	157.8	159.1	161.2	165.1	165.6	166.0	166.3
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	145.6	148.3	147.7	148.9	149.8	150.0	150.6	146.4	148.9	148.9	150.1	151.1	151.1	151.7
Other toilet goods and small personal care appliances (12/77 = 100)	144.1	149.9	150.5	150.5	150.7	151.0	152.4	147.6	153.4	154.1	154.1	154.4	154.8	156.2
Personal care services	260.4	264.6	264.6	266.6	267.4	268.1	269.0	254.7	259.3	259.6	261.4	262.1	263.0	264.0
Beauty parlor services for women	264.4	268.1	267.5	269.8	270.7	271.2	272.3	256.8	261.1	260.7	262.9	203.7	264.5	265.7
Haircuts and other barber shop services for men (12/77 = 100)	143.1	146.0	146.8	147.5	147.8	148.4	148.7	141.9	144.8	145.6	146.3	146.7	147.2	147.5
Personal and educational expenses	323.9	344.6	350.9	351.3	352.1	353.5	354.4	325.0	345.6	352.4	352.9	353.7	355.4	356.4
Schoolbooks and supplies	292.0	306.6	308.5	308.8	308.9	314.4	317.2	296.0	310.8	312.9	313.0	313.0	318.8	321.7
Personal and educational services	331.0	353.5	360.6	361.0	361.9	362.7	363.3	332.5	354.3	362.0	352.9	363.6	364.5	365.2
Tuition and other school fees	167.4	178.6	182.9	182.9	182.9	183.0	183.2	167.9	178.4	183.3	183.3	183.3	183.4	183.5
College tuition (12/77 = 100)	167.0	180.7	182.7	182.7	182.8	182.9	183.0	167.1	180.5	182.6	182.6	182.7	182.7	182.9
Elementary and high school tuition (12/77 = 100)	168.8	170.9	183.9	183.9	183.9	183.9	183.9	169.8	172.7	184.9	184.9	184.9	184.9	184.9
Personal expenses (12/77 = 100)	179.6	192.6	193.4	194.6	196.8	198.6	199.6	179.5	193.0	193.9	195.2	197.3	199.1	200.2
Special indexes:														
Gasoline, motor oil, coolant, and other products	355.8	382.3	377.8	373.7	370.9	366.3	365.1	357.3	383.9	379.5	375.5	372.5	367.9	366.0
Insurance and finance								411.6	418.2	419.7	419.8	419.4	418.4	415.7
Utilities and public transportation	329.4	344.7	343.0	340.7	339.8	344.6	346.6	328.5	343.8	341.8	339.4	338.5	343.6	345.5
Housekeeping and home maintenance services	355.1	361.6	363.4	364.2	364.9	366.4	366.9	356.5	365.2	369.7	370.4	372.0	373.9	373.8

¹Excludes motor oil, coolant, and other products as of January 1983.

c = corrected.

21. Consumer Price Index for All Urban Consumers: Cross classification of region and population size class by expenditure category and commodity and service group

[December 1977 = 100]

Category and group	Size class A (1.25 million or more)			Size class B (385,000-1,250 million)			Size class C (75,000-385,000)			Size class D (75,000 or less)		
	1983		1984	1983		1984	1983		1984	1983		1984
	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.	Oct.	Dec.	Feb.
Northeast												
EXPENDITURE CATEGORY												
All items	156.5	157.2	159.5	163.1	163.7	165.9	167.1	168.3	170.5	161.6	162.3	164.9
Food and beverages	148.2	148.8	152.4	147.3	146.7	151.8	150.7	151.9	155.0	146.6	147.6	152.4
Housing	160.5	161.7	164.3	171.4	172.6	176.9	178.4	179.5	183.7	166.3	166.4	170.1
Apparel and upkeep	125.5	122.7	121.1	130.0	129.5	124.0	132.3	133.0	128.7	131.9	134.1	132.6
Transportation	165.8	166.5	168.4	173.4	174.2	172.6	172.0	172.9	173.2	171.9	172.5	172.2
Medical care	166.5	168.3	171.8	167.3	170.7	175.1	171.4	174.2	176.5	172.6	177.5	181.1
Entertainment	145.8	145.9	146.6	142.8	140.3	140.3	146.2	149.0	149.9	153.0	152.3	152.4
Other goods and services	166.9	167.9	169.1	167.1	167.7	168.7	170.5	172.3	173.5	171.3	171.8	173.6
COMMODITY AND SERVICE GROUP												
Commodities	151.2	151.4	153.6	157.4	157.1	159.3	156.4	157.0	159.1	154.7	155.5	158.6
Commodities less food and beverages	153.0	152.9	154.0	162.1	162.0	162.5	158.9	159.2	160.7	158.3	159.0	161.1
Services	163.2	164.4	166.9	171.8	173.6	175.8	184.2	186.3	188.6	171.9	172.7	174.4
North Central Region												
EXPENDITURE CATEGORY												
All items	167.3	167.6	168.7	162.6	163.6	165.2	161.1	161.6	162.5	162.1	162.8	163.7
Food and beverages	144.6	145.2	149.4	142.8	143.8	148.0	144.8	144.7	148.6	153.2	152.9	155.9
Housing	185.6	185.8	186.2	170.3	171.5	173.4	167.8	169.0	169.9	165.9	167.0	167.0
Apparel and upkeep	122.3	120.3	116.7	131.8	131.2	126.6	131.6	132.3	129.0	129.2	127.5	123.0
Transportation	168.8	168.9	168.6	170.1	171.6	170.9	171.8	172.1	171.1	169.4	170.8	170.0
Medical care	169.8	172.4	176.2	173.1	173.9	176.9	167.6	168.0	170.2	175.5	177.6	183.2
Entertainment	144.3	144.2	144.6	134.7	133.6	135.7	149.9	148.4	148.3	138.9	139.1	144.2
Other goods and services	162.9	163.8	165.9	175.8	177.4	177.4	161.1	161.7	163.0	172.4	172.3	175.0
COMMODITY AND SERVICE GROUP												
Commodities	155.6	155.6	156.8	153.7	154.2	155.7	152.7	152.6	153.6	153.0	152.9	153.8
Commodities less food and beverages	161.2	160.9	160.0	158.4	158.7	158.6	156.5	156.3	155.7	153.0	153.0	152.7
Services	184.6	185.2	186.3	176.9	178.6	180.4	174.7	176.2	176.8	176.5	178.3	179.3
South												
EXPENDITURE CATEGORY												
All items	163.3	163.5	165.7	164.9	164.9	166.9	163.5	163.7	165.3	165.1	165.7	166.6
Food and beverages	151.4	151.9	156.3	150.5	149.8	154.8	148.3	148.5	153.2	151.4	152.3	157.5
Housing	169.6	169.3	172.4	171.0	170.9	172.0	169.6	169.4	170.7	173.9	174.6	174.2
Apparel and upkeep	130.7	130.5	129.9	129.0	128.7	129.6	126.5	126.7	124.8	116.3	116.0	110.9
Transportation	171.1	171.5	171.0	174.2	174.4	174.1	172.4	172.5	171.8	170.4	170.2	170.2
Medical care	171.7	173.6	176.2	172.4	174.0	177.0	182.3	182.7	186.7	187.8	189.9	193.3
Entertainment	143.4	142.9	142.9	153.7	154.6	157.7	148.1	150.0	151.4	148.6	147.5	148.5
Other goods and services	166.2	166.6	169.6	168.5	169.1	171.5	166.2	167.5	169.5	164.0	167.3	167.9
COMMODITY AND SERVICE GROUP												
Commodities	155.5	155.9	157.9	157.2	156.9	159.2	154.8	154.8	156.5	155.4	155.6	159.9
Commodities less food and beverages	157.3	157.7	158.1	160.1	160.1	160.7	157.9	157.8	157.7	157.1	157.1	156.1
Services	174.1	174.0	176.5	176.6	176.9	178.4	177.1	177.5	178.4	179.6	180.8	181.2
West												
EXPENDITURE CATEGORY												
All items	163.5	164.0	165.7	163.8	164.0	165.3	155.9	156.3	157.6	163.9	164.0	164.8
Food and beverages	151.9	152.7	155.8	153.6	154.4	158.4	149.4	150.2	153.7	154.9	156.0	160.3
Housing	170.0	169.4	171.7	168.1	167.2	168.4	154.2	153.9	154.6	164.9	164.4	165.2
Apparel and upkeep	122.8	122.7	123.8	127.6	127.9	124.9	125.0	123.4	123.8	146.2	144.4	141.2
Transportation	172.0	174.2	172.9	174.3	175.3	175.0	169.9	171.1	170.5	169.8	171.1	168.6
Medical care	177.4	178.0	181.2	175.6	176.5	178.2	180.6	180.9	184.5	179.0	178.9	183.8
Entertainment	141.3	142.6	144.3	146.8	147.5	148.1	147.4	148.8	151.8	160.6	161.2	161.4
Other goods and services	168.0	168.8	171.1	168.4	170.0	171.3	164.6	166.2	166.8	175.3	174.5	175.3
COMMODITY AND SERVICE GROUP												
Commodities	152.4	153.5	154.1	155.7	156.3	157.3	153.4	154.3	155.3	153.8	154.3	154.6
Commodities less food and beverages	152.7	153.9	152.9	156.8	157.2	156.2	155.0	156.0	155.3	153.4	153.6	151.5
Services	177.8	177.8	180.6	174.9	174.7	176.2	159.1	158.8	160.4	178.6	178.3	179.9

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

[1967 = 100 unless otherwise specified]

Area ¹	All Urban Consumers						Urban Wage Earners and Clerical Workers							
	1983					1984	1983					1984		
	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Feb.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
U.S. city average ²	293.2	301.8	302.6	303.1	303.5	305.2	306.6	292.3	300.8	301.3	301.4	301.5	302.7	303.3
Anchorage, Alaska (10/67 = 100)	...	267.9	...	270.4	...	271.5	...	...	260.8	...	264.0	...	264.0	...
Atlanta, Ga.	295.1	...	304.4	...	307.3	...	309.3	297.0	...	306.3	...	309.7	...	309.6
Baltimore, Md.	...	302.9	...	304.7	...	307.6	...	...	299.5	...	302.4	...	303.8	...
Boston, Mass.	...	290.6	...	294.0	...	296.6	...	...	288.6	...	292.5	...	294.4	...
Buffalo, N.Y.	280.3	...	288.5	...	288.2	...	290.5	276.5	...	286.8	...	285.6	...	285.9
Chicago, Ill.-Northwestern Ind.	293.7	303.0	302.3	303.9	303.9	305.2	305.0	291.4	299.1	294.5	295.7	294.2	298.3	296.9
Cincinnati, Ohio-Ky.-Ind.	...	314.6	...	316.8	...	318.4	...	...	311.2	...	316.0	...	313.4	...
Cleveland, Ohio	318.8	...	332.5	...	330.7	...	331.1	313.5	...	317.6	...	314.9	...	318.2
Dallas-Ft. Worth, Tex.	304.5	...	318.5	...	317.6	...	322.7	298.1	...	314.7	...	313.5	...	317.7
Denver-Boulder, Colo.	...	339.4	...	339.8	...	343.0	...	...	337.3	...	338.4	...	336.0	...
Detroit, Mich.	292.3	299.2	298.2	299.9	300.1	301.3	303.1	287.1	304.6	298.9	301.8	301.3	307.9	304.7
Honolulu, Hawaii	270.4	...	276.4	...	278.4	...	280.7	274.8	...	285.9	...	288.2	...	284.3
Houston, Tex.	317.3	...	324.3	...	320.7	...	323.6	317.4	...	322.4	...	317.9	...	323.5
Kansas City, Mo.-Kansas	292.3	...	303.3	...	303.0	...	306.4	289.0	...	303.9	...	300.0	...	296.6
Los Angeles-Long Beach, Anaheim, Calif.	286.8	296.4	297.0	296.5	297.7	299.1	300.2	290.1	296.7	299.0	297.8	299.9	297.9	299.0
Miami, Fla. (11/77 = 100)	...	162.9	...	164.0	...	165.0	...	...	164.3	...	164.9	...	165.9	...
Milwaukee, Wis.	...	313.9	...	312.5	...	314.0	...	...	329.1	...	328.9	...	327.5	...
Minneapolis-St. Paul, Minn.-Wis.	305.8	...	316.8	...	317.5	...	319.6	309.0	...	312.7	...	312.5	...	318.6
New York, N.Y.-Northeastern N.J.	283.2	292.1	292.9	293.9	294.3	297.3	299.0	279.6	288.1	288.7	287.3	288.2	290.2	290.5
Northeast, Pa. (Scranton)	...	297.2	...	288.5	...	291.0	...	...	290.0	...	290.9	...	293.2	...
Philadelphia, Pa.-N.J.	282.0	291.4	291.2	291.7	291.8	294.4	296.4	283.3	294.2	294.2	294.8	294.3	296.7	298.5
Pittsburgh, Pa.	304.8	...	313.7	...	314.3	...	315.5	296.6	...	304.7	...	302.6	...	299.6
Portland, Oreg.-Wash.	...	293.3	...	293.9	...	295.1	...	...	288.2	...	289.6	...	289.5	...
St. Louis, Mo.-Ill.	...	302.0	...	299.6	...	300.9	...	...	299.1	...	299.3	...	296.8	...
San Diego, Calif.	...	340.4	...	342.3	...	346.6	...	...	323.9	...	323.7	...	329.6	...
San Francisco-Oakland, Calif.	297.3	...	305.7	...	307.3	...	311.7	293.9	...	301.4	...	306.1	...	308.7
Seattle-Everett, Wash.	...	308.8	...	309.5	...	311.1	...	...	297.7	...	299.0	...	299.4	...
Washington, D.C.-Md.-Va.	...	297.0	...	298.6	...	303.4	...	...	300.9	...	302.7	...	308.1	...

