

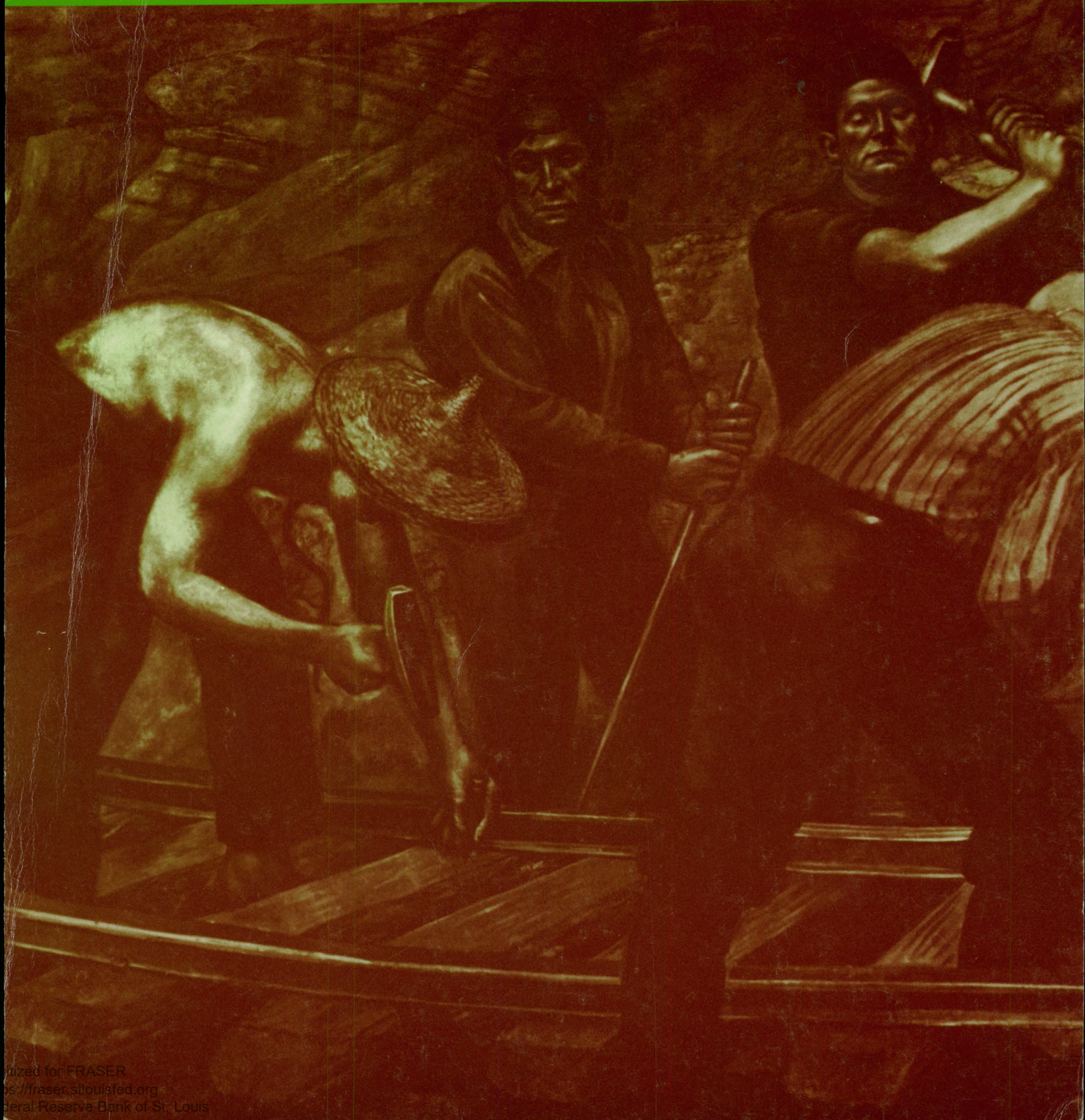


MONTHLY LABOR REVIEW

U.S. Department of Labor  
Bureau of Labor Statistics  
April 1983



*In this issue:*  
Employment in the nonprofit sector,  
and productivity in the service sector





