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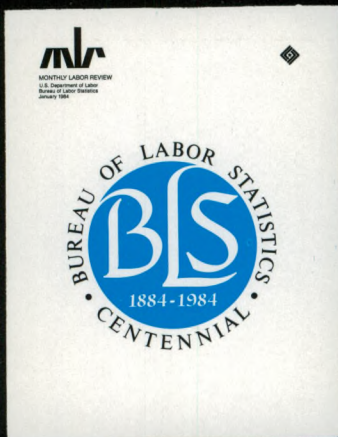
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JANUARY 1984

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# CENTENNIAL



A century ago, in 1884, the Congress of the United States voted to establish a Bureau of Labor—later named the Bureau of Labor Statistics. This innovative act marked government's attempt to establish a permanent and independent agency to "collect information" on the earnings and working conditions of "laboring men and women." However, data-gathering was not a new Federal activity. The government had conducted studies and hearings on economic and social problems earlier, and had taken a decennial census since 1790. But these activities lacked continuity—even the census. After each census was completed, the staff was disbanded until the next decade. The 1890 census was actually completed under the direction of the first BLS commissioner, Carroll Wright. Founded almost 20 years before the Bureau of the Census was established in 1902 as a separate and continuing agency, the Bureau of Labor Statistics was thus a forerunner of a Federal statistical establishment that now includes a number of agencies in departments and commissions throughout government.

The act establishing the BLS was noteworthy in another way. It provided that the commissioner be appointed to a fixed 4-year term, unlike cabinet officers and other political appointees who served at the pleasure of the President. Thus, the BLS was assured of a measure of stability and independence that served its impartial and nonpolitical role during later periods of uncertainty and controversy. The appointment of Wright, who had headed the Massachusetts Bureau of Labor, as the first commissioner established the tradition that the commissioner should be a social scientist, and Wright's leadership made for the early professionalization of the Bureau's work.

A history of the BLS, written by Joseph P. Goldberg and William T. Moye, will be published later this year as part of the Bureau's centennial observance. Other special publications, conferences, and opportunities for Bureau staff and friends to mark the occasion appropriately are also being planned for the centennial year.

This history shows how the Bureau has grown and evolved in response to changing conditions and changes in BLS leadership. It is a social and economic history as well as the history of an institution. The major statistical programs conducted today by the BLS arose from clearly recognizable social needs. For example, during World War I the need to adjust wages in shipyards to rapidly rising prices led to the development of a cost-of-living measure that later became the Consumer Price Index (CPI). Today, the CPI is used not only to adjust wages under collective bargaining agreements, but also to adjust social security payments as well as private agreements ranging from divorce settlements to a variety of commercial transactions. It is hard to think of the economic life of the country being carried out today without a Consumer Price Index.

Similarly, during the depression of the 1930's, perhaps a fourth of the labor force was unemployed—but no one knows precisely what proportion because there were no adequate statistical surveys to gather data on unemployment. The need for better information to inform policymakers and the electorate and to assist in planning government programs led Congress in 1932 to increase the appropriation for BLS so that monthly data on hourly earnings and weekly hours could be collected from business establishments. Studies of industrial employment had been started by BLS in 1915 and had been gradually expanded. Today, payroll data on employment, hours, and earnings are gathered economy-wide under a cooperative Federal-State program covering 200,000 establishments and government. It was the depression, too, that led to the development of a



sophisticated household survey—conducted for BLS by the Census Bureau—that yields monthly data on employment and unemployment.

The spread of collective bargaining during the 1930's and 1940's increased demand for data on wage rates in different areas for different occupations, data on strikes, and data on characteristics of collective bargaining agreements. Programs dealing with productivity measurement, economic growth, and occupational projections, and with occupational safety and health were also responses to expressed needs.

**A** centennial should serve as a period of stock-taking—an opportunity to reflect on what we can learn from history and a time to think about emerging problems and their implications for the next hundred years. I have tried to identify some of the ideas and principles that have guided the BLS over its first century. They have not been codified or collected in any one place, but explicitly or implicitly they are repeatedly confirmed in the history of the BLS. They suggest what the BLS stands for:

\* **A commitment to objectivity and fairness** in all of its data-gathering and interpretive and analytical work. Without this commitment—and public recognition of it—data will lack credibility and will lose its usefulness.

\* **An insistence on candor at all times**—full disclosure of the methods employed in obtaining and analyzing the data, clear explanations of the limitations of the data, and a willingness to admit and correct errors should they occur.

\* **Protection of confidentiality.** BLS assures its respondents that the information they provide will be kept confidential and used only for the purpose of statistical compilations. The willingness of employers to cooperate in BLS surveys is attributable in no small measure to the view that BLS can be trusted to protect its sources and handle the data professionally.

\* **The pursuit of improvement.** Research at the Bureau means not only gathering information that will contribute to an understanding of economic and social trends, but it also means studying how to gather better information more efficiently and present it more effectively. Along with other agencies in and out of government, the Bureau has assiduously worked on problems of statistical methodology in order to improve the quality of information obtained for public purposes.

\* **Willingness to change** Bureau programs to keep them relevant to changing economic and social conditions.

\* Finally, **consistency.** The BLS cannot afford to have good days and bad days. It must maintain the highest standards of performance at all times.

**I**n trying to live up to these ideals, the Bureau has been aided not only by the commitment of its staff but by the support of the Congress and successive secretaries of labor. Business and labor advisory committees have offered valuable counsel. The press, too, has been indispensable in disseminating the results of BLS surveys and special studies, and it has spoken up for the importance and independence of statistical research in government agencies.

President Chester Arthur signed the bill creating the Bureau on June 27, 1884. The first commissioner, Carroll Wright, took office in January 1885. As we enter our centennial year, we are heartened by the record of the Bureau's first 100 years and determined to sustain the Bureau's commitment for a second century.

Janet L. Norwood  
Commissioner of Labor Statistics



# The “underground economy” and BLS statistical data

*Critics have argued that BLS employment, price, and productivity indexes are significantly affected by unreported economic activity: Have they made their case?*

RICHARD J. McDONALD

Over the past several years, a large number of books and articles on an “underground economy,” have appeared.<sup>1</sup> There is no generally agreed-upon definition of the activities that constitute this “irregular economy,” but a common element is the absence of normal business recordkeeping, or—if records are kept—their unaccessibility, concealment, or falsification for tax avoidance or other reasons. Because the existence of an underground economy usually implies the existence of unrecorded economic activity, the idea has evolved that government statistics may be missing a significant portion of economic activity.

If data are deficient because of the existence and growth of an underground economy, then we may have erroneous ideas about economic trends in employment, output, productivity, and inflation. Establishing the *existence* of a subterranean economy, however, does not necessarily prove that government statistics are invalid. To determine whether a particular government statistic is affected also requires careful consideration of the way the data are gathered—the nature of the survey, what is known about responses to the survey, and the relation between economic activities that

may be covered by the survey and those that are not. Our review of the literature on the underground economy has convinced us that many of the critics of government statistics have simply not taken this necessary step. In many cases, they have done little more than form some estimate of the size of the underground economy and then jumped to the conclusion that various pieces of government statistical information must be in error.

Careful consideration of some government surveys that have been attacked in this literature suggests that most of the claims of error reveal misunderstandings of vital aspects of the surveys. In short, the “case” for error in government statistics is not nearly so strong as some critics make it out to be.

This article evaluates statements made about the effect of the underground economy on Bureau of Labor Statistics (BLS) data. It reviews the pertinent literature on the underground economy, and examines critically charges that various BLS data series may be flawed. No new empirical work has been undertaken, and no new data collection has occurred. Further, no attempt has been made to assess the methods by which various writers have estimated the size of underground Gross National Product because this ground has been well covered by others.<sup>2</sup> Finally, the large literature on tax avoidance and the potential loss of government revenues, a major thrust of much of the underground economy literature, is covered only to the extent that it is directly relevant to BLS data measurement.

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Richard J. McDonald is an economist in the Office of Research and Evaluation, Bureau of Labor Statistics. He was assisted in the preparation of this article by Jack E. Triplett, Associate Commissioner of that Office; Paul O. Flaim, Chief of the Division of Data Development and User Services, Office of Employment and Unemployment Statistics; and David Malmquist, formerly an economist in the Office of Productivity and Technology, who is with the Securities and Exchange Commission. Edward Denison and Edgar L. Feige provided helpful comments on an earlier draft.

## Defining the underground economy

As indicated, there is no general agreement as to which activities constitute the underground economy.<sup>3</sup> The narrowest view considers only government revenues lost when individuals or firms engaged in legal pursuits fail to comply with tax laws. A wider perspective includes economic activity ordinarily included in official government statistics but which is excluded because those involved have reasons for false reporting. A still wider perspective includes illegal activities (proscribed drug sales, prostitution, and so on), treating them analogously to legal employments and outputs. The broadest perspective brings traditionally nonmarket activities (such as housework) into the official statistical framework.

The approach taken in this article is pragmatic. Each BLS data series has a concept being measured. We concentrate on examining the extent to which evidence on the underground economy—by any definition—implies that these concepts may be mismeasured. We also look at whether the statistical concepts themselves give a distorted view of the “true” economic situation.

The principal BLS statistical series singled out by critics are the Consumer Price Index, series computed from the Current Population Survey (such as the unemployment rate, labor force participation rates, and employment levels), and the productivity measures. Series derived from the establishment-based survey of employment, hours and earnings, and so on, are mentioned only occasionally by critics, and then most often with respect to their use in compiling the productivity data. The Producer Price Index, wage measures such as the Employment Cost Index, and other data series are not specifically mentioned.

Analysis of how any series might be affected by the existence of a large or growing underground economy is impossible without an understanding of how that series is constructed and what it is intended to measure. Thus the following discussion begins with a definition and brief description of each series, and then turns to an evaluation of critics’ positions.

### Consumer Price Index

The Consumer Price Index (CPI) is a fixed-weight index of the prices of goods and services purchased by a particular population. One index refers to “all urban consumers” and the other is a subset consisting of “urban wage earners and clerical workers.” For both indexes, the expenditure weights currently in use were taken from the 1972–73 Consumer Expenditure Survey (CES). (Weights have been updated at approximately 12–14 year intervals in the past.<sup>4</sup>) This survey was the first to include a diary component along with the traditional quarterly interviews of consumers, in order to capture more accurately small, frequently purchased commodities and services.

Total consumer expenditures are grouped into strata of similar items; from these strata, probability samples of items

to be priced for the index are drawn. Prices are collected in retail outlets drawn from another continuing survey of consumers, the Point of Purchase Survey (POPS).<sup>5</sup> The selection of items for which prices are collected is done by probability sampling within the outlets and the entire process is controlled in such a manner as to minimize biases from quality changes.

There are three places in this process where the presence of an underground economy might influence the index:

1. The expenditure weights might be wrong, either because respondents to the CES deliberately or through forgetfulness misreported certain categories of expenditure (possibly including purchases from the underground economy), or because the composition of consumer expenditures has shifted toward underground purchases and is no longer accurately reflected by the weights.<sup>6</sup> The bias this could create in the index depends on the extent to which expenditures are misreported *and* on the sensitivity of the index to “weighting effects.”

2. The selection of outlets from the POPS may be distorted. A majority of those few retailers excluded from the selection process used for choosing CPI outlets are dropped because their addresses turn out to be erroneous. Additionally, it is sometimes apparent that a retail outlet picked up in the POPS is unlikely to be locatable for repeated pricing (for example, college students painting houses or the person who sells watches on the street). It is then excluded from the outlet sample. These excluded cases may very likely be associated with “underground” transactions.

3. The goods and services that BLS prices in retail outlets may not necessarily be representative of all goods and services which are sold in those outlets (for example, plumbers who work during the day at one price and moonlight at another). Note, however, that BLS does not use the price *levels* in particular retail outlets, but only the price *changes* for comparable items from one month to the next. Only if prices in the underground sector are falling (or rising) relative to normal prices for the same goods and services will this factor make a difference. Thus, for the accuracy of price indexes for individual items generally, it is not the existence of an underground sector that matters, but whether the prices in that sector are moving differently from those in the measured sector. (There is a qualification to this to be discussed later.)

The accuracy of CES weights has been considered in several studies. Independent estimates of consumer expenditures are available from the Personal Consumption Expenditure (PCE) data in the Gross National Product Accounts compiled by the U.S. Department of Commerce. The PCE data are intended to represent the market value of goods and services purchased by private individuals and nonprofit institutions in the United States. The estimation procedure for the national accounts is considerably more roundabout than that used in the CES. Roughly, production and sales values from economic censuses and other sources, and various estimates



of values of services are traced through the economy using input-output analysis, with cost and profit margins added at each stage.<sup>7</sup>

In principle, the expenditures measured by the CES should be exhaustive, containing everything measured in the PCE plus that part of the underground economy missed by the Bureau of Economic Analysis. However, for those components of expenditure gathered in the interview component of the expenditure survey, recall is a problem, and those expenditures made in small amounts (for example, food and drink, personal care) tend to be underreported, even in the survey's diary component.

Robert Pearl compared the 1972-73 CES results with revised detailed PCE estimates for 1972.<sup>8</sup> He stresses that a number of incomparabilities and conceptual disparities exist between the two bodies of data, and that the PCE estimates are "subject to various errors and biases and considerable caution must be exercised in interpreting the results." Pearl found that, on average, expenditures estimated by the CES were 85-90 percent of the same categories of expenditures estimated by the PCE, with some categories far below that. (See table 1.) Two categories where the effects of the underground economy might most likely turn up—household

services and home repairs and alterations—were both 4 percent greater in the CES than in the PCE estimates.

In view of the potential errors in both sets of estimates, it is not clear that the PCE is a reliable standard by which to measure the CES. It is even more unclear whether the differences reflect underground activity. Judging statistical significance of differences between the CES and PCE data is handicapped by PCE variance estimates not being available. However, 21 of 47 of the ratios in Table 1 indicate CES-PCE differences of 10 percent or less. There also remain small unreconcilable discrepancies between the definitions of categories in the two surveys.

Data from the diary component of the continuing CES has just been released by BLS. Comparisons with the 1972-73 CES data and with current PCE data may shed additional light on this issue. Many of the more interesting categories of expenditure for this inquiry, however, are only included in the interview component of the continuing CES, which will not be available until late this year.

Even if there are errors of moderate size in the expenditure estimates, past research on "weighting effects" indicates that it takes very large, disproportionate misreporting by categories to have an appreciable effect on the measurement

**Table 1. Ratio of consumer expenditures in the 1972-73 Consumer Expenditure Survey to those in the 1972 Personal Consumption Expenditures estimates**

Category	Ratio	Category	Ratio
Food purchases for home use	.85	Other larger items (floor coverings, drapes, slipcovers, etc.)	.81
Meat or poultry	1.02	Household linens (sheets, tablecloths, towels, etc.)	.77
Eggs	.95	Smaller items (dinnerware, cookware, luggage, decorative items, hand tools, etc.)	.59
Fresh milk	.92	Automobile and other vehicle expenses	
Bread and other fresh baked items	.88	Vehicle purchase	1.01
Food staples (flour, sugar, shortening, canned milk, etc.)	.59	Gasoline and oil	.98
Fruits—fresh or processed	.86	Tires and accessories	.75
Vegetables—fresh or processed	.74	Vehicle repairs and maintenance	.91
Purchased meals or snacks	1.07	Vehicle insurance	.93
Alcoholic beverages	.36	Housing expenses	
Small nonfood expenditures		Rent	1.06
Products		Mortgage payments and taxes	1.02
Items purchased mainly by homemaker (laundry and cleaning products, paper goods, etc.)	.82	Home repairs and alterations	1.04
Items likely to be purchased by various members (toiletries, film, reading material, etc.)	.55	Utility costs (electricity, gas, water, telephone, etc.)	1.01
Services		Fuel costs (fuel oil, bottled gas, coal, etc.)	.76
Mainly responsibility of homemaker (laundry services, household help, etc.)	1.04	Health expenditures	
Dispersed responsibility (hair care, shoe and watch repairs, sporting events, etc.)	.54	Hospital services	.76
Clothing expenditures	.73	Physician, dental, and other professional services	.98
Larger items (coats, suits, etc.)	1.01	Drugs and medicines	.96
Medium and smaller articles (dresses, shirts, underwear, hosiery, etc.)	.66	Medical supplies and appliances	.72
Accessories (ties, handbags, gloves, etc.)	.72	Health insurance premiums	1.10
Footwear	.77	Other expenditures	
Household appliances		Education tuition and fees	.82
Major appliances (refrigerators, washers, television, etc.)	.96	Trips and vacations	1.02
Minor appliances (toasters, hair dryers, radios, etc.)	.75	Public transportation	.53
Household furnishings		Miscellaneous	
Furniture	.91	Large items (pianos, organs, funeral costs)	.96
		Moderate items (musical instruments, sporting equipment, appliance repairs)	.81
		Watches and jewelry	.48
		Moving and storage costs	.51

SOURCE: *Reevaluation of the 1972-73 Consumer Expenditure Survey: A Further Examination Based on Revised Estimates of Personal Consumer Expenditures*.

Technical Paper No. 46 (U.S. Department of Commerce, Bureau of the Census, 1979), pp. 7-8.

of the rate of inflation. Several researchers, among whom are Robert Michael and Robert Hagemann, have calculated CPI-type indexes for a wide variety of different expenditure weights. While some differences in levels show up over a period of time, they are small relative to the overall rate of inflation. In reconciling differences between the CPI and the PCE Deflator (the index used by BEA to deflate the PCE), Jack E. Triplett compares current- and base-weighted indexes and also finds that alternative weighting patterns cause very small differences in measured rates of inflation (less than two-tenths of a percentage point). Steven Braithwait compared a fixed-weight index with an estimated cost-of-living index in which weights implicitly shift with changing expenditure patterns and found very small deviations from this source for the aggregate index.

These studies do not mean that weighting never matters in a price index measurement. It does. The studies indicate that measured price movements are relatively insensitive to *actual* patterns of weights that are drawn from a variety of expenditure data sources, and that reflect weight differences that actually occur between groups of consumers and in different periods. Accordingly, the probability that weighting errors from under-reporting will appreciably affect price indexes is very low.

The potential for systematic bias in the Point-of-Purchase Survey is difficult to assess. As mentioned earlier, some of the retail outlets provided by respondents in the POPS can not be traced when an attempt is made to locate them for price collection. It is impossible to determine, however, whether this is because they are part of the underground economy, the normal fluidity of the regular economy, or simply, erroneous reporting of addresses by respondents.

We are aware of little direct evidence on the price levels in the underground economy, much less on the rate of change relative to regular economy prices. Edgar Feige and Jeffrey Nichols infer that prices are 20–40 percent lower underground.<sup>9</sup> Feige reasons that most underground transactions go untaxed, and current marginal tax rates are roughly in the 20–40 percent range for relevant underground suppliers. Consequently, he feels that sellers would be willing to pass along about that much advantage to buyers. To reach this conclusion, Nichols relies on his own informal survey of purchases of commodities such as fruits and vegetables, denim jeans, small appliances, plumber's and electrician's services, and so on, in New York City.

Carl Simon and Ann Witte claim that lower prices in the underground economy have caused us to overstate inflation.<sup>10</sup> Their only analysis of price measurement, however, is with respect to the fencing of stolen goods.<sup>11</sup> They claim that "price discounts are substantial with retail and wholesale buyers receiving discounts as high as 80 percent of the legitimate price." However, they present no evidence on differences in *rates of change* in prices in the underground and regular economies.

Peter Gutmann, on the other hand, agrees that price levels

might be lower in the underground economy, but disagrees on the net effect of that economy on the CPI. He thinks that prices are rising faster underground than in the regular economy<sup>12</sup> because the underground economy is concentrated in those sectors of the economy—retailing services and construction—where productivity growth has been least. He also claims that if all underground transactions were suddenly included in the CPI—he is implicitly assuming that they are all excluded now—there would be a once and for all *drop* in the index, and then the index would rise at a faster rate than otherwise, because of the difference in rates of change. Like the others, Gutmann offers no firm evidence on the difference in price levels. Feige disagrees with Gutmann's reasoning;<sup>13</sup> he points out that it is based on measured productivity growth, which he thinks is biased by the growth in the underground economy.

Although they disagree on the direction of the effect on measured inflation, both Feige and Gutmann conclude that its quantitative impact is small.<sup>14</sup>

The *other* possibility—that price *levels* are lower in the underground, and that a growing share of consumer expenditures are taking place there—has been advanced by Feige, Gutmann, Nichols, and Simon and Witte. The first point is if the weights are wrong but stay the same year to year, the error in the price index will be small. Only if the share of expenditure in the underground economy grows *steadily larger* will it have a continuing effect on the CPI.<sup>15</sup> Even if this is the case, it makes a great deal of difference how it is happening. If consumers are shifting between the fixed-weight expenditure categories (there are 265 of them) then there is a possible weighting effect, since these weights are held constant. In this case, the preceding discussion of weighting effects in price indexes applies. And studies have invariably shown small effects. But if the shift is taking place *within* expenditure categories (that is, from "above-ground" to "underground" plumbing repair), then the effect is much less clear. The continuing POPS allows us to gather prices from the retail outlets from which consumers are currently purchasing, and the retail outlets actually priced for the index continually change to reflect shifting consumer patronage of retail establishments. The most transient of these outlets are likely to be excluded from the price collection process.

We conclude that the way the CPI is designed means that much of the evidence on prices in the underground economy has no clear implications for the measured rate of inflation.

## Unemployment rate and other CPS data

Feige, Gutmann, and Simon and Witte have all argued that the unemployment rate, as measured, is too high—Gutmann suggests by 1½ to 2 percentage points—and employment measures too low because of the existence of a large underground economy. Others, notably Louise Berndt, Barry Molefsky, and Peter Reuter, have expressed skepti-



cism about these claims. Before examining the arguments presented by the various writers, we will sketch the process by which the unemployment rate and other labor estimates are constructed.

*Survey description.* The monthly Current Population Survey (CPS) of the U.S. Bureau of the Census uses a stratified probability sample of living quarters representative of the civilian noninstitutional population of the United States. About 60,000 households are interviewed each month. Each housing unit remains in the sample for 16 calendar months, but is sampled for eight (in a four months in, eight out, four in rotation). The regeneration of the sampling frame is staggered so that an eighth of the sample, called a rotation group, is replaced every month. The first interview for each household is carried out in person when possible, while a greater proportion of later interviews are by telephone. The respondent in the household is asked questions about all members of the household.

Among other questions (concerning age, education, marital and veterans status, and so forth), the respondent is asked a series of questions concerning the major activities of each person in the household who was 16 years of age or older during the previous week. (See exhibit 1, a facsimile of this portion of the CPS questionnaire.) The respondent's answers are used to place the individuals in one of three mutually exclusive and exhaustive categories: employed, unemployed, or out of the labor force. The respondents are not asked directly to place the respective household members in these categories, however. Rather, specific questions are asked about labor force activities during recent weeks and the reasons for them.

The first relevant question for labor force status (number 19) asks what the household member was doing *most* of last week. The many parts of the next question uncover, among other things, if the household member worked *at all* last week (excluding housework). Question 21 inquires about temporary absences from work and the reasons for them (layoff, illness, vacation, and so forth). Question 22 concerns job search. First it is determined whether household members who had not worked at all the previous week and were not temporarily absent from work (including layoff) had looked for work in the past 4 weeks. The type of search activity engaged in (if any) is then determined, and then the line of questioning goes into other related matters, including (for those in the outgoing rotation group) earnings.

The answers to these questions determine each eligible household member's labor force status: people are counted as *employed* if during the past week they worked at least 1 hour as paid employees or in their own business, profession or farm, or for at least 15 hours as unpaid workers in a family-operated enterprise, or if they had jobs or businesses from which they were temporarily absent because of illness, bad weather, vacation, labor-management dispute, or various personal reasons. Each employed person is counted

only once, no matter how many jobs they might have worked at during the week. Individuals are classified as *unemployed* only if they meet *all* the following conditions: they did not work at all during the survey week, and were looking for work (had made specific efforts to find work within the preceding 4-week period) or were on layoff, and were available for work during the reference period (except for temporary illness). All civilians 16 years of age and older who are not classified as employed or unemployed are defined as being *not in the labor force*.

This concept of employment is all-embracing, and, at least in theory, would arguably cover most of the activities that are generally associated with the underground economy. There are no questions in the CPS about the legality or propriety of one's work, and it is not known to what extent illegal or quasi-illegal activities are reported. Interviewers report that some activities generally considered illegal (prostitution, for example) are occasionally reported to them, but there are obvious reasons to suspect that such activities are not well reported. Some persons engaged in illegal activities may report themselves as engaged in an entirely different and legal type of work.

It is, of course, also possible that some legal activities may go unreported because of apprehension that disclosure may lead to a loss of some benefits—such as unemployment insurance, food stamps, welfare payments, social security benefits—or to an increase in tax liabilities. Kenneth W. Clarkson and Roger E. Meiners speculated that unemployment was overstated in the CPS because respondents who should have been classified "out of the labor force" were fearful that they would lose benefits unless they indicated they were looking for work.<sup>16</sup> This possibility was not supported by CPS evidence.<sup>17</sup> While all respondents in the CPS are assured that the information they provide will be used only for statistical purposes, we know from having observed the interviewing process that some respondents are still not convinced.

*Recent trends.* While there is still relatively little respondent resistance to CPS questions on employment activities, the refusal rate—the proportion of households which refuse to participate in the survey—has edged upward from 0.8 percent in 1960, to 1.6 percent in 1970, and to 2.5 percent in 1982.<sup>18</sup> This might be symptomatic of growing reluctance by part of the population to report their labor force activity. In fact, some writers on the underground economy have speculated that the well-documented decline in labor force participation among adult men might reflect concealment of some employment activities.<sup>19</sup> Over the past two decades, the rates for men 25 to 54 have behaved as follows:

	1960	1970	1980	Change (1960–80)
Men 25–34 .....	97.5	96.4	95.3	–2.2
Men 35–44 .....	97.7	96.9	95.5	–2.2
Men 45–54 .....	95.7	94.2	91.2	–4.5

# Exhibit 1. Extract from Current Population Survey Interviewer Schedule

<p>18. LINE NUMBER</p> <p>19. What was ... doing most of LAST WEEK —</p> <ul style="list-style-type: none"> <li>Working <input checked="" type="checkbox"/></li> <li>Keeping house <input type="checkbox"/></li> <li>Going to school or something else <input type="checkbox"/></li> <li>Working (Skip to 20A) ... WK <input type="checkbox"/></li> <li>With a job but not at work ... J <input type="checkbox"/></li> <li>Looking for work ... LK <input type="checkbox"/></li> <li>Keeping house ... H <input type="checkbox"/></li> <li>Going to school ... S <input type="checkbox"/></li> <li>Unable to work (Skip to 24) ... U <input type="checkbox"/></li> <li>Retired ... R <input type="checkbox"/></li> <li>Other (Specify) ... OT <input type="checkbox"/></li> </ul>	<p>20. Did ... do any work at all LAST WEEK, not counting work around the house? (Note: If farm or business operator in hh., ask about unpaid work.)</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> (Go to 21)</p> <p>20A. How many hours did ... work LAST WEEK at all jobs? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9</p> <p>20B. INTERVIEWER CHECK ITEM</p> <p>49 <input type="checkbox"/> (Skip to item 23)</p> <p>1-34 <input type="checkbox"/> (Go to 20C)</p> <p>35-48 <input type="checkbox"/> (Go to 20D)</p> <p>20D. Did ... lose any time or take any time off LAST WEEK for any reason such as illness, holiday or slack work?</p> <p>Yes <input type="checkbox"/> How many hours did ... take off? <input type="checkbox"/></p> <p>(Correct 20A if lost time not already deducted; if 20A reduced below 35, correct 20B and fill 20C; otherwise, skip to 23.)</p> <p>No <input type="checkbox"/> (Skip to 23)</p> <p>20E. Did ... work any overtime or at more than one job LAST WEEK?</p> <p>Yes <input type="checkbox"/> How many extra hours did ... work? <input type="checkbox"/></p> <p>(Correct 20A and 20B as necessary if extra hours not already included and skip to 23.)</p> <p>No <input type="checkbox"/> (Skip to 23)</p>	<p>21. (If 1 in 19, skip to 21A.) Did ... have a job or business from which he/she was temporarily absent or on layoff LAST WEEK?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> (Go to 22)</p> <p>21A. Why was ... absent from work LAST WEEK?</p> <ul style="list-style-type: none"> <li>Own illness ... <input type="checkbox"/></li> <li>On vacation ... <input type="checkbox"/></li> <li>Bad weather ... <input type="checkbox"/></li> <li>Labor dispute ... <input type="checkbox"/></li> <li>New job to begin within 30 days <input type="checkbox"/> (Skip to 22B and 22C)</li> <li>Temporary layoff (Under 30 days) <input type="checkbox"/></li> <li>Indefinite layoff (30 days or more or no def. recall date) <input type="checkbox"/> (Skip to 22C)</li> <li>Other (Specify) ... <input type="checkbox"/></li> </ul> <p>21B. Is ... getting wages or salary for any of the time off LAST WEEK?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/></p> <p>Self-employed <input type="checkbox"/></p> <p>21C. Does ... usually work 35 hours or more a week at this job?</p> <p>Yes <input type="checkbox"/></p> <p>No <input type="checkbox"/> (Skip to 23 and enter job held last week)</p>	<p>22. (If LK in 19, skip to 22A.) Has ... been looking for work during the past 4 weeks?</p> <p>Yes <input type="checkbox"/> No <input type="checkbox"/> (Go to 24)</p> <p>22A. What has ... been doing in the last 4 weeks to find work? (Mark all methods used; do not read list.)</p> <p>Checked with —</p> <ul style="list-style-type: none"> <li>pub. employ. agency <input type="checkbox"/></li> <li>pvt. employ. agency <input type="checkbox"/></li> <li>employer directly ... <input type="checkbox"/></li> <li>friends or relatives ... <input type="checkbox"/></li> <li>Placed or answered ads ... <input type="checkbox"/></li> <li>Nothing (Skip to 24) <input type="checkbox"/></li> <li>Other (Specify in notes, e.g., CETA, union or prof. register, etc.) ... <input type="checkbox"/></li> </ul> <p>22B. Why did ... start looking for work? Was it because ... lost or quit a job at that time (pause) or was there some other reason?</p> <ul style="list-style-type: none"> <li>Lost job ... <input type="checkbox"/></li> <li>Quit job ... <input type="checkbox"/></li> <li>Left school ... <input type="checkbox"/></li> <li>Wanted temporary work <input type="checkbox"/></li> <li>Other (Specify in notes) <input type="checkbox"/></li> </ul> <p>22C. 1) How many weeks has ... been looking for work? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9</p> <p>2) How many weeks ago did ... start looking for work? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9</p> <p>3) How many weeks ago was ... laid off? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9</p> <p>22D. Has ... been looking for full-time or part-time work?</p> <p>Full <input type="checkbox"/> Part <input type="checkbox"/></p> <p>22E. Is there any reason why ... could not take a job LAST WEEK?</p> <p>Yes <input type="checkbox"/> Already has a job ... <input type="checkbox"/></p> <p>Temporary illness ... <input type="checkbox"/></p> <p>Going to school ... <input type="checkbox"/></p> <p>No <input type="checkbox"/> Other (Specify in notes) <input type="checkbox"/></p> <p>22F. When did ... last work at a full-time job or business lasting 2 consecutive weeks or more? Within last 12 months (Specify) ... <input type="checkbox"/> (Month) <input type="checkbox"/></p> <p>One to five years ago ... <input type="checkbox"/></p> <p>More than 5 years ago ... <input type="checkbox"/></p> <p>Never worked full-time 2 wks. or more ... <input type="checkbox"/></p> <p>Never worked at all ... <input type="checkbox"/> (SKIP to 23. If layoff entered in 21A, enter job, either full or part time, from which laid off. Else enter last full time job lasting 2 weeks or more, or "never worked.")</p>	<p>24. INTERVIEWER CHECK ITEM (Rotation number)</p> <p>First digit of SEGMENT number is:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1, 3, 4, 5, 7 or 8 (Skip to 26)</li> <li><input type="checkbox"/> 2 or 6 (Go to 24A)</li> </ul> <p>24A. When did ... last work for pay at a regular job or business, either full- or part-time?</p> <ul style="list-style-type: none"> <li>Within past 12 months <input type="checkbox"/></li> <li>1 up to 2 years ago ... <input type="checkbox"/> (Go to 24B)</li> <li>2 up to 3 years ago ... <input type="checkbox"/></li> <li>3 up to 4 years ago ... <input type="checkbox"/></li> <li>4 up to 5 years ago ... <input type="checkbox"/></li> <li>5 or more years ago ... <input type="checkbox"/> (Skip to 24C)</li> <li>Never worked ... <input type="checkbox"/></li> </ul> <p>24B. Why did ... leave that job?</p> <ul style="list-style-type: none"> <li>Personal, family (Incl. pregnancy) or school ... <input type="checkbox"/></li> <li>Health ... <input type="checkbox"/></li> <li>Retirement or old age ... <input type="checkbox"/></li> <li>Seasonal job completed ... <input type="checkbox"/></li> <li>Slack work or business conditions <input type="checkbox"/></li> <li>Temporary nonseasonal job completed ... <input type="checkbox"/></li> <li>Unsatisfactory work arrangements (Hours, pay, etc.) <input type="checkbox"/></li> <li>Other ... <input type="checkbox"/></li> </ul> <p>24C. Does ... want a regular job now, either full- or part-time?</p> <p>Yes ... <input type="checkbox"/> (Go to 24D)</p> <p>Maybe — it depends ... <input type="checkbox"/> (Specify in notes)</p> <p>No ... <input type="checkbox"/> (Skip to 24E)</p> <p>Don't know ... <input type="checkbox"/> (Ask 25D)</p> <p>24D. What are the reasons ... is not looking for work? (Mark each reason mentioned)</p> <ul style="list-style-type: none"> <li>Believes no work available in line of work or area <input type="checkbox"/></li> <li>Couldn't find any work ... <input type="checkbox"/></li> <li>Lacks nec. schooling, training, skills or experience ... <input type="checkbox"/></li> <li>Employers think too young or too old ... <input type="checkbox"/></li> <li>Other pers. handicap in finding job <input type="checkbox"/></li> <li>Can't arrange child care ... <input type="checkbox"/></li> <li>Family responsibilities ... <input type="checkbox"/></li> <li>In school or other training ... <input type="checkbox"/></li> <li>Ill health, physical disability ... <input type="checkbox"/></li> <li>Other (Specify in notes) ... <input type="checkbox"/></li> <li>Don't know ... <input type="checkbox"/></li> </ul> <p>24E. Does ... intend to look for work of any kind in the next 12 months?</p> <p>Yes ... <input type="checkbox"/></p> <p>It depends (Specify in notes) <input type="checkbox"/></p> <p>No ... <input type="checkbox"/></p> <p>Don't know ... <input type="checkbox"/> (If entry in 24B, describe job in 23. otherwise, skip to 26)</p>	<p>25. INTERVIEWER CHECK ITEM (Rotation number)</p> <p>First digit of SEGMENT number is:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 1, 3, 4, 5, 7 or 8 (Skip to 26)</li> <li><input type="checkbox"/> 2 or 6 (Go to 25A)</li> </ul> <p>25A. How many hours per week does ... USUALLY work at this job? <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9</p> <p>25B. Is ... paid by the hour on this job?</p> <p>Yes <input type="checkbox"/> (Go to 25C)</p> <p>No <input type="checkbox"/> (Skip to 25D)</p> <p>25C. How much does ... earn per hour? Dollars <input type="checkbox"/> Cents <input type="checkbox"/></p> <p>\$ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>25D. How much does ... USUALLY earn per week at this job BEFORE deductions? Include any overtime pay, commissions, or tips usually received.</p> <p>\$ <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p> <p>25E. On this job, is ... a member of a labor union or of an employee association similar to a union?</p> <p>Yes <input type="checkbox"/> (Skip to 26)</p> <p>No <input type="checkbox"/> (Ask 25F)</p> <p>25F. On this job, is ... covered by a union or employee association contract?</p> <p>Yes <input type="checkbox"/> (Go to 26)</p> <p>No <input type="checkbox"/></p>
<p>23. DESCRIPTION OF JOB OR BUSINESS</p> <p>23A. For whom did ... work? (Name of company, business, organization or other employer.)</p> <p>23B. What kind of business or industry is this? (For example: TV and radio mfg., retail shoe store, State Labor Dept., farm.)</p> <p>23C. What kind of work was ... doing? (For example: electrical engineer, stock clerk, typist, farmer.)</p> <p>23D. What were ...'s most important activities or duties at this job? (For example: types, keeps account books, files, sells cars, operates printing press, finishes concrete.)</p>		<p>23E. Was this person an employee of PRIVATE Co., bus., or individual for wages, salary or comm. ... P <input type="checkbox"/></p> <ul style="list-style-type: none"> <li>A FEDERAL government employee ... F <input type="checkbox"/> (Go to 23F)</li> <li>A STATE government employee ... S <input type="checkbox"/></li> <li>A LOCAL government employee ... L <input type="checkbox"/></li> </ul> <p>Self-empl. in OWN bus., prof. practice, or farm</p> <p>Is the business incorporated? Yes ... <input type="checkbox"/> No ... SE <input type="checkbox"/> (Skip to 26)</p> <p>Working WITHOUT PAY in fam. bus. or farm ... WP <input type="checkbox"/></p> <p>NEVER WORKED ... NEV <input type="checkbox"/></p>		<p>23F. INTERVIEWER CHECK ITEM</p> <p>Entry (or NA) in item 20A <input type="checkbox"/> (Go to 25 at top of Page)</p> <p>Entry (or NA) in item 21B <input type="checkbox"/></p> <p>All other cases <input type="checkbox"/> (Skip to 26)</p>	



Labor force participation for black men 20 years of age and over has dropped from about 85 percent in 1960 to about 75 percent in 1980. On the other hand, it should be noted that there has *not* been an intensification of many of these trends in recent years. The refusal rate in the CPS has been at its current level since about 1976, and the participation rates for men 25 to 54, after falling for decades, have also been relatively stable since the mid-1970's.

John Cogan has examined the declining employment-to-population ratio for black teenagers. He attributes much of the decline from 1950 to 1970 to the drying up of opportunities for low-skilled agricultural labor, and not to the increasing concentration of black teenagers in central cities.<sup>20</sup>

The following tabulation, which Cogan developed from Censuses of Population, compares the changes in the black teenagers' employment ratios from 1950 to 1970 for total and agricultural employment, both for the United States and for four regions.<sup>21</sup>

	Total	Agricultural
United States .....	-19.6	-20.2
Northeast .....	2.6	-.8
Northcentral .....	-.3	-1.0
South .....	-27.0	-26.4
West .....	1.3	-6.7

Cogan admits, however, that this explanation does not hold for the 1970's when black teenage employment-to-population ratios continued to decline, while the corresponding rates for white teenagers went up. He concludes that this puzzle remains unresolved.

Various recent studies have explained participation rate declines by pointing to the greater ease with which workers can now qualify for disability benefits,<sup>22</sup> increased schooling and training, and earlier retirement. The possibility, however, that part of these declines may be associated with the nonreporting of underground economic activity cannot entirely be discounted. Simon and Witte address this issue. They assert: "Our research leads us to believe that minority teenage unemployment is particularly overstated, since relatively large numbers of young minority group members find employment in the underground economy."<sup>23</sup> Nowhere in their book, however, do they present evidence that these teenagers show up as *unemployed* in the CPS.

Only if underground economic activity is the primary job would it possibly affect data in the household survey. That is, if the alleged increase in underground economic activity is in the form of secondary jobs, the fact that it may go unreported would have no impact on the basic measurements of employment—and of unemployment—so long as the first or principal job is reported correctly. The only statistical bias that would result would be an underestimation of hours worked, or total labor input. But establishment-based data are used to measure labor input for many purposes.

There is as yet relatively little respondent resistance to CPS questions concerning employment. There is clearly,

however, more reluctance to answering questions concerning earnings, even when these relate only to one's principal job. For example, failures to respond to questions on usual weekly earnings, now asked monthly of one-fourth of the CPS sample, have been running in the 16–20 percent range. In such cases, earnings are imputed by assuming that nonrespondents earn as much as persons of the same characteristics who reported their earnings. (Experimentally, this method has proven to work well in predicting the earnings of workers whose earnings were known, but questions have recently been raised as to whether the method performs as well in predicting the earnings of nonrespondents.<sup>24</sup>) For the workers whose earnings are reported, a special test made in 1977 indicated an average underreporting of 3 to 5 percent relative to payroll records for the same workers.<sup>25</sup> These more sophisticated response problems in the CPS have not, so far as we can tell, motivated the underground economy researchers, and provide little or no support for the particular hypotheses they have advanced.

**Benchmarking.** An analysis of the structure of responses to the CPS can provide insight into labor force statistics expressed in the form of rates, such as the unemployment rate or labor force participation rates. But to examine the *levels* of employment, unemployment, and so on, the practice of "benchmarking" must be considered; that is, the responses from the survey are not used to estimate labor force levels. Instead they are adjusted to independent population estimates using Decennial Census of Population figures and inter-censal projections. If these "benchmarks" are in error, the level estimates will be correspondingly affected.

During the 1970's, the inter-censal projections did not perform as well as in the past. By April 1980, the month the decennial Census was conducted, these projections turned out to be much lower than the actual population counts obtained in the Census. In preliminary reports on the average problem in the Census itself, the Bureau of the Census concludes that reasonably reliable estimates of the undercount can now be made only for the black population, and for this group the estimates are in the 5–6 percent range.<sup>26</sup> For the rest of the population, the undercount question is clouded by the difficulty of obtaining good data on the number of illegal immigrants. It is very difficult to relate Census coverage and illegal immigration issues to the question of the underground economy.

**Critics.** Many writers have claimed that the existence of the underground economy causes the measured unemployment rate to be too high. Few, however, seem to have considered how the unemployment rate is measured and fewer still, how respondents answer particular questions. We have seen, for example, that respondents are *never* asked to directly categorize household members as unemployed. In addition, some writers appear unaware of the distinction

between the *official* unemployment rate calculated from the Current Population Survey, and the unemployment rate that can be computed using the Unemployment Insurance system data. CPS definitions of the unemployed are different from insured definitions (benefit claimants).

Feige has stated, “. . . unemployment statistics are almost certain to overestimate the true situation,” but gives no reason for this statement except to include it in a list of “unavoidable implications” of his estimates of the size of the underground economy.<sup>27</sup> As we have noted, the implications of any presumed level or type of underground activity must be considered within the context of the way the CPS measures unemployment. In this early paper, Feige mentions the CPS only in reference to the high nonresponse rate on earnings questions. But as we have stated, earnings questions are only asked *after* the questions about labor force status, which have unremarkable nonresponse rates.

In a later paper<sup>28</sup>, Feige elaborates on his earlier claim. His reasoning concerns the illegal acquisition of unemployment benefits:

Measured unemployment rates are also expected to be temporarily increased by shifts of resources into the unobserved sector. Workers finding employment opportunities in the unobserved sector are likely to leave, lose, or not report their former jobs and at least temporarily enjoy the benefits of unemployment insurance.<sup>29</sup>

This quotation seems to link responses on the CPS to claims for unemployment benefits. He gives no indication in either paper of how particular non-response patterns might affect the official unemployment rate measured by BLS.

Simon and Witte also conclude that unemployment is mismeasured (along with other official economic statistics): “Because the prices are often lower and employment is high in the underground economy, we have overestimated official inflation and unemployment.”<sup>30</sup> Their analysis is based on detailed case studies of various sectors of the underground economy, rather than on indirect inferences from financial data, but they fail to document their claims about the unemployment rate. On illegal gambling they say “As mentioned earlier, illegal gambling organizations can benefit society by providing employment for tens of thousands of individuals who are officially listed as being unemployed.”<sup>31</sup> They cite Lawrence Kaplan’s and J. Maher’s estimate that 10,000–100,000 New York City residents are employed in the “numbers” business.<sup>32</sup> On loansharking they say “The loan shark industry also provides employment opportunities for a large number of people—many of whom may be listed as ‘unemployed’ on official employment records.”<sup>33</sup> Leaving aside the questionable assumption (in each instance) that those employed in illegitimate activities have not been diverted from other productive pursuits, nowhere do they present evidence that many of those so employed are miscounted as unemployed by CPS interviewers, nor do they discuss CPS procedures in making their estimates. They fail to distinguish between unemployment as measured by

the CPS and the receipt of illegal UI benefits. Their only comments on the CPS accuracy occur in their concluding chapter: “. . . given current laws, we will probably be unsuccessful in encouraging the drug sellers, thieves, pimps, prostitutes, fences, etc. of this sector to report their employment status accurately to the interviewers of the Current Population Survey.”<sup>34</sup> Again, nowhere in their book do they discuss the incentives those illegally employed might have to try and get themselves classified in the CPS as unemployed, as opposed to concocting a cover story for the benefit of probers into their private affairs (or simply refusing to participate in the survey). (These comments also apply to the remarks earlier on black teenage unemployment.)

Gutmann claimed that the actual unemployment rate for April 1978 was not 5.8 percent as announced by BLS, but 4.3 percent or 1.5 percentage points lower.<sup>35</sup> His calculations reveal, however, that he attributed only one-third of this difference to the underground economy. The other two-thirds were arrived at by using a differential weighting for part-time workers and by making further assumptions about the amount of unemployment attributable to liberal welfare policies.

In making the underground-economy adjustments, Gutmann adds 2.16 million persons to the denominator (civilian labor force) and subtracts 310,000 from the numerator (unemployment level). His reasoning is that during 1961–1977, there was a 2-percent point decline in labor force participation among prime-age males, most of whom, *in his opinion*, simply “went off the books.” To estimate the total number of persons in this category, Gutmann states, “we apply the two percent drop in labor force participation to the total labor force of 98.87 million, obtaining 1.98 million who work on a full or part-time basis exclusively in the subterranean sector, while they are officially not in the labor force.”<sup>36</sup>

But Gutmann applies the 2-percent adjustment to the *entire* labor force, including groups—such as young women—whose labor force participation rates had actually *risen* dramatically over the period. Thus Gutmann implies that the actual growth in women’s participation rates was even faster than measured by BLS. How this can be rationalized, he does not say.

In his next step, Gutmann subtracts from the unemployment level and adds to the labor force his estimate of the number of persons receiving unemployment insurance while “working off the books.” Making his own adjustment to some data from the Unemployment Insurance Service on the number of claimants found to be working in 1977, he pegs their number at 350,000, or approximately 13 percent of the 1977 insured unemployment level. Then adjusting for full-time/part-time status, he reduces their number to 310,000.

Gutmann makes a clear conceptual error when he subtracts these persons from the unemployment level, and adds



them to the labor force. Since the labor force is the sum of the employed and the unemployed, these 310,000 were already a part of it and should not be added again. So the Gutmann methodology clearly would be faulty even if all of his assumptions were correct. He is also assuming that all individuals collecting illegal UI benefits would be counted as unemployed in the CPS.

Gutmann has strong views about how individuals collecting benefits would respond to the CPS:

The government naively takes for granted that the questions are answered with the gospel truth. But there is a great deal of incentive to do otherwise. Put bluntly, plenty of respondents lie; they lie consistently, and they lie with good reason. Will someone collecting unemployment insurance—but also working “off the books,” paid in cash in the subterranean economy—tell the Census interviewer that he is, in fact employed? Of course not. He knows that what he is doing is illegal. Will someone collecting welfare benefits, who has been required to register for employment as a condition for receiving such benefits, tell the Census interviewer that he is, in fact, not looking for work? Of course not! He knows that he is supposed to be tossed out of the program if he fails to look for work.

But these groups would be only a small part of his underground economy total. Even if those collecting benefits were to respond this way, their benefits would run out eventually, and the incentive to lie would disappear.

Louise Berndt, on the other hand, has argued that because of the questions actually asked in the CPS, the employment numbers probably include individuals engaged in underground work:

Theoretically the CPS estimates of employment should classify irregular workers as employed. No questions are asked regarding unemployment insurance payment, AFDC, social security, disability or any income received other than through the job. Unless we assume a substantially greater degree of caution with respect to reporting irregular work than our own research leads us to expect, we can assume that many, if not most, irregular workers are counted as employed by the CPS.<sup>38</sup>

Barry Molefsky argues that “Berndt’s thesis may be supported by the sharp rise in the number of self-employed workers.”<sup>39</sup> His findings are based on CPS employment data. In discussing professional workers who fail to report earnings for income tax purposes, Molefsky says:

These individuals are obviously part of the underground economy. But many of them are also established businessmen and if asked about their employment status would probably indicate that they were self-employed. Those who are collecting benefits under various Government programs and who have underground jobs might be reluctant to admit their employment. It should be noted that less than half the officially counted unemployed collect unemployment benefits.<sup>40</sup>

Peter Reuter’s analysis of the CPS interviewing process is probably the most careful, and deserves to be quoted in full:

I have been unable to find any literature specifically dealing with this issue. A review of the survey instrument itself suggests that the matter is a complex one. Respondents are not asked to

label their employment as regular or reported. Indeed, the questions probe very little into the nature of the employment setting. Nor are respondents ever asked whether they are unemployed; they are only asked if they are looking for work.

The first issue for the irregular sector worker, when approached by the CPS interviewer, is whether to become a respondent. It seems reasonable to assume that he is more likely to be a nonrespondent than he would be if he were not in the irregular sector. But the nonresponse rate for the CPS is surprisingly low; about 4 percent overall, with refusals amounting to 2.5 percent of the total. If irregular sector workers tend to be nonrespondents, the consequence for measured unemployment is minor.

Alternatively, and it is clear that this is what Feige and Gutmann assume, irregular sector workers may classify themselves as unemployed. Total labor force counts would be unaffected but measured unemployment would be raised. This possibility cannot be discounted but it is not obviously the dominant response pattern, among the three alternatives.

First, the respondent may also be employed in the regular sector. Given the conditions of social security, unemployment insurance, and medical insurance programs, the optimal situation may in fact be part-time employment in both sectors. In that situation the CPS, insofar as it is used simply to estimate the overall unemployment rate, will not be biased by irregular sector employment.

Second, if the irregular sector worker has no regular sector employment and is not looking for work, he may choose to provide a pattern of responses which leads to him being classified as “not in the labor force.” This will lead to an underestimate of the labor force but have only a second-order effect on measured unemployment.

The third situation is the one that Gutmann and Feige probably refer to, an irregular sector worker who is receiving unemployment benefits. Presumably he responds to the questions solely in his capacity as registered unemployed, thus raising measured unemployment. However, in order to be eligible for unemployment benefits the worker must have held, within a relatively recent period, a job in the regular sector. While one cannot discount the possibility that a significant portion of the registered unemployed is able to move at will between regular and irregular employment, it does require implausibly high access to regular sector jobs.<sup>41</sup>

A few comments on the way individuals engaged in underground activities might respond to the CPS are in order. One group of underground workers includes those people with regular employment, but who also enter the underground sector through moonlighting or whatever. These workers have a clear incentive to report their regular sector activities to the CPS interviewer, as this is the course that (in the respondent’s eyes) would arouse the least suspicion. These people are highly unlikely to wind up classified as unemployed in the CPS.

A second group are those whose entire income comes from underground activity. These respondents may well conceal their source of income from the CPS interviewer. But rather than give the interviewer the kinds of responses that would cause them to be reported as unemployed, they would be more likely to present some cover story that amounts to an assumed regular economy job. It may even be that the household respondent is unaware of the underground

activities of other household members, but has been given a phony job that gets passed on to the CPS interviewer. For criminal activity, this is especially likely. An example is provided by the notorious case of the wealthy Washington, D.C., burglar who shot a prominent Georgetown doctor during a burglary. The burglar's neighbors were told that he was engaged in legitimate financial activity. What would he have told a CPS interviewer about his labor force status? That he was a burglar? That he was unemployed but living in an obviously very expensive house in an exclusive suburb? For cases like this, the type of CPS responses posited by Gutmann seem naive. Cover stories to hide the true sources of respondents' incomes could distort the measured distribution of jobs across occupations and industries in the CPS, but would not affect aggregate employment and unemployment levels at all.

Even in the case of individuals who are illegally receiving government benefits tied by law to unemployment status, the issue is not as clearcut as Gutmann (and to some extent Reuter) would have it. The interviewer does not ask about the receipt of benefits. All questions about earnings come after the questions on labor force status have been answered. On the one hand, the respondent presumably does not want to lose the illegally obtained benefits, and may give the CPS enumerator the same answers that (falsely) were given to the UI people. On the other hand, the respondent may want to avoid telling anyone the truth about sources of income, and so will have concocted a convenient story intended to arouse the least suspicion. A nonspecific but legitimate sounding job would appear the easiest way out for those individuals. Which of these effects would dominate is anyone's guess.

We conclude that while there is a basis for concern about the possible effects of the underground economy on CPS data, particularly the earnings data, there are as yet no soundly based estimates of those effects on employment and unemployment. Moreover, the extreme views taken by some writers on the underground economy are based largely on conjecture. Our analysis of the CPS survey fails to confirm these conjectures. Evidence that labor force status has been reported incorrectly in the CPS because of the underground economy has yet to be collected.

### Productivity measures

BLS publishes two sets of productivity indexes for the U.S. business economy. One relates real output to labor input and the other relates output to labor and capital input—multifactor productivity. Only indexes of output per unit of labor input—output per employee or per employee hour—are published at the industry level.

For the productivity measures covering the business sector, the output measures are based on real gross product data developed by the BEA of the U.S. Department of Commerce. In deriving these measures, BEA, in turn, relies for the most part on data from BLS' Consumer Price Index and

Producer Price Index to deflate nominal output to obtain real output. Any biases in the price deflators will have an equal and opposite effect on BEA's measures of real output and thus on BLS's measures of productivity.<sup>42</sup>

Labor input is alternatively measured by the total count of, or the total hours of, all persons, including paid employees, self-employed persons, and unpaid family workers. The data for employees is taken from BLS' establishment-based survey of employment, hours, and earnings. The data on the self-employed and unpaid family workers come from various sources, but principally from the Current Population Survey. Errors in labor input measures will cause errors of equal magnitude but of opposite direction from output errors in the BLS productivity measures.

The BEA measures of nominal output are strongly challenged by Feige and Gutmann, who based their separate and methodologically different analyses on changes in the relationship between various financial variables. Their revised estimates of output are nearly enough to explain the post-1973 productivity slowdown. Both their methods are indirect, however, and have been questioned by some analysts.<sup>43</sup> In 1982, Edward Denison analyzed the issue in terms of how the official national accounts are actually prepared, and in terms of comparison of the output and income sides of the accounts. He reached the conclusion that mis-measurement of GNP as officially defined due to the underground economy is relatively small.<sup>44</sup>

An analysis of Feige's or Gutman's methods is beyond the scope of this report, but it is of some value to examine the implications that their findings would have for productivity measurement even if they were only approximately true. Feige has provided several estimates of the size of the underground economy.<sup>45</sup> His latest estimates are to be preferred, if only because they no longer produce a negative estimate for the underground sector for the 1939–68 period. They provide similarly much higher estimates for the recent past, with two of his estimates of the "Monetary unobserved sector as a percentage of GNP" set at about 28 percent in 1979.<sup>46</sup> Feige does not prepare estimates of underground employment, but argues that shifts in employment should lag shifts in output because of moonlighting, skimming, and so forth.<sup>47</sup> He further claims that people tend to "save the best performances for moonlighting."<sup>48</sup> Feige does not construct new indexes of productivity but does find a high degree of correlation between his measures of the output of the unobserved sector and measures of the unexplained productivity residual prepared earlier by Denison,<sup>49</sup> and claims that he has explained two-thirds of the observed productivity slowdown.<sup>50</sup>

Gutmann has prepared independent estimates of output and employment.<sup>51</sup> His method for constructing employment estimates based on the Current Population Survey has been discussed earlier in this report. His estimates of output and employment can be used to calculate his implied estimate of the impact of the underground economy on estimates



of national productivity. If for the sake of argument we accept his estimates of underground GNP and underground employment, we can add these to previously measured GNP and employment and get a rough idea of the impact upon BLS productivity measures. To do this, we are forced to assume that everything about Gutmann's work is correct, that all otherwise uncounted GNP actually belongs in GNP, and that the subterranean rest-of-the-world sector is small enough to be ignored. Though Gutmann's employment estimates (discussed earlier) are based on adjustment to the CPS, and not on BLS' establishment survey primarily used in BLS productivity measurement, we use them because they are the only estimates available. That would imply roughly 1.7 million persons employed in the subterranean economy in 1971 and 1.9 million persons in 1976. Gutmann's estimates of underground GNP are based upon the growth of currency in circulation relative to demand deposits. Richard X. Bove and Thomas D. Klingenstein have prepared estimates of subterranean GNP derived from the Gutmann methodology of \$69.2 billion in 1971 and \$190.6 billion in 1976.<sup>52</sup>

Using the implicit price deflator and average weekly hours that apply to the legitimate economy as proxies for those in the underground economy, we find that the ratio<sup>53</sup> of output to hours for the total economy (with the underground included) would have been 6.96 in 1971 and 8.09 in 1976. This implies a 3.1-percent compound annual growth rate. By contrast, unpublished BLS data on productivity in the total economy<sup>54</sup> indicate that output per hour was 6.67 in 1971 and 7.28 in 1976, implying that productivity in the legitimate economy grew at a 1.8-percent compound annual rate over the same period. Thus if Gutmann's underground estimates were accurate, they could serve to explain much of the post-1973 productivity slowdown.

How believable is the productivity differential implied by Gutmann's work? Molefsky points out that Gutmann's output and employment estimates, if taken at face value, imply that value added in the subterranean sector was more than

\$100,000 per worker in 1978 compared with \$22,000 per worker in the legitimate economy.<sup>55</sup>

One aspect of the underground economy that is consistent with these numbers is the possibility of skimming—output or revenue kept off the books. If it is possible for some business to make a lot of their sales off the books without getting much of their employment off the books, they might well do so because of the economic rewards in the form of reduced tax bills associated with the resulting lower reported profits. This could mean that more output than employment is off the books, and that a certain amount of recorded employment is actually engaged in producing unrecorded output. If it were possible for this to occur on any kind of scale, and if the national accounts were affected, the result would be an understatement of observed productivity in the measured economy with an implied very high productivity in the unmeasured economy.

The results which we have seen in recent years for the published BLS productivity measures show declining productivity growth, declining unit profits, and increasing unit labor cost, results which might be attributable to increasingly important skimming. Of course, they are also consistent with other economic forces. A sectoral breakdown of productivity might shed some light on this issue. Table 2 measures the productivity slowdown in 10 sectors of the private economy and in government enterprises (the manufacturing and trade sectors are broken down further) by computing the difference between average annual rates of growth in labor productivity in the 1958–73 and 1973–79 periods. Measuring productivity by output per hour or output per employee makes only trivial differences in the results.

The sectors where skimming would appear most likely (for example, wholesale and retail trade and services) show large slowdowns in productivity. The striking feature of the table is that the slowdown has occurred in nearly all sectors of the economy.

Notwithstanding these results, the possibility that part of the story of the underground economy is connected with

**Table 2. Sectoral breakdown of the productivity slowdown, average annual rates of growth (least squares method), 1958–79**

Industry	Output/hour				Output/person			
	1958 to 1973	1973 to 1979	Difference	Rank	1958 to 1973	1973 to 1979	Difference	Rank
Farming	5.3	3.0	-2.3	4	5.2	3.4	-1.8	5
Mining	3.9	-5.1	-9.0	1	4.4	-4.6	-9.0	1
Construction <sup>1</sup>	0.2	-1.7	-1.9	5	0.0	-1.6	-1.6	6(T)
Durable manufacturing	2.9	2.1	-0.8	10	3.1	2.0	-1.1	10
Nondurable manufacturing	3.4	1.8	-1.6	7	3.4	1.8	-1.6	6(T)
Transportation	3.1	1.3	-1.8	6	2.9	1.0	-1.9	4
Communications	5.0	6.0	+1.0	13	5.0	6.1	+1.1	13
Electricity, gas, utilities	4.5	1.1	-3.4	2	4.6	1.1	-3.5	2
Wholesale trade	3.6	0.9	-2.7	3	3.3	0.7	-2.6	3
Retail trade	2.5	1.4	-1.1	9	1.4	0.0	-1.4	8(T)
Finance, insurance and real estate <sup>1</sup>	0.9	0.4	-0.5	11	0.6	0.3	-0.3	11
Services <sup>1</sup>	1.8	0.4	-1.4	8	1.2	-0.2	-1.4	8(T)
Government enterprises	0.8	1.3	+0.5	12	0.5	1.4	+0.9	12

<sup>1</sup>Because of the limitations in the real output measures for these sectors, these data do not meet BLS standards for publication and are not published. They are included here for illustrative purposes.

T = a tie.

skimming would tend to diminish the validity of Denison's position.<sup>56</sup> He argues that the case made so far for a bias in output measures is not compelling, and that employment-to-population ratios and labor force participation rates, which are more pertinent than monetary ratios, have been stable over time. A measured productivity slowdown along with stable employment ratios and labor force participation rates would be consistent with increased skimming, however. On the other hand, the critics themselves have argued that measured employment is increasingly biased.

Even if Feige's or Gutmann's measures of subterranean economic activity were correct, it is still not clear that it would be appropriate to add them to the published output and employment measures (thus changing the productivity calculations). Some underground activity may end up in the official measures anyway, since BEA makes an attempt to adjust for it based on Internal Revenue Service estimates. Further, that portion of underground activity that is illegal, even apart from the issue of tax evasion, is not included in the definition of GNP. For this reason the BEA does not attempt to measure such activities. It is also worth repeating what Denison has said:

“ . . . much of the value of illegal products—an estimated 99.5 percent in the case of drugs—exists only because their illegality has made their prices high. The value of the quantities of drugs now produced would be of trivial importance in the economy if they were legalized.”<sup>57</sup>

*The establishment survey.* The BLS survey of employment, hours, and earnings in establishments has not come under much specific criticism. In fact, many writers on the underground economy seem unaware that more than one BLS measure of employment exists. However, this survey is used in the measurement of productivity and it provides an estimate of employment that is largely independent of that derived from the CPS, aspects of this survey may make it susceptible to inaccuracy because of misreporting of underground activity. We begin with the definition and construction of the survey, then discuss the possible effects of various aspects of the underground economy.

BLS cooperates with State agencies in collecting monthly data on employment, hours, and earnings from a sample of about 200,000 establishments in all nonagricultural activities including government. For this survey, an establishment is defined as an economic unit producing goods or services, such as a factory, mine, or store. Where a single physical location encompasses two or more distinct and separate activities these are treated as separate establishments, provided that separate payroll records are available and certain other criteria are met. When a company has more than one establishment engaged in the same activity in a geographic area, these establishments may be covered by a combined report. In general, data refer to persons who worked during, or received pay for, any part of the pay period that includes the 12th of the month.

The definition of employed persons includes both permanent and temporary employees and those who are working either full or part time. Payroll workers on paid sick leave, or paid holiday or vacation, or who work only a part of the specified pay period are counted as employed. The survey is a count of jobs filled, as reported by employers, and makes no attempt (in contrast to the CPS) to count the number of persons at work. This means that persons on two or more payrolls during the survey pay period are counted in each establishment whether the replication is due to turnover or multiple jobholding. Proprietors, self-employed, unpaid family workers and domestic workers in households are excluded. Data on government employment refer to civilian employees only.

The sampling universe for the establishment employment survey is largely derived from the Unemployment Insurance records of employers maintained by State employment security agencies, which, since the expansion of UI coverage in 1972, include 97 percent of private nonagricultural establishments. The UI records are augmented by various other sources to ensure complete coverage of employers. Sampling is stratified by industry and by establishment size. In nearly all industries, establishments with 250 or more employees are included in the sample with certainty and in many industries the cutoff is lower. In industries with considerable employment in small establishments, the sample includes all large establishments and a substantial number of small ones. Because of cost considerations, it is necessary to accept samples in these divisions with a smaller proportion of universe employment than is the case for most manufacturing industries.

State agencies (usually the employment security agency) collect the primary data by mail, using a shuttle schedule (BLS form 790, which provides the common name for this series). The data collected are limited to what can be extracted from payroll records, which respondents would ordinarily maintain for a variety of tax and accounting purposes.

The establishment estimates exclude, by definition, all self-employment and all private household work, and these two fields are where much of the unreported income that help make up the underground economy is likely to originate. Thus the extent of potential error in the establishment series due to the misreporting of underground activities is limited.

The establishment survey is, nonetheless, subject to measurement difficulties which, as in the case of the household survey, depend primarily on the complex motives of potential respondents, who may choose not to respond, or not to respond accurately. Establishments that are attempting to elude the tax and law enforcement arms of the government may choose not to respond to the survey despite BLS assurances of confidentiality.<sup>58</sup> Establishments that are attempting to avoid some kinds of taxes (unemployment insurance, workers' compensation, social security, and so forth) may underreport their employment and payroll for



the same reasons. On the other hand, payroll is a tax-deductible expense, so the latter incentive may be moderated or even reversed, depending on the establishments' tax liability situation and depending on their trade-off between paying less income tax and reporting low profits (or losses) to owners. Feige cites anecdotal evidence that firms engaged in "skimming" activities may take workers off the books (for tax purposes) when their profits start to look too low.<sup>59</sup> The actual extent of this behavior is unknown. As Reuter points out, firms engaged in illegal activities doubtless take the probability of detection into account when deciding how to deal with the various data requests they receive.<sup>60</sup> We do not know where the payroll employment survey stands in underground establishments' rankings of various potential sources of detection.

Perhaps most important in terms of the accuracy of the estimates derived from the establishment survey are the problems of keeping track of the universe. Many of the incentives mentioned in the previous paragraph could also work to keep establishments out of the sampling universe, which comes largely from Unemployment Insurance reports. The birth of new firms and the death of old ones raise particular problems for this survey, particularly during a slide into and recovery from a recession.

An annual benchmarking process, again using data from the UI program and other independent sources, attempts to correct for any deficiencies. Thus the accuracy of long-term trends hinges on the adequacy of the benchmarking process.

The accuracy of the benchmark estimates probably improved when coverage by the UI system became nearly universal. It was previously necessary to make some estimates of the number of small employers. When coverage was extended from firms with 4 or more employees to firms with one or more employees, it was found that the number of such small employers had previously been underestimated. It was also found, at least in some States, that some employers with more than four employees had previously escaped UI coverage by allegedly claiming they had only one to four employees.

In a series of studies, David Birch concluded (based on an analysis of Dun and Bradstreet files) that small firms accounted for most of the employment growth during the 1970's.<sup>61</sup> If Birch's findings were true, this could have implications for the measured level of employment. His conclusions have been challenged by Catherine Armington and Majorie Odle, however. Using a later version of the same data base, they found that 55 percent of employment growth between 1978 and 1980 took place in establishments with fewer than 20 employees in 1978, and 78 percent of net growth took place in establishments of fewer than 100. They then examined the question of whether these establishments were truly small, or were parts of larger enterprises. This changed their findings drastically:

However, a significant portion of these growing small establishments are branches or subsidiaries of large firms. Indeed, if

we retain the 100 employee size limit, but apply it to the size of the whole firm, rather than to separate establishments, the share of total employment accounted for by small business (firms with fewer than 100 employees) is 38.6%. These truly small businesses contributed 39.1% of the employment growth between 1978 and 1980. Thus the small business share of employment growth was almost exactly proportional to its share of the private sector, paid labor force.<sup>62</sup>

Armington and Odle also conclude that the same result is generally true in all regions and industry divisions, with some exceptions in sectors with shrinking shares of employment.

If Armington and Odle's findings are also applicable to earlier periods, then the case for bias in employment levels as measured by the establishment survey is weakened considerably. It is unlikely that there are any Exxons or other large establishments lurking around out there without being entered in the UI records. So potential errors would have to come from small establishments. But if small establishment employment growth is roughly proportional to large establishment employment growth, as Armington and Odle conclude, then only trivial errors could occur in employment trends. And for many purposes, such as measurement of changes in productivity, only trends matter.

We conclude this section with a brief comparison of the BLS establishment and household employment surveys. Although there are conceptual differences between the two surveys, they do provide independently derived estimates of nonagricultural employment. The main differences between the two surveys are: the payroll survey excludes unpaid family workers, private household employees, proprietors, and other self-employed persons, all of whom are included in the CPS. The payroll survey counts a person employed by more than one establishment at each place of employment, while the CPS counts each individual only once. Certain persons on unpaid leave are counted as employed in the CPS but not in the payroll survey. The BLS attempts to reconcile the movements in the two surveys. The most recent report is by Gloria Green and John Stinson who provide references to earlier literature on the subject.<sup>63</sup> They conclude that although the levels of employment estimated by the two series differ significantly, in the long-term they have moved similarly. The relevant question is whether household and establishment survey samples would both be motivated by the underground economy to respond (or not respond) in ways that would make the two independent measurements track the same in the long run.

### Is BLS data affected?

We have examined the claims that have been made about the possible effects of a large and growing underground economy on BLS data. Because of the very nature of the underground economy, it tends to leave very few quantifiable traces, either in official data or elsewhere. Thus many of the claims made have been based on indirect evidence. Further, the main thrust of the research has been directed

to topics other than the accuracy of BLS statistics, so statistical methods have not been examined closely by many of the researchers. We have concentrated on examining the adequacy of the analysis—the facts and logic—behind the claims that the underground economy has caused error in some BLS statistical series.

Our general conclusion is that the claims made do not stand up to close scrutiny. What has been done, for the most part, is to document in some manner that some sort of underground activity exists or that it probably exists, and then to form estimates of its size. Some critics have then simply leaped to the conclusion that some BLS series are in error, without even the most elemental consideration or review of the way the series is constructed, and whether the actual collection of BLS data is likely to be affected by characteristics of the underground economy. We believe we have shown that when one looks at the way the data are collected, claims of major defects in BLS statistics must be deemed unproven.

With regard to the Consumer Price Index, we have concluded that because of the manner in which it is constructed, which few of the critics considered, the chance of a large systematic bias attributable to the underground economy is minimal. This conclusion is reinforced by the disagreement among the critics of the series as to the supposed direction of bias.

In both the household- and establishment-based employment surveys, we have seen that the possible effects of the

underground economy hinge to a large degree on whether the respondents to the surveys answer truthfully. We have argued that their motives are complex and may be different than the critics have assumed. Considering how various classes of people might wish to respond, together with the way the survey instruments are designed, we argue that there is little basis for the often extravagant claims that have been made, particularly with regard to the unemployment rate.

Measures of productivity change may be affected by the underground economy, through mismeasurement of national output, of the price deflators, or of labor input. But we have seen that the relation between possible mismeasurement of output change, on the one hand, and of input change, on the other, is not at all direct. Given the state of the evidence on the possible extent of mismeasurement, any claims, on the direction of productivity mismeasurement are speculation.

Findings from economic research must be monitored closely by a statistical agency, for research can often point to areas of new statistical needs and suggest improvements in existing series. We have reviewed the literature on the "underground economy" with this objective in mind. It is of course always possible that underground activity affects BLS statistical series. The crucial question is: Does the evidence suggest that major effects are probable? We conclude that the literature on the underground economy has not made the case—far from it. The issues however remain important ones that will continue to be monitored as new findings emerge. □

—FOOTNOTES—

<sup>1</sup> An annotated bibliography of this literature will be included with the reprint of this article.

<sup>2</sup> See Richard X. Bove and Thomas D. Klingenstein, "The Underground Economy: How is it Measured?" *Financial Markets* (New York, Wertheim and Co. Inc., 1981); Edward F. Denison, *Accounting for Slower Economic Growth* (Washington, D.C., The Brookings Institution, 1979), and Denison, "Is U.S. Growth Understated Because of the Underground Economy? Employment Ratios Suggest Not," *Review of Income and Wealth*, March 1982, pp. 1–16; Gillian Garcia, "The Currency Ratio and the Subterranean Economy," *Financial Analysts Journal*, November–December 1978, pp. 64–66, 69; Barry Molefsky, "America's Underground Economy," chapter 3 in Vito Tanzi, ed., *The Underground Economy in the United States and Abroad* (Lexington, MA., D.C. Heath and Co., 1981); Richard Porter, "Some Notes on Estimating the Underground Economy," Federal Reserve Board, 1979, mimeographed; Vito Tanzi, "A Second (and More Skeptical) Look at the Underground Economy in the United States," chapter 6 in Vito Tanzi, ed., op. cit.; and *Estimates of Income Unreported on Individual Income Tax Returns*, Publication 1104, (U.S. Department of the Treasury, Internal Revenue Service, 1979).

<sup>3</sup> Other names for the underground economy are "irregular," "subterranean," and "black."

<sup>4</sup> Beginning in 1980, a Continuing Consumer Expenditure Survey was implemented which may make possible more frequent updating of the weights in the future.

<sup>5</sup> Exceptions are items such as house prices, utility rates, and certain tax rates which are collected from other sources.

<sup>6</sup> Edgar L. Feige, "A New Perspective on Macroeconomic Phenomena: The Theory and Measurement of the Unobserved Sector of the United States Economy: Causes, Consequences and Implications," August 1980 (mimeographed), p. 39, contends that the shift has occurred.

<sup>7</sup> *Development of National Income Measures*, supplement of *Survey of Current Business* (U.S. Department of Commerce, Office of Business Economics (Now Bureau of Economic Analysis), 1954).

<sup>8</sup> *Reevaluation of the 1972–73 Consumer Expenditure Survey: A Further Examination Based on Revised Estimates of Personal Consumer Expenditures* (U.S. Department of Commerce, Bureau of the Census, Technical Paper No. 46, 1979).

<sup>9</sup> Edgar L. Feige, "A New Perspective," p. 39; and Jeffrey Nichols' testimony in *Underground Economy* (U.S. Congress, Committee on Ways and Means Subcommittee on Oversight, 1980), Hearings held in 1979.

<sup>10</sup> Carl P. Simon and Ann D. Witte, *Beating the System* (Boston, Auburn House, 1982), pp. xiv–xv.

<sup>11</sup> *Ibid.*, pp. 93–4.

<sup>12</sup> Peter Gutmann, in "Wertheim's Underground Economy Conference—Palace Hotel—June 24, 1981," *Financial Markets*, Vol. 2, No. 5 (Wertheim and Co., 1981), pp. 43–4.

<sup>13</sup> Feige in "Wertheim's Underground Economy Conference" pp. 90–92.

<sup>14</sup> Feige and Gutmann in "Wertheim's Underground Economy Conference," p. 91.

<sup>15</sup> It is interesting to note that Simon and Witte (p. 98) believe the big growth in fencing occurred during the 1960's when inflation was not very large, but tapered off in the 1970's, just as inflation began to hit double-digit values. Their view is also somewhat inconsistent in that they realize that theft increases the cost of doing business in the legitimate sector, but ignore the fact that these costs may be passed on to consumers of regular sector products. Whether the two opposing effects on the CPI would net out is an open question.

<sup>16</sup> Kenneth W. Clarkson and Roger E. Meiners, "Government Statistics



as a Guide to Economic Policy: Food Stamps and the Spurious Increase in the Unemployment Rate," *Policy Review*, Summer 1977, pp. 27-51.

<sup>17</sup>Richard M. Devens, "Unemployment Among Recipients of Food Stamps and AFDC," *Monthly Labor Review*, March 1979, pp. 47-52.

<sup>18</sup>Data provided by Demographic Survey Division, U.S. Bureau of the Census.

<sup>19</sup>Peter M. Gutmann, "The Subterranean Economy," *Financial Analysts Journal*, November-December 1977, pp. 26-27; "Are the Unemployed, Unemployed?" *Financial Analysts Journal*, September-October 1979, pp. 26-29; and "Taxes and the Supply of National Output," *Financial Analysts Journal*, November-December 1979, pp. 64-66.

<sup>20</sup>John F. Cogan, "The Decline in Black Teenage Employment: 1950-70," *American Economic Review*, September 1982, pp. 621-638.

<sup>21</sup>*Ibid.*, p. 626.

<sup>22</sup>William Deutermann, "Another look at working-age men who are not in the labor force," *Monthly Labor Review*, June 1977, pp. 9-14.

<sup>23</sup>Simon and Witte, p. 292.

<sup>24</sup>See John Greenlees, William S. Reese, and Kimberly D. Zieschang, "Imputation of Missing Values When the Probability of Response Depends on the Variable Being Imputed," *Journal of the American Statistical Association*, June 1982, pp. 251-61; and Lee Lillard, James P. Smith, and Finis Welch, "What Do We Really Know About Wages: The Importance of Non-Reporting and Census Imputation," University of California at Los Angeles Discussion Paper (1981).

<sup>25</sup>See Larry Carstensen and Henry Woltman, "Comparing Earnings Data from the CPS and Employers' Records," *Proceedings of the American Statistical Association, Social Statistics Section*, 1979.

<sup>26</sup>See "Coverage of the National Population in the 1980 Census by Age, Sex and Race: Preliminary Estimates by Demographic Analysis," *Current Population Reports, Special Studies P-23*, No. 115 (U.S. Department of Commerce, Bureau of the Census, 1983).

<sup>27</sup>Edgar L. Feige, "How Big is the Irregular Economy? *Challenge*, November-December 1979, p. 11.

<sup>28</sup>Feige, "A New Perspective".

<sup>29</sup>*Ibid.*, p. 40.

<sup>30</sup>Simon and Witte, pp. xiv-xv.

<sup>31</sup>*Ibid.*, p. 223.

<sup>32</sup>Lawrence Kaplan and J. Maher, "The Economics of the Numbers Game," *American Journal of Economics and Sociology*, October 1970, p. 402.