¹The areas listed include not only the central city but the entire portion of the Standard Metropolitan Statistical Area, as defined for the 1970 Census of Population, except that the Standard Consolidated Area is

used for New York and Chicago.

²Average of 85 cities.

23. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1983	1983										1984		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
FINISHED GOODS														
Finished goods	285.2	283.4	283.1	284.2	285.0	285.7	286.1	285.1	287.6	286.8	287.1	289.4	290.6	291.7
Finished consumer goods	284.6	282.7	282.3	283.6	284.6	285.2	285.7	285.1	287.0	^r 285.9	286.1	288.8	290.1	291.4
Finished consumer foods	261.8	261.1	262.9	262.6	261.2	260.7	260.7	263.0	263.7	^r 261.9	264.0	272.2	274.7	277.0
Crude	259.5	247.9	265.8	267.2	251.2	247.1	259.9	267.4	287.3	^r 270.4	269.1	309.2	315.9	332.5
Processed	259.9	260.1	260.5	260.1	260.0	259.8	258.7	260.5	259.5	^r 259.0	261.5	266.7	268.9	269.8
Nondurable goods less foods	335.3	332.0	328.7	332.0	335.7	337.7	338.6	338.6	338.1	^r 336.8	335.3	335.0	335.9	337.0
Durable goods	233.1	231.9	232.2	232.9	233.1	233.4	233.8	229.2	235.3	^r 235.4	235.7	235.9	236.2	236.6
Consumer nondurable goods less food and energy	231.4	229.4	230.1	230.3	230.7	232.0	232.7	233.0	233.6	^r 234.1	233.7	235.8	236.1	237.2
Capital equipment	287.3	285.6	286.2	286.5	286.7	287.2	287.7	285.1	289.9	^r 290.0	290.5	291.5	292.5	292.7
INTERMEDIATE MATERIALS														
Intermediate materials, supplies, and components	312.4	309.5	308.7	309.7	311.3	312.8	314.0	315.5	315.6	^r 315.5	315.8	316.6	317.4	319.5
Materials and components for manufacturing	293.3	290.2	291.0	291.9	292.4	294.1	294.7	296.7	296.4	^r 296.5	297.0	298.6	299.5	301.7
Materials for food manufacturing	258.4	252.8	255.1	257.0	257.0	257.4	260.5	269.4	263.5	^r 260.0	262.5	268.3	267.9	269.2
Materials for nondurable manufacturing	279.9	276.6	277.3	277.7	277.7	279.7	281.1	282.7	283.3	^r 284.6	284.7	287.0	286.9	290.2
Materials for durable manufacturing	319.3	315.7	316.6	318.4	319.0	320.9	320.9	323.1	322.3	^r 321.6	322.6	322.9	325.2	328.3
Components for manufacturing	280.3	278.3	278.9	279.4	280.3	281.6	281.5	281.8	282.6	^r 283.0	283.1	284.0	284.9	285.2
Materials and components for construction	301.7	299.6	300.9	301.2	302.4	302.9	303.7	303.1	303.6	^r 303.9	304.6	305.4	307.5	309.2
Processed fuels and lubricants	566.8	564.2	543.3	547.8	562.0	567.9	572.0	573.4	574.2	^r 568.1	568.5	562.4	561.7	568.4
Manufacturing industries	481.9	480.6	460.4	462.9	475.9	480.9	485.1	487.2	490.5	^r 484.9	488.8	482.8	478.3	484.2
Nonmanufacturing industries	641.1	637.2	615.9	622.2	637.5	644.1	648.0	648.8	647.2	^r 640.6	637.6	631.5	634.5	641.8
Containers	286.6	285.2	284.8	285.8	285.9	286.1	286.3	287.1	288.1	289.3	289.5	291.5	293.2	295.5
Supplies	277.0	273.9	275.5	275.6	275.6	276.2	277.9	280.2	280.6	^r 281.6	281.0	282.5	282.2	283.1
Manufacturing industries	269.9	268.1	268.6	268.9	269.8	270.1	270.5	270.8	271.8	^r 272.2	272.6	274.0	275.9	276.2
Nonmanufacturing industries	280.9	277.1	279.3	279.3	278.8	279.6	282.0	285.3	285.3	^r 286.7	285.6	287.1	285.7	286.9
Feeds	225.5	207.7	219.8	218.1	213.4	216.2	230.7	249.6	246.7	^r 251.0	244.0	244.5	227.8	232.3
Other supplies	292.7	291.6	291.9	292.2	292.5	291.9	293.0	293.4	294.0	^r 294.8	294.8	296.5	298.0	298.6
CRUDE MATERIALS														
Crude materials for further processing	323.6	321.6	325.8	325.8	323.3	320.6	327.1	328.5	324.8	^r 324.0	327.8	333.7	332.8	339.4
Foodstuffs and feedstuffs	252.3	249.1	256.8	256.5	252.1	248.4	256.4	257.2	253.7	^r 251.8	256.2	264.2	260.7	270.7
Nonfood materials	477.2	477.7	474.6	475.4	476.8	476.2	479.6	482.5	478.2	^r 479.4	482.1	483.6	488.2	487.9
Nonfood materials except fuel	372.0	366.8	367.0	369.0	370.5	371.6	375.6	378.1	377.1	^r 377.7	379.6	380.3	385.5	388.1
Manufacturing industries	381.6	375.9	376.1	378.3	379.9	381.6	385.7	388.3	387.4	^r 387.9	389.7	390.5	395.5	399.1
Construction	271.1	269.3	270.0	270.3	271.3	270.9	271.0	272.5	270.5	^r 272.1	274.6	273.9	280.2	276.8
Crude fuel	931.5	961.8	941.6	935.9	936.7	927.8	926.9	931.0	910.9	^r 915.3	921.4	927.0	927.4	911.5
Manufacturing industries	1,094.8	1,134.3	1,107.6	1,100.9	1,102.3	1,090.4	1,088.9	1,093.9	1,067.1	^r 1,071.8	1,079.9	1,087.7	1,087.5	1,066.1
Nonmanufacturing industries	816.2	839.2	824.0	819.1	819.4	813.0	812.5	816.1	801.1	^r 805.3	810.0	813.7	814.6	803.2
SPECIAL GROUPINGS														
Finished goods excluding foods	290.9	288.7	287.7	289.3	290.8	291.8	292.5	290.3	293.4	293.0	292.6	292.9	293.6	294.3
Finished consumer goods excluding foods	291.3	288.9	287.3	289.4	291.6	292.6	293.5	291.4	293.9	^r 293.2	292.5	292.5	293.1	293.9
Finished consumer goods less energy	249.9	248.6	249.5	249.7	249.4	249.9	250.2	249.7	252.1	^r 251.7	252.4	256.0	257.1	258.4
Intermediate materials less foods and feeds	317.2	314.8	313.6	314.6	316.4	318.0	318.7	319.5	320.0	^r 319.9	320.3	320.9	322.1	324.2
Intermediate materials less energy	295.1	292.1	293.2	293.9	294.4	295.6	296.5	298.1	298.2	^r 298.5	298.8	300.3	301.2	303.0
Intermediate foods and feeds	247.8	238.0	243.6	244.4	242.8	244.0	250.9	263.2	258.2	^r 257.4	256.6	260.7	254.9	257.3
Crude materials less agricultural products	538.4	539.7	536.1	536.2	537.5	536.8	540.0	542.9	538.8	^r 540.3	543.8	546.6	552.1	550.4
Crude materials less energy	246.5	242.7	248.6	249.0	246.2	243.9	251.2	252.5	249.6	^r 248.3	252.3	258.5	257.4	265.8