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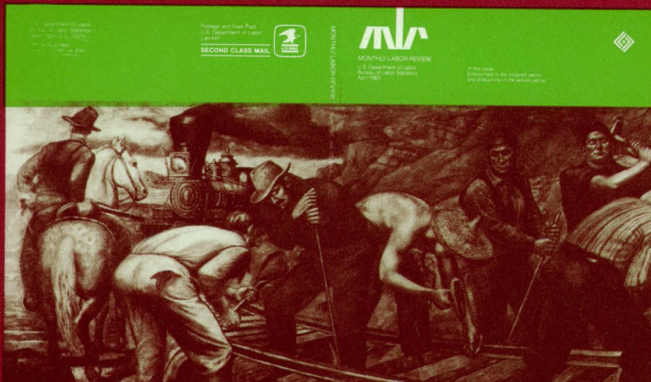
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**MONTHLY LABOR REVIEW**

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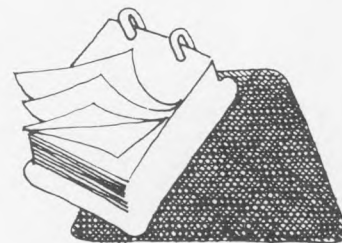
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# Labor Month In Review



**TECHNOLOGICAL IMPACT.** The Bureau of Labor Statistics continued its series of publications on new technology by appraising some of the major technological changes emerging among five American industries, including trucking and printing and publishing. The report discusses the impact of the changes on productivity and labor over the next 5 to 10 years. Excerpts:

**Printing and publishing.** New technology is being introduced throughout the printing and publishing industry. These innovations frequently involve the application of electronic techniques in place of mechanical equipment. High-speed phototypesetting machines, computerized typesetting, video display terminals, and electronic scanners are among technologies which have brought about significant changes in composition and typesetting—areas where about 2 out of every 5 printing craftworkers are employed. Employment in printing craft occupations associated with letterpress or hot-metal typesetting has been declining as offset printing, which involves photographic techniques, has become increasingly dominant. Technological changes also are reducing labor requirements and modifying job skills in platemaking and printing press, binding, and mailroom operations. Employment in computer-related occupations has been increasing.

**Intercity trucking.** Most of the technologies and managerial techniques being applied in the trucking industry have been available for many years. However, the energy price rise has increased the cost effectiveness and diffusion of several of these, especially for twin trailers, one of the more important technologies. In addition, an increase in computer applications, the diffusion of the diesel engine, and decisions by more carriers to engage in inter-firm freight

consolidations are increasing labor productivity and reducing costs.

Unlike the slower, more moderate changes brought about by new technology, the trucking regulatory reform legislation enacted in 1980 is likely to have a substantial impact on productivity and labor. Coming at about the same time, the downturn in the economy is seriously depressing the industry. The outlook for the 1980's depends on the interpretation of the legislation as well as the strength of the economy.

**Water transportation.** Changes in technology that have made ships and cargo handling operations more productive have facilitated the substantial expansion in U.S. waterborne commerce since 1960. Containerized cargo handling technology has greatly increased the speed with which ships can be loaded and unloaded, thereby reducing the unproductive time that ships spend in port. This faster turnaround time also has reduced the amount of stevedoring work required, resulting in less employment for longshore workers.

Although merchant ship size and cargo capacities have increased, crew size aboard these ships has declined. Technological changes such as centralized engine controls, bow thrusters, improved marine coatings, and changes in food preparation have reduced labor requirements aboard ships, allowing smaller crews to operate these larger ships.

**Copper ore mining.** Technological changes are underway in all the major steps of copper ore mining, including drilling and blasting, loading and hauling, and ore processing operations. In general, these changes involve expansion of capacity and improvements in existing technologies rather than radical innovations.

Mining copper ore involves the blasting and transport of vast quantities

of ore and waste. Productivity gains have resulted from improved equipment for drilling holes in which explosives are inserted and improved techniques for their deployment, larger capacity electric shovels and trucks for loading and hauling, extension of conveyorization, employment of trackless vehicles in underground mines, and refinements in ore concentrator operations.

Productivity growth in copper ore mining has been uneven over the past two decades as demand for copper has fluctuated. Between 1960 and 1980, the BLS index of output of recoverable metal per employee hour increased at an annual rate of 1.3 percent. The annual rate of increase was 1.0 percent during the early part of this period, 1960-67. Productivity rose at a significantly higher rate of 2.3 percent per year during 1967-80. However, from 1977 to 1980, output per employee hour declined at an annual rate of 3.8 percent as demand for copper slackened and output fell.

**Fabricated structural metal.** Technological advances are being adopted gradually in the fabricated structural metal industry. New technology has taken the form of improvements in the control and operation of machine tools and, for the first time, the adoption of a production line approach. Some occupations have been affected by a reduction in unit labor requirements. (See "Productivity growth below average in fabricated structural metals," in the June 1980 issue of the *Monthly Labor Review*.)