<sup>33</sup>Simon and Witte, p. 239.

<sup>34</sup>*Ibid.*, p. 294.

<sup>35</sup>Gutmann, "Are the Unemployed, Unemployed?" pp. 26-29.

<sup>36</sup>*Ibid.*, p. 27.

<sup>37</sup>Peter M. Gutmann, "The Grand Unemployment Illusion," *Journal of the Institute for Socioeconomic Studies*, Summer 1979, pp. 25-26.

<sup>38</sup>Louise E. Berndt, "Effects of the Irregular Economy on the Reliability of Estimates of Labor Force Utilization." Unpublished draft of a paper presented at the annual meeting of the American Sociological Association, San Francisco, September 1978.

<sup>39</sup>Molefsky, p. 25.

<sup>40</sup>*Ibid.*, p. 24.

<sup>41</sup>Peter Reuter, "The Irregular Economy and the Quality of Macroeconomic Statistics," chapter 8 in Vito Tanzi, ed., *The Underground Economy in the United States and Abroad* (Lexington, MA., D.C. Heath and Co., 1981).

<sup>42</sup>See the discussion of BLS price data earlier in this article.

<sup>43</sup>See footnote 2.

<sup>44</sup>Denison, "Is U.S. Growth Understated?" pp. 1-16.

<sup>45</sup>Edgar L. Feige, "The Irregular Economy: Its Size and Macroeconomic Implications" (Madison, WI., University of Wisconsin, SSR1 Workshop Series, May 1979), 23 pp.; Feige, "How Big is the Irregular Economy?"; pp. 7-11; and Feige, "A New Perspective", pp. 18-32.

<sup>46</sup>Feige, "A New Perspective," table 3.

<sup>47</sup>*Ibid.*, p. 42.

<sup>48</sup>Feige, quoted in "The Underground Economy's Hidden Force," *Business Week*, April 5, 1982, p. 70.

<sup>49</sup>Denison, *Accounting for Slower Economic Growth*.

<sup>50</sup>Denison, "Is U.S. Growth Understated Because of the Underground Economy? Employment Ratios Suggest Not," p. 42.

<sup>51</sup>Peter M. Gutmann, "Professor Gutmann Replies," *Financial Analysts Journal*, November-December 1978, pp. 67-9.

<sup>52</sup>Bove and Klingenstein, p. 4.

<sup>53</sup>All productivity figures used in this article are ratios of constant (1972) dollar output to total hours.

<sup>54</sup>Because of limitations in the data for general government, owner-occupied housing, and households and institutions, the largest sector for which BLS publishes productivity indexes is the business economy. The BLS, however, calculates but does not publish productivity data for the total economy. We have used the total economy here because that has been the context of Gutmann's work on the underground economy. While it may be difficult to draw inferences about BLS' published productivity measures for the major sectors such as private business, this is the best way of analyzing Gutmann's claims as well as any possible productivity impact that such claims, if valid, might have.

<sup>55</sup>Molefsky, pp. 27-28.

<sup>56</sup>Denison, "Is U.S. Growth Understated Because of the Underground Economy?"

<sup>57</sup>*Ibid.*, p. 3.

<sup>58</sup>Reuter, p. 130.

<sup>59</sup>Feige, "A New Perspective," p. 42.

<sup>60</sup>Reuter, p. 130.

<sup>61</sup>David Birch, "The Job Generation Process," *The Effective Utilization of Small Business to Promote Economic Growth* (U.S. Congress, Joint Economic Committee, 96th Cong., 1st Sess, October 1979); see also, Richard Greene, "Tracking Job Growth in Private Industry," *Monthly Labor Review*, September 1982, pp. 3-9.

<sup>62</sup>Catherine Armington and Majorie Odle, "Sources of Employment Growth 1978-1980" (Washington, D.C., The Brookings Institution, March 1982).

<sup>63</sup>Gloria P. Green and John Stinson Jr., "Comparison of Nonagricultural Employment Estimates from Two Surveys," *Employment and Earnings*, 1982, pp. 9-12.

# Collective bargaining calendar crowded again in 1984

*If current economic trends continue, wages and benefits are likely to dominate bargaining this year, as contracts expire or are reopened for 38 percent of the nearly 8 million workers covered by major agreements*

JOHN J. LACOMBE II AND JAMES R. CONLEY

Collective bargaining activity in 1984 will be heavy for the third consecutive year, breaking the 30-year pattern of 2 years of heavy bargaining followed by 1 year of light activity. About 635 contracts covering 38 percent, or 3 million, of the 7.9 million workers in major collective bargaining situations (involving 1,000 or more workers)<sup>1</sup> are scheduled to expire or are subject to reopening during the year. (See tables 1 and 2.) Typically, a "heavy" year has involved roughly two-fifths of the workers under major situations and a "light" year, fewer than three-tenths.

The cycle was broken when agreements in the automobile industry, reached early in 1982, were negotiated for a 2½-year term, rather than 3 years as had been the case since the mid-1950's. In addition, other 1982 and 1983 settlements, particularly in the construction industry, were of shorter duration than usual, reflecting the uncertainty that bargainers felt about the future based on events in the last 2 years, including recession, double-digit unemployment, deregulation, and nonunion competition.

Historically, terms of individual settlements have reflected general economic conditions; the health and strength of individual companies, industries, and unions; and the terms of pattern-setting agreements. Of course, economic conditions that will exist at the time of the coming negotiations cannot be predicted; however, current data suggest that the economic climate will be better than in recent years.

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The composite index of leading indicators, compiled by the U.S. Department of Commerce to predict movements in aggregate economic activity, rose steadily during the first 9 months of 1983. The Federal Reserve Board's total industry utilization rate was 78.6 percent in October 1983, the highest rate since October 1981 and up from a historic low of 69.6 percent in November 1982. The civilian unemployment rate fell to 8.4 percent in November, the lowest level in 2 years. The Consumer Price Index for all urban consumers in October 1983 was 2.9 percent above a year earlier, compared to a 5.1-percent rise the preceding year.

The break in the three-year cycle is only one interesting aspect of 1984 collective bargaining. Answers to some intriguing questions will emerge during the year: Were the small increases, freezes, and cuts in wages negotiated in 1982 and 1983 mere aberrations? Is pattern bargaining dead? How will bargainers react to economic conditions? Will job security concerns continue to be reflected in negotiations on layoff, plant closing, and job retraining provisions? If current economic trends continue, wage-and-benefit improvements may be of greater concern to negotiators in 1984 than in 1983 when job security and company survival were paramount issues.

The improving economic conditions of 1983 are not reflected in major settlements reached in private industry during the first 9 months of the year. Wage adjustments for that period averaged 1.7 percent in the first year and 2.8 percent annually over the life of the contract. The first-year average was the lowest for any 3-quarter period (except the



**Table 1. Calendar of major collective bargaining activity**

[Workers in thousands]

Year and month	Agreement expirations and/or scheduled wage reopenings		Principle industry and activity
	Number	Workers covered	
All years <sup>1</sup> .....	1,629	7,925	.....
Total 1984 <sup>2</sup> .....	635	3,004	.....
January .....	36	88	Petroleum refining
February .....	25	69	.....
March .....	67	195	Construction
April .....	114	292	Construction
May .....	103	270	Construction
June .....	122	738	Railroads, construction, maritime
July .....	34	164	Food stores
August .....	32	88	.....
September .....	40	930	Automobiles, bituminous coal
October .....	29	80	.....
November .....	21	56	.....
December .....	15	49	.....
Total 1985 <sup>3</sup> .....	416	2,136	.....
January .....	21	60	.....
February .....	9	20	.....
March .....	47	531	Trucking, men's apparel, construction
April .....	59	179	Rubber, construction
May .....	78	376	Women's apparel, construction
June .....	79	426	Electrical products, construction, trade
July .....	28	144	Electrical products
August .....	28	95	.....
September .....	22	132	Automobiles
October .....	12	38	.....
November .....	24	93	.....
December .....	9	42	.....
Total 1986 <sup>4</sup> .....	322	1,944	.....
January-June .....	237	805	.....
July-December .....	85	1,139	.....
Year unknown or in negotiation <sup>5</sup> .....	282	965	.....

<sup>1</sup>Total exceeds the sum of the parts because 46 agreements covering 187,000 workers have both reopenings and expirations in the reference period.

<sup>2</sup>Includes 36 agreements covering 136,000 workers which have wage reopenings scheduled in 1984.

<sup>3</sup>Includes 9 agreements covering 49,000 workers which have wage reopenings scheduled in 1985.

<sup>4</sup>Includes 1 agreement covering 2,000 workers which has a wage reopening scheduled in 1984.

<sup>5</sup>Includes agreements which were scheduled to expire between October 1 and December 31, 1983; agreements which expired prior to October 1, 1983 but new agreements were not reached by then; agreements which expired prior to October 1, 1983 but for which necessary information had not been gathered; and agreements which have no fixed expiration or reopening date.

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

one ending June 1983), and the over-the-life average was the lowest since the series began in 1968.

The average adjustments were low because about two-fifths of the workers covered by settlements took wage cuts or will have no wage increase over the contract term. (Most of them were in steel, aluminum, and agricultural equipment manufacturing and construction.) For the remaining three-fifths, many of whom were in electric and gas utilities, retail trade, construction, paper manufacturing, and communications, wage increases averaged 4.9 percent a year over the contract duration.

In many industries, 1983 settlements were similar, reflecting industrywide concerns about economic conditions. For example, in the steel industry, the unemployment rate

was 28.1 percent; declining capacity utilization and international competition pressured both labor and management to trim labor costs. In construction, high interest rates, competition from nonunion construction firms, and an unemployment rate of 18 percent at midyear resulted in record low settlements.

This article examines 1984's scheduled contract negotiations, wage changes, and cost-of-living adjustment (COLA) reviews which will directly affect the economic well-being of the 7.9 million workers under major agreements, and indirectly affect millions of others. In addition, it discusses likely issues for the coming negotiations in the petroleum refining, construction, railroad, automobile manufacturing, and bituminous coal mining industries. (See table 3 for expiration dates and wage adjustment provisions of these and other industries.)

### Talks in petroleum refining

Most of the workers under collective bargaining contracts with the Nation's oil companies<sup>2</sup> are represented by the Oil, Chemical and Atomic Workers (OCAW); others are represented by the Operating Engineers, Teamsters, Seafarers, and independent or single-company unions. Negotiations are conducted locally by individual bargaining units, each of which reaches an agreement customarily patterned after the contract of the first company to settle.

Contract negotiators again will be facing uncertainty about the supply and demand for oil because of the world economy and potential international developments which could disrupt the flow of oil. During the last few years, consumption of oil has fallen in response to the sharp increase in the price of international crude since 1978, and the prolonged worldwide economic recessions.<sup>3</sup>

Industry profits have been steadily improving since the first quarter of 1983 when they were down because of unusually warm weather and weak economic conditions. According to industry experts, earnings are expected to improve through early 1984, in part, because of a recovery in nonoil operations such as chemicals, metals, and coal.<sup>4</sup>

The last round of settlements, in 1982, followed a pattern set by the 2-year agreement between Gulf Oil Corp. and the OCAW. It covered 50,000 workers at 400 facilities owned by 100 companies. The accord provided for a 9-percent wage increase in January 1982 and a 90-cent-an-hour increase in January 1983. The union was not successful in obtaining a no-layoff clause to protect workers from job cutbacks that had hit the industry.<sup>5</sup> The pattern agreements also provided that companies which already had pension improvements for nonunion employees extend these improvements to unionized workers.

Pension issues complicated OCAW's negotiations with Texaco at Port Arthur, Tex., resulting in a 7½-month strike. A subsequent 4-year agreement provided the same terms as the pattern contract for the first 2 years; during the last 2 years, the workers are scheduled to receive any 1984 and

**Table 2. Agreement expirations and/or scheduled wage reopenings in major collective bargaining situations, by year and industry**

[Workers in thousands]

Industry	Total <sup>1</sup>		Year of expiration and/or scheduled wage reopening							
	Number of agreements	Workers covered	1984 <sup>2</sup>		1985 <sup>3</sup>		1986 <sup>4</sup>		Unknown or in negotiation <sup>5</sup>	
			Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered
All industries	1,629	7,925	635	3,004	416	2,136	322	1,944	282	965
Manufacturing	712	3,300	219	1,155	192	986	158	769	147	401
Food and kindred products	81	240	31	74	26	132	15	25	14	24
Tobacco manufacturing	6	18	—	—	1	1	5	18	—	—
Textile mill products	11	37	2	7	2	7	1	3	6	21
Apparel and other finished products	44	342	3	10	33	316	3	7	5	9
Lumber and wood products, except furniture	13	57	3	4	1	2	5	44	4	8
Furniture and fixtures	11	16	3	3	6	11	1	1	1	2
Paper and allied products	52	82	20	33	9	10	12	23	11	16
Printing, publishing, and allied industries	25	47	12	26	6	13	1	3	6	9
Chemicals and allied products	33	65	8	16	8	12	9	18	8	18
Petroleum refining and related industries	18	34	16	28	1	2	1	5	1	2
Rubber and miscellaneous plastics	12	58	1	4	10	54	1	1	—	—
Leather and leather products	13	34	7	24	3	7	1	1	2	2
Stone, clay, glass, and concrete products	30	75	11	19	4	7	9	37	6	13
Primary metals industries	77	440	12	18	5	7	29	354	32	61
Fabricated metal products	43	79	15	25	9	14	10	23	9	17
Machinery, except electrical	64	162	23	52	14	20	15	60	11	26
Electrical machinery equipment and supplies	71	380	15	50	23	214	22	96	10	17
Transportation equipment	86	1,092	30	747	24	146	13	44	18	152
Instruments and related products	12	25	4	10	2	5	3	5	3	4
Miscellaneous manufacturing industries	10	15	3	3	5	9	2	2	—	—
Nonmanufacturing	917	4,625	416	1,850	224	1,150	164	1,176	135	564
Mining, crude petroleum, and natural gas production	13	189	2	162	1	1	3	8	7	18
Construction	435	1,265	230	604	97	238	81	290	39	176
Transportation, except railroads and trucking	60	268	21	95	12	52	1	2	26	120
Railroads	26	394	26	394	—	—	—	—	—	—
Trucking	16	430	—	—	14	427	1	1	1	2
Communications	44	726	8	24	9	26	24	671	3	5
Utilities, gas and electric	75	238	37	100	25	94	9	33	14	52
Wholesale trade	12	45	7	13	1	25	2	4	2	3
Retail trade, except restaurants	119	553	35	213	37	150	27	112	19	77
Restaurants	17	61	5	11	6	30	3	25	5	16
Finance, insurance, and real estate	18	93	8	27	3	22	1	3	6	41
Services, except hotels and health services	37	130	16	44	8	43	4	10	9	33
Hotels	19	117	9	77	4	32	4	11	1	9
Health services	26	115	12	86	7	10	4	6	3	13

<sup>1</sup>Total exceeds the sum of the part because 46 agreements covering 187,000 workers have both reopenings and expirations in the reference period.

<sup>2</sup>Includes 36 agreements covering 136,000 workers which have wage reopenings scheduled in 1984.

<sup>3</sup>Includes 9 agreements covering 49,000 workers which have wage reopenings scheduled in 1985.

<sup>4</sup>Includes 1 agreement covering 2,000 workers which has a wage reopening scheduled in 1984.

<sup>5</sup>Includes agreements which were scheduled to expire between October 1 and December 31, 1983; agreements which expired prior to October 1, 1983, but new agreements were not reached by then; agreements which expired prior to October 1, 1983, but for which necessary information had not been gathered; and agreements which have no fixed expiration or reopening date.

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

1985 wages and benefits negotiated at other Texaco facilities in 1984.

The National Oil Bargaining Conference of the OCAW has already determined goals for the coming negotiations. The goals ratified by the union membership in August reflect slack demand in the industry, with job security a crucial element. By the union's tally, about 7,200 of its members have lost jobs over the last 3 years because of plant closings and modernization programs. National goals include:

- "Substantial" annual wage increases over a 2-year term.
- No yielding on previously won terms (including those covering layoff, plant closing, wage rate retention, health and safety, and pension review).
- Insurance coverage for laid-off workers during periods of recall rights.
- Employer payment of insurance premiums for employees and retirees and their spouses and dependents.

- No actuarial reduction in pension after 30 years' service.
- Plant closing and layoff protection through provisions dealing with severance, transfer, relocation, retraining, and recall rights.
- Protected benefits for active union members and officers while on approved leave of absence.
- Check-off provision for Political Action Committee.

Negotiations on national goals generally have been conducted concurrently with talks on local issues such as work rules and grievances.

### Construction talks scheduled for midyear

More than 600,000 workers are covered by 230 major collective bargaining agreements in the construction industry that will expire or are subject to reopening in 1984.

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**Table 3. Expiration and wage adjustment provisions of selected major collective bargaining agreements**

[Listed in order of Standard Industrial Classification code]

1972 SIC Code	Industry and employer	Union <sup>1</sup>	Number of workers <sup>2</sup>	Contract term <sup>3</sup>	Provisions for 1984 automatic cost-of-living review <sup>4</sup>	Provisions for 1984 deferred wage increases <sup>5</sup>	
<b>Manufacturing</b>							
20	Food and kindred products:						
	California Processors, Inc. ....	Teamsters (Ind.)	50,000	July 1, 1982 to July 1, 1985	July	July 1: 10-55 cents	
	Frozen Food Employers Association (California) .....	Teamsters (Ind.)	4,000	July 1, 1982 to June 30, 1985	.....	July 1: 30 cents	
	Nabisco, Inc. ....	Bakery, Confectionery and Tobacco Workers	10,000	Sept. 1, 1983 to Aug. 31, 1985	.....	Sept. 1: 60 cents	
	Sugar Cos. Negotiating Committee (Hawaii) .....	Longshoremen and Warehousemen (Ind.)	7,500	Feb. 1, 1983 to Jan. 31, 1985	.....	Feb. 1: 30 cents	
	Wilson Foods Corp. ....	Food and Commercial Workers	4,800	June 27, 1982 to Sept. 1, 1985	.....	.....	
21	Tobacco manufactures: Philip Morris, U.S.A. (Richmond, Va.)	Bakery, Confectionery and Tobacco Workers	10,300	Feb. 1, 1983 to Jan. 31, 1986	January, thereafter quarterly	Feb. 1: 4.1 percent	
22	Textile mill products: Fieldcrest Mills, Inc. (Virginia and North Carolina) .....	Clothing and Textile Workers	5,000	Mar. 1, 1981 to Feb. 29, 1984	.....	.....	
23	Apparel and other finished products: Clothing Manufacturers Association of U.S.A. ....	Clothing and Textile Workers	70,000	Apr. 1, 1982 to May 31, 1985	June	June 4: 50 cents	
	Shirts, pajamas and other cotton garment manufacturers .....	Clothing and Textile Workers	12,500	Sept. 6, 1982 to Sept. 6, 1985	January	July: 40 cents	
	Greater Blouse, Skirt and Undergarment Association, Inc. ....	Ladies Garment Workers	23,000	June 1, 1982 to May 31, 1985	February	June 2: 40 cents	
	New York Coat and Suit Association .....	Ladies Garment Workers	20,000	June 1, 1982 to May 30, 1985	February	June 2: 40 cents	
24	Lumber and wood products, except furniture: Western States Wood Products Employers Association (Boise-Cascade Corp., Champion International Co., Crown Zellerbach Corp., Georgia-Pacific Corp., International Paper Co., ITT-Rayonier Inc., Louisiana-Pacific Corp., Publishers Paper Co., Simpson Timber Co., and Weyerhaeuser Co.)	Woodworkers; Lumber Production and Industrial Workers (Ind.)	36,000	June 1, 1983 to May 31, 1986	.....	June 1: 4 percent	
26	Paper and allied products: International Paper Co., Multiple Mill Group .....	Paperworkers and Electrical Workers (IBEW)	6,000	June 1, 1983 to May 30, 1986	.....	June 1: 6 percent	
27	Printing: Metropolitan Lithographers Association, Inc. (New York, New Jersey, Connecticut, and Pennsylvania) .....	Amalgamated Lithographers of America, Local One	5,000	July 1, 1982 to June 30, 1984	.....	.....	
30	Rubber and miscellaneous plastic products: B.F. Goodrich Co. ....	Rubber Workers	8,700	Apr. 21, 1982 to Apr. 20, 1985	January, thereafter quarterly	.....	
	Firestone Tire and Rubber Co. ....	Rubber Workers	9,500	Apr. 21, 1982 to Apr. 20, 1985	January, thereafter quarterly	.....	
	General Motors Corp., Inland Manufacturing Division (Dayton, Ohio)	Rubber Workers	3,600	May 10, 1982 to Sept. 14, 1984	March and June	.....	
	Goodyear Tire and Rubber Co. ....	Rubber Workers	18,000	Apr. 21, 1982 to Apr. 20, 1985	January, thereafter quarterly	.....	
32	Stone, clay, and glass products: Brockway Glass Co., Inc. ....	Glass, Pottery and Plastics Workers	7,000	Apr. 1, 1983 to Mar. 31, 1986	April	April 1: 30 cents	
	Owens-Illinois, Inc. ....	Glass, Pottery and Plastics Workers	8,600	Apr. 1, 1983 to Mar. 31, 1986	April	April 1: 30 cents	
33	Primary metal industries: 7 major basic steel companies: Armco Inc.; Bethlehem Steel Corp.; Inland Steel Co.; Jones & Laughlin Steel Corp.; National Steel Corp.; Republic Steel Corp.; United States Steel Corp.	Steelworkers	240,000	Feb. 28, 1983 to July 31, 1986	August and November	Feb.: 40 cents	
	Aluminum Co. of America .....	Aluminum Workers	10,000	June 1, 1983 to May 31, 1986	March, thereafter quarterly	.....	
	Aluminum Co. of America .....	Steelworkers	10,000	June 1, 1983 to May 31, 1986	March, thereafter quarterly	.....	
	Armco Steel Corp. (Middletown, Ohio) ..	Armco Employees Independent Federation (Ind.)	4,800	May 15, 1983 to July 31, 1986	August and November	.....	
	Kaiser Aluminum and Chemical Corp. ...	Steelworkers	7,500	June 1, 1983 to May 31, 1986	March, thereafter quarterly	.....	
	Reynolds Metals Co. ....	Steelworkers	7,900	June 1, 1983 to May 31, 1986	March, thereafter quarterly	.....	
	Reynolds Metal Co. ....	Aluminum Workers	7,500	June 1, 1983 to May 31, 1986	March, thereafter quarterly	.....	

See footnotes at end of table.

**Table 3. Continued—Expiration and wage adjustment provisions of selected major collective bargaining agreements**

[Listed in order of Standard Industrial Classification code]

1972 SIC Code	Industry and employer	Union <sup>1</sup>	Number of workers <sup>2</sup>	Contract term <sup>3</sup>	Provisions for 1984 automatic cost-of-living review <sup>4</sup>	Provisions for 1984 deferred wage increases <sup>5</sup>
34	Fabricated metal products: American Can Co. ....	Steelworkers	5,500	Mar. 9, 1983 to Feb. 16, 1986	February, thereafter quarterly	.....
	Continental Group, Inc. ....	Steelworkers	5,400	Mar. 9, 1983 to Feb. 16, 1986	February, thereafter quarterly	.....
35	Machinery, except electrical: Caterpillar Tractor Co. ....	Auto Workers	20,400	Apr. 25, 1983 to June 1, 1986	June, thereafter quarterly	.....
	Cummins Engine Co., Inc. (Columbus, Ind.) ....	Diesel Workers Union (Ind.)	7,000	May 4, 1981 to Apr. 29, 1984	February and April	.....
	Deere and Co. (Illinois and Iowa) ....	Auto Workers	18,000	June 1, 1983 to June 1, 1986	June, thereafter quarterly	.....
	International Harvester Co. ....	Auto Workers	19,000	May 3, 1982 to Sept. 30, 1984	March and June	Sept. 30: 3 percent
	Timken Co. (Ohio) ....	Steelworkers	8,000	Aug. 28, 1983 to Aug. 25, 1986	September, thereafter quarterly	July 29: 40 cents
36	Electrical machinery, equipment, and supplies: General Electric Co. ....	Electrical Workers (UE, Ind.)	13,000	June 28, 1982 to June 27, 1985	June and December	June 25: 3 percent
	General Electric Co. ....	Electrical Workers (IUE)	60,000	June 28, 1982 to June 27, 1985	June and December	June 25: 3 percent
	General Motors Corp. (New Jersey, New York, and Ohio) ....	Electrical Workers (IUE)	30,000	Apr. 3, 1982 to Sept. 14, 1984	March and June	.....
	Hughes Aircraft Co. (California) ....	Carpenters	12,000	Dec. 5, 1982 to Nov. 2, 1985	.....	Apr. 7: 13-22 cents, Aug. 4: 13-22 cents, Dec. 1: 30-56 cents Dec. 3: 3 percent
	RCA Corp. ....	Electrical Workers (IBEW)	8,000	Dec. 1, 1982 to Dec. 1, 1985	June and December	Dec. 3: 3 percent
	RCA Corp. ....	Electrical Workers (IUE)	8,000	Dec. 1, 1982 to Dec. 1, 1985	June and December	Dec. 3: 3 percent
	Western Electric Co. Inc. ....	Communications Workers	58,000	Aug. 2, 1983 to Aug. 6, 1986	August	Aug.: 1.5 percent
	Westinghouse Electric Corp. ....	Electrical Workers (IBEW)	12,000	July 12, 1982 to July 21, 1985	January and July	July 9: 3 percent
	Westinghouse Electric Corp. ....	Electrical Workers (IUE)	15,000	July 16, 1982 to July 21, 1985	January and July	July 9: 3 percent
	Westinghouse Electric Corp. ....	Federation of Westinghouse Independent Salaried Unions (Ind.)	11,000	July 12, 1982 to July 21, 1985	January and July	July 9: 3 percent
371	Transportation equipment-motor vehicle and motor vehicle equipment: American Motors Corp. (Wisconsin) ....	Auto Workers	14,000	Mar. 1, 1982 to Sept. 16, 1985	.....	.....
	American Motors Corp., Jeep Corp. (Ohio) ....	Auto Workers	5,750	Mar. 1, 1982 to Jan. 31, 1985	.....	.....
	Budd Co. (P&M) ....	Auto Workers	7,800	Apr. 26, 1982 to Mar. 8, 1985	.....	.....
	Chrysler Corp., Engineering Dept. ....	Auto Workers	5,300	Aug. 15, 1983 to Sept. 15, 1985	March, thereafter quarterly	June 4: 3 percent
	Chrysler Corp. (P&M) ....	Auto Workers	41,500	Aug. 5, 1983 to Sept. 14, 1985	March, thereafter quarterly	June 4: 3 percent
	Ford Motor Co. ....	Auto Workers	160,000	Mar. 1, 1982 to Sept. 14, 1984	March and June	.....
	General Motors Corp. ....	Auto Workers	470,000	Apr. 12, 1982 to Sept. 14, 1984	March and June	.....
	Mack Trucks, Inc. ....	Auto Workers	8,500	Dec. 7, 1982 to Oct. 20, 1984	March, June, and September	.....
372	Transportation equipment-aircraft: Beech Aircraft Corp. ....	Machinists	6,000	Aug. 3, 1981 to Aug. 5, 1984	March and June	.....
	Bendix Corp. ....	Auto Workers	5,500	Apr. 30, 1983 to Apr. 30, 1986	October	May 7: 3 percent
	Boeing Co. ....	Machinists	26,000	Oct. 4, 1983 to Oct. 3, 1986	January, thereafter quarterly	.....
	Cessna Aircraft Co. (Kansas) ....	Machinists	6,000	Sept. 28, 1981 to Sept. 30, 1984	.....	.....
	Lockheed Aircraft Corp. (California and Georgia) ....	Machinists	25,000	Oct. 2, 1983 to Oct. 1, 1986	January, thereafter quarterly	.....
	McDonnell-Douglas Corp. (St. Louis, Mo.) ....	Machinists	9,500	May 11, 1981 to May 13, 1984	February	.....
	Rockwell International Corp. (California, Ohio, and Oklahoma) ....	Auto Workers	13,000	Sept. 5, 1981 to June 30, 1984	January and April	.....
	United Technologies Corp., Pratt Whitney Aircraft Division (Connecticut) ....	Machinists	16,000	Nov. 29, 1982 to Dec. 1, 1985	June and December	Dec. 3: 19-54 cents

See footnotes at end of table.



**Table 3. Continued—Expiration and wage adjustment provisions of selected major collective bargaining agreements**

[Listed in order of Standard Industrial Classification code]

1972 SIC Code	Industry and employer	Union <sup>1</sup>	Number of workers <sup>2</sup>	Contract term <sup>3</sup>	Provisions for 1984 automatic cost-of-living review <sup>4</sup>	Provisions for 1984 deferred wage increases <sup>5</sup>
373	Transportation equipment-shipbuilding: Bethlehem Steel Corp., Shipbuilding Department	Marine and Shipbuilding Workers	5,000	Aug. 14, 1981 to Aug. 19, 1984	February and May	.....
	Litton Systems, Inc., Ingalls Shipbuilding Division (Pascagoula, Miss.)	Pascagoula Metal Trades Council and Teamsters (Ind.)	7,500	Feb. 1, 1981 to Jan. 29, 1984	.....	.....
	Newport News Shipbuilding and Drydock Co. (Virginia)	Steelworkers	18,000	Nov. 1, 1983 to May 31, 1987	.....	March 1: 7 percent
	Pacific Coast Shipbuilding and Ship Repair Firms	Pacific Coast Metal Trades District Council and Teamsters (Ind.)	11,000	July 1, 1983 to June 30, 1986	February, thereafter quarterly	.....
374	Transportation equipment-railway cars: Pullman, Inc., Pullman Standard Division	Steelworkers	4,500	Apr. 4, 1981 to May 4, 1984	January	.....
38	Professional, scientific, and controlling instruments; photographic and optical goods; watches and clocks: Honeywell, Inc. (Minneapolis and St. Paul, Minn.)	Teamsters (Ind.)	7,000	Feb. 1, 1982 to Jan. 31, 1985	.....	.....
39	Miscellaneous manufacturing: National Association of Doll Manufacturers, Inc. and Stuffed Toy Manufacturers Association, Inc. (New York, N.Y.)	Novelty and Production Workers	6,000	July 1, 1982 to June 30, 1985	.....	July 1: \$15.00 per week
<b>Nonmanufacturing</b>						
12	Bituminous coal and lignite mining: Association of Bituminous Contractors, Inc.	Mine Workers (Ind.)	11,000	June 7, 1981 to Sept. 30, 1984	.....	March 25: 15 cents, June 25: 30 cents
	Bituminous Coal Operators Association	Mine Workers (Ind.)	160,000	July 1, 1981 to Oct. 1, 1984	.....	March 25: 15 cents, June 25: 30 cents
15	Construction: Mid-America Regional Bargaining Association (Illinois)	Carpenters	16,500	June 1, 1983 to May 31, 1984	.....	.....
16	Construction: Associated General Contractors (Northern California)	Operating Engineers	12,000	June 16, 1983 to June 15, 1986	November	June 16: 5 percent
17	Construction: New York Electrical Contractors Association, Inc.	Electrical Workers (IBEW)	10,000	June 10, 1983 to June 12, 1986	.....	June 14: \$1.00
40	Railroads: Class I railroads: Operating unions	Locomotive Engineers (Ind.)	26,000	Apr. 1, 1981 to June 30, 1984	January	.....
		Transportation Union	85,000	Apr. 1, 1981 to June 30, 1984	January	.....
	Nonoperating unions: Shop craft	Electrical Workers (IBEW)	9,300	Apr. 1, 1981 to June 30, 1984	January	.....
		Firemen and Oilers	8,400	Apr. 1, 1981 to June 30, 1984	January	.....
		Machinists	15,000	Apr. 1, 1981 to June 30, 1984	January	.....
		Railway Carmen	31,700	Apr. 1, 1981 to June 30, 1984	January	.....
	Nonshop craft	Maintenance of Way Employees	61,000	Apr. 1, 1981 to June 30, 1984	January	.....
		Railway Clerks	70,500	Apr. 1, 1981 to June 30, 1984	January	.....
	Conrail and Amtrak, maintenance and equipment employees	Transport Workers and Railway Carmen	7,000	Apr. 1, 1981 to June 30, 1984	January	.....
	Conrail, clerks	Railway Clerks	12,450	Apr. 1, 1981 to June 30, 1984	January	.....
Conrail, operating employees	United Transportation Union	16,100	Apr. 1, 1981 to June 30, 1984	January	.....	
42	Trucking and warehousing: Local Cartage, for Hire, and Private carriers agreement (Chicago, Ill.)	Chicago Truck Drivers (Ind.)	7,500	Apr. 1, 1982 to Mar. 31, 1985	April	.....
	National Master Freight agreements and Local Cartage supplements	Teamsters (Ind.)	200,000	Mar. 1, 1982 to Mar. 31, 1985	April	.....
	Local Cartage Over-the-road	Teamsters (Ind.)	100,000	Mar. 1, 1982 to Mar. 31, 1985	April	.....
	United Parcel Service	Teamsters (Ind.)	69,000	May 1, 1982 to June 1, 1985	May	.....

See footnotes at end of table.

**Table 3. Continued—Expiration and wage adjustment provisions of selected major collective bargaining agreements**

[Listed in order of Standard Industrial Classification code]

1972 SIC Code	Industry and employer	Union <sup>1</sup>	Number of workers <sup>2</sup>	Contract term <sup>3</sup>	Provisions for 1984 automatic cost-of-living review <sup>4</sup>	Provisions for 1984 deferred wage increases <sup>5</sup>
44	Water transportation: Dry Cargo and Tanker Cos., . . . . .	Masters, Mates and Pilots	3,300	June 16, 1981 to June 15, 1984	.....	.....
	Dry Cargo and Tanker Cos., Tankers, . . .	Maritime Union	15,000	June 16, 1981 to June 15, 1984	.....	.....
	Pacific Maritime Association . . . . .	Longshoremen and Warehousemen (Ind.)	9,600	July 1, 1981 to July 1, 1984	.....	.....
	Dry Cargo and Tanker Cos., . . . . .	Seafarers	10,000	June 16, 1981 to June 15, 1984	.....	.....
Airlines:	American Airlines, Inc., . . . . .	Transport Workers	10,400	Sept. 1, 1982 to Aug. 31, 1985	.....	Sept. 8: 7 percent
	48	Communications: American Telephone and Telegraph Co., . . .	Communications Workers	525,000	Aug. 28, 1983 to Aug. 9, 1986	August
	American Telephone and Telegraph Co., . . .	Electrical Workers (IBEW)	100,000	Aug. 7, 1983 to Aug. 9, 1986	August	Aug. 5: 0-1.5 percent
	American Telephone and Telegraph Co., . . .	Telecommunications Workers	50,000	Aug. 7, 1983 to Aug. 9, 1986	August	Aug. 5: 0-1.5 percent
	General Telephone Co. of California . . . .	Communications Workers	21,000	Mar. 4, 1983 to Mar. 6, 1986	.....	Mar.: 4 percent, Oct.: 4 percent
	General Telephone Co. of the Southwest . . .	Communications Workers	9,000	May 16, 1983 to May 16, 1986	.....	May: 5.25 percent, Nov.: 1.95 percent
	Western Union Telegraph Co., . . . . .	Telegraph Workers	8,800	July 28, 1982 to July 27, 1985	.....	July: 7.1 percent
49	Electric, gas, and sanitary services: Consolidated Edison Company of New York, Inc., . . . . .	Utility Workers	16,000	Aug. 22, 1983 to June 17, 1986	.....	July 29: 7 percent
	Niagara Mohawk Power Corp. (New York)	Electrical Workers (IBEW)	7,700	June 1, 1982 to May 31, 1984	.....	.....
	Pacific Gas and Electric Co. (California) . . .	Electrical Workers (IBEW)	18,000	Jan. 1, 1983 to Dec. 30, 1985	January	Jan. 1: 3 percent
	Southern California Gas Co. (California) . . .	Utility Workers	4,900	Apr. 1, 1982 to Mar. 31, 1984	.....	.....
53	Retail trade-general merchandise: Bloomingdale Bros. (New York) . . . . .	Retail, Wholesale and Department Store	4,000	Mar. 1, 1982 to Feb. 28, 1985	.....	.....
	R. H. Macy and Co., Inc. (New York, N.Y.) . . . . .	Retail, Wholesale and Department Store	4,000	June 1, 1981 to May 31, 1984	.....	.....
	Woodward and Lothrop, Inc. (Maryland, D.C., and Virginia) . . . . .	Food and Commercial Workers	5,500	Feb. 1, 1983 to Jan. 31, 1986	.....	Feb. 5: 5 percent average
54	Retail trade—food stores: Acme Food Stores and others (Pennsylvania, New Jersey, and Delaware) . . . . .	Food and Commercial Workers	8,000	Jan. 18, 1981 to Jan. 18, 1984	.....	.....
	Chain and independent food stores (Minneapolis, Minn.) . . . . .	Food and Commercial Workers	7,500	Mar. 6, 1983 to Mar. 5, 1986	.....	Mar. 1: 5 percent
	Chicago area grocery stores (Illinois) . . . . .	Food and Commercial Workers	6,750	June 27, 1982 to Mar. 25, 1985	.....	Mar. 25: 0-35 cents, Sept. 30: 15 cents
	Cleveland Food Industries Committee (Ohio) . . . . .	Food and Commercial Workers	3,500	Mar. 14, 1983 to Sept. 4, 1984	.....	.....
	Food Employers Council, Inc. Independent retail operators, general merchandise (Los Angeles, Calif.) . . . . .	Food and Commercial Workers	65,000	July 27, 1981 to July 29, 1984	January	.....
	Food Employers Labor Relations Association of Northern California . . . . .	Food and Commercial Workers	13,000	Mar. 1, 1983 to Feb. 28, 1985	.....	.....
	Food Industry Agreement (St. Louis, Mo.) . . . . .	Food and Commercial Workers	8,500	May 9, 1982 to May 11, 1985	.....	May 6: 0-30 cents, Nov. 11: 0-20 cents
	Meijer, Inc. (Michigan) . . . . .	Food and Commercial Workers	9,000	Aug. 2, 1981 to July 21, 1984	February	.....
	Stop and Shop Cos., Inc. (New England)	Food and Commercial Workers	10,250	Feb. 24, 1982 to Feb. 9, 1985	.....	Feb. 12: 10-30 cents part time, \$10-30 per week full time
	58	Retail trade-eating and drinking places: Seattle Restaurant and Hotel Association (Seattle, Wash.) . . . . .	Hotel Employees and Restaurant Employees	5,000	June 1, 1981 to May 31, 1984	.....
63	Insurance: John Hancock Mutual Life Insurance Co., . . . . .	Insurance Employees	6,000	July 1, 1981 to June 27, 1984	.....	.....
65	Finance, insurance, and real estate: Bronx Realty Advisory Board, Inc. (New York) . . . . .	Service Employees	3,300	Sept. 15, 1982 to Mar. 14, 1986	.....	.....
	Building Managers Association of Chicago . . . . .	Service Employees	6,500	Mar. 29, 1982 to Mar. 28, 1984	.....	.....
	Realty Advisory Board of Labor Relations, Inc., Apartment Buildings (New York, N.Y.) . . . . .	Service Employees	20,000	Apr. 21, 1982 to Apr. 20, 1985	April	Apr. 21: 50-52.5 cents

See footnotes at end of table.



**Table 3. Continued—Expiration and wage adjustment provisions of selected major collective bargaining agreements**

[Listed in order of Standard Industrial Classification code]

1972 SIC Code	Industry and employer	Union <sup>1</sup>	Number of workers <sup>2</sup>	Contract term <sup>3</sup>	Provisions for 1984 automatic cost-of-living review <sup>4</sup>	Provisions for 1984 deferred wage increases <sup>5</sup>
70	Hotels, rooming houses, camps, and other lodging places:					
	Hotel Association of New York City, Inc. (New York) . . . . .	New York Hotel Trades Council	25,000	June 1, 1981 to May 31, 1985	.....	.....
	Hotel Industry (Hawaii) . . . . .	Hotel Employees and Restaurant Employees	7,000	Dec. 1, 1980 to May 31, 1984	.....	.....
	Nevada Resort Association, Resort Hotels (Las Vegas, Nev.) . . . . .	Hotel Employees and Restaurant Employees	25,000	Apr. 2, 1980 to Apr. 1, 1984	.....	.....
78	Motion pictures: Screen Actors Guild/American Federation of Television and Radio Artists . . . . .	Actors	86,000	July 1, 1983 to June 30, 1986	.....	.....
80	Medical and other health services: Health Employers, Inc. (Minneapolis and St. Paul, Minn.) . . . . .	Service Employees	4,800	Mar. 1, 1982 to Feb. 28, 1984	.....	.....

<sup>1</sup>Unions are affiliated with AFL-CIO, except where noted as independent (Ind.).  
<sup>2</sup>Number of workers at time of settlement.  
<sup>3</sup>Contract term refers to the date contract is to go into effect, not the date of signing. Where a contract has been amended or modified and the original termination date extended, the effective date of the change becomes the new effective date of the agreement. For purposes of this listing, the expiration is the formal termination date established by the agreement. In general, it is the earliest date on which termination of the contract could be effective, except for special provisions for termination as in the case of disagreement arising out of wage reopening. Many agreements provide for automatic renewal at the expiration date unless notice of termination is given.  
<sup>4</sup>Dates shown indicate the month in which adjustment is to be made, not the month of the Consumer Price Index on which adjustment is based.  
<sup>5</sup>Hourly rate increase unless otherwise specified.

These agreements cover half of all construction workers under major agreements and account for more than half of the industry's major contracts. Most workers are under 200 contracts that expire in March through June.

The number of expiring agreements is relatively large and stems from the recent tendency to negotiate shorter term agreements when faced with economic uncertainty. The average duration of construction agreements reached in the first 9 months of 1983 was 25.5 months, compared with 28.1 months when the same parties previously bargained. About 40 percent of the 180 construction agreements negotiated in the first 9 months in 1983 will expire or reopen in 1984, compared with 33 percent of the 181 contracts negotiated in 1982 that expired or reopened in 1983.

Weak demand for new construction, which caused high unemployment, and continuing competition from nonunion firms have sharply limited the size of construction contract settlements. The industry's unemployment rate was 15.2 percent in October 1983, down from 22.3 percent in October 1982, but still high when compared with the 10-percent rate of October 1979.

Agreements reached in the first 9 months of 1983 provided the industry's lowest average wage and compensation adjustments for any 3-quarter period since this component of the major collective bargaining series began in 1968. Wage adjustments averaged 1.3 percent for the first contract year and 2.2 percent annually over the life of the contracts; corresponding adjustments in compensation (wage and benefit costs) averaged 2.2 percent and 2.7 percent.

Unless the industry's business improves, the 1983 contract provisions designed to reduce employer costs can be expected in many new agreements. These provisions include: lower regular rates for new hires, modification of overtime provisions, and lower wage rates for projects val-

ued below a specified amount. (This last provision is intended to allow unionized employers to compete with nonunion employers on small contracts while, at the same time, maintain wage levels on the larger contracts for which nonunion firms may be too small to compete.)

**Rail contracts expire in June**

Agreements for 345,000 railroad workers expire June 30, 1984. Eighty-four percent of these workers are employed by private Class I railroads (carriers with operating revenues of more than \$50 million a year); 11 percent by Consolidated Rail Corp. (Conrail); and the remainder by Amtrak. Representatives of 13 railroad unions will conduct coordinated bargaining sessions with the National Railway Labor Conference, the bargaining agent for most of the rail carriers. Three unions represent a majority of the workers—the United Transportation Union; the Brotherhood of Maintenance of Way Employees; and the Brotherhood of Railway, Airline and Steamship Clerks, Freight Handlers, Express and Station Employees.<sup>6</sup> The conference, formed in 1963, represented all the major rail carriers except Amtrak until 1978. Since then, it has represented most Class I railroads; Conrail and several bankrupt railroads bargained on their own.

Between 1973 and 1978, the major unions and the conference coordinated bargaining of agreements providing for common expiration dates and for identical changes in wages, cost-of-living adjustments (COLA), and health and welfare benefits. Some unions negotiated supplemental agreements, however, covering sickness plans. Issues specific to individual unions are considered in separate negotiations between each union and the conference.

The 1981 rail negotiations resulted in 39-month agreements in December which provided for a 2-percent wage increase retroactive to April (when the previous contracts

**Table 4. Scheduled deferred wage adjustments in 1984 under major collective bargaining agreements, by industry**

Selected industry	Number of agreements	Number of workers (thousands)	Mean adjustment						Median adjustment		Mean increase		Mean decrease	
			Total		With COLA		Without COLA		Cents	Percent <sup>1</sup>	Cents	Percent <sup>1</sup>	Cents	Percent <sup>1</sup>
			Cents	Percent <sup>1</sup>	Cents	Percent <sup>1</sup>	Cents	Percent <sup>1</sup>						
All private nonagricultural industries	637	3,407	46.8	4.1	30.8	3.1	67.3	5.5	40.0	3.3	47.2	4.2	-48.1	-3.6
Manufacturing <sup>2</sup>	273	1,415	39.1	4.2	35.7	3.8	51.2	5.3	40.0	3.2	39.1	4.2	-44.4	( <sup>3</sup> )
Food and kindred products	29	76	50.8	4.9	35.4	3.2	54.3	5.3	41.7	5.1	50.8	4.9	—	—
Apparel and other finished products	35	318	40.9	5.9	41.1	5.9	36.6	6.1	40.0	5.8	40.9	5.9	—	—
Paper and allied products	20	30	57.8	5.5	—	—	57.8	5.5	56.1	5.9	57.8	5.5	—	—
Metalworking	118	786	35.5	3.3	33.3	3.0	56.9	5.9	35.5	3.0	35.6	3.3	-44.4	( <sup>3</sup> )
Nonmanufacturing <sup>4</sup>	364	1,992	52.3	4.1	24.0	2.0	71.5	5.6	45.0	3.3	53.0	4.2	-48.4	-3.6
Construction	159	467	90.0	5.7	92.5	5.7	89.7	5.7	100.0	6.1	93.8	6.0	-48.4	-3.6
Transportation, communications and gas and electric utilities	84	884	36.9	2.8	18.2	1.5	97.7	7.0	15.8	1.4	36.9	2.8	—	—
Wholesale and retail trade	77	344	41.6	4.9	30.0	2.8	44.0	5.3	43.8	4.7	41.6	4.9	—	—
Services	36	107	62.3	6.2	72.3	6.1	61.7	6.2	58.9	7.0	62.3	6.2	—	—

<sup>1</sup>Percent of straight-time average hourly earnings.

<sup>2</sup>Includes workers in the following industry groups for which data are not shown separately to ensure confidentiality of earnings data: textiles (5,000); lumber (45,000); furniture (10,000); printing (14,000); chemicals (26,000); leather (15,000); stone, clay and concrete (42,000); instruments (11,000); tobacco (18,000); rubber (8,000); and miscellaneous manufacturing (10,000).

<sup>3</sup>Data do not meet publication criteria.

<sup>4</sup>Includes 164,000 workers in the mining industry and 24,000 workers in the finance, insurance and real estate industries for which data are not shown separately to ensure confidentiality of earnings data.

NOTE: Workers are distributed according to the average adjustment for all workers in each bargaining situation considered. Deferred wage increases include guaranteed minimum adjustments under cost-of-living clauses. Because of rounding, sums of individual items may not equal totals. Dashes indicate no adjustment.

expired), 3 percent retroactive to October, and 3 percent in July of 1982 and 1983. They provided automatic "cost-of-living increases" of 32 cents an hour retroactive to July 1981, 35 cents an hour in January 1982, and semiannual COLA's of 1 cent for each 0.3-point change in the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), with a maximum increase of 8 percent per year. Portions of the COLA were incorporated into base rates twice during the term of the agreement. Improved vacations, an additional paid holiday, and improved medical and dental benefits were also provided.<sup>7</sup>

Financially troubled Conrail (a quasi-government corporation) reached agreements with its 70,000 union-represented workers concurrently with the conference. These agreements conform with the understanding between Conrail and the unions that employees would forego part of the increases under national pattern agreements. Thus, Conrail employees did not receive 10 percent of the 1981 wage increase and about 2 percent of the 1982 increase negotiated under the other railroad agreements.<sup>8</sup>

The enactment of the Railroad Retirement Solvency Act of 1983<sup>9</sup> will alleviate concern about the viability of the railroad pension fund during the coming negotiations. In the absence of this act, pensions of more than 1 million railroad retirees would have been reduced 40 percent beginning in October 1983. The act ensures the solvency of the railroad pension plan through the 1980's, but current and future retirees are subject to some benefit cuts and changes.

Undoubtedly, negotiations will be influenced by the industry's improved economic performance and by the recent deregulation, which spurred merger proposals and increased competition among major carriers. At its convention in August, Fred Hardin, president of the 230,000-member United

Transportation Union predicted that the railroads would seek givebacks and concessions similar to those negotiated in other industries in 1982 and 1983. He also mentioned the possibility of the "Caboose Issue," concerning a proposal by the companies to replace humans in the caboose with electric monitors, surfacing at the talks.<sup>10</sup> According to an industry analyst at the National Railway Labor Conference, such replacements have been cost effective in trial runs in Florida and would save up to \$400 million for the industry.

### Ford and GM contracts expire

Master agreements between the United Automobile, Aerospace and Agricultural Implement Workers of America (UAW) and the two largest automobile manufacturing companies—General Motors Corp. (GM) and the Ford Motor Co.—expire September 14, 1984. Approximately 750,000 workers are covered by motor vehicle equipment industry agreements expiring in 1984; about three-fifths are employed by GM or Ford.<sup>11</sup> These expiring agreements were negotiated before previous agreements had expired to provide relief to a financially troubled industry. Currently, demand for automobiles is the strongest since 1978; therefore, auto workers will probably seek improved wages and benefits in their 1984 agreements. The auto companies are likely to respond by proposing tougher rules on crew size and absenteeism.<sup>12</sup>

The UAW bargains individually with each major firm. In the past, the union "targeted" one of the "Big Three" companies (GM, Ford, and Chrysler) for its primary effort at reaching a pattern-setting agreement.

In 1979, the financially troubled Chrysler Corp. deviated from the pattern contracts that had characterized the "Big Three" since the mid-1950's. Chrysler negotiated a 3-year agreement that was less costly than those at Ford and GM.



Subsequently, in January 1980 and in January 1981, Chrysler employees agreed to further wage and benefit reductions to aid the company's effort to win Federal loan guarantees.

The givebacks at Chrysler, combined with the continuing slump in sales of domestic automobiles, caused GM and Ford to press the UAW for wage-and-benefit concessions during 1981. Although the existing agreements were not due to expire until September 1982, high unemployment in the industry and the threat of further layoffs and future plant closings led the UAW to agree to an unscheduled reopening of the contracts. Settlements were reached with Ford in February 1982 and with GM in April 1982, superseding the existing 3-year contracts. The new accords did not provide for any specific wage increases over the 2½-year contract term, but retained COLA provisions. However, each of the first three COLA's was delayed for 18 months. (The COLA

provisions of the Ford and GM contracts differed slightly to equalize labor costs as GM had already paid the March 1982 COLA increase called for in the previous agreement.)

At the Chrysler Corp., a \$482-million profit in the first 6 months of 1983 and plans to pay back \$1.2 billion in federally backed loans 7 years early prompted demands by the UAW for a reopening of the contract slated to expire in June 1984. The union's primary goal was an immediate \$2-an-hour raise in wages to attain the level at Ford and GM.

Following an unsuccessful effort in July, new talks quickly resulted in a new accord in September which restored pension benefits and insurance to current parity with Ford and GM, and also provided an initial \$1-an-hour increase retroactive to August 15, and increases of 3 percent (averaging 30 cents an hour) in June 1984; 40 cents an hour in March and June of 1985; and 32 cents in September 1985. Quarterly

**Table 5. Distribution of workers scheduled to receive deferred wage increases in 1984 under major collective bargaining agreements, by industry and amount of increase**

(Workers in thousands)

Increase	All private nonagricultural industries	Selected manufacturing industries <sup>1</sup>					Selected nonmanufacturing industries <sup>2</sup>				
		Total	Food and kindred products	Apparel and other finished products	Paper and allied products	Metalworking	Total	Construction	Transportation, communications and gas and electric utilities	Wholesale and retail trade	Services
<b>Cents per hour</b>											
Under 15 cents	148	94	4	—	—	78	54	3	30	18	3
15 and under 20	658	30	2	—	—	25	629	—	613	2	14
20 and under 25	69	24	—	—	—	23	45	—	4	35	4
25 and under 30	107	39	1	—	—	33	68	26	—	36	6
30 and under 35	380	359	17	54	2	228	21	7	4	8	3
35 and under 40	125	52	8	7	—	23	73	5	6	53	7
40 and under 45	583	520	7	176	2	287	63	4	20	32	8
45 and under 50	245	48	4	5	4	9	197	13	5	15	4
50 and under 60	323	131	8	77	11	23	192	58	5	101	8
60 and under 70	170	64	15	—	2	42	106	14	45	40	5
70 and under 80	109	21	—	—	9	7	88	32	51	3	3
80 and under 90	70	9	2	—	—	4	61	29	22	2	7
90 and under 100	51	4	—	—	—	1	47	14	29	—	5
100 and under 110	130	5	—	—	—	—	125	96	2	—	27
110 and under 120	77	9	9	—	—	—	68	43	23	—	2
120 and over	146	5	—	—	—	2	140	112	27	—	1
<b>Percent<sup>3</sup></b>											
Under 2 percent	819	135	6	—	—	115	684	27	646	11	—
2 and under 3	231	116	5	—	—	103	115	41	8	61	3
3 and under 4	858	570	17	—	1	469	289	43	31	47	6
4 and under 5	230	93	6	20	5	24	137	32	2	74	29
5 and under 6	418	242	29	148	11	27	177	66	58	47	5
6 and under 7	313	126	5	65	13	24	188	67	14	46	41
7 and under 8	348	110	1	85	—	15	239	107	84	40	6
8 and under 9	96	15	8	—	1	2	80	38	28	1	12
9 and under 10	42	1	—	—	—	1	41	17	2	18	4
10 and under 11	16	3	—	—	—	1	13	11	—	—	2
11 and under 12	2	—	—	—	—	—	2	2	—	—	—
12 and over	19	4	—	—	—	4	15	3	12	—	—
Number of workers (in thousands)	3,393	1,414	76	318	30	785	1,979	454	884	344	107
Number of agreements	633	272	29	35	20	117	361	156	84	77	36

<sup>1</sup>Includes workers in the following industry groups for which data are not shown separately to ensure confidentiality of earnings data: textiles (5,000); lumber (45,000); furniture (10,000); printing (14,000); chemicals (26,000); leather (15,000); stone, clay, and concrete (42,000); instruments (11,000); tobacco (18,000); rubber (8,000); and miscellaneous manufacturing (10,000).

<sup>2</sup>Includes 164,000 workers in the mining industry and 24,000 workers in the finance, insurance, and real estate industry for which data are not shown separately to ensure

confidentiality of earnings data.

<sup>3</sup>Percent of straight-time average hourly earnings.

NOTE: Workers are distributed according to the average adjustment for all workers in each bargaining situation considered. Deferred wage increases include guaranteed minimum adjustments under cost-of-living clauses. Because of rounding, sums of individual items may not equal totals. Dashes indicate no workers.

cost-of-living adjustments of 1 cent for each 0.26-point rise in a consumer price index were reinstated. The agreement expires in October 1985.

Bargainers in 1984 will be dealing with a changing industry. Productivity gains through the increasing use of robotics may mean a permanent loss of employment despite any upturn in the economy.<sup>13</sup> While all major U.S. auto manufacturers showed a marked increase in profits and sales in the third quarter of 1983,<sup>14</sup> about 130,000 workers were still on indefinite layoff in mid-September.<sup>15</sup>

### Coal contracts expire in fall

Bargaining in the coal industry will be influenced by the new leadership of the United Mine Workers of America (UMW, Ind.) and a weak market. The national contract between the UMW and the Bituminous Coal Operators Association (BCOA), covering about 160,000 miners, is scheduled to expire September 30, 1984. This pact traditionally sets the pattern for the contract between the UMW and the Association of Bituminous Contractors (ABC), covering about 10,000 mine construction workers, also scheduled to expire September 30. Other UMW contracts include an agreement expiring May 31 which covers 2,500 anthracite workers in Pennsylvania, and about a dozen separate contracts with individual operators (primarily in the West) expiring at various times in 1984.

Other unions representing miners include the Southern Labor Union (Ind.), the Progressive Mine Workers Union (Ind.), the International Union of Operating Engineers (AFL-CIO), and the International Brotherhood of Electrical Workers (AFL-CIO). Independent single-firm unions also have collective bargaining agreements with operators.

About two-thirds of all coal miners work in underground mines, most of which are located east of the Mississippi. The remainder work in surface mines which account for about 60 percent of the coal mined in the United States. Surface mining operations are about evenly divided between the East and West. Western surface mining has accounted for an ever-increasing proportion of total coal production, and a majority of the miners are unionized, although the proportion is smaller than in the East.

Coal negotiations in 1984 will be held in a troubled industry. The Energy Information Administration of the U.S. Department of Energy estimates that U.S. coal production for 1983 dropped to 769.0 million tons,<sup>16</sup> from a record 838.1 million tons in 1982—the lowest production since 1978. In 1980—the year before the last round of coal collective bargaining—829.7 million tons of coal were produced. Coal consumption growth in the United States was moderated by economic problems affecting the demand for energy production by electrical utilities (which account for 80 percent of domestic use), by structural problems in the iron and steel industry, and by relatively stable prices for oil, coal's chief competitor. Because of poor coal production, unemployment in the industry was 27.6 percent in the

third quarter of 1983—nearly triple the nationwide unemployment rate.<sup>18</sup> In contrast, in the third quarter of 1980 (the year before the last round of coal negotiations), 8.9 percent of the coal miners were unemployed, compared with a national unemployment rate of 7.7 percent.

Although the economy improved in the latter half of 1983, the growth in domestic demand for coal was sluggish and did not offset the drop in coal exports.<sup>18</sup> Major factors contributing to the drop included a more competitive world market for coal and the continued economic slump abroad, which left other countries with large stockpiles of coal.

Coal production may improve in 1984, but not robustly, according to the Energy Information Administration. This assumes a continued economic recovery both domestically and abroad. Purchases of coal by electric utilities and by industrial users are expected to increase. In addition, producer/distributor and consumer stocks of coal may be increased following reductions in inventories, and there may also be traditional prebargaining stockpiling.

Unemployment in the industry is likely to remain high when the 1984 coal negotiations begin and will be a major concern of UMW President Richard L. Trumka, who will be negotiating as head of the union for the first time. Trumka succeeded Sam Church who also headed negotiations for the first time during the 1981 bargaining round. Reportedly, Trumka will take a firm stand against any possible contract "givebacks." The union's continuing concern with occupational health and safety for miners will also have an impact on talks.

The last coal agreement between the UMW and the BCOA was ratified on June 6, 1981, ending a strike which began March 27. An earlier contract proposal had been rejected by the rank and file. Agreement was reached when the mine operators agreed to continue to pay royalties into the workers' benefit fund on coal purchased for sale or resale. The miners had contended that elimination of the royalty pay-

**Table 6. Deferred wage increases scheduled in 1984 in major collective bargaining situations, by month**

[Workers in thousands]

Effective month	Principle industries	Workers covered
Total <sup>1</sup>	All industries	3,393
January	Construction, men's apparel	247
February	Steel	382
March	Food stores	363
April	Construction, glass manufacturing	268
May	Construction	236
June	Bituminous coal mining, men's apparel, electrical products, construction	721
July	Women's apparel, construction, electrical products	501
August	Communications	779
September	Food stores, motion picture production	161
October	Communications	105
November	Construction, food stores	106
December	Electrical products	142

<sup>1</sup>The total is smaller than the sum of individual items because 460,000 workers are scheduled to receive more than one increase. Total is based on data available as of October 1983 and, thus, may understate the number of workers scheduled to receive deferred increases for the entire year; 13,500 workers are scheduled to have a deferred wage decrease in 1984.



ment would have led to widespread purchase of coal from nonunion mines. The approved contract gave miners more protection against layoffs by prohibiting operators from contracting out work or leasing coal lands or operations if it deprived UMW members of work they had normally performed.

The union did not win its demand for restoration of a cost-of-living clause providing automatic pay adjustments based on the movement of the BLS Consumer Price Index. However, it did negotiate "set" pay increases designated as cost-of-living adjustments—15 cents quarterly from March 1982 through March 1984, and 30 cents in June 1984. The contract provided wage increases of \$1.20 an hour effective on resumption of work, 50 cents in June 1982, and 40 cents in June 1983. There also were improvements in pensions and health and welfare benefits.

The union later negotiated a separate but similar agreement for 10,000 mine construction workers and a less costly agreement for miners in the nine-county hard coal region

in eastern Pennsylvania, where workers had been on strike since May 1, 1981.

**Wage changes of expiring agreements**

Agreements expiring in 1984 will have yielded average effective wage adjustments over their life of at least 5.1 percent a year. When COLA adjustments through October 1983 are taken into account, the adjustment averages 5.5 percent.

	<i>Specified</i>	<i>Specified plus COLA</i>
Agreements expiring in 1984 ..	5.1	5.5
With COLA .....	2.8	3.9
Without COLA .....	7.4	7.4

Some of the contracts with COLA provide for reviews after October 1983; however, if the current trends continue, it is unlikely that any future COLA adjustments will substantially change the averages.

**Table 7. Prevalence of cost-of-living adjustment clauses in major collective bargaining agreements, October 1983**

[Workers in thousands]

1972 SIC Code	Private nonagricultural industry	All agreements		Agreements with COLA clauses			1972 SIC Code	Private nonagricultural industry	All agreements		Agreements with COLA clauses		
		Number	Workers covered	Number	Workers covered	Percent of workers covered by COLA clauses			Number	Workers covered	Number	Workers covered	Percent of workers covered by COLA clauses
	Total .....	1,630	7,926	573	4,539	57							
10	Metal mining .....	11	27	8	22	84							
11	Anthracite mining .....	1	2	1	2	100							
12	Bituminous coal and lignite mining .....	1	160	—	—	0	36	Electrical machinery equipment and supplies .....	73	382	56	341	89
15	Building construction general contractors .....	151	521	9	48	9	37	Transportation equipment .....	86	1,092	68	1,025	94
16	Construction other than building construction .....	110	369	13	65	18	38	Instruments and related products .....	12	25	4	6	26
17	Construction-special trade contractors .....	174	375	14	29	8	39	Miscellaneous manufacturing industries .....	10	15	2	3	21
20	Food and kindred products .....	81	240	24	105	44	40	Railroad transportation .....	26	394	26	394	100
21	Tobacco manufacturing .....	6	18	5	18	96	41	Local and urban transit .....	3	17	1	15	86
22	Textile mill products .....	11	37	1	5	13	42	Motor freight transportation .....	16	430	15	428	100
23	Apparel and other finished products .....	44	342	27	300	88	44	Water transportation .....	19	89	6	33	37
24	Lumber and wood products, except furniture .....	13	57	1	1	2	45	Transportation by air .....	38	162	5	21	13
25	Furniture and fixtures .....	11	16	2	3	17	48	Communications .....	44	726	24	637	88
26	Paper and allied products .....	52	82	—	—	0	49	Electric, gas, and sanitary services .....	75	238	14	50	21
27	Printing, publishing, and allied industries .....	25	47	11	24	51	50	Wholesale trade—durables .....	3	7	—	—	0
28	Chemicals and allied products .....	33	65	7	13	19	51	Wholesale trade—nondurables .....	8	36	1	25	70
29	Petroleum refining and related industries .....	18	34	—	—	0	53	Retail trade—general merchandise .....	17	61	3	13	22
30	Rubber and miscellaneous plastics .....	12	58	10	52	89	54	Food stores .....	89	464	20	90	19
31	Leather and leather products .....	12	33	—	—	0	55	Automotive dealers and service stations .....	7	10	—	—	0
32	Stone, clay, glass, and concrete products .....	30	75	25	67	90	56	Apparel and accessory stores .....	2	8	—	—	0
33	Primary metals industries .....	78	441	71	421	95	58	Eating and drinking places .....	17	61	—	—	0
34	Fabricated metal products .....	43	79	30	63	80	59	Miscellaneous retail stores .....	5	13	1	4	32
35	Machinery, except electrical .....	63	161	53	148	92	60-65	Finance, insurance, and real estate .....	18	93	6	46	50
							70-89	Services .....	82	362	9	21	6

NOTE: Due to rounding, sums of individual items may not equal totals, and percentages may not reflect shown ratios. Dashes indicate absence of cost-of-living coverage.

## Scheduled wage changes in 1984—all agreements

About 3.4 million of the 7.9 million workers covered by major collective bargaining agreements are scheduled to receive deferred wage increases in 1984. (See table 4, p. 27; table 5, p. 28; and table 6, p. 29.) This compares with 3 million or about a third of the total in 1983 (record lows for this component of the major collective bargaining series which began in 1967) and 4.3 million or nearly half of the total in 1982. About 13,500 workers will incur wage decreases in 1984, primarily as a result of 1983 construction industry settlements.

Deferred adjustments (increases and decreases) scheduled for 1984 average 4.1 percent or 46.8 cents.<sup>19</sup> Increases alone will average 4.2 percent, the lowest percent increase since this information was first compiled in 1970. This moderation reflects the size of settlements reached in 1982 and through the third quarter of 1983. Deferred increases from 1982 settlements will average 5.3 percent; those from 1983 settlements will average 3.6 percent. In contrast, 1983 deferred increases averaged 6.7 percent from 1981 settlements and 5.8 percent from 1982 settlements.

Contracts with COLA's generally provide smaller deferred wage increases than those without because they are negotiated with the anticipation that the COLA will generate some wage increases. Of the workers scheduled to receive deferred increases in 1984, about 56 percent have COLA coverage. Their deferred wage adjustments will average 3.1 percent, compared with 5.5 percent for those without COLA clauses.

*Cost-of-living adjustments.* COLA clauses are designed primarily to help workers recover purchasing power lost through price increases. Some COLA clauses, however, also decrease

wages if prices drop. Wage adjustments are based on a measure of price change, usually the BLS CPI-W. The size of the COLA wage change varies, depending on the formula used in adjustment calculations, the timing of reviews, whether or not maximum amounts ("caps") are specified, and if the formula provides for COLA decreases.

As of October 1983, 57 percent (4.5 million) of the 7.9 million workers under major agreements were covered by COLA clauses. (See table 7.) Coverage peaked at 61 percent in 1977, and proportionally coverage has remained relatively stable. Numerically, however, it has declined steadily (from 6.0 million in 1977 to 4.5 million in the third quarter of 1983) largely because of falling employment in industries where COLA clauses are common. The following shows the number of workers under major contracts and the number and percent covered by COLA clauses, 1971-84 (numbers in millions):

Year	Number under major agreements	With COLA coverage	
		Number	Percent
1971	10.8	3.0	27.8
1972	10.6	4.3	40.6
1973	10.4	4.1	39.4
1974	10.2	4.0	32.2
1975	10.3	5.3	51.5
1976	10.1	6.0	59.4
1977	9.8	6.0	61.2
1978	9.6	5.8	60.4
1979	9.5	5.6	58.9
1980	9.3	5.4	58.1
1981	9.1	5.3	58.2
1982	9.0	5.1	56.7
1983	8.5	4.9	57.6
1984	7.9	4.5	57.3

**Table 8. Timing and frequency of 1984 cost-of-living reviews in agreements in major collective bargaining situations**

[Workers in thousands]

Frequency of review	First quarter		Second quarter		Third quarter		Fourth quarter		Full year <sup>1</sup>	
	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered	Number of agreements	Workers covered
<b>All</b>										
Total	218	1,870	164	1,699	189	1,657	136	805	387	3,925
Quarterly	145	1,154	121	1,077	122	638	114	624	178	1,478
Semiannual	38	466	15	146	12	69	13	141	56	615
Annual	35	250	28	475	55	950	9	40	127	1,715
Other <sup>2</sup>	0	0	0	0	0	0	0	0	26	117
<b>Expiring in 1984</b>										
Total	88	1,213	36	756	15	32	1	2	101	1,247
Quarterly	59	812	33	751	15	32	1	2	59	812
Semiannual	28	399	3	5	0	0	0	0	31	404
Annual	1	3	0	0	0	0	0	0	1	3
Other <sup>2</sup>	0	0	0	0	0	0	0	0	10	28
<b>Expiring in later years</b>										
Total	130	657	128	942	174	1,625	135	803	286	2,679
Quarterly	86	343	88	326	107	605	113	622	119	667
Semiannual	10	67	12	141	12	69	13	141	25	210
Annual	34	248	28	475	55	950	9	40	126	1,713
Other <sup>2</sup>	0	0	0	0	0	0	0	0	16	89

<sup>1</sup>Agreements that have at least one review in the year.

<sup>2</sup>Includes monthly, combinations of annual and quarterly, combinations of annual and semiannual, and reviews dependent on the levels of the Consumer Price Index.

NOTE: Data include only cost-of-living reviews through the termination of the present agreement; does not assume the continuation of existing reviews after expiration dates.

Almost 3.7 million of the 4.5 million workers with COLA provisions are covered by contracts that tie possible adjustments to the movement in the BLS-CPI for "all cities." An additional 120,000 workers are under contracts which use an index for an individual city; and contracts for 700,000 in the motor vehicle and equipment industry relate adjustments to a combination of the U.S. and Canadian indices because contracts cover workers in both countries.

The most prevalent COLA adjustment formula calls for a 1-cent per hour wage change for each 0.3-point change in the CPI. This formula is found in COLA clauses for more than 1.7 million workers in industries such as steel, railroads, trucking, and aerospace. COLA clauses in major agreements in the automobile and rubber industries provide adjustments of 1 cent for each 0.26-point movement in the index they use; those in the electrical equipment industry provide 1 cent for each 0.175-percent change in the CPI; and those in telephone communications call for adjustments of 55 cents a week plus 0.65 percent of the individual's weekly rate for each 1.0-percent increase in the CPI.

Cost-of-living reviews are made at intervals specified in each clause. Eighty-six percent of the workers covered by COLA clauses will have at least one review in 1984. (See table 7, p. 30; and table 8, p. 31.) Annual reviews are the most common, affecting 1.7 million workers, primarily in the telephone communications, trucking, and apparel industries; quarterly reviews cover 1.5 million, including

workers in the automobile, steel, and aerospace industries; semiannual reviews affect 615,000 workers, mostly in railroads and electrical products.

More than 60,000 workers are covered by provisions for minimum or "guaranteed" COLA payments. These amounts were determined at the time the contracts were negotiated and are not dependent on the movement of a price index. Therefore, the Bureau of Labor Statistics does not treat these amounts as COLA adjustments.

Recently, there have been negotiated modifications in COLA clauses designed to reduce employer costs related to COLA's. These changes include delays or deferrals of COLA payments, diversions of COLA adjustments from wages to help finance benefits, elimination of some COLA adjustments, and formulas that provide smaller increases.

BARGAINING IN 1984 will be conducted at a time when economic conditions are predicted to be brighter nationally but may still be uncertain in many industries. Unscheduled contract reopenings to raise or lower wages to reflect changing circumstances would not be as surprising as they were 2 years ago. The 1984 bargaining scene may, therefore, differ somewhat from what has been described. In any case, bargaining will be watched carefully to see if historic patterns are re-established, or if the events of the last 2 years presage a new direction. □

—FOOTNOTES—

<sup>1</sup> Major collective bargaining situations cover 1,000 workers or more. Agreements in these situations may be embodied in more than one contract. However, negotiations for all workers in a situation are conducted among all parties to the agreement. Thus, a situation may include one or more companies and/or one or more employee organizations that bargain together to reach an agreement.

<sup>2</sup> Major oil companies are Gulf, Citgo, Texaco, Mobil, Union Oil of California, Phillips Petroleum, Standard Oil of California (Chevron), British Petroleum, Standard Oil of Ohio (Sohio), Standard Oil of Indiana (Amoco), and Atlantic Richfield.

<sup>3</sup> See *1982 Annual Energy Outlook: With Projections to 1990* (U.S. Department of Energy, Energy Information Administration, April 1983).

<sup>4</sup> See *Petroleum Information International, October 10, 1983*, weekly publication of Petroleum Information Corporation.

<sup>5</sup> For more details on the 1982 petroleum industry agreements see "Wage Highlights," *Current Wage Developments*, February 1982, p. 1.

<sup>6</sup> The 10 other unions participating in the negotiations are the American Train Dispatchers Association; Brotherhood of Locomotive Engineers (Ind.); International Association of Machinists and Aerospace Workers; Railroad Yardmasters of America; Sheet Metal Workers International Association; Brotherhood of Railroad Signalmen; International Brotherhood of Firemen & Oilers; International Brotherhood of Electrical Workers; Brotherhood of Railway Carmen of the United States and Canada; and International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers.

<sup>7</sup> For more details of the 1981 railroad accords see *Current Wage Developments*, December 1981, p. 1.

<sup>8</sup> For more details of the Conrail settlement see *Current Wage Developments*, November 1981, p. 2.

<sup>9</sup> "President Signs Rail Pension Bill," *The New York Times*, Aug. 13,

1983.

<sup>10</sup> "Hardin Recaps UTU Gains, Sets Goals," *UTU News*, Aug. 20, 1983.

<sup>11</sup> Agreements covering 66,000 American Motors Corp. and Chrysler Corp. workers do not expire until September and October 1985, respectively.

<sup>12</sup> General Motors currently has an absenteeism plan that penalizes workers who miss more than 20 percent of scheduled work time by reducing benefits following counseling. This counseling was a "major factor" leading to the decline in "controllable absences" from 11.3 percent in 1981 to 10.3 percent in 1982 and to 8.8 percent in the first quarter of 1983. See *Current Wage Developments*, August 1983, pp. 3-4.

<sup>13</sup> "Detroit's Jobs That Will Never Come Back," *Business Week*, May 23, 1983, pp. 168-170.

<sup>14</sup> "The UAW Wants A Piece Of The Action," *Business Week*, Aug. 8, 1983.

<sup>15</sup> Figures supplied by the UAW Research Department. Approximately 27,000 were on indefinite layoff at Chrysler as of September 19, 1983, and, as of October 5, 1983, 65,000 at GM, 36,700 at Ford, and 700 at American Motors.

<sup>16</sup> Energy Information Administration, *Quarterly Coal Report, April-June 1983* (U.S. Department of Energy, September 1983).

<sup>17</sup> Unpublished data from the Bureau of Labor Statistics.

<sup>18</sup> Energy Information Administration, *Quarterly Coal Report*.

<sup>19</sup> About 231,000 construction workers will receive deferred increases under settlements in which the parties agreed to a total wage and benefit package, with the allocation between wages and benefits to be determined later by the union. Because the final allocation was not known at the time this article was prepared, the entire package has been treated as a wage increase which, thus, may be overstated.



# Economy improves; bargaining problems persist in 1983

*Wage gains were lower than in recent years, and there were some cuts, as labor and management tried to overcome problems resulting from the recession, deregulation, technological change, and foreign competition*

GEORGE RUBEN

In late 1982, the Nation began to emerge from a 16-month recession and economic indicators generally showed continuing improvement in 1983:

- Unemployment, which reached a 42-year high in December 1982, declined 2.4 percentage points, to 8.4 percent in November 1983.<sup>1</sup>
- Civilian employment rose to 102.7 million workers in November, from 99 million 12 months earlier.
- Consumer prices rose less than 3 percent during the 12 months ending in October 1983, compared with about 5.0 percent during the preceding 12 months.
- Productivity for all persons in the business sector of the economy increased 3.5 percent during the four quarters ending with September 1983, which was the largest increase for any comparable period since 1976.

Despite the improvement in the economy, several major industries, and their employees, continued to struggle with problems that resulted from economic policies, and from other factors such as the growing inroads by foreign producers, shifts in customer preference, and plant obsolescence. Clearly, the domestic policy of deregulation of industry increased competition in the airline and trucking industries, resulting in the entry of new firms, the closing of

others, employee concessions on compensation, and high unemployment.

Other industries, particularly steel, shipbuilding, and copper, also continued to experience low operating levels that industry leaders attributed, in part, to foreign governments' subsidization of their producers that sell in the United States.

The domestic automobile industry shared in the surge in the economy, as the major companies generally reported sharp increases in sales and profits. Still, sales did not approach their historic highs as the companies faced the challenge of overcoming the cost advantages of foreign producers and reducing their 25-percent share of the U.S. market. However, despite U.S. companies' continuing efforts, the prospect was that a sizable number of laid-off employees would never regain their jobs.

As a result of this backdrop, 1983 was a difficult year for unions and management. Some employers closed obsolete facilities or introduced new production methods and machines, reduced staff, or asked their unions for concessions. The unions generally gave up part of the wages and benefits they had won over the years when convinced that the employer was in economic straits. In some cases, the unions charged that management was using the unsettled conditions to press for unwarranted compensation cuts.

During the first 9 months of 1983, 1.9 million private industry workers were covered by major collective bargaining settlements (those affecting 1,000 workers or more). One-fifth of these workers had their wages cut in industries

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including steel, airline transportation, and meat processing. Another fifth of the workers did not receive specified wage increases over the contract term. This occurred in the aluminum, farm and construction equipment, and copper industries and, to some extent, in construction.