¹Data for November 1983 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

24. Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1983	1983										1984		
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
	All commodities	303.1	300.6	300.6	301.5	302.4	303.2	304.7	305.3	306.0	305.5	306.0	308.1	308.8	311.1
	All commodities (1957-59 = 100)	321.6	318.9	318.9	319.9	320.8	321.7	323.3	323.9	324.7	324.1	324.7	326.9	327.6	330.1
	Farm products and processed foods and feeds	253.9	250.6	254.7	254.7	252.5	251.5	255.5	259.1	257.5	256.0	257.8	264.4	263.5	268.3
	Industrial commodities	315.8	313.5	312.4	313.6	315.3	316.5	317.3	317.1	318.5	318.3	318.4	319.2	320.4	321.9
	FARM PRODUCTS AND PROCESSED FOODS AND FEEDS														
01	Farm products	248.2	241.5	250.5	250.4	247.4	244.3	253.5	256.4	255.2	251.0	254.0	263.3	261.5	267.4
01-1	Fresh and dried fruits and vegetables	261.7	234.9	266.6	260.1	264.4	258.2	270.4	276.0	308.1	275.2	273.0	290.4	311.5	307.0
01-2	Grains	240.4	227.4	243.8	242.2	241.5	236.7	251.8	258.0	253.7	257.5	243.6	245.5	235.3	250.9
01-3	Livestock	243.1	251.4	260.6	258.0	251.7	240.7	242.2	231.5	229.4	220.5	238.2	250.7	251.9	260.8
01-4	Live poultry	206.5	177.8	170.8	186.9	199.3	214.5	221.4	242.2	208.5	238.5	241.2	252.6	251.3	258.4
01-5	Plant and animal fibers	227.0	217.0	213.6	223.8	229.7	230.4	240.7	238.7	234.5	243.6	244.1	229.3	232.7	250.3
01-6	Fluid milk	282.0	282.9	280.8	279.8	278.6	278.7	281.7	284.4	284.1	283.2	281.4	279.1	275.7	274.2
01-7	Eggs	(²)	170.0	170.0	185.1	169.3	177.2	189.5	200.1	(²)	(²)	282.4	280.7	235.8	
01-8	Hay, hayseeds, and oilseeds	246.8	217.8	226.3	227.3	213.3	227.3	262.8	297.8	288.8	287.6	282.2	287.3	265.4	281.4
01-9	Other farm products	282.1	280.3	279.2	281.0	284.4	282.5	285.7	287.3	283.7	283.5	276.9	280.2	278.9	278.6
02	Processed foods and feeds	256.0	254.5	256.0	256.1	254.3	254.4	255.5	259.6	257.8	257.6	258.8	263.9	263.5	267.8
02-1	Cereal and bakery products	260.9	256.9	258.8	259.1	260.3	261.4	262.8	263.6	264.6	265.2	264.9	266.1	267.0	267.9
02-2	Meats, poultry, and fish	249.4	260.7	259.1	257.8	250.2	247.3	243.2	242.9	237.0	234.7	242.1	256.9	255.6	267.7
02-3	Dairy products	250.6	250.7	251.0	250.9	250.4	250.4	250.6	251.3	251.3	251.4	249.2	248.5	248.6	249.0
02-4	Processed fruits and vegetables	277.1	274.9	273.7	275.3	277.1	277.1	278.3	278.6	281.1	280.9	281.5	285.3	291.8	293.2
02-5	Sugar and confectionery	292.8	283.7	287.4	289.9	296.0	296.4	298.9	300.2	298.0	297.7	297.4	299.0	300.6	299.3
02-6	Beverages and beverage materials	263.6	262.0	263.0	263.6	260.0	263.7	263.9	264.3	265.2	266.3	266.5	268.4	270.0	270.2
02-7	Fats and oils	239.6	206.0	214.6	220.0	219.3	222.2	245.6	303.5	281.7	274.5	271.7	278.7	269.1	282.5
02-8	Miscellaneous processed foods	254.4	248.5	249.9	249.9	251.5	255.0	252.7	258.4	262.1	264.8	265.8	266.7	275.3	274.7
02-9	Prepared animal feeds	228.5	212.4	222.8	221.3	217.1	220.0	233.0	249.3	248.6	252.1	245.7	246.0	231.1	235.3
	INDUSTRIAL COMMODITIES														
03	Textile products and apparel	204.9	203.4	203.5	204.3	204.7	205.3	206.0	206.2	207.0	207.7	207.2	208.0	209.3	209.9
03-1	Synthetic fibers (12/75 = 100)	156.8	153.9	153.8	155.6	155.9	158.3	157.5	158.0	160.5	159.3	158.2	159.2	161.5	161.2
03-2	Processed yarns and threads (12/75 = 100)	138.3	135.8	136.0	137.4	137.6	138.5	140.2	140.3	141.3	141.7	142.4	142.3	144.0	143.8
03-3	Gray fabrics (12/75 = 100)	146.9	145.1	145.8	146.2	145.8	146.1	146.7	147.3	149.4	151.4	151.7	152.8	158.8	152.9
03-4	Finished fabrics (12/75 = 100)	123.1	122.4	123.1	122.8	122.5	122.4	123.6	123.4	123.8	124.4	124.3	125.0	126.3	127.1
03-81	Apparel	197.1	196.1	195.8	196.5	197.9	198.4	198.7	198.7	199.4	199.4	198.4	198.7	199.8	200.7
03-82	Textile housefurnishings	235.6	234.2	234.2	237.6	235.2	234.8	234.5	235.3	234.5	234.4	234.7	236.6	236.2	237.1
04	Hides, skins, leather, and related products	271.4	264.9	267.4	269.4	271.2	272.3	274.7	274.4	273.7	277.0	278.3	280.1	283.2	287.0
04-2	Leather	330.8	316.2	320.5	326.6	335.9	337.9	343.4	339.4	336.6	340.5	342.6	346.4	361.3	372.6
04-3	Footwear	250.1	248.1	250.0	248.7	249.9	249.9	250.9	251.6	251.3	257.3	251.3	251.7	251.6	253.3
04-4	Other leather and related products	253.7	250.9	251.0	251.7	251.7	253.5	253.7	253.5	253.5	255.8	258.1	258.9	259.1	260.9
05	Fuels and related products and power	665.9	658.0	644.8	651.9	665.5	668.7	671.7	672.3	669.5	663.7	662.1	655.8	656.7	659.6
05-1	Coal	536.8	538.6	538.0	535.2	534.1	534.8	536.6	537.9	538.2	542.3	542.4	541.0	543.4	546.0
05-2	Coke	447.8	447.3	447.3	438.4	438.4	431.6	453.9	453.9	453.1	453.8	453.5	418.3	418.3	429.5
05-3	Gas fuels ³	1,147.9	1,180.0	1,156.1	1,156.7	1,155.1	1,148.9	1,145.9	1,147.0	1,128.4	1,122.0	1,125.6	1,126.8	1,123.8	1,096.4
05-4	Electric power	418.0	411.4	409.2	412.2	419.4	426.4	427.2	427.9	423.6	418.7	417.6	420.9	424.4	427.1
05-61	Crude petroleum ⁴	681.5	678.0	678.0	678.0	677.9	675.7	675.1	675.7	675.7	675.8	674.8	676.0	676.0	676.0
05-7	Petroleum products, refined ⁵	686.4	666.6	645.9	659.3	684.2	688.7	694.9	695.3	695.3	688.2	684.8	669.7	670.1	680.7
06	Chemicals and allied products	292.9	289.8	291.3	291.1	290.8	293.7	294.4	295.9	295.5	296.4	296.6	298.5	296.7	300.5
06-1	Industrial chemicals ⁶	342.9	338.8	338.7	338.8	338.5	347.0	347.6	345.6	344.9	346.2	345.1	347.7	338.0	346.0
06-21	Prepared paint	264.7	264.7	264.7	264.7	264.7	265.2	265.4	264.5	264.2	264.5	264.9	265.7	266.9	267.6
06-22	Paint materials	305.6	298.4	299.8	300.2	299.5	300.5	305.7	316.2	316.9	316.5	315.5	316.3	313.9	317.3
06-3	Drugs and pharmaceuticals	226.2	222.9	225.1	225.2	225.2	227.6	227.3	227.4	229.3	231.0	231.4	233.3	234.4	237.5
06-4	Fats and oils, inedible	283.7	262.2	278.3	287.1	276.9	260.9	278.1	329.0	318.6	321.6	319.0	334.4	348.9	362.4
06-5	Agricultural chemicals and chemical products	280.7	284.2	282.8	282.4	280.6	278.1	277.1	276.0	276.4	280.4	282.5	279.2	287.1	289.6
06-6	Plastic resins and materials	290.2	282.1	285.4	288.0	289.1	291.3	293.7	302.6	299.1	297.9	298.3	304.2	305.0	306.6
06-7	Other chemicals and allied products	273.7	272.0	274.7	272.0	274.2	274.2	274.2	274.3	274.4	273.8	274.5	275.9	273.7	275.7
07	Rubber plastic products	243.4	241.8	243.0	243.2	243.1	243.4	243.7	243.2	244.4	243.6	244.1	244.1	245.4	246.1
07-1	Rubber and rubber products	266.6	267.1	267.0	267.0	265.6	265.2	265.1	263.9	264.8	264.3	265.1	265.6	266.6	265.9
07-11	Crude rubber	280.9	281.2	281.3	280.6	280.2	283.2	284.6	284.4	284.3	282.7	282.4	282.9	282.8	282.0
07-12	Tires and tubes	245.4	246.6	246.5	246.3	243.7	242.4	242.8	242.5	242.6	242.4	243.0	242.9	243.0	242.3
07-13	Miscellaneous rubber products	286.0	285.8	285.7	286.0	285.9	285.7	284.5	281.6	283.8	283.5	284.8	286.2	288.7	287.9
07-2	Plastic products (6/78 = 100)	135.3	133.2	134.6	134.8	135.5	136.0	136.4	136.6	137.4	136.7	136.9	136.7	137.6	138.8
08	Lumber and wood products	307.3	305.8	307.2	308.0	314.8	314.6	313.9	305.6	305.6	304.9	308.8	309.2	315.6	316.0
08-1	Lumber	353.1	349.3	354.2	358.6	372.8	373.1	366.6	346.6	344.7	342.8	351.5	353.2	365.4	369.2
08-2	Millwork	302.3	304.0	302.8	299.0	294.9	296.3	306.6	305.9	307.4	307.9	308.5	308.5	308.5	309.7
08-3	Plywood	244.1	238.9	239.4	241.1	255.5	252.5	246.2	242.2	246.6	244.6	247.1	248.3	249.5	248.7
08-4	Other wood products	230.6	231.6	230.8	231.1	229.6	229.7	229.3	229.4	229.6	229.8	230.4	229.8	230.7	232.0

See footnotes at end of table.

24. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1983	1983									1984			
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
INDUSTRIAL COMMODITIES—Continued															
09	Pulp, paper, and allied products	297.7	294.8	295.4	296.0	297.0	297.8	298.8	299.9	302.2	303.6	302.7	307.6	310.5	312.7
09-1	Pulp, paper, and products, excluding building paper and board	271.0	268.7	268.5	268.7	269.2	270.2	271.1	273.1	275.2	277.0	276.8	280.0	283.3	286.4
09-11	Woodpulp	346.6	343.0	342.5	343.2	344.9	345.8	346.4	345.4	347.4	356.7	351.3	364.4	371.5	376.0
09-12	Wastepaper	(2)	(2)	(2)	(2)	(2)	183.3	(2)	194.4	216.2	215.0	211.5	211.5	229.3	242.9
09-13	Paper	281.9	278.4	278.5	279.0	279.5	279.2	280.9	286.0	287.2	288.5	288.9	294.3	296.6	299.2
09-14	Paperboard	250.5	246.3	248.1	248.7	249.4	249.7	250.1	254.0	257.3	259.4	259.5	262.2	269.3	273.6
09-15	Converted paper and paperboard products	265.4	265.1	264.2	264.1	264.5	264.1	264.7	265.0	266.5	267.9	268.0	269.4	271.6	274.1
09-2	Building paper and board	250.0	244.2	247.0	249.3	255.7	256.2	252.1	252.8	254.7	254.7	250.5	251.9	253.9	258.9
10	Metals and metal products	307.1	304.4	304.6	306.1	306.3	307.3	308.2	310.7	310.9	310.9	311.4	312.7	314.6	316.6
10-1	Iron and steel	343.3	341.6	341.5	340.9	341.3	342.1	343.2	348.1	348.5	349.5	350.6	354.1	356.3	356.1
10-17	Steel mill products	352.6	349.8	349.7	349.8	350.1	350.8	351.7	358.1	358.7	359.5	359.5	362.8	363.5	363.6
10-2	Nonferrous metals	276.0	270.6	271.8	277.7	275.7	278.4	279.8	282.0	279.3	276.6	278.0	276.1	279.5	286.1
10-3	Metal containers	335.2	331.4	331.9	337.1	337.4	336.5	336.6	338.5	338.3	338.2	338.2	344.5	344.9	345.6
10-4	Hardware	290.0	288.2	288.6	288.5	291.5	292.1	292.2	292.5	292.2	293.1	291.9	292.5	292.9	293.2
10-5	Plumbing fixtures and brass fittings	289.1	285.6	287.7	289.1	290.8	290.4	290.2	292.4	292.7	294.1	293.6	293.9	296.9	299.9
10-6	Heating equipment	243.4	241.1	242.3	242.7	243.0	244.9	245.1	246.6	245.3	245.5	245.6	247.3	248.4	248.8
10-7	Fabricated structural metal products	303.3	303.7	302.5	302.1	302.0	302.2	303.0	304.3	304.2	305.3	304.9	306.5	306.9	308.5
10-8	Miscellaneous metal products	283.8	280.4	280.7	280.8	283.4	283.7	284.0	284.3	289.0	289.5	289.3	289.9	290.7	291.7
11	Machinery and equipment	286.4	284.7	285.4	286.0	286.2	287.4	287.4	287.9	287.6	288.0	288.8	289.6	290.4	291.2
11-1	Agricultural machinery and equipment	326.3	323.5	323.9	326.4	326.4	327.1	327.3	328.5	328.0	328.8	329.8	330.9	331.1	332.7
11-2	Construction machinery and equipment	351.9	349.6	350.9	352.3	352.5	352.8	352.9	353.5	353.6	353.9	353.7	354.3	355.9	355.8
11-3	Metalworking machinery and equipment	326.2	325.5	326.2	326.7	327.0	326.6	326.5	326.6	327.0	327.3	327.7	328.3	330.4	330.2
11-4	General purpose machinery and equipment	368.2	307.5	308.2	308.4	308.4	308.5	307.9	308.1	307.8	308.6	309.3	310.3	310.7	311.7
11-6	Special industry machinery and equipment	337.1	333.6	334.5	335.8	336.7	338.0	339.0	339.8	340.6	341.0	341.7	341.0	343.3	345.0
11-7	Electrical machinery and equipment	240.0	237.5	238.4	238.5	238.8	241.7	241.7	242.9	242.6	242.8	243.7	244.6	245.5	246.5
11-9	Miscellaneous machinery	274.5	273.7	274.2	275.3	275.0	275.2	275.3	274.5	273.3	273.7	275.2	276.3	275.5	276.0
12	Furniture and household durables	213.9	212.3	212.8	213.6	214.0	214.8	214.9	215.4	215.3	215.7	215.3	216.3	216.9	217.4
12-1	Household furniture	234.7	231.1	231.8	234.4	235.0	235.4	236.3	236.6	236.9	237.4	237.3	238.2	239.2	240.0
12-2	Commercial furniture	286.5	285.1	286.2	285.9	286.9	287.5	286.5	287.3	287.4	289.9	290.5	290.8	293.9	296.4
12-3	Floor coverings	185.0	182.0	182.2	182.1	181.4	186.6	188.9	189.5	189.5	189.3	187.8	189.0	187.7	187.5
12-4	Household appliances	206.8	205.0	206.3	207.5	207.0	207.8	207.7	208.0	207.6	208.0	208.1	209.4	210.6	210.8
12-5	Home electronic equipment	86.2	87.0	86.6	86.4	86.5	85.9	85.5	85.8	85.8	85.1	84.6	84.3	84.4	84.3
12-6	Other household durable goods	312.5	312.9	312.0	312.7	314.3	314.8	313.9	314.5	314.0	315.1	313.1	315.9	315.2	315.0
13	Nonmetallic mineral products	325.3	322.0	324.1	324.1	324.5	325.1	326.3	327.2	328.0	328.9	329.2	328.8	332.3	333.6
13-11	Fiat glass	229.7	229.7	229.7	229.7	229.7	229.8	229.7	229.5	229.6	230.1	230.0	229.5	230.0	229.7
13-2	Concrete ingredients	314.0	308.5	312.8	313.7	314.2	314.0	316.4	317.2	316.7	314.8	317.0	312.9	321.3	325.8
13-3	Concrete products	301.8	300.4	301.0	301.1	301.6	302.3	302.7	303.5	303.3	304.1	303.7	305.6	306.4	306.3
13-4	Structural clay products, excluding refractories	277.6	270.7	275.7	277.6	281.5	282.4	282.4	282.4	283.5	284.1	283.5	283.7	283.0	283.6
13-5	Refractories	341.6	337.7	338.2	338.2	336.8	338.2	339.4	340.2	344.7	353.3	354.3	355.0	357.0	362.1
13-6	Asphalt roofing	383.0	374.7	384.0	380.0	379.6	385.3	383.4	387.2	387.9	387.8	380.6	381.4	390.4	383.7
13-7	Gypsum products	284.9	265.9	271.9	275.7	273.8	276.0	269.3	297.8	312.8	315.1	321.4	328.5	339.4	339.5
13-8	Glass containers	352.6	354.1	353.5	351.8	351.8	351.6	351.3	351.1	350.2	350.4	351.0	351.0	350.9	351.7
13-9	Other nonmetallic minerals	480.1	476.4	478.7	478.5	479.5	479.7	481.9	482.5	483.2	487.4	487.4	485.4	486.8	490.3
14	Transportation equipment (12/68 = 100)	256.7	255.2	255.6	255.8	256.1	256.2	256.8	250.4	260.6	260.5	260.7	261.7	262.3	262.4
14-1	Motor vehicles and equipment	256.8	255.4	255.9	256.2	256.7	256.6	256.8	249.1	260.6	260.5	260.4	261.0	261.2	261.3
14-4	Railroad equipment	352.5	350.3	350.0	350.4	350.1	351.3	351.0	350.7	348.6	348.6	357.3	359.2	359.2	359.7
15	Miscellaneous products	289.5	287.4	287.4	287.1	288.0	291.5	292.0	291.4	291.7	291.7	292.5	295.3	295.0	295.0
15-1	Toys, sporting goods, small arms, ammunition	225.2	225.7	226.3	226.0	225.9	224.3	224.5	224.8	225.9	225.2	225.8	228.0	228.4	228.2
15-2	Tobacco products	365.3	353.8	354.1	353.8	352.1	373.4	376.7	376.9	376.8	377.0	377.0	389.4	390.3	390.3
15-3	Notions	280.1	280.6	280.3	280.3	280.3	280.3	279.7	279.7	279.7	279.6	280.1	281.4	282.2	282.2
15-4	Photographic equipment and supplies	215.8	216.6	216.6	216.6	216.5	216.5	216.6	216.6	216.8	216.8	217.1	(2)	218.2	213.3
15-5	Mobile homes (12/74 = 100)	163.2	162.9	162.3	162.4	163.1	163.5	163.7	164.3	164.8	165.0	164.7	162.4	162.8	162.7
15-9	Other miscellaneous products	351.5	350.5	350.3	349.2	353.4	353.7	352.9	349.6	349.2	349.3	352.3	350.2	350.2	354.0

¹Data for November 1983 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

²Not available.

³Prices for natural gas are lagged 1 month.

⁴Includes only domestic production.

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

⁶Some prices for industrial chemicals are lagged 1 month.

r = revised.

25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1983	1983										1984		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
All commodities—less farm products	306.7	304.5	303.8	304.8	306.0	307.1	308.0	308.3	309.2	309.1	309.4	310.8	311.8	313.7
All foods	257.5	255.8	258.2	258.2	256.6	256.2	257.1	260.7	260.5	258.0	260.0	268.3	270.3	273.5
Processed foods	258.8	258.9	259.5	259.6	257.9	257.7	257.6	260.9	258.6	258.0	260.1	266.2	267.1	271.9
Industrial commodities less fuels	279.2	276.9	277.6	278.2	278.7	279.8	280.4	280.0	281.8	282.2	282.5	284.0	285.2	286.6
Selected textile mill products (Dec. 1975 = 100)	138.1	137.2	137.4	137.7	137.4	143.0	139.0	139.1	139.4	139.8	139.5	140.3	141.1	141.5
Hosiery	144.7	144.5	144.5	144.5	144.5	144.5	145.6	145.6	145.6	145.6	145.6	145.8	147.2	147.4
Underwear and nightwear	223.7	223.8	223.4	223.5	222.7	223.3	223.5	224.5	224.7	224.6	224.8	227.0	229.8	229.5
Chemicals and allied products, including synthetic rubber and fibers and yarns	283.5	280.7	281.8	281.6	281.5	284.6	285.0	285.6	285.6	286.3	286.4	288.0	286.4	289.9
Pharmaceutical preparations	224.8	220.3	223.3	223.5	223.6	226.3	226.0	227.1	229.4	231.3	231.8	234.1	235.8	238.7
Lumber and wood products, excluding millwork	321.6	317.2	320.8	324.3	338.8	338.1	331.5	316.5	316.7	314.7	321.5	323.0	331.7	334.0
Steel mill products, including fabricated wire products	351.0	348.4	348.4	348.5	348.7	349.3	350.1	355.9	356.4	357.4	357.4	360.4	361.0	361.2
Finished steel mill products, excluding fabricated wire products	351.4	348.3	348.4	348.5	348.8	349.4	350.3	357.1	357.8	358.6	358.7	362.1	363.1	363.2
Finished steel mill products, including fabricated wire products	349.7	347.0	347.0	347.1	347.4	347.9	348.7	354.8	355.4	356.4	356.4	359.5	360.4	360.6
Special metals and metal products	292.5	290.3	290.7	291.7	292.0	292.6	293.5	291.5	296.4	296.3	296.6	297.7	298.8	300.1
Fabricated metal products	294.2	292.3	292.2	292.6	294.0	294.2	294.7	295.5	297.2	297.9	297.6	299.1	299.7	300.9
Copper and copper products	196.6	198.9	200.9	206.7	201.3	201.6	201.2	198.2	190.7	182.6	184.9	182.1	185.2	194.0
Machinery and motive products	279.8	278.1	278.7	279.2	279.4	280.1	280.4	277.7	282.2	282.4	283.0	283.9	284.6	285.1
Machinery and equipment, except electrical	313.6	312.2	312.9	313.8	313.9	314.2	314.2	314.3	314.1	314.6	315.3	316.1	316.8	317.5
Agricultural machinery, including tractors	341.5	337.8	338.2	341.7	341.8	342.7	342.8	344.0	343.6	344.0	346.0	346.7	347.1	349.2
Metalworking machinery	357.1	355.6	356.3	358.0	357.8	357.8	357.5	357.1	357.6	358.2	360.0	359.8	362.6	362.0
Total tractors	369.9	365.7	366.1	370.5	370.6	370.7	370.0	372.5	372.6	373.1	373.8	374.0	374.5	376.1
Agricultural machinery and equipment less parts	330.0	326.8	327.1	330.1	330.2	331.0	331.2	332.6	331.8	332.2	333.8	334.8	335.2	337.2
Farm and garden tractors less parts	347.5	342.2	342.2	348.8	348.8	348.8	347.5	350.6	350.7	350.9	351.9	352.2	352.9	355.2
Agricultural machinery, excluding tractors less parts	336.9	334.5	335.2	336.2	336.4	338.0	339.2	338.9	338.2	338.7	341.4	342.5	342.7	344.6
Construction materials	297.7	295.0	296.1	296.8	298.6	310.6	299.8	299.9	300.4	300.4	301.4	302.3	304.8	306.4

¹Data for November 1983 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

26. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1983	1983										1984		
		Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.
Total durable goods	286.7	284.6	285.3	286.0	286.7	287.4	287.8	286.8	289.2	289.3	289.9	290.7	292.2	293.2
Total nondurable goods	315.8	313.0	312.4	313.5	314.5	315.4	317.8	319.7	319.1	318.1	318.5	321.6	321.7	325.0
Total manufactures	295.7	293.2	292.7	293.7	295.0	296.1	296.9	297.2	298.5	298.4	298.7	300.0	301.0	302.7
Durable	287.3	285.3	286.0	286.7	287.3	288.0	288.3	287.2	289.6	289.8	290.3	291.1	292.4	293.3
Nondurable	304.4	301.4	299.7	301.0	303.1	304.5	305.9	307.8	307.7	307.4	307.5	309.4	310.0	312.5
Total raw or slightly processed goods	339.9	337.3	340.4	340.9	339.0	338.3	343.8	345.9	343.6	340.6	342.5	348.9	348.2	353.7
Durable	249.6	243.3	244.1	246.1	249.4	249.9	256.8	260.7	259.8	258.5	264.1	267.7	275.4	279.2
Nondurable	345.5	343.2	346.5	346.8	344.6	343.7	349.1	351.0	348.6	345.6	347.1	353.8	352.4	358.0

¹Data for November 1983 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication. r = revised.