The five studies have been published in BLS Bulletin 2137, *The Impact of Technology on Labor in Five Industries*, which is available from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. Price: \$5.00. □

# Work and work force characteristics in the nonprofit sector

*Nonprofit jobs provide more challenge, variety, satisfaction, and intrinsic rewards than those in private enterprise or government, according to a small national sample of workers in schools, hospitals, philanthropic and other tax-exempt organizations*

PHILIP H. MIRVIS AND EDWARD J. HACKETT

Increasing proportions of the U.S. work force have been attracted to employment in private nonprofit institutions—organizations which constitute the third sector of the economy.<sup>1</sup> The popular view is that these persons are attracted by the ideals of selfless service and work fulfillment, and have chosen to avoid the competitiveness of profitmaking firms, and the impersonality of government bureaucracy. But the view also holds that low pay, job pressures, and lack of resources cause these workers to seek employment in other sectors. This study examines such popular views by comparing characteristics of work and the work force in the for-profit, government, and nonprofit sectors, using data from the 1977 Quality of Employment Survey, conducted by the Institute for Social Research at the University of Michigan.

Sociologists, psychologists, and economists have treated organization size and technology, employee background and personality, and industry and occupation as the key explanatory factors in their models of the quality of employment. Sector—*for-profit, government, or nonprofit*—represents an important but neglected facet of the work environment. The nature of an organiza-

tion's mission—to make a profit, to serve the citizenry, or to educate, entertain, and cure privately but without profit—permeates its culture and identity. It serves both as a selector and a socializer, attracting particular segments of the work force and motivating and satisfying them with particular rewards. To assess the degree to which sector shapes the quality of employment, this study compares third-sector working people with government and profit-sector employees.

Studies of the characteristics of the work force have been conducted in each of the three sectors, but assignment of employees to sector has been based on Standard Industrial Classification codes which only approximate the contours of the sectors, and the data analyzed have not addressed all of the questions of interest here.<sup>2</sup> There have also been surveys of employment conditions in selected industries and occupations, in firms, the Federal Government, and in the work force at large.<sup>3</sup> And studies have compared working conditions in the private versus public sectors.<sup>4</sup> But these surveys and studies have varied in content, purpose, and sampling framework and, in the case of national surveys, have not compared employment conditions in the three sectors. Available data suggest that the characteristics and earnings of third-sector workers may differ substantially from those employed in the other two sectors. But it is not known whether employee attitudes, work orienta-

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tions, job characteristics, and motivations and satisfactions differ across the sectors.

### Understanding intersectoral differences

Theories of for-profit organization emphasize that there is a common bond linking the interests of stockholders, employees, and consumers based upon the efficient distribution of resources. There is also a bond in government between voter-constituents and public servants based upon the equitable distribution of resources. In nonprofits, however, there are no governing distribution criteria because it is impossible to monitor and measure whether beneficiaries have received donations. And, even where beneficiaries partially subsidize services, as in the case of public radio listeners and television viewers, theater- and museumgoers, or private school attendees, it is not possible to ensure that their resources are used efficiently or equitably. To make the nonprofit form viable, or "trustworthy," Federal and State laws bar nonprofits from distributing net earnings to members, officers, or trustees.<sup>5</sup> Most nonprofit organizations are incorporated, and this "nondistribution" requirement ensures that no one within the firm profits from inefficiencies or inequities. Incorporated nonprofits include philanthropic organizations, private tax-exempt institutions to which donors' contributions are tax exempt, as well as membership groups such as social clubs and labor unions (not included in these analyses).<sup>6</sup> Credit unions and other financial nonprofits are not treated as third-sector organizations.<sup>7</sup>

From these legal differences between nonprofit and other forms of work organization, there may follow economic, political, and social differences that invite investigation. First, the nondistribution requirement becomes an economic constraint limiting the earning potential of nonprofit employees. Does it follow that the sector may attract only those who can "afford" to work in nonprofits or, alternatively, those who cannot find work in the other two sectors? Or do other factors attract employees to the third sector and motivate them in their jobs? Second, the weak links among members, beneficiaries, and contributors in the nonprofit sector limit the degree of external control over the organization's actions. There are few market forms of accountability for governmental and nonprofit workers. In government, however, controls are internalized through political appointments, administrative reviews, and formal policies, procedures, and work rules. In nonprofits, boards of directors perform policymaking and administrative functions, but mechanisms for translating policy into procedures and actions are often less formal.<sup>8</sup> Does it follow that alternative forms of political and social control may be in force?