For the 1.2 million workers whose settlements provided for specified increases at some time during the contract term, the average increase was 6.1 percent in the first contract year and 4.9 percent a year averaged over the contract term. These settlements were mostly in nonmanufacturing industries, including public utilities, retail trade, construction, and telephone communications.

Considering the entire 1.9 million workers covered by settlements, wage adjustments—the combined net result of wage increases, decreases, and no changes—averaged 1.7 percent in the first contract year. Over the life of these contracts, adjustments averaged 2.8 percent annually, the lowest such average for any 3-quarter period in the 15-year history of the series. The last time the same parties bargained (2 to 3 years ago in most cases), average wage adjustments were 9.1 percent in the first contract year and 7.3 percent a year over the life of the contracts.<sup>2</sup>

The first big settlement of the year involved the steel industry. The issue in the steel talks was the need to cut costs. The same issue dominated trucking industry negotiations, but did not result in a settlement, and in airline transportation, where settlements were recorded throughout the year. Virtually all of the airline settlements provided for some form of aid to the carriers. The largest bloc of workers covered by 1983 settlements was at American Telephone and Telegraph Co., where the primary objective of the 675,000 employees was to obtain contract provisions to protect themselves from job cutbacks that might result from the January 1, 1984 breakup of AT&T.

## Steel

In December 1982, U.S. steel mills operated at a 50-year low of about 30 percent of capacity. Throughout 1983, the utilization rate increased with the improving economy to about 60 percent in October. Despite the improvement, firms generally suffered substantial losses, traceable to import competition; increased use of alternate materials such as aluminum and concrete; lighter automobiles, requiring less steel; and the costs of shutting down obsolete mills.

The eight Coordinating Committee Steel Companies that usually set the pattern for settlements in the industry negotiated a concessionary agreement with the United Steelworkers in 1983, after two earlier failures. The first, in July 1982, ended when the union leadership rejected an employer proposal calling for employee concessions beyond those in the Auto Workers settlements with Ford Motor Co. and General Motors Corp.

The second, in November 1982, was backed by the union's officers but was rejected (231 to 141) by the Union's Basic Steel Industry Conference, a group of officers of local unions.

A major reason for the turndown was a provision that would have resulted in lower compensation for 9,000 workers in steel warehousing, lime and chemical production, and other such operations. Accordingly, 75 leaders of their locals voted against the proposals.

The 1983 settlement was accepted because the wage and benefit concessions were apparently less than in the 1982 proposals, and because most of the cuts will be restored by the August 1, 1986, termination of the agreement.

The accord, which superseded the balance of a 3-year contract scheduled to expire on July 31, 1983, provided for a \$1.31-an-hour cut in pay, of which \$1.25 will be restored in stages during the term. The cut for incentive employees was somewhat larger because part of it came from the base rates used to calculate earnings but essentially all of the cut will be restored as it would be for hourly workers.

Although the COLA clause was retained, the 265,000 workers covered gave up the first five quarterly adjustments. Thereafter, quarterly adjustments will be calculated at the existing rate of 1 cent an hour for each 0.3-point rise in the Bureau of Labor Statistics Consumer Price Index for Urban Wage Earners and Clerical Workers, payable only to the extent that any rise in the Index exceeds specified amounts: 4 percent over a 12-month period for the first 4 adjustments and 1.5 percent over a 6-month period for the next two adjustments. The final two adjustments (in February and May of 1986) will not be restricted. The union estimated that COLA increases will total 70 cents an hour if the CPI rises at a 7-percent annual rate in the Index during the final years of the contract.

A major union concession was termination of the Savings and Vacation Plan established in 1962 to provide savings and supplemental retirement and vacation benefits. Extended Vacation Benefits were an important part of this plan, established to give workers longer-than-usual vacations at set intervals, as well as to help maintain the size of the work force. At the time of the 1983 settlement, employees in the top half of the seniority roll received 13 weeks off (including regular annual vacations) every 5 years and other workers received 3 weeks plus their regular annual vacation.

Other changes beneficial to the employers were a temporary cut to time and one-fourth, from time and one-half, in the pay premium for scheduled nonovertime Sunday work and elimination of one of 10 paid holidays. A change beneficial to the employees was increased company financing of Supplemental Unemployment Benefits and additional guarantees of weekly benefits to laid-off workers, regardless of the condition of the fund.

The union did not gain its demand for company guarantees that they would not shut down steel operations but the companies did agree to apply the savings resulting from the agreement to facilities covered by the agreement.

The settlement also ended the Experimental Negotiating Agreement for the foreseeable future. The ENA, which had been established in 1973 to assure a strike-free settlement

in the 1974 round of wage and benefit bargaining, was subsequently renewed to cover 1977 and 1980 bargaining but it was not renewed in 1980 to cover 1983 bargaining. This occurred because management had become increasingly concerned that the cost savings resulting from the stabilization of production were not worth the economic "floor" under wage and benefit accords that the employees received in return for giving up the right to strike over national issues.

### **Aluminum**

The groundwork for the 1983 round of settlements between the United Steelworkers and the three major aluminum companies actually was laid in September 1982, when the parties met to consider a management request for immediate renegotiation of their contracts, which were not scheduled to expire until May 1983. They did not reach an agreement for the 25,000 employees at that time. Despite the breakoff, the Steelworkers and the companies agreed that the informal talks were beneficial in "clearing the air."

The Steelworkers and Aluminum Workers negotiated similar 3-year contracts with the companies in May 1983. Specified wage increases were not provided. Also, employees will receive automatic quarterly cost-of-living adjustments each contract year only to the extent that the CPI-w rises more than 1.5 percent, with adjustments calculated at 1 cent an hour for each 0.3-point movement in the index during the first 2 years and at 1 cent for each 0.26-point movement during the final year. Previously, the entire movement in the index was used in calculating adjustments, which were at the rate of 1 cent for each 0.26-point movement.

Benefit changes included giving employees an extended vacation every 7 years instead of every 5 years; suspension until 1984 of the vacation bonuses employees received to take vacations other than in the summer; and elimination of the paid personal holidays plan established by the 1980 agreement.

In one difference between the settlements, the Aluminum Workers agreed to a new "medical reimbursement account" intended to induce employees to seek less costly forms of care. Each employee will be credited with a company-funded \$700 account each year to be used for paying deductibles, which were raised. At yearend, the employee will receive any money remaining in the account.

The Steelworkers' accords were with the Aluminum Co. of America (ALCOA), Reynolds Metals Co., and Kaiser Aluminum and Chemical Corp., while the Aluminum Workers settled for the 17,500 workers it represents at ALCOA and Reynolds.

### **Copper**

Bargaining in the copper mining, smelting, and refining industry departed from historical practice, as Phelps Dodge refused to accept the wage and benefit pattern accepted by

other companies in settlements with a coalition of unions headed by the Steelworkers. This led to a walkout by 2,400 workers in Arizona and Texas on the July 1 contract termination date. Phelps Dodge maintained some production by utilizing supervisors and management employees. Later, the company began hiring replacements and some strikers returned to work.

The company's chief objection to the pattern terms was the retention of the provision for automatic cost-of-living pay adjustments. As early as April 1982, when Phelps Dodge had asked the unions to renegotiate their contracts to help counter operating losses, the company had argued that COLA clauses were "not realistic" in an industry that has no control over its selling price.

The pattern accords, which were led off by a settlement at Kennecott Copper Corp., provided for the wage freeze and maintenance of existing benefits, and retention of the COLA clause. At the time of these settlements, about half of the 40,000 workers in the industry were on layoff because of a slowdown in sales attributed to the recession, the increased use of alternate substances, and foreign "dumping" on world markets to earn foreign exchange and provide jobs.

### **Trucking**

Although the Teamsters' National Master Freight Agreement with the major trucking concerns is not scheduled to expire until April 30, 1985, the employers in February proposed immediate negotiations on modification of the wage and benefit provisions. The proposed negotiations were impelled by the generally poor condition of the economy and, even more, by the influx of nonunion, lower-cost trucking firms since enactment of the Motor Carrier Deregulation Act of 1980, which removed most of the industry-entry and tariff-setting regulations that had been introduced since 1935. According to the Interstate Commerce Commission, which exercises the remaining restraints on the industry, 8,000 trucking firms have opened since 1980. Nonetheless, union leadership rejected the call for talks.

In August, Trucking Management, Inc., the industry's major bargaining arm, and the union agreed on a proposal to aid the industry and open jobs to some of the more than 100,000 truckers on layoff. This "Voluntary Laid Off Employee Relief Plan," which was backed by the union leadership, was decisively rejected by union members. The agreement would have established lower pay rates, reduced paid sick leave, and eliminated COLA for the recalled employees, and encouraged companies to establish divisions to handle only "full truckload" shipments, enhancing their ability to compete with nonunion carriers.

One of the reported reasons for rejection of the proposal was membership concern that the accord would have lowered compensation costs for the larger companies at the expense of smaller companies. Teamsters for a Democratic Union, a long-standing dissident group, opposed the proposal because it would have divided the union "into two



permanent 'classes' of members'' and would not have guaranteed the creation of jobs.

### Airlines

In 1982, the airline industry piled up large losses for the third year in a row and the forecast was for further losses in 1983. As the year progressed, however, the condition of the economy improved some carriers' positions. Despite this development, the industry's difficulties continued, including high fuel costs (which did decline slightly during the year); lingering effects of the recession; the high cost of buying new airplanes; and high labor costs. However, the most-cited reason for difficulties was the fare wars resulting from the deregulation of the industry. Under the Airline Deregulation Act of 1978, the Civil Aeronautics Board had relinquished control over routes but had still retained some control over fares. This ended on January 1, 1983, when the act gave the carriers the right to change domestic fares without seeking CAB approval.

The airlines' plight led to a number of concessionary collective bargaining settlements; and to a move by Continental Airlines to seek protection under the Federal Bankruptcy Code, followed by resumption of operation at a severely reduced level and the possibility that other carriers might follow suit.

This state of affairs led unions to lobby Congress for aid. The unions were not able to convince Congress to restore some regulation of the industry. Consequently, carriers beset by financial difficulties moved to improve conditions. The Continental Airlines move to seek protection under Section 11 of the Federal Bankruptcy Code triggered a round of complex legal and labor-management maneuvering that was apparently going to extend into 1984 and even beyond. In announcing the decision, company head Frank Lorenzo cited operating losses, which totaled \$471.0 million since 1979. The unions—the Air Line Pilots, the Union of Flight Attendants, and the Machinists—challenged the airline's action in bankruptcy court. There was no immediate decision on the legality of the abrogation of the contracts and Continental reopened as a low-fare carrier employing about 4,200 workers, compared with its previous work force of 12,000, and servicing about one-third of its previous routes. Pay was a flat \$43,000 a year for pilots, compared with a previous average of \$77,000 and \$14,000 for flight attendants, compared with \$29,000. There also were changes in work hours.

The Air Line Pilots and Flight Attendants reacted by striking, joining the Machinists, who had been out since August in a dispute over contract renewal. The Air Line Pilots union moved to persuade its members not to return to work at Continental by offering strike pay of \$45,600 a year for captains and \$30,000 for first and second officers. The strike pay was financed by a \$94 to \$352 a month assessment of members of the union employed by other carriers.

Later, Continental and the unions engaged in sporadic negotiations but a resolution of the dispute was not in sight as the year drew to a close.

*Eastern Airlines.* Following the Continental bankruptcy action, Eastern Airlines, through Chairman Frank Borman informed, the 37,000 employees that a similar action was one of the options being considered to help counter increasing losses.

Borman's proposal, which was approved by 17,000 non-union workers but not by members of the three unions, was for a 15-percent pay cut effective November 1, 1983; and an additional 5-percent cut on January 1, 1984, if payroll costs were not improved by that amount through improvements in productivity; lower pay rates for new employees; a reduction in paid vacation time; and a new plan that would give employees 20 percent of any 1984 and 1985 profits. The proposal drew bitter criticism from the union leaders but they subsequently formed a committee to consider further aid to Eastern after studying the results of an examination of the company's financial condition conducted by two independent firms.

During these developments, Eastern ended 18 months of negotiations with Local 553 of the Transport Workers by settling on a 3-year contract for 5,800 flight attendants. Terms included pay increases totaling more than 22 percent and cancellation of a Variable Earnings Plan adopted in 1977 under which 3.5 percent of employees' pay was withheld to be returned at the end of each year if a profit target was met, partly or completely retained by Eastern if profits fell short, or returned to employees along with an additional amount up to 3.5 percent if profits exceeded the target.

Two other unions had settled in April. The Machinists agreed on a 3-year contract covering 12,000 employees that included wage increases totaling more than 30 percent, elimination of the COLA clause, and substitution of an Investment Bonus Agreement for the Variable Earnings Plan. The other union, the Air Line Pilots, reached a 2-year accord, covering 4,200 employees, and providing for 17.5 percent of pay to be taken in the form of debentures paying 5-percent interest and convertible into Eastern common stock, at the employee's option, beginning in 1985. Other terms included increased flight time and a reduction in paid vacations.

In December, the three unions agreed to a 12-month, 18-percent pay cut (22 percent for pilots) and cost-reducing changes in work rules in return for a voice in management and stock in the company.

*Pan American.* Agreements negotiated by three unions at Pan American consisted of restoration of 10-percent pay cuts negotiated in 1981 and 1982 and further postponement of the effective dates of 1982 and 1983 wage increases that had been scheduled under 1981 and 1982 contracts. Thus, the February 1983 settlement for 4,900 employees represented by the Independent Union of Flight Attendants pro-

vided for extending a 10-percent pay cut until October 1, 1983, when half of it was to be restored, followed by restoration of the balance on June 1, 1984. The accord also postponed to January 1, 1985 pay increases that had been scheduled for June and October 1983.

The 3-year agreement for 7,200 members of the Transport Workers Union and the 2-year agreement for 7,200 members of the Teamsters applied the same general pay-cut restoration-pay increase postponement formula but the wage changes involved differed from the Flight Attendants'.

*American Airlines.* Faced with an expected expenditure of \$2.5 billion over 10 years to modernize its fleet, and the current intense competition in the industry, American Airlines and its unions agreed on new contracts with cost-saving features.

In November, the Allied Pilots Association agreed with American on a 2-year contract that provided for pilots hired in the future to receive about half the pay of incumbents, who earned, on average, about \$110,000 a year. In another move to aid the company, the 4,000 union members agreed to a 3-percent pay increase in March 1984 to replace a 7 percent increase that had been scheduled for November 1983. The new contract, replacing one that could be amended in April 1984, also guaranteed that current pilots will not be furloughed and that 504 employees on furlough will be recalled by December 1986. The contract also established a profit-sharing plan. American earned \$117 million in the third quarter.

Later in the month, the 6,000-member Association of Professional Flight Attendants also agreed to cuts in pay of new employees, expanded use of part-time employees, more "cross-utilization" of employees outside their usual duties, and establishment of profit sharing.

*Other airlines.* Delta Air Lines, which suffered its first full fiscal year loss (\$86.7 million) in 36 years, held the line on pay, after granting an 8-percent increase in September 1982. In appreciation for the increase, more than 65 percent of the 36,000 employees participated in the purchase of a new Boeing 767 aircraft, to be financed by a 2.5 percent reduction in their pay during 1983. Despite the loss, the carrier continued its no layoff policy, which has been in existence since 1957. The 4,000 pilots and flight engineers, the only organized unit at Delta, agreed to extend their current contract by 1 year, to March 1985, with no pay increase and an increase in the maximum number of hours they work each month.

In September, 10,000 Republic Airlines employees approved a 15-percent pay cut scheduled to last for 9 months. Later in the year, leaders of the six unions involved endorsed creation of a new employee stock ownership program, or expansion of the current program, that would buy as much as a 25-percent interest in the company. In another action to aid Republic, 700 unpaid volunteers traveled to 23 cities

to tout the carrier's flights. Republic, which has not earned a profit in 4 years, lost \$102.9 million in the first half of the year.

At Western Airlines, which has lost more than \$180 million since 1980, 10,000 union members agreed to a 1-year, 10 to 18 percent pay cut beginning October 1. They also agreed to forego COLA adjustments during the period. In addition, nonunion management employees agreed to extend for the same period a 12.5-percent cut that had been in effect since December 1981.

In return for the aid, the employees will be given 25 percent of the company's stock and at least one seat on its board of directors. The other part of the "partnership plan" accepted by the five unions is a profit-sharing program giving the workers 15 percent of the first \$25 million of annual profit plus 20 percent of any excess. The program is scheduled to apply to 1985, 1986, and 1987 profits but it is subject to extension if profits are less than \$2 million in two of the years. In 1981, members of four of the unions had agreed to compensation concessions lasting 2 years but the cuts had expired prior to the agreement on the new plan. At that time, members of the Air Line Pilots Association extended a 10-percent pay cut, scheduled to expire on January 1, 1984, to September 30, 1984, and also to defer to that date an 8-percent pay increase scheduled for January 1, 1984.

### Telephone settlement

The major bargaining goal for leaders of the three unions that bargained with American Telephone & Telegraph Co. was job security, a goal predetermined by the problems of protecting their 675,000 members from the effects of accelerating technology and the pending 1984 breakup of the Bell Telephone System specified in a 1982 settlement of a Government antitrust action. The Communications Workers bargained for 525,000 employees, the International Brotherhood of Electrical Workers represented 100,000, and the Telecommunications International Union, 50,000.

The unions struck for a period that extended to 22 days for CWA members, who stayed out until the last of their locals completed bargaining on local issues. Members of the other two unions settled local issues before the CWA and their members returned to work several days earlier. In any case, the stoppage was the largest since the steel strike of 1946, which involved 750,000 workers.

One approach to employee job security was a new personal or career development training program. It was designed to assist employees by providing company-financed, voluntary training that will be reviewed by the company when considering the employee for promotion or transfer. Another new protection is a job displacement program to aid employees affected by job terminations or downgrades by informing them of the possibility of the adverse action as soon as possible and providing company-financed training to qualify for potential openings.

Other moves to help employees retain jobs or maintain



income were accomplished by:

- establishing joint advisory boards at each company to advise the company on providing the best possible training and to encourage employee participation;
- improving the Supplemental Income Protection plan, which provides financial payments to employees who leave the company because of technological changes or other reasons resulting in layoffs or involuntary reassignments to lower-paying jobs or to work locations requiring a change of residence. Eligible employees—those who are under the company's normal retirement, have 20 years of service, and whose age plus years of service total 75—receive monthly and lump-sum payments up to \$22,200;
- establishing a Voluntary Income Protection Program for workers who leave the company because their jobs are threatened but who are not eligible for Supplemental Income Protection through monthly payments (continuing for 60 months or attainment of the normal retirement age, whichever comes first) calculated at 1 week of pay for each year of service up to 10, plus 2 weeks of pay for each year from 10 up to 20, plus 3 weeks of pay for each year of service from 20 up to 30 years, and up to \$2,500 for training, relocation, or other purposes; and
- improving the Reassignment Pay Protection plan by extending the period for which eligible employees retain their pay rates after being downgraded because of technological change.

The wage and benefit package provided for an immediate 5.5-percent increase in the pay rates at the upper end of each pay grade, lesser increases in intermediate rates, and no change in starting rates. However, all employees, including those at starting rates, were guaranteed a \$2.50 a week pay increase. In August of 1984 and 1985, there will be increases of 1.5 percent in the rates at the upper end of each grade, lesser increases in intermediate rates, and no change in starting rates. In addition, the workers may receive COLA adjustments according to the same formula as in the prior contract.

The CWA's concern with job security was indicated at a special convention in March. In an unusual action for a labor union, the delegates adopted a comprehensive set of long-term operating goals that stressed the need for training and retraining programs to aid members in facing future uncertainties. The program, which emanated from an 18-month study by a Committee on the Future, also called for the establishment of "strategy centers" to provide new approaches to traditional union objectives ranging from collective bargaining to the handling of grievances.

### **Auto industry**

Bargaining in the domestic automobile industry was limited to Chrysler Corp., to Volkswagen's Pennsylvania plant, and to Ford Motor Co.'s River Rouge complex. There was a surge in sales at the Big Three domestic producers that

led to the recall of some laid-off workers, while others faced continuing bleak job prospects resulting from the growing "internationalization" of auto production and sales and employer drives to reduce costs. These concerns were manifested in intense union-management pressures to compel Japan to continue its voluntary limit on vehicle exports to the United States and continued lobbying by the Automobile Workers Union for enactment of a Federal "domestic content" law.

After months of negotiations with the U.S. Government, the Japanese manufacturers agreed to extend the export limit, but raised it to 1,850,000 (from 1,680,000) vehicles during the 12-month period beginning April 1, 1984. Toyota Motor Co. also moved to begin production in the United States by entering into a proposed joint venture with General Motors Corp. to produce small cars at a closed GM plant in California. This proposal drew bitter criticism from Chrysler and Ford, which contended that the venture would undercut their ability to compete. Ford also indicated that it might undertake a similar small car venture with Toyo Kogyo Co., its Japanese affiliate, if the Federal Trade Commission approved the GM-Toyota venture.

The disparity between Chrysler Corp. pay and that of GM and Ford, which had developed as a result of 1979, 1980, and 1981 settlements intended to alleviate Chrysler's financial plight, was reduced in December 1982, when Chrysler agreed to a 13-month contract that provided for a specified wage increase averaging 75 cents an hour and resumption of automatic quarterly cost-of-living adjustments.

In July 1983, Chrysler offered pay increases totaling \$1.41 an hour over a 26-month contract term but the UAW turned down the offer, contending that the wage increase was \$1 short of the amount needed for parity with Ford and GM. The union leaders also objected to a provision that would have suspended the cost-of-living allowance following any quarter in which Chrysler suffered a loss and to a provision that would have required the parties to strive for a \$15-million-a-year reduction in health insurance costs, with any shortfall to be deducted from the cost-of-living allowance.

Despite this inauspicious start, Chrysler and the UAW agreed in September after only a few hours of bargaining on an accord providing about \$2.42 an hour in wage increases over a 26-month term ending on October 14, 1985. The cost-of-living allowance also was continued, using the same formula as at GM and Ford (1 cent for each 0.26 point movement in a composite 1967 = 100 price index derived from the official U.S. and Canadian government consumer price indexes). Pension and insurance benefits were to be raised to the Ford-GM level in two steps, in September of 1983 and 1984.

The Volkswagen of America agreement with the UAW was negotiated just after a company announcement that it had lost \$141.6 million in 1982 on sales of 202,000 vehicles in the U.S., compared with a \$553,000 profit on sales of 337,000 units in 1981. Production at the company's only



domestic assembly plant, in New Stanton, Pa., totaled 92,000 units in 1982, down from 205,000 in 1981. In these bleak circumstances, the UAW was able to negotiate a 3-year contract covering 2,500 active and 2,400 laid-off workers that was overwhelmingly approved by the members of the New Stanton local union and by the local union at the company's body stamping plant in South Charleston, W.Va.

The accords did not provide for any specified wage increases, but a modified cost-of-living pay adjustment formula was continued. Under it, the workers will receive annual adjustments in the first 2 years and quarterly adjustments in the final year. Other terms included increased employer financing of Supplemental Unemployment Benefits; and restrictions on "outsourcing" (subcontracting) and other job security gains.

The concessionary settlement at the steelmaking plant in Ford's River Rouge complex in Dearborn, Mich. led the company to withdraw its plan to get out of steelmaking. Instead, Ford indicated that it would invest \$200 million in modernizing the operation.

### **Meatpacking**

Labor-management relations in the meatpacking industry, tumultuous in recent years, continued to be beset in 1983 by permanent plant closings; reopening of closed plants, under new corporate names or after purchase by other firms; bankruptcy moves followed by reopening at lower employee compensation levels; union concessions that averted shutdowns; union rejection of concessions that led to shutdowns; expansion of some beef processing firms into pork processing; and bad weather that caused uneven work schedules at some locations.

Much of the agitated state of the industry has resulted from the entry of companies that have utilized new, more efficient, processing, distribution, and packaging techniques. These new firms, including Iowa Beef Processors (IBP), Excel Corp., and Monfort of Colorado, have strongly resisted United Food and Commercial Workers' efforts to organize their plants and, in cases where the union has been successful, the firms have just as strongly resisted union efforts to attain the standard wage and benefit terms of contracts with the "old line" companies.

A major development in the industry began in April when Wilson Foods Corp. filed for protection from creditors under Chapter 11 of the Federal Bankruptcy Code. The company, claiming that the move nullified its agreement with the UFCW covering 6,000 employees, reduced pay by 40 to 50 percent, and cut benefits. The unilateral cut in compensation by the Nation's largest pork processor led to a 6-week strike that ended when the union and company settled on a contract that provided for a pay rate of about \$8 an hour (compared with \$10.69 before the unilateral cut and \$6.50 afterwards). The accord also included most of the benefit cuts the company had unilaterally imposed but it also added a profit-sharing plan and a 12-month ban on plant closings.

In another development, Rath Packing Co. of Waterloo, Iowa, filed for protection from creditors under Chapter 11 of the Bankruptcy Code and asked its 2,000 employees—who own 60 percent of the company—for further wage and benefit concessions. The employees, represented by the Food and Commercial Workers, had gained their stock shares in 1980 in lieu of part of their pay. Early in 1983, the employees had agreed to defer payment of \$2.50 of their base wage to further aid the company. However, at the time of the bankruptcy filing a company spokesman said that the resulting \$7.24 base hourly pay rate was still too high to compete with nonunion firms. In the filing, Rath reported assets of \$56.7 million and liabilities of \$91.6 million, including \$38 million owed to the Federal Pension Benefit Guarantee Corp., which indicated that it will continue to pay benefits to 4,300 retired employees, and those who retire in the future.

The competitive difficulties faced by Wilson and other "old line" pork processors will apparently be intensified by IBP's expansion plans. The subsidiary of Occidental Petroleum Corp. announced that it will build the Nation's largest pork processing plant (4 million hogs a year) in Stanwood, Iowa. IBP also announced that it was going to double the capacity of its Storm Lake, Iowa, plant to 3 million hogs a year. This led Swift Independent Packing Co. to intensify its efforts to win lower pay rates for its pork operations at Sioux City and Glenwood, Iowa, and National Stockyards, Ill., where the base wage is \$10.69 an hour, compared with \$6.50 at the IBP facility.

### **Aerospace**

The Machinists and the Auto Workers entered the 1983 round of aerospace bargaining buoyed by the fact that companies were generally receiving new production orders and were reporting substantial profits and were dismayed by the Department of Defense's pressure on the companies to hold down labor costs on military products.

The first settlement, between the IAM and Boeing, more or less set a pattern for the union's later settlements with Lockheed Corp. and McDonnell Douglas Corp. and the UAW's settlement for other McDonnell Douglas employees.

The 3-year Boeing settlement did not provide for specified wage increases but it did provide for "prepayments" of COLA adjustments. Under this approach, all employees received an immediate 3-percent pay increase, to be offset against the next three quarterly COLA adjustments. Similar 3-percent prepayments in October of 1984 and 1985 will not apply to employees in specified lower pay grades. (This was done to alleviate the narrowing of the pay differential between the lower and higher paid workers that had developed over the years as a result of all employees receiving uniform cents per hour COLA adjustments.) A new pay structure also set lower pay for new employees. All employees were to receive annual lump-sum payments (the first in December 1983) equal to 3 percent of their earnings during

the preceding October-to-October period.

To aid employees in dealing with rapid change in the industry, the parties established a "new technology clause" providing that Boeing will pay all training expenses for employees who wish to improve their skills in classes held after work hours. Other benefit changes included increased pension rates and revisions in the health benefits plan intended to encourage sick care in outpatient facilities rather than using more expensive hospital emergency rooms. A joint committee on cost containment also was established.

The IAM followed the Boeing accord by settling with Lockheed on a contract that differed somewhat. The differences were—

- a 3-percent specified wage increase in base rates in October 1985, instead of a lump-sum payment, with Lockheed workers receiving a 3-percent lump sum in December of 1983 and 1984 similar to those at Boeing;
- continuation of quarterly COLA reviews with no 3 percent annual prepayments;
- an increase in the ceiling on employee investments in their savings plan, resulting in an increase in Lockheed's required contributions on their behalf; and
- a reduced pay scale for new employees in lower grades that permits them to progress to a higher pay rate than the current maximum for incumbent employees in the same grades.

The next IAM settlement, with McDonnell Douglas Corp., for employees in Torrance and Huntington Beach, Calif., was approved by union members despite their officers' recommendation that they reject it. The wage terms were similar to Boeing but the company would not agree to improvements in profit sharing and pension benefits and the retraining of workers.

Also at McDonnell Douglas, 7,000 workers in California, Oklahoma, and Arkansas began a strike on October 17 after rejecting a company offer. These employees are represented by the Auto Workers.

### Longshoring

In April, the International Longshoremen's Association and Atlantic and Gulf coast port employers agreed on a 3-year "master" contract covering 50,000 employees at 36 ports that provided for wage and benefit improvements totaling \$4.25 an hour. It was scheduled to go into effect on the October 1 termination date of the existing contract, if the parties could reach agreement on local issues by that date. The parties were still negotiating local issues in September when the Federal Maritime Commission asked a Federal judge for an injunction to stop the ILA and ocean carriers from implementing cargo containerization rules that preserve work for the union's members. The ILA responded by suspending the local talks and scheduling a ratification vote in which members were urged to reject the April settlement. This could have led to a strike but the union can-

celled the ratification vote and negotiated a stopgap 106-day master contract, during which the local talks were expected to be concluded, regardless of the judge's decision on the injunction.

ILA President Thomas W. Gleason said that the September settlement permits the union to renegotiate every item in the master contract if the rules on containers cannot be enforced. The 106-day agreement provided for the same wage and benefit package as the April contract, including a \$1.42-an-hour increase in pay and benefit fund payments effective October 1.

The container rules, intended to reserve for ILA all packing and unpacking of cargo containers within 50 miles of a port, had been in limbo for more than 10 years because of legal challenges by other unions and freight forwarders. This changed in mid-1983 when the National Labor Relations Board supported the ILA's claim that the container jurisdiction was "a valid form of work preservation." This cleared the way for negotiations on implementing the provision, until the FMC asked for a court injunction at the request of an importer in New Orleans. The FMC's contention that the provision was inequitable also was supported by 23 employers who claimed they would be harmed by the provision. But the U.S. Department of Labor and the U.S. Department of Transportation filed briefs opposing the FMC position.

### Government workers

During the year, there were several developments affecting Federal workers' pay.

In a departure from the practice of recent years, the annual "comparability" pay raise of 1.4 million Federal white collar employees was deferred from October to January 1984. Early in the year, President Reagan proposed that Federal pay be frozen during the fiscal year beginning on October 1 in view of budgetary problems. Later, the President's "Pay Agent," (a triad consisting of the Secretary of Labor, the Director of the Office of Personnel Management, and the Director of the Office of Management and Budget) found that a 21.5-percent increase was necessary to attain parity with similar jobs in private industry, based on an annual National Survey of Professional, Administrative, Technical and Clerical Pay conducted by the Bureau of Labor Statistics. However, the President used his authority under the Federal Pay Comparability Act of 1970 to propose a 3.5-percent increase and its deferral to January 1984. Congress did not reject the proposal, so it went into effect. About 450,000 blue-collar employees also will receive a 3.5-percent increase sometime in the 1984 fiscal year. Their pay is raised at various times during the year based on the results of local surveys of wages for similar private industry jobs. However, their potential increase was "capped" at the level for white-collar employees. The 2.1 million military personnel received a 4-percent pay increase in January 1984.

State and local government payrolls dropped 0.8 percent during the 12 months ending in October 1982, following



the 1.2-percent drop during the preceding 12 months, which was the first since the end of World War II. The current drop, reported in the Bureau of the Census publication "Public Employment in 1982," resulted from a rise of 20,882 in State employees, which was more than offset by a reduction of 53,110 public school teachers. At the end of the period, there were 3,747,000 State workers and 9,324,000 local government workers.

Although there were few reported instances of salary and benefit cuts, it was clear that wage and benefit increases were smaller in fiscal year 1984 than in the preceding fiscal year. One indication of this was the Bureau of Labor Statistics' Employment Cost Index, which showed that during the third quarter of the year—the period when most governments begin their fiscal year—pay increased 3.0 percent in 1983, compared with 4.4 percent in 1982. Similarly, compensation—pay plus benefits—rose 3.2 percent during the third quarter of 1983, compared with 4.6 percent in the third quarter of 1982.

### Litigation and decisions

**Bankruptcy litigation.** A development of increasing concern to unions in 1983 was instances of employers seeking protection from creditors under chapter 11 of the Federal Bankruptcy Code and then resuming business with a non-union, lower paid work force. Use of this tactic was facilitated by 1978 legislation that was intended to encourage more troubled companies to seek protection from creditors while still solvent and thus preserve jobs.

Companies that filed for protection in 1983 and then resumed operations on a nonunion basis included Continental Airlines and Wilson Foods. Rath Packing Co. also sought protection under chapter 11; but its only choice apparently was to seek concessions from its employees who owned 60 percent of the company.

In October, the Supreme Court heard a case that might resolve the issue when the decision is announced, probably early in 1984. It involved a New Jersey building supply company, Bildisco and Bildisco, which filed for protection under chapter 11 of the Bankruptcy Code in 1980 and then replaced its employees, who had been represented by the Teamsters union, with nonunion workers. A major issue that faced the Court was whether a company seeking to abrogate a contract must prove that the contract would cause the company's collapse if not eliminated. The Court of Appeals for the Second Circuit has required such proof but the Third Circuit, hearing the Bildisco case, had set a lesser requirement. It held that an employer need only prove that the contract is a burden, leaving the bankruptcy court to balance the interests of the employer against those of its union-represented employees.

**Davis-Bacon decision.** In July, the U.S. Circuit Court of Appeals for Washington, D.C., upheld most of the Department of Labor's changes in the Davis-Bacon Act, which

sets a "prevailing wage" floor on federally financed construction projects. In July 1982, the Department had announced a number of changes in the 52-year-old Act intended to reduce construction costs. But District Court Judge Harold Greene temporarily blocked implementation of the changes in response to a suit filed by the AFL-CIO's Building and Construction Trades Department. Five months later, Judge Greene struck down parts of the provisions in the new regulations but he let stand a provision that alters how prevailing wages are determined. In its decision, the Court of Appeals agreed with Judge Greene on the legality of the alteration, which defines the prevailing wage as that paid a majority of the members of the particular craft in a particular geographic area, or the mean average if there is no majority wage. Previously, the prevailing wage could be set at the rate paid to 30 percent of the workers in the craft. According to a 1979 study by the General Accounting Office, Congress' investigative arm, that rate was generally a union wage and usually was higher than the average wage.

The appeals court also upheld the use of lower paid "helpers" and an expanded definition of their duties but it rejected the Department's plan to increase their number in relation to the skilled trades workers.

**J. P. Stevens.** Twenty years of bitter confrontation between J. P. Stevens & Co. and the Clothing and Textile Workers appeared to draw to a conclusion in October when they settled the last eight complaints of unfair labor practices brought by the union. During the years the union had attempted to organize the textile firm's plants, and to negotiate contracts at plants where the effort was successful, the National Labor Relations Board had found Stevens guilty of a number of unfair labor practices. There was a breakthrough in October 1980, when Stevens agreed to resolve some charges of unfair labor practices by paying \$3 million in back wages to some employees and to recognize and bargain with the union at 10 plants. In return, the union agreed to drop its nationwide boycott of Stevens products and cease organizing on Stevens property for 18 months. (See *Monthly Labor Review*, December 1980, p. 66.)

The 1983 settlement, which was approved by the NLRB, required the company to pay \$1 million to the union and a total of \$200,000 to at least 18 employees affected by unfair labor practices. As part of the settlement, company chairman Whitney Stevens sent NLRB general counsel William Lubbers a letter in which Stevens promised he would not "tolerate conduct by any of our personnel which would infringe on employee rights." Continuing, he said, "I personally will take the steps necessary to insure that corrective action is undertaken in the event such conduct should occur."

The Stevens plants involved in the settlement are in Roanoke Rapids and Wallace, N.C., Milledgeville and Tifton, Ga., West Boylston, Ala., and Stuart, Va., and employ about 4,000 union members. Stevens' 50 other plants, with about 26,000 employees, are not organized.



There were a number of rulings by the Supreme Court regarding discrimination issues:

- In *Arizona v. Norris*, the Court held that employers may not require female employees to make the same contributions to a pension plan as men while giving the males a larger benefit. The employer in this case, the State of Arizona, had contended that the unequal benefits were proper because actuarial studies showed that, on average, women would draw benefits for a longer period. Nathalie Norris, who initiated the case in 1975, contended that the State had violated Title VII of the Civil Rights Act of 1964, which bars sex, race, and ethnic discrimination in employment. Writing for the majority, Justice Thurgood Marshall conceded that actuarial tables could identify differences in life expectancy based on sex or race but said that even a true generalization about a class may not be applied to individuals in the class. The Court limited its ruling to plan contributions made after July 31, 1983, and did not specify how equalization of benefits must be achieved, which meant that it could be attained by raising women's benefits, lowering men's benefits, or a combination of the two approaches.
- In *Equal Employment Opportunity Commission v. Wyoming*, the Court upheld the Federal Government's 1974 extension of the Age Discrimination in Employment Act to cover State and local government workers. The case arose when an employee of the State was involuntarily retired at age 55, which was permissible under Wyoming law but was contrary to the Federal law, which prohibits the failure to hire or the firing of employees between the ages of 40 and 70 because of their age. Writing for the five-member majority, Justice William Brennan said that the State could continue to assess its employees and dismiss those it finds to be unfit, but it must do so "in a more individualized and careful manner than otherwise would be the case."
- In *Newport News Shipbuilding and Dry Dock Co. v. EEOC*, the court ruled that the company had discriminated against a male employee by providing limited health insurance coverage of his wife's pregnancy costs, while providing full coverage of health costs for the spouses of female employees. Writing for the majority, Justice John Stevens said that the Newport News plan violated the Pregnancy Discrimination Act of 1978. Continuing, Justice Stevens said that in enacting the law, the Congress had "unambiguously expressed its disapproval" of the Court's 1976 ruling in *General Electric Co. v. Gilberto* that the exclusion of disabilities caused by pregnancy from an employer's disability plan did not constitute discrimination based on sex.

*Comparable worth.* "Comparable worth," which has been described as the "Issue of the 1980's," did not live up to that description in 1983 but there were some significant

legal, legislative, and collective bargaining developments. In general, comparable worth means paying workers the same amount for jobs that differ in specific duties but require equal judgment, knowledge, and skill. In practice, studies have indicated that the principle is frequently violated, usually to the detriment of women holding "traditional" women's jobs.

A key past development that triggered interest in the issue was a 1981 strike—the first known stoppage over the issue—against the City of San Jose, Calif., that led to special pay adjustments for some women employees. (See *Monthly Labor Review*, September 1981, p. 51.) Another was a 1981 case (*County of Washington v. Guenther*) in which the Supreme Court—while specifically not endorsing the principle of comparable worth—ruled that women could claim illegal sex discrimination in wages even though they were not doing precisely the same work as better paid male coworkers. (See *Monthly Labor Review*, August 1981, pp. 61–62.)

A 1983 development was a decision by a Federal District Court judge that the State of Washington had discriminated against some of its female employees by paying them less than male employees for "comparable" work. The State contended that it was merely following the job market, which usually pays less for traditionally female occupations. However, Judge Jack Tanner held that the State was guilty of "direct, overt and institutionalized discrimination" against women in administering its 3,000 categories of workers.

In the collective bargaining area, one of the few settlements that addressed the issue was between the State of Minnesota and Council 6 of the State, County and Municipal Employees (AFSCME). Subsequently, other unions representing 10,000 State workers agreed on similar terms.

The AFSCME accord, covering 17,000 employees, provided for 7,300 employees, mostly women, to receive larger increases in both years than the 4 percent first-year and 4.5 percent second-year increases that applied to the other employees. State officials indicated that the pay inequality would be eliminated with the 1984 increase, which was subject to funding by the State legislature.

## Union affairs

Despite the end of the recession, indications were that there was a continuing decline in union membership in 1983, based on the membership in the 96 unions making up the AFL-CIO. When it was formed in 1955, the AFL-CIO unions had 12.6 million members, which increased, after some downward movement, to a high of 14.1 million in 1975. Since then, membership has decreased to 13.8 million in 1983. (There was a temporary high of 14.5 million in 1981 when the Auto Workers union reaffiliated with the Federation.)

*Mergers.* In another indication of the difficulties unions have been encountering in recent years, 1983 was marked by a continuation of the trend toward mergers that began in

1978. During the 5-year period beginning with 1978, there were 24 mergers, which amounted to 30 percent of all mergers that have occurred since 1955. In most cases, the mergers occurred because unions with declining membership sought to restore their strength by joining with another union, often one with membership in some of the same industries.

Some 1983 mergers are—

- The United Hatters, Cap and Millinery Workers Union became a division of the Amalgamated Clothing and Textile Workers Union.
- The Graphic Arts International Union and the International Printing and Graphic Communications Union merged to form the Graphic Communications International Union headed by Graphic Arts President Kenneth J. Brown.
- The Insurance Workers International Union affiliated with the United Food and Commercial Workers International Union.
- The Ohio Civil Service Employees Association, Inc., affiliated with the American Federation of State, County and Municipal Employees.
- The 800-member National Association of Government Inspectors and Quality Assurance Personnel affiliated with the American Federation of Government Employees.

*Leadership changes.* Steelworkers' Union President Lloyd McBride, 67, died of a heart ailment in November. He had

held the post since 1977 and had steered the union through some of the most trying times in its 47-year history. Steelworkers' Secretary Lynn Williams was selected to direct the union until completion of a vote on a new president by the 720,000 members.

In May, Douglas Fraser ended his 6-year tenure as president of the Auto Workers, after reaching the union's mandatory retirement age. Like Mr. McBride's, Fraser's leadership was sorely tested by economic developments during his administration. The major difficulty he encountered was the increasing inroads of foreign vehicle producers, and the resulting cutbacks in auto production and employment, which he moved to alleviate by developing a more cooperative relationship with the domestic producers. Fraser was succeeded by UAW vice president Owen Bieber.

In a change at the Teamsters union, Roy L. Williams resigned as president after being convicted of bribery-conspiracy. Vice President Jackie Presser was selected to head the Nation's largest union for the 3 remaining years of Williams' term of office.

In other leadership changes, the Air Line Pilots elected Henry A. Duffy to replace John J. O'Donnell as president; Laundry Workers President Russell R. Crowell retired and vice president Frank Ervolino succeeded him; and Grain Millers President Frank T. Hoese retired and was succeeded by executive vice president Robert Willis. □

—FOOTNOTES—

<sup>1</sup>The discussion of economic measures in this article is based on the information available in early December.

<sup>2</sup>All of the preceding preliminary information on negotiated wage and compensations changes excludes possible pay adjustments under cost-of-

living formulas because such adjustments are contingent on the future movement of a Consumer Price Index. For more information on the settlements during the first 9 months and a complete description of the data series, see *Current Wage Developments*, November 1983, p. 47.

# Recent labor market developments in the U.S. and nine other countries

*During 1983, unemployment declined  
in the United States and Canada,  
but continued up to postwar highs in Japan,  
Australia, and Western Europe; for the first time  
unemployment rates are available by sex*

JOYANNA MOY

During 1982, the United States, Canada, Australia, and the six European countries covered by the Bureau of Labor Statistics series on comparative unemployment rates all recorded post-World War II high unemployment rates. Unemployment began to recede in the United States and Canada in the first quarter of 1983 and continued downward through the third quarter. In contrast, unemployment in most of the other countries continued to increase or stabilized at historically high rates. Even Japan, which has had much lower rates than most industrial nations, recorded a post-World War II high in unemployment during the first three quarters of 1983. Of the countries studied, Great Britain had the highest jobless rate in the third quarter of 1983 (13.6 percent), and Japan, the lowest (2.7 percent); among the European countries, Sweden recorded the lowest rate (3.7 percent).

In 1982, North American and British unemployment rates were higher for men than for women. In the United States, it was the first time that the rates were consistently higher for men than for women. In contrast, jobless rates for women in Japan, Australia, and most continental European nations remained above those for men.

This article analyzes unemployment through the third quarter of 1983 and related labor market statistics during 1982 for the United States and nine foreign nations. The foreign data have been adjusted for comparability with U.S.

definitions of employment and unemployment.<sup>1</sup> For some countries, data are not available to make adjustments for every difference from U.S. definitions. Nevertheless, the adjusted figures provide a much better basis for comparison than the "official rates" for these countries. The estimates presented here may differ from those previously published by BLS because of revisions of basic data and the availability of more recent survey results.<sup>2</sup> This article presents, for the first time, unemployment rates approximating U.S. concepts by sex for the United States and the nine foreign countries.

## **Long-term unemployment trend upward**

Since the 1960's, unemployment has generally moved upward in the major industrial countries, and unemployment rates have tended to reach new highs during each successive recession. In the 1970's, the average unemployment rate for the 10 countries was 1.4 percentage points higher than in the 1960's. Over the 1980-82 period, the average rate rose by an additional 2.2 percentage points.

From the 1960's through the mid-1970's, unemployment rates were much higher in North America than in Western Europe, Japan, and Australia. However, during the late 1970's, jobless rates in several Western European nations began to match and then exceed the rates in the United States and Canada. In 1981 and 1982, British and Dutch unemployment rates surpassed U.S. and Canadian rates. (See table 1.)

The 1982 British and Dutch jobless rates of more than 12 percent were the highest annual rates of the 10 countries

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**Table 1. Civilian labor force, employment, and unemployment, approximating U.S. concepts, selected countries, 1974-82**

(Numbers in thousands)

Year	United States	Canada	Australia	Japan	France	Germany	Great Britain	Italy	Netherlands	Sweden
<b>Labor force:</b>										
1974	91,949	9,639	6,053	52,440	21,590	26,400	24,890	19,890	4,770	4,037
1975	93,775	9,974	6,169	52,530	21,640	26,130	25,150	20,080	4,820	4,123
1976	96,158	10,206	6,244	53,100	21,870	25,900	25,330	20,300	4,890	4,149
1977	99,009	10,498	6,358	53,820	22,140	25,870	25,450	20,530	4,950	4,168
1978	102,251	10,882	6,399	54,610	22,310	26,000	25,630	20,630	5,010	4,203
1979	104,962	11,207	6,480	55,210	22,500	26,240	25,730	20,910	5,100	4,262
1980	106,940	11,522	6,655	55,740	22,580	26,500	25,810	21,210	5,270	4,312
1981	108,670	11,830	6,771	56,320	<sup>1</sup> 22,700	26,630	25,820	21,380	5,480	4,326
1982	110,204	11,879	6,876	56,980	<sup>1</sup> 22,900	<sup>1</sup> 26,650	<sup>1</sup> 25,610	21,410	<sup>1</sup> 5,580	4,350
<b>Participation rate:<sup>2</sup></b>										
1974	61.2	60.5	63.0	63.0	57.2	55.1	62.7	47.5	48.2	64.9
1975	61.2	61.1	63.2	62.4	56.8	54.4	63.2	47.5	49.2	65.9
1976	61.6	61.1	62.7	62.4	56.9	53.8	63.3	47.8	49.1	66.0
1977	62.3	61.5	62.7	62.5	57.1	53.4	63.3	48.0	49.0	65.9
1978	63.2	62.6	62.0	62.8	57.2	53.3	63.4	47.7	48.9	66.1
1979	63.7	63.3	61.7	62.7	57.1	53.3	63.2	47.8	49.0	66.6
1980	63.8	64.0	62.2	62.6	56.8	53.2	63.0	48.0	49.8	66.9
1981	63.9	64.7	62.0	62.6	<sup>1</sup> 56.8	53.3	62.6	48.0	51.4	66.8
1982	64.0	64.0	61.8	62.7	<sup>1</sup> 56.9	<sup>1</sup> 53.4	—	47.4	<sup>1</sup> 52.0	<sup>1</sup> 66.9
<b>Employment:</b>										
1974	86,794	9,125	5,891	51,710	20,960	25,980	24,120	19,340	4,590	3,956
1975	85,846	9,284	5,866	51,530	20,730	25,230	24,000	19,470	4,570	4,056
1976	88,752	9,479	5,946	52,020	20,870	25,010	23,820	19,600	4,630	4,083
1977	92,017	9,648	6,000	52,720	21,050	24,970	23,840	19,790	4,700	4,093
1978	96,048	9,972	5,997	53,370	21,110	25,130	24,040	19,870	4,750	4,109
1979	98,824	10,369	6,075	54,040	21,120	25,460	24,300	20,100	4,830	4,174
1980	99,303	10,655	6,250	54,600	21,120	25,730	24,000	20,380	4,950	4,226
1981	100,397	10,933	6,380	55,060	<sup>1</sup> 20,970	25,550	23,090	20,460	4,990	4,218
1982	99,526	10,574	6,385	55,620	<sup>1</sup> 20,940	<sup>1</sup> 25,090	<sup>1</sup> 22,470	20,390	<sup>1</sup> 4,900	4,213
<b>Employment-population ratio:<sup>3</sup></b>										
1974	57.8	57.3	61.3	62.2	55.5	54.2	60.8	46.2	46.4	63.6
1975	56.1	56.9	60.1	61.2	54.4	52.5	60.3	46.0	46.6	64.8
1976	56.8	56.7	59.7	61.1	54.3	52.0	59.6	46.1	46.5	64.9
1977	57.9	56.6	59.2	61.2	54.3	51.6	59.3	46.3	46.5	64.8
1978	59.3	57.4	58.1	61.3	54.1	51.5	59.4	45.9	46.3	64.6
1979	59.9	58.6	57.9	61.4	53.6	51.7	59.7	46.0	46.4	65.3
1980	59.2	59.2	58.4	61.3	53.1	51.6	58.6	46.1	46.8	65.6
1981	59.0	59.8	58.4	61.2	<sup>1</sup> 52.4	51.1	56.0	45.9	46.8	65.1
1982	57.8	56.9	57.3	61.2	<sup>1</sup> 52.0	<sup>1</sup> 50.3	—	45.2	<sup>1</sup> 45.6	<sup>1</sup> 64.8
<b>Unemployment:</b>										
1974	5,156	514	162	730	630	420	770	550	180	80
1975	7,929	690	302	1,000	910	890	1,150	610	250	67
1976	7,406	727	298	1,080	1,000	890	1,510	700	260	66
1977	6,991	850	358	1,100	1,090	900	1,610	740	250	75
1978	6,202	911	402	1,240	1,200	870	1,590	760	260	94
1979	6,137	838	405	1,170	1,380	780	1,430	810	270	88
1980	7,637	867	406	1,140	1,460	770	1,810	830	320	86
1981	8,273	808	390	1,260	<sup>1</sup> 1,730	1,080	2,730	920	490	108
1982	10,678	1,305	491	1,360	<sup>1</sup> 1,960	<sup>1</sup> 1,560	<sup>1</sup> 3,140	1,020	<sup>1</sup> 680	137
<b>Unemployment rate:</b>										
1974	5.6	5.3	2.7	1.4	2.9	1.6	3.1	2.8	3.8	2.0
1975	8.5	6.9	4.9	1.9	4.2	3.4	4.6	3.0	5.2	1.6
1976	7.7	7.1	4.8	2.0	4.6	3.4	6.0	3.4	5.3	1.6
1977	7.1	8.1	5.6	2.0	4.9	3.5	6.3	3.6	5.0	1.8
1978	6.1	8.4	6.3	2.3	5.4	3.4	6.2	3.7	5.2	2.2
1979	5.8	7.5	6.2	2.1	6.1	3.0	5.6	3.9	5.3	2.1
1980	7.1	7.5	6.1	2.0	6.5	2.9	7.0	3.9	6.1	2.0
1981	7.6	7.6	5.8	2.2	<sup>1</sup> 7.6	4.1	10.6	4.3	8.9	2.5
1982	9.7	11.0	7.1	2.4	<sup>1</sup> 8.6	<sup>1</sup> 5.8	<sup>1</sup> 12.3	4.8	<sup>1</sup> 12.2	3.1
<b>Unemployment rate (as published):<sup>4</sup></b>										
1974	5.6	5.3	2.7	1.4	2.8	2.6	2.5	5.4	3.5	2.0
1975	8.5	6.9	4.9	1.9	4.2	4.7	3.9	5.9	5.0	1.6
1976	7.7	7.1	4.8	2.0	4.5	4.6	5.4	6.7	5.3	1.6
1977	7.1	8.1	5.6	2.0	4.8	4.5	5.7	7.2	5.1	1.8
1978	6.1	8.4	6.3	2.2	5.3	4.3	5.6	7.2	5.1	2.2
1979	5.8	7.5	6.2	2.1	6.0	3.8	5.2	7.7	5.1	2.1
1980	7.1	7.5	6.1	2.0	6.4	3.8	6.7	7.6	5.9	2.0
1981	7.6	7.6	5.8	2.2	7.5	5.5	10.3	8.4	9.0	2.5
1982	9.7	11.0	7.1	2.4	8.8	7.5	12.1	9.1	12.4	3.1

<sup>1</sup>Preliminary estimate based on incomplete data.

<sup>2</sup>Civilian labor force as a percent of civilian working-age population.

<sup>3</sup>Civilian employment as a percent of civilian working-age population.

<sup>4</sup>Published and adjusted data for the United States, Canada, and Australia are identical. Unemployment rates are computed as follows: for France, unemployment as a percent of the civilian labor force; for Japan, Italy, and Sweden, unemployment as a percent of the civilian labor force plus career military personnel; for Germany, Great Britain, and the Netherlands, registered unemployed as a percent of employed wage-and-salary workers plus the unemployed. With the exception of France, which does not publish an unemployment rate, these are the usually published unemployment rates for each country.

NOTE: Data for the United States relate to the population 16 years and over. Published data for France, Germany, Italy, and the Netherlands relate to the population 14 years and over; for Sweden, to the population age 16 to 74; and for Canada, Australia, and Japan, to the population 15 years and over. For Great Britain, the lower age limit was raised from 15 to 16 years in 1973. The statistics have been adapted, insofar as possible, to the age at which compulsory schooling ends in each country. Therefore, the adjusted statistics for France relate to the population 16 and over, and for Germany and the Netherlands, to the population 15 years and over. The age limits of the statistics for Canada, Australia, Japan, Great Britain, and Italy coincide with the age limits of the published statistics. Statistics for Sweden remain at the lower age limit of 16, but have been adjusted to include persons 75 years and over. Dashes indicate that data are not available.

studied. Canada's 11 percent jobless rate remained well above the U.S. rate of 9.7 percent. Unemployment rates rose to about 8.5 percent in France, more than 7 percent in Australia, nearly 6 percent in Germany, and about 5 percent in Italy. The lowest rates in 1982, around 3 percent, were in Sweden and Japan—maintaining the pattern of previous years.

Unemployment rates rose steadily during 1982 in all countries studied, accelerating in the second half of the year in the United States, Canada, Australia, and Great Britain. (See table 2.) By the fourth quarter of 1982, double-digit jobless rates were reached in the United States, Canada, Great Britain, and the Netherlands.<sup>3</sup>

North American unemployment rates began receding at the beginning of 1983. By October, the U.S. rate had fallen to 8.8 percent from a peak of 10.8 percent in December 1982. French unemployment stabilized at about 8.5 percent from around mid-1982 throughout the first three quarters of 1983, but unemployment continued rising in the other countries until about mid-1983. By the third quarter, it appeared that the upward trend had been halted in all countries. However, only Italy showed any significant downward trend.

*Foreign worker unemployment.* Since the 1973–74 European Community ban on recruitment of foreign workers from outside the Community, many unemployed foreign workers have remained in their host country. This trend has

contributed to the rising jobless rates recorded in Western Europe since the 1974–75 recession. Moreover, by the 1981–82 period, foreign workers accounted for about 9 percent of the civilian labor force in Germany, 6 percent in France, and 5 percent in Sweden.

In each country, foreign workers' unemployment rates were significantly higher than those for their native-born counterparts. This is in sharp contrast with the situation in the 1960's and early 1970's when unemployed foreign workers usually returned to their home countries and were therefore not included in host-country unemployment statistics.

The jobless rate among Germany's foreign workers has been 50 percent higher than the overall rate since 1981. Sweden's foreign worker unemployment rate has been nearly double the overall rate since 1977, the year such data were first collected in the Swedish labor force survey. By the first quarter of 1983, the ratio had declined somewhat, as the overall rate began to increase more rapidly than the foreign worker rate.

### Employment showed broad declines

In 1982, employment rose in only 2 of the 10 countries studied—Japan and Australia. Employment rose by 1 percent in Japan and marginally in Australia. In North America and Western Europe, employment declined, with the sharpest drops, about 3 percent, occurring in Canada and Great Britain. U.S., German, and Dutch employment fell by 1 to

Table 2. Quarterly unemployment rates, approximating U.S. concepts, selected countries, seasonally adjusted, 1978–83

Period	United States	Canada	Australia	Japan	France <sup>1</sup>	Germany <sup>1</sup>	Great Britain <sup>1</sup>	Italy <sup>2</sup>	Sweden
1978: .....	6.1	8.4	6.3	2.3	5.4	3.4	6.2	3.7	2.2
I .....	6.3	8.4	6.6	2.2	4.8	3.4	6.5	3.7	2.2
II .....	6.0	8.5	6.3	2.3	5.3	3.4	6.4	3.6	2.3
III .....	6.0	8.5	6.2	2.4	5.7	3.3	6.3	3.6	2.4
IV .....	5.9	8.1	6.3	2.3	5.6	3.2	6.0	3.9	2.0
1979: .....	5.8	7.5	6.2	2.1	6.1	3.0	5.6	3.9	2.1
I .....	5.9	7.9	6.4	2.1	5.8	3.2	5.8	3.8	2.2
II .....	5.7	7.6	6.3	2.1	6.2	3.0	5.6	3.8	2.2
III .....	5.9	7.1	6.2	2.2	6.3	2.9	5.5	4.0	2.1
IV .....	5.9	7.2	6.2	2.1	6.2	2.8	5.5	3.9	1.8
1980: .....	7.1	7.5	6.1	2.0	6.5	2.9	7.0	3.9	2.0
I .....	6.3	7.6	6.1	1.9	6.2	2.7	5.7	4.0	1.8
II .....	7.3	7.8	6.3	2.0	6.5	2.8	6.4	3.9	2.0
III .....	7.7	7.4	6.1	2.1	6.5	3.0	7.3	3.9	1.9
IV .....	7.4	7.2	6.0	2.2	6.6	3.2	8.6	3.9	2.1
1981: .....	7.6	7.6	5.8	2.2	7.6	4.1	10.6	4.3	2.5
I .....	7.4	7.4	5.8	2.2	7.0	3.4	9.5	3.9	2.2
II .....	7.4	7.2	5.5	2.3	7.7	3.8	10.3	4.3	2.2
III .....	7.4	7.4	5.8	2.2	7.9	4.3	11.1	4.2	2.5
IV .....	8.3	8.4	5.9	2.2	7.9	4.8	11.6	4.8	3.0
1982: .....	9.7	11.0	7.1	2.4	8.6	5.8	12.3	4.8	3.1
I .....	8.8	8.9	6.3	2.3	8.3	5.3	11.9	5.0	3.0
II .....	9.4	10.5	6.6	2.4	8.5	5.6	12.1	5.0	3.2
III .....	10.0	12.1	7.0	2.4	8.7	6.0	12.6	4.6	3.4
IV .....	10.7	12.7	8.7	2.4	8.6	6.5	12.9	4.5	3.0
1983: .....									
I .....	10.3	12.5	9.7	2.7	8.6	7.0	13.5	4.9	3.3
II .....	10.1	12.4	10.3	2.7	8.6	7.4	13.8	5.7	3.6
III .....	9.4	11.7	10.3	2.7	8.6	7.5	13.6	4.8	3.7

<sup>1</sup>Preliminary for France from 1981 forward, and for Germany and Great Britain from 1982 forward.

<sup>2</sup>Quarterly data are for January, April, July, and October.

NOTE: Quarterly figures for France, Germany, Italy, and Great Britain are calculated by applying annual adjustment factors to current published data, and therefore should be viewed as only approximate indicators of unemployment under U.S. concepts. Published data for Australia, Canada, Japan, and Sweden require little or no adjustment.

**Table 3. Labor force participation rates approximating U.S. concepts, by sex, selected countries, 1970-82**

Year	United States	Canada	Australia	Japan	France <sup>1</sup>	Germany	Great Britain	Italy	Netherlands <sup>1</sup>	Sweden
<b>Men:</b>										
1970	79.7	77.8	84.1	81.5	74.9	78.7	82.2	73.5	( <sup>2</sup> )	78.5
1971	79.1	77.3	83.8	81.9	74.4	77.8	81.6	73.2	( <sup>2</sup> )	78.0
1972	79.0	77.5	83.6	81.9	74.1	76.1	81.3	71.8	( <sup>2</sup> )	77.3
1973	78.8	78.2	83.2	81.9	73.3	75.3	82.8	71.0	75.5	76.8
1974	78.7	78.7	82.7	81.6	73.0	74.1	81.2	70.8	( <sup>2</sup> )	76.7
1975	77.9	78.4	82.2	81.2	73.2	73.1	81.4	70.4	74.7	77.0
1976	77.5	77.6	81.5	81.0	72.6	72.1	81.3	70.2	( <sup>2</sup> )	76.5
1977	77.7	77.6	81.0	80.4	71.6	71.6	80.7	69.2	73.4	75.6
1978	77.9	77.9	79.8	80.1	71.4	71.3	80.2	68.6	( <sup>2</sup> )	75.1
1979	77.8	78.4	79.5	79.9	71.6	71.1	79.5	68.2	71.8	75.1
1980	77.4	78.3	79.2	79.6	70.6	70.4	79.2	67.8	( <sup>2</sup> )	74.9
1981	77.0	78.3	78.9	79.6	69.9	70.2	<sup>3</sup> 78.6	67.6	71.8	73.8
1982	76.6	76.9	78.4	79.3	( <sup>2</sup> )	<sup>3</sup> 70.0	( <sup>2</sup> )	66.6	( <sup>2</sup> )	<sup>3</sup> 73.6
<b>Women:</b>										
1970	43.3	38.3	40.4	49.3	40.1	38.4	42.4	26.2	( <sup>2</sup> )	50.0
1971	43.4	39.4	41.0	47.7	39.8	38.5	42.5	26.1	( <sup>2</sup> )	50.9
1972	43.9	40.2	41.2	46.8	40.5	38.6	43.3	25.4	( <sup>2</sup> )	51.5
1973	44.7	41.9	42.4	47.3	41.0	38.9	45.0	25.9	27.4	51.7
1974	45.7	43.0	43.5	45.7	41.6	38.8	46.2	26.3	( <sup>2</sup> )	53.3
1975	46.3	44.4	44.5	44.8	42.5	38.4	46.7	26.6	28.0	55.2
1976	47.3	45.2	44.3	44.8	42.9	38.2	47.1	27.5	( <sup>2</sup> )	55.8
1977	48.4	46.0	44.8	45.7	44.2	37.8	47.5	28.6	28.8	56.7
1978	50.0	47.8	44.5	46.4	43.3	37.8	48.1	28.6	( <sup>2</sup> )	57.5
1979	50.9	48.9	44.3	46.6	44.3	37.9	48.4	29.2	30.2	58.5
1980	51.5	50.3	45.5	46.6	42.7	38.2	48.3	29.9	( <sup>2</sup> )	59.3
1981	52.1	51.6	45.5	46.7	43.1	38.6	<sup>3</sup> 48.1	30.1	33.3	60.1
1982	52.6	51.6	45.4	47.0	( <sup>2</sup> )	<sup>3</sup> 38.9	( <sup>2</sup> )	29.9	( <sup>2</sup> )	<sup>3</sup> 60.7

<sup>1</sup>Data are for March for France and for March-May for the Netherlands.

<sup>2</sup>Not available.

<sup>3</sup>Preliminary estimate.

NOTE: Data relate to the civilian labor force approximating U.S. concepts as a percent of the civilian noninstitutionalized working age population. Working age is defined as 16

years and over in the United States, France, and Sweden; 15 years and over in Australia, Canada, Germany, and Japan; and 14 years and over in Italy. For Great Britain, the lower age limit was raised from 15 to 16 in 1973. For the Netherlands, the lower age limit was raised from 14 to 15 in 1975. The institutionalized working age population is included in Japan and Germany.

2 percent, and lesser declines occurred in France, Italy, and Sweden.

For Canada, 1982 was the first year in nearly a quarter of a century in which employment declined. During the recessionary periods of the 1960's and 1970's, Canadian employment growth was maintained, although at a slackened pace. In 1974-75, employment dropped in most countries, but Canadian employment rose 1.7 percent.

During the second half of 1982, employment declined in most countries studied. By mid-1983, employment was rising in North America, Japan, Australia, Italy, and Sweden. Between the first and third quarters of 1983, employment rose sharply in the United States and Canada (each by about 2.5 percent) and moderately in Australia, Italy, and Sweden (all by less than 0.5 percent).

*Employment maintenance programs.* In several Western European nations, special employment and training programs cover a significant number of persons in the labor force. In March 1983, 657,000 persons were covered by various employment and training schemes in Great Britain. In fact, these schemes kept approximately 365,000 persons, or 1.4 percent of the British labor force, from becoming unemployed, according to the British Department of Employment.<sup>4</sup>

In Sweden, the number enrolled in programs to assist the jobless has exceeded the number of unemployed since 1973. In 1982, total enrollment in the various public works and

training programs accounted for 3.2 percent of the labor force, compared with a 3.1-percent unemployment rate.

Programs subsidizing employees placed on reduced work schedules were extensive in France, Germany, Great Britain, and Italy. In France, 200,000 such workers, nearly 2 percent of the work force, received partial unemployment benefits in 1982. While even more workers had collected short-time benefits in 1981, the average number of hours subsidized per worker was greater in 1982.

In Germany, the number of persons on short-time work schedules increased 75 percent to nearly 610,000, approximately 2.3 percent of the labor force in 1982. In Britain, the Temporary Short-Term Working Compensation Scheme subsidized 124,000 persons, or 0.5 percent of the 1982 labor force. In Italy, the number of hours subsidized by the Wage Supplement Fund rose 86 percent in 1982. An estimated 1.4 percent of the labor force were covered by this program.

*Employment-population ratios.* In 1982, employment-population ratios declined in all nations studied except Japan. Because Japanese employment growth matched growth of the working-age population, the ratio remained unchanged. The decrease in the proportion of the working-age population with jobs was most pronounced in Great Britain and Canada, the countries with the largest percentage declines in employment.

The employment-population ratio continued to be highest in Sweden, 65 percent, and lowest in Italy<sup>5</sup> and the Neth-



erlands, about 45 percent. The ratios ranged between 55 and 60 percent in the United States, Canada, Japan, Australia, and Great Britain, and were slightly lower in France and Germany.

### Participation rates steady

In 1982, labor force participation rates rose in the Netherlands and held virtually steady in the United States, Japan, France, Germany, and Sweden. As shown in table 3, rising female participation rates offset declining male rates in the United States, Japan, Germany, and Sweden. (Data by sex were not yet available for France.)

Participation rates declined in Canada, Australia, Great Britain, and Italy. In Italy, the decline may have been exacerbated by a new law introduced in April 1981 which increased opportunities for early retirement.<sup>6</sup> In Great Britain, voluntary early retirement contributed to falling participation rates.

*Discouraged workers.* Several of the countries studied collect data on the number of discouraged workers—persons not in the labor force who state a current desire for work but who are not actively seeking a job because they think they cannot find one. Data are available on a regular basis for the United States, Canada, Australia, Sweden, and Italy, although each nation's definitions of these workers vary.

In the United States, discouraged workers increased by

more than one-third between the first and fourth quarters of 1982, and averaged 1.5 million (compared with around 10.7 million unemployed persons) for the year. During the first three quarters of 1983, the number of such workers moved downward along with the number of unemployed. The ratio of discouraged workers to unemployment, however, remained at about 15 percent. In Canada, where the definition of discouraged workers is more restrictive than the U.S. definition, the number of these workers nearly doubled during 1982 to 110,000, comparable to more than 8 percent of the unemployed. In Australia, discouraged jobseekers rose by 13 percent in 1982, and were roughly comparable to 16 percent of the unemployed. In Sweden, the number of discouraged workers has remained about half the number of unemployed since 1978.

According to the Italian definition, discouraged jobseekers declined steadily in that nation to about 8 percent of the number of unemployed. In Italy, discouraged workers are defined as persons not in the labor force who declare their desire and availability for work but who have not sought work because they think they cannot find a job. However, nearly half of the recorded unemployed, under Italian definitions, had not actively sought work in the past 4 weeks. They have been excluded from the BLS adjusted unemployment figures for Italy because U.S. definitions require active jobseeking within the past 4 weeks. However, they would be classified as discouraged under U.S. concepts. The ratio

**Table 4. Unemployment rates by sex, approximating U.S. concepts, selected countries, 1970-82**

Year	United States	Canada	Australia	Japan <sup>1</sup>	France <sup>2</sup>	Germany	Great Britain	Italy	Netherlands <sup>3</sup>	Sweden
<b>Men:</b>										
1970	4.4	5.6	1.1	1.1	1.5	.5	3.4	2.2	( <sup>4</sup> )	1.4
1971	5.3	6.0	1.3	1.2	1.7	.5	4.2	2.2	( <sup>4</sup> )	2.4
1972	5.0	5.8	2.0	1.4	1.7	.7	4.7	2.6	( <sup>4</sup> )	2.5
1973	4.2	4.9	1.6	1.3	1.6	.6	3.5	2.4	2.8	2.2
1974	4.9	4.8	1.9	1.3	1.8	1.5	3.1	2.0	( <sup>4</sup> )	1.7
1975	7.9	6.2	3.8	1.9	2.9	3.3	4.9	2.2	3.8	1.4
1976	7.1	6.3	3.9	2.1	3.0	3.1	6.3	2.4	( <sup>4</sup> )	1.3
1977	6.3	7.3	4.6	2.0	3.3	2.9	6.6	2.5	4.0	1.5
1978	5.3	7.6	5.4	2.2	3.7	2.7	6.2	2.6	( <sup>4</sup> )	2.1
1979	5.1	6.6	5.2	1.9	4.3	2.3	5.5	2.7	3.7	1.9
1980	6.9	6.9	5.1	1.7	4.3	2.3	7.3	2.6	( <sup>4</sup> )	1.7
1981	7.4	7.1	4.8	1.9	5.4	3.4	11.4	2.9	6.3	2.4
1982	9.9	11.1	6.3	1.9	( <sup>4</sup> )	<sup>5</sup> 5.2	13.3	3.4	( <sup>4</sup> )	3.0
<b>Women:</b>										
1970	5.9	5.8	2.8	2.5	4.1	.6	2.5	4.5	( <sup>4</sup> )	1.7
1971	6.9	6.6	3.1	2.7	4.6	.8	3.3	4.5	( <sup>4</sup> )	2.8
1972	6.6	7.0	3.9	2.9	4.7	.8	3.4	5.2	( <sup>4</sup> )	3.0
1973	6.0	6.7	3.6	2.7	4.5	.9	2.7	5.4	4.2	2.8
1974	6.7	6.4	4.1	2.9	4.8	1.8	3.0	4.5	( <sup>4</sup> )	2.4
1975	9.3	8.1	7.0	3.8	6.3	3.6	4.1	5.0	6.9	2.0
1976	8.6	8.4	6.4	3.8	7.2	4.0	5.4	5.8	( <sup>4</sup> )	2.0
1977	8.2	9.4	7.5	4.3	7.6	4.5	5.9	6.0	6.7	2.2
1978	7.2	9.6	7.9	4.3	8.0	4.4	6.3	6.1	( <sup>4</sup> )	2.4
1979	6.8	8.8	8.2	4.1	9.0	4.1	5.6	6.4	8.1	2.3
1980	7.4	8.4	7.9	3.3	9.8	3.8	6.6	6.6	( <sup>4</sup> )	2.3
1981	7.9	8.3	7.4	3.6	11.1	5.1	9.4	7.2	11.0	2.7
1982	9.4	10.8	8.5	4.0	( <sup>4</sup> )	<sup>5</sup> 6.9	10.8	7.6	( <sup>4</sup> )	3.4

<sup>1</sup>Adjusted rates estimated on the basis of special March survey data for 1977 through 1980. Adjustments for 1970-76 are based on March 1977 data, and adjustments for 1981-82 are based on March 1980 data.

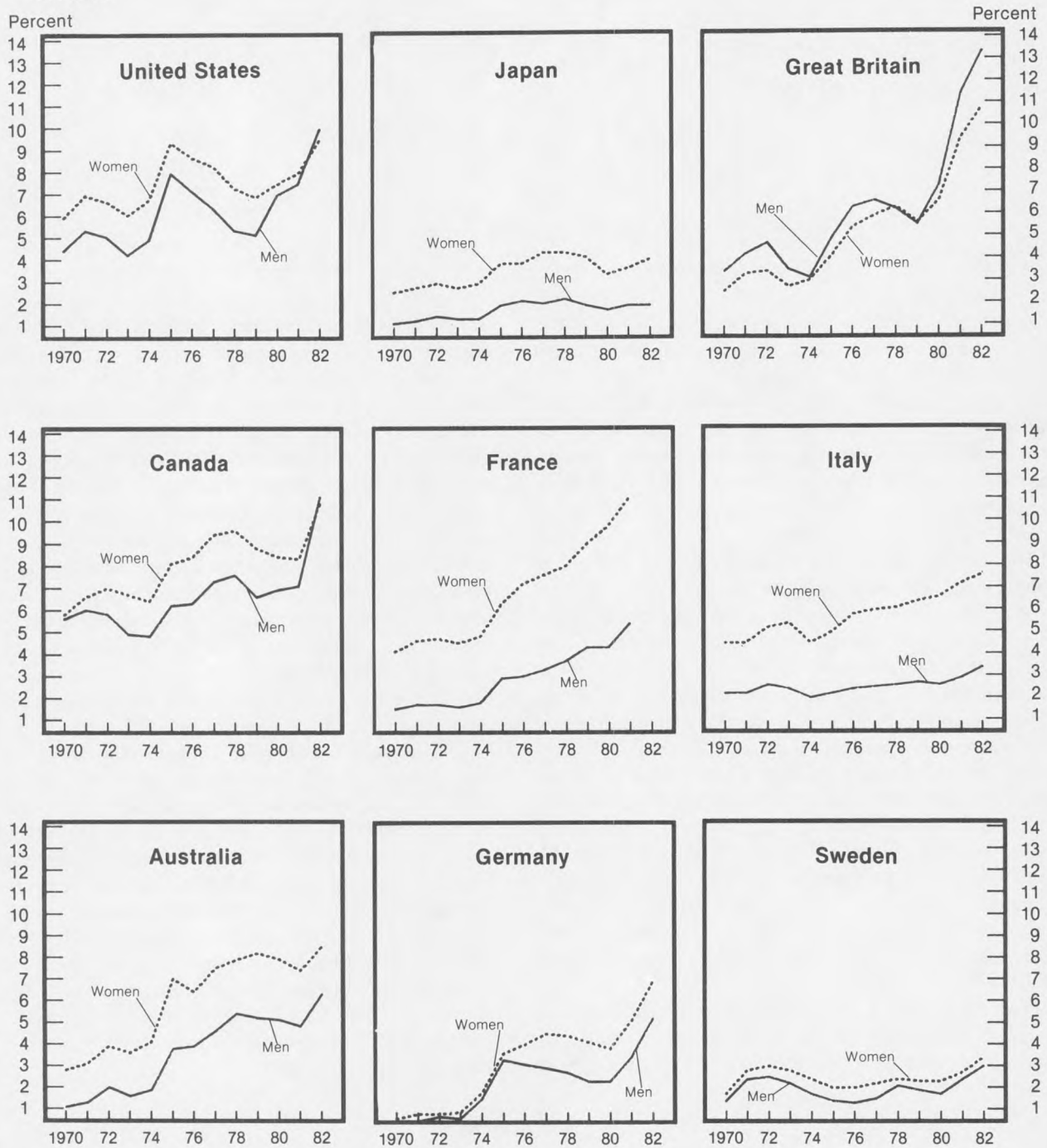
<sup>2</sup>Data refer to March.

<sup>3</sup>Data refer to March-May.

<sup>4</sup>Not available.

<sup>5</sup>Preliminary estimate based on incomplete data.

**Chart 1. Unemployment rates by sex, approximating U.S. concepts, selected countries, 1970-82**



of all discouraged workers to adjusted unemployed would thereby be more than 100 percent.

### Unemployment rates by sex

Historically, women have had higher unemployment rates than men in all countries studied except Great Britain. This reflected their relatively higher rate of movement into and

out of the labor force and their lower levels of experience and seniority which make women more vulnerable to layoff. During economic downturns, however, the concentration of men in the more seriously affected goods-producing sector worsened their position relative to women. In 1982, the unemployment rates were consistently higher for men than for women for the first time in the United States. (See table

**Table 5. Ratio of female to male unemployment rates, selected countries, 1970-82**

Year	United States	Canada	Australia	Japan	France	Germany	Great Britain	Italy	Netherlands	Sweden
1970	1.3	1.0	2.6	2.3	2.7	1.2	.7	2.0	( <sup>1</sup> )	1.2
1971	1.3	1.1	2.4	2.2	2.7	1.6	.8	2.0	( <sup>1</sup> )	1.2
1972	1.3	1.2	2.0	2.1	2.8	1.1	.7	2.0	( <sup>1</sup> )	1.2
1973	1.4	1.4	2.2	2.1	2.8	1.5	.8	2.2	1.5	1.3
1974	1.4	1.3	2.2	2.2	2.7	1.2	1.0	2.2	( <sup>1</sup> )	1.4
1975	1.2	1.3	1.8	2.0	2.2	1.1	.8	2.3	1.8	1.4
1976	1.2	1.3	1.6	1.8	2.4	1.3	.9	2.4	( <sup>1</sup> )	1.5
1977	1.3	1.3	1.6	2.2	2.3	1.6	.9	2.4	1.7	1.5
1978	1.4	1.3	1.5	2.0	2.2	1.6	1.0	2.3	( <sup>1</sup> )	1.1
1979	1.3	1.3	1.6	2.2	2.1	1.8	1.0	2.4	2.2	1.2
1980	1.1	1.2	1.5	1.9	2.3	1.6	.9	2.5	( <sup>1</sup> )	1.4
1981	1.1	1.2	1.5	1.9	2.1	1.5	.8	2.5	1.8	1.1
1982	1.0	1.0	1.4	2.1	( <sup>1</sup> )	1.3	.8	2.2	( <sup>1</sup> )	1.1

<sup>1</sup>Not available.