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

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1983	1983										1984			
			Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. ¹	Dec.	Jan.	Feb.	Mar.	
MINING																
1011	Iron ores (12/75 = 100)	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1	177.1
1092	Mercury ores (12/75 = 100)	269.7	285.4	272.9	268.7	254.1	237.5	231.2	243.3	283.3	287.5	277.0	275.8	245.4	250.0	
1311	Crude petroleum and natural gas	921.7	934.4	922.1	921.8	924.2	916.6	915.8	920.0	907.2	909.4	910.2	915.1	913.8	903.5	
1455	Kaolin and ball clay (6/76 = 100)	164.3	158.4	164.3	164.3	164.3	164.3	1364.3	164.3	171.7	172.9	172.9	172.9	172.9	174.1	
MANUFACTURING																
2021	Creamery butter	275.8	275.6	275.6	275.6	275.6	275.6	276.1	278.4	278.1	278.1	269.5	267.3	267.6	268.4	
2044	Rice milling	193.4	183.0	188.9	191.3	194.5	193.7	198.1	201.1	196.7	199.6	199.6	199.6	198.1	198.1	
2067	Chewing gum	326.8	326.1	326.1	326.1	327.2	327.2	327.3	327.3	327.3	327.3	327.5	327.5	327.9	328.3	328.3
2074	Cottonseed oil mills	204.5	167.1	186.8	186.2	179.2	192.4	220.6	262.9	253.5	233.1	223.3	229.2	201.2	212.2	
2083	Malt	234.1	232.6	232.6	232.6	232.6	232.6	232.6	232.6	232.6	241.6	241.6	241.6	241.6	241.6	
2091	Canned and cured seafoods (12/73 = 100)	174.0	177.9	177.7	175.7	173.4	173.7	169.4	169.8	170.2	169.2	169.6	169.0	168.8	168.5	
2098	Macaroni and spaghetti	256.8	255.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	258.6	261.9	261.9	261.9	261.9	
2251	Women's hosiery, except socks (12/75 = 100)	122.5	122.6	122.7	122.7	122.7	122.7	122.9	122.9	122.9	122.9	123.0	123.1	123.2	123.2	
2261	Finishing plants, cotton (6/76 = 100)	135.3	136.1	139.8	138.0	132.9	132.8	133.8	133.5	132.8	138.4	137.1	138.5	141.2	145.2	
2262	Finishing plants, synthetics, silk (6/76 = 100)	126.6	126.2	127.2	126.9	125.9	125.1	127.2	125.8	127.2	127.4	127.4	128.8	129.7	129.9	
2284	Thread mills (6/76 = 100)	164.9	165.6	165.7	165.7	165.7	165.7	165.7	166.1	166.1	166.1	166.1	166.1	166.2	166.2	
2298	Cordage and twine (12/77 = 100)	139.3	142.8	137.6	137.6	137.6	137.6	137.6	139.0	139.0	138.9	139.0	139.1	139.3	139.3	
2361	Children's dresses and blouses (12/77 = 100)	116.6	115.5	115.5	115.5	117.0	117.0	117.0	117.0	117.0	117.0	117.0	118.2	117.8	117.8	
2381	Fabric dress and work gloves	293.3	288.8	291.0	291.7	291.7	296.3	296.3	296.3	296.3	296.3	296.3	299.2	299.1	302.3	
2394	Canvas and related products (12/77 = 100)	147.2	146.2	146.2	146.2	146.2	146.2	146.2	146.2	147.8	147.8	148.5	151.3	151.2	151.2	
2448	Wood pallets and skids (12/75 = 100)	149.2	145.7	146.9	148.5	149.5	150.9	151.3	151.0	151.5	151.9	153.6	154.0	155.9	157.8	
2521	Wood office furniture	281.6	279.6	282.5	282.5	282.5	283.5	283.6	283.6	283.6	283.6	284.7	286.3	290.3	290.3	
2654	Sanitary food containers	266.6	265.1	265.2	265.2	265.2	267.1	267.1	267.8	269.0	269.0	270.6	270.6	274.9	280.0	
2655	Fiber cans, drums, and similar products (12/75 = 100)	186.5	183.8	185.6	185.6	185.6	185.9	187.7	187.7	187.8	187.8	189.5	189.5	189.6	189.7	191.4
2911	Petroleum refining (6/76 = 100)	254.1	250.4	240.6	246.0	254.0	255.4	257.2	256.8	257.1	253.5	251.0	245.5	246.9	250.1	
2952	Asphalt felts and coating (12/75 = 100)	166.5	163.2	166.9	165.1	164.9	167.4	166.4	168.0	168.4	168.6	165.5	165.9	169.9	166.9	
3251	Brick and structural clay tile	332.6	328.3	332.2	333.8	334.6	336.4	336.4	336.4	338.4	339.7	341.0	341.3	341.0	342.2	
3253	Ceramic wall and floor tile (12/75 = 100)	145.1	140.7	140.7	142.4	149.6	149.6	149.6	149.6	149.6	149.6	146.8	146.8	146.8	146.8	
3255	Clay refractories	356.1	351.2	352.2	352.2	349.4	352.1	354.4	355.9	364.3	366.6	368.6	369.3	369.7	371.4	
3259	Structural clay products, n.e.c.	230.4	215.7	232.7	234.7	234.7	234.8	234.9	234.9	235.1	235.0	235.7	235.6	232.6	232.9	
3261	Vitreous plumbing fixtures	278.1	275.1	275.3	276.1	276.9	277.0	277.0	281.3	283.7	284.5	285.4	285.6	287.0	290.1	
3263	Fine earthenware food utensils	365.8	365.7	365.7	365.9	366.5	366.5	366.5	366.5	366.5	366.5	366.2	375.9	381.4	373.3	
3269	Pottery products, n.e.c. (12/75 = 100)	186.2	186.6	186.6	186.6	186.6	186.6	186.6	186.6	186.6	189.9	187.0	188.7	189.3	189.1	
3274	Lime (12/75 = 100)	185.8	185.1	187.8	185.2	186.2	187.1	187.6	186.3	185.9	182.4	182.9	183.0	184.6	184.2	
3297	Nonclay refractories (12/74 = 100)	205.3	203.6	203.8	203.6	203.6	203.7	203.8	203.8	203.9	212.8	212.9	213.1	215.4	220.6	
3482	Small arms ammunition (12/75 = 100)	182.5	181.6	181.6	181.6	181.6	181.6	181.6	181.6	181.6	181.6	187.6	196.6	196.6	196.6	
3623	Welding apparatus, electric (12/72 = 100)	241.9	243.4	243.3	243.1	242.3	243.5	243.5	243.6	243.9	243.9	239.7	241.0	241.7	242.2	
3648	Lighting equipment, n.e.c. (12/75 = 100)	172.8	171.6	172.6	172.6	173.1	173.4	173.4	173.5	173.7	173.9	172.6	173.5	173.5	184.8	
3671	Electron tubes, receiving type	435.4	431.9	432.1	432.1	432.2	432.5	432.5	432.8	432.9	432.9	469.8	490.4	490.7	490.9	
3942	Dolls (12/75 = 100)	137.4	136.8	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.7	137.3	137.2	137.4	137.4	
3944	Games, toys, and children's vehicles	237.3	241.8	242.2	242.2	242.2	236.1	236.2	236.3	236.4	236.2	232.0	235.4	236.5	235.9	
3955	Carbon paper and inked ribbons (12/75 = 100)	139.2	139.2	139.2	139.2	139.2	139.2	139.2	139.2	139.2	139.3	139.3	144.3	149.0	149.1	
3995	Burial caskets (6/76 = 100)	153.5	152.1	152.1	152.1	152.1	155.4	155.4	155.4	156.0	156.0	156.0	156.0	157.2	157.3	
3996	Hard surface floor coverings (12/75 = 100)	161.3	159.2	159.7	159.6	159.6	162.2	163.4	163.5	165.5	163.5	163.5	165.2	165.2	165.2	

¹Data for November 1983 have been revised to reflect the availability of late reports and corrections by respondents. All data are subject to revision 4 months after original publication.

r = revised.

PRODUCTIVITY DATA

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

Definitions

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

Multifactor productivity measures the output per unit of combined labor and capital input. The traditional measure of output per hour reflects changes in capital per hour and a combination of other factors—such as, changes in technology, shifts in the composition of the labor force, changes in capacity utilization, research and development, skill and efforts of the work force, management, and so forth. The multifactor productivity measure differs from the familiar BLS measure of output per hour of all persons in that it excludes the effects of the substitution of capital for labor.

Compensation per hour includes wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. The data also include an estimate of wages, salaries, and supplementary payments for the self-employed, except for nonfinancial corporations, in which there are no self-employed. **Real compensation per hour** is compensation per hour adjusted by the Consumer Price Index for All Urban Consumers.

Unit labor costs measure the labor compensation costs required to produce a unit of output and is derived by dividing compensation by output. **Unit nonlabor payments** include profits, depreciation, interest, and indirect taxes per unit of output. They are computed by subtracting compensation of all persons from current dollar gross product and dividing by output. **Unit nonlabor costs** contain all the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and the value of inventory adjustments per unit of output.

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

Hours of all persons measures the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all employee**

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

Notes on the data

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

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

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

28. Annual indexes of multifactor productivity and related measures, selected years, 1948-82

[1977 = 100]

Item	1948	1950	1960	1970	1973	1974	1975	1976	1978	1979	1980	1981	1982
PRIVATE BUSINESS SECTOR													
Productivity:													
Output per hour of all persons	45.3	49.7	64.8	86.1	94.7	92.4	94.5	97.6	100.6	99.3	98.8	101.2	101.1
Output per unit of capital services	99.0	98.6	98.5	98.5	103.0	96.5	92.0	96.1	101.8	100.3	95.5	95.8	90.9
Multifactor productivity	60.0	63.6	75.4	90.2	97.5	93.8	93.6	97.1	101.0	99.7	97.7	99.3	97.5
Output	36.8	39.5	53.3	78.3	91.8	89.9	88.0	93.7	105.5	107.9	106.4	109.8	106.6
Inputs:													
Hours of all persons	81.3	79.5	82.2	90.9	96.9	97.2	93.1	95.9	104.9	108.6	107.7	108.4	105.4
Capital services	37.2	40.1	54.1	79.4	89.1	93.1	95.7	97.5	103.6	107.5	111.4	114.6	117.3
Combined units of labor and capital input	61.3	62.1	70.7	86.8	94.1	95.8	94.0	96.5	104.4	108.2	108.9	110.5	109.4
Capital per hour of all persons	45.7	50.4	65.8	87.4	92.0	95.8	102.8	101.6	98.8	99.0	103.4	105.7	111.3
PRIVATE NONFARM BUSINESS SECTOR													
Productivity:													
Output per hour of all persons	51.2	55.6	67.9	86.8	95.3	92.9	94.7	97.8	100.6	99.0	98.3	100.2	100.2
Output per unit of capital services	97.9	98.2	98.4	98.6	103.2	96.5	91.7	96.1	101.9	100.1	95.2	95.0	90.1
Multifactor productivity	64.6	68.1	77.6	90.6	97.9	94.1	93.6	97.2	101.1	99.4	97.3	98.4	96.6
Output	35.6	38.3	52.3	77.8	91.7	89.7	87.6	93.6	105.7	108.0	106.4	109.3	106.2
Inputs:													
Hours of all persons	69.6	69.0	77.0	89.7	96.2	96.6	92.5	95.7	105.1	109.0	108.2	109.0	106.0
Capital services	36.4	39.0	53.2	78.9	88.8	93.0	95.6	97.4	103.7	107.9	111.7	115.1	118.0
Combined units of labor and capital input	55.2	56.3	67.4	85.9	93.6	95.4	93.6	96.3	104.6	108.6	109.4	111.0	110.0
Capital per hour of all persons	52.3	56.6	69.0	88.0	92.3	96.3	103.4	101.8	98.7	99.0	103.2	105.5	111.2
MANUFACTURING													
Productivity:													
Output per hour of all persons	45.1	49.4	60.0	79.1	93.0	90.8	93.4	97.5	100.8	101.5	101.7	105.3	106.5
Output per unit of capital services	93.9	94.5	88.0	91.8	108.2	99.6	89.4	96.1	101.5	99.5	90.7	90.2	82.7
Multifactor productivity	56.1	59.9	67.0	82.3	96.8	93.0	92.2	97.1	101.0	101.0	98.7	101.2	99.9
Output	35.8	38.6	50.7	77.0	95.9	91.9	85.4	93.6	105.3	108.2	103.5	106.5	99.1
Inputs:													
Hours of all persons	79.4	78.2	84.4	97.3	103.2	101.2	91.4	95.9	104.5	106.6	101.8	101.2	93.0
Capital services	38.1	40.9	57.5	83.9	88.6	92.2	95.5	97.4	103.8	108.8	114.1	118.0	119.9
Combined units of labor and capital input	63.8	64.6	75.6	93.6	99.1	98.8	92.6	96.4	104.3	107.2	104.8	105.2	99.2
Capital per hour of all persons	48.0	52.3	68.2	86.2	85.9	91.1	104.4	101.5	99.3	102.1	112.1	116.7	128.8