A third difference between sectors concerns their functioning. Nonprofits are an amalgam because they

produce public goods through private means. In each sector, the output, particularly of service employees, is difficult to measure and the production process is difficult to monitor. Profitmaking firms are able to rationalize their production functions by assigning a dollar market value to components and computing a rate of return on resources expended. A hierarchical form of organization monitors the overall production process and employees seek efficiency in service delivery to maximize their earning potential. This may ensure that employees have clearer objectives and more resources to do their jobs in for-profit organizations. It may also mean that they have less autonomy and influence in the production process. In the same way, government bureaucracy provides an administrative rationality that gives governmental employees a clearer perspective on job duties and freedom from conflicting demands. But it may also limit their autonomy and influence. The question here is whether nonprofit workers avoid both the costs and benefits of bureaucracy. Does it follow that they have greater autonomy and influence but more ambiguous goals and fewer resources? Furthermore, do goal ambiguity and limited resources contribute to employees' desire to look for another kind of job?

### Data and method for the study

The 1977 Quality of Employment Survey was designed to examine the physical and social characteristics of work and the work force in the United States through personal interviews with a representative sample of employed persons (details on the survey and its administration are presented in the appendix). The survey did not categorize respondents by employment sector but it did provide information needed to make this determination. Respondents were categorized by examining the survey forms of those persons employed in industries which might be found in the nonprofit and governmental sectors. Most government employees were clearly identifiable and those employed in religious organizations were categorized as nonprofit employees. Surveys of teachers, health-care employees, and persons employed in arts and cultural organizations were scrutinized for identifying information about employment sector. In this way, public and private schoolteachers and governmental and nongovernmental health-care and social-service employees were distinguished.<sup>9</sup> To further identify the employment sector of respondents, employers' names and addresses were checked against State records to ascertain sector status and, in some instances, employers were contacted (preserving the respondent's anonymity) regarding profit-nonprofit status. For cases lacking information about sector or place of employment, the Institute for Social Research contacted interviewers for more information. Identification was es-

tablished for 70 nonprofit, 239 government, and 1,171 profit-sector employees (35 respondents' sector could not be ascertained and these persons were dropped from the analysis).

Based upon the entire 1977 Quality of Employment sample, it is estimated that 15.8 percent of all respondents work in the governmental sector and 4.6 percent in the nonprofit sector. These estimates are comparable to those based upon other data sources.<sup>10</sup>

Four major sets of variables were drawn from the survey to answer the questions posed here. First, there are data on the occupations and demographic characteristics of employees in each sector. Second, there are data on employees' education and work experience, work orientation, and job mobility. These data provide a profile of workers in each sector and information for assessing the selection processes of the sectors. An underlying question is whether governmental and nonprofit sector organizations serve as employers of first choice for those seeking to put their ideals and skills into practice or as employers of last resort for less educated, less mobile, and more "marginal" members of the work force. A comparison of the levels of education, maturity, and financial security of employees in the three sectors helps to answer this question. Another question is whether women and minorities, traditionally attracted to and employed in second- and third-sector organizations, continue to predominate in those sectors.<sup>11</sup>

Do the working conditions, jobs, and roles of employees differ in the three sectors? The third set of data, which covers these aspects of the quality of employment, provides objective information on wages and benefits and respondents' subjective assessments of their working conditions, jobs, and roles. The Quality of Employment survey contains no data on pay policies, governance structures, or control mechanisms in employing organizations. But the survey does provide information on employees' ratings of the fairness of their pay, influence on job decisions, and autonomy in job performance. On the basis of such perceptions, a comparison can be made among the job level political and social controls found in the three sectors.

Do the rewards of working in each of the sectors differ? Are outcomes such as satisfaction, effort, and the desire to look for different work the same across sectors? The fourth set of measures covers these rewards and outcomes of work and becomes a summative indicator of the quality of employment in each of the sectors. Also reported are indicators of the quality of life off the job, including measures of health, political activity, and life satisfaction.

Two sets of analyses were undertaken to compare differences among the three sectors. The first compares differences for all respondents across the sectors and provides basic data on employees and employment con-

ditions. Differences are expected in worker profiles in each of the sectors and in the conditions of employment because of the predominance of particular industries in each sector and occupational "screening processes."<sup>12</sup> Thus, the second analysis compares differences for only those respondents whose occupations are found in all three sectors. This eliminates from the sample a large number of private-sector and a smaller number of public-sector blue-collar workers in craft, operative, and labor functions, as well as sales and farm employees. The blue-collar workers in the for-profit sector have been found to have lower ratings of the quality of employment than other occupational groups.<sup>13</sup> By eliminating them from the second analysis, differences might be compared in work and in the work force in the three sectors, controlling for key screening processes and occupation-based differences in working conditions.<sup>14</sup>