4 and chart 1. Rates for the Netherlands are not shown in the chart because annual data are not available.) Canada showed a similar pattern.<sup>7</sup> In Australia, Japan, France, Germany, Italy, the Netherlands, and Sweden, such a turnabout did not occur: unemployment rates for women remained well above those for men. However, the difference between the rates by sex narrowed in most countries. In Great Britain, the unemployment rate for women continued to be significantly lower than that for men.

The unemployment rates by sex have been adjusted to approximate U.S. concepts by the same procedures that are used to adjust the overall unemployment rates for all countries, except Japan. Special March labor force surveys conducted from 1977 through 1980 have been used to obtain the male and female unemployment rates for Japan. These special surveys indicate that the regular monthly Japanese survey overstates unemployment rates for men and understates those for women.<sup>8</sup> The regular Japanese surveys show little difference between the jobless rates for men and women, while the more probing March surveys show a rather wide differential. For the 1970-76 period, male and female unemployment rates for Japan were estimated based on 1977 relationships. Similarly, 1981 and 1982 rates were estimated based on 1980 relationships. Therefore, figures for years other than the 1977-80 period should be regarded with caution.

From 1970 through 1982, the average ratio of female to male unemployment rates was widest in France, Italy, and Japan, where the ratio was greater than 2. In the United

States, Canada, and Sweden, the ratio was much lower, slightly above 1. In Australia, Germany, and the Netherlands, the ratio was about 1.5. Britain was the only country studied where the ratio was less than 1. (See table 5.)

The ratio of female to male unemployment rates declined between the 1970's and early 1980's in the United States, Canada, Australia, Japan, France, and Sweden. Furthermore, while declines were evident during the 1974-75 recession, they were more marked in the 1980-82 period. Two reasons underlie this narrowing of the differential. First, the goods-producing sector, which employs relatively more men than women, was especially hard hit during 1980-82. In contrast, employment in the service-producing sector, with its high concentration of women, increased or stabilized, except in Great Britain where it has been falling in recent years. Second, the rate of female labor force growth has slowed substantially since 1979, thereby easing the upward pressure on female unemployment.

In 1982, the ratio of female to male jobless rates rose in only one country studied—Japan. Withdrawal from the labor force in response to job loss has long been the practice among Japanese women. Recently, however, they have remained in the labor market, immediately seeking work upon becoming jobless. The number of Japanese women re-entering the work force has also grown, reflecting the greater availability of childcare and part-time jobs.<sup>9</sup> In 1982, the growth rate of the female labor force increased for the first time since 1977, putting upward pressure on jobless rates among Japanese women. □

## FOOTNOTES

<sup>1</sup>Beginning with January 1983 data, the national U.S. employment and labor force statistics are available including and excluding the resident Armed Forces. The data presented in this article are on the civilian labor force basis. Foreign data including the Armed Forces—the total labor force basis—are available upon request.

<sup>2</sup>German data have been revised to reflect new estimates of labor force

and employment based on 1980 population census results. For Great Britain, new estimates of employment based on the September 1981 Census of Employment and new figures on registered unemployment based on a new method of collecting the data have been incorporated. For further information, see *International Comparisons of Unemployment*, Bulletin 1979 (Bureau of Labor Statistics, 1978), Appendix B; and Supplement to Bulletin 1979 (Bureau of Labor Statistics, 1983), Appendix B.



<sup>3</sup> Seasonally adjusted quarterly jobless rates approximating U.S. concepts are not available for the Netherlands. However, there is very little difference between the adjusted and as published unemployment rates, and the seasonally adjusted published rates have been more than 10 percent since the fourth quarter of 1981. The registered unemployment rates have risen steadily throughout 1982 and the first half of 1983.

<sup>4</sup> "Trends in Labour Statistics-Commentary," *Employment Gazette*, May 1983, p. S4. The actual effect on the unemployment register is less than the number of persons covered by the various measures. The Department of Employment estimates that only a portion of those covered by these measures would have become unemployed in their absence.

<sup>5</sup> The employment ratio for Italy is understated because of the significant

number of persons whose employment goes unrecorded—black labor. For further information, see *International Comparisons of Unemployment*.

<sup>6</sup> Organization for Economic Cooperation and Development, *Economic Survey of Italy* (Paris, OECD, December 1982), p. 14.

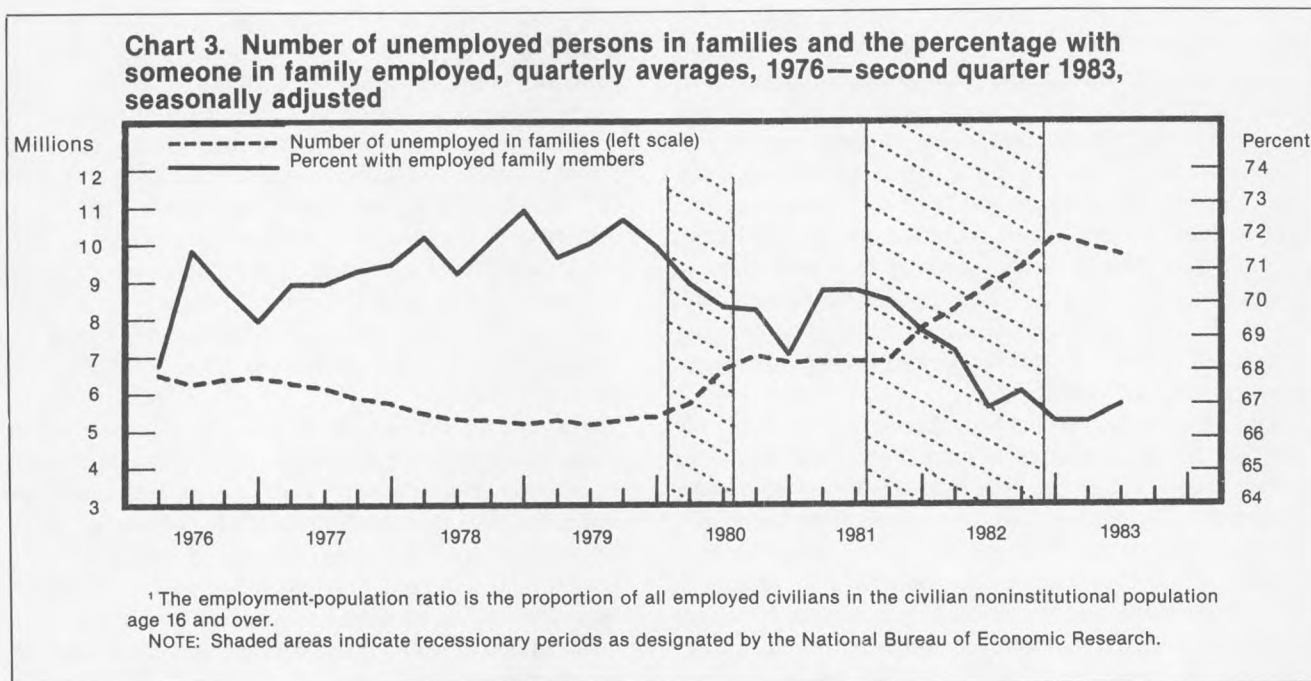
<sup>7</sup> Unlike women in the United States, Canadian women have not always had higher annual average jobless rates than men prior to 1982. During the 1960's, there were also a few years when female rates were slightly below the male rates in Canada.

<sup>8</sup> See Constance Sorrentino's comment on Japan's low unemployment in a forthcoming issue of the *Review*.

<sup>9</sup> U.S. Embassy's (Tokyo) summary of the Japanese Ministry of Labor's *Annual White Paper*, Aug. 20, 1983, p. 1.

### ERRATA

In "Trends in employment and unemployment in families," by Deborah Pisetznier Klein, the chart 3 legends should be transposed and the left vertical axis labeled "Millions," instead of "Thousands" (December *Monthly Labor Review*, p. 23). A corrected version of the chart appears below.



# Productivity trends in manufacturing in the U.S. and 11 other countries

*For the U.S. and most industrial rivals, output per hour in manufacturing rose in 1982; unit labor costs, measured in U.S. dollars, increased by 12 percent in the U.S. in comparison to the other 11 nations*

DONATO ALVAREZ AND BRIAN COOPER

Labor productivity in manufacturing increased from about 1 to 5 percent in 1982 in the United States, Japan, and in eight of nine European countries studied. Only Canada and, marginally, Norway registered declines in output per hour. These generally favorable results occurred in a year that was, for most countries, the second or third year of economic stagnation. Manufacturing output fell in every country except Japan, Belgium, and Denmark. Therefore, with the exception of these three countries, the recorded gains in labor productivity resulted entirely from reductions in employment and hours. The United States, along with Italy, Denmark, and Sweden, registered the smallest productivity gains and, next to Canada, the largest declines in output, employment, and hours.

Unit labor costs, which reflect changes in both output per hour and hourly compensation costs, declined in Japan, but rose in all other countries. The increases varied from under 1 percent in Belgium to 3 to 6 percent in West Germany<sup>1</sup>, the Netherlands, Sweden, and the United Kingdom to 7 percent in the United States, to about 9 to 11 percent in Denmark, France, and Norway, and to more than 15 percent in Canada and Italy.<sup>2</sup> However, when measured in U.S. dollars—to take account of relative changes in exchange rates—Canada was the only country besides the United States to show an increase.

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U.S. manufacturing unit labor costs rose steeply in 1981 and 1982 relative to a trade-weighted average for the 11 rival industrial countries—thereby canceling much of the gains in comparative unit labor costs that U.S. manufacturers experienced during most of the 1970's. All of the recent increase, however, resulted from the appreciation of the U.S. dollar. Measured on a national currency basis, U.S. unit labor costs fell nearly 2 percent in 1981 relative to the other countries and remained unchanged in 1982. Measured on a dollar basis, the United States posted relative increases of more than 12 percent in both 1981 and 1982. As a result, the competitive unit labor cost position of U.S. manufacturers in 1982, on average, was about equivalent to that in 1972.

The data for 1982 are preliminary, while those for other recent years include revised statistics for several countries. In addition, new long-term series on output, labor input, and labor costs have been introduced for France<sup>3</sup> and new labor input series have been introduced for Germany, the United Kingdom, and Belgium.<sup>4</sup> The new series for Germany and the United Kingdom affect the year-to-year movements in output per hour and hourly compensation but have no effect on the unit labor cost measures. The data series for Norway are being published for the first time.<sup>5</sup>

## Productivity and output trends

In 1982, manufacturing productivity increased about 3 to 5 percent in Japan, Belgium, France, the Netherlands, and

**Table 1. Annual percent changes in manufacturing productivity, 12 countries, 1960-82**

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Eleven foreign countries (weighted) <sup>1</sup>
Output per hour:													
1960-82 .....	2.6	3.6	9.2	5.8	5.1	5.7	3.6	7.2	5.9	7.0	3.7	4.8	5.6
1960-73 .....	3.0	4.5	10.7	6.7	5.7	6.9	4.4	7.0	6.4	7.6	4.5	6.6	6.6
1973-82 .....	1.7	1.6	7.2	4.5	3.6	3.7	1.8	6.0	4.1	4.8	2.0	2.2	3.8
1973-79 .....	2.0	2.4	6.8	5.4	4.5	3.0	1.6	6.8	4.5	5.8	1.8	2.0	4.2
1980 .....	.2	-2.3	9.5	1.5	1.4	5.8	-1.0	2.6	1.4	2.1	2.6	1.6	2.2
1981 .....	3.5	2.5	5.7	2.4	2.3	3.5	6.7	5.6	7.1	2.4	1.9	.4	3.6
1982 .....	1.2	-2.7	4.1	4.8	1.7	1.3	3.8	5.1	1.0	3.3	-2	1.3	2.0

<sup>1</sup>A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

the United Kingdom, and about 1 to 2 percent in the United States, Denmark, Germany, Italy and Sweden.<sup>6</sup> (See table 1.) Canadian output per hour dropped by nearly 3 percent, while Norway showed a marginal decline.

In the United States and six of the nine other countries that had increases in manufacturing productivity, the rates of growth in 1982 were smaller than in 1981. Only France, the Netherlands, and Sweden showed larger increases.

Although productivity rose in 10 of the 12 countries studied, only Japan and Denmark recorded significant 1982 gains in output. (See table 2.) Output remained nearly unchanged in Belgium and fell in each of the other countries. The declines were largest in Canada and the United States, about 12 and 7 percent. Among the European countries, Germany had the largest decrease in output, about 3 percent.

Japan, the postwar leader in productivity growth, posted a rise in 1982 in both output per hour and total output, about 4 percent and 3 percent. However, 1982 marked the second consecutive year in which the rates of increase of both manufacturing productivity and output were smaller than those of the preceding year.

In 1982, most of the industrialized world continued the pattern of economic stagnation that began in 1980 or, for some countries, 1981. For the United States, manufacturing output in 1982 was the lowest since 1976. German output dropped to its lowest level since 1978 and British output to its lowest point since 1967. Only two countries, Japan and Denmark, experienced a sustained increase in output from 1980.

The 1982 productivity increases in the United States, France, Germany, Italy, the Netherlands, Sweden, and the United Kingdom reflected declines in output accompanied by larger decreases in hours. (See tables 2 and 3.) In Canada and Norway, the only countries to show productivity decreases, output and hours both fell, but the drop in output was larger than the decrease in hours.

### Employment and hours

Employment and total hours in manufacturing decreased in every country in 1982, with the exception of Denmark, where hours increased about 1 percent. (See table 3.) This was at least the second consecutive year of decline in both these measures for the United States and the European countries other than Denmark. Canada registered the most substantial 1982 drop in employment, 9 percent, while Japan and Denmark showed declines of less than 1 percent. In the United States, employment decreased by more than 6 percent, the third year of decline, bringing total employment in manufacturing to a level about 10 percent lower than in 1979 and to its lowest point since 1975. In Canada, the sharp 1982 drop in employment brought its level below any year since 1972.

In most of the European countries, the recent slowdown only accentuated prerecession trends in employment. The 1982 declines in employment, in most cases, brought manufacturing employment levels to their lowest points since the early 1960's. In the United Kingdom and the Netherlands, 1982 employment was lower than in any year since

**Table 2. Annual percent changes in manufacturing output, 12 countries, 1960-82**

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
Output:												
1960-82 .....	3.4	4.5	9.9	5.4	3.6	5.2	1.3	4.8	3.8	4.5	3.0	3.0
1960-73 .....	4.7	6.3	13.0	7.3	5.2	6.8	3.0	6.5	5.2	6.4	4.8	5.0
1973-82 .....	1.7	1.3	6.9	2.1	1.4	3.0	-2.0	1.1	1.8	1.6	-2	-.4
1973-79 .....	2.9	2.5	5.7	3.2	2.0	2.9	-.5	1.8	1.7	1.8	-.4	-.5
1980 .....	-4.4	-2.9	10.8	.4	.5	6.3	-9.1	-1.0	.0	1.7	1.3	.4
1981 .....	2.9	2.1	6.6	-2.0	-1.9	-.9	-6.4	-2.3	.5	-.9	-1.0	-3.3
1982 .....	-6.9	-12.3	3.4	-6	-2.6	-1.8	-.7	.5	1.8	-.9	-2.0	-2.2

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.



**Table 3. Annual percent changes in manufacturing employment and hours, 12 countries, 1960–82**

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
<b>Aggregate hours:</b>												
1960–82	0.7	0.9	0.6	-0.4	-1.4	-0.4	-2.2	-2.3	-2.0	-2.3	-0.6	-1.8
1960–73	1.6	1.7	2.1	.6	-.5	-.1	-1.3	-.5	-1.1	-1.1	.2	-1.5
1973–82	.0	-.2	-.3	-2.3	-2.1	-.7	-3.8	-4.6	-2.2	-3.1	-2.2	-2.5
1973–79	.9	.1	-1.1	-2.0	-2.4	-.1	-2.1	-4.7	-2.6	-3.7	-2.1	-2.4
1980	-4.5	-.7	1.2	-1.0	-.9	.5	-8.1	-3.5	-1.4	-.4	-1.3	-1.2
1981	-.6	-.4	.8	-4.3	-4.1	-4.3	-12.3	-7.5	-6.1	-3.2	-2.8	-3.7
1982	-8.0	-9.9	-.7	-5.1	-4.3	-3.0	-4.3	-4.4	.8	-4.0	-1.8	-3.4
<b>Employment:</b>												
1960–82	.8	1.2	1.4	.4	-.5	1.0	-1.4	-.9	-.8	-1.2	.6	-.4
1960–73	1.5	1.9	3.0	1.1	-.3	1.4	-.6	.5	.2	.0	1.2	-.2
1973–82	.2	.1	-.4	-1.5	-1.2	-.2	-3.1	-3.7	-1.8	-2.5	-.8	-1.2
1973–79	.9	.4	-1.1	-1.2	-1.6	.1	-1.6	-3.8	-1.9	-2.6	-.3	-.9
1980	-3.4	-.3	1.2	-1.4	.6	.2	-5.0	-2.0	-2.0	-1.2	-.8	-.1
1981	-.5	.2	1.4	-3.5	-2.5	-1.9	-11.1	-5.4	-4.9	-3.1	-2.1	-3.1
1982	-6.5	-9.3	-.5	-2.0	-3.7	-2.2	-6.0	-4.5	-.5	-4.4	-1.5	-3.9
<b>Average hours:</b>												
1960–82	-0.1	-0.3	-0.8	-0.8	-0.9	-1.4	-0.8	-1.3	-1.3	-1.2	-1.2	-1.4
1960–73	.1	-.2	-.9	-.5	-.8	-1.5	-.7	-1.0	-1.4	-1.1	-1.0	-1.3
1973–82	-.3	-.3	.1	-.8	-.9	-.4	-.7	-.9	-.4	-.7	-1.4	-1.3
1973–79	0.0	-.3	0.0	-.9	-.8	-.3	-.5	-1.0	-.7	-1.1	-1.8	-1.5
1980	-1.1	-.4	-.1	.3	-1.5	.3	-3.3	-1.5	.7	.8	-.4	-1.1
1981	-.1	-.6	-.6	-.7	-1.6	-2.4	-1.3	-2.2	-1.3	-.1	-.7	-.6
1982	-1.7	-.7	-.2	-3.2	-.6	-.8	1.8	0.1	1.3	.4	-.3	.5

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

1950. Among all the other European nations, with the exception of Italy, employment in 1982 was lower than in any other year in the 1970's or 1980's.

Most countries also experienced long-term declines in aggregate hours in manufacturing. The United States, Japan, and Canada had almost no overall change in aggregate hours during 1973–82, but all the European countries recorded downward trends in hours over this 10-year period. The reductions that took place in most of the European countries were due primarily to the fall in employment. However, all the European countries also reduced average hours during the period.

The sharp declines in employment and hours that took place during 1980–82, a period of recession for most industrialized countries, reflect the practices followed by employers to accommodate the reduced level of demand for output. In most countries, the 1982 reductions in total hours were brought about either entirely or primarily by reducing employment. In the United States, for example, employment declined by more than 6 percent and average hours by less than 2 percent. The exception to this pattern was France, which recorded a substantial decline of more than 3 percent in average hours, while keeping the decline in employment to 2 percent.

Statutory provisions entitling most workers to a basic 39-hour week, instead of a 40-hour norm, took effect in France in February 1982. The statutes also increased paid leave from four to five weeks leading to a further reduction in annual working time. In addition, a French Government ordinance granting part timers rights comparable to those enjoyed by full-time employees became effective in March 1982.

Aside from France, average hours in the European countries either increased or decreased at a reduced pace. In the United Kingdom, average hours rose by 1.8 percent, even though employment fell about 6 percent, as the proportion of all manufacturing operatives working overtime increased while the average number of operatives working on short time declined markedly. Small 1982 increases in average hours of about 1 percent or less were recorded in Belgium, Denmark, the Netherlands, and Sweden and small decreases of less than 1 percent in the other European nations. These changing patterns in the trend of average hours occurred while all of the European nations were experiencing at least the second straight year of substantial cutbacks in employment.

### Hourly compensation and unit labor costs

In 1982, most countries had lower rates of growth in hourly compensation than in 1981. (See table 4.) Japan had the smallest increase, 3.4 percent, followed by Belgium, Germany, Sweden, and the Netherlands with increases of about 5 to 7 percent, while France and Italy had the largest rises, 17 and 18 percent.

France and the Netherlands were the only countries not to show some degree of moderation in hourly compensation rates for 1982. In the Netherlands, however, a substantial slowdown had occurred in 1980–81. The most significant moderations in 1982 occurred in the United Kingdom, Japan, Sweden, and Belgium. The growth in hourly compensation fell markedly in the United Kingdom, from about 17 percent in 1981 to 9 percent in 1982.

Increases in unit labor costs reflect the extent that increases in hourly compensation outstrip gains in labor pro-

**Table 4. Annual percent changes in hourly compensation and unit labor costs in manufacturing, 12 countries, 1960-82**

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden	Eleven foreign countries (weighted) <sup>1</sup>
Hourly compensation:													
1960-82	7.0	9.0	14.4	12.5	10.0	16.5	13.4	12.3	13.2	12.7	11.7	11.9	12.1
1960-73	5.0	6.4	14.6	9.6	9.6	12.3	8.7	10.5	11.8	12.8	9.8	10.4	10.1
1973-82	9.5	11.8	9.1	15.4	8.5	19.6	17.8	11.1	12.2	9.1	12.1	12.3	12.3
1973-79	9.3	12.2	11.4	16.0	9.2	20.5	19.0	13.5	13.5	11.4	13.8	14.4	13.4
1980	11.7	10.4	7.9	14.1	8.8	18.9	21.6	9.6	10.9	5.2	11.0	11.1	11.7
1981	9.9	14.8	6.3	16.0	7.6	22.1	17.2	8.9	10.6	5.0	12.1	10.8	12.0
1982	8.5	12.2	3.4	16.7	5.5	18.1	9.1	5.3	9.8	6.5	10.2	7.2	9.3
Unit labor costs:													
1960-82	4.3	5.2	4.8	6.3	4.7	10.2	9.5	4.7	6.8	5.3	7.7	6.8	6.1
1960-73	1.9	1.8	3.5	2.7	3.7	5.1	4.1	3.3	5.1	4.8	5.1	3.5	3.4
1973-82	7.7	10.0	1.8	10.4	4.7	15.4	15.7	4.9	7.8	4.1	9.8	10.0	8.1
1973-79	7.2	9.6	4.3	10.1	4.6	16.9	17.1	6.3	8.6	5.3	11.8	12.1	8.9
1980	11.5	12.9	-1.5	12.4	7.3	12.4	22.9	6.8	9.4	3.0	8.2	9.3	9.3
1981	6.1	12.1	0.5	13.4	5.1	18.0	9.9	3.1	3.3	2.5	10.1	10.4	8.1
1982	7.2	15.3	-0.7	11.3	3.8	16.5	5.1	.2	8.7	3.2	10.4	5.8	7.1
Unit labor costs in U.S. dollars:													
1960-82	4.3	4.7	7.6	6.3	8.8	7.4	7.3	7.0	7.5	8.3	9.6	7.4	7.1
1960-73	1.9	1.9	4.9	2.4	6.1	5.4	2.6	4.4	5.0	6.1	6.0	4.3	4.0
1973-82	7.7	7.0	5.1	7.8	7.5	6.8	13.5	5.5	5.6	6.0	9.3	7.1	7.5
1973-79	7.2	6.4	9.7	10.5	11.0	9.2	12.7	11.3	10.8	10.9	13.7	12.0	9.9
1980	11.5	13.1	-4.7	13.3	8.3	9.2	34.6	7.3	2.2	4.0	11.0	10.9	10.0
1981	6.1	9.3	3.1	-11.6	-15.3	-10.8	-4.4	-18.7	-18.1	-18.2	-5.4	-7.3	-5.8
1982	7.2	12.0	-12.2	-8.5	-3.7	-2.6	-9.2	-19.0	-7.5	-3.9	-1.8	-15.2	-4.6

<sup>1</sup>A trade-weighted average of the 11 foreign countries. See description of weights in text.

NOTE: Rates of change computed from the least squares trend of the logarithms of the index numbers. Index numbers for the underlying data series are available from the authors.

ductivity. In 1982, unit labor costs increased in all countries with the exception of Japan, but Canada and Denmark were the only countries to record significantly higher rates in 1982 than in 1981. The United States, Norway, and the Netherlands showed modestly larger increases. However, the increase in the Netherlands, about 3 percent, was still very moderate.

The most substantial 1982 slowdowns in unit labor costs were recorded in Belgium, Sweden, and the United Kingdom. For Belgium and the United Kingdom, this was the second consecutive year of substantial moderation. The slowdown in Sweden reflected both a smaller compensation increase and larger productivity gain, while the moderations in Belgium and the United Kingdom were due solely to declines in compensation increases. Moderation in unit labor cost increases in 1982 in Germany and Italy and the decline in Japan reflected slowdowns in hourly compensation gains; in France, it was due solely to the large productivity gain.

### Unit labor costs in U.S. dollars

Because labor costs are a principal component of the costs of manufactured goods, unit labor costs play a major role in conjunction with the exchange rates among currencies in determining the relative prices of goods offered for sale on the world market.

During 1982, changes in currency exchange rates had a significant effect on relative changes in unit labor costs measured in U.S. dollars. The U.S. dollar appreciated 3 percent versus the Canadian dollar, 7 percent versus the German

mark and the Dutch guilder, and 11 to 20 percent versus the currencies of all the other countries. This was the second straight year in which the dollar appreciated against the currencies of each of these countries with the exception of the Japanese yen, which rose against the dollar in 1981.

In 1982, as in the previous year, unit labor costs in U.S. dollars dropped in almost every country. In 1981, Canada and Japan were the only countries to post increases; in 1982, only Canada showed an increase. Measured in U.S. dollars, unit labor costs declined about 2 to 4 percent in Germany, Italy, the Netherlands, and Norway; 7 to 9 percent in France, Denmark, and the United Kingdom; 12 percent in Japan; and 15 percent in Sweden and 19 percent in Belgium. In Canada, unit labor costs rose less in U.S. than Canadian dollars, but still more than U.S. costs.

The total effect of U.S. dollar appreciation on unit labor costs during the last 2 years is critical. On a national currency basis, the increase in U.S. unit labor costs was relatively low. Only Japan, Belgium, Denmark, Germany, and the Netherlands posted lower cost increases. However, when converted to a U.S. dollar basis, only the Canadian increase exceeded that of the United States. The following tabulation shows each country's total percentage change in unit labor costs over the 2-year period, as measured in national currencies and on a U.S. dollar basis:

	National currency	U.S. dollars
United States	13.8	13.8
Canada	29.2	22.4
Japan	-.1	-9.5

Belgium .....	3.3	-34.1
Denmark .....	12.3	-24.2
France .....	26.2	-19.1
Germany .....	9.1	-18.4
Italy .....	37.5	-13.1
Netherlands .....	5.8	-21.4
Norway .....	21.4	-7.2
Sweden .....	16.8	-21.4
United Kingdom .....	15.5	-13.2

### Relative productivity and labor cost trends

Trends in labor productivity and unit labor costs are often used in analyses of changes in the international trade of manufactures. This section examines changes in the trends of each country's own productivity and labor costs relative to a trade-weighted average of its major international competitors.<sup>7</sup> Indexes of a country's relative productivity and labor costs were constructed by taking ratios of each country's own indexes to weighted geometric averages of the corresponding indexes for the other 11 countries. The weights used to combine the other 11 countries' indexes into an average "competitors" index reflect the relative importance of each country as a manufacturing trade competitor.

Annual percent changes in the ratio of each country's productivity and labor cost indexes to the trade-weighted

averages of the 11 rival nations' indexes were calculated for 1960 to 1982. These percent changes, shown in table 5, indicate the annual movements in each country's productivity and labor costs relative to its competitors' productivity and costs.

*Relative productivity changes.* Table 5 indicates that U.S. manufacturing productivity has experienced a relative decline compared to the trade-weighted average of the other countries. Over the 1960-82 period, the average annual productivity growth rate was nearly 3 percent higher in rival countries; in 1982, almost 1 percent higher.

In 1982, manufacturing productivity in Canada and Norway fell substantially, by about 3 to 4 percent, relative to the positions of their competitors. Smaller relative declines occurred for Germany, Italy, Sweden, and Denmark. Manufacturing productivity increased in 1982 in the other five countries, relative to their competitors, with France recording the largest relative increase, almost 3 percent. Over the entire period since 1960, Japan shows the largest relative increase, followed by Belgium and the Netherlands, while the United States shows the largest relative decline, followed by the United Kingdom and Norway. A similar pattern has prevailed since 1973.

**Table 5. Relative annual percent changes in output per hour, hourly compensation and unit labor costs in manufacturing, 12 countries, 1960-82.**

Year	United States	Canada	Japan	France	Germany	Italy	United Kingdom	Belgium	Denmark	Netherlands	Norway	Sweden
<b>Output per hour:</b>												
1960-82 .....	-2.8	0.2	4.7	0.6	-0.3	0.4	-1.6	1.7	0.8	1.6	-1.7	-0.2
1960-73 .....	-3.3	.6	5.5	.7	-.5	.9	-1.6	.7	.4	1.5	-1.8	.7
1973-82 .....	-2.0	-.7	4.2	.9	-.2	.0	-1.8	2.1	.6	1.0	-1.6	-1.3
1973-79 .....	-2.1	-.1	3.5	1.5	.4	-1.1	-2.4	2.4	.8	1.5	-2.1	-1.8
1980 .....	-2.0	-3.1	8.4	-.9	-1.1	3.8	-3.3	.6	-.6	.2	.3	-.3
1981 .....	-.1	-1.1	2.2	-1.3	-1.5	-.1	3.3	2.4	3.6	-1.1	-1.8	-3.4
1982 .....	-.8	-4.3	2.0	2.5	-1.3	-1.3	1.4	2.2	-1.4	.5	-2.6	-1.1
<b>Hourly compensation:</b>												
1960-82 .....	-4.5	.6	3.7	.8	-2.0	4.9	2.2	.4	1.3	1.2	-.2	.5
1960-73 .....	-4.6	-.1	5.9	-.3	-.3	2.6	-.7	.4	1.8	2.9	-.3	.8
1973-82 .....	-2.4	1.4	-2.4	3.3	-4.2	7.9	6.1	-.9	.1	-2.2	.2	.4
1973-79 .....	-3.6	1.6	-.9	2.9	-4.5	7.7	6.2	-.3	.2	-1.0	.6	1.3
1980 .....	.0	-1.3	-4.1	1.9	-3.8	7.0	9.6	-2.0	-1.2	-5.9	-.7	-1.0
1981 .....	-1.9	4.2	-4.8	4.5	-4.6	11.1	6.1	-2.3	-.7	-5.5	1.1	-.5
1982 .....	-.7	3.5	-5.5	8.0	-4.4	9.8	.3	-3.9	1.3	-1.8	1.9	-1.4
<b>Unit labor costs in national currency:</b>												
1960-82 .....	-1.7	0.4	-1.0	0.2	-1.7	4.4	3.8	-1.3	0.5	-0.4	1.5	0.7
1960-73 .....	-1.4	-.6	.4	-.9	.2	1.7	.8	-.3	1.4	1.4	1.5	.1
1973-82 .....	-.4	2.1	-6.4	2.4	-4.0	8.0	8.1	-2.9	-.6	-3.2	1.8	1.7
1973-79 .....	-1.5	1.7	-4.3	1.4	-4.9	8.9	8.8	-2.0	-.6	-2.5	2.7	3.2
1980 .....	2.0	1.8	-11.5	2.8	-2.7	3.1	13.4	-2.6	-.6	-6.1	-1.0	-.7
1981 .....	-1.8	5.4	-6.9	6.0	-3.2	11.2	2.7	-4.5	-4.1	-4.4	3.0	3.0
1982 .....	.1	8.1	-7.4	5.3	-3.1	11.2	-1.1	-6.0	2.7	-2.3	4.6	-.3
<b>Unit labor costs in U.S. dollars:</b>												
1960-82 .....	-2.6	-.4	1.1	-1.0	2.0	.2	.4	-.5	.2	.9	2.2	.3
1960-73 .....	-2.0	-.6	1.3	-2.0	2.4	1.1	-1.4	-.1	.8	1.8	1.8	.2
1973-82 .....	.2	-.7	-2.7	.1	-.1	-.9	6.0	-2.2	-2.3	-1.6	1.5	-.7
1973-79 .....	-2.5	-1.6	.1	.3	.8	-1.0	2.7	.6	.1	.3	2.9	1.6
1980 .....	1.4	1.7	-15.4	2.9	-2.5	-.9	24.6	-3.2	-8.5	-6.1	.8	-.1
1981 .....	12.7	6.6	9.0	-4.1	-9.2	-2.9	2.8	-8.8	-11.5	-9.8	1.6	-.4
1982 .....	12.4	8.5	-10.7	-4.2	2.8	2.7	-5.5	-14.3	-1.2	2.5	5.6	-11.4

NOTE: Rates of change computed from the least squares trend of the logarithms of a ratio of 2 index numbers. The ratio is the index of the reference country divided by a trade-weighted average index for the other 11 countries.



### Recent developments

Current economic data available when this article was prepared indicated that the United States and some of the other countries covered were emerging from the recessionary trends that generally prevailed throughout 1982. The United States has shown the most dramatic recovery, with manufacturing output increasing strongly and at an accelerating pace in each of the first three quarters of 1983.

By mid-year, there were also signs of more moderate turnarounds in Canada, Germany, and Sweden. In addition, manufacturing output in Japan, one of the few countries in which output rose in 1982, was increasing at a more rapid pace. In other countries, however, including France, Italy, and the United Kingdom, little overall change, or additional declines in manufacturing output, were experienced in the first half of 1983.

Manufacturing productivity and unit labor cost indicators through the first half of 1983 were available only for the United States, Japan, Germany, and the United Kingdom. Productivity was rising in each of the four countries and, with the possible exception of the United Kingdom, unit labor costs were falling. In the third quarter of 1983, U.S. manufacturing productivity rose at a 12-percent annual rate—the largest gain since the fourth quarter of 1980—and unit labor costs declined at an 8-percent annual rate—the largest drop since 1975.

*Relative compensation.* The largest 1982 increases in manufacturing hourly compensation, relative to changes in competitor countries, occurred in France and Italy; the increases were between 8 and 10 percent. Relative decreases in hourly compensation ranged from about 1 percent in the United States to more than 5 percent in Japan. In the United States, a steady decline in relative hourly compensation has occurred since 1960, though the declines since 1977 have been comparatively small. Germany is the only other country with a significant long-term relative decline. Italy and Japan have had the largest relative increases in hourly compensation since 1960; however, Japan has had a relative decline in hourly compensation since 1975.

*Relative unit labor costs.* Relative unit labor costs, measured in national currencies, fell in 1982 in Japan, Belgium, Germany, the Netherlands, Sweden, and the United Kingdom. The relative trends ranged from about 6–7 percent lower in Japan and Belgium to about 1 percent or less in Sweden and the United Kingdom, which recorded its first drop in relative unit labor costs since 1973.

Over the years 1960–1977, the U.S. trend in unit labor

costs relative to the 11 other countries was steadily downward. This decline reflected the joint influence of the relative declines in U.S. productivity and in hourly compensation: though U.S. relative productivity fell over this period, the relative decline in hourly compensation was greater. Relative unit labor costs increased from 1977 to 1980, fell in 1981, and remained stable in 1982. Over the full 1960 to 1982 period, the United States, Belgium, and Germany had the largest relative declines in unit labor costs, followed by Japan; Italy and the United Kingdom had the largest relative increases. Since 1973, Japan, followed by Germany, has had the largest relative decline; Italy and the United Kingdom have continued to have the largest relative increases.

*In U.S. dollars.* After adjustment for the relative change in the foreign exchange rate of the dollar, U.S. unit labor costs rose more than 12 percent in 1982 relative to competitors, matching the sharp increase of the previous year. Relative unit labor costs adjusted for relative exchange rate changes were up more than 8 percent in Canada and about 3 to 6 percent in Germany, Italy, the Netherlands, and Norway. For the Netherlands, this was the first increase in five years. The revaluations of the German mark and the Dutch guilder within the European Monetary System offset declines in relative unit labor costs in national currency in both countries. Relative unit labor costs in U.S. dollars rose in Italy despite a drop of 8 percent in the trade-weighted exchange rate.

In Belgium, relative unit labor costs in U.S. dollars fell 14 percent in 1982, nearly matching the largest relative declines recorded by any country (Japan in 1979 and 1980) over the 1960–82 period. Sweden and Japan also recorded large relative decreases in 1982—11 percent; France and the United Kingdom experienced relative declines of about 4 and 6 percent.

Despite the large 1981–82 relative increases, U.S. unit labor costs have still fallen by 2.6 percent per year relative to competitors since 1960. The only other countries to show relative declines measured in U.S. dollars over this 23-year period were Canada, Belgium, and France—1 percent or less per year. Germany and Norway had the largest relative increases—about 2 percent per year. Since 1973, however, U.S. unit labor costs have risen on a par with its competitors, whereas Japan, Belgium, Denmark, and the Netherlands have registered significant declines relative to their competitors, led by a 2.7 percent annual relative decline in Japan. The only countries with large relative increases since 1973 are the United Kingdom—6 percent per year—and Norway. □

#### FOOTNOTES

<sup>1</sup> The Federal Republic, including West Berlin.

<sup>2</sup> The data relate to all employed persons, including the self-employed, in the United States and Canada, and to all wage and salary employees in the other countries. Hours refer to hours paid in the United States, hours

worked in the other countries.

Compensation comprises all payments made by employers directly to their employees (before deductions) and employer contributions to legally required insurance programs and to contractual and private welfare plans

for the benefit of employees. Labor costs include, in addition to compensation, employer expenditures for recruitment and training; the cost of cafeterias, medical facilities, and other plant facilities and services; and taxes (other than social security taxes, which are part of compensation) levied on payrolls or employment rolls. Annual data are not available for total labor costs. Labor costs, as measured in the data series used for this article, approximate more closely the concept of compensation. However, compensation has been adjusted to include all significant changes in taxes that are regarded as labor costs. For the United States and Canada, compensation of self-employed workers is measured by assuming that their hourly compensation is equal to the average for wage and salary employees.

<sup>3</sup>BLS has introduced a new series on output, employment, and employee compensation for France beginning 1959 and a revised average hours series beginning 1970. The new series on output, employment, and compensation refer to mining and manufacturing less energy-related products. The principal differences from the U.S. definition of manufacturing are the exclusion of petroleum refining and the inclusion of some mining. This change has been made because consistent series for manufacturing, as defined in the United States, are not available for France. All the new series are from the French national accounts. Previously, the employee compensation figures from 1965 were BLS estimates. The new average hours worked series is based on scheduled hours adjusted to an hours worked basis by the *Institut national de la Statistique et des Etudes économiques* (INSEE). Previously, BLS made its own estimated adjustments.

<sup>4</sup>The new employment series for Germany is a comprehensive series prepared by the German Federal Statistical Office which covers all employees in manufacturing, including manufacturing handicrafts. It is therefore consistent with the national accounts measures of output and employee compensation. The previous series, based on a monthly establishment survey, excluded all manufacturing handicrafts and establishments with less than 10 employees prior to 1970; beginning 1970, it included handicrafts, but excluded all establishments with less than 20 employees. The establishment survey still provides the trend measure for average hours.

The new employment series for the United Kingdom is on a "census of employment" basis and is constructed by the British Department of Employment. The Census of Employment was first conducted in 1971. Figures for earlier years based on a count of national insurance cards were adjusted for consistency and linked to the census of employment series by the Department of Employment. The previous employment series used by BLS was derived from the Census of Production. According to the British Central Statistical Office, employment data available from the Census of Production are less reliable than the Department of Employment series for use as time series alongside the output measure.

BLS has also incorporated a new average hours worked series for the United Kingdom beginning 1976. The new series, prepared by the Department of Employment, includes adjustments for changes in holiday and vacation entitlements. Previously, adjustments for holiday and vacation trends were made by BLS; adjustments prior to 1976 are still BLS estimates.

For Belgium, a new average hours worked series for production workers has been introduced from 1960. The new series is based on data on aggregate wage worker hours and employment from a monthly industrial survey. The previous series was based on a survey of hours and earnings in April and October only, with adjustment by BLS for estimated changes in annual holiday and vacation leave. This change affects unit labor costs as well as output per hour because total labor costs are computed as the product of hourly compensation and total hours.

<sup>5</sup>The indexes for Norway were compiled from basic series on manufacturing output, aggregate employee compensation, and employment published with the Norwegian national accounts and average hours worked computed by BLS from industrial survey statistics. The output measure is calculated within the framework of annual input-output tables compiled using statistics from an annual industrial survey. Data on wages and salaries are also obtained from the annual industrial survey; data on other labor expenditures from administrative statistics. The employment data are official estimates of the average number of employees obtained primarily from the annual industrial survey. Average hours worked refer to production workers only; they were computed from statistics on aggregate wage-earner hours and the number of wage earners in establishments with 5 or more employees.

<sup>6</sup>Although the labor productivity measure relates output to the hours of persons employed in manufacturing, it does not measure the specific contributions of labor as a single factor of production. Rather, it reflects the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial effectiveness, as well as the skills and efforts of the work force.

<sup>7</sup>The trade weights were adapted from weights developed by the International Monetary Fund and described in "Inter-country Cost and Price Comparisons," a paper by Michael C. Deppler, Research Department, IMF, November 1979. For more information about the relative indexes of manufacturing productivity and costs, see Patricia Capdevielle, Donato Alvarez, and Brian Cooper, "International Trends in Productivity and Labor Costs," *Monthly Labor Review*, December 1982, pp. 3-14. The weights are available from the authors, as are the relative indexes for each country and the underlying "own country" and "competitor countries" indexes used to compute the relative indexes. Indexes of trade-weighted exchange rates are also available from the authors.

# State labor legislation enacted in 1983

*In addition to traditional employment standards fields, many of the major pieces of legislation addressed newer issues such as comparable worth, plant closings, and the rights of employees to receive information on toxic substances*

RICHARD R. NELSON

State labor legislation enacted in 1983 covered a wide variety of subjects and included several significant new laws.<sup>1</sup> A growing interest was evident in newer areas of concern such as equal pay for jobs of comparable worth, the impact on employees of plant closings or relocations, and requirements that employees be informed of and given training on toxic substances found in the workplace. Major laws were also passed in some of the more traditional labor standards fields, including minimum wage, employment discrimination, public employee collective bargaining, job training, and restrictions on the use of polygraph examinations.

Eight States enacted legislation this year providing for minimum wage-rate increases effective in 1983 or 1984, and in addition, rates were raised in two States as the result of automatic increases provided for by previous enactments. Across-the-board increases were adopted in Arkansas, Colorado, Delaware, Illinois, and Oklahoma. Rates were increased in New York for farmworkers, eliminating the previous wage differential for this group, in New Mexico for tipped employees, and in the District of Columbia for employees covered by wage orders for clerical and semi-technical and for laundry and drycleaning occupations. Twenty-two jurisdictions now have a minimum rate for some

or all occupations equal to or exceeding the \$3.35 per hour Federal standard, and Illinois will reach \$3.35 in July 1985.

The extent to which employers may offset employees' tips against the minimum wage was reduced in Delaware and Illinois.

Among other minimum wage and overtime changes, persons age 65 and older will no longer be exempt from minimum-wage payment requirements in Oklahoma; a subminimum wage rate will be permitted for participants in resident drug-abuse and alcohol treatment programs in Alaska; Colorado expanded coverage under a revised wage order to include the food and beverage, janitorial, and medical profession industries; and Michigan issued new wage-deviation rules for handicapped workers to ensure payment at a minimum rate commensurate with productive capacity.

Minnesota made requirements for the prompt payment of wages when an employee is discharged, quits, or resigns applicable to farmworkers, and New Hampshire added to the kinds of payments to be considered as wages under its wage-payment law. Employers in Illinois will now be liable for punitive damages in civil actions to recover underpayments under the minimum wage law, and California employers who pay less than the required minimum wage will now be subject to a civil penalty in addition to any criminal penalties. The Commissioner of Labor in New Hampshire was authorized to impose a civil penalty for any labor law violation.

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State prevailing wage laws, which specify that wage rates paid on publicly funded construction contracts be not less than those prevailing in the locality, continued to be of interest, with measures introduced in a number of States. A bill to repeal the Idaho law passed the legislature but was vetoed by the Governor. Maryland extended coverage of its law to local and school construction contracts receiving less than the total State funding previously required, and amended the rate-determination procedures. The New York law was amended to require use of the collectively bargained rate as the prevailing rate when at least 30 percent of the workers in a locality receive such a rate. Among several changes in the Illinois law, coverage was extended to the performance of maintenance work, the labor department was given a greater role in the rate-determination process, and debarment of contractors for violation of the law was authorized. The minimum project dollar amount was increased for coverage under prevailing wage laws in Nevada and Oregon.

A constitutional amendment permitting garnishment of wages for the enforcement of court-ordered child support payments was passed by Texas voters in the November general election; in a separate measure, employees were authorized to make voluntary wage assignments and the court to order involuntary assignments, to satisfy required child-support payments. Nine other States enacted laws pertaining to wage garnishment or assignment. Most of these laws dealt with support payments and set limits on the amount of earnings subject to these actions. Employees in North Dakota and Texas were protected from disciplinary action imposed as the result of any garnishment or assignment, while the Louisiana law was amended to permit discharge of persons whose wages have been subjected to three garnishments or more for unrelated debts in a 2-year period.

There was little activity this year related to child labor law or regulations. Alaska and Minnesota made changes in restrictions on work in places where liquor is sold; New York reduced the minimum age for newspaper deliveries from 12 to 11; and South Carolina prohibited work for those under age 18 in occupations involving power-driven bakery machines and in connection with mining other than coal. In late 1982, Mississippi enacted a new Compulsory School Attendance Law as part of a comprehensive Education Reform Act with implementation scheduled on a staggered basis, with 1 year added to the compulsory age bracket each year until the 1989-90 school year, when attendance will be required of children ages 6 to 14.

Employment discrimination received considerable attention in 1983, with 29 jurisdictions enacting laws addressing at least one of its various forms. Among the significant actions, new laws covering many forms of employment discrimination and applicable to both the public and private sector were enacted in Louisiana and North Dakota, and a similar measure applicable to the private sector was passed in Texas. In addition, Kansas adopted an age discrimination in employment act applicable to both the public and private

sector, and California abolished mandatory retirement ages for most State and local public employees. Rhode Island and South Carolina enacted new protections for handicapped workers, and Minnesota and New Mexico passed laws requiring employers to make reasonable accommodations for the handicapped. Delaware prohibited sex-based pay differentials for equal work under a new equal pay law.

Major amendments to existing law raised the upper age limit in the ban on age discrimination in employment from 62 to 70 in Pennsylvania, made the Nebraska equal pay and age discrimination in employment laws specifically applicable to the State and its political subdivisions, and in Illinois added agricultural labor to employment covered under the Human Rights Act and made sexual harassment in employment a civil rights violation.

The concept of "comparable worth" in setting salaries in State government in male- or female-dominated occupations on the basis of the value of the work performed attracted increased attention. A new law in Washington requires that comparable worth for the jobs of State employees be achieved by June 30, 1993. The Montana Department of Administration is to work toward the goal of equal pay for jobs of comparable worth in the State service, and Iowa established a policy to begin in 1984 of payment to State employees based on comparable worth.

Maine passed a law providing for consideration, at the November 1984 election, of a proposed Equal Rights Amendment to the State Constitution, and nine States adopted resolutions urging the Congress to approve an Equal Rights Amendment to the U.S. Constitution.

Thirteen States enacted legislation affecting the regulation of private employment agencies. Among these were laws in Iowa where employers may not require job applicants to pay a fee as a condition of application or hire, including reimbursement for fees paid to employment agencies, and in California which required licensing of job listing services. In Tennessee, administration of the regulatory law was transferred from the labor department to the Department of Insurance, and in Colorado the employment agency law was repealed and agency fee restrictions added to the criminal code.

In an area of increasing concern, laws requiring employees to be informed of and given training on toxic substances found in the workplace were adopted in seven States (Alaska, Illinois, Maine, Minnesota, New Hampshire, New Jersey, and Rhode Island) and a commission was established in Maryland to study the issue and develop proposed legislation. A West Virginia law enacted in 1981 survived a constitutional challenge this year when a Federal appellate court held among other points that the State law was not preempted by the Federal Occupational Safety and Health Act.

Aid to workers and communities facing mass layoffs or plant closings, an area that has received a growing amount of legislative attention in the last few years, continued as an issue in 1983 with five States taking action. California

and New York initiated programs to assist employees of plants that are about to be closed or relocated, to acquire such plants and operate them as employee-owned corporations. The Alabama Commissioner of Labor is to assist cooperative employee efforts to minimize the impact of a closing and is to provide services such as educational seminars and meetings with affected individuals and organizations. Connecticut employers of 100 persons or more who close or move their businesses must continue group health insurance for affected employees for up to 90 days. Rhode Island extended the life of a legislative study commission.

Legislation was enacted in several States to implement participation under the Federal Job Training Partnership Act. This law, designed to provide job training and related assistance to economically disadvantaged individuals, dislocated workers, and others with significant employment barriers, was signed in 1982 and became effective on October 1, 1983. Under the Act, many responsibilities previously performed by the Federal Government are transferred to State and local governments. Also in this area, following the trend of the past few years, five additional States (Arkansas, Indiana, Minnesota, Mississippi, and Nevada) passed laws designed to create new jobs in economically depressed areas, designated as enterprise zones, within which em-

ployers will be encouraged to locate or expand through use of tax credits and other financial incentives.

Comprehensive new laws grant collective bargaining rights to State and local public sector employees in Ohio, and in Illinois to teachers and most other public employees with the exception of police and firefighters. Strikes are prohibited in Ohio, but a limited right to strike is permitted in the Illinois laws. Other enactment of interest this year include laws in Iowa and West Virginia prohibiting employers from requiring employees or applicants to take a polygraph examination as a condition of employment, measures in Arkansas, Delaware, and Wyoming protecting workers from discharge or other retaliation because of required jury service, and laws in eight States giving preference to State contractors or residents on public works projects. North Carolina made it a felony offense to hold a person against his or her will by coercion or intimidation for the performance of labor. Maine enacted a Whistleblowers' Protection Act prohibiting reprisal against any employee who reports a violation of law, who refuses to take part in an illegal activity, or who participates in an enforcement proceeding.

The following is a summary, by jurisdiction, of labor legislation during 1983.

### Alabama

*Plant closings.* The Commissioner of Labor is to aid workers affected by mass layoffs or plant closings by such means as educational seminars on financial counseling, providing written materials, and meeting with employees or employers or their organizations. The Commissioner may also assist cooperative employee efforts and take other measures to minimize the impact of the closing.

*Employment and training.* The State Manpower Planning Council (CETA) was renamed the Office of Employment and Training, and was merged along with several other agencies into a new Department of Economic and Community Affairs within the office of the Governor.

*Other laws.* State employees were given the specific right to participate in State political activities on their own time, but were barred from using State funds or property for political activities and from soliciting political contributions from subordinate employees or attempting to coerce them to work in a political cause.

### Alaska

*Wages.* Participants in residential drug-abuse and alcoholism treatment programs may be paid less than the State minimum wage for work therapy employment if the

rate has been approved by the labor commissioner.

*Child labor.* It was specified that the newly enacted restrictions on the presence of 19- and 20-year-olds in hotels and restaurants with liquor licenses does not prevent the employment of this age group if they do not sell, serve, deliver, or dispense alcoholic beverages.

*Equal employment opportunity.* The Commission on the Status of Women, scheduled to terminate on June 30, 1983, was renamed the Women's Commission and continued through June 30, 1987. In addition to its prior duties, the Commission is now to encourage the development of regional and municipal women's councils or commissions.

A joint resolution requests that the U.S. Congress again propose an amendment to the Constitution guaranteeing equal rights to women.

*Occupational safety and health.* Employers must conduct safety education programs for employees before they perform work that may result in being exposed to a toxic or hazardous substance. Information on such substances must also be posted and provided to the employees on request.

*Other laws.* Employers may request records of all convictions involving contrib-

uting to the delinquency of a minor and any sex crimes of a person holding or applying for a job involving supervisory or disciplinary power over a minor.

### Arkansas

*Wages.* The minimum wage rate rose from \$2.80 an hour to \$2.95 on January 1, 1983, and will rise to \$3.05 on January 1, 1984, with a further increase to \$3.15 scheduled for January 1, 1985. Also, tourist attractions having an annual sales volume of less than \$362,500 were added to the list of establishments that must pay overtime after 48 hours in a workweek, as required for hotels, motels, and restaurants, rather than after 40 hours as is otherwise required.

The exemption from the minimum wage law for employees of an employer not using more than 500 "man-days" of agricultural labor in any calendar quarter of the preceding year, was clarified to specify that the employer be an agricultural employer.

A resolution was adopted requesting an interim legislative committee to study the economic impact of the State prevailing wage law on publicly funded construction contracts.

*Equal employment opportunity.* The Commission on Human Resources was given authority to adopt rules and regulations, and is now to encourage the employment of qualified people without regard to handicap



in addition to race, sex, religion, age, or national origin as before.

The House Committee on Aging and Legislative Affairs was directed to conduct a study of the Older Workers Service Program and of the current method of administering the program.

*Occupational safety and health.* Among amendments to the State Radiation Control Act, the requirement to maintain individual radiation exposure records and make them available to employees will now apply to those who manufacture, distribute, sell, install, or repair a source of ionizing radiation, as well as those who possess or use these materials as was previously required.

*Economic development.* An Enterprise Zone Act was enacted to stimulate business and industrial growth in economically depressed areas of the State by providing assistance to businesses and industries, including providing a variety of tax incentives. Enterprise zones will be identified based on such factors as rate of overall and youth unemployment, and the number of residents receiving public assistance.

*Other laws.* Employers are prohibited from taking any retaliatory actions, including discharge or loss of sick leave and vacation time against employees because of jury service.

Procedures for the examination and licensing of electrical contractors and electricians, administered and enforced by the Department of Labor, were amended to authorize a new classification of electrician's license for industrial maintenance electricians.

## California

*Wages.* An employer who pays less than the required minimum wage, except for household occupations, will now be subject to a civil penalty in addition to any criminal penalty arising from the violation. The Labor Commissioner was authorized to bring court action to recover any civil penalties due.

*Hours.* The authority of the Chief of Labor Standards Enforcement to exempt, for reasons of hardship, an employer or employees from a mandatory days off requirement contained in an Industrial Welfare Order was extended from January 1, 1984, to January 1, 1986.

Workers in underground mines, smelters, and plants reducing or refining ores or metals may now work up to 12 hours in a 24-hour period, instead of 8, when the employer and the employee's union have a

collective bargaining agreement providing for wages, hours, and working conditions.

*Agriculture.* The subject of safe use of pesticides must appear on the licensing examination for farm labor contractors. Their annual licensing fee is increased from \$100 to \$250, and each may renew the license without reexamination if, among other conditions, no violation of any pesticide worker safety requirement is found against the contractor.

*Equal employment opportunity.* Mandatory retirement ages for State and local public employees, except those in public safety, have been abolished. Able employees may continue to work past their anticipated retirement dates upon written request and approval, as previously applicable to private sector employees. Mandatory retirement is still permitted for tenured higher education faculty members, and certain executives and physicians.

By resolution, the Commission on the Status of Women is to undertake several activities pertaining to the issue of comparable worth, such as reporting annually to the legislature on pay inequity for women; preparing comments on the Department of Personnel Administration's findings with respect to pay inequities in State government; and establishing a representative task force to propose solutions to pay problems for work of equal value in the public and private sectors, with recommendations for legislative change.

A resolution urged the State Personnel Board to develop proposals for new employment testing procedures for the disabled in order to increase their job opportunities in State government.

Another resolution requested the President and the Congress to propose to the States the adoption of a constitutional amendment prohibiting denial of rights on the basis of sex.

*Worker privacy.* The law guaranteeing employees the right to inspect their personnel files was amended to extend coverage to employees of local public agencies. Inspection is to be at the location where the files are stored and at no loss of pay.

*Private employment agencies.* The employment agency law was amended to require licensing of job listing services. These services and prepaid computer employment agencies must furnish a \$10,000 surety bond instead of \$3,000 as required of other agencies, are subject to specific refund procedures and requirements, and must use contract language giving specific job and fee information.

The Bureau of Employment Agencies is now specifically required to hold public hearings before making changes in licensing and other fees for private employment agencies. In addition, under the regulatory law for talent agencies, which is administered by the Labor Commissioner, the annual license fee was raised from \$150 to \$225.

*Plant closings.* Through enactment of the Employee Ownership Act of 1983, the Department of Economic and Business Development is to assist employees, upon request, in the formation of employee-owned corporations, to assume ownership of businesses or places of work that are closing or in danger of closing, by providing technical assistance, information, or access to sources of financing.

*Employment and training.* Various changes were made in the job preparation, training and placement services program to assist economically disadvantaged persons in order to conform to the requirements of the Federal Job Training Partnership Act.

The State Economic Adjustment Team, which was previously created to alleviate adverse conditions that might cause plant closures and assist local efforts to secure alternative employment and retraining opportunities for displaced workers, is to establish a one-stop Displaced Worker Assistance Center, when funding has been allocated from the Federal Job Training Partnership Act, to assist local entities in obtaining access to Federal and State programs.

Another measure to use Federal Job Training Partnership Act funds was passed to provide a variety of training and employment programs for economically disadvantaged older workers. The programs are to be developed through the State Job Training Coordinating Council in conjunction with private industry councils.

The Governor was requested to direct the Job Training Coordinating Council to develop a program enabling Vietnam era, disabled, and recently separated veterans to be assisted under the Federal Job Training Partnership Act in proportion to their needs and representation in the State work force, and to direct the State agency assigned to administer the Act to assist community-based veterans organizations in maximizing their participation under the program.

A Community Services Block Grant Program was established to administer Federal block grants for various programs including those designed to assist low-income participants to secure and retain meaningful employment.



*Other laws.* The labor department was required to establish and maintain a distinct field enforcement unit. This unit, known as the Bureau of Field Enforcement, was created by reorganization within the Division of Labor Standards Enforcement.

A referendum measure was passed by San Francisco voters in November, approving a smoking pollution control ordinance requiring employers to make accommodations for the preferences of both nonsmoking and smoking employees. If a satisfactory accommodation to all affected nonsmoking employees cannot be reached, the employer is to prohibit smoking in the office workplace.

### Colorado

*Wages.* Under a revised minimum wage order with coverage expanded to include the food and beverage, janitorial, and medical profession industries, the minimum wage rate was increased from \$1.90 to \$2.50 an hour on July 1, 1983, with an additional increase to \$3.00 scheduled for July 1, 1984. For unemancipated minors under 18, the new rate is \$2.15 now and \$2.55 in 1984. Premium overtime pay is now required after 12 hours a day, aside from after 40 hours a week. Federally certificated handicapped workers were exempted from the State law, but other handicapped workers must be paid at least the same as the youth rate.

Employee-authorized wage deductions, by revocable wage assignment, may be authorized by employees for rent, board, and subsistence in connection with employment, but the employer may not make such deductions a condition of employment. Such wage assignments are not subject to otherwise applicable procedural requirements.

*Private employment agencies.* The law regulating the activities of private employment agencies, including the licensing of agencies, was repealed. However, by addition to the criminal code, it was made a misdemeanor for an employment agency to charge a job applicant a fee until placed in employment, and in cases of employment terminating for any reason within 100 days, agencies are prohibited from charging more than 1 percent of the total fee for each day employed.

*Employment and training.* The apprenticeship council is to establish a level of training ratio as part of its policies and procedures permitting an employer to hire an apprentice for each master or journeyman employee.

*Other laws.* The executive director of the Department of Labor and Employment now has specific directorate and supervisory au-

thority over the administration of the component Division of Labor, and Division of Employment and Training, including rule making; regulation; licensing; promulgation of rules, rates, regulations, and standards; and the rendering of findings, orders, and adjudications.

### Connecticut

*Wages.* Individuals employed as head residents or resident assistants by a college or university were excluded from coverage of the minimum wage law.

A change was made in the prevailing wage law to specify that agents empowered to award public works construction contracts are to contact the labor commissioner, at least 10 but not more than 20 days before such contracts are advertised for bid, to ascertain the prevailing rate of wages and welfare fund payments, as determined by the labor commissioner.

*Labor relations.* The exemption from the municipal employee collective bargaining law for part-time employees working less than 20 hours a week was limited to those part-timers who work on a seasonal basis, defined as working not more than 65 working days in a calendar year.

Private and public sector employers may not discipline or discharge employees because they exercise their first amendment rights, provided such activity does not interfere with the employees job performance or the working relationship between the employee and the employer.

*Private employment agencies.* Employment agencies must now identify themselves as such in all advertisements.

*Plant closings.* Employers of 100 or more who close or relocate their establishments must pay for the continuation of existing group health insurance for each affected employee and dependents for up to 90 days.

*Employment and training.* The Commissioner of Human Resources is to establish a program of grants for comprehensive job training and related services or job opportunities programs for economically disadvantaged, unemployed, and underemployed persons, through opportunities industrialization centers and other community-based organizations.

Employers who operate or create programs for the employment and training of unemployed workers 50 years of age or older were made eligible for State tax credits.

The labor commissioner is to provide assistance in the form of job training and other

employment services for homemakers displaced because of dissolution of marriage or other loss of family income, and whose opportunity for finding work is diminished by age and lack of recent paid job experience. The commissioner is to appoint an advisory council to develop criteria for identifying displaced homemakers and determining appropriate programs and services.

The labor commissioner is also to establish a pilot training program to prepare economically disadvantaged women for entrance into apprenticeship programs in emerging occupational areas and in occupations with a shortage of skilled workers. Priority is to be given to women receiving public assistance and to displaced homemakers.

### Delaware

*Wages.* The minimum wage rate was increased to \$3.00 an hour effective June 29, 1983. Formerly, the rate was \$2.00 for non-tipped employees and \$1.60 for those receiving tips. Also, the tip credit allowance was reduced from 50 percent of the required minimum wage to 33-1/3 percent, and employers were prohibited from taking or retaining any part of an employee's tips.

*Equal employment opportunity.* Sex-based discrimination in rate of pay in the same establishment for equal work is now prohibited under a new equal pay law. A separate measure prohibits State agencies from making purchases or requisitions from persons or firms that discriminate on the basis of sex.

Public servants who knowingly perform their official functions in a way intended to discriminate on the basis of age or handicapped status, as well as because of race, creed, color, sex, or national origin, as before, are guilty of official misconduct, which is a Class A misdemeanor.

*Other.* Employers may not discharge, threaten to discharge, intimidate, or coerce any employee because of his or her jury service.

### District of Columbia

*Wages.* Under a revised wage order for clerical and semitechnical occupations, the minimum wage rate was increased from \$2.90 an hour to \$3.90 effective June 4, 1983. The rate for minors under age 18 was raised from \$2.40 to \$3.35 an hour.

Another revised wage order increases the minimum wage rate for laundry, drycleaning, and shoe repair employees from \$3.00 an hour to \$3.70 effective January 7, 1984. The minimum for learners with less than

60 days of experience was set at \$3.50 an hour.

### Florida

*Agriculture.* Powers and duties under the farm labor contractor registration law were transferred from the Farm Labor and Rural Manpower Section of the Bureau of Rural Manpower Service within the Division of Employment Security of the Department of Labor and Employment Security to the Division of Employment Security.

The Department of Labor and Employment Security was authorized to enter into an agreement with the U.S. Department of Labor to administer the Migrant and Seasonal Agricultural Worker Protection Act with the State.

The law regulating migrant labor camps was extended from October 1, 1983, to October 1, 1993. The Department of Health and Rehabilitative Services may enter any premises which it has reason to believe is being established, maintained, or operated as a migrant labor camp without a permit, but permission of the owner is required in the absence of a warrant from the Circuit Court. Camps providing housing for four workers or fewer were exempted from this act.

*Employment and training.* The Division of Labor, Employment and Training was created in the Department of Labor and Employment Security by combining two existing divisions. The new division's responsibilities include operation of the State employment service, administration of the apprenticeship law, licensing of union business agents and registration of labor organizations, enforcement of the child labor law, and implementation of State responsibilities under the Federal Job Training Partnership Act.

### Georgia

*Wages.* A requirement for overtime pay after 40 hours a week for employees of cotton and woolen mills was repealed and replaced with a provision fixing a maximum 10-hour day or, alternatively, a maximum of 60 hours a week. Those employed as engineers, firefighters, guards, mechanics, teamsters, yard employees, clerical workers, or persons needed to clean up and repair machinery were exempted.

*Equal employment opportunity.* Among many changes in the Fair Employment Practices Act which applies to public employment only, the authority of the administrator was expanded. Aside from conciliating complaints as before, the administrator can now make determinations,

require production of documents, issue regulations, and approve or disapprove plans required by the Governor to eliminate or reduce imbalance in employment with respect to race, color, handicap, religion, sex, national origin, or age. Also, complainants may now seek court enforcement of a conciliation agreement. A termination date of July 1, 1985, for the act was removed.

### Guam

*Employment and training.* Provision was made for a 1983 Summer Youth Employment Program for registered college and high school students 14 to 23 years of age. Employment of up to 30 hours a week paid at the minimum wage rate in an area meaningful to the student's career development was to be with the government of Guam or private firms complying with all fair labor laws. At least 25 percent of the student employees were to be assigned to a Farm Preparatory Training Program. Participating private employers were to be reimbursed one-half of wages paid under the program.

### Hawaii

*Wages.* Salespersons primarily engaged in selling automobiles or trucks and employed by licensed dealers were exempted from coverage of the wage and hour law, and the exemption for salaried employees was amended to raise the minimum monthly guaranteed compensation requirement from \$700 to \$1,000.

*Private employment agencies.* The employment agency law is now administered by the Director of the Department of Commerce and Consumer Affairs instead of the Director of the Department of Regulatory Agencies. The process for appeals and hearings on license revocation, suspension, or denial was changed.

*Economic development.* In order to create more job opportunities for skilled, technical, and scientific personnel, a high technology development corporation was created to develop industrial parks and assist in the construction of facilities for high technology enterprises. Also, a Pacific International Center for High Technology Research was established to provide support for such enterprises.

*Employment and training.* Executive Director and Program Assistant positions were created to serve as staff to the Job Training Coordinating Council in order to implement the new Federal Job Training Partnership Act.

The Director of the Department of Labor and Industrial Relations is to establish a program to assist dislocated workers, including the long-term unemployed and those terminated as the result of a business closing, to obtain employment through assistance, training, and related employment services.

*Other laws.* In order to address certain problems attributed to unlicensed contractors, such as high unemployment rates in unions within the State, financial losses to the construction industry and the State itself, and failure of out-of-State contractors to pay Hawaii workers' compensation premium rates, all contractors performing construction directly or indirectly for the Federal Government are now subject to the State's contractor licensing requirements.

### Idaho

*Wages.* A bill which would have repealed the prevailing wage law passed the legislature but was vetoed by the Governor.

The legislature voided, by resolution, an administrative rule change by the labor department which would have required contractors subject to the prevailing wage law to submit, on a weekly basis, certified payrolls showing wages and fringe benefits paid to each employee performing work on public buildings or projects.

### Illinois

*Wages.* Minimum wage amendments increase the minimum rate for persons 18 years of age or older from \$2.30 per hour to \$2.65 on January 1, 1984, with further increases to \$3.35 scheduled by July 1, 1985. The rate for minors under 18 will rise from \$1.95 to \$2.25 on January 1, 1984, to \$2.55 on October 1, 1984, and to \$2.85 on July 1, 1985. The tip credit allowance of 50 percent of the minimum wage declines to 45 percent on January 1, 1984, and then to 40 percent on July 1, 1984. Employees of restaurants and motion picture theaters, currently entitled to overtime pay after 46 hours (restaurants) and 45 hours (motion pictures) in a week will be entitled to overtime pay after 43 hours effective January 1, 1984, and after 40 hours effective July 1, 1984.

Camp counselors residing in a seasonal camp of a nonprofit corporation will not be subject to the adult minimum wage if they work 40 or more hours a week and receive a total weekly salary of at least the minimum wage for a 40-hour week. Employers are entitled to an allowance for meals and lodging up to 25 percent of the minimum wage rate.



In an employee civil action to recover underpayments under the minimum wage law, employers will now also be liable for punitive damages in the amount of the lesser of 2 percent of the underpayment for each month it remains unpaid, or an amount equal to the underpayment. The Director of the Department of Labor was authorized to supervise the payment of any unpaid minimum wage or overtime compensation owing and to bring any legal action necessary to recover these wages and an equal amount as punitive damages.

Among changes in the wage payment and collection law, the definition of wages now includes any compensation owed an employee pursuant to an employment contract or agreement between the employee and employer. The State's Attorney of any county is specifically authorized to prosecute actions for violations of the act or to enforce the provisions independently and without specific direction of the Department of Labor, and employers are now prohibited from discharging or otherwise discriminating against any employee for filing a complaint, instituting a proceeding, or testifying in an investigation under the act.

Among changes in the prevailing wage law, coverage was extended to the performance of maintenance work, by removal of the former exclusion, and the rate setting procedures were amended. Prior to the amendment, prevailing wage rates were established by the public agency awarding a contract or by the labor department if requested to do so by the public body. Now, the department is required to annually determine rates for each county in the State, and these rates will be used if a public body does not investigate and ascertain the rate as required.

At the request of any laborer, workman, or mechanic who is paid less than the required prevailing wage rate by a public works contractor, the Department of Labor may now take an assignment of the wage claim and bring any legal action necessary to collect the wages due, with the contractor required to pay the collection costs incurred.

The director of the labor department is to publish a list of contractors and subcontractors found to be in violation of the prevailing wage law following receipt of a complaint and a hearing. Public works contracts are not to be awarded to those on the list for 2 years from the date of publication.

**Agriculture.** Among amendments to the Migrant Labor Camp Law, the State's Attorney of a county in which a violation occurs is authorized to bring an action for an injunction to restrain such violations or to enjoin the operation of a migrant labor camp, and the Department of Public Health was

given power to close a camp in emergencies, with suspension or revocation of the license. Migrant workers may bring suit for violation, but may not be evicted, discharged, or otherwise discriminated against for filing a complaint or instituting or testifying in any proceeding under the act.

A new Field Sanitation Act requires every farm operator employing 10 agricultural workers or more for a period of more than 2 hours during any day to comply with specified standards in the provision of readily accessible drinking water and toilet and handwashing facilities. Retaliation against a worker who files a complaint or participates in a proceeding under the act is unlawful.

**Equal employment opportunity.** The State Human Rights Act was amended to now cover agricultural labor, and to make sexual harassment in employment a civil rights violation.

**Labor relations.** A new Labor Relations Act was adopted, granting collective bargaining rights for most public employees except teachers, who are covered under another new law, and police and firefighters. The Act, which is to be administered by a Labor Relations Board, establishes permissible subjects for bargaining, unfair labor practices, and procedures for the resolution of disputes, and permits a limited right to strike. Employees may be required to pay a fee equivalent to their share of the costs of the collective bargaining process, not including political contributions. Those who object on religious grounds may pay an equal amount to a nonreligious charitable organization.

An Educational Labor Relations Act, to be administered by an Educational Labor Relations Board, grants collective bargaining rights to teachers in public schools, colleges, and universities. It is similar to the new Labor Relations Act in that it includes provisions governing the scope of bargaining, impasse resolution, unfair labor practices, and fair share fee, and it permits a limited right to strike.

**Occupational safety and health.** A Toxic Substances Disclosure to Employees Act was adopted to ensure that employees be given information concerning the nature and suspected health hazards of the toxic substances with which they work. The director of the labor department is to establish and periodically update a list of toxic substances. Employers are to obtain safety data sheets for, and to label toxic substances used in the workplace, and provide employees with education and training programs. Employees may refuse to work with substances for which required information

has not been furnished and may not be discharged or otherwise disciplined or discriminated against for such refusal, for exercising any other rights under the act, or for taking part in any proceeding or action related to the act.

**Employment and training.** Under a new Vietnam Veterans Leadership Program Act the director of Commerce and Community Affairs is to designate multipurpose service centers for veterans operated by community nonprofit agencies or organizations. The centers are to provide services including job counseling, referral, and placement.

**Other laws.** An Employee Patent Act was adopted providing that an employment agreement provision requiring an employee to assign his or her rights in an invention to the employer will not apply to an invention for which no equipment, supplies, facilities, or trade secrets of the employer were used, which do not relate to the employer's business or work performed for the employer, and which were developed entirely on the employee's own time.

## Indiana

**Private employment agencies.** Among changes to the law, employment agencies are no longer required to submit copies of their records each month, and the Department of Revenue was authorized to inspect agency records at any time.

**Occupational safety and health.** The State occupational safety and health law was amended to prohibit the Commissioner of the Division of Labor from adopting or enforcing any provision of the law that is more stringent than corresponding provisions under the Federal law.

Among new mine safety requirements, coal mine operators are to keep, in a surface location, detailed maps of each mine, with temporary notations indicating such things as the location of each working face and escapeways.

A mine rescue team, trained by the Bureau of Mines, is to be provided at each underground mine in the State, and at any surface coal mine at the request of the mine owner or operator. Also, the Bureau of Mines is to acquire and maintain the equipment required to equip two complete rescue teams.

**Economic development.** A new law established a program to redevelop and create new jobs in areas designated as enterprise zones on the basis of high levels of poverty and unemployment and general economic distress through use of tax credits and other incentives.



*Employment and training.* Legislation was enacted to implement the Federal Job Training Partnership Act within the State. Responsibility was assigned to the Office of Occupational Development and a newly created Job Training Coordinating Council.

A Jobs Training Program was created to provide job training and related services to dislocated workers including those unemployed as the result of any permanent closure of a plant or facility.

## Iowa

*Equal employment opportunity.* A new law establishes a policy, to begin July 1, 1984, that State employees will be paid at a rate based on comparable worth. Prior to implementation of this policy, the Merit Employment Department is to conduct a job evaluation study of merit system jobs on the basis of their comparable worth, with particular attention given to predominantly male- or female-dominated jobs.

*Worker privacy.* Employers, other than those hiring peace officers, may not require an employee or an applicant for employment to take a polygraph examination as a condition of employment.

*Private employment agencies.* Employers are prohibited from requiring job applicants to pay a fee as a condition of application or hire, including reimbursement for fees paid to employment agencies.

*Employment and training.* The Office of the Governor was directed to establish a job training partnership program, to supplement and implement the legislative requirements of the Federal Job Training Partnership Act. Under the program, employment and training assistance will be provided to dislocated workers and the economically disadvantaged.

An industrial new jobs training program was established under which vocational schools and community colleges may enter into agreements with employers for the education and training of workers for jobs in new or expanding industries. Costs to employers may be partially offset by property and other tax credits or by tuition or other student fees.

*Other laws.* Small businesses will be permitted a business deduction for income tax purposes of 50 percent of the wages paid to handicapped individuals or to persons who are convicted felons, on parole, on probation, or in a work release program who are hired for the first time by the employer during the tax year and who successfully complete a probationary period.

## Kansas

*Equal employment opportunity.* A new age discrimination in employment act is applicable to employers of four workers or more, including public employers and contractors, employment agencies, and unions. The law protects persons between the ages of 40 and 70 from age discrimination in hiring, compensation, and terms and conditions of employment. Administration is vested in the Commission on Civil Rights.

## Louisiana

*Wages.* Persons may now be discharged from employment if their earnings are subjected to three garnishments or more for unrelated debts in a 2-year period, excluding garnishment resulting from an accident or illness which causes 10 consecutive days or more absence from work. Previously, there could be no discharge because of wage garnishment.

*Child labor.* Employers must post a schedule of the hours of employment for each minor under 16 years of age, rather than only for those under 14 as was previously required.

*Equal employment opportunity.* It is unlawful for public or private sector employers, including unions and employment agencies, to intentionally discriminate against or in favor of an individual with respect to compensation, terms, conditions or privileges of employment, because of race, color, religion, sex, or national origin. Complainants may sue for compensatory damages, back pay, reinstatement, and related benefits. Private educational or religious institutions and nonprofit corporations were excluded from coverage.

*Occupational safety and health.* Responsibility for inspection and regulation of boilers outside the City of New Orleans was transferred from the Department of Labor to the State Fire Marshal. The City of New Orleans retains jurisdiction over boilers within the city itself. The Board of Boiler Inspector Examiners was abolished and its functions transferred to the Office of the Fire Marshal.