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

[1977 = 100]

Item	1950	1955	1960	1965	1970	1975	1976	1978	1979	1980	1981	1982	1983
Business sector:													
Output per hour of all persons	50.4	58.3	65.2	78.3	86.2	94.5	97.6	100.6	99.4	98.9	101.3	101.2	103.8
Compensation per hour	20.0	26.4	33.9	41.7	58.2	85.5	92.9	108.6	118.7	131.2	143.9	155.1	163.1
Real compensation per hour	50.5	59.6	69.5	80.1	90.8	96.3	98.9	100.9	99.1	96.5	95.9	97.4	99.2
Unit labor costs	39.8	45.2	52.1	53.3	67.5	90.5	95.1	108.0	119.5	132.7	142.1	153.3	157.1
Unit nonlabor payments	43.4	47.6	50.6	57.6	63.2	90.4	94.0	106.7	112.8	119.0	136.2	136.9	145.8
Implicit price deflator	41.0	46.0	51.6	54.7	66.0	90.4	94.7	107.5	117.2	128.1	140.1	147.7	153.3
Nonfarm business sector:													
Output per hour of all persons	56.3	62.7	68.3	80.5	86.8	94.7	97.8	100.6	99.1	98.4	100.3	100.2	103.4
Compensation per hour	21.8	28.3	35.7	42.8	58.7	86.0	93.0	108.6	118.4	130.7	143.5	154.7	163.4
Real compensation per hour	55.0	64.0	73.0	82.2	91.5	96.8	99.0	100.9	98.9	96.1	95.6	97.1	99.4
Unit labor costs	38.8	45.1	52.3	53.2	67.6	90.8	95.1	108.0	119.5	132.8	143.0	154.4	158.1
Unit nonlabor payments	42.7	47.8	50.4	58.0	63.8	88.5	93.5	105.3	110.4	118.5	135.0	137.0	146.2
Implicit price deflator	40.1	46.0	51.6	54.8	66.3	90.0	94.6	107.1	116.5	128.1	140.4	148.6	154.2
Nonfinancial corporations:													
Output per hour of all persons	(1)	(1)	68.0	81.9	87.4	95.5	98.2	100.9	100.7	99.8	102.3	102.8	106.1
Compensation per hour	(1)	(1)	37.0	43.9	59.4	86.1	92.9	108.5	118.7	130.9	143.6	154.8	162.3
Real compensation per hour	(1)	(1)	75.8	84.3	92.7	96.9	98.9	100.7	99.1	96.3	95.7	97.2	98.7
Unit labor costs	(1)	(1)	54.4	53.5	68.0	90.2	94.6	107.5	117.8	131.2	140.3	150.6	153.0
Unit nonlabor payments	(1)	(1)	54.6	60.8	63.1	90.8	95.0	104.2	106.9	117.4	134.4	137.6	148.4
Implicit price deflator	(1)	(1)	54.5	56.1	66.3	90.4	94.7	106.4	114.1	126.4	138.3	146.1	151.4
Manufacturing:													
Output per hour of all persons	49.4	56.4	60.0	74.5	79.1	93.4	97.5	100.8	101.5	101.7	105.3	106.5	113.4
Compensation per hour	21.5	28.8	36.7	42.8	57.6	85.4	92.3	108.3	118.8	132.7	145.8	158.2	167.1
Real compensation per hour	54.0	65.1	75.1	82.3	89.8	96.2	98.3	100.6	99.2	97.6	97.2	99.3	101.6
Unit labor costs	43.4	51.0	61.1	57.5	72.7	91.5	94.6	107.4	117.0	130.5	138.5	148.5	147.3
Unit nonlabor payments	54.3	58.5	61.1	69.3	65.0	87.3	93.7	102.5	99.9	97.7	110.2	109.2	p(1)
Implicit price deflator	46.6	53.2	61.1	61.0	70.5	90.3	94.4	106.0	112.0	120.9	130.2	137.0	p(1)

¹ Not available.

r = revised.
p = preliminary.

30. Annual changes in productivity, hourly compensation, unit costs, and prices, 1972-83

Item	Year											Annual rate of change	
	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1950-83	1972-83
Business sector:													
Output per hour of all persons	2.6	-2.4	2.2	3.3	2.4	0.6	-1.2	-0.5	2.4	-0.1	2.6	2.2	1.1
Compensation per hour	8.0	9.4	9.6	8.6	7.7	8.6	9.4	10.5	9.7	7.7	5.2	6.6	8.6
Real compensation per hour	1.6	-1.4	0.5	2.6	1.2	0.9	-1.7	-2.6	-0.6	1.5	1.9	2.1	0.3
Unit labor costs	5.3	12.1	7.3	5.1	5.1	8.0	10.7	11.1	7.1	7.9	2.5	4.3	7.4
Unit nonlabor payments	5.9	4.4	15.1	4.0	6.4	6.7	5.8	5.5	14.4	0.5	6.5	3.7	6.8
Implicit price deflator	5.5	9.5	9.8	4.7	5.6	7.5	9.0	9.2	9.4	5.4	3.8	4.1	7.2
Nonfarm business sector:													
Output per hour of all persons	2.4	-2.5	2.0	3.2	2.2	0.6	-1.5	-0.7	1.9	-0.1	3.1	1.9	1.0
Compensation per hour	7.6	9.4	9.6	8.1	7.5	8.6	9.0	10.4	9.8	7.8	5.6	6.3	8.6
Real compensation per hour	1.3	-1.4	0.4	2.2	1.0	0.9	-2.0	-2.8	-0.6	1.6	2.3	1.8	0.3
Unit labor costs	5.0	12.2	7.5	4.8	5.2	8.0	10.7	11.1	7.7	7.9	2.4	4.3	7.5
Unit nonlabor payments	1.3	5.9	16.7	5.7	6.9	5.3	4.8	7.4	13.9	1.4	6.8	3.8	6.8
Implicit price deflator	3.8	10.2	10.3	5.1	5.7	7.1	8.8	10.0	9.6	5.8	3.8	4.2	7.3
Nonfinancial corporations:													
Output per hour of all employees	2.4	-3.7	2.9	2.9	1.8	0.9	-0.2	-0.9	2.5	0.5	3.2	(¹)	1.1
Compensation per hour	7.5	9.4	9.6	7.9	7.6	8.5	9.4	10.3	9.7	7.8	4.9	(¹)	8.4
Real compensation per hour	1.2	-1.5	0.4	2.0	1.1	0.7	-1.7	-2.8	-0.6	1.6	1.6	(¹)	0.2
Unit labor costs	4.9	13.6	6.5	4.9	5.7	7.5	9.6	11.3	7.0	7.3	1.6	(¹)	7.2
Unit nonlabor payments	1.5	7.1	20.1	4.6	5.3	4.2	2.6	9.8	14.5	2.4	7.8	(¹)	7.1
Implicit price deflator	3.8	11.4	10.9	4.8	5.6	6.4	7.2	10.8	9.4	5.7	3.6	(¹)	7.2
Manufacturing:													
Output per hour of all persons	5.4	-2.4	2.9	4.4	2.5	0.8	0.7	0.2	3.5	1.2	6.5	2.5	2.3
Compensation per hour	7.2	10.6	11.9	8.0	8.3	8.3	9.7	11.7	9.9	8.5	5.6	6.4	9.1
Real compensation per hour	0.9	-0.3	2.5	2.1	1.8	0.6	-1.4	-1.6	-0.4	2.2	2.3	1.9	0.8
Unit labor costs	1.7	13.3	8.8	3.4	5.7	7.4	9.0	11.5	6.1	7.2	-0.8	3.8	6.6
Unit nonlabor payments	-3.3	-1.8	25.9	7.4	6.7	2.5	-2.6	-2.2	12.8	-0.9	(¹)	2.2	4.1
Implicit price deflator	0.3	9.0	13.1	4.6	6.0	6.0	5.7	7.9	7.7	5.2	(¹)	3.4	6.5

¹Not available.

r = revised.

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

[1977 = 100]

Item	Annual average		Quarterly indexes										
	1982	1983	1981			1982				1983			
			II	III	IV	I	II	III	IV	I	II	III	IV
Business sector:													
Output per hour of all persons	101.2	103.8	101.1	102.3	101.2	101.1	100.7	101.1	101.9	102.5	103.9	104.2	104.8
Compensation per hour	155.1	163.1	142.2	145.5	148.2	151.6	153.9	156.5	158.7	160.7	162.1	163.6	166.3
Real compensation per hour	97.4	99.2	96.0	95.6	95.8	97.1	97.3	97.2	98.1	99.4	99.2	99.0	99.6
Unit labor costs	153.3	157.1	140.7	142.3	146.4	149.9	152.9	154.7	155.6	156.9	156.0	156.9	158.7
Unit nonlabor payments	136.9	145.8	133.4	139.9	140.2	137.0	137.0	136.3	137.4	140.8	145.7	147.6	148.6
Implicit price deflator	147.7	153.3	138.2	141.5	144.3	145.5	147.5	148.5	149.4	151.5	152.5	153.8	155.3
Nonfarm business sector:													
Output per hour of all persons	100.2	103.4	100.1	101.1	99.9	100.0	99.9	100.4	100.8	101.7	103.5	104.0	104.3
Compensation per hour	154.7	163.4	141.8	145.1	147.7	151.3	153.5	156.1	158.3	161.0	162.7	164.2	166.0
Real compensation per hour	97.1	99.4	95.7	95.3	95.5	96.9	97.0	97.0	97.9	99.5	99.5	99.4	99.4
Unit labor costs	154.4	158.1	141.6	143.5	147.8	151.3	153.6	155.4	157.1	158.3	157.2	157.8	159.2
Unit nonlabor payments	137.0	146.2	132.2	138.3	139.5	136.4	137.7	136.5	137.2	140.7	145.7	148.3	149.9
Implicit price deflator	148.6	154.2	138.4	141.8	145.0	146.4	148.3	149.1	150.5	152.4	153.4	154.7	156.1
Nonfinancial corporations:													
Output per hour of all employees	102.8	106.1	102.1	103.0	102.2	102.4	102.3	103.2	103.4	104.3	105.9	107.0	(¹)
Compensation per hour	154.8	162.3	142.0	145.0	147.8	151.7	153.7	156.1	158.1	160.4	161.6	162.8	(¹)
Real compensation per hour	97.2	98.7	95.8	95.2	95.5	97.1	97.1	96.9	97.8	99.2	98.8	98.6	(¹)
Total unit costs	153.5	155.4	141.1	143.6	147.7	150.9	153.1	153.8	156.3	156.7	155.3	154.5	(¹)
Unit labor costs	150.6	153.0	139.0	140.7	144.6	148.1	150.2	151.1	152.9	153.9	152.5	152.1	(¹)
Unit nonlabor costs	161.8	162.3	147.0	151.9	156.6	158.9	161.2	161.3	165.9	164.7	163.1	161.2	(¹)
Unit profits	88.9	120.3	100.3	108.6	104.2	90.8	90.3	91.2	83.0	96.1	115.0	131.5	(¹)
Implicit price deflator	146.1	151.4	136.4	139.6	142.7	144.0	145.9	146.6	147.9	149.7	150.7	151.8	(¹)
Manufacturing:													
Output per hour of all persons	106.5	113.4	105.4	106.1	104.4	105.1	105.3	107.8	108.1	110.2	112.6	115.9	117.1
Compensation per hour	158.2	167.1	144.3	147.0	150.5	155.1	157.1	159.6	161.4	165.5	166.4	167.5	169.1
Real compensation per hour	99.3	101.6	97.4	96.6	97.2	99.4	99.3	99.1	99.8	102.3	101.8	101.4	101.3
Unit labor costs	148.5	147.3	136.9	138.5	144.1	147.6	149.1	148.1	149.3	150.2	147.8	144.5	144.5

¹Not available.