*Employment and training.* A House resolution requested the Board of Elementary and Secondary Education, Board of Regents, Departments of Education, Commerce, Labor, Urban and Community Affairs, and local school boards to begin preparations for implementing the coordinated job training program envisioned by the Federal Job Training Partnership Act, and to combine and coordinate their efforts to create a viable work force capable of

attracting new industries and jobs to the State.

*Other laws.* The law granting resident contractors preference in the letting of public work contracts over contractors from States which give their contractors a preference over those from Louisiana was amended to remove an exemption for contracts for maintenance or repair of highways and streets and to extend coverage to contracts subject to the State procurement code. An exemption was retained for contracts financed in whole or in part with Federal funds.

## Maine

*Wages.* Former employees of employers who have terminated their businesses with no assets to pay earned wages or have filed for Federal bankruptcy may now receive payment for wages for up to 2 weeks instead of 1 week from the Wage Assurance Fund.

Wage garnishment for support payments is now restricted to 50 percent of disposable earnings if the individual is supporting another spouse or child, or 60 percent if not. These amounts are increased by 5 percent if the garnishment is to enforce an order for delinquent support payments.

*Equal employment opportunity.* A law was passed providing for consideration, at the Statewide election in November 1984, of a proposed Equal Rights Amendment to the State Constitution.

The Governor's Committee on Employment of the Handicapped, scheduled for termination on June 30, 1983, under previously adopted sunset legislation, was continued, and the program for subsidized personal care assistance services to the severely physically handicapped to enable them to work was reinstated.

*Labor relations.* A new law stipulates that State payments to health care institutions may not be allowed for the hiring of a person whose services result in committing an unfair labor practice under Federal or State law.

The Supreme Judicial Court was authorized to provide for collective bargaining for Judicial Department employees.

*Occupational safety and health.* The Bureau of Labor Standards was given specific authority, with certain exceptions, to administer the chemical substance identification law under which employers must maintain and make available to employees a safety data sheet for each hazardous or toxic substance to which employees may be exposed, and must provide an education

and training program for exposed employees. Employers may not retaliate against employees who assist in the enforcement of the law.

The Department of Labor is directed to debar from participation in State contracts for 2 years an employer found to have committed a serious, willful violation or serious, repeated violations of safety standards under the U.S. Occupational Safety and Health Act or State requirements on chemical substance identification.

If an employer willfully and repeatedly violates standards, rules, or orders promulgated by the Board of Occupational Safety and Health, and the violations are determined to be serious, conviction may result in a fine of up to \$10,000, 6 months imprisonment, or both, with the penalties doubled for subsequent violations. Previously, such penalties could be imposed only for willful violations resulting in an employee death.

*Employment and training.* A Job Training Partnership Fund was created and the Commissioner of Labor authorized to enter into agreements with Federal, State, and County agencies to implement the new Federal Job Training Partnership Act.

A Conservation Corps was created in the Department of Conservation to provide job training and work opportunity for unemployed individuals on projects involving improvement of public property.

A target of filling 10 percent of the registered apprenticeships in State agencies with qualified candidates who are recipients of Aid to Families with Dependent Children was established. The Bureau of Labor Standards is to assist in the development of the program and in the development of apprenticeships established by State agencies.

*Other laws.* A Whistleblowers' Protection Act was passed, prohibiting reprisal against public or private sector employees who report any violation of a State, local, or Federal law, or who refuse to carry out illegal directives, or who participate in an investigation, hearing, inquiry, or court action. An employer may not discharge, threaten, or otherwise discriminate against such an employee. In case of violation, the employee may bring a civil action, and the court may order reinstatement, back pay, and other relief.

## Maryland

*Wages.* By clarification of the State minimum wage law, employees engaged in agriculture who are exempt from overtime pay under the Federal Fair Labor Standards Act are to receive time and one-half the employee's regular rate for any time worked over 60 hours a week.

Coverage of the prevailing wage law was amended to include local contracts involving 50 percent or more State funding (75 percent in the case of school construction). Previously, local contracts were covered only if 100 percent State-funded. Also, procedures for determination of prevailing wage rates, previously included in regulations, were made part of the law and amended to provide for a 40 rather than 30 percent rule as the second basis for determination (the first basis is the rate paid to at least 50 percent of the workers if that many in a classification receive the same rate).

The authority of the Labor Commissioner to assess civil penalties against employers for failure to pay wages under the wage payment and collection law was repealed, and a provision added permitting the court to award employees up to three times the amount of wages unlawfully withheld in cases brought by the commissioner.

A Child Support Enforcement Administration was established within the Department of Human Resources and assigned responsibility for the State program to recover support payments including court action to garnish wages.

The Advisory Committee on Wage and Hour Law scheduled for termination on July 1, 1984, under sunset legislation was extended to July 1, 1994.

*Equal employment opportunity.* Senate and House Joint Resolutions were passed urging the Congress to again pass an Equal Rights Amendment to the U.S. Constitution so that it may be submitted to the States for ratification.

*Private employment agencies.* The Employment Agency Advisory Board, scheduled to terminate on July 1, 1984, through sunset legislation, was extended to July 1, 1994.

*Occupational safety and health.* A Hazards Communication Study Commission was established to develop a report and propose legislation concerning necessary and appropriate standards and requirements for employers regarding access to information on and the handling of hazardous and toxic substances in the workplace.

The Occupational Safety and Health Advisory Board and statutory provisions related to the regulation of occupational safety and regulations promulgated under the act scheduled to terminate July 1, 1983, were extended to July 1, 1993.

*Employment and training.* A cabinet-level Department of Employment and Training was established. The new Department will consolidate and increase the focus on employment security, job training and retrain-

ing, and placement activities, formerly performed under the Department of Human Resources, and will also absorb the apprenticeship program and council, formerly in the Division of Labor and Industry of the Department of Licensing and Regulation.

A job training partnership program was established to implement the new Federal law in the State, and to provide employment, training, supportive, and related services for unemployed individuals who are economically disadvantaged, for dislocated workers, and other qualified individuals such as displaced homemakers, school dropouts, teenage parents, the handicapped, older workers, and veterans.

*Other laws.* In awarding State contracts under competitive bid, resident firms will receive the same percentage preference over nonresident firms as the State of the nonresident firm gives to its own residents. Previously, the resident preference was 2 percent.

The Division of Labor and Industry scheduled to terminate July 1, 1983, under sunset legislation, was extended to July 1, 1993. Also, the Advisory Council on Prevailing Wage Rates due to terminate on July 1, 1984, was continued to July 1, 1994.

## Massachusetts

*Wages.* Amusement parks operated not more than 150 days a year were exempted from overtime pay requirements.

Employers are now required to remit to food and beverage employees, in proportion to the service provided by the employees, any service charges added to the customer's bill. This is comparable to the existing provision barring the employer from appropriating tips given directly to the employee.

The Commissioner for the Blind is to establish standards for the assignment and compensation of blind workers and trainees in workshops operated by the State Commission for the Blind. No blind worker or trainee in a commission operated workshop may be paid less than the full Federal minimum wage. The commissioner is also to set standards for closing Commission-operated workshops that cannot become financially viable and for transferring blind workers to private nonprofit or similar workshops for the employment of handicapped persons.

*Child labor.* Fourteen- and fifteen-year-olds who have been certified by the Department of Education as having completed training in vocational agriculture may operate farm tractors and are exempt from the age 16 minimum otherwise applicable.



*Equal employment opportunity.* The Congress was urged, by resolution, to approve an equal rights amendment to the Constitution.

*Worker privacy.* A person receiving a pardon from the Governor shall have all records sealed relating to the pardoned offense. Such sealed records shall not disqualify a person in any examination, appointment, or application for employment, and the conviction need not be acknowledged on job applications or interviews.

*Other laws.* A cabinet-level Executive Office of Labor, headed by a Secretary of Labor, was established. The new Office includes the existing Department of Labor and Industries, the Minimum Wage Commission, and the Health, Welfare and Retirement Trust Funds Board. Several other agencies with labor functions are also within the new office but are expressly not subject to its jurisdiction, including the Division of Industrial Accidents, the Labor Relations Commission, the Department of the Board of Conciliation and Arbitration, and the Joint Labor-Management Committee.

## Michigan

*Wages.* New wage deviation rules issued for handicapped workers establish specific procedures and criteria to ensure payment at a minimum rate commensurate with productive capacity.

A law passed late in 1982 made it unlawful for an employer to require, as a condition of employment, nondisclosure by an employee of his or her wages, or to discharge, discipline, or otherwise discriminate against employees who disclose their wages.

*Employment and training.* Provision was made for State participation, under the Federal Job Training Partnership Act, in providing comprehensive job training and related services by establishing criteria for participation by economically disadvantaged and unemployed individuals and for the selection of service providers.

A youth corps program was created to provide summer employment and work training, with payment at the minimum wage, for unemployed youths of 18 through 21 years of age.

## Minnesota

*Wages.* Among changes in application of the State minimum wage to farmworkers, coverage was extended to minors under age 18 who do hand fieldwork when one or both of their parents are also hand fieldworkers. Salaried farmworkers, whose weekly wage

is more than the equivalent of 48 straight hours and 17 overtime hours at the minimum wage, were excluded from coverage.

Another amendment to the minimum wage law exempts from the overtime provisions on-farm silo builders working on a unit or piece rate basis whose pay per hour exceeds the State minimum wage rate.

Requirements for the prompt payment of wages when an employee is discharged, quits, or resigns were made applicable to farm laborers.

*Child labor.* The prohibition on the employment of persons under 18 in rooms where intoxicating liquors are sold at retail was amended to permit the employment of waiters or waitresses in restaurants, hotels, or motels, in rooms in which only wine is sold, provided they do not actually serve or sell wine, in the same manner that musicians, busboys, or dishwashers may be employed on such premises.

*Equal employment opportunity.* Employers of 50 workers or more must make reasonable accommodation to facilitate the employment of qualified disabled persons including job restructuring, modified work schedules, acquisition or modification of equipment, provision of aides, and other measures.

*Private employment agencies.* Personnel consulting firms paid solely by employers are now specifically exempt from the employment agency law. Such firms, along with management consultants, are classified as "search firms," and must register with the labor commissioner and post a surety bond, but are exempt from other requirements. Employers are prohibited from requiring job applicants placed by such firms to pay any of the firm's fee.

*Occupational safety and health.* A Right to Know Act requires that before assigning an employee to a workplace where he or she would routinely be exposed to hazardous substances, employers must provide training concerning such substances. Employees are to receive information on the names, locations, properties, symptoms of exposure, appropriate emergency treatment, proper methods of safe use, and procedures for cleanup of leaks and spills of such toxic substances. Employees acting in good faith can refuse to work under conditions which they reasonably believe present an imminent danger. In such cases, employers are prohibited from discriminating against the employees.

*Economic development.* Criteria were established for the Commissioner of Energy, Planning and Development to consider in

making recommendations on the designation of enterprise zones within which employers will be encouraged to locate or expand through such incentives as tax credits. Among the criteria is the degree of poverty and unemployment in the area and the extent to which the projected development in the zone will provide employment to local residents.

*Employment and training.* A job skills partnership program was created to bring together employers having specific training needs with educational or other nonprofit institutions which can design programs to fill those needs.

The Commissioner of Economic Security was authorized to distribute funds for comprehensive job training and related services for economically disadvantaged, unemployed, and underemployed persons through opportunities industrialization centers. An emergency employment development program was enacted, to be administered by a coordinator reporting directly to the Governor.

Counties experiencing chronic high unemployment are authorized to establish emergency employment programs including providing job training and jobs through public works projects to meet the needs of economically disadvantaged, unemployed residents.

*Other laws.* Any public works construction project for which competitive bidding is not required by law is to be awarded to a State resident, and if competitive bidding is required, the contract is to be awarded to the resident making the lowest bid if it is not more than 10 percent higher than the lowest nonresident bid. Whenever possible, resident laborers, workers, and mechanics are to be used to perform all work covered by the contract.

A new law requires employers who permit paternity or maternity leave to biological parents to provide the same benefits to adoptive parents upon request.

## Mississippi

*School attendance.* A Compulsory School Attendance Law was enacted as part of the Education Reform Act approved in late 1982. Implementation is mandated on a staggered basis with children 6 and 7 years of age required to attend school during the 1983-84 school year. Each year thereafter, 1 year is to be added to the compulsory age bracket, and by the 1989-90 school year, attendance will be required of children aged 6 to 14.

*Economic development.* The Board of Economic Development was authorized to designate certain counties or areas as en-



terprise zones in order to stimulate business and industrial growth in distressed areas having high levels of poverty and unemployment by providing special tax incentives and financial assistance.

*Employment and training.* A Department and Board of Rehabilitation Services were both created in order to provide rehabilitation and other services to disabled persons in order that they may engage in useful occupations to the extent of their capabilities. Rehabilitation for adults was formerly provided by the Department of Education.

## Missouri

*Other laws.* Missouri contractors will receive the same percentage preference on bids on State contracts over out-of-State contractors as those contractors would receive in a similar contract from the State in which they are located.

## Montana

*Wages.* When established by collective bargaining agreement, or by mutual agreement of the employer and employee when no collective bargaining agreement exists, municipal or county government employees working for a period not to exceed 40 hours in a 7-day period and employees of hospitals and similar health-care establishments working for 80 hours or less in a 14-day period and 8 hours a day were excluded from overtime pay requirements otherwise applicable, but they must be paid overtime pay for any excess hours.

Firefighters working under a collectively bargained work schedule with a public employer were exempted from the overtime pay requirement of the minimum wage law and from the provision designating 8 hours as constituting a day's work for certain public employees.

Earnings are now exempt from garnishment for maintenance or child support only to the extent permitted by Federal law.

*Equal employment opportunity.* A new law directs the Department of Administration to work toward the goal of establishing a standard of equal pay for jobs of comparable worth in the State service. The Department is to compare, in the classification of positions, factors for determining job worth across occupational groups, whenever those groups are dominated by men or women, and is to eliminate the use of judgments and factors that contain inherent biases based on sex.

The prohibition in the Human Rights Act against discrimination because of marital status was restricted to situations where the reasonable demands of a job training or apprenticeship program do not require such

a distinction, or where the differentiation is a bona fide occupational qualification.

The legislature requested that an interim committee be assigned to study the State's employment preference laws for veterans, veterans' spouses and dependents, and disabled civilians, as a result of a recent court decision that minimally qualified persons in these categories are entitled to employment preference over all others rather than preference only in cases of ties.

*Labor relations.* The law governing collective bargaining for nurses was amended to include unfair labor practices committed by employee organizations. Administrative duties concerning this law are now handled by the Board of Personnel Appeals instead of the Department of Labor and Industry.

*Private employment agencies.* Placement fees charged by agencies must now be based on a percentage of the first full month's gross income rather than the applicants first year's income as was previously required.

*Other laws.* The functions of the Commissioner of Labor and Industry under the Maternity Leave Act, including jurisdiction over unlawful employer practices, were transferred to the Commission for Human Rights.

## Nebraska

*Wages.* Resolutions designated the Business and Labor Committee of the legislature to review the need to raise the State minimum wage, and to study the Wage Payment and Collection Act to determine whether changes are needed in the procedures governing employee claims for wages.

*Equal employment opportunity.* The equal pay and age discrimination in employment laws now specifically apply to the State and its political subdivisions, which may be sued in the same manner as other employers under these laws. The numerical exemption, applicable to the private sector, does not apply to public sector coverage.

## Nevada

*Wages.* The minimum project amount for coverage under the prevailing wage law was increased from \$4,000 to \$20,000.

The maximum amount of an employee's lien when a corporation becomes insolvent or is dissolved was increased from \$600 to \$1000 for wages due the employee, other than officers of the corporation, which were earned within 3 months prior to the date of the insolvency or dissolution.

Money withheld from an employee's wages for deposit in a financial institution must be deposited by the employer within 5 working days of the employee's payday.

*Child labor.* As part of the State's overall program to promote tourism and economic development, including the production of motion pictures, the child labor law was amended to exempt minors employed as motion picture performers from the minimum age, maximum hours, and work during school hours restrictions.

*Labor relations.* Among other changes, the law governing local government collective bargaining was amended to specify that employee safety is a subject of mandatory bargaining, but that safety of the public is not.

*Economic development.* The Governor was given authority to designate certain areas as specially benefited zones in order to encourage business and industrial growth and the revitalization of neighborhoods through incentives including tax credits and loans. Zones are to be selected on the basis of factors such as levels of poverty, unemployment, loss of jobs, and population.

## New Hampshire

*Wages.* The provision permitting a youth rate of 75 percent of the applicable minimum wage rate will now apply to persons age 17 or under rather than 18 or under as before.

The wage payment law was amended to add severance pay, personal days, holiday pay, sick pay, and payment of employee expenses, to vacation pay, as benefits considered wages under the law when they are a matter of employment practice or policy.

*Child labor.* A new law stipulates that it is not unlawful for a person age 18 or older to drive in intrastate commerce any vehicle carrying home heating oil for the purpose of making retail deliveries, provided he or she holds a valid driver's license for the particular vehicle class and the driver and vehicle are in compliance with all other applicable laws and rules.

*Labor relations.* Membership on the legislative joint committee on employment relations was increased from 8 to 14 members with the chairperson and ranking minority member of the house labor, human resources and rehabilitation committee among the additions. The committee is to hold hearings and make recommendations to the legislature on all collective bargaining agreements with State employees and on all relative fact-finders reports.

*Occupational safety and health.* Under a new Workers Right to Know Act, applicable to both public and private employment, employers must keep on file and post information on toxic substances to which

employees may be exposed, provide training to employees on safe handling, and inform employees of their rights under the law. Employees may refuse to work with toxic substances if the employer fails to furnish them with requested information on the substance, and are protected from discharge or discipline for the filing of a complaint or exercising any rights under the act. The Commissioner of Labor may conduct inspections if there is cause to believe violations are occurring.

The Division of Public Health Services in the Department of Health and Welfare is to contain an occupational health unit and is to develop policies and conduct programs for evaluation of hazards associated with the use of chemical or physical agents, to advise, consult, and cooperate with other agencies, including the State labor department, and to collect and disseminate health information relating to protection from these agents. The Commissioner of Labor is to provide occupational health and safety services to public and private sector employers.

*Other laws.* The Commissioner of Labor may now impose a civil penalty of up to \$500, in addition to any criminal penalty previously provided, for any violation of the State's labor laws. A penalty appeal board was established to hear appeals from penalties imposed.

Employers are to give employees, upon request, the opportunity to inspect and copy their personnel files. In the event of a disagreement with any information in the file, the employee may submit a written statement, explaining his or her version together with supporting evidence, that will become a part of the permanent record.

### New Jersey

*Child labor.* A late 1982 law exempted participants in junior achievement programs from the occupational limitations of the child labor law. Under such programs, minors under the age of 18 engage in business activities pursuant to an economic education program supervised by adults from the business community.

An additional exemption to the child labor law permits minors to be employed in domestic services in a residence other than a minor's own home, when performed outside of school hours or during school vacation, with parental permission. This is similar to an existing exemption for domestic service in the minor's own home for the parent.

*Equal employment opportunity.* An affirmative action program for Vietnam veterans was enacted guaranteeing them equal

employment opportunity on public works projects of the State exceeding \$250,000 in cost in areas including recruitment, hiring, training, promotion, and compensation.

*Occupational safety and health.* A comprehensive Worker and Community Right to Know Act to be effective August 29, 1984, requires public and private sector employers to report hazardous substances in the workplace to the Health Department and to provide the Department of Environmental Protection with information on each hazardous substance, including its chemical name, use, and amount discharged. This information must be maintained at places of employment and be available to employees upon request. If such request is not honored in 5 days, the employee may stop work without penalty until given the information. Employers, in addition, must provide education and training on the use, storage, and effects of hazardous substances in their workplaces.

*Employment and training.* The Commissioner of the Department of Labor is to implement programs to provide job training and employment opportunities for long-term unemployed, underemployed, economically disadvantaged, and displaced workers including those displaced because of plant closings, technological change, or modifications in the product line, and others in need of job training or retraining.

### New Mexico

*Wages.* For tipped employees, the minimum wage aside from tips was increased from \$1.60 to \$2.01 an hour. In a separate measure, the minimum wage law was extended to persons regularly enrolled in vocational or training schools.

The fact that a plaintiff or complainant is an undocumented worker may not be used as a defense to any action brought under the wage payment law.

The maximum wages that may be withheld for past due child support is now 50 percent instead of 60 percent of disposable earnings, whether or not a spouse or other dependent child is being supported.

*Equal employment opportunity.* It is a discriminatory practice under the Human Rights Act for an employer to refuse or fail to accommodate to an individual's physical or mental handicap unless such accommodation is unreasonable or an undue hardship. The exemption from the age discrimination provisions applicable to the compulsory retirement of high-salaried executives between the ages of 65 and 70, as contained in Federal law, was adopted under the State law.

The State legislature urged the introduction in the Congress of an equal rights amendment to the U.S. Constitution.

*Occupational safety and health.* The State Occupational Health and Safety law was amended to specify that it and its regulations are to apply to places of employment subject to the jurisdiction of the U.S. Department of Labor under the Federal Occupational Safety and Health Act, rather than acts and regulations enforced by the State mine inspector.

The State law was also amended to specify that the Environmental Improvement Division of the Health and Environment Department may not privately question employers and employees, until after regulations have been adopted protecting the rights of those questioned.

Under a Medical Radiation Health and Safety Act, persons operating medical equipment which emits ionizing radiation must meet standards of education and training and be certified by the Environmental Improvement Division.

*Employment and training.* The Commerce and Industry Department was directed to establish programs to provide quick-response preemployment and in-plant development training, custom-designed to provide new or expanding industries with qualified personnel. This program replaces the Development Training Act, enacted in 1972, which had similar purposes.

### New York

*Wages.* The minimum wage for farmworkers will be increased from \$2.00 to \$2.75 an hour, effective February 4, 1984, with a further increase to \$3.35 scheduled for July 1, 1984, bringing it on a par with the current rate for nonfarm workers.

The penalty section of the minimum wage act was amended to provide for an additional fine of up to \$10,000, in addition to any other penalties including fines, upon conviction for a second or subsequent violation if the previous conviction was within the preceding 5 years.

Violations of the minimum wage act will now be class B misdemeanors rather than misdemeanors as before, resulting in changes in possible prison sentences.

The prevailing wage law was amended, changing the wage determination formula. The collectively bargained rate will be the prevailing rate for 1 year starting July 15, 1983. After July 15, 1984, the collectively bargained rate is to be used in localities where at least 30 percent of the workers receive such a rate. (The previous law called for use of the majority rate; or, if none, the



rate paid to 40 percent; if none, then the average rate.)

**Hours.** The requirement that truck and bus drivers receive at least 8 consecutive hours off was amended to apply after 15 rather than 14 hours duty in any consecutive 24-hour period, or after 10 hours driving time within a consecutive period of 15 rather than 14 hours.

**Child labor.** The minimum employment age as a newspaper carrier was reduced from 12 to 11.

A new chapter of the consolidated laws was enacted entitled the Arts and Cultural Affairs Law. Included in the new chapter are provisions substantially the same as existing provisions regulating child performers and models transferred from repealed sections of the education law, and provisions substantially the same as existing provisions regulating theatrical employment agencies replacing repealed sections of the general business and labor laws.

**Labor relations.** The law making it an unfair labor practice for a public sector employer to deliberately refuse to continue all the terms of an expired agreement until a new agreement is negotiated, was amended in late 1982 to exclude those instances where the employee organization strikes during negotiations.

**Private employment agencies.** The maximum time permitted between inspections of employment agencies was increased from 6 to 18 months, and speakers' bureaus were specifically exempted from licensing and regulation under the employment agency law.

The New York City Department of Consumer Affairs, which regulates employment agencies in the city, issued new regulations. Agencies placing persons in unskilled or semiskilled positions will now be required to maintain detailed records on fees charged and refunds to applicants, and to provide applicants with receipts showing how refunds are computed. A career counseling firm will be exempt from the law only if it states in all advertising and contracts that it is not an agency, does not try to get clients jobs, arrange interviews, or contact employers, and does not have access to otherwise unavailable job information.

**Plant closings.** An employee ownership assistance program was established in order to encourage and assist employees of plants that are about to be permanently closed or relocated to acquire such plants and to continue to operate them as employee-owned enterprises. Loans are available to employee ownership associations through local development corporations.

**Employment and training.** The legislature declared a State policy to utilize the Federal Job Training Partnership Act structure and mechanisms in the administration or funding of job training and development programs, and established a job training coordinating council as required to implement the Federal law.

A dislocated workers' program was established under which funds will be provided for on-the-job training and apprenticeship programs for dislocated workers including those terminated as a result of a permanent closure of a plant or facility, and in another measure an emergency employment intervention program was initiated to provide training for private sector jobs for such workers.

**Other laws.** Employers may not discharge or otherwise penalize employees for their absence from work to serve as a witness as a result of being a crime victim. However, employers may withhold the wages of any such employee.

## North Carolina

**Wages.** As provided in a prior law, the minimum wage rate was increased from \$3.10 an hour to \$3.35 effective January 1, 1983.

Seasonal religious or nonprofit educational conference centers were exempted from the minimum wage and overtime requirements of the wage and hour act.

**Equal employment opportunity.** The Office of State Personnel and the State Personnel Commission were designated by the State as the official deferral agency under Section 706 of the Civil Rights Act of 1964, for charges filed by covered public sector employees with the Federal Equal Employment Opportunity Commission.

**Occupational safety and health.** Municipalities with a population of 10,000 or fewer may by resolution exclude their fire departments from the State safety and health program requirements.

**Economic development.** A Technological Development Authority was created to increase the rate at which new jobs are created by stimulating the development of existing and new small businesses.

**Other laws.** It was made a felony offense to hold a person against his or her will, by coercion or intimidation, for the performance of labor, whether or not for compensation, or whether or not for the satisfaction of a debt, or to induce someone to go to another place with the intent that they be held in involuntary servitude. It was

also made a misdemeanor for a party to any labor contract to fail to report to the county sheriff a violation of these prohibitions, when any person reports the violation to the contracting party.

Payment and performance bonds will now be required of any contractor with a public construction contract of more than \$15,000 on a project where total contracts exceed \$30,000, or on any other construction contracts at the discretion of the contracting body. Previously, bonds were required of contractors receiving public construction contracts in excess of \$10,000.

## North Dakota

**Wages.** Voluntary wage assignments are permitted for court-ordered child support payments, and employers are prohibited from disciplining any employee as a result of such wage assignment.

**Equal employment opportunity.** A Human Rights Act was enacted prohibiting discrimination in employment, housing, and other fields, on the basis of race, color, religion, sex, national origin, age for persons between 40 and 70 years, physical or mental handicap, marital status, or public assistance status. The law applies to all public and private sector employers of 10 or more, labor organizations, and employment agencies. An aggrieved person may bring court action or file a complaint with the labor department, which has 60 days to negotiate a settlement. A previous declaration of State policy prohibiting discrimination in all employment practices by employers of more than 15 was repealed.

A resolution urged the Congress to again propose to the States for ratification, an equal rights amendment to the U.S. Constitution.

**Employment and training.** A concurrent resolution calls for a Legislative Council study and evaluation of the State's work force and job market to determine the need for legislation to create employment opportunities and job training for the unemployed and underemployed, with a special emphasis on the needs of youth.

**Other laws.** The Legislative Council was directed by a Senate resolution to study the feasibility of combining the Department of Labor, State Job Service, Workmen's Compensation Bureau, and any other State agencies whose primary responsibilities are related to labor and employment services. A report on findings, recommendations, and any legislation required is to be made to the 1985 Legislative Assembly.

Another resolution urged the President and the Congress to propose and enact leg-



islation amending the Employee Retirement Income Security Act to eliminate the Federal preemption and to permit the respective States to regulate employee health benefit plans.

## Ohio

*Equal employment opportunity.* A joint resolution requests the Congress to adopt, and submit to the States for ratification, an equal rights amendment.

*Labor relations.* A comprehensive new law grants collective bargaining rights to State and local public sector employees. The law includes procedures for grievance resolution including fact-finding, mediation, and final and binding arbitration, as well as requirements for certification, unit determination, and permissible subjects of bargaining. Unfair labor practices for both employers and employee organizations were established and include a strike prohibition. Employees may not be required to join an employee organization but may be required to pay a fair share fee in an amount equal to union dues. A State Employment Relations Board was created to administer the law.

## Oklahoma

*Wages.* The minimum wage law was amended, effective November 1, 1983, to delete the specific minimum wage rate of \$3.10 an hour and to adopt the current Federal minimum wage by reference for employers of 10 or more at one location and all those with annual gross sales over \$100,000. For all other employers, the minimum hourly wage was increased from \$1.00 to \$2.00, and an exemption for those age 65 and over was eliminated.

Wage garnishment for judgments arising from consumer credit sales, leases, or loans may not exceed the amount by which disposable earnings exceed 30 times the Federal minimum wage. For other debts, garnishment remains limited to 25 percent of disposable earnings, except for child support payments (33-1/3 percent).

*Labor relations.* The School District and Employee Negotiation Act was amended to prohibit an employee organization, employee, or employer from impeding, restraining, or coercing employers or employees in the exercise of their guaranteed rights, and to give the district courts jurisdiction to prevent and restrain violations of the act or to grant relief to employers or employee organizations if violations occur.

The Public Employees Relations Board, scheduled for termination under sunset legislation, was continued until July 1, 1989.

## Oregon

*Wages.* Volunteer firefighters were specifically excluded from coverage under the minimum wage law. In addition, the exemption from coverage for persons performing voluntary noncompensated service for a religious or charitable nonprofit institution was expanded to also exempt such service for educational, public service, or similar nonprofit corporations, organizations, or institutions.

Among amendments to the prevailing wage law, the threshold amount for coverage was increased from \$2,000 to \$10,000, contractors are now required to post the prevailing wage rates for a project in or about that project, and new requirements were enacted on reporting and maintaining payroll records. Also, the labor commissioner or any other person may now bring a civil action to require a public agency party to a public contract to withhold twice the wages in dispute if a contractor has intentionally failed to pay the prevailing rate, and to require contractor to pay the prevailing rate and any deficiencies. In addition to other relief, the court may enjoin any such person from committing future violations, and the contractor may be debarred from public contracts for 3 years. If the awarding agency fails to include a provision in the contract stating the prevailing wage rate, it shall be liable for unpaid wages.

Any contractor or subcontractor on public works contracts who violates hours of labor and overtime requirements will now be liable to the employees affected in the amount of their unpaid overtime wages and an equal amount as liquidated damages. An action to enforce liability to workers may be brought as an action on the contractor's bond.

The Commissioner of the Bureau of Labor and Industries is now authorized to assign wage claim judgments for collection or to obtain assistance in collection of such judgments and to deduct and pay a collection fee from any monies collected.

*Agriculture.* Persons who act as farm labor contractors in forestation or reforestation must obtain an authorizing endorsement on their license from the labor commissioner and are to provide the commissioner with a copy of all payroll records. Among other amendments to the farm labor contractor law, the format to be used in furnishing information to workers was specified, contractors were prohibited from inducing workers to give up any part of their wages, and money penalties for violation were increased.

Hereafter, the labor commissioner, who already has responsibility for farm labor contractor licensing, may issue the license only to a sole proprietor under the person's

own name or an assumed registered business name; to two persons or more operating as a partnership under their own names or an assumed registered business name; or to a corporation authorized to do business in the State.

*Equal employment opportunity.* The list of unlawful employment practices, subject to action under the civil rights act, was expanded to include certain already banned employer practices, such as retaliation against the employee, use of lie detector tests, employee payment for employer-required medical examinations, and employer refusal to employ a person because another family member is currently employed by the employer. It was also made unlawful for an employer to refuse to employ a person because another family member formerly worked for that employer.

A Commission for Women was created to work for economic, social, legal, and political equality for women and to continually assess issues and needs, including evaluations of nontraditional job opportunities and employment policies and practices of public and private sector employers.

State agencies are to include in their affirmative action reports to the Governor and legislature, information concerning the award of construction, service, and personal service contracts to minority businesses.

*Labor relations.* The Public Employee Relations Board may award a civil penalty, of up to \$1,000 per case, to any person as a result of an unfair labor practice complaint hearing which has either found repeated or flagrant violations or which has determined that the complaint was frivolously filed, or filed with the intent to harass the other person.

*Private employment agencies.* Any business which offers as one of its main objects to assist, teach, or prepare individuals to obtain employment, and which charges for its services, is subject to the employment agency regulatory law. The required surety bond for employment agencies was increased from \$2,000 to \$5,000.

The law regulating private employment agencies is scheduled for repeal on June 30, 1988, under sunset review legislation.

## Pennsylvania

*Equal employment opportunity.* A late-1982 law extended the age discrimination provisions of the Human Relations Act from persons ages 40 to 62 to those ages 40 to 70. Persons protected by future amendments to the Federal Age Discrimination in Employment Act will automatically be covered.

## Rhode Island

**Wages.** The Director of the Department of Administration was requested to conduct a survey of the State's job classification system to determine the presence and extent of sex-based pay inequities within the State system.

**Equal employment opportunity.** A comprehensive new chapter was added to the State Affairs and Government law prohibiting employment and other forms of discrimination against handicapped persons by any person or entity doing business in the State or receiving financial assistance from the State. Handicapped individuals continue to be protected against discrimination by public and private sector employers under the State Fair Employment Practices Act.

A joint resolution called for the creation of a legislative commission to study the feasibility of establishing a revolving low-interest loan fund to purchase equipment enabling the employment of severely disabled persons, and to recommend legislation.

Another resolution requested the Director of the State Department of Transportation to use all diligent effort to seek out and hire qualified State women, as well as men, to perform work funded with Federal construction grants to be received by the Department over the next 2 years.

The Congress was requested to enact an equal rights amendment to the U.S. Constitution for State ratification.

**Worker privacy.** Applicants for employment, except for law enforcement agency positions, whose conviction of a crime has been expunged, may state that they have never been convicted of a crime.

**Occupational safety and health.** Employers who use, transport, store, or otherwise expose employees to toxic or hazardous substances must make available to employees at each workplace a list of all such substances, and provide initial training to all new employees and annual training thereafter. Employees who request information cannot be required to work with a substance until the information has been provided and are not to be disciplined for such action. Administration of the law is vested in the Department of Labor.

It was specified that occupational safety programs in the State may include in-service training and other educational programs, and the Division of Occupational Safety was authorized to apply for and accept grants and to enter into contracts with public or private organizations or individuals in carrying out its functions.

**Plant closings.** A special legislative commission created in 1982 to study the problems caused by the closing of industrial plants was extended for 1 year. Findings and recommendations are now due by February 2, 1984.

## South Carolina

**Child labor.** The legislature approved regulations of the State labor department adopting restrictions, identical to those adopted under the Federal Fair Labor Standards Act, for work by minors between 16 and 18 years of age in occupations involving the operation of power-driven bakery machines and all occupations in connection with mining other than coal. Regulations identical to the other Federal hazardous occupation orders had been adopted by the State in 1981.

**Equal employment opportunity.** A bill of rights for handicapped persons was enacted under which discrimination in employment is prohibited. The Human Affairs Commission is to administer the act, and violations will be considered unlawful employment practices under the Human Affairs law.

**Occupational safety and health.** An occupational health and safety review board was established and authorized to hear contested cases and to provide administrative review of citations issued by the Commissioner of Labor, penalties assessed, or periods of abatement set. The administrative review was previously conducted by the Commissioner of Labor.

**Economic development.** A Jobs-Economic Development Fund program was enacted to encourage the location of new businesses in the State, and the rehabilitation of existing businesses in order to provide maximum opportunities for creation and retention of jobs. The program is to be accomplished through loans, investments, research, technical and managerial advice, data compilations, and other means.

**Employment and training.** A House resolution was adopted, urging the Governor to call a statewide conference of governmental and business leaders to address the problems of economic and technological unemployment and to develop short- and long-range strategy on employment in the State.

## South Dakota

**Labor relations.** The law regulating public employees' unions was amended to establish time limits on requests to the Department of Labor to intervene in im-

passé situations, and for filing certain notices of appeal and unfair labor practice complaints with the department.

## Tennessee

**Wages.** Any business, including private clubs, lounges, bars, or restaurants, which includes on bills given to and paid by customers an automatic percentage or dollar amount for tips, must pay that full amount to the employee or employees who rendered the service.

**Equal employment opportunity.** It is no longer a prohibited practice to discriminate on the basis of age in referral, admission to, or employment in apprenticeship and training programs.

**Private employment agencies.** By Executive Order, administration of the law regulating private employment agencies was transferred from the labor department to the Department of Insurance.

**Occupational safety and health.** Provisions requiring periodic inspection of elevators and escalators now include dumbwaiters as well, and the time between inspections of each was made uniform at 6 months. Also, inspection fees for elevators and boilers were increased.

## Texas

**Wages.** The payment of wages law now permits monthly payment to employees who are exempt from the overtime pay provisions of the Fair Labor Standards Act, retaining the semimonthly payment requirement for all other employees. The maximum 16-day holdover period was removed.

A proposed constitutional amendment was adopted for submission to the voters and approved at the November 1983 election, permitting garnishment of wages for the enforcement of court-ordered child support payments. The constitution previously prohibited wage garnishment for any purpose.

Employees were authorized to make voluntary wage assignments to satisfy court-ordered child support payments, and the employer must withhold the assigned amount up to one-third of the employee's disposable earnings. Employers may not take any disciplinary action against an employee or refuse to hire an applicant because of such assignment. With passage of the proposed constitutional amendment authorizing wage garnishment for court-ordered child support, the courts were also empowered to order involuntary wage assignment for such purposes.

**Agriculture.** The law regulating migrant labor housing facilities by the Department



of Health was amended to increase license fees and penalties, to add specific time periods for fulfilling certain requirements, and to make license revocation or suspension subject to specified hearing rules.

*Equal employment opportunity.* An anti-discrimination law applicable to the private sector was enacted for the first time. Administered by a newly created Commission on Human Rights, the law prohibits discrimination by employers of 15 workers or more, unions, and employment agencies on the basis of race, color, handicap, religion, sex, national origin, or age. The Commission is empowered to receive and investigate complaints; to endeavor to eliminate alleged unlawful practices through conference, conciliation, and persuasion; to seek temporary injunctive relief; and to bring civil action if attempts to resolve the discriminatory practice are unsuccessful. Previously, laws prohibited discrimination in public employment only, and against handicapped persons.

By Executive Order, the Governor's Committee on Employment of the Handicapped was restructured and renamed the Governor's Committee for Disabled Persons. Among its functions, the committee is to encourage coordination between local, State, and Federal agencies in their activities to promote the employment and public awareness of persons with disabilities, encourage employer acceptance and placement of such workers, and advise in preparing and implementing a State plan for disabled persons.

*Employment and training.* A Job Training Partnership Act was passed for purposes of implementing the new Federal law. The State program is to be implemented and managed by the Department of Community Affairs, with policy development, planning, monitoring, and evaluation performed by a job-training and employment staff created in the Governor's Office.

*Other laws.* A State or local governmental body may not suspend or terminate the employment of, or otherwise discriminate against, a public employee who in good faith reports a violation of law to an appropriate law enforcement authority. In case of violation, the employee may bring a civil action for injunction or damages, or both, and the court may order reinstatement, back pay, and other relief.

Institutions of higher education are now entitled to obtain criminal record information pertaining to applicants for employment in security-sensitive positions, and to deny employment to any applicant for such a position who fails to provide a complete set of fingerprints upon request.

In a similar measure, the Department of Mental Health and Mental Retardation and certain community centers were authorized to obtain conviction data from law enforcement agencies that is relevant to applicants for employment in positions in direct contact with mentally ill patients or mentally retarded clients. Employment may be denied to applicants determined to be not qualified or suitable as a result of previous criminal conviction.

## Utah

*Hours.* Work in excess of 8 hours per day in smelters and underground mines or workings will no longer be unlawful in non-emergency situations if the Industrial Commission certifies in writing to the employer that such work is not detrimental to the life, health, safety, and welfare of the workers.

*Occupational safety and health.* Mine owners are to maintain rescue teams at each of their mines or otherwise ensure the availability of a mine rescue team in the event of an emergency, in accordance with Federal requirements. Any person who participates in a mine rescue operation and provides emergency care or assistance is not to be liable for damages arising from such actions.

Mine electricians must now be certified by the Industrial Commission.

*Other laws.* Contractors submitting bids on State contracts for supplies, services, or construction, who, when available, use products grown or manufactured in the State and employ State residents, will receive preference in the award of the contracts if their bid is within 5 percent of nonpreferred bidders, and if they agree to meet the low bid in writing within 72 hours after notification.

A new measure requires that prior to the award of a contract by the State or any of its political subdivision for a public works construction project, the contractor is to furnish the awarding agency a payment bond in an amount equal to the contract price for the protection of persons supplying labor or materials.

## Vermont

*Employment and training.* The Department of Employment and Training is to administer a public works jobs program to provide temporary employment of up to 18 weeks to unemployed residents of the State, meeting prescribed eligibility criteria.

## Virginia

*Wages.* A resolution requested the Commission on the Status of Women to study

the subject of equal pay for equal work for women in the State and to report and make recommendations to the Governor and legislature by October 1, 1983.

*Private employment agencies.* The employment agency advisory board was abolished and its functions were assumed by the existing Board of Commerce. Employer-paid agencies were specifically exempted from the law.

*Employment and training.* A work-study program, to be administered by the State Council of Higher Education, was established to provide financial assistance to students attending eligible postsecondary State institutions. Jobs created under the program are to be limited usually to part-time or summer employment that is career related, and may not displace employed workers.

The Joint Subcommittee to Study the Funding and Administration of Sheltered Workshops, established in 1982, was continued and is to complete its work in time to make recommendations to the 1984 General Assembly.

## Washington

*Equal employment opportunity.* A new law requires the State Department of Personnel and the Higher Education Personnel Board to adjust their salary and compensation plans at least annually to achieve comparable worth for the jobs of State employees by June 30, 1993. Comparable worth is defined as the provision of similar salaries for positions that require or impose similar responsibilities, judgments, knowledge, skills, and working conditions.

A Department of Services for the Blind was created to deliver a variety of services to blind persons including a program of vocational rehabilitation to assist them in overcoming vocational handicaps and to develop skills necessary for self-support and self-care. The State Commission for the Blind was abolished.

The State legislature urged the President and the Congress to renew efforts to pass an equal rights amendment to the U.S. Constitution.

*Occupational safety and health.* Among a number of changes in the law relating to elevators, lifting devices, and moving walks, administration of the law and rulemaking was assigned directly to the labor department rather than that department's Division of Industrial Safety and Health, and new provisions authorize suspending or revoking permits obtained through fraud or error or where the conveyance has become unsafe or was not properly installed or maintained. Other changes empower the department to assess a penalty against vi-



olators and authorize the Attorney General to take legal action against those who repeatedly violate the law.

*Employment and training.* A job skills program was established to provide short-term training designed for specific industries; train prospective employees before a new plant opens or an existing industry expands; train and retrain workers employed in an industry where necessary to avoid dislocation, or to provide upgrading of existing employees which would create new vacancies for unemployed persons; and to serve areas with high concentrations of economically disadvantaged persons and high unemployment, areas with new and growing industries, and areas with shortages of skilled labor.

A Youth Employment and Conservation Act was enacted to provide public service jobs, of up to 1 year's duration, for unemployed persons from 18 to 25 years of age in assignments addressing community needs and conservation problems and that will assist the community in economic development efforts. Such work is not to displace currently employed workers. Enrollees are to be assisted in the transition to permanent employment through such activities as orientation to the labor market, on-the-job training, and placement in the private sector. The act is to be administered by a Youth Employment Exchange with the Employment Security Department. A separate act creates a conservation corps, with similar enrollment requirements and project guidelines, to be implemented by several State departments concerned with the ecology and natural resources and coordinated by the Youth Employment Exchange.

*Other laws.* The Director of General Administration is to adopt and apply rules designed to provide some reciprocity in bidding on State purchasing between Washington and those States with in-State preferences of their own.

## West Virginia

*Worker privacy.* A new law requires the licensing of polygraph examiners by the Commissioner of Labor and prohibits private and public sector employers from requiring or requesting that employees or prospective employees take a polygraph or similar test as a condition of employment. Exempted are law enforcement agencies, State military forces, and employers authorized to manufacture, distribute, or dis-

pense certain drugs. Qualifications are specified for polygraph examiners, including taking a competency test conducted by the Commissioner, who is to promulgate rules governing administration of tests to employees.

*Occupational safety and health.* A Federal appellate court upheld the constitutionality of a 1981 State law requiring employer disclosure to employees of chemical hazards in the workplace. The court held, among other points, that the Federal Occupational Safety and Health Act does not preempt this State law because of differences between them, in that Federal standards cover exposure levels, whereas the State law seeks to implement a "notice and posting" standard.

*Employment and training.* An Emergency Employment Supplemental Matching Program was enacted, under which private employers may be reimbursed up to one-half of the employer's prevailing starting hourly wage for each eligible unemployed person hired for a period not to exceed 6 months. The State's contribution may not exceed the Federal minimum wage for a maximum 40-hour week.

*Other laws.* Until December 31, 1984, public works contracts will require that more than 50 percent of the nonmanagement personnel employed by the contractor and subcontractors must be State residents. During the same temporary period, in-State bidders on highway contracts financed entirely from State funds will receive preference over out-of-State bidders if their bids are no more than 5 percent higher, instead of the 2 percent as in the current law. Political subdivisions including boards of education may grant the same preference percentage to resident bidders who claim it.

## Wisconsin

*Equal employment opportunity.* A Women's Council was created to identify barriers that prevent women from fully and equally participating in all aspects of life, and to recommend changes including legislation to further women's economic and social equality.

*Employment and training.* The Governor's Employment and Training Office was directed to establish a statewide coordinated employment and training delivery system to meet the needs of persons un-

employable because of lack of skills or education. Also, a labor training program was established within the Department of Development to provide specialized job training to State residents in new technologies and industrial job skills to meet critical manpower needs where the training is not otherwise available.

## Wyoming

*Wages.* Court ordered garnishment of wages for child support has priority over all other garnishment or withholdings, and is limited to 30 percent of income if the parent is single and not supporting any other dependent child, or 25 percent if remarried or supporting another dependent child.

*Occupational safety and health.* An investigator of the Occupational Health and Safety Commission must give written notification to an employer immediately before an inspection starts, of the employer's right to refuse entry without a warrant. All contests of notice of violation, proposed penalty, or abatement periods for violations will no longer be heard by a commission review board, but by independent hearing officers, who will recommend a decision to the commission.

As part of a recodification of the mine safety law, a provision was added dealing with bonding of inspectors, and the maximum fine for willful violations was increased from \$200 to \$750.

*Employment and training.* A plan for displaced workers' education and training is to be established and maintained by the Division of Manpower Planning within the Office of the Governor. Occupational transfer and retraining programs and other services are to be provided for workers unemployed because of plant closures or major layoffs, those eligible for retraining under the Federal Trade Adjustment Assistance Act, and other unemployed workers as determined by the division's director.

*Other laws.* The law giving State residents employment preference on public works projects was amended to include skilled manual labor in addition to unskilled as before, and to increase the penalty for violation.

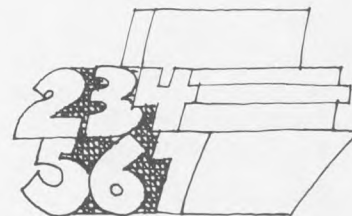
Employers are prohibited from discharging, threatening to discharge, or intimidating employees because of their jury service or attendance or scheduled attendance in connection with jury service. □

### FOOTNOTE

<sup>1</sup> Unemployment insurance and workers' compensation are not within the scope of this article. Separate articles on each of these subjects are included in this issue of the *Monthly Labor Review*. Kentucky was the only State in which the legislature did not meet in 1983. Sessions were

held in Arizona and the Virgin Islands, but no significant legislation was enacted in the fields covered by this article. Information on Puerto Rico was not received in time to include in this article, which is based on information received by November 10, 1983.

# The Anatomy of Price Change



## Producer Price trends continue moderate in the third quarter

CRAIG HOWELL, ANDREW CLEM,  
AND ROGER BURNS

Prices received by producers of finished goods rose at a seasonally adjusted annual rate of 2.5 percent during the third quarter of 1983, slightly below the 3.0 percent rate in the second quarter. By contrast, prices received by producers of intermediate goods doubled from a 3.3-percent seasonally adjusted annual rate in the second quarter to a 6.6-percent rate in the third. Crude material prices rose at a rate slightly less than the 6-percent rate recorded in the preceding quarter. (See table 1.) (*All percent changes in this report are annual rates unless otherwise indicated.*)

Among finished goods, the energy index slowed from 11.4 percent in the second quarter to a rate of 3.7 percent in the third. The finished consumer foods index turned up slightly, rising 1.5 percent from June to September after showing no change during the preceding 3 months. The index for finished goods other than foods and energy continued to rise modestly (2.8 percent in the third quarter, in the wake of 2.5 percent in the previous 3 months). Over the first 9 months of 1983, the Finished Goods Price Index inched up at a seasonally adjusted annual rate of just 0.2 percent, as a sharp drop in the first quarter was balanced by moderate advances in each of the subsequent quarters.

The general economy continued to improve during the third quarter, although the rate of growth was somewhat lower than the unusually high rate in the second quarter. Consumer spending remained robust for a broad range of goods, and businesses became more willing to accumulate inventories to keep up with demand. Although industrial production and capacity utilization rates continued to rise, expenditures for many kinds of capital investment goods lagged behind the overall recovery. The persistence of historically high U.S. interest rates dampened demand for residential construction and depressed foreign markets for American-made products. Inflation continued to be re-

strained by modest wage increases, improved productivity, the stage of the recovery, and stiff competition from imports; however, an unusually hot, dry summer devastated many portions of the agricultural sector and strongly affected the outlook for prices of foods in both the short and the long run.

## Finished goods

**Finished consumer goods.** The Producer Price Index for finished consumer goods moved up at an annual rate of 2.7 percent after seasonal adjustment, following a 3.3-percent increase from March to June. A substantial deceleration in price increases for household energy items, coupled with falling passenger car prices, offset a small upturn in food prices.

Within the finished energy goods category (most of its components are lagged 1 month), the gasoline index increased 5.5 percent, far below the 26.9 percent of the previous 3 months. The slowdown in inflation for home heating oil was somewhat less pronounced—9.5 versus 20.3 percent. Prices for most refined petroleum products tended to stabilize over the summer, after the last round of general price increases in the spring. The relatively high inflation rate in home heating oil prices partly reflected concern about the historically low levels of inventory as the new heating season approached. The natural gas index dropped for the second consecutive quarter, largely because of a serious oversupply in the face of weak demand. The September 1983 natural gas index was only 1.2 percent higher than in September 1982, in sharp contrast to its 21.2 percent jump between September 1981 and September 1982 and its 30.2 percent surge in the 12 months ended in September 1981.

The price index for new passenger cars dropped at a seasonally adjusted annual rate of 2.9 percent, somewhat larger than the second quarter drop. All of the third quarter decline occurred in September, when the index reflected the impact of the inventory liquidation allowances which domestic auto manufacturers traditionally grant their dealers to help close out the old model year. During the summer, consumer demand for new cars was far higher than in recent years, an expression of pent-up demand and renewed optimism among consumers following two recent, severe recessions. Demand was so strong that inventories in dealers' lots plunged to unusually low levels, in sharp contrast

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**Table 1. Percent changes in selected producer price indexes by stage of processing, 1982-1983**

Index	12 months ending Sept. 1983	Seasonally adjusted annual rate for 3 months ending—				
		Sept. 1982	Dec. 1982	Mar. 1983	June 1983	Sept. 1983
Finished goods . . . . .	1.4	4.2	5.2	-4.7	3.0	2.5
Finished consumer foods . . . . .	1.3	-7.7	.8	4.1	0	1.5
Finished energy goods . . . . .	-5.5	30.9	7.0	-35.5	11.4	3.7
Finished consumer goods excluding foods and energy . . . . .	2.9	4.2	7.9	-2.0	3.1	2.9
Capital equipment . . . . .	2.4	3.5	3.6	2.0	1.7	2.5
Intermediate materials, supplies, and components . . . . .	1.7	1.4	1.3	-4.0	3.3	6.6
Intermediate foods and feeds . . . . .	10.1	-13.7	-4.5	10.3	5.8	32.4
Intermediate energy goods . . . . .	-2.6	7.3	6.6	-22.5	2.6	11.6
Intermediate materials excluding foods and energy . . . . .	2.1	1.0	1.0	.8	2.9	4.0
Crude materials for further processing . . . . .	3.9	-12.2	1.5	2.9	6.0	5.6
Crude foodstuffs and feedstuffs . . . . .	6.0	-26.4	1.3	18.1	.8	5.9
Crude nonfood materials . . . . .	1.6	6.8	1.7	-11.3	12.1	5.3

to the excessive stocks that had plagued the industry for some time. As a result, some car manufacturers scaled back or discontinued some of their sales incentive programs, such as direct rebates to buyers and subsidies to banks that had agreed to give below-market financing. By raising the net unit proceeds received by producers, this served to offset, for the third quarter as a whole, some of the effect of the September liquidation allowances.

Prices for many kinds of consumer foods—such as processed poultry, fresh vegetables, and cooking oils—rose substantially during the third quarter because of reduced supplies due to the drought in many growing areas. For example, the drought boosted processed chicken prices both directly through its impact on the supply of chickens and indirectly through upward pressure on feed costs. Harvests of sweet and white potatoes, lettuce, tomatoes, and many other vegetables were severely reduced by the weather. Prices for some kinds of cooking oils processed from soybeans and other oilseeds soared because of extensive damage to the domestic soybean crop.

However, the impact of the adverse weather on food prices was muted, at least temporarily, by lower red meat prices. Many cattle and hog owners rushed to liquidate their herds to avoid the rapid runup in feed costs associated with the drought. The large number of cattle and hogs coming to market, including some breeding stock, kept prices for beef and pork falling for much of the third quarter. Once this liquidation process has run its course, however, it is expected that the relatively small remaining supply of livestock will lead to higher meat prices.

Among other consumer goods, prices for tobacco products and floor coverings turned up after declining during the first half of the year, and price increases accelerated for

cosmetics, luggage and small leather goods, lamps and bulbs, and prescription drugs. At the same time, however, substantial decreases were registered for costume jewelry, tires and tubes, glassware, and flatware. Price advances for most other consumer products remained moderate. The impulse towards raising prices to improve profits during a time of resurgent consumer demand was tempered or outweighed by the need to restrain price hikes to preserve or extend market shares in the face of strong foreign and domestic competition. Some firms increasingly concentrated on cutting production costs of higher-value specialty items that could be sold profitably without boosting prices.

*Capital equipment.* The Producer Price Index for capital equipment rose at a seasonally adjusted annual rate of 2.5 percent, somewhat more than in either the first or second quarters of 1983. Despite improved demand, declines in prices for heavy and light trucks at the end of the 1983 model year (September) helped to hold down the third quarter rise in this index. Prices for energy production machinery also moved down; however, demand for oilfield drilling and production equipment was notably higher than the low point reached this spring. Prices for most other kinds of capital equipment moved up sluggishly. Machinery producers generally were still waiting for the upsurge in other sectors of the economy to translate into improved demand for projects to modernize or expand industrial capacity.

### Intermediate goods

The index for Intermediate Materials, Supplies, and Components climbed at a 6.6-percent seasonally adjusted annual rate in the third quarter, up from a 3.3-percent rate in the previous quarter. The broad-based acceleration was evident in foods, energy, and a number of other products. The dominant influences were the overall economic expansion and the unusual heat experienced in major crop-producing areas of the country.

*Foods and feeds.* The intermediate foods and feeds index soared 32.4 percent, the highest since the fall of 1980. This year's hot summer reduced harvests of corn, soybeans, and other crops used in the processing of feeds and vegetable oils and, at the same time, boosted demand for feeds by damaging pastures. As a result, prices for prepared animal feeds climbed 17.5 percent from June to September (before compounding), and crude vegetable oil prices soared 65.6 percent, the largest quarterly rise on record. The climb in the index for animal fats and oils was also substantial, although less than what was registered for crude vegetable oils. Because items within these two categories are often substituted for each other, their price trends usually move in tandem.

*Energy.* The index for intermediate energy goods (which consist of products purchased by businesses) moved up 11.6



percent, after falling rapidly at the beginning of the year, then turning up in the late spring. Residual fuel prices advanced substantially, partly as the result of increased demand from industrial users. Utilities also purchased greater amounts of residual fuel in order to accommodate peak summer demand for electricity, as air conditioning usage in the hot summer was unusually high. The price index for this fuel had fallen in eight of the nine preceding calendar quarters, inducing many industrial plants and utilities which had switched to natural gas to switch back to residual fuel oil. The index for diesel fuel also turned up somewhat after recent declines, as the economic recovery spurred rail, truck, and ship freight traffic. Prices for coke oven products likewise turned up, partly reflecting improved conditions in the steel industry. In contrast, commercial jet fuel prices continued the steady decline evident for many months. The long-term contracts prevalent in this market result in a pattern of price movements which typically lags behind other refined petroleum products.

*Manufacturing materials.* The index for nondurable manufacturing materials rose 9.3 percent, after declining during the first half of the year. Prices for industrial chemicals moved up 9.5 percent, the first significant increase in two years, even though costs for crude petroleum had remained virtually flat. Similarly, the index for plastic resins and materials registered an accelerated increase because of increased petrochemical costs and strengthened demand from domestic makers of plastic construction and automotive products and from foreign buyers. Prices for inedible fats and oils continued to rise sharply in line with the recent surge in oilseed prices. Higher oilseed prices were also a major cause of the substantial upturn in the index for paint materials. Generally, improved demand was responsible for accelerated price increases for both processed yarns and paper.

The index for durable manufacturing materials slowed from an 8.9-percent increase to 1.9 percent between the second and third quarters. However, this was largely due to a downturn in the index for jewelers' materials and findings, which had soared in the preceding quarter. Burdensome supplies in world markets led to lower prices for primary copper and tin after relatively little movement in the second quarter.

Most other types of durable materials displayed larger increases compared to the previous quarter. The PPI for steel mill products recorded an 11.2-percent advance, following a year and a half of virtually flat prices. The increases were concentrated in carbon sheet and strip, which are widely used by the expanding automotive industry. Continued weak demand from some sectors, such as capital equipment manufacturers, prevented significant price advances for most other kinds of steel. Improved demand led to sizable increases for aluminum, hardwood lumber, and Portland cement.

*Construction materials.* The index for construction materials and components moved up 1.7 percent, even less than in other recent quarters. Renewed uncertainty over the strength of the recovery in housing construction was reflected in mixed price signals among various products. The annual rate of new private housing starts reached a peak of nearly 1.9 million units in August after a fairly steady climb dating from the end of 1981. However, an upturn in mortgage interest rates which began in late spring threatened the housing industry once again.

Prices for gypsum products (such as wallboard) rose very sharply, as the dominant firms in this industry moved to restore sagging profit margins while supplies tightened. In addition, asphalt roofing prices experienced the first quarterly increase in a year. Improved demand was a key element in price advances for plastic construction products, millwork, and asphalt paving mixtures.

The softwood lumber industry, which had experienced major gains in prices and production earlier in the year, was quickly affected by indications of a downturn in the housing market. In fact, prices for both softwood lumber and plywood began to fall in July, while actual housing construction starts did not turn down until September. Domestic producers had kept lumber inventories down during the recession, but by July it was apparent that output was running ahead of demand. Labor problems in Canadian sawmills had little effect on the high level of imports into the U.S., which further contributed to the oversupply of lumber.

*Other intermediate goods.* The index for electronic components rose 10.3 percent, far more than in most recent times. After a prolonged slump, manufacturers of semiconductors began to rebuild output levels, as demand for certain devices such as random access memory chips pulled prices sharply higher. The economic recovery also contributed to price hikes for electric motors and generators, photographic supplies, and glass containers. Prices were lower, however, for internal combustion engines and fertilizers.

### Crude materials

The Producer Price Index for Crude Materials for Further Processing increased at a seasonally adjusted annual rate of 5.6 percent, following a 6.0-percent advance in the preceding 3 months. A marked third quarter acceleration in price increases for foodstuffs was balanced by a slowdown in inflation for nonfood items.

*Foodstuffs.* The index for crude foodstuffs and feedstuffs increased 5.9 percent at a seasonally adjusted annual rate. Third quarter price movements among crude foodstuffs were dominated by the effects of the summer's unusually hot and dry weather. The price level for soybeans was 49.7 percent higher in September (before compounding) than in June, with similar increases for other oilseeds. This steep climb was due to the crop-damaging weather, tight stock holdings

by farmers, and higher demand for animal feeds. Soybean yields were down one-fifth from 1982. The price level for corn rose 7.8 percent over the quarter (before compounding) as a result of the summer weather, tight farmer holdings, and a reduction in planted acreage by the Federal payment-in-kind (PIK) program. The drought was the overriding reason that corn yields fell more than one-fourth from 1982. Prices for hay, barley, oats, and rye also surged because of the heat wave.

Although affected by both the drought and by acreage reduction, corn prices were less volatile than soybean prices for several reasons. There is usually a fairly consistent ratio between the prices for corn and soybeans because they can substitute for each other in their primary use as feedstuffs. In the first half of the year, corn prices increased substantially because of acreage reduction, while soybean prices were depressed by high inventories and a low volume of exports (due to the strong dollar). Consequently, a realignment of these prices was expected. In the summer, corn price increases caused by the crop-damaging weather were moderated by high inventories from previous bumper harvests. Once prices started moving, the overdue correction for the abnormal shift in the corn-soybean price ratio also dampened corn price increases while pulling up soybean prices.

An abundant wheat crop, harvested for the most part before the onset of severely hot weather, caused prices to fall in July. The good harvest was augmented by the simultaneous release of payment-in-kind wheat stocks to farmers. Prices for wheat rose for the rest of the quarter, pulled up by other grain prices as well as by the base price for the U.S. loan program. Many farmers realized that they could net more dollars per bushel by borrowing against their wheat than by selling at the low July market price. Thus, less wheat was available for markets, and prices approached the loan program base price.

Expanded livestock production combined with higher feed costs caused livestock farmers to cut back their herds and add to their already large marketings, bringing livestock prices down. Much grazing land for cattle was parched because of the drought, and prospective feed costs were likely to rise as well. As a result, cattle farmers reduced their large 1983 inventory by raising slaughter rates and cutting back breeding stock, which increased current marketings and lowered prices. Hog prices showed a brief in-

crease in August when hot weather prompted farmers to ship fewer hogs to market, to prevent suffocation in transport. However, September prices resumed their long downward trend begun early in the year. Live poultry stocks, which had already been reduced in the spring because of rising feed costs, experienced a slower rate of weight gain in the summer's hot weather, further reducing marketings. The resulting sharp price increases were strengthened by reports of high mortality rates.

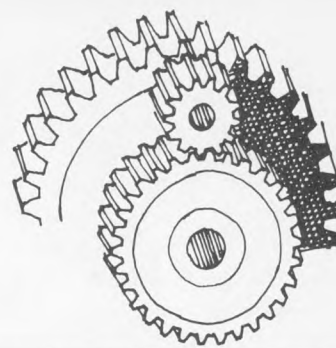
*Sensitive industrial materials.* The index for crude non-food materials other than energy rose 20.2 percent at a seasonally adjusted annual rate. Aluminum base scrap prices climbed very sharply for the third consecutive quarter on the strength of robust demand from the transportation and construction sectors. Prices for iron and steel scrap showed small increases as demand from steel mills remained steady. On the other hand, copper base scrap prices fell, reflecting the overall weakness in copper markets.

Raw cotton prices continued to rise, as they had during the first half of the year; apparel demand improved, and cotton production was curtailed by the PIK program. Cattle hide prices advanced strongly, as good demand continued. However, the increase was smaller than in the second quarter because of expanded slaughtering. Prices for crude natural rubber turned up; demand increased and production was cut back in response to the second quarter's excess supplies.

Contrary to this general upward trend, potash prices plummeted. Demand for potash is tied to fertilizer needed for corn plantings, which had been lowered by the spring acreage reduction. Large end-of-season surpluses of potash led to heavy discounting in early summer.

*Crude energy materials.* Third quarter prices for crude energy materials showed the smallest decreases of the year. Natural gas prices fell for the second consecutive quarter. The index for natural gas reached a peak last March after steadily climbing for several years as a result of legislation phasing out price controls. In reaction to these rising prices, industrial users adjusted their demand downwards, in part by switching to residual fuel oil. These market changes began to be felt at the producer's level during the second and third quarters. Also, the Canadian government lowered their export prices during the third quarter to preserve their share of the U.S. natural gas market. □

# Productivity Reports



## Productivity declined in 1982 in a majority of industries measured

ARTHUR S. HERMAN

Productivity, as measured by output per employee hour, declined in 1982 in more than half of the industries for which the Bureau of Labor Statistics regularly publishes data. This falloff is in contrast to 1981, when most industries recorded productivity gains. The 1982 productivity drop in a majority of the industries is consistent with the situation in the nonfarm business sector of the economy, where productivity declined 0.1 percent.

Table 1 shows productivity trends in industries measured by the Bureau and includes new measures introduced for additional industries: miscellaneous plastics products, instruments to measure electricity, valves and pipefittings, fabricated pipe, red meat products (including separate measures for meatpacking plants and sausages), switchgear and switchboard apparatus, and apparel and accessory stores (including separate measures for men's and boys' clothing stores, women's ready-to-wear clothing stores, family clothing stores, and shoe stores).<sup>1</sup>

### Changes by industry

**Manufacturing.** The steel industry, one of the more important industries covered, had a steep 1982 productivity decline of 19.5 percent as output dropped sharply—40.1 percent. These declines in productivity and output were the largest since the measure was begun in 1947. Demand fell in almost all steel markets, as the industry was severely affected by the economic slowdown. The 1982 productivity falloff in this industry is in contrast to a large gain (8.8 percent) in 1981. Another key industry, motor vehicle manufacturing, posted a productivity gain of 5.7 percent in 1982, its second annual productivity increase after 3 years of declines. A drop in output of motor vehicles of 6.5 percent was more than offset by a decline in employee hours.

Many of the basic metal and metal fabricating industries also were adversely affected by the economic downturn and experienced large declines in productivity. Steel foundries had a productivity decrease of 21.5 percent, as output fell 41.2 percent. As in the basic steel industry, both the productivity and the output drops in steel foundries were the

greatest since the measure for this industry was begun in 1954. Other metal-related industries with large productivity drops included: metal forming machine tools (-13.1 percent); copper rolling and drawing (-9.4 percent); primary aluminum (-6.5 percent); primary copper (-4.2 percent); and gray iron foundries (-4.0 percent). These industries recorded output declines of more than 20 percent in 1982.

Many other manufacturing industries recorded large productivity drops in 1982. Several of these can be attributed to the lowered construction activity in 1982: construction machinery, in which productivity declined 16.0 percent as output dropped steeply, 37.9 percent; brick and structural clay tile, with productivity down 11.9 percent and output down 26.0 percent; clay refractories, in which productivity fell 10.2 percent and output dropped 34.0 percent; and clay construction products, in which productivity decreased 6.1 percent and output fell 20.3 percent.

Although some manufacturing industries posted productivity gains in 1982, most of these advances resulted from hours dropping more sharply than output. Among the industries with large increases were: metal cans (12.5 percent); glass containers (7.8 percent); household furniture (7.4 percent); household refrigerators and freezers (6.6 percent); sawmills and planing mills (4.4 percent); corrugated and solid fiber boxes, and folding paperboard boxes (both 4.1 percent); and flour and other grain mill products (4.0 percent). Of these industries, only metal cans and flour had gains in output in 1982 and these were less than 1 percent.

**Mining.** With the exception of copper mining, all of the mining industries covered experienced productivity declines in 1982, whereas in 1981, all the industries except nonmetallic minerals posted gains. Iron mining (usable ore) had a large 1982 drop in productivity of 14.9 percent. Productivity decreased 7.5 percent in nonmetallic minerals, as output fell 13.7 percent, because of the slowdown in construction activity. Construction is the major market for nonmetallic minerals. Productivity in coal mining dropped 5.2 percent as output was up slightly, but hours increased even more. On the other hand, copper mining (recoverable metal) recorded a large productivity increase of 14.5 percent. However, this gain was based on a very large decline in output of 25.9 percent, as demand for copper fell off sharply, and an even larger drop in hours as many mines were closed in 1982.

**Transportation and utilities.** Productivity changes were mixed among transportation and utility industries. Produc-

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Table 1. Indexes of output per employee hour in selected industries, 1977-82, and percent changes 1981-82 and 1977-82

SIC code <sup>1</sup>	Industry	1977	1978	1979	1980	1981	1982 <sup>2</sup>	Percent change, 1981-82	Average annual percent change, 1977-82
<b>Mining</b>									
1011	Iron mining, crude ore	100.0	116.8	125.5	129.0	139.0	116.0	-16.5	3.8
1011	Iron mining, usable ore	100.0	119.2	125.6	127.5	136.8	116.4	-14.9	3.5
1021	Copper mining, crude ore	100.0	109.6	108.8	99.1	101.4	103.1	1.7	-0.5
1021	Copper mining, recoverable metal	100.0	107.6	97.8	91.3	97.2	111.3	14.5	0.5
111,121	Coal mining	100.0	106.4	99.4	112.5	122.2	115.9	-5.2	3.7
121	Bituminous coal and lignite mining	100.0	106.7	99.6	112.6	122.7	116.9	-4.7	3.9
14	Nonmetallic minerals, except fuels	100.0	104.6	102.4	96.2	96.0	88.8	-7.5	-2.6
142	Crushed and broken stone	100.0	109.0	108.4	103.3	100.7	96.5	-4.2	-1.3
<b>Manufacturing</b>									
2011,13	Red meat products	100.0	99.1	102.9	108.1	109.8	(3)	(3)	42.8
2011	Meatpacking plants	100.0	101.4	106.5	110.9	116.8	(3)	(3)	44.1
2013	Sausages and other prepared meats	100.0	93.6	94.6	101.8	94.3	(3)	(3)	4-0.3
2026	Fluid milk	100.0	108.0	116.3	124.8	129.3	133.4	3.2	-6.0
203	Preserved fruits and vegetables	100.0	104.4	99.3	101.2	99.6	(3)	(3)	4-0.4
2033	Canned fruits and vegetables	100.0	103.7	101.4	100.6	99.7	(3)	(3)	4-0.4
204	Grain mill products	100.0	100.4	102.2	107.5	112.9	(3)	(3)	43.2
2041	Flour and other grain mill products	100.0	101.5	98.5	99.8	98.8	102.8	4.0	0.2
2043	Cereal breakfast foods	100.0	101.7	107.6	106.5	110.0	(3)	(3)	42.4
2044	Rice milling	100.0	92.7	96.3	111.8	117.9	(3)	(3)	45.3
2045	Blended and prepared flour	100.0	92.5	91.0	104.8	104.6	(3)	(3)	42.2
2046	Wet corn milling	100.0	102.0	110.8	129.2	143.8	(3)	(3)	410.1
2047,48	Prepared feeds for animals and fowls	100.0	100.8	102.0	106.2	112.6	(3)	(3)	42.9
205	Bakery products	100.0	97.2	94.1	92.3	94.3	91.7	-2.8	-1.5
2061,62,63	Sugar	100.0	101.0	109.1	109.1	111.2	110.4	-0.7	2.3
2061,62	Raw and refined cane sugar	100.0	100.7	107.3	107.8	111.1	108.7	-2.2	2.1
2063	Beet sugar	100.0	101.2	110.9	111.7	111.4	113.1	1.5	2.6
2082	Malt beverages	100.0	100.0	107.4	112.1	113.0	112.7	-0.3	2.9
2086	Bottled and canned soft drinks	100.0	104.5	105.6	109.8	114.3	117.8	3.1	3.3
2111,21,31	All tobacco products	100.0	102.8	102.2	102.2	100.6	100.3	-0.3	-0.1
2111,31	Cigarettes, chewing and smoking tobacco	100.0	103.8	102.1	101.1	98.9	98.5	-0.4	-0.7
2121	Cigars	100.0	98.2	103.7	110.3	112.5	113.0	0.4	3.1
2251,52	Hosiery	100.0	101.4	106.5	105.3	118.6	115.0	-3.0	3.4
2281	Nonwool yarn mills	100.0	104.2	103.9	99.8	103.2	103.1	-0.1	0.2
2421	Sawmills and planing mills, general	100.0	101.4	104.6	101.8	104.5	109.1	4.4	1.4
2431	Millwork	100.0	90.4	92.3	92.7	96.9	(3)	(3)	4-0.4
2435,36	Veneer and plywood	100.0	101.7	94.6	102.7	107.8	(3)	(3)	41.6
2435	Hardwood veneer and plywood	100.0	100.7	97.8	104.1	102.2	(3)	(3)	40.8
2436	Softwood veneer and plywood	100.0	102.1	93.4	102.7	112.4	(3)	(3)	42.4
251	Household furniture	100.0	104.6	101.3	99.7	102.6	110.2	7.4	1.2
2511,17	Wood household furniture	100.0	104.9	101.5	97.1	97.0	(3)	(3)	4-1.4
2512	Upholstered household furniture	100.0	108.8	104.9	101.9	110.1	(3)	(3)	41.3
2514	Metal household furniture	100.0	97.4	89.9	93.1	97.9	(3)	(3)	4-0.9
2515	Mattresses and bedsprings	100.0	101.4	102.6	111.9	113.7	(3)	(3)	43.6
252	Office furniture	100.0	100.1	107.3	112.5	109.1	(3)	(3)	43.0
2521	Wood office furniture	100.0	100.7	110.7	109.2	99.4	(3)	(3)	40.7
2522	Metal office furniture	100.0	99.9	104.8	114.4	114.7	(3)	(3)	44.2
2611,21,31,61	Paper, paperboard, and pulp mills	100.0	103.2	105.4	105.2	105.2	106.6	1.3	1.1
2643	Paper and plastic bags	100.0	99.9	97.6	94.0	91.7	(3)	(3)	4-2.3
2651	Folding paperboard boxes	100.0	102.8	101.4	97.1	98.6	102.6	4.1	-0.1
2653	Corrugated and solid fiberboard boxes	100.0	103.5	107.1	111.3	110.2	114.7	4.1	2.6
2823,24	Synthetic fibers	100.0	105.2	115.0	115.7	120.9	105.4	-12.8	2.0
2834	Pharmaceutical preparations	100.0	99.0	106.4	107.3	105.8	(3)	(3)	42.0
2841	Soaps and detergents	100.0	105.2	104.0	108.4	105.9	(3)	(3)	41.5
2844	Cosmetics and other toiletries	100.0	99.3	93.1	82.5	74.9	(3)	(3)	4-7.3
2851	Paints and allied products	100.0	104.7	105.7	101.8	102.5	98.7	-3.7	-0.5
2911	Petroleum refining	100.0	101.3	94.9	94.2	83.7	82.5	-1.4	-4.3
301	Tires and inner tubes	100.0	108.8	109.5	105.6	123.2	122.0	-1.0	3.9
3079	Miscellaneous plastics products	100.0	100.8	94.8	95.7	98.5	3	(3)	4-0.8
314	Footwear	100.0	102.5	100.2	99.1	97.0	91.1	-6.1	-1.8
3221	Glass containers	100.0	101.4	106.7	112.0	118.7	127.9	7.8	5.1
3241	Hydraulic cement	100.0	101.3	96.0	87.0	91.1	92.0	1.0	-2.4
325	Structural clay products	100.0	102.6	96.1	97.8	100.9	93.7	-7.1	-1.0
3251,53,59	Clay construction products	100.0	102.6	92.1	94.8	98.4	92.4	-6.1	-1.4
3251	Brick and structural clay tile	100.0	96.5	85.8	85.6	85.2	75.1	-11.9	-5.0
3253	Ceramic wall and floor tile	100.0	115.3	111.8	120.3	126.5	(3)	(3)	45.3
3255	Clay refractories	100.0	102.9	109.1	108.0	109.0	97.9	-10.2	0.2
3271,72	Concrete products	100.0	98.6	94.6	93.2	92.5	(3)	(3)	4-2.1
3273	Ready-mixed concrete	100.0	103.1	99.9	93.1	95.4	(3)	(3)	4-1.9
331	Steel	100.0	108.3	106.9	102.9	112.0	90.2	-19.5	-1.3
3321	Gray iron foundries	100.0	102.1	96.8	90.8	92.5	88.8	-4.0	-2.7
3324,25	Steel foundries	100.0	98.1	99.4	99.1	90.8	71.3	-21.5	-5.4
3331,32,33	Primary copper, lead, and zinc	100.0	96.5	106.5	103.7	118.5	116.7	-1.5	4.0

See footnotes at end of table.

**Table 1. Continued—Indexes of output per employee hour in selected industries, 1977–82, and percent changes 1981–82 and 1977–82**

SIC code <sup>1</sup>	Industry	1977	1978	1979	1980	1981	1982 <sup>2</sup>	Percent change, 1981–82	Average annual percent change, 1977–82
331	Primary copper	100.0	99.4	113.3	105.3	124.4	119.2	-4.2	4.3
334	Primary aluminum	100.0	99.6	99.7	100.0	103.8	97.1	-6.5	-0.1
3351	Copper rolling and drawing	100.0	100.3	98.5	95.0	99.3	90.0	-9.4	-1.7
3353,54,55	Aluminum rolling and drawing	100.0	104.6	101.5	101.9	99.4	99.9	0.5	-0.4
3411	Metal cans	100.0	102.3	103.6	102.6	108.1	121.6	12.5	3.3
3423	Hand and edge tools	100.0	100.6	104.3	99.0	95.8	(3)	(3)	4-1.0
3441	Fabricated structural metal	100.0	100.4	102.0	101.9	98.3	(3)	(3)	4-0.2
3494	Valves and pipe fittings	100.0	100.9	104.3	101.4	103.5	(3)	(3)	40.7
3498	Fabricated pipe and fittings	100.0	100.7	90.1	89.9	93.1	(3)	(3)	4-2.5
352	Farm and garden machinery	100.0	101.0	103.3	96.3	98.6	(3)	(3)	4-0.8
3523	Farm machinery	100.0	98.4	100.2	94.0	98.0	(3)	(3)	4-0.9
3524	Lawn and garden equipment	100.0	108.6	113.9	107.0	101.3	(3)	(3)	40.1
3531	Construction machinery and equipment	100.0	105.8	100.3	97.4	96.1	80.7	-16.0	-3.9
3541,42	Machine tools	100.0	102.5	101.9	98.7	96.5	87.5	-9.3	-2.5
3541	Metal cutting machine tools	100.0	103.6	103.1	100.9	99.3	91.3	-8.1	-1.7
3542	Metal forming machine tools	100.0	99.9	98.4	92.4	88.0	76.5	-13.1	-5.0
3561,63	Pumps and compressors	100.0	102.6	102.5	99.6	102.7	(3)	(3)	40.2
3561	Pumps and pumping equipment	100.0	101.1	100.7	96.9	100.6	(3)	(3)	4-0.3
3563	Air and gas compressors	100.0	105.5	106.1	105.5	106.8	(3)	(3)	41.3
3562	Ball and roller bearings	100.0	105.6	105.3	94.7	93.4	86.4	-7.5	4-3.4
3612	Transformers	100.0	103.4	108.5	110.8	107.0	103.1	-3.6	0.8
3613	Switchgear and switchboard apparatus	100.0	102.4	102.7	102.6	98.4	97.1	-1.3	-0.8
3621	Motors and generators	100.0	98.6	97.9	94.9	97.7	101.3	3.7	(5)
3631,32,33,39	Major household appliances	100.0	100.5	108.9	105.9	108.1	106.3	-1.7	1.4
3631	Household cooking equipment	100.0	100.3	108.5	103.4	104.9	91.2	-13.1	-1.1
3632	Household refrigerators and freezers	100.0	98.4	112.2	114.3	117.2	124.9	6.6	4.8
3633	Household laundry equipment	100.0	102.3	108.2	102.2	104.0	103.5	-0.5	0.5
3639	Household appliances, not elsewhere classified	100.0	104.0	104.3	101.6	103.9	113.0	8.8	1.7
3641	Electric lamps	100.0	103.0	106.2	104.7	108.8	111.5	2.5	2.0
3645,46,47,48	Lighting fixtures	100.0	100.6	95.0	93.9	89.4	85.1	-4.8	-3.3
3651	Radio and television receiving sets	100.0	113.1	118.2	116.4	126.9	(3)	(3)	45.2
371	Motor vehicles and equipment	100.0	99.7	98.5	92.2	95.0	100.4	5.7	-0.5
3825	Instruments to measure electricity	100.0	100.3	99.0	106.3	109.1	(3)	(3)	42.4
	<b>Other</b>								
401	Railroad transportation, revenue traffic	100.0	104.5	104.7	107.3	111.7	115.9	3.8	2.8
401	Railroad transportation, car miles	100.0	102.8	102.9	107.9	107.6	109.7	2.0	1.9
4111,31,414	Class I bus carriers	100.0	96.7	98.3	100.8	90.9	92.7	2.0	-1.5
PT	Intercity trucking <sup>6</sup>	100.0	99.8	98.6	94.3	98.7	(3)	(3)	4-0.8
4213 PT	Intercity trucking, general freight <sup>6</sup>	100.0	98.6	96.6	87.9	92.5	(3)	(3)	4-2.7
4213 PT	Air transportation <sup>6</sup>	100.0	109.3	113.1	106.2	104.9	114.4	9.1	1.4
4511,21 PT	Petroleum pipelines	100.0	101.7	101.7	93.0	86.0	85.9	-0.1	-3.8
4612,13	Telephone communications	100.0	105.8	110.8	118.1	124.4	130.1	4.6	5.5
4811	Gas and electric utilities	100.0	98.2	97.6	96.2	94.4	90.0	-4.7	-1.9
491,492,493	Electric utilities	100.0	96.8	95.4	94.0	93.1	89.8	-3.5	-1.9
491,493 PT	Gas utilities	100.0	101.4	103.4	102.1	98.0	90.2	-8.0	-1.8
492,493 PT	Retail food stores <sup>7</sup>	100.0	96.0	98.3	101.3	100.7	101.6	0.9	0.7
54									
5511	Franchised new-car dealers	100.0	98.6	94.6	99.5	96.6	97.0	0.4	-0.5
5541	Gasoline service stations <sup>7</sup>	100.0	104.5	109.8	108.3	111.7	119.7	7.2	3.1
56	Apparel and accessory stores <sup>7</sup>	100.0	110.0	112.0	116.4	123.6	129.4	4.7	4.9
5611	Men's and boys' clothing stores <sup>7</sup>	100.0	105.4	110.5	110.0	117.5	118.6	0.9	3.4
5621	Women's ready-to-wear stores <sup>7</sup>	100.0	111.3	115.0	116.2	124.3	130.1	4.7	4.8
5651	Family clothing stores <sup>7</sup>	100.0	96.4	99.6	109.6	116.3	114.9	-1.2	3.9
5661	Shoe stores <sup>7</sup>	100.0	108.7	111.2	107.7	109.3	115.2	5.4	2.0
58	Eating and drinking places <sup>7</sup>	100.0	99.3	99.4	99.5	97.2	98.9	1.7	-0.3
5912	Drug and proprietary stores <sup>7</sup>	100.0	102.3	102.9	105.6	104.7	103.3	-1.3	0.7
602	Commercial banking	100.0	101.2	99.3	92.7	90.6	(3)	(3)	4-2.8
7011	Hotels, motels, and tourist courts <sup>7</sup>	100.0	103.1	102.4	98.6	96.7	90.1	-6.8	-2.1
721	Laundry and cleaning services <sup>7</sup>	100.0	100.6	94.0	87.7	85.0	87.1	2.5	-3.6

<sup>1</sup>As defined in the *Standard Industrial Classification Manual 1972* published by the U.S. Office of Management and Budget.

<sup>2</sup>Preliminary data.

<sup>3</sup>Not available.

<sup>4</sup>Percent change, 1977–81.

<sup>5</sup>Rate of change is less than 0.05 percent.

<sup>6</sup>Output per employee.

<sup>7</sup>Output per hour of all persons.

NOTE: Although the output per employee hour measures relate output to the hours of all employees engaged in each industry, they do not measure the specific contribution of labor, capital, or any other single factor of production. Rather, they reflect the joint effects of many influences, including new technology, capital investment, the level of output, capacity utilization, energy use, and managerial skills, as well as the skills and efforts of the work force. Some of these measures use a labor input series that is based on hours paid and some use a labor input series that is based on plant hours.

tivity was up 9.1 percent in air transportation, as output grew 3.7 percent and employee hours fell 5.0 percent. In railroads (revenue traffic), productivity grew 3.8 percent. Although railroad output dropped 12.1 percent because of declines in freight and passenger service caused in part by the economic downturn, hours fell even more. This was the third consecutive year that railroad output declined. Productivity grew 2.0 percent for bus carriers, as output was up 1.0 percent and hours fell 1.0 percent. The 1982 productivity gain in this industry was in contrast to a sharp decline of 9.8 percent in 1981. In petroleum pipelines, productivity dropped 0.1 percent, the third consecutive annual decline in this industry.

Productivity was up 4.6 percent in the telephone communications industry as output grew 2.9 percent and employee hours dropped 1.6 percent. This increase extended the gains in this industry which have been recorded since the measure was begun in 1951. Productivity continued to decline in gas utilities (-8.0 percent) and electric utilities (-3.5 percent) in 1982. Output of gas utilities fell 7.1 percent because of a lack of demand from the industrial sector which can be attributed to the economic slowdown; however, employee hours were up slightly, because of growth in the overall number of customers. In electric utilities, where output declines have been very unusual, output fell 0.5 percent, while hours were up slightly, resulting in the 1982 falloff.

*Trade and services.* Productivity increased in most of the trade and service industries. Gasoline service stations posted a productivity advance of 7.2 percent as output grew slightly (0.9 percent), and employee hours fell 5.9 percent. Other industries with gains were: laundries and cleaning services (2.5 percent); eating and drinking places (1.7 percent); retail food stores (0.9 percent); and franchised new-car dealers (0.4 percent). However, productivity in the hotel and motel industry declined sharply, 6.8 percent. There was a large drop in output in this industry because of the economic slowdown, which affected both business and vacation travel, but hours were up slightly as new buildings were completed and staffed. Productivity also fell in the drug and proprietary store industry (-1.3 percent).

### Trends, 1977-82

Except for metal forming machine tools, all the industries measured have recorded average annual rates of gain in productivity over the long term (1947-82 for many of the industries). However, over the more recent period, 1977-82, nearly half of the industries posted declining rates of productivity. In addition, about three-quarters of the industries had lower rates of productivity during 1977-82 than in the preceding long-term period (1947-77 for many industries). This slowdown in productivity in the more current period matches the trend in the nonfarm business sector of

the economy, in which productivity recorded no growth from 1977 to 1982, compared with an average annual gain of 2.3 percent from 1947 to 1977.

*Gains.* In recent years, the wet corn milling industry had the highest rate of productivity gain, an average of 10.1 percent per year from 1977 to 1981 (1982 data are not yet available). Output in this industry increased at the high rate of 8.6 percent per year as the markets for high fructose syrup, one of the industry's key products, continued to expand. Especially noteworthy was the growth in demand for the syrup from the soft drink industry. During this period, several new plants in the wet corn milling industry were opened and a significant amount of highly automatic manufacturing equipment came on line. The industry with the second highest rate of productivity growth was fluid milk, with an annual rate of gain of 6.0 percent from 1977 to 1982. Although output did not grow over the period, hours dropped sharply, as large new plants, using highly automatic computerized processing equipment, replaced older, less efficient plants. Other industries with high rates of growth were: telephone communications (5.5 percent); rice milling and ceramic wall and floor tile (both 5.3 percent from 1977 to 1981); radio and television sets (5.2 percent from 1977 to 1981); and glass containers (5.1 percent).

*Declines.* Among the numerous industries with declining productivity rates over the more recent period, the largest falloff was in cosmetics—7.3 percent annually from 1977 to 1981. Output in this industry dropped sharply, in contrast to its previous high rate of gain, partly because of the impact of the economic slowdown as consumers purchased fewer impulse and luxury items.

Other industries with large declines during 1977-82 included: steel foundries (-5.4 percent); brick and structural clay tile and metal forming machine tools (both -5.0 percent); petroleum refining (-4.3 percent); construction machinery (-3.9 percent); and petroleum pipelines (-3.8 percent). Except for petroleum pipelines, these industries recorded average annual declines in output from 1977 to 1982. Many of these decreases were quite large.

A full report, *Productivity Measures for Selected Industries, 1954-82*, BLS Bulletin 2189, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. □

#### —FOOTNOTE—

<sup>1</sup> For a detailed report on these industries, see the following *Monthly Labor Review* articles: James D. York, "Productivity growth in plastics lower than all manufacturing average," September 1983, pp. 17-21; Barbara J. Bingham, "Instruments to measure electricity: industry's productivity growth rises," October 1983, pp. 11-17; and Horst Brand and Clyde Huffstutler, "Productivity in two fabricated metals industries," October 1983, pp. 18-24. Articles on the red meat products, switchgear, and apparel and accessory stores industries will appear in forthcoming issues of the *Review*.





# Major Agreements Expiring Next Month

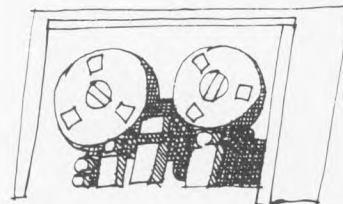
This list of selected collective bargaining agreements expiring in February is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Labor organization <sup>1</sup>	Number of workers
American Can Company (Interstate)	Fabricated metal products	Steelworkers	5,000
AMF Incorporated (York, Pa.)	Transportation equipment	Machinists	1,500
Campbell Soup Company (Camden, N.J.)	Food products	Food and Commercial Workers	1,250
Continental Can Company, U.S.A. master agreement (Interstate)	Fabricated metal products	Steelworkers	12,000
Crown Cork & Seal Company, Inc. (Philadelphia, Pa.)	Fabricated metal products	Steelworkers	1,450
Dennison Manufacturing Company, National Blank Book Company, Inc. (Holyoke, Mass.)	Printing and publishing	Graphic Communications	1,400
Exxon Company, U.S.A., Bayway Refinery and Exxon Chemicals Americas, Bayway Chemical Plant (Linden, N.J.)	Petroleum	Teamsters (Ind.)	1,150
Fieldcrest Mills, Inc. (Georgia, North Carolina, and Virginia)	Textiles	Clothing and Textile Workers	6,500
Grand Union Company, Weingarten Region (Houston, Tex.)	Retail trade	Food and Commercial Workers	2,100
Kroger Co. (Houston, Tex.)	Retail trade	Food and Commercial Workers	3,250
Long Beach and Orange County Restaurant Association (California)	Restaurants	Hotel Employees and Restaurant Employees	3,500
Midtown Realty Owners Association, Inc. (New York, N.Y.)	Real estate	Service Employees	2,500
Piper Aircraft Corporation (Lock Haven, Pa.)	Transportation equipment	Machinists	1,600
Printing Industries of Metropolitan New York, Inc., Printers League Section (New York, N.Y.)	Printing and publishing	Graphic Communications	2,300
PPG Industries, Inc. (Maryland, Missouri, and Pennsylvania)	Stone, clay, and glass products	Aluminum, Brick and Glass Workers	2,200
Quaker Oats Company (Cedar Rapids, Iowa)	Food products	Retail, Wholesale and Department Store	1,050
Rochester Telephone Corporation (Rochester, N.Y.)	Communication	Communications Workers	1,000
Rohr Industries, Inc. (Chula Vista, Calif.)	Transportation equipment	Machinists	5,000
Rohr Industries, Inc. (Riverside, Calif.)	Transportation equipment	Machinists	1,850
San Diego Gas and Electric Company (San Diego, Calif.)	Utilities	Electrical Workers (IBEW)	2,300
Universal Manufacturing Corporation (Mendenhall, Miss.)	Electrical products	Electrical Workers (IBEW)	1,600
USAir, mechanics (Interstate) <sup>2</sup>	Air transportation	Machinists	1,900
Wean United, Inc. (Ohio and Pennsylvania)	Machinery	Steelworkers	1,300
White Consolidated Industries, Inc. Blaw-Knox Foundry & Mill Machinery, Inc. and Aetna-Standard Engineering Company (Pennsylvania, West Virginia, and Indiana)	Primary metals	Steelworkers	2,500

<sup>1</sup>Affiliated with AFL-CIO except where noted as independent (Ind.).

<sup>2</sup>Information is from newspaper reports.

# Current Labor Statistics



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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 1983 issue of the *Review*, to reflect experience through 1982.

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 August 1981 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 . . . . .	January 6	December	February 3	January	March 9	February	1-11
Producer Price Index . . . . .	January 13	December	February 10	January	March 16	February	23-27
Consumer Price Index . . . . .	January 24	December	February 24	January	March 23	February	19-22
Real earnings . . . . .	January 24	December	February 24	January	March 23	February	12-16
Major collective bargaining settlements . . . . .	January 27	1983	.....	.....	.....	.....	35-36
Productivity and costs:							
Nonfarm business and manufacturing . . . . .	January 30	4th quarter	.....	.....	.....	.....	28-31
Nonfinancial corporations . . . . .	.....	.....	February 28	4th quarter	.....	.....	28-31
Employment Cost Index . . . . .	January 31	4th quarter	.....	.....	.....	.....	32-34
U.S. Import and Export Price Indexes . . . . .	.....	.....	February 8	4th quarter	.....	.....	.....



## 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 1982.

**1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-82**

[Numbers in thousands]

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

**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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
<b>TOTAL</b>															
Noninstitutional population <sup>1,2</sup>	171,775	173,939	174,718	174,864	175,021	175,169	175,320	175,465	175,622	175,793	175,970	176,122	176,297	176,474	176,636
Labor force <sup>2</sup>	110,315	111,872	112,702	112,794	112,215	112,217	112,148	112,457	112,418	113,600	113,539	113,943	114,063	113,510	113,721
Participation rate <sup>3</sup>	64.2	64.3	64.5	64.5	64.1	64.1	64.0	64.1	64.0	64.6	64.5	64.7	64.7	64.3	64.4
Total employed <sup>2</sup>	102,042	101,194	100,796	100,758	100,770	100,727	100,767	101,129	101,226	102,454	102,949	103,245	103,640	103,623	104,356
Employment-population <sup>4</sup>	59.4	58.2	57.7	57.6	57.6	57.5	57.5	57.6	57.6	58.3	58.5	58.6	58.8	58.7	59.1
Resident Armed Forces <sup>1</sup>	1,645	1,668	1,660	1,665	1,667	1,664	1,664	1,671	1,669	1,668	1,664	1,682	1,695	1,695	1,685
Civilian employed	100,397	99,526	99,136	99,093	99,103	99,063	99,103	99,458	99,557	100,786	101,285	101,563	101,945	101,928	102,671
Agriculture	3,368	3,401	3,466	3,411	3,412	3,393	3,375	3,371	3,367	3,522	3,527	3,489	3,290	3,202	3,232
Nonagricultural industries	97,030	96,125	95,670	95,682	95,691	95,670	95,729	96,088	96,190	97,264	97,758	98,074	98,655	98,726	99,440
Unemployed	8,273	10,678	11,906	12,036	11,446	11,490	11,381	11,328	11,192	11,146	10,590	10,699	10,423	9,886	9,364
Unemployment rate <sup>5</sup>	7.5	9.5	10.6	10.7	10.2	10.2	10.1	10.1	10.0	9.8	9.3	9.4	9.1	8.7	8.2
Not in labor force	61,460	62,067	62,016	62,070	62,806	62,952	63,172	63,008	63,204	62,193	62,431	62,179	62,234	62,965	62,916
<b>Men, 16 years and over</b>															
Noninstitutional population <sup>1,2</sup>	82,023	83,052	83,402	83,581	83,652	83,720	83,789	83,856	83,931	84,014	84,099	84,173	84,261	84,344	84,423
Labor force <sup>2</sup>	63,486	63,979	64,414	64,384	63,916	63,996	63,957	64,207	64,276	64,816	64,864	64,814	64,944	64,690	64,885
Participation rate <sup>3</sup>	77.4	77.0	77.2	77.0	76.4	76.4	76.3	76.6	76.6	77.1	77.1	77.0	77.1	76.7	76.9
Total employed <sup>2</sup>	58,909	57,800	57,408	57,338	57,283	57,234	57,300	57,476	57,656	58,464	58,625	58,570	58,826	58,912	59,438
Employment-population rate <sup>4</sup>	71.8	69.6	68.8	68.6	68.5	68.4	68.4	68.5	68.7	69.6	69.7	69.6	69.8	69.8	70.4
Resident Armed Forces <sup>1</sup>	1,512	1,527	1,516	1,529	1,531	1,528	1,528	1,530	1,528	1,525	1,521	1,538	1,549	1,543	1,534
Civilian employed	57,397	56,271	55,892	55,809	55,752	55,706	55,772	55,946	56,128	56,939	57,104	57,032	57,277	57,369	57,904
Unemployed	4,577	6,179	7,006	7,046	6,633	6,762	6,657	6,731	6,620	6,351	6,238	6,244	6,118	5,778	5,447
Unemployment rate <sup>5</sup>	7.2	9.7	10.9	10.9	10.4	10.6	10.4	10.5	10.3	9.8	9.6	9.6	9.4	8.9	8.4
<b>Women, 16 years and over</b>															
Noninstitutional population <sup>1,2</sup>	89,751	90,887	91,316	91,283	91,369	91,449	91,532	91,609	91,691	91,779	91,871	91,949	92,036	92,129	92,214
Labor force <sup>2</sup>	46,829	47,894	48,288	48,410	48,299	48,220	48,191	48,251	48,142	48,784	48,675	49,130	49,119	48,819	48,836
Participation rate <sup>3</sup>	52.2	52.7	52.9	53.0	52.9	52.7	52.6	52.7	52.5	53.2	53.0	53.4	53.4	53.0	53.0
Total employed <sup>2</sup>	43,133	43,395	43,388	43,420	43,486	43,493	43,467	43,653	43,569	43,990	44,324	44,675	44,814	44,712	44,918
Employment-population rate <sup>4</sup>	48.1	47.7	47.5	47.6	47.6	47.6	47.5	47.7	47.5	47.9	48.2	48.6	48.7	48.5	48.7
Resident Armed Forces <sup>1</sup>	133	139	144	136	136	136	136	141	141	143	143	144	146	152	151
Civilian employed	43,000	43,256	43,244	43,284	43,350	43,357	43,331	43,512	43,428	43,847	44,181	44,531	44,668	44,560	44,767
Unemployed	3,696	4,499	4,900	4,990	4,813	4,727	4,724	4,597	4,572	4,995	4,351	4,455	4,305	4,108	3,917
Unemployment rate <sup>5</sup>	7.9	9.4	10.1	10.3	10.0	9.8	9.8	9.5	9.5	9.8	8.9	9.1	8.8	8.4	8.0

<sup>1</sup>The population and Armed Forces figures are not adjusted for seasonal variation.

<sup>2</sup>Includes members of the Armed Forces stationed in the United States.

<sup>3</sup>Labor force as a percent of the noninstitutional population.

<sup>4</sup>Total employed as a percent of the noninstitutional population.

<sup>5</sup>Unemployment 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]

	Annual average		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
<b>TOTAL</b>															
Civilian noninstitutional population <sup>1</sup>	170,130	172,271	173,058	173,199	173,354	173,305	173,656	173,794	173,953	174,125	174,306	174,440	174,602	174,779	174,951
Civilian labor force	108,670	110,204	111,042	111,129	110,548	110,553	110,484	110,786	110,749	111,932	111,875	112,261	112,368	111,815	112,036
Participation rate	63.9	64.0	64.2	64.2	63.8	63.7	63.6	63.7	63.7	64.3	64.2	64.4	64.4	64.0	64.0
Employed	100,397	99,526	99,136	99,093	99,103	99,063	99,103	99,458	99,557	100,786	101,285	101,563	101,945	101,928	102,671
Employment-population ratio <sup>2</sup>	59.0	57.8	57.3	57.2	57.2	57.1	57.1	57.2	57.2	57.9	58.1	58.2	58.4	58.3	58.7
Agriculture	33,68	3,401	3,466	3,411	3,412	3,393	3,375	3,371	3,367	3,522	3,527	3,489	3,290	3,202	3,232
Nonagricultural industries	97,030	96,125	95,670	95,682	95,691	95,670	95,729	96,088	96,190	97,264	97,758	98,074	98,655	98,726	99,440
Unemployed	8,273	10,678	11,906	12,036	11,446	11,490	11,381	11,328	11,192	11,146	10,590	10,699	10,423	9,886	9,364
Unemployment rate	7.6	9.7	10.7	10.8	10.4	10.4	10.3	10.2	10.1	10.0	9.5	9.5	9.3	8.8	8.4
Not in labor force	61,460	62,067	62,016	62,070	62,806	62,952	63,172	63,008	63,204	62,193	62,431	62,179	62,234	62,964	62,915
<b>Men, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	72,419	73,644	74,094	74,236	74,339	74,434	74,528	74,611	74,712	74,814	74,927	75,012	75,115	75,216	75,327
Civilian labor force	57,197	57,980	58,454	58,443	58,048	58,177	58,170	58,454	58,506	58,804	59,016	58,945	59,053	58,947	59,103
Participation rate	79.0	78.7	78.9	78.7	78.1	78.2	78.1	78.3	78.3	78.6	78.6	78.6	78.6	78.4	78.5
Employed	53,582	52,891	52,589	52,534	52,452	52,428	52,589	52,752	52,901	53,516	53,808	53,771	53,928	54,121	54,503
Employment-population ratio <sup>2</sup>	74.0	71.8	71.0	70.8	70.6	70.4	70.6	70.7	70.8	71.5	71.8	71.7	71.8	72.0	72.4
Agriculture	2,384	2,422	2,434	2,389	2,426	2,374	2,420	2,404	2,443	2,529	2,544	2,496	2,431	2,362	2,319
Nonagricultural industries	51,199	50,469	50,155	50,145	50,025	50,054	50,169	50,348	50,458	50,987	51,264	51,275	51,497	51,758	52,185
Unemployed	3,615	5,089	5,865	5,909	5,597	5,749	5,581	5,702	5,605	5,288	5,208	5,174	5,125	4,826	4,600
Unemployment rate	6.3	8.8	10.0	10.1	9.6	9.9	9.6	9.8	9.6	9.0	8.8	8.8	8.7	8.2	7.8
<b>Women, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	81,497	82,864	83,385	83,383	83,490	83,593	83,699	83,794	83,899	84,008	84,122	84,224	84,333	84,443	84,553
Civilian labor force	42,485	43,699	44,112	44,286	44,201	44,216	44,166	44,238	44,228	44,648	44,685	45,003	45,132	44,930	44,936
Participation rate	52.1	52.7	52.9	53.1	52.9	52.9	52.8	52.8	52.7	53.1	53.1	53.4	53.5	53.2	53.1
Employed	39,590	40,086	40,123	40,215	40,238	40,291	40,277	40,509	40,484	40,789	41,164	41,394	41,614	41,583	41,765
Employment-population ratio <sup>2</sup>	48.6	48.4	48.1	48.2	48.2	48.2	48.1	48.3	48.3	48.6	48.9	49.1	49.3	49.2	49.4
Agriculture	604	601	590	628	625	657	647	622	597	636	607	630	574	581	643
Nonagricultural industries	38,986	39,485	39,533	39,587	39,613	39,634	39,630	39,886	39,887	40,153	40,557	40,764	41,040	41,002	41,122
Unemployed	2,895	3,613	3,989	4,071	3,963	3,925	3,889	3,729	3,744	3,859	3,521	3,609	3,518	3,347	3,170
Unemployment rate	6.8	8.3	9.0	9.2	9.0	8.9	8.8	8.4	8.5	8.6	7.9	8.0	7.8	7.4	7.1
<b>Both sexes, 16 to 19 years</b>															
Civilian noninstitutional population <sup>1</sup>	16,214	15,763	15,579	15,580	15,525	15,478	15,429	15,389	15,342	15,303	15,257	15,204	15,154	15,120	15,072
Civilian labor force	8,988	8,526	8,476	8,400	8,299	8,160	8,148	8,094	8,015	8,480	8,173	8,313	8,184	7,938	7,997
Participation rate	55.4	54.1	54.4	53.9	53.5	52.7	52.8	52.6	52.2	55.4	54.7	54.0	52.5	53.1	53.1
Employed	7,225	6,549	6,424	6,344	6,413	6,345	6,237	6,197	6,172	6,481	6,313	6,397	6,404	6,225	6,403
Employment-population ratio <sup>2</sup>	44.6	41.5	41.2	40.7	41.3	41.0	40.4	40.3	40.2	42.4	41.4	42.1	42.3	41.2	42.5
Agriculture	380	378	442	394	361	362	308	344	327	357	376	362	285	259	270
Nonagricultural industries	6,845	6,171	5,982	5,950	6,052	5,983	5,929	5,853	5,845	6,124	5,937	6,035	6,119	5,966	6,133
Unemployed	1,763	1,977	2,052	2,056	1,886	1,815	1,911	1,897	1,843	1,999	1,860	1,916	1,780	1,713	1,594
Unemployment rate	19.6	23.2	24.2	24.5	22.7	22.2	23.5	23.4	23.0	23.6	22.8	23.0	21.8	21.6	19.9
<b>White</b>															
Civilian noninstitutional population <sup>1</sup>	147,908	149,441	149,887	150,056	150,129	150,187	150,382	150,518	150,671	150,810	150,959	151,003	151,021	151,175	151,324
Civilian labor force	95,052	96,143	96,719	96,864	96,176	95,987	95,996	96,287	96,362	97,250	97,341	97,602	97,605	97,300	97,631
Participation rate	64.3	64.3	64.5	64.6	64.1	63.9	63.8	64.0	64.0	64.5	64.5	64.6	64.6	64.4	64.5
Employed	88,709	87,903	87,435	87,443	87,466	87,194	87,324	87,709	87,777	88,880	89,382	89,573	89,719	89,798	90,552
Employment-population ratio <sup>2</sup>	60.0	58.8	58.3	58.3	58.3	58.1	58.1	58.3	58.3	58.9	59.2	59.3	59.4	59.4	59.8
Unemployed	6,343	8,241	9,284	9,421	8,711	8,793	8,672	8,577	8,585	8,370	7,959	8,029	7,885	7,502	7,079
Unemployment rate	6.7	8.6	9.6	9.7	9.1	9.2	9.0	8.9	8.9	8.6	8.2	8.2	8.1	7.7	7.3
<b>Black</b>															
Civilian noninstitutional population <sup>1</sup>	18,219	18,584	18,723	18,740	18,768	18,796	18,823	18,851	18,880	18,911	18,942	18,966	18,994	19,026	19,057
Civilian labor force	11,086	11,331	11,475	11,522	11,542	11,548	11,554	11,631	11,672	11,783	11,764	11,745	11,729	11,502	11,582
Participation rate	60.8	61.0	61.3	61.5	61.5	61.4	61.4	61.7	61.8	62.3	62.1	61.9	61.7	60.5	60.8
Employed	9,355	9,189	9,159	9,127	9,142	9,276	9,253	9,209	9,270	9,352	9,469	9,398	9,505	9,420	9,576
Employment-population ratio <sup>2</sup>	51.3	49.4	48.9	48.7	48.7	49.4	49.2	48.8	49.1	49.5	50.0	49.6	50.0	49.5	50.3
Unemployed	1,731	2,142	2,316	2,395	2,400	2,271	2,302	2,423	2,402	2,432	2,295	2,347	2,224	2,082	2,005
Unemployment rate	15.6	18.9	20.2	20.8	20.8	19.7	19.9	20.8	20.6	20.6	19.5	20.0	19.0	18.1	17.3
<b>Hispanic origin</b>															
Civilian noninstitutional population <sup>1</sup>	9,310	9,400	9,355	9,301	9,328	9,368	9,551	9,665	9,747	9,738	9,640	9,690	9,700	9,745	9,677
Civilian labor force	5,972	5,963	5,923	5,898	5,981	5,992	6,074	6,206	6,167	6,253	6,079	6,124	6,200	6,142	6,222
Participation rate	64.1	63.6	63.3	63.4	64.1	64.0	63.6	64.2	63.3	64.2	63.1	63.2	63.9	63.0	64.3
Employed	5,348	5,158	5,012	4,998	5,053	5,042	5,088	5,304	5,318	5,379	5,331	5,333	5,390	5,385	5,455
Employment-population ratio <sup>2</sup>	57.4	54.9	53.6	53.7	54.2	53.8	53.3	54.9	54.6	55.2	55.3	55.0	55.6	55.3	56.4
Unemployed	624	825	911	900	929	950	986	902	849	874	748	790	811	756	767
Unemployment rate	10.4	13.8	15.4	15.3	15.5	15.8	16.2	14.5	13.8	14.0	12.3	12.9	13.1	12.3	12.3

<sup>1</sup>The population figures are not seasonally adjusted.

<sup>2</sup>Civilian employment as a percent of the civilian noninstitutional population.

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

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



**4. Selected employment indicators, seasonally adjusted**

[Numbers in thousands]

Selected categories	Annual average		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
<b>CHARACTERISTIC</b>															
Civilian employed, 16 years and over . . . . .	100,397	99,526	99,136	99,093	99,103	99,063	99,103	99,458	99,557	100,786	101,285	101,563	101,945	101,928	102,671
Men . . . . .	57,397	56,271	55,892	55,809	55,752	55,706	55,772	55,946	56,128	56,939	57,104	57,032	57,277	57,369	57,904
Women . . . . .	43,000	43,256	43,244	43,284	43,350	43,357	43,331	43,512	43,428	43,847	44,181	44,531	44,668	44,560	44,767
Married men, spouse present . . . . .	38,882	38,074	37,641	37,507	37,450	37,428	34,452	37,523	37,560	37,925	38,293	38,308	38,253	38,241	38,406
Married women, spouse present . . . . .	23,915	24,053	23,985	24,155	24,205	24,070	24,171	24,371	24,229	24,335	24,640	24,972	24,996	24,971	25,083
Women who maintain families . . . . .	4,998	5,099	5,025	4,985	5,038	5,050	5,097	4,944	4,942	5,016	5,088	5,104	5,124	5,187	5,258
<b>MAJOR INDUSTRY AND CLASS OF WORKER</b>															
Agriculture:															
Wage and salary workers . . . . .	1,464	1,505	1,584	1,547	1,637	1,624	1,515	1,560	1,595	1,636	1,663	1,664	1,585	1,481	1,456
Self-employed workers . . . . .	1,638	1,636	1,628	1,627	1,587	1,541	1,585	1,607	1,558	1,608	1,583	1,566	1,473	1,514	1,559
Unpaid family workers . . . . .	266	261	241	224	231	223	260	208	229	263	259	245	237	224	220
Nonagricultural industries:															
Wage and salary workers . . . . .	89,543	88,462	87,936	87,976	87,813	87,794	87,912	88,187	88,395	89,354	89,765	89,995	90,813	90,663	91,129
Government . . . . .	15,689	15,562	15,514	15,477	15,386	15,501	15,452	15,518	15,523	15,498	15,615	15,697	15,549	15,594	15,618
Private industries . . . . .	73,853	72,945	72,422	72,499	72,427	72,293	72,459	72,668	72,872	73,856	74,150	74,299	75,265	75,069	75,511
Private households . . . . .	1,208	1,207	1,221	1,163	1,162	1,232	1,235	1,205	1,228	1,317	1,286	1,290	1,295	1,291	1,197
Other . . . . .	72,645	71,738	71,201	71,336	71,265	71,061	71,225	71,463	71,644	72,539	72,864	73,009	73,969	73,778	74,314
Self-employed workers . . . . .	7,097	7,262	7,349	7,335	7,465	7,385	7,453	7,528	7,408	7,493	7,598	7,658	7,660	7,703	7,846
Unpaid family workers . . . . .	390	401	382	383	380	353	342	353	335	345	320	376	376	415	480
<b>PERSONS AT WORK<sup>1</sup></b>															
Nonagricultural industries . . . . .	91,377	90,552	90,238	90,219	90,903	90,207	90,271	92,267	90,941	90,539	92,253	91,986	93,737	93,324	94,042
Full-time schedules . . . . .	74,339	72,245	71,442	71,499	71,786	71,564	71,878	73,594	72,975	72,978	74,004	73,495	74,883	75,167	75,553
Part time for economic reasons . . . . .	4,499	5,852	6,411	6,425	6,845	6,481	6,202	6,082	5,928	5,729	5,636	5,789	6,106	5,670	5,893
Usually work full time . . . . .	1,738	2,169	2,228	2,153	2,200	2,097	1,927	1,871	1,685	1,702	1,809	1,718	1,798	1,575	1,736
Usually work part time . . . . .	2,761	3,683	4,183	4,272	4,645	4,384	4,275	4,211	4,243	4,027	3,826	4,071	4,309	4,095	4,156
Part time for noneconomic reasons . . . . .	12,539	12,455	12,385	12,295	12,271	12,162	12,191	12,592	12,038	11,833	12,614	12,701	12,748	12,488	12,597

<sup>1</sup> Excludes 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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
<b>CHARACTERISTIC</b>															
Total, all civilian workers . . . . .	7.6	9.7	10.7	10.8	10.4	10.4	10.3	10.2	10.1	10.0	9.5	9.5	9.3	8.8	8.4
Both sexes, 16 to 19 years . . . . .	19.6	23.2	24.2	24.5	22.7	22.2	23.5	23.4	23.0	23.6	22.8	23.0	21.8	21.6	19.9
Men, 20 years and over . . . . .	6.3	8.8	10.0	10.1	9.6	9.9	9.6	9.8	9.6	9.0	8.8	8.8	8.7	8.2	7.8
Women, 20 years and over . . . . .	6.8	8.3	9.0	9.2	9.0	8.9	8.8	8.4	8.5	8.6	7.9	8.0	7.8	7.4	7.1
White, total . . . . .	6.7	8.6	9.6	9.7	9.1	9.2	9.0	8.9	8.9	8.6	8.2	8.2	8.1	7.7	7.3
Both sexes, 16 to 19 years . . . . .	17.3	20.4	21.2	21.6	20.0	19.7	21.4	20.4	19.8	20.0	19.5	19.8	17.9	18.5	16.8
Men, 16 to 19 years . . . . .	17.9	21.7	22.6	22.8	21.2	21.1	22.9	21.7	20.2	19.8	20.4	21.1	18.7	20.1	17.2
Women, 16 to 19 years . . . . .	16.6	19.0	19.8	20.4	18.7	18.2	19.7	19.0	19.4	20.2	18.5	18.4	17.1	16.7	16.4
Men, 20 years and over . . . . .	5.6	7.8	9.1	9.2	8.4	8.7	8.5	8.6	8.6	7.8	7.7	7.7	7.8	7.3	6.9
Women, 20 years and over . . . . .	5.9	7.3	8.0	8.1	7.8	7.7	7.4	7.2	7.3	7.4	6.7	6.7	6.6	6.3	5.9
Black, total . . . . .	15.6	18.9	20.2	20.8	20.8	19.7	19.9	20.8	20.6	20.6	19.5	20.0	19.0	18.1	17.3
Both sexes, 16 to 19 years . . . . .	41.4	48.0	49.8	49.5	45.7	45.4	43.5	49.0	46.2	50.6	48.1	53.0	52.0	48.3	46.2
Men, 16 to 19 years . . . . .	40.7	48.9	53.0	52.5	45.9	45.3	44.5	48.0	53.1	51.1	47.6	56.8	54.8	43.9	43.4
Women, 16 to 19 years . . . . .	42.2	47.1	46.2	46.2	45.5	45.4	42.3	50.0	42.3	50.0	48.8	48.9	48.7	53.3	49.6
Men, 20 years and over . . . . .	13.5	17.8	19.2	20.5	19.7	18.7	18.8	20.3	19.8	19.2	18.7	18.4	16.9	16.0	15.1
Women, 20 years and over . . . . .	13.4	15.4	16.5	16.5	18.2	17.0	17.7	17.0	17.1	17.0	16.0	16.4	16.1	15.8	15.4
Hispanic origin, total . . . . .	10.4	13.8	15.4	15.3	15.5	15.8	16.2	14.5	13.8	14.0	12.3	12.9	13.1	12.3	12.3
Married men, spouse present . . . . .	4.3	6.5	7.6	7.8	7.1	7.2	7.1	7.1	7.0	6.6	6.1	6.3	6.1	5.8	5.5
Married women, spouse present . . . . .	6.0	7.4	8.2	8.2	7.8	7.6	7.5	7.3	7.5	7.8	7.0	6.9	6.8	6.3	5.9
Women who maintain families . . . . .	10.4	11.7	12.5	13.2	13.2	13.0	13.5	13.2	12.9	12.8	11.6	11.6	12.2	11.1	10.3
Full-time workers . . . . .	7.3	9.6	10.6	10.8	10.3	10.4	10.3	10.2	9.9	9.7	9.4	9.4	9.2	8.7	8.2
Part-time workers . . . . .	9.4	10.5	11.3	11.1	10.6	10.1	10.5	10.6	11.0	12.1	10.2	10.1	10.0	9.8	9.6
Unemployed 15 weeks and over . . . . .	2.1	3.2	4.1	4.3	4.2	4.2	4.2	3.9	4.1	4.1	3.9	3.6	3.4	3.2	3.1
Labor force time lost <sup>1</sup> . . . . .	8.5	11.0	12.4	12.7	11.7	12.0	11.8	11.4	11.5	10.8	10.4	10.6	10.6	10.0	9.8
<b>INDUSTRY</b>															
Nonagricultural private wage and salary workers . . . . .	7.7	10.1	11.4	11.6	10.8	10.8	10.8	10.5	10.5	10.0	9.6	9.8	9.4	9.0	8.5
Mining . . . . .	6.0	13.4	18.1	18.1	17.1	18.4	18.6	20.3	22.7	18.2	16.6	14.8	17.2	11.3	12.5
Construction . . . . .	15.6	20.0	21.8	22.0	20.0	19.7	20.3	20.3	20.4	18.1	18.0	18.1	18.2	15.2	15.0
Manufacturing . . . . .	8.3	12.3	14.8	14.8	13.0	13.3	12.8	12.4	12.3	11.5	10.5	11.2	10.2	9.5	9.0
Durable goods . . . . .	8.2	13.3	17.0	17.1	14.7	14.7	14.1	13.5	13.5	12.2	11.2	11.6	10.9	10.2	9.1
Nondurable goods . . . . .	8.4	10.8	11.4	11.4	10.5	11.4	11.1	10.8	10.5	10.4	9.6	10.6	9.2	8.5	8.7
Transportation and public utilities . . . . .	5.2	6.8	8.3	8.0	7.8	8.0	7.8	7.7	7.0	7.8	7.0	8.0	7.4	7.4	6.6
Wholesale and retail trade . . . . .	8.1	10.0	10.6	11.0	10.8	10.9	11.2	10.4	10.1	10.2	9.7	9.8	9.6	9.9	9.1
Finance and service industries . . . . .	5.9	6.9	7.7	7.9	7.6	7.3	7.2	7.3	7.5	7.2	7.3	7.2	7.1	6.9	6.6
Government workers . . . . .	4.7	4.9	5.1	5.1	5.7	6.0	5.9	6.1	5.8	5.1	5.5	5.0	4.9	5.0	4.8
Agricultural wage and salary workers . . . . .	12.1	14.7	15.6	16.5	16.0	16.4	16.3	17.2	17.0	17.0	14.2	14.6	16.1	17.1	15.6

<sup>1</sup> Aggregate 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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Total, 16 years and over	7.6	9.7	10.7	10.8	10.4	10.4	10.3	10.2	10.1	10.0	9.5	9.5	9.3	8.8	8.4
16 to 24 years	14.9	17.8	19.0	18.9	18.3	18.3	18.1	18.1	18.1	17.6	16.8	17.4	16.5	16.3	15.3
16 to 19 years	19.6	23.2	24.2	24.5	22.7	22.2	23.5	23.4	23.0	23.6	22.8	23.0	21.8	21.6	19.9
16 to 17 years	21.4	24.9	26.3	27.4	24.1	23.4	25.1	26.3	26.2	25.8	25.3	24.7	23.9	23.9	21.1
18 to 19 years	18.4	22.1	22.8	22.7	21.7	21.5	22.7	21.8	21.1	22.4	21.1	22.0	20.4	20.3	19.1
20 to 24 years	12.3	14.9	16.3	16.0	16.1	16.3	15.4	15.4	15.6	14.4	13.8	14.5	13.8	13.7	12.9
25 years and over	5.4	7.4	8.3	8.6	8.1	8.2	8.1	8.0	7.9	7.9	7.4	7.3	7.3	6.8	6.5
25 to 54 years	5.8	7.9	8.9	9.1	8.7	8.7	8.7	8.5	8.5	8.3	7.8	7.8	7.7	7.2	6.8
55 years and over	3.6	5.0	5.7	5.8	5.4	5.4	5.4	5.6	5.3	5.6	5.3	5.1	5.1	5.0	4.9
Men, 16 years and over	7.4	9.9	11.1	11.2	10.6	10.8	10.7	10.7	10.6	10.0	9.8	9.9	9.7	9.2	8.6
16 to 24 years	15.7	19.1	20.6	20.5	19.7	19.8	19.5	19.4	19.7	18.4	18.4	18.8	17.6	17.4	15.8
16 to 19 years	20.1	24.4	25.7	25.8	23.9	23.6	25.3	24.4	23.9	23.7	23.8	24.7	22.9	22.7	19.9
16 to 17 years	22.0	26.4	28.2	29.0	24.4	23.6	26.0	27.0	27.4	25.4	27.9	26.2	23.5	24.0	21.0
18 to 19 years	18.8	23.1	24.1	24.0	23.5	23.4	24.8	22.8	22.0	22.9	21.2	23.7	22.5	21.9	19.2
20 to 24 years	13.2	16.4	18.0	17.8	17.6	17.8	16.6	17.0	17.6	15.7	15.7	15.9	15.0	14.8	13.7
25 years and over	5.1	7.5	8.6	8.8	8.2	8.5	8.4	8.5	8.2	7.8	7.6	7.5	7.6	7.0	6.7
25 to 54 years	5.5	8.0	9.2	9.4	8.7	9.1	9.0	8.9	8.8	8.4	8.1	8.0	8.1	7.4	7.0
55 years and over	3.5	5.1	6.2	6.3	5.8	5.7	5.8	6.3	5.8	5.4	5.4	5.3	5.6	5.4	5.5
Women, 16 years and over	7.9	9.4	10.2	10.3	10.0	9.8	9.8	9.6	9.5	9.9	9.0	9.1	8.8	8.4	8.0
16 to 24 years	14.0	16.2	17.2	17.1	16.7	16.6	16.6	16.5	16.2	16.6	14.9	15.9	15.2	15.1	14.7
16 to 19 years	19.0	21.9	22.6	23.0	21.5	20.7	21.5	22.4	21.9	23.4	21.6	21.2	20.5	20.4	19.9
16 to 17 years	20.7	23.2	24.2	25.6	23.7	23.2	24.2	25.5	24.7	26.2	22.3	23.1	24.3	23.8	21.1
18 to 19 years	17.9	21.0	21.4	21.3	19.8	19.3	20.5	20.7	20.2	21.9	21.0	20.3	17.9	18.5	19.0
20 to 24 years	11.2	13.2	14.4	14.0	14.2	14.5	14.1	13.5	13.3	12.9	11.5	13.0	12.5	12.5	12.0
25 years and over	5.9	7.3	7.9	8.2	7.9	7.7	7.7	7.4	7.6	7.9	7.2	7.0	6.8	6.4	6.1
25 to 54 years	6.3	7.7	8.5	8.8	8.7	8.2	8.3	7.9	8.2	8.2	7.6	7.5	7.3	6.8	6.5
55 years and over	3.8	4.8	4.9	5.1	4.8	4.9	4.7	4.5	4.6	5.8	5.3	4.7	4.4	4.4	4.0

**7. Unemployed persons by reason for unemployment, seasonally adjusted**

[Numbers in thousands]

Reason for unemployment	Annual average		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Job losers	4,257	6,258	7,369	7,295	6,704	6,809	6,823	6,750	6,766	6,513	6,193	6,202	6,002	5,542	5,157
On layoff	1,430	2,127	2,531	2,468	2,131	2,024	1,945	1,948	1,943	1,822	1,719	1,658	1,591	1,373	1,313
Other job losers	2,837	4,141	4,838	4,827	4,573	4,784	4,878	4,803	4,823	4,691	4,474	4,545	4,411	4,169	3,843
Job leavers	923	840	794	826	839	848	901	815	801	782	738	767	866	889	881
Reentrants	2,102	2,384	2,546	2,529	2,623	2,491	2,426	2,488	2,365	2,425	2,429	2,524	2,351	2,375	2,213
New entrants	981	1,185	1,244	1,288	1,174	1,161	1,155	1,245	1,251	1,440	1,225	1,214	1,247	1,102	1,134
<b>PERCENT DISTRIBUTION</b>															
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	51.6	58.7	61.5	60.6	59.1	60.2	60.4	59.7	60.5	58.4	58.5	57.9	57.3	55.9	54.9
On layoff	17.3	19.9	21.2	20.5	18.8	17.9	17.2	17.2	17.4	16.3	16.2	15.5	15.2	13.9	14.0
Other job losers	34.3	38.8	40.5	40.1	40.3	42.3	43.1	42.5	43.1	42.0	42.3	42.4	42.1	42.1	41.0
Job leavers	11.2	7.9	6.6	6.9	7.4	7.5	8.0	7.2	7.2	7.0	7.0	7.2	8.3	9.0	9.4
Reentrants	25.4	22.3	21.3	21.8	23.1	22.0	21.5	22.0	21.1	21.7	22.9	23.6	22.5	24.0	23.6
New entrants	11.9	11.1	10.4	10.7	10.4	10.3	10.2	11.0	11.2	12.9	11.6	11.3	11.9	11.1	12.1
<b>PERCENT OF CIVILIAN LABOR FORCE</b>															
Job losers	3.9	5.7	6.6	6.6	6.1	6.2	6.2	6.1	6.1	5.8	5.5	5.5	5.3	5.0	4.6
Job leavers	.8	.8	.7	.7	.8	.8	.8	.7	.7	.7	.7	.7	.8	.8	.8
Reentrants	1.9	2.2	2.3	2.4	2.4	2.3	2.2	2.2	2.1	2.2	2.2	2.2	2.1	2.1	2.0
New entrants	.9	1.1	1.1	1.2	1.1	1.1	1.0	1.1	1.1	1.3	1.1	1.1	1.1	1.0	1.0

**8. Duration of unemployment, seasonally adjusted**

[Numbers in thousands]

Weeks of unemployment	Annual average		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.
Less than 5 weeks	3,449	3,883	3,963	4,019	3,536	3,731	3,440	3,547	3,519	3,655	3,498	3,660	3,774	3,512	3,274
5 to 14 weeks	2,539	3,311	3,549	3,460	3,328	3,106	3,140	3,154	2,979	2,915	2,794	3,026	2,810	2,746	2,619
15 weeks and over	2,285	3,485	4,524	4,732	4,634	4,618	4,615	4,356	4,517	4,589	4,417	4,020	3,850	3,613	3,527
15 to 26 weeks	1,122	1,708	2,191	2,125	1,928	1,928	1,875	1,662	1,731	1,638	1,830	1,573	1,344	1,363	1,369
27 weeks and over	1,162	1,776	2,333	2,607	2,706	2,689	2,740	2,694	2,786	2,951	2,587	2,447	2,506	2,250	2,158
Mean duration in weeks	13.7	15.6	17.3	18.0	19.4	19.0	19.1	19.0	20.4	22.0	21.7	19.9	20.2	20.1	20.2
Median duration in weeks	6.9	8.7	10.0	10.1	11.5	9.6	10.3	11.3	12.3	11.8	9.9	8.9	9.1	9.3	9.4



## 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 12-17 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 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, 1950-82**

[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 <sup>1</sup>	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

<sup>1</sup> Data include Alaska and Hawaii beginning in 1959.

**10. Employment by State**

[Nonagricultural payroll data, in thousands]

State	October 1982	September 1983	Oct. 1983 <sup>P</sup>	State	October 1982	September 1983	Oct. 1983 <sup>P</sup>
Alabama	1,309.8	1,314.3	1,319.1	Montana	275.8	271.9	271.8
Alaska	205.7	223.6	217.1	Nebraska	604.2	602.3	605.9
Arizona	1,032.5	1,053.1	1,066.6	Nevada	410.1	424.0	424.4
Arkansas	727.9	743.9	745.7	New Hampshire	394.8	403.6	400.7
California	9,807.6	9,973.7	10,047.8	New Jersey	3,095.5	3,124.4	3,123.4
Colorado	1,313.9	1,346.7	1,348.6	New Mexico	477.2	487.4	486.3
Connecticut	1,431.6	1,442.1	1,449.7	New York	7,259.2	7,212.6	7,269.0
Delaware	261.7	262.9	264.2	North Carolina	2,353.5	2,391.8	2,407.9
District of Columbia	589.8	588.6	589.5	North Dakota	255.0	256.4	258.9
Florida	3,740.0	3,877.2	3,916.7	Ohio	4,139.2	4,167.2	4,181.3
Georgia	2,215.3	2,269.4	2,279.5	Oklahoma	1,221.9	1,208.6	1,208.0
Hawaii	398.1	389.3	396.5	Oregon	966.6	967.0	969.8
Idaho	317.6	326.0	325.3	Pennsylvania	4,523.1	4,485.1	4,520.7
Illinois	4,559.7	4,540.3	4,528.0	Rhode Island	394.5	396.4	398.8
Indiana	2,003.8	2,025.1	2,023.7	South Carolina	1,161.5	1,181.4	1,182.3
Iowa	1,033.8	1,023.8	1,031.2	South Dakota	232.0	238.2	237.1
Kansas	911.9	915.1	919.3	Tennessee	1,683.6	1,701.5	1,713.5
Kentucky	1,171.8	1,176.9	1,180.7	Texas	6,219.9	6,193.4	6,208.6
Louisiana	1,608.5	1,587.2	1,596.0	Utah	564.4	568.6	570.0
Maine	416.3	422.9	422.3	Vermont	205.3	207.4	209.1
Maryland	1,673.9	1,687.6	1,693.9	Virginia	2,134.7	2,177.9	2,184.9
Massachusetts	2,630.6	2,636.1	2,650.8	Washington	1,574.4	1,599.4	1,596.4
Michigan	3,181.3	3,244.0	3,260.3	West Virginia	602.0	590.4	593.1
Minnesota	1,712.9	1,732.8	1,741.6	Wisconsin	1,878.2	1,878.6	1,880.1
Mississippi	795.0	794.8	799.3	Wyoming	217.9	219.4	216.7
Missouri	1,924.0	1,939.0	1,938.3	Virgin Islands	35.3	34.2	34.7

<sup>P</sup> = preliminary.

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

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>P</sup>	Nov. <sup>P</sup>
<b>TOTAL</b> .....	91,156	89,596	88,785	88,665	88,885	88,746	88,814	89,101	89,421	89,844	90,152	89,735	90,851	91,055	91,425
<b>PRIVATE SECTOR</b> .....	75,126	73,793	73,013	72,907	73,132	73,004	73,090	73,377	73,677	74,123	74,472	74,074	74,990	75,316	75,635
<b>GOODS-PRODUCING</b> .....	25,497	23,907	23,131	23,061	23,186	23,049	23,030	23,159	23,347	23,518	23,724	23,830	23,935	24,164	24,309
<b>Mining</b> .....	1,139	1,143	1,066	1,053	1,037	1,014	1,006	997	994	1,003	1,017	1,023	1,026	1,043	1,036
<b>Construction</b> .....	4,188	3,911	3,843	3,815	3,905	3,790	3,757	3,786	3,860	3,933	3,974	4,014	4,038	4,061	4,099
<b>Manufacturing</b> .....	20,170	18,853	18,222	18,193	18,244	18,245	18,267	18,376	18,493	18,582	18,733	18,793	18,871	19,060	19,174
Production workers .....	14,020	12,790	12,252	12,241	12,291	12,303	12,323	12,435	12,531	12,615	12,756	12,803	12,859	13,043	13,150
<b>Durable goods</b> .....	12,109	11,100	10,577	10,559	10,594	10,608	10,617	10,689	10,788	10,844	10,961	11,022	11,081	11,231	11,312
Production workers .....	8,294	7,350	6,900	6,892	6,931	6,949	6,961	7,035	7,115	7,169	7,278	7,329	7,378	7,521	7,591
Lumber and wood products .....	666	603	608	614	625	631	638	651	662	679	688	699	703	710	714
Furniture and fixtures .....	464	433	427	429	430	427	433	440	446	450	459	457	459	465	468
Stone, clay, and glass products .....	638	578	559	554	557	557	559	565	570	573	577	582	585	589	592
Primary metal industries .....	1,122	922	823	816	817	810	816	820	828	830	839	840	849	866	866
Fabricated metal products .....	1,590	1,435	1,362	1,359	1,364	1,364	1,362	1,369	1,379	1,384	1,391	1,410	1,411	1,430	1,439
Machinery, except electrical .....	2,498	2,267	2,088	2,066	2,048	2,042	2,030	2,031	2,064	2,066	2,094	2,109	2,115	2,131	2,162
Electric and electronic equipment .....	2,094	2,016	1,975	1,957	1,974	1,981	1,988	1,999	2,010	2,030	2,047	2,043	2,082	2,107	2,129
Transportation equipment .....	1,898	1,744	1,661	1,696	1,710	1,729	1,723	1,743	1,757	1,762	1,794	1,807	1,801	1,848	1,853
Instruments and related products .....	730	716	700	695	695	693	691	690	689	687	687	692	696	699	700
Miscellaneous manufacturing .....	408	386	374	373	374	374	377	381	383	383	385	383	380	386	389
<b>Nondurable goods</b> .....	8,061	7,753	7,645	7,634	7,650	7,637	7,650	7,687	7,705	7,738	7,772	7,771	7,790	7,829	7,862
Production workers .....	5,727	5,440	5,352	5,349	5,360	5,354	5,362	5,400	5,416	5,446	5,478	5,474	5,481	5,522	5,559
Food and kindred products .....	1,671	1,638	1,632	1,626	1,626	1,620	1,619	1,633	1,632	1,643	1,638	1,627	1,630	1,630	1,635
Tobacco manufactures .....	70	68	63	69	69	67	67	66	66	65	65	62	63	64	62
Textile mill products .....	823	750	727	727	726	726	730	733	736	745	746	752	753	758	759
Apparel and other textile products .....	1,244	1,164	1,141	1,140	1,150	1,148	1,143	1,149	1,153	1,159	1,180	1,175	1,177	1,191	1,201
Paper and allied products .....	689	662	654	653	653	652	652	654	656	657	658	659	662	666	669
Printing and publishing .....	1,266	1,269	1,263	1,263	1,266	1,265	1,269	1,274	1,276	1,281	1,284	1,289	1,290	1,296	1,302
Chemicals and allied products .....	1,109	1,079	1,064	1,059	1,057	1,056	1,056	1,058	1,058	1,056	1,059	1,056	1,060	1,061	1,062
Petroleum and coal products .....	214	201	200	199	200	199	199	199	198	198	197	195	195	194	192
Rubber and miscellaneous plastics products .....	737	701	685	685	688	691	699	707	716	721	732	739	742	752	761
Leather and leather products .....	238	221	216	213	215	214	214	214	213	213	217	218	217	217	219
<b>SERVICE-PRODUCING</b> .....	65,659	65,689	65,654	65,604	65,699	65,697	65,784	65,942	66,074	66,326	66,428	65,905	66,916	66,891	67,116
<b>Transportation and public utilities</b> .....	5,165	5,081	5,019	5,008	4,979	4,966	4,963	4,988	4,993	4,992	4,984	4,341	5,031	5,020	5,018
<b>Wholesale and retail trade</b> .....	20,547	20,401	20,320	20,256	20,355	20,343	20,350	20,329	20,356	20,494	20,529	20,580	20,612	20,656	20,665
<b>Wholesale trade</b> .....	5,358	5,280	5,212	5,192	5,185	5,181	5,176	5,180	5,197	5,222	5,229	5,249	5,274	5,288	5,285
<b>Retail trade</b> .....	15,189	15,122	15,108	15,064	15,170	15,162	15,174	15,149	15,159	15,272	15,300	15,331	15,338	15,368	15,380
<b>Finance, insurance, and real estate</b> .....	5,298	5,340	5,356	5,367	5,374	5,384	5,391	5,423	5,435	5,451	5,465	5,488	5,499	5,5041	5,522
<b>Services</b> .....	18,619	19,064	19,187	19,215	19,238	19,262	19,356	19,478	19,546	19,668	19,770	19,835	19,913	19,972	20,121
<b>Government</b> .....	16,031	15,803	15,772	15,758	15,753	15,742	15,724	15,724	15,744	15,721	15,680	15,661	15,861	15,739	15,790
Federal .....	2,772	2,739	2,746	2,747	2,748	2,742	2,742	2,749	2,756	2,742	2,738	2,733	2,773	2,768	2,771
State and local .....	13,259	13,064	13,026	13,011	13,005	13,000	12,982	12,975	12,988	12,979	12,942	12,928	13,083	12,971	13,019

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, 1950-82**

[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 <sup>1</sup>	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
	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 <sup>1</sup>				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

<sup>1</sup> 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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>P</sup>	Nov. <sup>P</sup>
<b>PRIVATE SECTOR</b> .....	35.2	34.8	34.7	34.8	35.1	34.5	34.8	34.9	35.1	35.0	35.0	35.0	35.2	35.3	35.2
<b>MANUFACTURING</b> .....	39.8	38.9	39.0	39.0	39.7	39.2	39.5	40.1	40.0	40.1	40.2	40.3	40.8	40.6	40.5
Overtime hours .....	2.8	2.3	2.3	2.3	2.4	2.4	2.6	2.9	2.7	2.9	3.0	3.1	3.3	3.4	3.3
<b>Durable goods</b> .....	40.2	39.3	39.3	39.3	40.1	39.7	39.9	40.5	40.4	40.6	40.8	40.8	41.5	41.2	41.1
Overtime hours .....	2.8	2.2	2.1	2.2	2.2	2.3	2.5	2.8	2.6	2.8	3.0	3.1	3.4	3.4	3.4
Lumber and wood products .....	38.7	38.0	38.7	38.8	40.5	39.5	39.5	40.0	39.8	40.0	39.9	40.2	40.5	40.3	40.1
Furniture and fixtures .....	38.4	37.2	37.6	37.8	38.6	37.9	38.3	39.3	39.2	39.6	39.7	39.7	40.1	39.7	39.6
Stone, clay, and glass products .....	40.6	40.0	40.2	40.1	41.4	40.5	40.6	41.0	41.2	41.6	41.7	41.7	42.1	41.7	41.5
Primary metal industries .....	40.5	38.6	38.3	38.8	38.9	39.1	39.4	39.9	40.3	40.3	40.8	40.9	41.2	41.7	41.7
Fabricated metal products .....	40.3	39.2	39.2	39.2	39.9	39.6	39.7	40.5	40.4	40.5	40.7	40.9	41.6	41.2	41.4
Machinery, except electrical .....	40.9	39.7	39.3	39.3	39.6	39.4	39.7	40.2	40.0	40.4	40.7	40.7	41.2	41.2	41.2
Electric and electronic equipment .....	40.0	39.3	39.3	39.4	39.9	39.5	39.8	40.4	40.3	40.5	40.8	40.7	41.1	41.0	41.0
Transportation equipment .....	40.9	40.5	40.9	40.1	41.6	41.2	41.7	42.3	41.6	41.9	42.0	41.8	43.5	42.4	42.3
Instruments and related products .....	40.4	39.8	39.4	39.7	40.4	39.7	40.0	40.5	40.4	40.1	40.7	40.4	41.0	40.6	40.4
<b>Nondurable goods</b> .....	39.1	38.4	38.6	38.6	39.1	38.5	39.0	39.5	39.4	39.6	39.5	39.5	39.9	39.7	39.7
Overtime hours .....	2.8	2.5	2.5	2.5	2.6	2.6	2.7	3.0	2.9	3.0	3.0	3.1	3.1	3.2	3.2
Food and kindred products .....	39.7	39.4	39.4	39.1	39.3	39.0	39.2	39.6	39.4	39.8	39.4	39.6	39.9	39.7	39.7
Textile mill products .....	39.6	37.5	38.8	38.9	39.7	39.0	39.6	40.6	40.4	40.7	40.7	40.9	41.3	40.8	40.9
Apparel and other textile products .....	35.7	34.7	35.0	35.1	36.6	35.2	35.6	36.2	36.1	36.1	35.8	36.2	36.8	36.5	36.3
Paper and allied products .....	42.5	41.8	41.7	41.7	41.8	41.4	42.1	42.4	42.7	42.8	42.9	42.9	43.3	43.1	42.8
Printing and publishing .....	37.3	37.1	37.1	37.1	37.5	37.1	37.4	37.7	37.4	37.6	37.7	37.5	37.8	38.0	38.0
Chemicals and allied products .....	41.6	40.9	40.7	40.9	41.0	41.0	41.2	41.5	41.6	41.9	41.8	41.6	41.7	41.7	42.0
Petroleum and coal products .....	43.2	43.9	44.1	44.4	44.5	44.4	44.9	43.5	43.6	43.8	43.7	43.5	43.2	43.5	43.8
Leather and leather products .....	36.7	35.6	35.8	35.8	36.3	34.9	36.0	37.0	36.8	36.8	37.4	37.2	37.7	37.5	37.2
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	39.4	39.0	38.9	38.9	38.6	38.6	38.8	38.8	38.9	38.9	38.9	39.3	39.4	39.5	39.2
<b>WHOLESALE AND RETAIL TRADE</b> .....	32.2	31.9	31.8	32.1	31.9	31.4	31.7	31.7	31.9	32.0	31.9	31.8	31.8	32.1	32.1
<b>WHOLESALE TRADE</b> .....	38.5	38.4	38.4	38.4	38.5	38.2	38.4	38.5	38.6	38.7	38.6	38.5	38.7	38.6	38.7
<b>RETAIL TRADE</b> .....	30.1	29.9	29.8	30.1	29.9	29.3	29.7	29.6	29.9	29.9	29.8	29.7	29.7	30.1	30.0
<b>SERVICES</b> .....	32.6	32.6	32.6	32.6	32.9	32.5	32.7	32.7	32.9	32.7	32.6	32.7	32.8	32.9	32.8

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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. P	Nov. P
<b>PRIVATE SECTOR</b>	\$7.25	\$7.67	\$7.81	\$7.82	\$7.90	\$7.92	\$7.90	\$7.94	\$7.97	\$7.97	\$8.00	\$7.94	\$8.11	\$8.15	\$8.14
Seasonally adjusted	(1)	(1)	7.78	7.82	7.88	7.91	7.91	7.95	7.97	8.00	8.03	7.98	8.08	8.12	8.11
<b>MINING</b>	10.04	10.78	11.01	11.03	11.21	11.25	11.19	11.28	11.20	11.25	11.29	11.28	11.35	11.32	11.30
<b>CONSTRUCTION</b>	10.82	11.62	11.72	11.96	11.95	12.00	11.95	11.90	11.80	11.74	11.78	11.84	12.03	12.02	11.85
<b>MANUFACTURING</b>	7.99	8.50	8.61	8.68	8.71	8.75	8.74	8.77	8.78	8.81	8.86	8.79	8.90	8.91	8.97
<b>Durable goods</b>	8.54	9.06	9.17	9.24	9.26	9.31	9.29	9.31	9.34	9.37	9.40	9.34	9.48	9.49	9.53
Lumber and wood products	6.99	7.46	7.59	7.55	7.68	7.72	7.68	7.74	7.78	7.85	7.82	7.83	7.88	7.85	7.76
Furniture and fixtures	5.91	6.31	6.43	6.46	6.49	6.50	6.51	6.51	6.52	6.60	6.65	6.67	6.73	6.73	6.75
Stone, clay, and glass products	8.27	8.86	9.04	9.08	9.10	9.10	9.13	9.16	9.20	9.28	9.34	9.31	9.43	9.38	9.38
Primary metal industries	10.81	11.33	11.49	11.49	11.56	11.53	11.24	11.25	11.28	11.23	11.37	11.28	11.33	11.27	11.35
Fabricated metal products	8.19	8.78	8.90	8.96	8.98	9.04	9.05	9.07	9.08	9.11	9.10	9.12	9.21	9.21	9.26
Machinery, except electrical	8.81	9.29	9.38	9.43	9.40	9.44	9.46	9.48	9.59	9.63	9.65	9.61	9.71	9.75	9.81
Electric and electronic equipment	7.62	8.21	8.45	8.51	8.53	8.56	8.60	8.60	8.60	8.63	8.69	8.64	8.75	8.73	8.77
Transportation equipment	10.39	11.12	11.34	11.43	11.40	11.49	11.49	11.53	11.52	11.63	11.62	11.53	11.80	11.86	11.93
Instruments and related products	7.42	8.10	8.31	8.38	8.42	8.48	8.47	8.46	8.48	8.57	8.53	8.53	8.61	8.59	8.59
Miscellaneous manufacturing	5.97	6.43	6.56	6.67	6.72	6.73	6.75	6.76	6.82	6.81	6.82	6.81	6.85	6.85	6.85
<b>Nondurable goods</b>	7.18	7.73	7.88	7.95	7.97	7.99	8.00	8.03	8.03	8.04	8.11	8.05	8.11	8.11	8.17
Food and kindred products	7.44	7.89	8.00	8.06	8.09	8.11	8.16	8.20	8.18	8.17	8.17	8.12	8.14	8.13	8.23
Tobacco manufactures	8.88	9.78	10.16	9.63	9.87	9.96	10.43	10.61	10.74	10.91	10.84	10.24	9.90	9.77	10.73
Textile mill products	5.52	5.83	5.92	6.04	6.08	6.10	6.11	6.14	6.14	6.16	6.17	6.19	6.23	6.24	6.25
Apparel and other textile products	4.97	5.20	5.24	5.28	5.33	5.33	5.33	5.35	5.33	5.36	5.35	5.35	5.39	5.40	5.43
Paper and allied products	8.60	9.32	9.60	9.65	9.65	9.65	9.67	9.72	9.81	9.91	10.06	10.02	10.11	10.10	10.18
Printing and publishing	8.19	8.75	8.92	9.00	8.97	8.99	9.03	9.03	9.05	9.06	9.10	9.14	9.25	9.26	9.29
Chemicals and allied products	9.12	9.96	10.26	10.32	10.34	10.41	10.39	10.43	10.50	10.52	10.58	10.61	10.69	10.78	10.85
Petroleum and coal products	11.38	12.46	12.68	12.71	13.16	13.25	13.28	13.27	13.17	13.17	13.20	13.16	13.36	13.35	13.47
Rubber and miscellaneous plastics products	7.17	7.65	7.81	7.91	7.91	7.91	7.92	7.95	7.97	7.96	8.06	8.03	8.08	8.12	8.07
Leather and leather products	4.99	5.32	5.41	5.44	5.50	5.50	5.52	5.52	5.51	5.49	5.52	5.50	5.56	5.55	5.57
<b>TRANSPORTATION AND PUBLIC UTILITIES</b>	9.70	10.30	10.59	10.62	10.69	10.72	10.68	10.72	10.74	10.73	10.86	10.68	10.90	10.94	10.97
<b>WHOLESALE AND RETAIL TRADE</b>	5.92	6.21	6.30	6.27	6.42	6.45	6.43	6.45	6.46	6.46	6.48	6.47	6.54	6.57	6.58
<b>WHOLESALE TRADE</b>	7.56	8.02	8.14	8.20	8.31	8.28	8.27	8.34	8.36	8.35	8.42	8.41	8.48	8.53	8.53
<b>RETAIL TRADE</b>	5.25	5.47	5.56	5.54	5.65	5.69	5.68	5.69	5.71	5.71	5.72	5.71	5.77	5.78	5.80
<b>FINANCE, INSURANCE, AND REAL ESTATE</b>	6.31	6.78	7.00	7.01	7.19	7.22	7.19	7.23	7.31	7.26	7.30	7.25	7.33	7.43	7.39
<b>SERVICES</b>	6.41	6.90	7.08	7.12	7.18	7.19	7.17	7.20	7.23	7.20	7.18	7.18	7.31	7.39	7.39

<sup>1</sup> Not 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						
	Nov. 1982	Sept. 1983	Oct. 1983 <sup>P</sup>	Nov. 1983 <sup>P</sup>	Percent change from: Nov. 1982 to Nov. 1983	Nov. 1982	July 1983	Aug. 1983	Sept. 1983	Oct. 1983 <sup>P</sup>	Nov. 1983 <sup>P</sup>	Percent change from: Oct. 1983 to Nov. 1983
<b>PRIVATE SECTOR (in current dollars)</b>	151.2	156.2	156.8	156.8	3.7	151.1	155.2	155.0	155.9	156.7	156.7	0.0
Mining	162.9	168.3	168.3	168.6	3.5	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Construction	142.3	147.1	146.7	144.5	1.5	141.9	144.0	144.1	145.5	144.8	144.0	-6
Manufacturing	155.4	158.5	158.8	159.6	2.7	155.3	158.8	158.1	158.3	158.8	159.5	4
Transportation and public utilities	153.2	158.1	159.0	159.4	4.0	152.2	157.9	155.4	157.2	158.5	158.3	-2
Wholesale and retail trade	147.2	153.2	153.6	153.7	4.4	147.5	152.2	152.3	153.1	153.9	154.0	.1
Finance, insurance, and real estate	152.7	159.8	161.9	161.2	5.6	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Services	151.0	156.9	158.3	158.0	4.7	150.7	155.6	155.9	157.1	158.5	157.7	-5
<b>PRIVATE SECTOR (in constant dollars)</b>	93.6	94.3	94.5	(2)	(2)	93.4	94.7	94.0	94.2	94.4	(2)	(2)

<sup>1</sup>This series is not seasonally adjusted because the seasonal component is small relative to the trend-cycle, irregular components, or both, and consequently cannot be separated with sufficient precision.  
<sup>2</sup>Not 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		1982		1983										
	1981	1982	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>P</sup>	Nov. <sup>P</sup>
<b>PRIVATE SECTOR</b>															
Current dollars	\$255.20	\$266.92	\$271.01	\$273.70	\$273.34	\$270.86	\$274.13	\$275.52	\$278.15	\$280.54	\$283.20	\$281.08	\$286.28	287.70	\$286.53
Seasonally adjusted	( <sup>1</sup> )	( <sup>1</sup> )	269.97	272.14	276.59	272.90	275.27	277.46	279.75	280.80	281.05	279.30	284.42	286.64	285.47
Constant (1977) dollars	170.13	167.87	167.81	170.11	169.88	168.24	169.85	169.55	170.33	171.37	172.37	170.35	172.77	173.31	( <sup>1</sup> )
<b>MINING</b>	438.75	459.23	458.02	465.47	476.43	464.63	467.74	469.25	472.64	478.13	475.31	481.66	489.19	489.02	482.51
<b>CONSTRUCTION</b>	399.26	426.45	423.09	440.13	440.96	424.80	434.98	436.73	441.32	444.95	450.00	449.92	455.94	447.14	427.79
<b>MANUFACTURING</b>															
Current dollars	318.00	330.65	338.37	344.60	341.43	339.50	346.10	349.05	350.32	355.04	354.40	353.36	363.12	362.64	365.98
Constant (1977) dollars	212.00	207.96	209.52	214.17	212.20	210.87	214.44	214.80	214.53	216.88	215.70	214.16	219.14	218.46	( <sup>1</sup> )
<b>Durable goods</b>															
Lumber and wood products	270.51	283.48	292.97	293.70	300.29	299.54	302.59	308.05	312.76	320.28	313.58	319.46	320.72	317.93	310.40
Furniture and fixtures	226.94	234.73	244.34	250.00	243.38	243.10	251.29	253.89	254.28	263.34	258.69	267.47	271.22	271.22	270.00
Stone, clay, and glass products	335.76	354.40	366.12	366.83	364.91	358.54	368.85	374.64	380.88	390.69	391.35	391.95	399.83	394.90	392.08
Primary metal industries	437.81	437.34	440.07	450.41	450.84	450.82	456.23	451.13	452.33	454.82	460.49	457.97	469.06	464.32	473.30
Fabricated metal products	330.06	344.18	350.66	359.30	354.71	354.37	361.10	364.61	366.83	371.69	365.82	372.10	381.29	380.37	385.22
<b>Machinery except electrical</b>															
Electric and electronic equipment	304.80	322.65	334.62	342.95	338.64	336.41	344.00	344.86	345.72	350.38	350.21	349.92	358.75	357.93	362.20
Transportation equipment	424.95	450.36	467.21	474.35	468.54	469.94	480.28	484.26	482.69	491.95	484.55	475.04	505.04	504.05	509.41
Instruments and related products	299.77	322.38	331.57	338.55	337.64	335.81	340.49	339.25	341.74	340.90	344.51	343.76	353.01	348.75	350.47
Miscellaneous manufacturing	231.64	247.56	256.50	260.13	260.06	253.72	263.25	263.64	264.62	264.91	264.62	266.27	270.58	272.63	271.95
<b>Nondurable goods</b>															
Food and kindred products	280.74	296.83	305.74	310.85	307.64	305.22	311.20	313.97	315.58	319.19	319.53	319.59	325.21	323.59	326.80
Tobacco manufactures	344.54	369.68	386.08	364.98	360.26	339.64	378.61	395.75	401.68	420.04	398.91	386.05	380.16	377.12	420.62
Textile mill products	218.59	218.63	231.47	236.77	237.12	236.07	242.57	246.83	248.67	253.18	248.03	254.41	257.92	257.09	257.50
Apparel and other textile products	177.43	180.44	184.97	186.38	188.68	185.48	190.28	192.07	192.41	196.18	193.14	195.81	198.35	198.72	198.74
Paper and allied products	365.50	389.58	402.24	410.13	402.41	396.62	406.14	410.18	415.94	425.14	429.56	428.86	439.79	435.31	437.74
Printing and publishing	305.49	324.63	332.72	341.10	332.79	330.83	338.63	337.72	337.57	338.84	341.25	344.58	351.50	351.88	354.88
Chemicals and allied products	379.39	407.36	420.66	427.25	421.87	425.77	428.07	432.85	435.75	440.79	440.13	439.25	447.91	449.53	458.96
Petroleum and coal products	491.62	546.99	564.26	563.05	572.46	573.73	584.32	581.23	575.73	579.48	584.76	572.46	591.85	584.73	594.03
Rubber and miscellaneous plastics products	288.95	302.94	309.28	319.56	317.19	314.03	321.55	326.75	327.57	328.75	329.65	330.84	338.55	339.42	338.13
Leather and leather products	183.13	189.39	194.22	196.38	196.90	190.30	197.06	201.48	204.42	207.52	207.00	206.25	208.50	206.46	207.76
<b>TRANSPORTATION AND PUBLIC UTILITIES</b>	382.18	401.70	413.01	416.30	409.43	411.65	413.32	413.79	415.64	419.54	425.71	421.86	429.46	432.13	431.12
<b>WHOLESALE AND RETAIL TRADE</b>	190.62	198.10	199.71	203.15	201.59	199.31	201.90	203.18	205.43	207.37	210.60	209.63	209.28	210.24	209.90
<b>WHOLESALE TRADE</b>	291.06	307.97	313.39	317.34	318.27	313.81	316.74	319.42	321.86	323.15	326.70	325.47	328.18	330.11	330.96
<b>RETAIL TRADE</b>	158.03	163.55	164.58	168.97	164.98	163.30	166.42	167.29	169.59	171.87	175.03	174.16	172.52	173.40	172.84
<b>FINANCE, INSURANCE, AND REAL ESTATE</b>	229.05	245.44	253.40	254.46	262.44	260.64	258.84	261.00	265.35	262.09	264.99	261.73	263.88	270.45	266.78
<b>SERVICES</b>	208.97	224.94	230.10	232.11	234.79	232.96	233.74	234.72	236.42	236.88	237.66	237.66	239.04	242.39	241.65

<sup>1</sup> Not available.  
p = preliminary.