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

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1982 to III 1982	III 1982 to IV 1982	IV 1982 to I 1983	I 1983 to II 1983	II 1983 to III 1983	III 1982 to IV 1983	III 1981 to III 1982	IV 1981 to IV 1982	I 1982 to I 1983	II 1982 to II 1983	III 1982 to III 1983	IV 1982 to IV 1983
Business sector:												
Output per hour of all persons	1.7	3.3	2.0	5.9	1.2	2.2	-1.1	0.7	1.3	3.2	3.1	2.8
Compensation per hour	6.7	5.7	5.4	3.5	3.6	7.0	7.5	7.1	6.1	5.3	4.5	4.8
Real compensation per hour	0.4	4.1	5.0	-0.8	0.6	2.4	1.6	2.5	2.4	1.9	1.9	1.5
Unit labor costs	5.0	2.3	3.3	-2.2	2.3	4.7	8.7	6.3	4.7	2.1	1.4	2.0
Unit nonlabor payments	-2.0	3.2	10.5	14.4	5.4	2.8	-2.6	-2.0	2.8	6.3	8.3	¹ 8.2
Implicit price deflator	2.7	2.6	5.5	2.8	3.3	4.1	4.9	3.5	4.1	3.4	3.6	¹ 3.9
Nonfarm business sector:												
Output per hour of all persons	2.3	1.3	3.7	7.1	2.3	0.9	-0.6	0.8	1.7	3.6	3.6	3.5
Compensation per hour	7.2	5.8	6.8	4.3	3.8	4.4	7.6	7.2	6.4	6.0	5.2	4.8
Real compensation per hour	-0.0	4.1	6.5	0.0	-0.3	-0.0	1.7	2.6	2.7	2.6	2.5	1.5
Unit labor costs	4.7	4.4	3.0	-2.6	1.5	3.5	8.3	6.3	4.6	2.3	1.5	1.3
Unit nonlabor payments	-3.4	2.0	10.6	15.2	7.3	4.2	-1.3	-1.6	3.1	5.9	8.6	9.2
Implicit price deflator	2.2	3.7	5.3	2.7	3.3	3.7	5.2	3.7	4.1	3.4	3.7	3.7
Nonfinancial corporations:												
Output per hour of all employees	3.8	0.6	3.4	6.5	4.2	(¹)	0.2	1.2	1.8	3.6	3.7	(¹)
Compensation per hour	6.4	5.4	6.0	2.9	3.0	(¹)	7.6	7.0	5.8	5.2	4.3	(¹)
Real compensation per hour	-0.8	3.8	5.6	-1.4	-1.1	(¹)	1.7	2.4	2.1	1.8	1.7	(¹)
Total units costs	1.8	6.7	1.0	-3.5	-2.1	(¹)	7.1	5.8	3.8	1.4	0.4	(¹)
Unit labor costs	2.4	4.8	2.5	-3.4	-1.1	(¹)	7.4	5.7	3.9	1.5	0.6	(¹)
Unit nonlabor costs	0.1	11.9	-2.8	-3.8	-4.7	(¹)	6.2	6.0	3.7	1.2	-0.1	(¹)
Unit profits	3.8	-31.4	79.9	104.7	71.0	(¹)	-16.1	-20.3	5.8	27.3	44.2	(¹)
Implicit price deflator	1.9	3.6	5.1	2.5	3.1	(¹)	5.0	3.6	4.0	3.3	3.6	(¹)
Manufacturing:												
Output per hour of all persons	9.6	1.2	8.0	9.0	12.2	4.2	1.6	3.5	4.8	6.9	7.5	8.3
Compensation per hour	6.5	4.5	10.7	2.1	-2.7	4.0	8.6	7.3	6.7	5.9	4.9	4.8
Real compensation per hour	-0.6	2.9	10.3	-2.2	1.4	-0.4	2.6	2.7	3.0	2.5	2.3	1.5
Unit labor costs	-2.8	3.3	2.5	-6.4	-8.4	-0.2	6.9	-3.6	1.8	-0.9	-2.4	-3.2

¹Not available.

r = revised.

WAGE AND COMPENSATION DATA

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

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

Definitions

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

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

Data on negotiated wage changes apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year* wage or compensation changes refer to average negotiated changes for workers covered by settlements reached in the period

and implemented within the first 12 months after the effective date of the agreement. *Changes over the life of the agreement* refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

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

Notes on the data

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

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

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

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

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

33. Employment Cost Index, by occupation and industry group

[June 1981 = 100]

Series	1981	1982				1983				Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months ended	12 months ended
											December 1983	
Civilian workers¹	104.5	106.3	107.5	110.1	111.4	113.2	114.5	116.5	117.8	1.1	5.7	
Workers, by occupational group												
White-collar workers	104.9	106.5	107.7	110.7	111.9	113.7	114.9	117.6	118.9	1.1	6.3	
Blue-collar workers	104.1	105.7	107.1	109.2	110.5	112.3	113.6	114.8	115.8	.9	4.8	
Service workers	104.2	107.2	108.3	110.8	112.4	114.3	115.1	116.7	119.1	2.1	6.0	
Workers, by industry division												
Manufacturing	104.0	106.0	107.2	109.3	110.4	112.5	113.5	115.0	116.0	.9	5.1	
Nonmanufacturing	104.8	106.4	107.7	110.5	111.8	113.5	114.9	117.2	118.6	1.2	6.1	
Services	107.1	108.2	109.2	113.5	115.0	116.6	117.1	121.1	122.6	1.2	6.6	
Public administration ²	106.0	108.1	109.1	112.8	113.6	116.2	117.0	119.8	121.4	1.3	6.9	
Private industry workers	104.0	105.8	107.2	109.3	110.7	112.6	113.9	115.6	117.0	1.2	5.7	
Workers, by occupational group												
White-collar workers	104.0	105.8	107.2	109.5	110.8	112.8	114.2	116.5	117.9	1.2	6.4	
Blue-collar workers	104.0	105.6	107.0	109.0	110.3	112.1	113.5	114.6	115.7	1.0	4.9	
Service workers	103.1	106.7	107.9	109.6	111.8	113.8	114.6	115.1	117.9	2.4	5.5	
Workers, by industry division												
Manufacturing	104.0	106.0	107.2	109.3	110.4	112.5	113.5	115.0	116.0	.9	5.1	
Nonmanufacturing	103.9	105.7	107.1	109.3	110.8	112.6	114.2	116.0	117.5	1.3	6.0	
State and local government workers	107.4	108.8	109.3	114.3	115.1	116.5	117.1	120.8	122.0	1.0	6.0	
Workers, by occupational group												
White-collar workers	107.8	109.1	109.5	114.9	115.8	117.0	117.5	121.5	122.6	.9	5.9	
Blue-collar workers	105.9	108.2	108.9	112.7	113.0	114.9	115.8	118.0	119.2	1.0	5.5	
Workers, by industry division												
Services	107.9	109.0	109.4	114.9	115.9	116.8	117.4	121.7	122.6	.7	5.8	
Schools	107.9	108.9	109.1	114.8	115.8	116.6	116.9	121.9	122.6	.6	5.9	
Elementary and secondary	108.3	109.3	109.5	115.6	116.6	117.2	117.4	123.3	123.9	.5	6.3	
Hospitals and other services ³	107.8	109.5	110.3	115.3	116.0	117.5	118.8	121.1	122.6	1.2	5.7	
Public administration ²	106.0	108.1	109.1	112.8	113.6	116.2	117.0	119.8	121.4	1.3	6.9	

¹Excludes farm, household, and Federal workers.

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

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

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

[June 1981 = 100]

Series	1981	1982				1983				Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months	12 months
											ended	ended
											December 1983	
Civilian workers¹	104.4	106.3	107.3	109.7	110.9	112.2	113.4	115.3	116.5	1.0	5.0	
Workers, by occupational group												
White-collar workers	104.7	106.7	107.6	110.4	111.4	113.0	114.2	116.7	117.9	1.0	5.8	
Blue-collar workers	104.0	105.5	106.7	108.6	109.8	110.8	112.0	113.1	114.0	.8	3.8	
Service workers	103.6	106.8	107.9	110.1	111.8	113.2	113.9	115.1	117.4	2.0	5.0	
Workers, by industry division												
Manufacturing	104.0	105.9	107.0	108.8	109.8	111.0	112.0	113.3	114.5	1.1	4.3	
Nonmanufacturing	104.5	106.5	107.5	110.1	111.3	112.7	114.0	116.1	117.4	1.1	5.5	
Services	106.6	108.6	109.5	113.2	114.4	115.8	116.3	120.1	121.3	1.0	6.0	
Public administration ²	105.5	107.5	108.4	111.9	112.6	114.6	115.4	118.2	119.4	1.0	6.0	
Private industry workers	103.8	105.9	107.1	109.0	110.3	111.6	112.9	114.5	115.8	1.1	5.0	
Workers, by occupational group												
White-collar workers	103.9	106.2	107.3	109.4	110.6	112.2	113.6	115.9	117.2	1.1	6.0	
Professional and technical workers	105.5	108.0	109.4	111.8	112.9	114.8	115.9	119.9	120.4	.4	6.6	
Managers and administrators	102.8	105.8	107.2	108.5	109.3	112.0	114.0	114.8	115.7	.8	5.9	
Salesworkers	101.9	102.2	101.8	104.5	106.2	105.7	107.1	108.4	111.2	2.6	4.7	
Clerical workers	104.2	107.0	108.3	110.3	111.6	113.4	114.6	116.7	118.3	1.4	6.0	
Blue-collar workers	103.9	105.4	106.6	108.5	109.7	110.7	111.9	112.9	113.9	.9	3.8	
Craft and kindred workers	104.3	106.2	107.6	109.6	111.2	112.2	113.4	114.3	115.4	1.0	3.8	
Operatives, except transport	104.1	105.4	106.6	108.3	109.3	110.0	111.1	112.3	113.6	1.2	3.9	
Transport equipment operatives	102.7	103.2	104.1	106.0	106.9	108.0	110.3	110.7	110.2	-.5	3.1	
Nonfarm laborers	103.3	104.1	105.1	106.5	107.8	109.0	109.8	110.8	112.1	1.2	4.0	
Service workers	102.7	106.7	107.9	109.3	111.4	112.9	113.5	113.7	116.5	2.5	4.6	
Workers, by industry division												
Manufacturing	104.0	105.9	107.0	108.8	109.8	111.0	112.0	113.3	114.5	1.1	4.3	
Durables	104.5	106.3	107.4	109.0	110.3	111.1	111.8	112.9	114.4	1.3	3.7	
Nondurables	103.1	105.3	106.3	108.5	109.1	110.9	112.3	113.9	114.6	.6	5.0	
Nonmanufacturing	103.8	105.9	107.1	109.1	110.5	112.0	113.4	115.2	116.5	1.1	5.4	
Construction	104.3	105.9	107.3	109.1	109.7	110.4	112.1	112.2	112.9	.6	2.9	
Transportation and public utilities	103.6	105.7	106.9	109.5	111.1	112.9	114.7	115.7	116.8	1.0	5.1	
Wholesale and retail trade	102.3	103.9	105.8	106.5	107.2	108.5	110.8	111.5	112.3	.7	4.8	
Wholesale trade	103.4	106.3	108.9	109.0	109.8	111.8	114.1	115.7	116.5	.7	6.1	
Retail trade	101.9	103.0	104.5	105.5	106.1	107.2	109.4	109.9	110.6	.6	4.2	
Finance, insurance, and real estate	102.3	103.7	102.4	106.1	109.0	110.6	111.1	113.5	116.9	3.0	7.2	
Services	105.8	108.8	110.0	112.5	114.3	116.0	116.6	120.4	121.9	1.2	6.6	
State and local government workers	107.0	108.2	108.7	113.5	114.0	115.1	115.7	119.2	120.0	.7	5.3	
Workers, by occupational group												
White-collar workers	107.5	108.5	108.9	114.2	114.6	115.6	116.1	119.8	120.6	.7	5.2	
Blue-collar workers	105.5	107.5	107.9	111.5	112.0	113.3	114.3	116.4	116.9	.4	4.4	
Workers, by industry division												
Services	107.6	108.4	108.8	114.2	114.6	115.5	115.9	119.8	120.6	.7	5.2	
Schools	107.7	108.3	108.5	114.2	114.5	115.2	115.4	119.9	120.6	.6	5.3	
Elementary and secondary	107.9	108.7	108.8	114.9	115.1	115.6	115.8	121.1	121.7	.5	5.7	
Hospitals and other services ³	107.3	108.8	109.5	114.3	114.9	116.5	117.7	119.7	120.6	.8	5.0	
Public administration ²	105.5	107.5	108.4	111.9	112.6	114.6	115.4	118.2	119.4	1.0	6.0	

¹Excludes farm, household, and Federal workers.