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	1981	57.8	52.4	52.2	65.6	60.2	58.9	62.6	49.5	42.2	33.3	29.3	30.9
	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	P70.2	P60.5	—
Over 3-month span	1981	58.3	54.6	59.1	65.9	67.5	66.7	60.5	50.5	33.3	30.1	24.5	23.4
	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	45.4	55.1	65.6	75.8	76.1	77.2	73.9	79.6	P79.0	P72.0	—	—
Over 6-month span	1981	68.5	65.3	63.7	69.4	64.2	58.6	45.7	34.4	29.6	24.2	25.0	22.0
	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	P83.3	P80.9	—	—	—	—
Over 12-month span	1981	74.5	71.2	70.4	58.1	47.6	41.4	34.9	29.8	27.4	23.7	25.3	23.1
	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	P72.8	P75.5	—	—	—	—	—	—	—

p = preliminary.

are counted as rising.) Data are centered within the spans. See the "Definitions" in this section.  
See "Notes" on the data" for a description of the most recent benchmark revision.

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

## 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	1982			1983									
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>P</sup>
All programs:													
Insured unemployment	4,391	4,635	5,074	5,459	5,437	5,134	4,642	3,947	3,481	3,275	2,917	2,580	2,478
State unemployment insurance program: <sup>1</sup>													
Initial claims <sup>2</sup>	2,443	2,661	3,080	3,143	2,065	2,075	1,874	1,666	1,740	1,804	1,668	1,381	1,505
Insured unemployment (average weekly volume)	3,828	4,156	4,581	4,923	4,759	4,401	3,906	3,361	3,063	3,049	2,766	2,449	2,358
Rate of insured unemployment	4.4	4.7	5.2	5.6	5.5	5.0	4.5	3.9	3.5	3.5	3.2	2.8	2.7
Weeks of unemployment compensated	13,761	15,170	17,873	18,307	16,895	19,529	14,986	13,133	12,819	10,959	11,305	9,503	8,534
Average weekly benefit amount for total unemployment	\$122.90	\$123.43	\$123.42	\$124.29	\$124.47	\$125.47	\$124.85	\$124.49	\$123.44	\$121.59	\$121.42	\$121.36	\$123.28
Total benefits paid	\$1,647,343	\$1,820,019	\$2,135,302	\$2,205,551	\$2,052,415	\$2,367,752	\$1,816,539	\$1,587,888	\$1,549,758	\$1,298,189	\$1,337,442	\$1,104,363	\$1,018,684
State unemployment insurance program: <sup>1</sup> (Seasonally adjusted data)													
Initial claims <sup>2</sup>	2,688	2,680	2,586	2,187	2,138	2,148	1,952	1,993	1,836	1,723	1,841	1,664	1,638
Insured unemployment (average weekly volume)	4,680	4,618	4,355	3,980	3,979	3,884	3,774	3,538	3,301	3,303	3,026	3,088	2,617
Rate of insured unemployment	5.3	5.3	5.0	4.6	4.6	4.5	4.3	4.1	3.8	3.8	3.5	3.6	3.1
Unemployment compensation for ex-servicemen: <sup>3</sup>													
Initial claims <sup>1</sup>	10	17	24	21	16	18	15	14	16	16	19	17	16
Insured unemployment (average weekly volume)	9	14	26	37	37	34	30	26	25	25	26	27	28
Weeks of unemployment compensated	28	33	90	132	143	156	117	104	107	94	108	105	103
Total benefits paid	\$3,366	\$4,006	\$11,191	\$16,807	\$18,032	\$19,588	\$14,776	\$13,111	\$13,588	\$12,118	\$13,855	\$13,519	\$13,847
Unemployment compensation for Federal civilian employees: <sup>4</sup>													
Initial claims	16	14	15	16	10	11	10	9	13	12	11	11	15
Insured unemployment (average weekly volume)	28	31	33	35	33	31	26	22	21	23	22	22	25
Weeks of unemployment compensated	110	126	146	142	131	146	109	93	90	85	94	83	87
Total benefits paid	\$12,144	\$14,023	\$16,114	\$16,045	\$15,083	\$16,871	\$12,422	\$10,603	\$10,272	\$9,640	\$10,760	\$9,522	10,153
Railroad unemployment insurance:													
Applications	20	17	17	20	7	8	94	4	30	55	14	9	7
Insured unemployment (average weekly volume)	82	81	83	102	72	65	79	90	49	49	46	41	48
Number of payments	159	162	172	219	158	169	172	183	123	92	107	103	92
Average amount of benefit payment	\$212.35	\$216.55	\$217.00	\$220.32	\$214.54	\$213.44	\$203.87	\$215.15	\$203.54	\$199.87	\$214.21	\$214.77	\$211.41
Total benefits paid	\$31,638	\$35,061	\$39,500	\$44,514	\$33,100	\$36,243	\$27,783	\$29,411	\$14,984	\$17,551	\$21,789	\$20,239	\$19,531
Employment service: <sup>5</sup>													
New applications and renewals			4,527			8,381			11,987			13,136	
Nonfarm placements			642			1,184			1,921			2,521	

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

<sup>2</sup> Excludes transition claims under State programs.

<sup>3</sup> Excludes data on claims and payments made jointly with other programs.

<sup>4</sup> Excludes data on claims and payments made jointly with State programs.

<sup>5</sup> 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 products 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, 1967-82**

[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

**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							
	1982		1983						1982		1983					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.		
All items	294.1	297.1	298.1	299.3	300.3	302.6	293.6	294.9	296.3	297.2	298.2	299.5	300.8	301.3		
Food and beverages	279.6	285.0	284.7	284.7	284.9	285.3	285.7	279.9	285.4	285.0	285.0	285.1	285.6	285.9		
Housing	320.7	321.8	323.1	324.5	324.8	326.4	326.8	321.2	321.3	322.3	323.1	324.3	325.3	325.2		
Apparel and upkeep	195.5	196.1	195.6	195.0	197.3	200.4	200.7	194.6	195.3	194.7	194.0	196.3	199.3	199.8		
Transportation	295.5	296.2	298.3	300.4	302.4	303.7	305.0	297.0	297.5	299.6	301.9	304.1	305.5	306.9		
Medical care	338.7	354.3	355.4	357.7	360.0	361.2	362.9	336.5	352.1	353.3	355.6	357.9	359.2	360.9		
Entertainment	240.3	244.8	245.4	246.0	246.6	247.5	249.1	236.5	241.3	241.9	242.5	243.1	244.1	245.4		
Other goods and services	271.2	283.6	284.5	287.5	289.0	294.4	296.8	267.4	281.8	282.8	286.4	288.0	292.0	294.1		
Commodities	269.2	270.9	271.6	272.5	273.4	274.5	275.0	267.9	272.7	273.3	274.2	275.1	275.9	276.1		
Commodities less food and beverages	257.6	259.7	260.9	262.3	263.6	265.1	265.8	258.3	262.7	263.7	264.9	266.1	267.2	267.3		
Nondurables less food and beverages	271.0	271.3	272.3	273.5	274.7	275.8	275.2	272.9	273.3	274.4	275.7	276.9	277.9	277.4		
Durables	246.0	249.5	251.2	252.9	254.3	256.4	258.7	245.4	252.8	253.7	254.8	256.0	257.0	257.7		
Services	340.3	342.6	344.0	345.6	346.8	349.0	350.2	341.2	340.1	341.4	342.8	344.8	346.9	348.1		
Rent, residential	228.9	235.1	235.9	237.1	238.2	239.5	240.4	228.4	234.6	235.3	236.5	237.6	238.9	239.8		
Household services less rent of shelter (12/82 = 100)	...	103.2	104.2	104.8	104.8	105.1	104.8	...	...	...	...	...	...	...		
Transportation services	300.5	301.2	301.4	302.3	304.0	305.4	307.8	298.4	297.6	297.5	298.4	300.2	301.4	303.9		
Medical care services	366.9	383.5	384.6	387.2	389.8	391.0	392.9	363.9	380.5	381.7	384.4	387.0	388.3	390.2		
Other services	268.4	274.7	275.6	276.3	276.9	282.5	285.2	266.1	272.6	273.5	274.2	274.8	279.6	282.2		
Special indexes:																
All items less food	294.0	296.5	297.8	299.3	300.5	302.3	303.2	293.9	296.1	297.2	298.5	300.0	301.5	302.1		
All items less homeowners' costs	...	101.6	101.9	102.3	102.7	103.2	103.5	...	...	...	...	...	...	...		
All items less mortgage interest costs	...	...	...	...	...	...	...	277.9	281.7	283.5	285.3	286.3	287.5	288.1		
Commodities less food	255.4	257.6	258.9	260.2	261.4	262.9	263.6	256.1	260.6	261.6	262.7	263.9	264.9	265.1		
Nondurables less food	265.7	266.3	267.3	268.4	269.6	270.6	270.2	267.5	268.4	269.3	270.6	271.7	272.8	272.3		
Nondurables less food and apparel	305.5	306.7	308.4	310.4	310.9	311.0	310.2	306.9	308.2	309.9	312.1	312.7	312.8	311.9		
Nondurables	276.5	279.3	279.7	280.3	281.0	281.8	281.7	277.4	280.4	280.8	281.4	282.1	282.8	282.7		
Services less rent of shelter (12/82 = 100)	...	102.2	102.7	103.1	103.5	104.2	104.5	...	...	...	...	...	...	...		
Services less medical care	335.1	336.0	337.4	338.9	339.9	342.2	343.3	336.3	333.5	334.9	336.1	338.1	340.2	341.3		
Domestically produced farm foods	266.6	270.6	269.6	269.6	269.2	268.2	268.5	265.5	269.6	268.7	268.5	268.0	268.1	267.4		
Selected beef cuts	272.0	281.5	278.5	275.8	270.5	267.5	265.6	273.2	283.0	279.8	277.2	271.6	268.9	266.7		
Energy <sup>1</sup>	425.0	421.3	427.3	430.1	429.8	429.3	425.1	426.0	422.1	428.1	430.9	430.7	430.2	425.8		
Energy commodities <sup>1</sup>	431.9	416.3	420.7	423.4	423.7	422.1	418.2	432.3	417.3	421.7	424.5	424.9	423.4	419.6		
All items less energy	284.0	287.6	288.2	289.2	290.3	292.1	293.4	282.8	286.1	286.5	287.4	288.8	290.3	291.3		
All items less food and energy	281.5	284.7	285.5	286.8	288.2	290.2	291.8	280.4	283.2	283.8	284.9	286.6	288.3	289.5		
Commodities less food and energy	236.0	240.8	241.5	242.7	244.2	246.2	247.6	235.4	242.3	242.9	243.8	245.1	246.4	247.1		
Services less energy	334.4	335.6	336.4	337.9	339.3	341.6	343.3	335.2	332.6	333.2	334.5	336.8	339.0	340.8		
Purchasing power of the consumer dollar, 1967 = \$1	\$0.340	\$0.337	\$0.335	\$0.334	\$0.333	\$0.331	\$0.330	\$0.341	\$0.337	\$0.336	\$0.335	\$0.334	\$0.332	\$0.332		

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						
	1982	1983						1982	1983					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
<b>FOOD AND BEVERAGES</b>	279.6	285.0	284.7	284.7	284.9	285.3	285.7	279.9	285.4	285.0	285.0	285.1	285.6	285.9
<b>Food</b>	287.0	292.4	292.0	292.0	292.2	292.6	292.9	287.2	292.6	292.2	292.1	292.2	292.6	292.9
Food at home	279.4	283.8	283.0	282.8	282.5	282.5	282.3	278.5	282.9	282.1	281.8	281.5	281.5	281.3
Cereals and bakery products	285.0	291.7	292.4	293.7	294.0	293.7	294.0	283.7	290.2	291.0	292.3	292.5	292.3	292.6
Cereals and cereal products (12/77 = 100)	154.0	157.0	157.9	158.3	158.6	158.5	158.1	154.9	157.7	158.7	159.2	159.5	159.3	158.8
Flour and prepared flour mixes (12/77 = 100)	139.9	141.3	142.2	142.8	143.9	142.9	141.4	140.3	141.7	142.7	143.3	144.6	143.4	141.9
Cereal (12/77 = 100)	167.5	175.7	176.4	176.7	177.2	177.5	177.6	169.7	177.8	178.5	178.8	179.5	179.7	179.8
Rice, pasta, and cornmeal (12/77 = 100)	147.6	144.8	146.2	146.5	145.6	146.0	145.5	148.7	145.8	147.3	147.7	146.8	147.1	146.6
Bakery products (12/77 = 100)	149.7	153.5	153.7	154.4	154.5	154.4	154.8	148.6	152.2	152.4	153.2	153.3	153.1	153.5
White bread	246.7	252.6	253.1	254.3	253.1	252.9	254.4	242.6	248.2	248.8	249.9	248.7	248.5	250.0
Other breads (12/77 = 100)	146.5	149.7	149.8	149.5	150.1	149.8	149.8	148.4	151.8	151.8	151.6	152.2	151.9	151.8
Fresh biscuits, rolls, and muffins (12/77 = 100)	151.0	152.0	151.7	153.2	153.4	152.6	154.4	147.1	147.9	148.0	149.6	149.6	149.6	150.6
Fresh cakes and cupcakes (12/77 = 100)	150.1	154.7	154.6	155.4	154.9	155.2	156.2	148.5	153.0	152.9	153.6	153.3	153.5	154.5
Cookies (12/77 = 100)	152.2	156.1	155.7	157.0	157.6	157.6	156.0	153.2	156.8	156.4	157.9	158.5	158.6	156.8
Crackers, bread, and cracker products (12/77 = 100)	141.9	147.9	149.5	150.3	151.4	148.3	147.7	143.3	149.5	150.1	151.8	152.8	149.5	149.1
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	148.7	154.0	153.7	154.1	155.3	155.9	155.8	151.4	156.7	156.6	156.9	158.0	158.6	158.5
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	154.4	157.4	158.8	159.4	159.4	161.3	161.9	147.6	150.5	152.0	152.5	152.5	154.3	154.9
Meats, poultry, fish, and eggs	265.1	263.8	261.5	260.4	258.8	258.7	257.1	265.0	263.6	261.3	260.1	258.4	258.4	256.6
Meats, poultry, and fish	272.4	270.5	268.7	267.2	265.0	264.2	261.9	272.1	270.2	268.3	266.8	264.4	263.8	261.4
Meats	274.9	272.7	270.2	267.8	264.2	262.6	260.4	274.6	272.1	269.7	267.3	263.7	262.2	260.0
Beef and veal	272.2	281.3	278.6	275.8	270.7	268.0	266.2	272.7	282.0	279.2	276.5	271.1	268.7	266.7
Ground beef other than canned	262.4	266.9	264.5	261.4	256.5	254.3	250.9	263.7	268.3	265.7	262.7	258.0	255.9	252.1
Chuck roast	281.9	289.5	277.4	277.6	272.4	269.5	265.8	290.4	298.8	285.7	286.3	280.6	277.4	273.1
Round roast	237.9	249.6	245.6	240.7	232.4	230.3	234.4	240.5	252.3	249.1	243.8	235.0	232.8	237.2
Round steak	253.4	268.8	262.1	257.8	250.3	247.4	251.5	251.0	267.7	260.5	256.5	248.5	245.7	250.9
Sirloin steak	266.3	284.3	286.1	285.2	280.9	277.3	268.4	268.0	285.9	287.5	287.5	281.8	280.1	270.1
Other beef and veal (12/77 = 100)	164.9	170.2	170.5	168.8	166.6	164.8	164.0	163.4	168.6	169.1	167.4	165.1	163.7	162.6
Pork	277.9	257.3	254.1	251.2	249.6	250.2	246.4	277.0	256.8	253.9	250.8	249.3	249.7	246.0
Bacon	312.4	272.5	267.4	267.3	264.7	269.5	262.5	317.7	276.8	271.9	271.6	268.8	273.6	266.4
Chops	252.3	237.7	234.3	232.9	232.4	229.6	227.2	250.0	235.9	232.5	231.1	230.5	227.9	225.6
Ham other than canned (12/77 = 100)	126.5	112.0	110.3	108.3	109.6	111.0	111.6	123.4	109.3	107.5	105.5	106.8	108.1	108.8
Sausage	342.1	330.6	326.5	318.9	313.9	311.3	307.4	343.2	331.1	327.3	320.0	315.3	312.2	308.4
Canned ham	267.2	266.6	260.9	256.8	254.0	252.8	251.9	271.4	271.6	266.4	262.6	259.8	258.8	257.7
Other pork (12/77 = 100)	151.3	141.4	141.7	140.0	138.4	139.0	134.4	150.5	140.6	141.1	139.3	137.8	138.2	133.9
Other meats	272.2	267.7	267.4	266.9	264.6	262.6	262.2	272.2	267.3	266.9	266.6	264.4	262.4	262.0
Frankfurters	274.8	266.7	265.8	265.9	266.7	259.8	260.8	274.0	265.2	264.9	264.9	265.9	258.6	259.7
Bologna, liverwurst, and salami (12/77 = 100)	158.5	154.2	155.6	154.0	153.2	153.0	152.8	158.5	154.1	155.6	154.1	153.3	152.9	152.8
Other lunchmeats (12/77 = 100)	140.1	137.7	136.6	137.1	136.4	136.1	135.2	137.9	135.8	134.6	135.2	134.5	134.2	133.3
Lamb and organ meats (12/77 = 100)	137.0	139.1	139.3	138.4	133.8	133.9	133.7	140.6	142.2	142.3	141.6	136.6	136.9	136.8
Poultry	195.4	192.0	193.6	191.1	200.5	204.4	199.6	193.2	190.1	191.8	196.5	198.5	202.6	197.6
Fresh whole chicken	192.6	187.7	192.1	198.7	202.1	209.6	199.1	190.3	185.7	190.4	196.6	200.0	207.2	196.7
Fresh and frozen chicken parts (12/77 = 100)	126.8	126.6	126.3	126.9	131.7	135.9	132.2	124.9	124.9	124.7	127.7	129.9	134.2	130.5
Other poultry (12/77 = 100)	128.5	125.4	125.3	126.0	125.7	122.9	126.0	128.0	124.9	124.7	125.3	125.1	122.7	125.5
Fish and seafood	367.1	372.6	371.2	368.9	372.7	372.6	374.1	366.0	371.5	369.8	367.3	370.8	370.7	372.0
Canned fish and seafood	138.6	137.2	138.6	135.7	135.9	133.9	133.5	138.1	136.8	138.1	135.2	135.4	133.4	132.9
Fresh and frozen fish and seafood (12/77 = 100)	140.5	144.7	143.0	143.3	145.5	146.7	147.8	140.2	144.4	142.5	142.8	144.8	146.0	147.1
Eggs	175.8	181.8	173.8	177.9	183.7	183.7	200.1	176.7	182.7	174.8	178.7	184.6	194.3	201.0
Dairy products	247.1	250.3	249.8	249.8	250.2	250.2	250.1	246.4	249.6	249.1	249.0	249.4	249.4	249.2
Fresh milk and cream (12/77 = 100)	135.0	136.5	136.3	136.2	136.5	136.1	135.9	134.5	136.0	135.9	135.7	135.9	135.5	135.2
Fresh whole milk	220.8	223.2	222.9	222.8	223.2	222.6	221.9	220.0	222.3	222.1	222.0	222.3	221.7	220.9
Other fresh milk and cream (12/77 = 100)	135.3	136.8	136.8	136.8	136.8	136.4	136.6	134.7	136.3	136.3	135.8	136.2	135.8	136.0
Processed dairy products	146.2	148.6	148.1	148.2	148.4	149.0	149.2	146.5	148.8	148.3	148.5	148.6	149.3	149.4
Butter	252.6	254.4	252.7	253.3	254.2	253.9	256.2	255.1	256.9	255.4	255.8	256.8	256.4	258.7
Cheese (12/77 = 100)	144.7	146.5	146.0	146.9	146.4	146.8	146.7	145.0	146.8	146.3	147.3	146.7	147.1	147.0
Ice cream and related products (12/77 = 100)	150.4	153.6	154.0	151.6	152.5	154.4	154.9	149.6	152.7	153.0	150.7	151.5	153.5	154.0
Other dairy products (12/77 = 100)	141.0	144.6	143.1	144.5	145.9	146.0	145.2	141.7	145.3	143.7	145.1	146.5	146.5	145.8
Fruits and vegetables	280.7	298.2	298.2	298.7	299.4	297.6	296.7	275.0	294.5	294.5	294.7	295.1	293.3	292.7
Fresh fruits and vegetables	277.4	311.0	310.9	310.6	310.7	306.6	304.9	268.4	305.5	305.4	304.8	304.3	300.3	298.9
Fresh fruits	317.1	300.6	310.5	326.5	328.9	316.7	304.4	300.4	290.6	299.7	315.3	317.5	305.9	293.4
Apples	250.7	266.4	281.9	287.5	310.0	320.2	271.8	251.9	266.8	283.4	288.8	311.9	321.3	273.8
Bananas	227.8	312.5	318.1	325.2	291.0	278.6	272.8	226.7	311.1	316.7	323.1	290.7	276.5	270.3
Oranges	520.8	297.2	309.1	347.9	359.8	337.0	299.0	465.7	270.2	280.1	321.5	329.9	307.1	271.3
Other fresh fruits (12/77 = 100)	148.0	162.4	166.3	173.3	173.2	164.1	171.1	142.4	156.9	160.0	166.6	166.3	157.7	164.7
Fresh vegetables	240.2	320.8	311.3	295.8	293.8	297.2	305.6	239.7	319.2	310.8	295.5	292.5	295.4	303.9
Potatoes	243.8	282.3	304.7	320.7	342.2	336.1	316.9	240.5	277.3	301.3	318.2	338.2	330.9	311.7
Lettuce	259.2	340.9	363.5	280.5	293.9	337.0	360.4	260.9	338.0	360.8	280.6	294.2	338.2	360.9
Tomatoes	210.5	307.8	262.3	243.1	200.5	212.2	241.9	213.7	313.2	267.1	247.3	204.0	216.2	246.8
Other fresh vegetables (12/77 = 100)	131.5	184.1	169.4	167.6	163.6	158.0	163.0	1						

**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							
	1982	1983					1982	1983						
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
<b>FOOD AND BEVERAGES—Continued</b>														
<b>Food—Continued</b>														
Food at home—Continued														
Fruits and vegetables—Continued														
Cut corn and canned beans except lima (12/77 = 100)	140.8	138.4	140.5	140.9	142.0	141.8	142.4	138.4	136.2	138.1	138.6	139.5	139.3	140.0
Other canned and dried vegetables (12/77 = 100)	133.9	130.8	131.2	131.7	132.9	134.0	135.7	132.4	129.5	129.8	130.2	131.5	132.6	134.2
Other foods at home	334.8	339.1	338.8	338.7	339.1	340.7	342.7	335.7	339.8	339.5	339.3	339.9	341.5	343.5
Sugar and sweets	370.6	373.1	374.5	376.1	375.8	376.4	375.5	370.6	372.9	374.1	376.0	375.7	376.2	375.3
Candy and chewing gum (12/77 = 100)	149.4	151.0	151.3	151.8	151.6	151.9	151.8	149.3	151.0	151.2	151.8	151.8	151.6	151.6
Sugar and artificial sweeteners (12/77 = 100)	167.3	167.2	168.5	169.7	169.7	170.3	169.6	168.8	168.7	169.8	171.0	171.0	171.6	170.8
Other sweets (12/77 = 100)	151.0	152.0	152.5	153.0	152.8	152.7	152.2	148.9	149.6	150.2	150.8	150.6	150.5	150.1
Fats and oils (12/77 = 100)	258.4	258.3	258.3	259.0	258.1	264.8	271.1	258.4	258.2	258.0	258.7	257.8	264.7	271.2
Margarine	258.4	257.1	259.3	259.5	257.2	259.3	264.6	257.8	255.5	257.5	257.6	255.1	257.3	262.6
Nondairy substitutes and peanut butter (12/77 = 100)	151.2	150.7	149.4	150.5	149.8	148.9	151.6	149.5	149.1	147.7	148.8	148.1	147.2	149.8
Other fats, oils, and salad dressings (12/77 = 100)	129.7	130.2	130.1	130.3	130.3	136.9	140.7	130.2	130.8	130.7	130.9	130.9	137.5	141.5
Nonalcoholic beverages	427.5	431.1	431.0	428.7	430.7	431.2	436.4	429.2	432.4	432.6	430.3	432.5	433.1	438.4
Cola drinks, excluding diet cola	308.9	311.5	312.3	310.3	312.4	312.7	317.2	306.2	308.5	309.7	307.8	309.9	310.2	314.7
Carbonated drinks, including diet cola (12/77 = 100)	146.2	147.3	146.3	145.1	146.3	147.6	150.8	144.0	144.9	143.9	142.6	144.1	145.3	148.7
Roasted coffee	362.0	360.8	359.3	356.6	356.0	353.7	352.8	357.2	355.6	354.3	351.7	350.8	348.4	347.6
Freeze dried and instant coffee	343.6	351.6	352.2	351.4	352.3	348.3	350.2	343.2	351.0	351.6	350.7	351.5	347.5	349.3
Other noncarbonated drinks (12/77 = 100)	139.1	140.1	140.5	140.4	140.5	141.0	141.9	139.3	140.4	140.7	140.7	140.8	141.3	142.2
Other prepared foods	270.5	277.2	276.1	276.8	276.9	277.8	276.8	272.2	278.8	277.7	278.4	278.5	279.4	278.2
Canned and packaged soup (12/77 = 100)	136.8	141.6	141.6	141.9	141.8	141.4	141.3	138.7	143.6	143.4	143.7	143.7	143.3	143.2
Frozen prepared foods (12/77 = 100)	148.5	154.4	153.8	154.4	155.1	155.7	154.7	147.9	153.7	153.1	153.5	154.2	154.9	153.7
Snacks (12/77 = 100)	153.3	160.6	159.0	159.3	159.3	159.9	159.0	155.4	162.7	161.1	161.3	161.4	162.0	160.8
Seasonings, olives, pickles, and relish (12/77 = 100)	156.5	159.3	158.6	158.5	158.3	158.9	159.6	155.6	158.4	157.6	157.5	157.4	158.1	158.7
Other condiments (12/77 = 100)	152.1	155.6	155.4	156.1	156.0	156.3	156.0	153.9	157.4	157.2	157.9	157.9	158.2	157.9
Miscellaneous prepared foods (12/77 = 100)	151.4	152.0	151.2	151.6	151.5	152.2	151.8	151.6	152.3	151.5	151.8	151.8	152.5	152.0
Other canned and packaged prepared foods (12/77 = 100)	145.8	146.2	146.2	146.6	146.5	147.2	146.2	147.2	147.5	147.6	148.0	147.7	148.4	147.4
Food away from home	310.7	318.6	319.3	319.8	321.0	322.2	323.9	313.8	321.9	322.5	323.0	324.3	325.4	327.2
Lunch (12/77 = 100)	151.2	154.6	154.9	154.9	155.4	155.9	156.7	152.8	156.2	156.5	156.5	157.1	157.5	158.3
Dinner (12/77 = 100)	149.5	152.7	153.1	153.4	153.9	154.9	155.5	151.2	154.4	154.8	155.1	155.6	156.6	157.2
Other meals and snacks (12/77 = 100)	152.1	157.9	158.2	158.6	159.5	159.4	160.7	152.7	158.4	158.7	159.1	160.0	159.9	161.2
<b>Alcoholic beverages</b>	210.6	216.6	217.0	217.2	217.1	218.4	218.9	212.8	219.1	219.6	219.8	219.7	221.3	221.8
Alcoholic beverages at home (12/77 = 100)	136.2	140.0	140.3	140.7	140.3	141.2	141.4	137.6	141.7	142.0	142.5	142.1	143.2	143.4
Beer and ale	212.7	222.7	224.1	224.8	224.4	225.4	226.1	211.8	221.5	222.8	223.6	223.2	224.8	225.3
Whiskey	150.0	151.3	151.6	152.1	151.6	153.7	153.5	150.7	151.9	152.1	152.6	152.1	154.2	154.0
Wine	236.4	239.1	236.3	237.1	234.8	235.7	237.1	244.8	247.0	244.1	245.2	244.2	243.7	245.5
Other alcoholic beverages (12/77 = 100)	120.3	121.5	122.1	121.7	122.4	122.5	122.3	120.3	121.4	122.0	121.8	122.4	122.3	122.2
Alcoholic beverages away from home (12/77 = 100)	142.7	147.0	147.1	146.1	147.3	148.4	148.7	144.0	148.2	148.3	147.1	148.5	149.6	149.8
<b>HOUSING</b>	320.7	321.8	323.1	324.5	324.8	326.4	326.8	321.2	321.3	322.3	323.1	324.3	325.3	325.2
<b>Shelter (CPI-U)</b>	342.8	342.7	343.6	345.3	346.6	348.5	349.8	345.2	345.2	345.2	345.2	345.2	345.2	345.2
Renters' costs	228.9	235.1	235.9	237.1	238.2	239.5	240.4	228.4	228.4	228.4	228.4	228.4	228.4	228.4
Rent, residential	228.9	235.1	235.9	237.1	238.2	239.5	240.4	228.4	228.4	228.4	228.4	228.4	228.4	228.4
Other renters' costs	341.6	347.5	347.9	352.3	355.8	361.3	362.0	339.5	339.5	339.5	339.5	339.5	339.5	339.5
Homeowners' costs <sup>2</sup>	102.0	102.2	102.7	103.0	103.5	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9	103.9
Owners' equivalent rent	101.9	102.2	102.7	103.0	103.5	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8	103.8
Household insurance	102.4	102.4	102.7	103.5	104.0	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5	105.5
Maintenance and repairs	339.4	344.3	345.1	346.1	347.9	346.6	351.1	335.4	335.4	335.4	335.4	335.4	335.4	335.4
Maintenance and repair services	374.1	382.7	381.6	383.3	388.6	387.6	397.2	374.9	374.9	374.9	374.9	374.9	374.9	374.9
Maintenance and repair commodities	257.3	260.0	262.3	262.6	261.2	259.9	259.5	251.2	251.2	251.2	251.2	251.2	251.2	251.2
<b>Shelter (CPI-W)</b>	345.2	342.9	343.3	344.1	346.4	347.5	347.6	345.2	342.9	343.3	344.1	346.4	347.5	347.6
Rent, residential	228.4	234.6	235.3	236.5	237.6	238.9	239.8	228.4	234.6	235.3	236.5	237.6	238.9	239.8
Other renters' costs	339.5	345.5	345.8	350.4	354.0	358.6	359.3	339.5	345.5	345.8	350.4	354.0	358.6	359.3
Lodging while out of town	355.6	363.0	363.5	370.7	375.7	374.8	374.2	355.6	363.0	363.5	370.7	375.7	374.8	374.2
Tenants' insurance (12/77 = 100)	148.3	154.0	153.5	153.8	155.4	156.2	156.6	148.3	154.0	153.5	153.8	155.4	156.2	156.6
Homeownership	387.1	381.7	381.9	382.5	385.2	386.1	385.9	387.1	381.7	381.9	382.5	385.2	386.1	385.9
Home purchase	289.7	303.9	303.5	303.3	304.1	303.4	301.3	289.7	303.9	303.5	303.3	304.1	303.4	301.3
Financing, taxes, and insurance	524.3	489.1	490.0	491.3	496.6	500.0	500.6	524.3	489.1	490.0	491.3	496.6	500.0	500.6
Property insurance	408.5	426.3	430.6	430.8	430.8	434.9	437.4	408.5	426.3	430.6	430.8	430.8	434.9	437.4
Property taxes	226.4	233.8	234.6	235.1	237.1	238.5	239.1	226.4	233.8	234.6	235.1	237.1	238.5	239.1
Contracted mortgage interest costs	678.8	620.1	620.8	622.5	629.8	634.2	634.7	678.8	620.1	620.8	622.5	629.8	634.2	634.7
Mortgage interest rates	232.4	202.4	203.0	203.8	205.2	207.2	208.8	232.4	202.4	203.0	203.8	205.2	207.2	208.8
Maintenance and repairs	335.4	339.9	341.0	342.0	344.3	343.7	348.1	335.4	339.9	341.0	342.0	344.3	343.7	348.1
Maintenance and repair services	374.9	379.5	380.0	381.4	385.1	385.5	392.5	374.9	379.5	380.0	381.4	385.1	385.5	392.5
Maintenance and repair commodities	251.2	255.6	257.5	258.0	257.5	254.7	254.7	251.2	255.6	257.5	258.0	257.5	254.7	254.7
Paint and wallpaper, supplies, tools, and equipment (12/77 = 100)	145.7	148.1	149.4	149.2	147.6	145.8	145.7	145.7	148.1	149.4	149.2	147.6	145.8	145.7
Lumber, awnings, glass, and masonry (12/77 = 100)	120.4	124.3	124.2	125.8	126.8	125.3	124.2	120.4	124.3	124.2	125.8	126.8	125.3	124.2
Plumbing, electrical, heating, and cooling supplies (12/77 = 100)	134.6	138.0	138.8	138.7	139.5	140.7	141.3	134.6	138.0	138.8	138.7	139.5	140.7	141.3
Miscellaneous supplies and equipment (12/77 = 100)	141.8	141.3	144.1	143.3	143.3	142.2	141.9	141.8	141.3	144.1	143.3	143.3	142.2	141.9



**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						
	1982	1983						1982	1983					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
<b>Fuel and other utilities</b>	363.4	369.3	373.6	375.5	375.1	376.4	374.4	364.7	370.8	375.5	377.3	376.8	378.1	375.7
<b>Fuels</b>	464.5	468.3	475.2	477.7	476.5	478.3	474.4	464.0	468.2	475.6	477.9	476.6	478.3	474.0
Fuel oil, coal, and bottled gas	677.2	621.0	620.0	619.3	619.0	623.2	624.7	679.7	623.4	622.4	621.7	621.5	625.6	627.2
Fuel oil	699.1	629.6	628.5	627.2	626.5	631.2	632.6	701.2	631.8	630.7	629.5	628.9	633.7	635.1
Other fuels (6/78 = 100)	183.7	188.6	188.6	189.3	190.0	190.2	191.0	184.8	189.7	189.5	190.2	190.8	191.0	191.9
Gas (piped) and electricity	413.4	429.1	437.4	440.5	439.1	440.5	435.6	412.4	428.5	437.4	440.3	438.7	440.0	434.5
Electricity	327.0	324.7	337.4	341.1	340.7	342.3	339.2	326.3	324.2	337.9	341.6	341.2	342.6	338.8
Utility (piped) gas	542.0	593.9	591.8	593.0	589.8	590.5	582.4	538.8	591.0	588.8	589.5	585.8	586.4	578.3
<b>HOUSING</b>														
<b>Fuel and other utilities</b>														
<b>Other utilities and public services</b>	204.5	212.5	213.2	214.2	214.8	215.4	215.8	205.3	213.4	214.1	215.3	215.9	216.4	216.9
Telephone services	166.2	172.8	173.4	173.8	173.9	174.4	174.1	166.6	173.2	173.9	174.3	174.5	175.0	174.7
Local charges (12/77 = 100)	135.2	140.9	141.8	141.8	142.1	142.6	142.2	135.7	141.3	142.2	142.3	142.6	143.1	142.8
Interstate toll calls (12/77 = 100)	119.7	121.8	121.8	121.9	121.9	121.9	121.5	120.2	122.3	122.2	122.3	122.4	122.3	121.9
Intrastate toll calls (12/77 = 100)	110.4	117.1	117.4	118.2	118.3	118.6	119.0	110.1	117.1	117.4	118.2	118.3	118.7	119.1
Water and sewerage maintenance	334.1	348.2	348.9	353.5	355.9	356.8	361.7	337.1	351.8	352.6	357.7	360.2	361.0	366.2
<b>Household furnishings and operations</b>	235.4	238.4	238.6	238.9	238.0	238.9	239.4	232.3	235.4	235.5	235.8	234.8	235.8	236.2
<b>Housefurnishings</b>	195.9	197.6	197.8	198.1	196.7	197.6	198.0	193.9	195.8	195.9	196.1	194.7	195.6	196.0
Textile housefurnishings	223.2	228.7	226.8	227.3	226.1	231.2	228.8	226.4	232.7	230.5	231.1	229.6	234.6	232.0
Household linens (12/77 = 100)	136.4	136.2	135.4	134.4	133.4	138.1	136.0	137.6	137.3	136.4	135.6	134.5	139.0	137.0
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	142.0	149.4	147.7	149.3	149.0	150.5	149.6	145.3	154.1	152.1	154.0	153.3	154.8	153.6
Furniture and bedding	215.8	220.0	220.0	220.5	217.2	217.9	219.8	212.3	216.7	216.5	217.6	214.3	215.1	216.6
Bedroom furniture (12/77 = 100)	146.7	151.9	152.3	156.5	151.3	152.5	152.9	143.5	148.8	148.9	153.0	148.2	148.9	149.0
Sofas (12/77 = 100)	119.4	118.1	118.0	117.7	117.3	117.6	118.8	119.6	118.6	118.3	118.0	117.6	118.1	119.2
Living room chairs and tables (12/77 = 100)	122.6	123.9	124.2	123.9	123.5	124.2	125.4	122.9	124.5	124.9	125.0	124.5	125.2	126.5
Other furniture (12/77 = 100)	140.6	144.5	143.8	141.1	139.8	139.4	141.2	136.0	139.8	139.0	137.1	135.6	135.8	137.2
Appliances including TV and sound equipment	152.0	151.2	151.4	150.9	150.6	151.0	151.2	151.9	151.7	151.9	151.2	150.8	151.2	151.7
Television and sound equipment	108.5	106.1	105.9	105.2	105.1	105.1	104.9	107.6	105.1	105.0	104.3	104.3	104.2	103.9
Television	103.5	100.2	100.8	100.1	100.1	99.6	99.1	102.1	99.0	99.6	99.0	99.0	98.3	97.8
Sound equipment (12/77 = 100)	114.1	112.3	111.6	110.8	110.6	111.1	111.0	113.3	111.3	110.5	109.8	109.7	110.2	110.0
Household appliances	185.4	187.8	188.4	188.6	188.0	189.2	190.3	185.9	188.9	189.5	189.0	188.0	189.1	190.5
Refrigerators and home freezers	191.1	194.1	194.0	192.7	191.4	192.4	194.0	196.9	200.3	200.2	199.2	197.2	198.0	200.0
Laundry equipment	140.0	143.5	144.6	143.0	142.0	142.7	142.7	140.4	144.6	145.2	143.5	142.8	143.6	144.1
Other household appliances (12/77 = 100)	123.5	124.3	124.7	125.6	125.4	126.2	127.0	121.7	122.6	123.2	123.6	123.4	124.2	125.2
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	122.9	123.2	123.9	124.0	123.7	125.4	125.9	121.4	121.7	122.8	122.6	122.1	123.6	124.1
Office machines, small electric appliances, and air conditioners (12/77 = 100)	124.0	125.5	125.7	127.3	127.2	127.3	128.3	122.0	123.6	123.7	124.8	124.8	124.9	126.4
Other household equipment (12/77 = 100)	139.6	139.9	141.2	142.0	141.2	141.0	141.3	137.6	138.0	139.0	139.7	138.9	138.8	138.9
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	143.4	143.2	142.2	145.1	144.4	144.2	146.5	136.0	135.5	134.3	137.3	136.4	136.0	138.2
Clocks, lamps, and decor items (12/77 = 100)	131.3	132.5	133.0	133.6	132.3	132.9	134.0	126.4	128.3	128.8	129.3	128.3	128.4	129.3
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	145.1	145.1	149.2	149.1	148.7	147.7	145.6	141.3	141.6	145.0	144.9	144.4	143.6	141.7
Lawn equipment, power tools, and other hardware (12/77 = 100)	134.8	135.1	135.0	135.5	134.2	134.7	135.9	140.1	140.2	139.9	140.4	139.3	140.2	141.2
<b>Housekeeping supplies</b>	290.1	296.6	296.3	296.8	295.8	295.7	296.6	286.7	293.6	293.2	293.5	292.7	293.1	293.6
Soaps and detergents	283.5	294.5	294.9	294.6	294.4	296.1	295.2	279.7	290.6	290.9	290.3	290.2	292.0	291.1
Other laundry and cleaning products (12/77 = 100)	146.8	150.3	151.5	151.4	151.0	152.0	151.6	145.7	149.2	150.4	150.2	149.8	150.9	150.5
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	148.9	148.0	147.3	148.1	148.1	148.0	147.8	148.9	148.0	147.4	148.2	148.1	148.2	148.0
Stationery, stationery supplies, and gift wrap (12/77 = 100)	137.6	139.8	139.9	140.3	139.5	139.5	139.5	140.7	142.9	142.8	143.2	142.5	142.6	142.6
Miscellaneous household products (12/77 = 100)	150.9	154.4	154.0	153.9	154.1	154.9	155.9	145.6	149.1	148.7	148.6	148.8	149.5	150.4
Lawn and garden supplies (12/77 = 100)	142.3	147.3	145.8	146.6	144.6	140.8	144.1	135.1	141.4	139.4	139.7	137.8	134.9	137.2
<b>Housekeeping services</b>	313.8	318.0	318.5	318.7	319.3	320.9	321.6	313.2	317.5	318.0	318.3	319.1	320.8	321.7
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)	157.0	161.7	162.3	162.2	162.8	165.9	167.1	157.2	161.7	162.3	162.3	163.1	166.0	167.3
Appliance and furniture repair (12/77 = 100)	139.0	142.9	143.3	144.0	144.9	145.4	145.8	137.4	141.2	141.6	142.2	143.1	143.6	144.0
<b>APPAREL AND UPKEEP</b>	195.5	196.1	195.6	195.0	197.3	200.4	200.7	194.6	195.3	194.7	194.0	196.3	199.3	199.8
<b>Apparel commodities</b>	184.6	184.2	183.6	182.8	185.3	188.5	188.7	184.1	183.9	183.2	182.4	184.7	188.0	188.4
Apparel commodities less footwear	180.9	180.2	179.7	179.3	181.9	185.3	185.4	180.2	179.8	179.2	178.7	181.2	184.6	185.0
<b>Men's and boys'</b>	188.6	189.5	189.1	188.2	188.3	190.8	192.1	188.6	189.7	189.0	188.1	188.3	191.1	192.5
Men's (12/77 = 100)	119.0	119.2	118.8	118.3	118.5	120.1	120.8	119.4	119.9	119.2	118.7	118.9	120.7	121.4
Suits, sport coats, and jackets (12/77 = 100)	111.6	110.9	111.2	110.7	111.4	112.3	113.7	104.3	103.9	103.9	103.3	104.4	105.5	106.9
Coats and jackets	103.7	101.1	100.7	98.2	99.5	104.4	105.7	106.4	103.3	103.3	100.7	101.7	107.5	108.9
Furnishings and special clothing (12/77 = 100)	141.0	144.5	144.3	145.3	144.8	145.4	145.7	137.7	140.4	140.3	141.3	140.8	141.6	141.9
Shirts (12/77 = 100)	125.2	124.6	122.6	120.9	121.6	125.6	125.1	128.1	127.6	125.8	124.2	124.7	128.6	127.8
Dungarees, jeans, and trousers (12/77 = 100)	112.4	113.2	113.0	112.8	112.3	112.4	113.1	118.0	119.1	118.6	118.4	118.1	118.2	119.1
Boys' (12/77 = 100)	121.7	123.3	123.7	123.0	122.6	124.1	125.4	119.8	121.4	121.6	120.9	120.7	122.4	123.9
Coats, jackets, sweaters, and shirts (12/77 = 100)	114.5	115.4	116.3	114.9	115.4	119.0	120.9	115.3	116.1	116.6	115.5	116.2	120.5	122.7
Furnishings (12/77 = 100)	133.6	136.1	135.8	134.9	134.2	135.1	136.2	129.5	131.6	131.2	130.4	129.9	130.7	131.9
Suits, trousers, sport coats, and jackets (12/77 = 100)	122.7	124.4	124.7	124.6	123.5	123.7	124.7	119.7	121.7	121.9	121.6	120.7	120.8	121.8
<b>Women's and girls'</b>	163.0	160.1	159.7	158.8	164.2	168.8	168.6	164.7	162.4	161.5	160.8	165.8	170.2	170.4
Women's (12/77 = 100)	108.1	106.1	106.1	105.5	109.5	112.8	112.3	109.8	107.6	107.4	107.0	111.1	114.3	114.0
Coats and jackets	170.5	164.7	164.7	164.8	171.6	176.6	175.9	176.8	172.7</					

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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						
	1982	1983						1982	1983					
	Oct. <sup>2</sup>	May	June	July	Aug.	Sept.	Oct.	Oct. <sup>2</sup>	May	June	July	Aug.	Sept.	Oct.
<b>APPAREL AND UPKEEP—Continued</b>														
<b>Apparel Commodities—Continued</b>														
Apparel commodities less footwear—Continued														
Separates and sportswear (12/77 = 100)	102.0	98.1	97.7	96.3	99.4	102.5	103.9	102.9	98.9	98.4	96.9	99.7	102.9	104.2
Underwear, nightwear, and hosiery (12/77 = 100)	129.9	133.0	132.8	131.7	133.2	135.1	135.6	129.6	132.7	132.4	131.4	132.9	134.8	135.3
Suits (12/77 = 100)	88.6	77.8	77.2	81.0	87.3	94.3	89.9	106.7	95.9	93.9	99.8	108.1	115.0	112.6
Girls' (12/77 = 100)	109.9	108.4	106.5	106.2	107.7	104.5	111.4	108.7	109.4	107.4	106.6	106.8	108.3	110.4
Coats, jackets, dresses, and suits (12/77 = 100)	104.5	96.3	96.3	100.1	101.9	101.6	105.8	102.3	97.3	96.5	100.0	98.7	98.5	103.1
Separates and sportswear (12/77 = 100)	106.0	108.1	103.5	99.8	102.0	106.3	106.8	105.2	110.3	106.1	101.3	102.9	106.8	107.4
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	126.0	128.6	128.6	127.7	127.8	128.4	129.0	125.1	127.4	127.5	126.8	126.7	127.0	127.6
Infants' and toddlers'	275.8	280.7	283.0	282.4	281.9	287.4	289.0	286.8	290.9	293.4	293.1	292.3	297.9	299.9
Other apparel commodities	213.1	215.0	214.0	215.9	216.2	217.4	215.5	201.7	203.3	203.0	204.6	204.6	205.9	204.0
Sewing materials and notions (12/77 = 100)	119.3	122.9	122.4	123.0	121.6	121.9	120.4	117.7	120.6	120.5	121.0	119.8	120.2	118.5
Jewelry and luggage (12/77 = 100)	145.6	145.9	145.1	146.7	147.5	148.5	147.4	136.2	136.5	136.2	137.4	138.0	139.0	138.0
Footwear	206.8	208.0	206.8	203.8	205.7	208.0	208.6	206.7	207.7	206.6	203.7	205.5	207.6	208.1
Men's (12/77 = 100)	133.2	133.7	133.7	132.8	132.3	134.8	135.0	134.5	135.0	135.5	134.7	134.2	136.7	136.9
Boys' and girls' (12/77 = 100)	129.5	131.7	130.7	128.9	130.3	130.4	131.1	132.1	134.3	133.1	131.0	132.6	132.9	133.2
Women's (12/77 = 100)	126.9	126.9	125.6	122.9	125.3	126.8	127.1	122.8	122.5	121.3	118.9	121.1	122.3	122.6
<b>Apparel services</b>	281.3	290.3	290.9	291.8	292.3	293.4	294.6	279.7	288.6	289.2	290.0	290.4	291.5	292.6
Laundry and drycleaning other than coin operated (12/77 = 100)	167.2	172.8	173.5	174.1	174.5	174.4	176.0	165.8	171.3	171.9	172.5	172.9	173.3	174.3
Other apparel services (12/77 = 100)	148.2	152.5	152.4	152.7	152.7	153.7	153.8	149.3	153.7	153.7	153.9	153.9	154.8	154.9
<b>TRANSPORTATION</b>	295.5	296.2	298.3	300.4	302.4	303.7	305.7	297.0	297.5	299.6	301.9	304.1	305.5	306.9
<b>Private</b>	291.1	291.7	293.8	296.0	298.0	299.2	300.4	293.8	294.1	296.3	298.6	300.8	302.2	303.6
New cars	197.7	201.6	201.6	201.4	202.1	202.7	204.3	197.4	201.3	201.2	201.0	201.7	202.3	203.8
Used cars	306.7	317.1	322.7	329.6	336.8	343.9	350.4	306.7	317.1	322.7	329.6	336.8	343.9	350.4
Gasoline	390.6	380.9	386.1	389.3	389.5	387.1	382.4	391.9	382.4	387.4	390.6	391.0	388.8	384.3
Automobile maintenance and repair	321.9	328.7	329.5	329.8	331.0	332.3	333.5	322.6	329.4	330.2	330.4	331.7	333.0	334.1
Body work (12/77 = 100)	160.4	165.5	166.4	166.6	167.1	167.7	169.0	159.4	164.3	165.3	165.6	166.0	166.0	167.8
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	153.2	157.7	157.7	158.3	158.9	160.7	161.9	157.2	161.6	161.7	162.2	162.8	164.5	165.7
Maintenance and servicing (12/77 = 100)	149.3	151.7	152.2	152.0	152.8	152.6	152.5	148.6	151.0	151.5	151.3	152.2	151.9	151.7
Power plant repair (12/77 = 100)	154.3	156.8	157.0	157.3	157.5	158.4	159.1	153.8	156.3	156.4	156.6	156.9	157.8	158.5
Other private transportation	261.4	258.7	258.1	258.6	260.0	260.8	263.3	264.1	259.6	258.9	259.4	261.1	261.8	264.4
Other private transportation commodities	214.4	210.9	210.4	209.6	208.9	208.3	208.1	216.9	213.3	212.9	212.1	211.2	210.9	210.7
Motor oil, coolant, and other products (12/77 = 100)	151.9	155.1	156.0	155.3	153.5	154.2	152.7	151.0	153.9	154.8	154.1	152.6	153.2	152.2
Automobile parts and equipment (12/77 = 100)	136.7	133.6	133.2	132.7	132.4	131.9	131.9	138.6	135.4	135.0	134.5	134.1	133.8	133.8
Tires	189.6	185.1	184.3	183.5	183.4	181.7	181.7	193.2	188.8	187.9	187.2	186.9	185.4	185.4
Other parts and equipment (12/77 = 100)	135.4	132.7	132.7	132.3	131.6	132.9	133.0	135.4	132.4	132.5	132.1	131.3	132.8	132.8
Other private transportation services	276.4	273.9	273.3	274.1	276.0	277.3	280.5	279.1	274.4	273.6	274.5	276.8	277.8	281.1
Automobile insurance	283.9	301.2	301.1	302.4	302.9	303.8	309.4	283.2	300.5	300.6	302.0	302.5	303.4	308.8
Automobile finance charges (12/77 = 100)	185.2	154.5	152.2	151.7	155.4	156.4	157.2	184.6	153.8	151.4	151.1	155.0	155.8	156.8
Automobile rental, registration, and other fees (12/77 = 100)	138.8	143.8	144.7	145.6	146.0	146.9	147.1	139.8	144.9	146.0	146.9	147.2	147.9	148.2
State registration	183.7	192.3	192.3	194.8	194.6	195.3	195.4	183.2	192.1	192.1	194.7	194.5	195.2	195.2
Drivers' licenses (12/77 = 100)	132.8	133.9	130.3	132.9	133.0	133.0	133.1	133.1	134.1	130.6	133.4	133.4	133.4	134.4
Vehicle inspection (12/77 = 100)	128.5	131.2	131.2	130.9	130.9	130.9	130.9	129.9	132.5	132.5	132.5	130.9	140.5	140.5
Other vehicle-related fees (12/77 = 100)	154.2	158.5	159.0	157.9	158.8	160.5	160.2	162.7	166.5	167.0	165.5	166.3	167.8	167.6
<b>Public</b>	356.3	359.1	361.2	363.2	365.0	366.6	368.2	348.2	351.2	352.7	354.4	355.7	357.2	358.5
Airline fare	413.7	411.2	415.4	418.8	420.7	423.3	426.6	411.1	407.4	410.9	415.9	417.1	419.5	422.5
Intercity bus fare	370.6	401.7	403.9	404.2	412.8	415.1	417.7	372.5	403.0	405.2	404.1	412.7	415.3	417.6
Intracity mass transit	315.2	321.7	321.7	322.6	323.7	324.6	324.8	314.7	320.1	320.6	320.7	321.6	322.5	323.0
Taxi fare	300.2	302.1	301.0	301.0	302.4	303.5	303.1	309.9	311.6	311.0	311.0	311.8	312.7	312.2
Intercity train fare	338.4	352.3	353.2	361.3	364.5	364.8	365.4	338.4	352.7	353.6	362.3	365.2	365.4	366.1
<b>MEDICAL CARE</b>	338.7	354.3	355.4	357.7	360.0	361.2	362.9	336.5	352.1	353.3	355.6	357.9	359.2	360.9
<b>Medical care commodities</b>	211.6	222.5	223.2	224.2	225.4	226.3	227.5	212.1	222.8	223.6	224.5	225.8	226.7	227.8
Prescription drugs	199.4	212.9	213.7	214.5	215.7	216.7	218.6	200.5	214.1	214.8	215.6	216.9	218.0	219.9
Anti-infective drugs (12/77 = 100)	149.1	155.8	156.6	157.2	157.9	158.1	158.6	151.2	157.8	158.8	159.2	160.1	160.3	160.8
Tranquilizers and sedatives (12/77 = 100)	161.5	176.3	177.0	177.6	179.1	179.9	182.8	161.1	176.1	176.7	177.2	178.7	179.7	182.6
Circulatories and diuretics (12/77 = 100)	140.3	153.5	153.3	154.0	155.4	155.8	158.1	142.8	153.4	153.2	153.9	155.4	155.7	157.9
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	183.5	197.8	198.1	198.1	199.2	200.0	201.9	185.1	199.7	199.9	199.8	201.1	201.9	204.0
Pain and symptom control drugs (12/77 = 100)	161.7	172.3	173.3	175.1	175.7	177.5	178.7	163.6	174.1	175.1	176.8	177.5	179.4	180.6
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	152.3	160.7	161.8	162.3	162.6	163.8	164.2	152.4	161.0	162.0	162.5	162.9	164.1	164.5
Nonprescription drugs and medical supplies (12/77 = 100)	149.2	154.7	155.2	155.9	156.7	157.3	157.5	149.8	155.4	156.0	156.7	157.5	159.1	158.3
Eyeglasses (12/77 = 100)	132.6	134.8	135.0	135.8	136.2	137.7	137.3	131.4	133.8	133.9	134.6	135.1	136.7	136.2
Internal and respiratory over-the-counter drugs	240.7	250.9	251.9	253.5	255.0	255.6	256.1	241.9	252.1	253.3	254.9	256.3	256.9	257.4
Nonprescription medical equipment and supplies (12/77 = 100)	144.1	150.0	150.4	150.3	151.0	151.2	151.8	145.1	151.3	151.4	151.3	152.4	152.3	153.0
<b>Medical care services</b>	366.9	383.5	384.6	387.2	389.8	391.0	392.9	363.9	380.5	381.7	384.4	387.0	388.3	390.2
Professional services	306.6	319.7	322.0	324.2	326.0	327.6	329.7	306.9	320.0	322.2	324.6	326.5	328.0	330.1
Physicians' services	334.2	349.4	351.7	353.9	354.9	356.5	358.5	337.4	353.9	355.3	357.6	358.8	360.5	362.3

**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						
	1982	1983						1982	1983					
	Oct. <sup>2</sup>	May	June	July	Aug.	Sept.	Oct.	Oct. <sup>2</sup>	May	June	July	Aug.	Sept.	Oct.
<b>MEDICAL CARE—Continued</b>														
<b>Medical care service—Continued</b>														
Professional services—Continued														
Dental services	287.0	298.6	301.2	303.8	306.5	308.3	310.7	285.0	296.1	298.9	301.6	304.3	306.1	308.5
Other professional services (12/77 = 100)	146.1	151.8	152.3	153.0	154.0	154.3	155.4	143.0	148.5	148.7	149.6	150.5	150.8	151.8
Other medical care services	439.8	460.5	460.4	463.3	466.9	467.8	469.3	435.6	456.4	456.4	459.4	462.9	463.9	465.6
Hospital and other medical services (12/77 = 100)	180.9	190.8	191.5	193.8	196.7	197.8	199.4	178.3	189.0	189.6	191.9	194.6	195.7	197.3
Hospital room	576.8	609.6	609.6	619.1	627.6	633.8	638.0	569.1	601.8	602.2	611.2	619.5	626.1	630.2
Other hospital and medical care services (12/77 = 100)	176.0	187.0	188.3	189.9	193.0	193.3	195.1	174.7	185.6	186.8	188.4	191.2	191.4	193.3
<b>ENTERTAINMENT</b>	240.3	244.8	245.4	246.0	246.6	247.5	249.1	236.5	241.3	241.9	242.5	243.1	244.1	245.4
<b>Entertainment commodities</b>	242.9	246.3	246.3	246.7	248.0	248.0	249.3	236.6	240.7	240.7	241.4	242.5	242.6	243.7
Reading materials (12/77 = 100)	153.1	159.7	158.5	158.5	160.9	161.2	163.4	152.4	159.1	158.0	158.0	160.2	160.5	162.8
Newspapers	290.4	301.6	302.0	302.7	303.5	304.0	306.9	290.1	301.7	302.0	302.7	303.4	303.9	307.0
Magazines, periodicals, and books (12/77 = 100)	159.2	166.8	164.2	163.6	168.4	168.6	171.7	159.2	167.0	164.2	163.6	168.5	168.8	172.0
Sporting goods and equipment (12/77 = 100)	134.3	133.2	134.0	134.2	134.1	134.6	134.5	125.8	127.3	127.7	128.3	128.3	128.9	128.6
Sport vehicles (12/77 = 100)	137.1	135.7	136.7	137.1	136.4	137.4	137.3	123.6	126.5	126.8	127.8	127.8	128.5	128.2
Indoor and warm weather sport equipment (12/77 = 100)	120.6	120.5	119.9	118.6	118.5	118.6	118.3	118.0	117.6	117.6	116.4	116.6	116.3	116.4
Bicycles	198.7	196.6	199.2	199.8	199.9	200.1	199.9	199.9	197.9	200.2	200.7	200.7	200.9	200.7
Other sporting goods and equipment (12/77 = 100)	131.9	132.2	132.2	132.8	133.1	134.6	134.0	132.1	132.3	132.2	132.7	132.9	134.5	133.8
Toys, hobbies, and other entertainment (12/77 = 100)	137.1	138.4	138.6	139.0	139.3	138.8	139.3	136.1	137.1	137.3	137.7	138.0	137.7	138.1
Toys, hobbies, and music equipment (12/77 = 100)	136.4	137.4	137.4	137.7	137.7	136.7	137.3	133.0	133.5	133.6	134.0	133.9	133.0	133.5
Photographic supplies and equipment (12/77 = 100)	129.6	131.7	131.4	131.6	131.6	131.0	131.9	130.6	132.6	132.4	132.7	132.8	132.1	133.0
Pet supplies and expenses (12/77 = 100)	143.9	145.1	145.9	146.6	147.5	148.5	148.5	145.0	146.1	146.9	147.6	148.6	149.6	149.6
<b>Entertainment services</b>	237.2	243.2	244.7	245.4	245.0	247.2	249.2	237.6	243.5	245.1	245.8	245.4	247.8	249.7
Fees for participant sports (12/77 = 100)	148.0	150.8	151.3	151.8	152.2	154.4	155.6	149.4	152.1	152.5	152.8	153.2	155.5	156.9
Admissions (12/77 = 100)	136.6	142.4	144.7	146.4	145.4	145.2	145.8	135.6	143.7	143.7	145.4	144.5	144.2	144.8
Other entertainment services (12/77 = 100)	129.6	131.9	131.8	130.6	129.8	131.0	132.6	130.5	132.6	132.6	131.4	130.7	132.3	133.6
<b>OTHER GOODS AND SERVICES</b>	271.2	283.6	284.5	287.5	289.0	294.4	296.8	267.8	281.8	282.8	286.4	288.0	292.0	294.1
<b>Tobacco products</b>	257.3	285.3	285.9	294.6	297.7	298.0	299.0	256.6	284.8	285.4	294.3	297.5	297.8	298.8
Cigarettes	262.3	292.4	293.1	302.8	306.1	306.4	307.4	261.4	291.5	292.0	301.7	305.2	305.5	306.5
Other tobacco products and smoking accessories (12/77 = 100)	142.9	149.6	149.9	150.5	150.9	151.2	151.4	143.1	149.6	149.8	150.5	150.9	151.2	151.4
<b>Personal care</b>	252.9	259.4	260.9	261.3	262.1	263.0	263.3	250.9	257.3	259.0	259.4	260.1	260.9	261.5
Toilet goods and personal care appliances	251.5	258.6	261.4	262.3	261.9	262.4	263.0	252.1	259.3	262.1	263.0	262.6	263.0	263.9
Products for the hair, hairpieces, and wigs (12/77 = 100)	147.8	150.8	151.7	152.5	152.8	153.0	152.7	146.9	150.0	150.9	151.7	151.9	152.0	151.9
Dental and shaving products (12/77 = 100)	155.2	161.2	162.5	162.6	160.0	160.8	163.1	153.5	159.6	160.8	160.8	158.5	159.1	161.2
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	141.4	145.1	148.5	148.8	148.6	148.3	147.7	142.1	145.7	149.2	149.5	149.2	148.9	148.9
Other toilet goods and small personal care appliances (12/77 = 100)	142.2	146.7	147.1	147.9	148.9	149.9	150.5	145.8	150.3	150.7	151.6	152.4	153.4	154.1
Personal care services	255.1	261.1	261.6	261.5	263.3	264.6	264.6	250.0	255.7	256.3	256.4	258.1	259.3	259.6
Beauty parlor services for women	258.3	264.5	265.0	264.3	266.5	268.1	267.5	251.6	257.4	258.0	257.5	259.7	261.1	260.7
Haircuts and other barber shop services for men (12/77 = 100)	141.0	144.1	144.4	145.1	145.6	146.0	146.8	139.8	143.0	143.2	143.9	144.4	144.8	145.6
<b>Personal and educational expenses</b>	319.3	325.6	326.0	327.2	328.1	344.6	350.9	320.4	327.7	328.1	329.4	330.5	345.6	352.4
Schoolbooks and supplies	283.0	292.9	293.6	294.2	294.6	306.6	308.5	286.8	296.8	297.6	298.3	298.8	310.8	312.9
Personal and educational services	327.7	333.5	333.8	335.1	336.2	353.5	360.6	328.7	335.5	335.8	337.3	338.6	354.3	362.0
Tuition and other school fees	167.2	167.7	167.6	168.0	168.2	178.6	182.9	167.7	168.2	168.2	168.5	168.8	178.4	183.3
College tuition (12/77 = 100)	164.9	167.4	167.3	167.8	168.0	180.7	182.7	166.9	167.5	167.4	167.9	168.0	180.5	182.6
Elementary and high school tuition (12/77 = 100)	168.7	168.9	168.9	168.9	169.2	170.9	183.9	169.6	169.9	169.9	169.9	170.3	172.7	184.9
Personal expenses (12/77 = 100)	169.4	185.1	186.1	187.9	189.8	192.6	193.4	171.7	185.3	186.2	188.3	190.4	193.0	193.9
<b>Special indexes:</b>														
Gasoline, motor oil, coolant, and other products	385.7	376.2	381.2	384.3	384.5	382.3	377.8	386.9	377.6	382.4	385.4	385.9	383.9	379.5
Insurance and finance								433.9	410.0	410.2	411.4	415.6	418.2	419.7
Utilities and public transportation	326.5	337.2	341.5	343.6	343.6	344.7	343.0	325.4	336.5	341.1	343.1	342.9	343.8	341.8
Housekeeping and home maintenance services	355.0	358.2	358.6	358.9	360.1	361.6	363.4	355.7	360.3	360.8	361.7	364.2	365.2	369.7

<sup>1</sup>Excludes motor oil, coolant, and other products as of January 1983.

<sup>2</sup>In the December 1983 issue, this column showed the October 1982 data rather than the September 1982 data.



**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			1983			1983			1983		
	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.
<b>Northeast</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	153.9	155.0	156.5	160.8	161.5	163.1	164.2	165.5	167.1	158.5	160.0	161.6
Food and beverages	147.4	147.5	148.2	146.8	147.4	147.3	150.6	151.6	150.7	146.3	147.7	146.6
Housing	158.9	159.6	160.5	170.7	169.7	171.4	176.7	176.7	178.4	163.9	164.2	166.3
Apparel and upkeep	122.6	123.2	125.5	124.4	125.8	130.0	128.9	128.6	132.3	129.5	128.8	131.9
Transportation	161.7	164.2	165.8	169.2	171.4	173.4	166.6	169.5	172.0	166.7	169.7	171.9
Medical care	160.9	164.4	166.5	163.5	167.1	167.3	166.7	171.2	171.4	168.5	171.9	172.6
Entertainment	144.1	144.3	145.8	138.8	139.6	142.8	142.1	143.8	146.2	148.1	149.3	153.0
Other goods and services	156.7	160.3	166.9	159.8	162.8	167.1	163.1	165.9	170.5	162.2	166.7	171.3
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	149.1	150.1	151.2	154.8	156.0	157.4	154.3	155.4	156.4	152.3	153.9	154.7
Commodities less food and beverages	150.0	141.6	153.0	158.3	159.8	162.1	155.8	156.8	158.9	154.8	156.3	158.3
Services	160.0	161.3	163.2	169.8	169.8	171.8	180.1	181.7	184.2	167.9	169.2	171.9
<b>North Central Region</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	165.2	166.6	167.3	162.0	162.2	162.6	158.3	159.6	161.1	159.3	160.7	162.1
Food and beverages	145.0	144.5	144.6	143.8	143.6	142.8	145.0	145.0	144.8	151.7	151.9	153.2
Housing	185.3	186.3	185.6	172.2	171.7	170.3	165.2	165.7	167.8	163.9	165.2	165.9
Apparel and upkeep	116.8	119.5	122.3	129.2	128.9	131.8	127.0	129.9	131.6	122.2	125.4	129.2
Transportation	164.2	167.4	168.8	167.1	168.6	170.1	167.1	169.8	171.8	165.7	167.8	169.4
Medical care	166.1	168.4	169.8	168.5	172.4	173.1	166.3	167.5	167.6	173.1	175.4	175.5
Entertainment	141.9	143.3	144.3	136.9	131.8	134.7	147.3	148.4	149.9	137.1	136.6	138.9
Other goods and services	156.7	158.1	162.9	168.5	170.4	175.8	153.8	158.3	161.1	166.3	169.3	172.4
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	153.5	154.7	155.6	152.8	153.1	153.7	150.0	151.5	152.7	149.9	151.3	153.0
Commodities less food and beverages	157.5	159.7	161.2	156.8	157.1	158.4	152.2	154.5	156.5	149.0	151.0	153.0
Services	182.4	184.3	184.6	176.8	176.8	176.9	171.7	172.8	174.7	174.1	175.6	176.5
<b>South</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	161.2	162.4	163.3	161.7	162.9	164.9	161.2	162.3	163.5	162.0	162.8	165.1
Food and beverages	150.9	150.9	151.4	148.9	149.9	150.5	147.3	147.8	148.3	150.7	150.7	151.4
Housing	168.5	169.7	169.6	167.9	168.4	171.0	168.7	169.5	169.6	170.3	171.9	173.9
Apparel and upkeep	129.8	131.8	130.7	124.6	126.2	129.0	123.0	124.1	126.5	113.9	111.3	116.3
Transportation	166.8	168.7	171.1	170.3	172.2	174.2	168.5	170.3	172.4	166.0	167.3	170.4
Medical care	169.0	170.0	171.7	167.5	169.0	172.4	178.5	180.0	182.3	184.4	184.2	187.8
Entertainment	139.4	140.7	143.4	153.0	154.4	153.7	146.1	146.2	148.1	145.5	146.4	148.6
Other goods and services	159.3	162.1	166.2	162.9	164.9	168.5	160.0	161.6	166.2	161.0	162.9	164.0
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	153.7	155.0	155.5	154.5	155.6	157.2	152.0	153.7	154.8	153.0	153.2	155.4
Commodities less food and beverages	154.8	156.8	157.3	156.8	157.9	160.1	154.1	156.4	157.9	153.8	154.2	157.1
Services	171.5	172.7	174.1	172.6	173.9	176.6	175.3	175.6	177.1	175.7	177.1	179.6
<b>West</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	161.4	162.7	163.5	161.8	162.5	163.8	153.5	155.2	155.9	160.0	162.2	163.9
Food and beverages	151.2	150.9	151.9	153.7	152.8	153.6	148.6	148.3	149.4	154.4	154.1	154.9
Housing	166.2	168.3	170.0	165.1	165.4	168.1	151.2	152.9	154.2	159.1	163.2	164.9
Apparel and upkeep	121.8	123.3	122.8	128.4	126.9	127.6	123.3	122.8	125.0	142.9	142.4	146.2
Transportation	171.3	173.0	172.0	171.6	174.4	174.3	167.7	170.6	169.9	165.6	167.8	169.8
Medical care	176.7	177.3	177.3	172.6	175.8	175.6	176.4	180.0	180.0	177.5	179.2	179.0
Entertainment	139.6	139.8	141.3	145.9	146.7	146.8	144.8	148.7	147.4	157.3	158.5	160.6
Other goods and services	155.5	165.0	168.0	163.4	165.5	168.4	158.0	161.2	164.6	169.2	173.4	175.3
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	152.4	152.6	152.4	154.6	155.2	155.7	152.1	153.3	153.4	151.2	152.4	153.8
Commodities less food and beverages	148.6	153.6	152.7	150.7	156.4	156.8	149.6	155.4	155.0	147.0	151.7	153.4
Services	171.6	175.9	177.8	170.2	172.6	174.9	155.3	157.6	159.1	168.8	176.6	178.6

## 22. Consumer Price Index—U.S. city average, and selected areas

[1967 = 100 unless otherwise specified]

Area <sup>1</sup>	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1982	1983						1982	1983					
	Oct.	May	June	July	Aug.	Sept.	Oct.	Oct.	May	June	July	Aug.	Sept.	Oct.
U.S. city average <sup>2</sup>	...	297.1	298.1	299.3	300.3	301.8	...	...	296.3	297.2	298.2	299.5	300.8	...
Anchorage, Alaska (10/67 = 100)	...	262.5	...	265.8	...	276.9	...	...	254.7	...	257.5	...	260.8	...
Atlanta, Ga.	297.8	...	302.3	...	303.9	...	304.4	298.7	...	302.0	...	304.3	...	306.3
Baltimore, Md.	...	296.5	...	300.4	...	302.9	...	...	296.7	...	297.4	...	299.5	...
Boston, Mass.	...	287.3	...	289.1	...	290.6	...	...	285.1	...	288.0	...	288.6	...
Buffalo, N.Y.	277.1	...	284.3	...	285.9	...	288.5	274.3	...	283.3	...	285.1	...	296.8
Chicago, Ill.-Northwestern Ind.	334.5	296.3	298.6	299.6	301.6	303.0	343.4	293.2	294.8	295.8	296.4	297.4	299.1	294.5
Cincinnati, Ohio-Ky.-Ind.	...	311.3	...	312.4	...	314.6	...	...	309.5	...	308.0	...	311.2	...
Cleveland, Ohio	316.6	...	325.5	...	327.3	...	332.5	314.1	...	316.8	...	317.6	...	317.6
Dallas-Ft. Worth, Tex.	306.7	...	314.1	...	315.9	...	318.5	302.5	...	306.3	...	309.0	...	314.7
Denver-Boulder, Colo.	...	334.7	...	335.8	...	339.4	...	...	331.9	...	331.7	...	337.3	...
Detroit, Mich.	295.2	294.9	296.6	298.4	298.8	299.2	298.2	291.2	298.9	300.7	303.8	303.7	304.6	298.9
Honolulu, Hawaii	275.2	...	271.4	...	273.5	...	276.4	274.7	...	273.4	...	278.2	...	285.9
Houston, Tex.	317.6	...	321.3	...	324.0	...	324.3	314.9	...	319.7	...	321.6	...	322.4
Kansas City, Mo.-Kansas	289.3	...	297.5	...	301.3	...	303.3	287.3	...	298.3	...	299.3	...	303.9
Los Angeles-Long Beach, Anaheim, Calif.	289.5	292.0	293.6	294.5	295.2	296.4	297.0	292.8	292.1	292.1	293.2	293.7	296.7	299.0
Miami, Fla. (11/77 = 100)	...	159.4	...	160.8	...	162.9	...	...	161.4	...	162.8	...	164.3	...
Milwaukee, Wis.	...	308.8	...	310.1	...	313.9	...	...	315.4	...	325.0	...	329.1	...
Minneapolis-St. Paul, Minn.-Wis.	307.7	...	312.6	...	316.2	...	316.8	307.6	...	311.8	...	308.5	...	312.7
New York, N.Y.-Northeastern N.J.	284.5	287.4	288.1	289.1	289.5	292.1	292.9	282.7	283.8	285.9	286.1	288.4	288.1	288.7
Northeast, Pa. (Scranton)	...	281.7	...	283.4	...	297.2	...	...	282.9	...	286.5	...	290.0	...
Philadelphia, Pa.-N.J.	281.8	284.3	286.1	288.3	289.9	291.4	291.2	281.2	286.5	288.7	291.1	293.3	294.2	294.2
Pittsburgh, Pa.	300.7	...	305.4	...	310.2	...	313.7	300.3	...	299.5	...	304.2	...	304.7
Portland, Oreg.-Wash.	...	288.5	...	291.5	...	293.3	...	...	283.8	...	286.4	...	288.2	...
St. Louis, Mo.-Ill.	...	295.4	...	299.3	...	302.0	...	...	294.0	...	296.7	...	299.1	...
San Diego, Calif.	...	332.0	...	335.2	...	340.4	...	...	314.8	...	320.0	...	323.8	...
San Francisco-Oakland, Calif.	302.4	...	303.0	...	306.0	...	305.7	301.3	...	298.6	...	301.6	...	301.4
Seattle-Everett, Wash.	...	300.9	...	306.3	...	308.8	...	...	290.4	...	294.2	...	297.7	...
Washington, D.C.-Md.-Va.	...	292.6	...	296.8	...	297.0	...	...	297.5	...	300.0	...	300.9	...

<sup>1</sup>The 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.

<sup>2</sup>Average of 85 cities.

**23. Producer Price Indexes, by stage of processing**

[1967 = 100]

Commodity grouping	Annual average 1982	1982		1983										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
<b>FINISHED GOODS</b>														
Finished goods . . . . .	280.6	284.9	285.5	283.9	284.1	283.4	283.1	284.2	285.0	285.7	286.2	285.1	287.9	286.8
Finished consumer goods . . . . .	281.0	285.3	285.6	283.5	283.7	282.7	282.3	283.6	284.6	285.2	285.6	285.1	287.1	285.8
Finished consumer foods . . . . .	259.3	257.4	258.3	258.4	261.0	261.1	262.9	262.6	261.2	260.7	261.0	263.3	264.3	261.8
Crude . . . . .	252.7	236.1	247.6	232.9	240.8	247.9	265.8	267.2	251.2	247.1	262.4	269.8	289.8	272.8
Processed . . . . .	257.7	257.2	257.1	258.5	260.7	260.1	260.5	260.1	260.0	259.8	258.7	260.5	259.9	258.7
Nondurable goods less foods . . . . .	333.6	342.5	342.2	336.6	333.7	332.0	328.7	332.0	335.7	337.7	338.4	338.6	337.9	336.6
Durable goods . . . . .	226.7	231.2	232.0	231.7	232.9	231.9	232.2	232.9	233.1	233.4	233.5	228.9	235.4	235.3
Consumer nondurable goods less food and energy . . . . .	223.8	228.4	229.2	228.3	228.9	229.4	230.1	230.3	230.7	232.0	232.3	232.8	233.3	233.7
Capital equipment . . . . .	279.4	283.8	284.9	285.2	285.6	285.6	286.2	286.5	286.7	287.2	288.0	285.4	290.9	290.3
<b>INTERMEDIATE MATERIALS</b>														
Intermediate materials, supplies, and components . . . . .	310.4	309.9	310.1	309.2	309.9	309.5	308.7	309.7	311.3	312.8	314.4	315.7	316.0	315.7
Materials and components for manufacturing . . . . .	289.8	288.7	288.3	288.6	291.1	290.2	291.0	291.9	292.4	294.1	294.8	296.3	296.4	296.1
Materials for food manufacturing . . . . .	255.1	251.0	249.8	250.9	254.1	252.8	255.1	257.0	257.0	257.4	260.8	269.3	264.0	260.4
Materials for nondurable manufacturing . . . . .	284.4	279.2	278.0	277.0	277.0	276.6	277.3	277.7	277.7	279.7	281.4	281.9	283.5	284.1
Materials for durable manufacturing . . . . .	310.1	309.3	309.4	312.0	319.2	315.7	316.6	318.4	319.0	320.9	320.6	322.8	322.2	321.1
Components for manufacturing . . . . .	273.9	276.9	277.3	276.8	277.6	278.3	278.9	279.4	280.3	281.6	281.7	281.8	282.2	282.5
Materials and components for construction . . . . .	293.7	293.6	294.7	296.5	298.8	299.6	300.9	301.2	302.4	302.9	303.6	302.8	303.5	304.0
Processed fuels and lubricants . . . . .	591.7	593.0	595.0	577.9	565.4	564.2	543.3	547.8	562.0	567.9	576.4	579.2	579.9	574.0
Manufacturing industries . . . . .	497.8	500.4	502.2	485.2	475.5	480.6	460.4	462.9	475.9	480.9	491.1	495.4	498.7	493.4
Nonmanufacturing industries . . . . .	674.3	674.2	676.4	659.4	644.6	637.2	615.9	622.2	637.5	644.1	650.9	652.1	650.4	643.9
Containers . . . . .	285.6	284.9	285.0	285.0	285.3	285.2	284.8	285.8	285.9	286.1	286.8	287.3	288.3	289.3
Supplies . . . . .	272.1	272.8	273.0	273.1	273.5	273.9	275.5	275.6	275.6	276.2	278.0	280.1	280.4	281.0
Manufacturing industries . . . . .	265.8	266.9	267.2	267.4	267.8	268.1	268.6	268.9	269.8	270.1	270.6	271.2	271.8	271.9
Nonmanufacturing industries . . . . .	275.7	276.1	276.3	276.4	276.8	277.1	279.3	279.3	278.8	279.6	282.0	285.0	285.1	296.0
Feeds . . . . .	207.0	199.8	204.7	206.5	207.4	207.7	219.8	218.1	213.4	216.2	230.2	247.1	245.6	249.6
Other supplies . . . . .	289.8	291.9	291.1	290.9	291.2	291.6	291.9	292.2	292.5	291.9	293.1	293.5	293.9	294.2
<b>CRUDE MATERIALS</b>														
Crude materials for further processing . . . . .	319.5	313.2	312.7	313.9	320.2	321.6	325.8	325.8	323.3	320.6	326.9	328.3	324.5	324.1
Foodstuffs and feedstuffs . . . . .	247.8	236.3	237.1	239.6	249.3	249.1	256.8	256.5	252.1	248.4	256.6	257.4	253.9	252.0
Nonfood materials . . . . .	473.9	478.6	475.3	473.6	473.0	477.7	474.6	475.4	476.8	476.2	478.4	481.1	476.7	479.5
Nonfood materials except fuel . . . . .	376.8	369.2	365.8	368.0	366.0	366.8	367.0	369.0	370.5	371.6	374.2	376.6	375.3	377.7
Manufacturing industries . . . . .	387.2	379.2	375.0	377.6	375.1	375.9	376.1	378.3	379.9	381.6	383.9	386.5	385.1	387.8
Construction . . . . .	270.3	265.6	268.1	267.5	269.1	269.3	270.0	270.3	271.3	270.9	272.5	273.1	272.6	272.9
Crude fuel . . . . .	886.1	954.7	952.2	930.7	937.7	961.8	941.6	935.9	936.7	927.8	926.8	931.2	911.2	915.2
Manufacturing industries . . . . .	1,034.8	1,125.5	1,121.4	1,093.8	1,103.9	1,134.3	1,107.6	1,100.9	1,102.3	1,090.4	1,089.5	1,094.7	1,067.9	1,072.4
Nonmanufacturing industries . . . . .	782.2	834.2	832.2	815.5	820.0	839.2	824.0	819.1	819.4	813.0	811.7	815.7	800.9	804.6
<b>SPECIAL GROUPINGS</b>														
Finished goods excluding foods . . . . .	285.8	292.0	292.5	290.3	289.6	288.7	287.7	289.3	290.8	291.8	292.4	290.3	293.7	293.0
Finished consumer goods excluding foods . . . . .	287.8	294.8	295.0	291.4	290.3	288.9	287.3	289.4	291.6	292.6	293.2	291.3	293.8	293.0
Finished consumer goods less energy . . . . .	244.1	246.7	247.6	247.1	248.7	248.6	249.5	249.7	249.4	249.9	250.1	249.6	252.2	251.4
Intermediate materials less foods and feeds . . . . .	315.7	315.5	315.7	314.6	315.2	314.8	313.6	314.6	316.4	318.0	319.2	319.8	320.4	320.1
Intermediate materials less energy . . . . .	290.4	289.8	290.0	290.5	292.4	292.1	293.2	293.9	294.4	295.6	296.6	297.8	298.1	298.2
Intermediate foods and feeds . . . . .	239.4	234.4	235.1	236.4	238.8	238.0	243.6	244.4	242.8	244.0	250.9	262.2	258.2	257.1
Crude materials less agricultural products . . . . .	536.3	541.9	537.4	536.0	535.1	539.7	536.1	536.2	537.5	536.8	539.0	541.7	537.4	540.4
Crude materials less energy . . . . .	240.4	229.2	229.9	232.5	241.4	242.7	248.6	249.0	246.2	243.9	250.9	252.2	249.1	248.5

<sup>1</sup>Data for July 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 1982	1982		1983										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
	<b>All commodities</b>	299.3	300.3	300.7	299.9	300.9	300.6	300.6	301.5	302.4	303.2	304.9	305.3	306.3	305.6
	<b>All commodities (1957-59 = 100)</b>	317.6	318.6	319.0	318.2	319.3	318.9	318.9	319.9	320.8	321.7	323.5	323.9	325.0	324.2
	<b>Farm products and processed foods and feeds</b>	248.9	243.9	244.8	245.8	250.4	250.6	254.7	254.7	252.5	251.5	255.7	259.2	257.9	256.0
	<b>Industrial commodities</b>	312.3	315.0	315.2	313.9	313.9	313.5	312.4	313.6	315.3	316.5	317.5	317.2	318.7	318.3
	<b>FARM PRODUCTS AND PROCESSED FOODS AND FEEDS</b>														
01	Farm products	242.4	230.7	232.6	233.2	240.7	241.5	250.5	250.4	247.4	244.3	253.5	256.3	255.2	251.0
01-1	Fresh and dried fruits and vegetables	253.7	233.4	248.8	227.6	227.8	234.9	266.6	260.1	264.4	258.2	269.9	275.5	307.6	274.7
01-2	Grains	210.9	198.6	262.3	206.3	222.4	243.8	242.2	241.5	236.7	251.8	258.0	253.7	257.5	
01-3	Livestock	257.8	239.1	237.2	242.3	251.1	251.4	260.6	258.0	251.7	240.7	242.2	231.5	229.4	220.5
01-4	Live poultry	191.9	181.6	177.8	177.1	200.1	177.8	170.8	186.9	199.3	214.5	221.4	242.2	208.5	238.5
01-5	Plant and animal fibers	202.9	195.3	200.6	201.7	206.4	217.0	213.6	223.8	229.7	230.4	240.7	238.7	234.5	243.6
01-6	Fluid milk	282.5	285.9	285.5	284.5	284.3	282.9	280.8	279.8	278.6	278.7	281.7	284.4	284.1	283.2
01-7	Eggs	178.7	172.5	170.0	170.0	170.0	170.0	170.0	185.1	169.3	177.2	189.5	200.1	(2)	(2)
01-8	Hay, hayseeds, and oilseeds	212.8	204.8	209.0	212.4	217.9	217.8	226.3	227.3	213.3	227.3	262.8	297.8	288.8	287.6
01-9	Other farm products	274.5	276.3	280.1	279.9	281.2	280.3	279.2	281.0	284.4	282.5	285.7	287.3	283.7	283.5
02	Processed foods and feeds	251.5	250.2	250.5	251.7	254.7	254.5	256.0	256.1	254.3	254.4	255.8	259.7	258.3	257.6
02-1	Cereal and bakery products	253.8	254.2	256.2	257.3	256.8	256.9	258.8	259.1	260.3	261.4	262.6	263.2	264.6	264.7
02-2	Meats, poultry, and fish	257.6	251.6	249.9	252.3	261.0	260.7	259.1	257.8	250.2	247.3	245.1	244.3	239.6	235.7
02-3	Dairy products	248.9	250.2	250.8	250.7	250.9	250.7	251.0	250.9	250.4	250.4	250.5	250.5	251.0	251.2
02-4	Processed fruits and vegetables	274.5	272.8	275.7	274.8	274.3	274.9	273.7	275.3	277.1	277.1	278.2	278.1	280.0	279.8
02-5	Sugar and confectionery	269.7	280.4	280.1	282.1	286.4	283.7	287.4	289.9	296.0	296.4	299.9	300.1	297.7	297.6
02-6	Beverages and beverage materials	256.9	258.4	258.8	260.1	261.3	262.0	263.0	263.6	263.0	263.7	263.4	264.5	265.1	266.1
02-7	Fats and oils	215.1	207.2	203.0	201.7	205.3	206.0	214.6	220.0	219.3	222.2	245.7	303.7	287.4	277.6
02-8	Miscellaneous processed foods	248.6	247.8	248.6	248.8	249.3	248.5	249.9	249.9	251.5	255.0	251.8	257.5	259.7	264.0
02-9	Prepared animal feeds	211.3	206.0	210.1	211.6	212.3	212.4	222.8	221.3	217.1	220.0	232.6	247.2	247.7	250.9
	<b>INDUSTRIAL COMMODITIES</b>														
03	Textile products and apparel	204.6	203.9	202.6	202.7	202.6	203.4	203.5	204.3	204.7	205.3	205.7	205.8	206.4	207.0
03-1	Synthetic fibers (12/75 = 100)	162.1	161.2	159.7	156.7	153.1	153.9	153.8	155.6	155.9	158.3	158.4	158.6	160.4	159.5
03-2	Processed yarns and threads (12/75 = 100)	138.3	136.7	136.7	134.7	135.0	135.8	136.0	137.4	137.6	138.5	140.2	140.5	140.7	141.3
03-3	Gray fabrics (12/75 = 100)	145.3	143.1	143.3	144.4	144.3	145.1	145.8	146.2	145.8	146.1	146.6	147.1	148.9	150.2
03-4	Finished fabrics (12/75 = 100)	124.6	123.0	122.8	122.2	122.3	122.4	123.1	122.8	122.5	122.4	123.5	123.3	123.8	123.9
03-81	Apparel	194.4	195.4	193.0	194.4	195.0	196.1	195.8	196.5	197.9	198.4	197.3	197.4	197.3	198.7
03-82	Textile housefurnishings	238.5	236.2	236.2	236.5	234.3	234.2	234.2	237.6	235.2	234.8	238.5	238.6	238.5	233.9
04	Hides, skins, leather, and related products	262.6	263.2	264.1	266.7	264.3	264.9	267.4	269.4	271.2	272.3	275.5	275.3	274.7	277.3
04-2	Leather	311.4	312.8	314.4	314.4	312.8	316.2	320.5	326.6	335.9	337.9	345.7	341.8	337.1	340.2
04-3	Footwear	245.0	249.1	247.7	251.5	247.7	248.1	250.0	248.7	249.9	249.9	250.1	250.9	251.2	251.4
04-4	Other leather and related products	247.4	247.1	249.1	250.8	251.0	250.9	251.0	251.7	251.7	253.5	257.6	257.0	256.9	257.6
05	Fuels and related products and power	693.2	706.1	703.4	683.6	668.6	658.0	644.8	651.9	665.5	668.7	674.3	675.7	672.7	667.1
05-1	Coal	534.7	539.6	538.7	535.6	533.4	538.6	538.0	535.2	534.1	534.8	534.0	536.1	536.7	539.8
05-2	Coke	461.7	562.3	452.3	450.9	450.9	447.3	447.3	438.4	438.4	431.6	434.6	453.9	453.5	453.5
05-3	Gas fuels <sup>3</sup>	1,060.8	1,190.0	1,181.2	1,147.3	1,154.7	1,180.0	1,156.1	1,156.7	1,155.1	1,148.9	1,148.2	1,149.3	1,130.7	1,124.2
05-4	Electric power	406.5	404.9	409.9	410.8	410.8	411.4	409.2	412.2	419.4	426.4	425.9	428.2	423.9	419.0
05-61	Crude petroleum <sup>4</sup>	735.4	733.6	720.0	719.7	692.9	678.0	678.0	678.0	677.9	675.7	675.5	676.1	676.1	676.0
05-7	Petroleum products, refined <sup>5</sup>	761.2	758.0	754.2	720.6	692.8	666.6	645.9	659.3	684.2	688.7	701.1	701.8	702.4	694.7
06	Chemicals and allied products	292.3	290.5	289.6	289.3	290.5	289.8	291.3	291.1	290.8	293.7	294.9	294.8	296.4	296.4
06-1	Industrial chemicals <sup>6</sup>	352.6	345.2	342.4	339.3	340.1	338.8	338.7	338.8	338.5	347.0	348.5	346.3	348.6	346.3
06-21	Prepared paint	262.8	264.7	264.7	264.7	264.7	264.7	264.7	264.7	264.7	265.2	265.7	264.5	264.1	264.4
06-22	Paint materials	304.6	302.4	301.7	301.5	299.5	298.4	299.8	300.2	299.5	300.5	305.5	316.0	316.6	314.5
06-3	Drugs and pharmaceuticals	210.1	215.5	216.0	218.6	222.2	222.9	225.1	225.2	225.2	227.6	227.8	228.0	229.7	230.6
06-4	Fats and oils, inedible	267.1	239.6	240.8	242.0	253.4	262.2	278.3	287.1	276.9	260.9	277.8	305.5	319.5	320.9
06-5	Agricultural chemicals and chemical products	292.4	286.5	285.2	283.2	283.3	284.2	282.8	282.4	280.6	278.1	277.6	276.0	276.8	281.1
06-6	Plastic resins and materials	283.4	282.2	282.5	283.8	283.1	282.1	285.4	288.0	289.1	291.3	294.1	293.1	297.5	296.6
06-7	Other chemicals and allied products	270.1	272.3	272.0	272.8	274.4	272.0	274.7	272.0	272.4	274.2	274.4	274.5	273.9	274.4
07	Rubber plastic products	241.4	241.7	242.2	242.9	242.3	241.8	243.0	243.2	243.1	243.4	244.6	244.5	245.1	243.8
07-1	Rubber and rubber products	267.8	267.9	268.2	269.6	268.3	267.1	267.0	267.0	265.6	265.2	267.2	266.8	267.1	264.8
07-11	Crude rubber	278.9	270.9	271.1	271.1	274.3	281.2	281.3	280.6	280.2	283.2	284.4	284.3	284.3	282.8
07-12	Tires and tubes	255.2	254.5	256.0	259.1	250.5	246.6	246.5	246.3	243.7	242.4	242.4	242.5	242.7	242.7
07-13	Miscellaneous rubber products	276.9	280.7	279.7	284.5	289.6	285.8	285.7	286.0	285.9	285.7	290.6	289.3	289.9	284.2
07-2	Plastic products (6/78 = 100)	132.3	132.7	133.0	133.0	133.1	133.2	134.6	134.8	135.5	136.0	136.3	136.4	137.0	136.8
08	Lumber and wood products	284.7	279.9	285.6	293.3	303.1	305.8	307.2	308.0	314.8	314.6	313.9	306.0	306.1	306.0
08-1	Lumber	310.8	305.1	312.6	326.8	344.7	349.3	354.2	358.6	372.8	373.1	366.6	348.2	345.8	346.0
08-2	Millwork	279.4	280.3	286.5	293.7	300.5	304.0	302.8	299.0	296.3	296.3	307.7	305.7	307.1	308.2
08-3	Plywood	232.1	227.8	231.2	235.3	239.5	238.9	239.4	241.1	255.5	252.5	244.8	242.4	246.5	244.7
08-4	Other wood products	236.2	233.0	231.2	232.0	233.2	231.6	230.8	231.1	229.6	229.7	229.3	229.6	229.6	229.7

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 1982	1982		1983										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
<b>INDUSTRIAL COMMODITIES—Continued</b>															
09	Pulp, paper, and allied products	288.7	289.8	290.5	293.6	294.2	294.8	295.4	296.0	297.0	<sup>2</sup> 297.8	298.0	299.1	300.4	302.0
09-1	Pulp, paper, and products, excluding building paper and board	273.2	269.4	268.8	269.8	268.7	268.7	268.5	268.7	269.2	<sup>2</sup> 270.2	270.1	271.7	273.0	276.3
09-11	Woodpulp	379.0	347.3	347.2	346.6	345.7	343.0	342.5	343.2	344.9	<sup>2</sup> 345.8	348.2	348.4	348.6	352.6
09-12	Wastepaper	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	<sup>1</sup> 183.3	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )	210.2
09-13	Paper	286.3	280.6	279.2	279.3	278.8	278.4	278.5	279.0	279.5	<sup>2</sup> 279.2	281.0	285.3	286.6	287.9
09-14	Paperboard	254.9	247.6	244.1	243.3	244.1	246.3	248.1	248.7	249.4	<sup>2</sup> 249.7	250.4	252.8	255.5	257.9
09-15	Converted paper and paperboard products	264.4	264.7	264.8	265.0	265.1	265.1	264.2	264.1	264.5	<sup>2</sup> 264.1	265.0	265.3	266.5	267.8
09-2	Building paper and board	239.5	241.0	242.0	241.1	241.4	244.2	247.0	249.3	255.7	256.2	252.1	252.8	254.7	254.7
10	Metals and metal products	301.6	300.5	299.9	300.3	304.7	304.4	304.6	306.1	306.3	<sup>3</sup> 307.3	308.5	310.9	310.7	310.3
10-1	Iron and steel	339.0	335.9	332.8	333.3	339.9	341.6	341.5	340.9	341.3	<sup>3</sup> 342.1	342.8	347.6	348.2	349.2
10-17	Steel mill products	349.5	348.6	344.7	343.7	351.1	349.8	349.7	349.8	350.1	<sup>3</sup> 350.8	351.4	357.7	358.1	359.1
10-2	Nonferrous metals	263.6	261.7	263.2	267.0	275.8	270.6	271.8	277.7	275.7	<sup>2</sup> 278.4	279.6	282.1	279.8	275.6
10-3	Metal containers	328.5	329.0	328.3	327.9	331.1	331.4	331.9	337.1	337.4	<sup>3</sup> 336.5	338.0	338.3	338.3	338.2
10-4	Hardware	280.3	283.1	285.8	287.2	287.9	288.2	288.6	288.5	291.5	<sup>2</sup> 292.1	289.8	289.8	290.0	291.5
10-5	Plumbing fixtures and brass fittings	278.7	278.3	279.2	280.6	283.5	285.6	287.7	289.1	290.8	<sup>2</sup> 290.4	291.9	291.5	292.7	293.7
10-6	Heating equipment	237.2	238.8	239.3	240.7	240.7	241.1	242.3	242.7	243.0	<sup>2</sup> 244.9	244.8	244.7	245.0	245.2
10-7	Fabricated structural metal products	304.8	305.3	304.7	303.6	302.8	303.7	302.5	302.1	302.0	302.2	302.8	303.8	304.4	305.0
10-8	Miscellaneous metal products	282.3	283.4	283.2	279.1	279.0	280.4	280.7	280.8	283.4	<sup>2</sup> 283.7	287.6	287.7	288.2	289.1
11	Machinery and equipment	278.8	281.8	282.4	283.3	284.3	284.7	285.4	286.0	286.2	<sup>2</sup> 287.4	287.1	287.5	287.8	288.1
11-1	Agricultural machinery and equipment	311.1	318.7	320.7	322.4	323.3	323.5	323.9	326.4	326.4	<sup>3</sup> 327.1	327.1	328.0	327.9	329.7
11-2	Construction machinery and equipment	343.9	347.9	348.1	348.3	349.3	349.6	350.9	352.3	352.5	<sup>3</sup> 352.8	352.8	353.4	353.5	353.7
11-3	Metalworking machinery and equipment	320.9	323.5	323.6	324.1	325.2	325.5	326.2	326.7	327.0	<sup>3</sup> 326.6	326.1	326.3	326.5	326.6
11-4	General purpose machinery and equipment	304.0	306.4	307.0	307.4	307.9	307.5	308.2	308.4	308.4	<sup>3</sup> 308.5	308.2	308.1	308.3	308.4
11-6	Special industry machinery and equipment	325.1	329.1	329.9	331.8	332.6	333.6	334.5	335.8	336.7	<sup>3</sup> 338.0	338.9	339.7	340.5	340.9
11-7	Electrical machinery and equipment	231.6	233.7	234.2	235.2	237.2	237.5	238.4	238.5	238.8	<sup>2</sup> 241.7	241.2	242.1	242.5	242.7
11-9	Miscellaneous machinery	268.4	272.0	272.3	272.9	272.7	273.7	274.2	275.3	275.0	<sup>2</sup> 275.2	275.0	274.5	274.9	275.0
12	Furniture and household durables	206.9	208.9	209.2	210.7	212.5	212.3	212.8	213.6	214.0	<sup>2</sup> 214.8	214.5	214.9	215.1	215.4
12-1	Household furniture	229.8	231.4	232.0	231.9	232.6	231.1	231.8	234.4	235.0	<sup>2</sup> 235.4	235.4	236.3	237.1	237.1
12-2	Commercial furniture	275.5	278.6	278.5	281.1	282.2	285.1	286.2	285.9	286.9	<sup>2</sup> 287.5	287.2	287.7	287.9	290.3
12-3	Floor coverings	181.2	181.3	181.5	182.2	182.1	182.0	182.2	182.1	181.4	<sup>2</sup> 186.6	188.1	188.2	188.1	187.9
12-4	Household appliances	199.1	201.2	201.8	203.9	204.9	205.0	206.3	207.5	207.5	<sup>2</sup> 207.8	207.3	207.6	207.6	207.7
12-5	Home electronic equipment	88.1	87.0	87.1	87.3	87.0	87.0	86.6	86.4	86.5	<sup>2</sup> 85.9	86.0	85.8	85.8	85.8
12-6	Other household durable goods	289.3	297.2	298.1	302.8	314.8	312.9	312.0	312.7	314.3	<sup>3</sup> 314.8	312.3	313.0	313.1	312.9
13	Nonmetallic mineral products	320.2	321.2	320.5	321.5	322.3	322.0	324.1	324.1	324.5	<sup>3</sup> 325.1	326.2	327.2	327.9	328.9
13-11	Fiat glass	221.5	225.3	225.3	229.7	229.7	229.7	229.7	229.7	229.7	229.8	229.8	229.6	229.5	230.1
13-2	Concrete ingredients	310.0	310.0	306.7	307.2	310.0	308.5	312.8	313.7	314.2	<sup>3</sup> 314.0	317.2	318.9	318.8	316.7
13-3	Concrete products	297.8	298.2	298.5	299.4	300.1	300.4	301.0	301.1	301.6	<sup>3</sup> 302.3	302.3	302.8	303.3	303.6
13-4	Structural clay products, excluding refractories	260.8	264.8	264.8	264.9	264.3	270.7	275.7	277.6	281.5	<sup>2</sup> 282.4	281.7	281.7	282.8	283.4
13-5	Refractories	337.1	337.2	337.2	337.7	337.7	337.7	338.2	338.2	336.8	<sup>3</sup> 338.2	339.9	340.7	345.6	354.3
13-6	Asphalt roofing	298.4	309.0	307.0	303.7	304.4	304.7	304.0	308.0	309.6	<sup>3</sup> 305.3	308.9	305.7	305.0	304.2
13-7	Gypsum products	256.1	255.0	253.9	263.1	267.4	265.9	271.9	275.7	273.8	276.0	289.2	295.7	304.3	313.9
13-8	Glass containers	355.5	357.8	357.6	356.6	355.8	354.1	353.5	351.8	351.8	<sup>3</sup> 351.6	351.3	351.2	351.1	351.1
13-9	Other nonmetallic minerals	471.8	471.3	471.0	471.5	476.1	476.4	478.7	478.5	479.5	<sup>2</sup> 479.7	481.5	482.4	482.7	486.9
14	Transportation equipment (12/68 = 100)	249.7	256.3	257.5	256.3	255.8	255.2	255.6	255.8	256.1	<sup>2</sup> 256.2	257.0	250.3	261.2	260.6
14-1	Motor vehicles and equipment	251.3	257.8	258.1	257.0	256.3	255.4	255.9	256.2	256.7	<sup>2</sup> 256.6	256.9	248.9	261.1	260.3
14-4	Railroad equipment	346.5	350.8	350.8	350.8	350.5	350.3	350.0	350.4	350.1	<sup>3</sup> 351.3	357.8	357.5	355.4	355.4
15	Miscellaneous products	276.4	285.2	290.4	285.7	288.8	287.4	287.4	287.1	288.0	<sup>2</sup> 291.5	291.5	291.3	291.2	291.4
15-1	Toys, sporting goods, small arms, ammunition	221.5	221.3	223.7	222.7	225.3	225.7	226.3	226.0	225.9	<sup>2</sup> 224.3	225.0	225.3	225.3	225.7
15-2	Tobacco products	323.1	364.5	382.9	356.2	356.4	353.8	354.1	353.8	352.1	<sup>3</sup> 373.4	373.3	376.5	376.7	376.7
15-3	Notions	277.0	279.8	279.8	280.5	280.6	280.6	280.3	280.3	280.3	280.3	279.7	<sup>2</sup> 279.7	279.7	279.6
15-4	Photographic equipment and supplies	210.4	209.7	210.0	210.0	211.8	216.6	216.6	216.6	216.5	<sup>2</sup> 216.5	216.9	216.9	217.1	217.1
15-5	Mobile homes (12/74 = 100)	161.9	161.6	161.7	161.8	161.7	162.9	162.3	162.4	163.1	<sup>2</sup> 163.5	163.5	164.0	164.2	164.3
15-9	Other miscellaneous products	338.3	345.1	351.6	350.8	359.8	350.5	350.3	349.2	353.4	<sup>3</sup> 353.7	352.3	349.0	347.9	348.4

<sup>1</sup>Data for July 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.

<sup>2</sup>Not available.

<sup>3</sup>Prices for natural gas are lagged 1 month.

<sup>4</sup>Includes only domestic production.

<sup>5</sup>Most prices for refined petroleum products are lagged 1 month.

<sup>6</sup>Some prices for industrial chemicals are lagged 1 month.

r = revised.

c = corrected.

## 25. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1982	1982		1983										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
All commodities—less farm products	303.0	305.1	305.4	304.4	304.9	304.5	303.8	304.8	306.0	307.1	308.2	308.4	309.5	309.1
All foods	254.4	251.9	252.7	252.4	255.7	255.8	258.2	258.2	256.6	<sup>1</sup> 256.2	257.5	261.0	261.1	258.0
Processed foods	256.0	254.7	254.7	255.8	259.3	258.9	259.5	259.6	257.9	<sup>1</sup> 257.7	258.1	261.3	259.3	258.1
Industrial commodities less fuels	272.8	274.4	274.9	275.4	277.0	276.9	277.6	278.2	278.7	<sup>1</sup> 279.8	280.4	279.8	281.8	281.9
Selected textile mill products (Dec. 1975 = 100)	138.2	137.1	136.8	136.7	136.8	137.2	137.4	137.7	137.4	<sup>1</sup> 143.0	138.8	138.7	139.2	139.2
Hosiery	138.3	139.7	139.7	141.7	144.5	144.5	144.5	144.5	144.5	144.5	145.6	145.6	145.6	145.6
Underwear and nightwear	217.6	219.7	219.7	223.3	222.6	223.8	223.4	223.5	222.7	<sup>1</sup> 223.3	223.5	224.4	224.2	224.5
Chemicals and allied products, including synthetic rubber and fibers and yarns	283.8	282.3	281.4	280.8	281.4	280.7	281.8	281.6	281.5	<sup>1</sup> 284.6	285.5	285.0	286.4	286.3
Pharmaceutical preparations	206.0	212.3	212.8	215.8	219.4	220.3	223.3	223.5	223.6	<sup>1</sup> 226.3	226.6	227.2	229.5	230.5
Lumber and wood products, excluding millwork	288.8	283.4	289.6	300.7	314.3	317.2	320.8	324.3	338.8	<sup>1</sup> 338.1	331.0	317.6	317.4	316.9
Steel mill products, including fabricated wire products	349.4	348.5	344.8	343.1	349.9	348.4	348.4	348.5	348.7	<sup>1</sup> 349.3	349.8	355.4	355.8	356.9
Finished steel mill products, excluding fabricated wire products	348.4	348.0	344.0	342.1	349.8	348.3	348.4	348.5	348.8	<sup>1</sup> 349.4	350.1	356.7	357.2	358.2
Finished steel mill products, including fabricated wire products	348.1	347.2	343.3	341.6	348.5	347.0	347.0	347.1	347.4	<sup>1</sup> 347.9	348.4	354.4	354.8	355.9
Special metals and metal products	286.6	288.9	288.7	288.6	290.9	290.3	290.7	291.7	292.0	<sup>1</sup> 292.6	293.5	291.5	296.5	296.0
Fabricated metal products	291.6	292.5	292.5	291.1	291.3	292.3	292.2	292.6	294.0	<sup>1</sup> 294.2	295.9	296.2	296.7	297.5
Copper and copper products	185.5	181.2	181.8	190.7	201.5	198.9	200.9	206.7	201.3	<sup>1</sup> 201.6	201.2	198.0	190.5	183.0
Machinery and motive products	272.1	277.0	277.9	277.8	278.2	278.1	278.7	279.2	279.4	<sup>1</sup> 280.1	280.3	277.5	282.6	282.5
Machinery and equipment, except electrical	306.4	310.0	310.6	311.3	311.9	312.2	312.9	313.8	313.9	<sup>1</sup> 314.2	314.1	314.2	314.5	314.8
Agricultural machinery, including tractors	323.1	332.2	335.1	337.0	337.7	337.8	338.2	341.7	341.8	<sup>1</sup> 342.7	342.4	343.5	343.2	346.0
Metalworking machinery	350.4	354.2	354.1	354.6	355.7	355.6	356.3	358.0	357.8	<sup>1</sup> 357.8	357.6	357.3	357.2	357.3
Total tractors	355.0	361.4	364.2	365.6	365.6	365.7	366.1	370.5	370.6	<sup>1</sup> 370.7	369.9	372.5	372.6	375.2
Agricultural machinery and equipment less parts	313.8	321.5	324.3	325.9	326.6	326.8	327.1	330.1	330.2	<sup>1</sup> 331.0	330.9	332.0	331.9	333.9
Farm and garden tractors less parts	327.8	336.1	340.3	342.2	342.2	342.2	342.2	348.8	348.8	348.8	347.6	350.6	350.7	354.7
Agricultural machinery, excluding tractors less parts	319.6	329.3	331.1	333.1	334.4	334.5	335.2	336.2	336.4	<sup>1</sup> 338.0	338.4	337.9	337.3	339.2
Construction materials	288.0	287.8	287.9	290.3	294.6	295.0	296.1	296.8	298.6	<sup>1</sup> 310.6	299.8	299.8	300.4	300.6

<sup>1</sup>Data for July 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 1982	1982		1983										
		Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
Total durable goods	279.0	281.2	282.0	282.6	284.8	284.6	285.3	286.0	286.7	<sup>1</sup> 287.4	287.8	286.7	289.2	289.2
Total nondurable goods	315.3	315.3	315.3	313.3	313.4	313.0	312.4	313.5	314.5	<sup>1</sup> 315.4	318.2	319.9	319.5	318.3
Total manufactures	292.7	293.9	294.3	293.5	293.9	293.2	292.7	293.7	295.0	296.1	297.1	297.3	298.8	298.4
Durable	279.8	282.4	283.2	283.7	285.7	285.3	286.0	286.7	287.3	<sup>1</sup> 288.0	288.3	287.1	289.7	289.6
Nondurable	306.4	306.1	305.9	303.8	302.5	301.4	299.7	301.0	303.1	<sup>1</sup> 304.5	306.4	308.1	308.3	307.5
Total raw or slightly processed goods	331.2	330.9	331.6	330.4	335.2	337.3	340.4	340.9	339.0	338.3	343.7	346.0	343.6	341.0
Durable	233.8	219.2	217.4	224.2	235.4	243.3	244.1	246.1	249.4	<sup>1</sup> 249.9	257.6	261.5	260.6	259.4
Nondurable	337.3	338.1	339.0	337.2	341.5	343.2	346.5	346.8	344.6	343.7	348.9	351.1	348.6	346.0

<sup>1</sup>Data for July 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 1982	1982		1983										
			Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July <sup>1</sup>	Aug.	Sept.	Oct.	Nov.
<b>MINING</b>															
1011	Iron ores (12/75 = 100)	175.2	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)	312.2	308.3	312.5	306.2	289.5	285.4	272.9	268.7	254.1	237.5	231.2	243.3	283.3	287.5
1311	Crude petroleum and natural gas	925.8	969.0	958.4	945.2	931.2	934.4	922.1	921.8	924.2	<sup>r</sup> 916.6	916.6	920.8	908.0	910.2
1455	Kaolin and ball clay (6/76 = 100)	151.2	151.7	151.7	153.6	156.3	158.4	164.3	164.3	164.3	164.3	164.3	164.3	171.7	172.9
<b>MANUFACTURING</b>															
2021	Creamery butter	276.0	276.5	277.8	275.5	275.6	275.6	275.6	275.6	275.6	275.6	276.1	278.4	278.1	278.2
2044	Rice milling	185.1	175.2	196.1	191.3	183.0	183.0	188.9	191.3	194.5	193.7	198.1	201.1	196.7	199.6
2067	Chewing gum	304.1	306.0	306.1	326.0	326.0	326.1	326.1	326.1	327.2	327.2	327.3	327.3	327.3	327.4
2074	Cottonseed oil mills	168.3	164.1	169.4	157.5	173.4	167.1	186.8	186.2	179.2	192.4	220.6	265.6	256.5	233.2
2083	Malt	256.9	240.6	240.6	232.6	232.6	232.6	232.6	232.6	232.6	232.6	232.6	232.6	232.6	241.6
2091	Canned and cured seafoods (12/73 = 100)	187.0	186.4	186.6	182.8	179.2	177.9	177.7	175.7	173.4	173.7	169.4	169.8	170.2	169.2
2098	Macaroni and spaghetti	258.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	255.5	258.6	261.9
2251	Women's hosiery, except socks (12/75 = 100)	116.8	118.5	118.3	118.5	122.6	122.7	122.7	122.7	122.7	122.7	<sup>r</sup> 122.7	123.0	123.0	123.0
2261	Finishing plants, cotton (6/76 = 100)	139.5	136.2	136.1	135.3	136.0	136.1	139.8	138.0	132.9	<sup>r</sup> 132.8	133.8	133.5	134.2	134.0
2262	Finishing plants, synthetics, silk (6/76 = 100)	128.2	127.8	127.3	125.7	126.7	126.2	127.2	126.9	125.9	125.1	127.2	125.8	127.2	127.3
2284	Thread mills (6/76 = 100)	157.2	157.9	157.8	157.9	161.9	165.6	165.7	165.7	165.7	165.7	165.7	166.1	166.1	166.1
2298	Cordage and twine (12/77 = 100)	141.5	142.6	142.6	142.6	142.7	142.8	137.6	137.6	137.6	137.6	137.6	139.0	139.0	139.0
2323	Men's and boys' neckwear (12/75 = 100)	119.5	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	123.5	123.5	123.5
2361	Children's dresses and blouses (12/77 = 100)	120.6	117.0	117.0	117.0	117.0	115.5	115.5	115.5	117.0	117.0	117.0	117.0	117.0	117.0
2381	Fabric dress and work gloves	292.1	287.4	287.4	288.8	288.8	288.8	291.0	291.7	291.7	296.3	296.3	296.3	296.3	296.3
2394	Canvas and related products (12/77 = 100)	145.4	147.3	147.3	148.7	148.7	146.2	146.2	146.2	146.2	<sup>r</sup> 146.2	146.8	146.8	148.5	148.5
2396	Automotive and apparel trimmings (12/77 = 100)	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0	131.0
2448	Wood pallets and skids (12/75 = 100)	145.6	144.2	144.6	144.6	145.2	145.7	146.9	148.5	149.5	<sup>r</sup> 150.9	151.2	150.9	151.4	151.9
2521	Wood office furniture	270.3	271.4	271.4	271.4	273.4	279.6	282.5	282.5	282.5	<sup>r</sup> 283.5	284.7	284.7	284.7	284.7
2654	Sanitary food containers	259.7	261.7	261.7	261.7	261.7	265.1	265.2	265.2	265.2	<sup>r</sup> 267.1	268.7	269.3	270.6	270.6
2655	Fiber cans, drums, and similar products (12/75 = 100)	177.8	180.7	183.8	183.8	183.8	183.8	185.6	185.6	185.6	185.9	187.7	187.7	187.8	189.5
2911	Petroleum refining (6/76 = 100)	278.3	280.1	278.3	267.2	257.4	250.4	240.6	246.0	254.0	<sup>r</sup> 255.4	258.1	257.8	258.0	254.5
2952	Asphalt felts and coating (12/75 = 100)	173.5	173.7	172.9	171.4	165.8	163.2	166.9	165.1	164.9	<sup>r</sup> 167.4	165.8	167.4	167.1	167.0
3251	Brick and structural clay tile	307.4	315.5	315.5	315.7	315.6	328.3	332.2	333.8	334.6	<sup>r</sup> 336.4	337.5	337.5	339.5	340.8
3253	Ceramic wall and floor tile (12/75 = 100)	140.6	140.7	140.7	140.7	140.7	140.7	140.7	142.4	149.6	<sup>r</sup> 149.6	146.8	146.8	146.8	146.8
3255	Clay refractories	352.8	350.3	350.3	351.1	351.1	351.2	352.2	352.2	349.4	<sup>r</sup> 352.1	355.3	356.8	366.0	368.6
3259	Structural clay products, n.e.c.	219.7	218.9	219.0	219.0	215.7	215.7	232.7	234.7	234.7	<sup>r</sup> 234.8	235.4	235.5	235.7	235.7
3261	Vitreous plumbing fixtures	265.0	270.3	269.7	272.1	273.3	275.1	275.3	276.1	276.9	<sup>r</sup> 277.0	277.2	281.3	283.7	284.5
3262	Vitreous china food utensils	357.8	370.2	377.7	380.1	380.1	380.1	380.1	380.1	369.2	<sup>r</sup> 380.1	369.2	369.2	369.2	382.3
3263	Fine earthenware food utensils	318.2	324.8	326.0	365.7	365.7	365.7	365.7	365.9	366.5	<sup>r</sup> 366.5	364.3	364.3	364.3	364.3
3269	Pottery products, n.e.c. (12/75 = 100)	167.3	171.9	173.7	186.5	186.6	186.6	186.6	186.6	186.6	<sup>r</sup> 186.6	183.8	183.8	183.8	187.0
3274	Lime (12/75 = 100)	186.3	187.5	185.7	187.3	185.5	185.1	187.8	185.2	186.2	<sup>r</sup> 187.1	187.9	186.6	186.2	182.6
3297	Nonclay refractories (12/74 = 100)	201.8	203.7	203.6	203.7	203.6	203.6	203.8	203.6	203.6	<sup>r</sup> 203.7	203.8	203.8	204.0	212.9
3482	Small arms ammunition (12/75 = 100)	164.2	150.6	174.1	175.1	175.1	181.6	181.6	181.6	181.6	<sup>r</sup> 181.6	187.6	187.6	187.6	187.6
3623	Welding apparatus, electric (12/72 = 100)	239.6	243.3	243.3	243.6	244.0	243.4	243.3	243.3	243.3	<sup>r</sup> 243.5	238.4	238.5	238.7	239.0
3636	Sewing machines (12/75 = 100)	154.6	154.2	154.2	154.2	154.4	155.0	156.8	156.8	156.8	<sup>r</sup> 156.8	156.1	156.1	156.1	156.1
3641	Electric lamps	294.0	303.0	303.4	306.0	311.5	311.4	313.8	313.8	316.7	<sup>r</sup> 319.4	319.8	332.4	332.7	333.0
3648	Lighting equipment, n.e.c. (12/75 = 100)	170.0	171.3	171.4	171.4	171.5	171.6	172.6	172.6	173.1	<sup>r</sup> 173.4	173.4	173.6	173.7	173.9
3671	Electron tubes, receiving type	382.1	414.0	414.1	431.6	432.0	431.9	432.1	432.1	432.2	<sup>r</sup> 432.5	432.4	432.6	432.9	432.8
3942	Dolls (12/75 = 100)	136.7	136.8	136.5	137.1	136.8	136.8	137.7	137.7	137.7	<sup>r</sup> 137.7	137.3	137.3	137.3	137.3
3944	Games, toys, and children's vehicles	234.0	235.3	235.5	235.3	243.4	241.8	242.2	242.2	242.2	<sup>r</sup> 236.1	231.9	232.1	232.1	231.9
3955	Carbon paper and inked ribbons (12/75 = 100)	140.0	139.2	139.4	139.2	139.2	139.2	139.2	139.2	139.2	<sup>r</sup> 139.2	139.2	139.2	139.3	139.3
3995	Burial caskets (6/76 = 100)	148.4	150.8	150.8	147.0	152.1	152.1	152.1	152.1	152.1	<sup>r</sup> 155.4	155.4	155.4	156.0	156.0
3996	Hard surface floor coverings (12/75 = 100)	155.9	158.9	156.8	159.2	159.2	159.2	159.7	159.6	159.6	<sup>r</sup> 162.2	163.4	163.5	163.5	163.5

<sup>1</sup>Data for July 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 estimates of compensation and output supplied by the U.S. Department of Commerce and the Federal Reserve Board.

### Definitions

**Output** is the constant dollar gross domestic product produced in a given period. Indexes of **output per hour of labor input**, or labor productivity, measure the value of goods and services produced per hour of 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 cost** measures the labor compensation cost required to produce one 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 the current dollar gross domestic product and dividing by output. In these tables, **unit nonlabor costs** contain all

the components of unit nonlabor payments except unit profits. **Unit profits** include corporate profits and inventory valuation adjustments per unit of output.

The **implicit price deflator** is derived by dividing the current dollar estimate of gross product by the constant dollar estimate, making the deflator, in effect, a price index for gross product of the sector reported.

**Hours of all persons** describes 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.

### Notes on the data

In the business sector and the nonfarm business sector, the basis for the output measure employed in the computation of output per hour is Gross Domestic Product rather than Gross National Product. Computation of hours includes estimates of nonfarm and farm proprietor hours.

Output data are 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 Economic Analysis and the Bureau of Labor Statistics.

Item	1950	1955	1960	1965	1970	1975	1976	1977	1978	1979	1980	1981	1982
<b>Business sector:</b>													
Output per hour of all persons	50.4	58.3	65.2	78.3	86.2	94.5	97.6	100.0	100.6	99.4	98.9	101.3	101.2
Compensation per hour	20.0	26.4	33.9	41.7	58.2	85.5	92.9	100.0	108.6	118.7	131.2	143.9	155.1
Real compensation per hour	50.5	59.6	69.5	80.1	90.8	96.3	98.9	100.0	100.9	99.1	96.5	95.9	97.4
Unit labor costs	39.8	45.2	52.1	53.3	67.5	90.5	95.1	100.0	108.0	119.5	132.7	142.1	153.3
Unit nonlabor payments	43.4	47.6	50.6	57.6	63.2	90.4	94.0	100.0	106.7	112.8	119.0	136.2	136.9
Implicit price deflator	41.0	46.0	51.6	54.7	66.0	90.4	94.7	100.0	107.5	117.2	128.1	140.1	147.7
<b>Nonfarm business sector:</b>													
Output per hour of all persons	56.3	62.7	68.3	80.5	86.8	94.7	97.8	100.0	100.6	99.1	98.4	100.3	100.2
Compensation per hour	21.8	28.3	35.7	42.8	58.7	86.0	93.0	100.0	108.6	118.4	130.7	143.5	154.7
Real compensation per hour	55.0	64.0	73.0	82.2	91.5	96.8	99.0	100.0	100.9	98.9	96.1	95.6	97.1
Unit labor costs	38.8	45.1	52.3	53.2	67.6	90.8	95.1	100.0	108.0	119.5	132.8	143.0	154.4
Unit nonlabor payments	42.7	47.8	50.4	58.0	63.8	88.5	93.5	100.0	105.3	110.4	118.5	135.0	137.0
Implicit price deflator	40.1	46.0	51.6	54.8	66.3	90.0	94.6	100.0	107.1	116.5	128.1	140.4	148.6
<b>Nonfinance corporations:</b>													
Output per hour of all persons	(1)	(1)	68.0	81.9	87.4	95.5	98.2	100.0	100.9	100.7	99.8	102.3	102.8
Compensation per hour	(1)	(1)	37.0	43.9	59.4	86.1	92.9	100.0	108.5	118.7	130.9	143.6	154.8
Real compensation per hour	(1)	(1)	75.8	84.3	92.7	96.9	98.9	100.0	100.7	99.1	96.3	95.7	97.2
Unit labor costs	(1)	(1)	54.4	53.5	68.0	90.2	94.6	100.0	107.5	117.8	131.2	140.3	150.6
Unit nonlabor payments	(1)	(1)	54.6	60.8	63.1	90.8	95.0	100.0	104.2	106.9	117.4	134.4	137.6
Implicit price deflator	(1)	(1)	54.5	56.1	66.3	90.4	94.7	100.0	106.4	114.1	126.4	138.3	146.1
<b>Manufacturing:</b>													
Output per hour of all persons	149.4	156.4	160.0	174.5	79.1	193.4	97.5	100.0	100.8	101.5	101.7	105.3	106.5
Compensation per hour	21.5	28.8	36.7	42.8	57.6	85.4	92.3	100.0	108.3	118.8	132.7	145.8	158.2
Real compensation per hour	54.0	65.1	75.1	82.3	89.8	96.2	98.3	100.0	100.6	99.2	97.6	97.2	99.3
Unit labor costs	143.4	150.0	161.1	157.5	172.7	91.5	194.6	100.0	107.4	117.0	130.5	138.5	148.5
Unit nonlabor payments	154.3	158.5	161.1	169.3	165.0	87.3	93.7	100.0	102.5	99.9	97.7	110.2	109.2
Implicit price deflator	46.6	53.2	61.1	61.0	70.5	90.3	94.4	100.0	106.0	112.0	120.9	130.2	137.0

<sup>1</sup> Not available.

r = revised.

**29. Annual changes in productivity, hourly compensation, unit costs, and prices, 1972-82**

Item	Year											Annual rate of change	
	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1950-82	1972-82
<b>Business sector:</b>													
Output per hour of all persons	3.5	2.6	-2.4	2.2	3.3	2.4	0.6	-1.2	-0.5	2.4	-0.1	2.2	0.9
Compensation per hour	6.5	8.0	9.4	9.6	8.6	7.7	8.6	9.4	10.5	9.7	7.7	6.6	8.9
Real compensation per hour	3.1	1.6	-1.4	0.5	2.6	1.2	0.9	-1.7	-2.6	-0.6	1.5	2.1	0.2
Unit labor costs	2.9	5.3	12.1	7.3	5.1	5.1	8.0	10.7	11.1	7.1	7.9	4.3	7.9
Unit nonlabor payments	4.5	5.9	4.4	15.1	4.0	6.4	6.7	5.8	5.5	14.4	0.5	3.7	6.8
Implicit price deflator	3.4	5.5	9.5	9.8	4.7	5.6	7.5	9.0	9.2	9.4	5.4	4.1	7.6
<b>Nonfarm business sector:</b>													
Output per hour of all persons	3.7	2.4	-2.5	2.0	3.2	2.2	0.6	-1.5	-0.7	1.9	-0.1	1.8	0.8
Compensation per hour	6.7	7.6	9.4	9.6	8.1	7.5	8.6	9.0	10.4	9.8	7.8	6.3	8.8
Real compensation per hour	3.3	1.3	-1.4	0.4	2.2	1.0	0.9	-2.0	-2.8	-0.6	1.6	1.8	0.1
Unit labor costs	2.8	5.0	12.2	7.5	4.8	5.2	8.0	10.7	11.1	7.7	7.9	4.4	8.0
Unit nonlabor payments	3.2	1.3	5.9	16.7	5.7	6.9	5.3	4.8	7.4	13.9	1.4	3.7	6.8
Implicit price deflator	3.0	3.8	10.2	10.3	5.1	5.7	7.1	8.8	10.0	9.6	5.8	4.2	7.6
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	2.9	2.4	-3.7	2.9	2.9	1.8	0.9	-0.2	-0.9	2.5	0.5	( <sup>1</sup> )	0.9
Compensation per hour	5.7	7.5	9.4	9.6	7.9	7.6	8.5	9.4	10.3	9.7	7.8	( <sup>1</sup> )	8.8
Real compensation per hour	2.4	1.2	-1.5	0.4	2.0	1.1	0.7	-1.7	-2.8	-0.6	1.6	( <sup>1</sup> )	0.0
Unit labor costs	2.8	4.9	13.6	6.5	4.9	5.7	7.5	9.6	11.3	7.0	7.3	( <sup>1</sup> )	7.8
Unit nonlabor payments	2.7	1.5	7.1	20.1	4.6	5.3	4.2	2.6	9.8	14.5	2.4	( <sup>1</sup> )	7.1
Implicit price deflator	2.8	3.8	11.4	10.9	4.8	5.6	6.4	7.2	10.8	9.4	5.7	( <sup>1</sup> )	7.6
<b>Manufacturing:</b>													
Output per hour of all persons	<sup>r</sup> 5.0	5.4	-2.4	<sup>r</sup> 2.0	4.4	<sup>r</sup> 2.5	<sup>r</sup> 0.8	0.7	<sup>r</sup> 0.2	3.5	<sup>r</sup> 1.2	2.4	1.9
Compensation per hour	5.4	7.2	10.6	11.9	8.0	8.3	8.3	9.7	11.7	9.9	8.5	6.4	9.4
Real compensation per hour	2.0	<sup>r</sup> 0.9	-0.3	2.5	2.1	1.8	0.6	-1.4	-1.6	-0.4	2.2	1.9	0.6
Unit labor costs	<sup>r</sup> 0.3	1.7	13.3	<sup>r</sup> 8.8	3.4	<sup>r</sup> 5.7	<sup>r</sup> 4.4	9.0	<sup>r</sup> 11.5	6.1	<sup>r</sup> 7.2	3.9	7.4
Unit nonlabor payments	<sup>r</sup> 0.8	<sup>r</sup> -3.3	<sup>r</sup> -1.8	<sup>r</sup> 25.9	<sup>r</sup> 7.4	6.7	<sup>r</sup> 2.5	<sup>r</sup> -2.6	<sup>r</sup> -2.2	12.8	<sup>r</sup> -0.9	2.2	4.1
Implicit price deflator	0.5	0.3	9.0	13.1	4.6	6.0	6.0	5.7	7.9	7.7	5.2	3.4	6.5

<sup>1</sup>Not available.

r = revised.

**30. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted**

[1977 = 100]

Item	Annual average		Quarterly indexes										
			1981				1982				1983		
	1981	1982	I	II	III	IV	I	II	III	IV	I	II	III
<b>Business sector:</b>													
Output per hour of all persons	101.3	101.2	100.5	101.1	102.3	101.2	101.1	100.7	101.1	101.9	102.5	103.8	<sup>r</sup> 104.7
Compensation per hour	143.9	155.1	139.7	142.2	145.5	148.2	151.6	153.9	156.5	158.7	160.7	162.1	<sup>r</sup> 164.2
Real compensation per hour	95.9	97.4	96.3	96.1	95.6	95.6	97.1	97.4	97.1	98.0	99.4	99.2	<sup>r</sup> 99.4
Unit labor costs	142.1	153.3	139.0	140.7	142.3	146.4	149.9	152.9	154.7	155.6	156.9	156.2	<sup>r</sup> 156.9
Unit nonlabor payments	136.2	136.9	131.2	133.4	139.9	140.2	137.0	137.0	136.3	137.4	140.8	145.8	<sup>r</sup> 147.3
Implicit price deflator	140.1	147.7	136.3	138.2	141.5	144.3	145.5	147.5	148.5	149.4	151.5	152.7	<sup>r</sup> 153.6
<b>Nonfarm business sector:</b>													
Output per hour of all persons	100.3	100.2	100.1	100.1	101.1	99.9	100.0	99.9	100.4	100.8	101.7	103.3	<sup>r</sup> 104.1
Compensation per hour	143.5	154.7	139.3	141.8	145.1	147.7	151.3	153.5	156.1	158.3	161.0	162.7	<sup>r</sup> 164.4
Real compensation per hour	95.6	97.1	96.0	95.8	95.3	95.4	96.9	97.1	96.9	97.8	99.5	99.6	<sup>r</sup> 99.4
Unit labor costs	143.0	154.4	139.2	141.6	143.5	147.8	151.3	153.6	155.4	157.1	158.3	157.4	<sup>r</sup> 157.9
Unit nonlabor payments	135.0	137.0	130.3	132.2	138.3	139.5	136.4	137.7	136.5	137.2	140.7	145.9	<sup>r</sup> 147.9
Implicit price deflator	140.4	148.6	136.2	138.4	141.8	145.0	146.4	148.3	149.1	150.5	152.4	153.6	154.6
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	102.3	102.8	101.8	102.1	103.0	102.2	102.4	102.3	103.2	103.4	104.3	105.9	<sup>p</sup> 107.3
Compensation per hour	143.6	154.8	139.5	142.0	145.0	147.8	151.7	153.7	156.1	158.1	160.4	161.6	<sup>p</sup> 163.1
Real compensation per hour	95.7	97.2	96.2	95.9	95.2	95.4	97.2	97.2	96.9	97.7	99.2	98.9	<sup>p</sup> 98.7
Total unit costs	142.7	153.5	138.4	141.1	143.6	147.7	150.9	153.1	153.8	156.3	156.7	155.3	<sup>p</sup> 154.4
Unit labor costs	140.3	150.6	137.0	139.0	140.7	144.6	148.1	150.2	151.1	152.9	153.9	152.5	<sup>p</sup> 152.1
Unit nonlabor costs	149.4	161.8	142.3	147.0	151.9	156.6	158.9	161.2	161.3	165.9	164.7	163.1	<sup>p</sup> 161.0
Unit profits	104.1	88.9	103.0	100.3	108.6	104.2	90.8	90.3	91.2	83.0	96.1	115.0	<sup>p</sup> 131.4
Implicit price deflator	138.3	146.1	134.3	136.4	139.6	142.7	144.0	145.9	146.6	147.9	149.7	150.7	<sup>p</sup> 151.7
<b>Manufacturing:</b>													
Output per hour of all persons	105.3	106.5	105.1	105.4	106.1	104.4	105.1	105.3	107.8	108.1	110.2	112.6	<sup>r</sup> 115.7
Compensation per hour	145.8	158.2	141.6	144.3	147.0	150.5	155.1	157.1	159.6	161.4	165.5	166.4	<sup>r</sup> 167.4
Real compensation per hour	97.2	99.3	97.6	97.5	96.5	97.1	99.4	99.4	99.1	99.7	102.3	101.8	<sup>r</sup> 101.3
Unit labor costs	138.5	148.5	134.8	136.9	138.5	144.1	147.6	149.1	148.1	149.3	150.2	147.8	144.7

<sup>1</sup>Not available.

p = preliminary.

r = revised.



**31. 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					
	I 1982 to II 1982	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	II 1981 to II 1982	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
<b>Business sector:</b>												
Output per hour of all persons . . . . .	-1.6	1.7	3.3	2.0	5.4	r3.5	-0.4	-1.1	0.7	1.3	3.1	r3.5
Compensation per hour . . . . .	6.4	6.7	5.7	5.4	3.5	r5.3	8.2	7.5	7.1	6.1	5.3	5.0
Real compensation per hour . . . . .	1.1	-1.0	3.7	5.8	-0.7	r0.5	1.3	1.6	2.5	2.4	1.9	r2.3
Unit labor costs . . . . .	8.1	5.0	2.3	3.3	-1.8	r1.8	8.7	8.7	6.3	4.7	2.2	r1.4
Unit nonlabor payments . . . . .	-0.1	-2.0	3.2	10.5	15.0	r3.9	2.7	-2.6	-2.0	2.8	6.5	r8.1
Implicit price deflator . . . . .	5.5	2.7	2.6	5.5	3.3	p2.5	6.7	4.9	3.5	4.1	3.5	3.5
<b>Nonfarm business sector:</b>												
Output per hour of all persons . . . . .	-0.4	2.3	1.3	3.7	6.6	r3.1	-0.3	-0.6	0.8	1.7	3.4	r3.6
Compensation per hour . . . . .	5.8	7.2	5.8	6.8	4.3	r4.2	8.2	7.6	7.2	6.4	6.0	5.3
Real compensation per hour . . . . .	0.5	-0.6	3.7	7.2	0.1	r-0.5	1.3	1.7	2.6	2.7	2.6	r2.6
Unit labor costs . . . . .	6.2	4.7	4.4	3.0	-2.1	r1.1	8.5	8.3	6.3	4.6	2.5	r1.6
Unit nonlabor payments . . . . .	3.7	-3.4	2.0	10.6	15.7	r5.6	4.2	-1.3	-1.6	3.1	6.0	r8.4
Implicit price deflator . . . . .	5.4	2.2	3.7	5.3	3.2	2.5	7.1	5.2	3.7	4.1	3.6	3.7
<b>Nonfinancial corporations:</b>												
Output per hour of all employees . . . . .	-0.5	3.8	0.6	3.4	6.5	p5.2	0.1	0.2	1.2	1.8	3.6	p3.9
Compensation per hour . . . . .	5.4	6.4	5.4	6.0	2.9	p3.9	8.2	7.6	7.0	5.8	5.2	p4.5
Real compensation per hour . . . . .	0.1	-1.3	3.4	6.4	-1.2	p-0.8	1.3	1.7	2.4	2.1	1.7	p1.9
Total units costs . . . . .	6.0	1.8	6.7	1.0	-3.5	p-2.4	8.5	7.1	5.8	3.8	1.4	p0.4
Unit labor costs . . . . .	6.0	2.4	4.8	2.5	-3.4	p-1.3	8.1	7.4	5.7	3.9	1.5	p0.6
Unit nonlabor costs . . . . .	6.0	0.1	11.9	-2.8	-3.8	p-5.2	9.7	6.2	6.0	3.7	1.2	p-0.2
Unit profits . . . . .	-2.1	3.8	-31.4	79.9	104.7	p70.7	-9.9	-16.1	r-20.3	5.8	27.3	p44.1
Implicit price deflator . . . . .	5.4	1.9	3.6	5.1	2.5	p2.9	7.0	5.0	3.6	4.0	3.3	p3.5
<b>Manufacturing:</b>												
Output per hour of all persons . . . . .	0.8	9.6	1.2	8.0	9.0	r11.6	-0.1	1.6	3.5	4.8	6.9	r7.4
Compensation per hour . . . . .	5.1	6.5	4.5	10.7	2.1	r2.6	8.8	-8.6	7.3	6.7	5.9	r4.9
Real compensation per hour . . . . .	-0.2	-1.2	2.5	11.1	-21	r2.1	1.9	2.6	2.7	3.0	2.5	r2.2
Unit labor costs . . . . .	4.3	-2.8	3.3	2.5	-6.4	r-8.1	8.9	6.9	3.6	1.8	-0.9	-2.3

<sup>1</sup>Not available.  
r = revised.

p = preliminary.

## 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.

### 32. Employment Cost Index, by occupation and industry group

[June 1981 = 100]

Series	1981		1982				1983			Percent change	
	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.	3 months ended	12 months ended
										September 1983	
<b>Civilian workers<sup>1</sup></b>	102.6	104.5	106.3	107.5	110.1	111.4	113.2	114.5	116.5	1.7	5.8
Workers, by occupational group											
White-collar workers	102.7	104.9	106.5	107.7	110.7	111.9	113.7	114.9	117.6	2.3	6.2
Blue-collar workers	102.3	104.1	105.7	107.1	109.2	110.5	112.3	113.6	114.8	1.1	5.1
Service workers	102.8	104.2	107.2	108.3	110.8	112.4	114.3	115.1	116.7	1.4	5.3
Workers, by industry division											
Manufacturing	102.1	104.0	106.0	107.2	109.3	110.4	112.5	113.5	115.0	1.3	5.2
Nonmanufacturing	102.8	104.8	106.4	107.7	110.5	111.8	113.5	114.9	117.2	2.0	6.1
Services	104.4	107.1	108.2	109.2	113.5	115.0	116.6	117.1	121.1	3.4	6.7
Public administration <sup>2</sup>	104.3	106.0	108.1	109.1	112.8	113.6	116.2	117.0	119.8	2.4	6.2
<b>Private industry workers</b>	102.0	104.0	105.8	107.2	109.3	110.7	112.6	113.9	115.6	1.5	5.8
Workers, by occupational group											
White-collar workers	101.8	104.0	105.8	107.2	109.5	110.8	112.8	114.2	116.5	2.0	6.4
Blue-collar workers	102.2	104.0	105.6	107.0	109.0	110.3	112.1	113.5	114.6	1.0	5.1
Service workers	101.9	103.1	106.7	107.9	109.6	111.8	113.8	114.6	115.1	.4	5.0
Workers, by industry division											
Manufacturing	102.1	104.0	106.0	107.2	109.3	110.4	112.5	113.5	115.0	1.3	5.2
Nonmanufacturing	102.0	103.9	105.7	107.1	109.3	110.8	112.6	114.2	116.0	1.6	6.1
<b>State and local government workers</b>	105.3	107.4	108.8	109.3	114.3	115.1	116.5	117.1	120.8	3.2	5.7
Workers, by occupational group											
White-collar workers	105.7	107.8	109.1	109.5	114.9	115.8	117.0	117.5	121.5	3.4	5.7
Blue-collar workers	104.2	105.9	108.2	108.9	112.7	113.0	114.9	115.8	118.0	1.9	4.7
Workers, by industry division											
Services	105.8	107.9	109.0	109.4	114.9	115.9	116.8	117.4	121.7	3.7	5.9
Schools	106.0	107.9	108.9	109.1	114.8	115.8	116.6	116.9	121.9	4.3	6.2
Elementary and secondary	106.3	108.3	109.3	109.5	115.6	116.6	117.2	117.4	123.3	5.0	6.7
Hospitals and other services <sup>3</sup>	105.0	107.8	109.5	110.3	115.3	116.0	117.5	118.8	121.1	1.9	5.0
Public administration <sup>2</sup>	104.3	106.0	108.1	109.1	112.8	113.6	116.2	117.0	119.8	2.4	6.2

<sup>1</sup>Excludes farm, household, and Federal workers.

<sup>2</sup>Consists of legislative, judicial, administrative, and regulatory activities.

<sup>3</sup>Includes, for example, library, social, and health services.



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

[June 1981 = 100]

Series	1981		1982				1983			Percent change	
	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.	3 months ended	12 months ended
										September 1983	
<b>Civilian workers<sup>1</sup></b> .....	102.5	104.4	106.3	107.3	109.7	110.9	112.2	113.4	115.3	1.7	5.1
Workers, by occupational group											
White-collar workers .....	102.6	104.7	106.7	107.6	110.4	111.4	113.0	114.2	116.7	2.2	5.7
Blue-collar workers .....	102.4	104.0	105.5	106.7	108.6	109.8	110.8	112.0	113.1	1.0	4.1
Service workers .....	102.5	103.6	106.8	107.9	110.1	111.8	113.2	113.9	115.1	1.1	4.5
Workers, by industry division											
Manufacturing .....	102.1	104.0	105.9	107.0	108.8	109.8	111.0	112.0	113.3	1.2	4.1
Nonmanufacturing .....	102.7	104.5	106.5	107.5	110.1	111.3	112.7	114.0	116.1	1.8	5.4
Services .....	104.4	106.6	108.6	109.5	113.2	114.4	115.8	116.3	120.1	3.3	6.1
Public administration <sup>2</sup> .....	103.8	105.5	107.5	108.4	111.9	112.6	114.6	115.4	118.2	2.4	5.6
<b>Private industry workers</b> .....	102.0	103.8	105.9	107.1	109.0	110.3	111.6	112.9	114.5	1.4	5.0
Workers, by occupational group											
White-collar workers .....	101.8	103.9	106.2	107.3	109.4	110.6	112.2	113.6	115.9	2.0	5.9
Professional and technical workers .....	103.3	105.5	108.0	109.4	111.8	112.9	114.8	115.9	119.9	3.5	7.2
Managers and administrators .....	101.6	102.8	105.8	107.2	108.5	109.3	112.0	114.0	114.8	.7	5.8
Salesworkers .....	98.0	101.9	102.2	101.8	104.5	106.2	105.7	107.1	108.4	1.2	3.7
Clerical workers .....	102.7	104.2	107.0	108.3	110.3	111.6	113.4	114.6	116.7	1.8	5.8
Blue-collar workers .....	102.3	103.9	105.4	106.6	108.5	109.7	110.7	111.9	112.9	.9	4.1
Craft and kindred workers .....	102.9	104.3	106.2	107.6	109.6	111.2	112.2	113.4	114.3	.8	4.3
Operatives, except transport .....	102.1	104.1	105.4	106.6	108.3	109.3	110.0	111.1	112.3	1.1	3.7
Transport equipment operatives .....	101.0	102.7	103.2	104.1	106.0	106.9	108.0	110.3	110.7	.4	4.4
Nonfarm laborers .....	101.5	103.3	104.1	105.1	106.5	107.8	109.0	109.8	110.8	.9	4.0
Service workers .....	101.8	102.7	106.7	107.9	109.3	111.4	112.9	113.5	113.7	.2	4.0
Workers, by industry division											
Manufacturing .....	102.1	104.0	105.9	107.0	108.8	109.8	111.0	112.0	113.3	1.2	4.1
Durables .....	102.1	104.5	106.3	107.4	109.0	110.3	111.1	111.8	112.9	1.0	3.6
Nondurables .....	102.0	103.1	105.3	106.3	108.5	109.1	110.9	112.3	113.9	1.4	5.0
Nonmanufacturing .....	102.0	103.8	105.9	107.1	109.1	110.5	112.0	113.4	115.2	1.6	5.6
Construction .....	103.0	104.3	105.9	107.3	109.1	109.7	110.4	112.1	112.2	.1	2.8
Transportation and public utilities .....	102.0	103.6	105.7	106.9	109.5	111.1	112.9	114.7	115.7	.9	5.7
Wholesale and retail trade .....	101.3	102.3	103.9	105.8	106.5	107.2	108.5	110.8	111.5	.6	4.7
Wholesale trade .....	102.0	103.4	106.3	108.9	109.0	109.8	111.8	114.1	115.7	1.4	6.1
Retail trade .....	101.0	101.9	103.0	104.5	105.5	106.1	107.2	109.4	109.9	.5	4.2
Finance, insurance, and real estate .....	98.3	102.3	103.7	102.4	106.1	109.0	110.6	111.1	113.5	2.2	7.0
Services .....	103.6	105.8	108.8	110.0	112.5	114.3	116.0	116.6	120.4	3.3	7.0
<b>State and local government workers</b> .....	105.0	107.0	108.2	108.7	113.5	114.0	115.1	115.7	119.2	3.0	5.0
Workers, by occupational group											
White-collar workers .....	105.4	107.5	108.5	108.9	114.2	114.6	115.6	116.1	119.8	3.2	4.9
Blue-collar workers .....	103.9	105.5	107.5	107.9	111.5	112.0	113.3	114.3	116.4	1.8	4.4
Workers, by industry division											
Services .....	105.5	107.6	108.4	108.8	114.2	114.6	115.5	115.9	119.8	3.4	4.9
Schools .....	105.7	107.7	108.3	108.5	114.2	114.5	115.2	115.4	119.9	3.9	5.0
Elementary and secondary .....	106.0	107.9	108.7	108.8	114.9	115.1	115.6	115.8	121.1	4.6	5.4
Hospitals and other services <sup>3</sup> .....	104.6	107.3	108.8	109.5	114.3	114.9	116.5	117.7	119.7	1.7	4.7
Public administration <sup>2</sup> .....	103.8	105.5	107.5	108.4	111.9	112.6	114.6	115.4	118.2	2.4	5.6

<sup>1</sup>Excludes farm, household, and Federal workers.

<sup>2</sup>Consists of legislative, judicial, administrative, and regulatory activities.

<sup>3</sup>Includes, for example, library, social and health services.

### 34. Employment Cost Index, private industry workers, by bargaining status, region, and area size

[June 1981 = 100]

Series	1981		1982				1983			Percent change	
	Sept.	Dec.	March	June	Sept.	Dec.	March	June	Sept.	3 months ended	12 months ended
										September 1983	
<b>COMPENSATION</b>											
Workers, by bargaining status <sup>1</sup>											
Union	102.5	104.8	106.5	108.4	110.6	112.3	114.5	116.0	117.8	1.6	6.5
Manufacturing	102.3	104.6	106.3	108.0	110.3	111.8	114.0	114.8	116.3	1.3	5.4
Nonmanufacturing	102.7	105.0	106.8	108.7	111.0	112.8	114.9	117.1	119.2	1.8	7.4
Nonunion	101.7	103.5	105.3	106.5	108.5	109.7	111.5	112.8	114.4	1.4	5.4
Manufacturing	101.8	103.5	105.7	106.6	108.4	109.2	111.2	112.3	113.8	1.3	5.0
Nonmanufacturing	101.7	103.5	105.2	106.4	108.6	109.9	111.6	113.0	114.7	1.5	5.6
Workers, by area size <sup>1</sup>											
Metropolitan areas	102.1	104.1	105.7	107.2	109.4	110.9	112.9	114.2	116.0	1.6	6.0
Other areas	101.8	103.2	106.2	107.0	108.6	109.1	110.8	112.3	113.4	1.0	4.4
<b>WAGES AND SALARIES</b>											
Workers, by bargaining status <sup>1</sup>											
Union	102.7	105.0	106.5	108.1	110.3	111.8	112.9	114.2	116.0	1.6	5.2
Manufacturing	102.6	104.7	105.9	107.3	109.5	110.8	111.4	112.3	113.7	1.2	3.8
Nonmanufacturing	102.8	105.2	107.0	108.8	111.1	112.7	114.3	116.0	118.3	2.0	6.5
Nonunion	101.6	103.2	105.6	106.5	108.3	109.5	110.9	112.2	113.7	1.3	5.0
Manufacturing	101.7	103.3	105.9	106.7	108.2	109.1	110.7	111.8	113.0	1.1	4.4
Nonmanufacturing	101.6	103.2	105.5	106.4	108.3	109.6	111.0	112.4	114.0	1.4	5.3
Workers, by region <sup>1</sup>											
Northeast	101.7	104.4	106.1	106.7	109.7	111.5	112.0	113.6	115.3	1.5	5.1
South	101.9	102.8	105.7	107.4	108.8	109.8	111.4	112.5	114.3	1.6	5.1
North Central	101.6	103.3	104.7	106.1	107.6	108.6	110.1	111.5	112.8	1.2	4.8
West	103.2	105.1	107.9	108.6	110.7	112.0	114.1	114.9	116.5	1.4	5.2
Workers by area size <sup>1</sup>											
Metropolitan areas	102.1	104.0	105.9	107.1	109.1	110.5	111.9	113.2	114.9	1.5	5.3
Other areas	101.8	103.1	106.0	106.8	108.3	108.8	110.1	111.4	112.3	.8	3.7

<sup>1</sup>The 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.

**35. Wage and compensation change, major collective bargaining settlements, 1978 to date**  
 [In percent]

Measure	Annual average					Quarterly average								
	1978	1979	1980	1981	1982	1981	1982				1983 <sup>P</sup>			
						IV	I	II	III	IV	I	II	III	
Total compensation changes, covering 5,000 workers or more, all industries:														
First year of contract	8.3	9.0	10.4	10.2	3.2	11.0	1.9	2.6	6.2	3.3	-1.6	4.6	4.5	
Annual rate over life of contract	6.3	6.6	7.1	8.3	2.8	5.8	1.2	2.1	4.7	4.8	1.4	3.8	4.1	
Wage rate changes covering at least 1,000 workers, all industries:														
First year of contract	7.6	7.4	9.5	9.8	3.8	9.0	3.0	3.4	5.4	3.8	-1.2	2.7	3.6	
Annual rate over life of contract	6.4	6.0	7.1	7.9	3.6	5.7	2.8	3.2	4.5	4.8	2.2	2.8	3.6	
Manufacturing:														
First year of contract	8.3	6.9	7.4	7.2	2.8	6.6	2.5	1.8	5.1	4.1	-3.4	1.3	3.8	
Annual rate over life of contract	6.6	5.4	5.4	6.1	2.6	5.4	2.7	1.7	3.9	4.5	.9	1.6	4.1	
Nonmanufacturing (excluding construction):														
First year of contract	8.0	7.6	9.5	9.8	4.3	9.6	2.7	6.6	5.5	3.6	3.5	6.4	5.6	
Annual rate over life of contract	6.5	6.2	6.6	7.3	4.1	5.6	2.1	6.1	4.8	5.2	5.4	5.7	3.9	
Construction:														
First year of contract	6.5	8.8	13.6	13.5	6.5	11.4	8.6	6.2	6.3	3.4	.7	1.7	.4	
Annual rate over life of contract	6.2	8.3	11.5	11.3	6.3	11.7	8.2	6.3	5.9	2.9	2.4	2.1	2.4	

p = preliminary.

**36. Effective wage adjustments in collective bargaining units covering 1,000 workers or more, 1978 to date**

Measure	Year					Year and quarter								
	1978	1979	1980	1981	1982	1981	1982				1983 <sup>P</sup>			
						IV	I	II	III	IV	I	II	III	
Average percent adjustment (including no change):														
All industries	8.2	9.1	9.9	9.5	6.8	1.5	1.0	2.0	2.4	1.3	0.3	1.3	1.1	
Manufacturing	8.6	9.6	10.2	9.4	5.2	1.9	.9	1.0	1.7	1.5	-.4	1.0	1.1	
Nonmanufacturing	7.9	8.8	9.7	9.5	7.9	1.1	1.1	2.7	2.9	1.2	.9	1.4	1.1	
From settlements reached in period	2.0	3.0	3.6	2.5	1.7	.4	.2	.4	.5	.6	-.2	.2	.2	
Deferred from settlements reached in earlier period	3.7	3.0	3.5	3.8	3.6	.4	.6	1.4	1.3	.4	.4	1.0	.8	
From cost-of-living clauses	2.4	3.1	2.8	3.2	1.4	.6	.3	.2	.6	.3	.1	.1	.2	
Total number of workers receiving wage change (in thousands) <sup>1</sup>	—	—	—	8,648	7,852	3,225	2,878	3,423	3,760	3,441	2,998	3,139	2,883	
From settlements reached in period	—	—	—	2,270	1,907	604	204	511	620	825	444	542	444	
Deferred from settlements reached in earlier period	—	—	—	6,267	4,846	882	1,001	1,594	2,400	860	828	1,413	1,328	
From cost-of-living clauses	—	—	—	4,593	3,830	2,179	1,920	1,568	2,251	1,970	2,050	1,376	1,216	
Number of workers receiving no adjustments (in thousands)	—	—	—	145	483	5,568	5,457	4,912	4,575	4,895	5,047	4,906	5,163	

<sup>1</sup>The 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.  
 p = preliminary.



## 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 measures 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.

37. 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
1982	January	2	6.1	11.4	202.8	.01
	February	3	3.9	15.3	241.1	.01
	March	4	13.3	26.1	357.0	.02
	April	14	59.5	79.1	533.1	.03
	May	15	42.7	66.1	657.6	.04
	June	18	42.8	66.9	907.2	.05
	July	13	38.4	65.9	844.7	.04
	August	9	18.8	58.0	754.3	.04
	September	14	390.0	427.0	2,088.8	.11
	October	3	38.1	67.6	904.8	.05
	November	1	2.2	43.7	805.4	.04
1983 <sup>p</sup>	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
	April	2	2.8	52.4	789.5	.04
	May	11	23.6	32.9	493.9	.03
	June	15	59.8	79.7	689.0	.03
	July	10	49.9	85.1	1,198.1	.07
	August	7	675.8	730.4	10,655.7	.51
	September	7	21.7	50.8	574.6	.03
	October	10	62.9	79.6	1,152.2	.06
	November	3	22.0	41.6	649.8	.04

p = preliminary.

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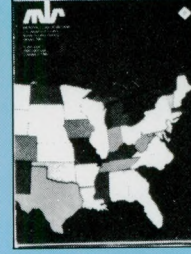
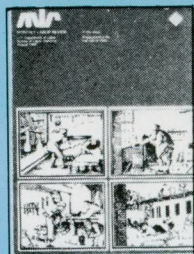
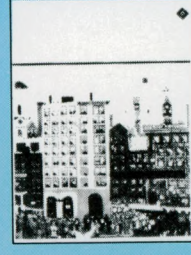
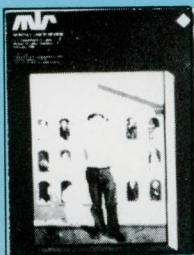
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