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

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

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

[June 1981 = 100]

Series	1981	1982				1983				Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months ended	12 months ended
											December 1983	
COMPENSATION												
Workers, by bargaining status ¹												
Union	104.8	106.5	108.4	110.6	112.3	114.5	116.0	117.8	118.8	0.8	5.8	
Manufacturing	104.6	106.3	108.0	110.3	111.8	114.0	114.8	116.3	117.2	.8	4.8	
Nonmanufacturing	105.0	106.8	108.7	111.0	112.8	114.9	117.1	119.2	120.4	1.0	6.7	
Nonunion	103.5	105.3	106.5	108.5	109.7	111.5	112.8	114.4	115.9	1.3	5.7	
Manufacturing	103.5	105.7	106.6	108.4	109.2	111.2	112.3	113.8	114.9	1.0	5.2	
Nonmanufacturing	103.5	105.2	106.4	108.6	109.9	111.6	113.0	114.7	116.4	1.5	5.9	
Workers, by region ¹												
Northeast					111.7	112.6	114.3	116.0	117.5	1.3	5.2	
South					110.6	112.5	113.5	115.6	117.1	1.3	5.9	
North Central					108.6	110.9	112.5	113.9	114.7	.7	5.6	
West					112.9	115.4	116.6	118.0	120.0	1.7	6.3	
Workers, by area size ¹												
Metropolitan areas	104.1	105.7	107.2	109.4	110.9	112.9	114.2	116.0	117.4	1.2	5.9	
Other areas	103.2	106.2	107.0	108.6	109.1	110.8	112.3	113.4	114.5	1.0	4.9	
WAGES AND SALARIES												
Workers, by bargaining status ¹												
Union	105.0	106.5	108.1	110.3	111.8	112.9	114.2	116.0	116.9	0.8	4.6	
Manufacturing	104.7	105.9	107.3	109.5	110.8	111.4	112.3	113.7	114.8	1.0	3.6	
Nonmanufacturing	105.2	107.0	108.8	111.1	112.7	114.3	116.0	118.3	118.9	.5	5.5	
Nonunion	103.2	105.6	106.5	108.3	109.5	110.9	112.2	113.7	115.2	1.3	5.2	
Manufacturing	103.3	105.9	106.7	108.2	109.1	110.7	111.8	113.0	114.2	1.1	4.7	
Nonmanufacturing	103.2	105.5	106.4	108.3	109.6	111.0	112.4	114.0	115.6	1.4	5.5	
Workers, by region ¹												
Northeast	104.4	106.1	106.7	109.7	111.5	112.0	113.6	115.3	116.6	1.1	4.6	
South	102.8	105.7	107.4	108.8	109.8	111.4	112.5	114.3	115.7	1.2	5.4	
North Central	103.3	104.7	106.1	107.6	108.6	110.1	111.5	112.8	113.6	.7	4.6	
West	105.1	107.9	108.6	110.7	112.0	114.1	114.9	116.5	118.5	1.7	5.8	
Workers by area size ¹												
Metropolitan areas	104.0	105.9	107.1	109.1	110.5	111.9	113.2	114.9	116.2	1.1	5.2	
Other areas	103.1	106.0	106.8	108.3	108.8	110.1	111.4	112.3	113.4	1.0	4.2	

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

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

[In percent]

Measure	Annual average					Quarterly average									
	1979	1980	1981	1982	1983	1981	1982				1983				
						IV	I	II	III	IV	I	II	III	IV	
Total compensation changes, covering 5,000 workers or more, all industries:															
First year of contract	9.0	10.4	10.2	3.2	3.4	11.0	1.9	2.6	6.2	3.3	-1.6	4.4	5.0	4.9	
Annual rate over life of contract	6.6	7.1	8.3	2.8	3.0	5.8	1.2	2.1	4.7	4.8	1.4	3.6	4.3	3.1	
Wage rate changes covering at least 1,000 workers, all industries:															
First year of contract	7.4	9.5	9.8	3.8	2.6	9.0	3.0	3.4	5.4	3.8	-1.2	2.7	3.7	4.2	
Annual rate over life of contract	6.0	7.1	7.9	3.6	2.8	5.7	2.8	3.2	4.5	4.8	2.2	2.8	3.6	2.8	
Manufacturing:															
First year of contract	6.9	7.4	7.2	2.8	0.4	6.6	2.5	1.8	5.1	4.1	-3.4	1.3	3.4	2.9	
Annual rate over life of contract	5.4	5.4	6.1	2.6	2.1	5.4	2.7	1.7	3.9	4.5	.9	1.7	3.5	3.1	
Nonmanufacturing (excluding construction):															
First year of contract	7.6	9.5	9.8	4.3	5.0	9.6	2.7	6.6	5.5	3.6	3.3	5.9	5.8	4.8	
Annual rate over life of contract	6.2	6.6	7.3	4.1	3.7	5.6	2.1	6.1	4.8	5.2	5.3	5.2	4.3	2.7	
Construction:															
First year of contract	8.8	13.6	13.5	6.5	1.5	11.4	8.6	6.2	6.3	3.4	.7	1.7	1.5	1.1	
Annual rate over life of contract	8.3	11.5	11.3	6.3	2.4	11.7	8.2	6.3	5.9	2.9	2.4	2.1	2.9	2.6	

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

Measure	Year					Year and quarter									
	1979	1980	1981	1982	1983	1981	1982				1983				
						IV	I	II	III	IV	I	II	III	IV	
Average percent adjustment (including no change):															
All industries	9.1	9.9	9.5	6.8	4.0	1.5	1.0	2.0	2.4	1.3	0.3	1.3	1.2	1.1	
Manufacturing	9.6	10.2	9.4	5.2	2.7	1.9	.9	1.0	1.7	1.5	-.5	1.1	1.2	.9	
Nonmanufacturing	8.8	9.7	9.5	7.9	4.8	1.1	1.1	2.7	2.9	1.2	.9	1.5	1.2	1.2	
From settlements reached in period	3.0	3.6	2.5	1.7	.8	.4	.2	.4	.5	.6	-.2	.3	.2	.6	
Deferred from settlements reached in earlier period	3.0	3.5	3.8	3.6	2.5	.4	.6	1.4	1.3	.4	.4	1.0	.8	.3	
From cost-of-living clauses	3.1	2.8	3.2	1.4	.6	.6	.3	.2	.6	.3	.1	.1	.2	.2	
Total number of workers receiving wage change (in thousands) ¹	—	—	8,648	7,852	6,530	3,225	2,878	3,423	3,760	3,441	2,875	3,061	3,025	2,887	
From settlements reached in period	—	—	2,270	1,907	2,327	604	204	511	620	825	448	561	599	996	
Deferred from settlements reached in earlier period	—	—	6,267	4,846	3,260	882	1,001	1,594	2,400	860	812	1,405	1,317	669	
From cost-of-living clauses	—	—	4,593	3,830	2,327	2,179	1,920	1,568	2,251	1,970	1,938	1,299	1,218	1,290	
Number of workers receiving no adjustments (in thousands)	—	—	145	483	1,187	5,568	5,457	4,912	4,575	4,895	4,842	4,656	4,693	4,830	

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

WORK STOPPAGE DATA

WORK STOPPAGES include all known strikes or lockouts involving 1,000 workers or more and lasting a full shift or longer. Data are based largely on newspaper accounts and cover all workers idle one shift or more in establishments directly involved in a stoppage. They do not measure the indirect or secondary effect on other establishments whose employees are idle owing to material or service shortages.

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

38. Work stoppages involving 1,000 workers or more, 1947 to date						
Month and year	Number of stoppages		Workers involved		Days idle	
	Beginning in month or year	In effect during month	Beginning in month or year (in thousands)	In effect during month (in thousands)	Number (in thousands)	Percent of estimated working time
1947	270		1,629		25,720	—
1948	245		1,435		26,127	.22
1949	262		2,537		43,420	.38
1950	424		1,698		30,390	.26
1951	415		1,462		15,070	.12
1952	470		2,746		48,820	.38
1953	437		1,623		18,130	.14
1954	265		1,075		16,630	.13
1955	363		2,055		21,180	.16
1956	287		1,370		26,840	.20
1957	279		887		10,340	.07
1958	332		1,587		17,900	.13
1959	245		1,381		60,850	.43
1960	222		896		13,260	.09
1961	195		1,031		10,140	.07
1962	211		793		11,760	.08
1963	181		512		10,020	.07
1964	246		1,183		16,220	.11
1965	268		999		15,140	.10
1966	321		1,300		16,000	.10
1967	381		2,192		31,320	.18
1968	392		1,855		35,567	.20
1969	412		1,576		29,397	.16
1970	381		2,468		52,761	.29
1971	298		2,516		35,538	.19
1972	250		975		16,764	.09
1973	317		1,400		16,260	.08
1974	424		1,796		31,809	.16
1975	235		965		17,563	.09
1976	231		1,519		23,962	.12
1977	298		1,212		21,258	.10
1978	219		1,006		23,774	.11
1979	235		1,021		20,409	.09
1980	187		795		20,844	.09
1981	145		729		16,908	.07
1982	96		656		9,061	.04
1983	81		909		17,461	.08
1983	January	1	1.6	38.0	794.8	.04
	February	5	14.0	50.4	844.4	.05
	March	5	10.5	54.9	1,131.5	.05
1984 ^p	January	15	27.8	41.9	506.2	.03
	February	2	8.7	37.2	365.5	.02
	March	2	3.0	14.6	284.2	.01

p = preliminary.

r = revised

Published by BLS in March

SALES PUBLICATIONS

BLS Bulletins

Technological Change and Its Labor Impact in Four Industries. Bulletin 2182, 44 pp., \$2 (GPO Stock No. 029-001-02802-4). Appraises some of the major technological changes emerging among four industries: Hosiery; folding paperboard boxes; metal cans; and laundry and cleaning. Also discusses the impact of these changes on productivity and labor over the next 5 to 10 years.

Area Wage Survey Bulletins

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Dayton, Ohio, Metropolitan Area, December 1983. Bulletin 3020-66, 36 pp., \$3.75 (GPO Stock No. 029-001-90261-1).

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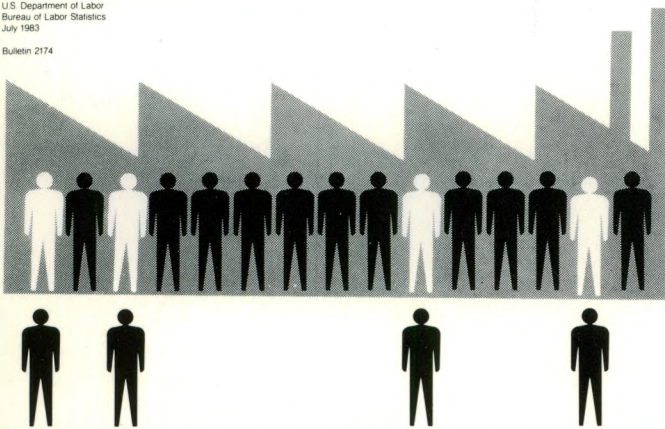
U.S. Department of Labor
Bureau of Labor Statistics
April 1983
Bulletin 2168



Women at Work: A Chartbook—points out that women now account for 43 percent of the labor force, compared with less than 30 percent in 1950. They have obtained jobs in all sectors of the economy but are concentrated in finance, insurance, and real estate; retail trade; health, business, and education services; and State and local government. The chartbook includes information on occupations, earnings, working mothers, women maintaining families, work-life expectancy, and other special topics.

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U.S. Department of Labor
Bureau of Labor Statistics
July 1983
Bulletin 2174



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