### Occupations and demographics

Data on the occupations and demographic characteristics of respondents in the three sectors show the prominence of professional, service, and, to some extent, clerical employees in the nonprofit and government sectors as compared to the for-profit sector. (See table 1.) These findings agree with studies of occupational profiles in each of the sectors drawn from the Bureau of Labor Statistics, the Census Bureau, and related industry and occupation data. Nonprofit respondents are all employed in service industries. Some 40.3 percent of the government sample are in direct government service, while 58 percent are employed in schools, health-care institutions, and other social services. The remainder are employed in transportation. About 17 percent of the for-profit sample are employed in service industries.

The matched occupation sample represents professional, managerial, clerical, and service workers in all three sectors. This accounts for 100 percent of the nonprofit, 94.4 percent of the government, and 48.0 percent of the for-profit sample. This matched occupation sample has a higher percentage of professional and a lower percentage of managerial employees in the second and third sectors.

Data on year of birth show smaller proportions of younger (under 30 at the time of the survey) and older (over 55) workers in government and nonprofits as compared to for-profit organizations. This first finding is interesting as it is contrary to Sarason's speculation that the ideals of the "baby boom" generation were leading them toward nonprofit and governmental service.<sup>15</sup> One interpretation is that these idealists' entry into the second and third sectors has been delayed by their need for further education and credentialing for professional service. Yet, the same trend is found in the sample matched by occupation. Thus, it may be that financial needs, aspirations, and opportunities are leading

**Table 1. Composition of sectors by selected worker characteristics**

[In percent]

Characteristic	Sector			Characteristic	Sector		
	Profit	Nonprofit	Government		Profit	Nonprofit	Government
<b>Occupation</b>				<b>Job tenure</b>			
Professional .....	8.1	49.5	44.3	Less than 3 months .....	13.7	22.5	12.3
Manager .....	15.1	8.3	5.9	3 to 12 months .....	19.7	19.6	10.9
Sales .....	6.2	0.0	0.0	1 to 3 years .....	21.2	20.6	25.8
Clerical .....	15.5	18.3	21.0	3 to 5 years .....	11.9	10.3	14.3
Craft .....	16.8	0.0	2.0	5 to 10 years .....	14.7	19.6	18.8
Operative .....	21.4	0.0	1.7	10 to 20 years .....	11.6	6.5	16.0
Laborer .....	3.9	0.0	2.0	More than 20 years .....	7.3	9	2.0
Farmer .....	2.3	0.0	0.0	<b>Wages and benefits</b>			
Farm laborer .....	.7	0.0	0.0	Annual income (in dollars):			
Service worker .....	9.3	23.9	23.2	All workers .....	\$13,236	\$ 8,935	\$13,317
<b>Year of birth</b>				Full-time workers only .....	14,981	10,200	14,008
1957-61 .....	10.5	6.6	3.2	Number of fringe benefits:			
1948-56 .....	26.0	23.6	26.9	One or none .....	21.5	35.2	10.1
1933-48 .....	32.9	37.7	37.2	Two .....	29.7	35.2	35.0
1923-32 .....	16.3	20.8	19.5	Three .....	17.6	22.9	40.6
1913-22 .....	12.2	10.4	11.2	Four .....	27.0	6.7	14.0
1900-12 .....	2.1	.9	2.0	Five or more .....	4.2	0.0	3
<b>Sex</b>				<b>Education-job match</b>			
Male .....	64.5	36.7	43.1	Education fits job .....	48.5	71.3	50.7
Female .....	35.5	63.3	56.9	Overeducated for job .....	33.3	12.9	34.9
<b>Race</b>				Undereducated for job .....	18.2	15.8	15.2
White .....	93.3	92.0	88.9	<b>Work outcomes</b>			
Minority .....	6.7	8.0	11.1	Workers who wish to find different job, as percent of all workers .....			
<b>Education</b>					63.4	45.8	58.9
8 years or less .....	8.6	1.8	3.7				
9 to 11 years .....	15.8	11.3	6.9				
High school graduate .....	40.7	24.5	27.5				
Some college .....	23.2	18.9	22.3				
College graduate .....	7.5	14.2	12.6				
Post-graduate education .....	4.1	28.3	26.9				

NOTE: All differences between sectors are statistically significant at the .01 level in both the full sample and the sample matched by occupation. Wage differences were tested using one-way analysis of variance; other differences were tested using a chi-squared test of independence.

a higher proportion of young people into for-profit employment.

A higher proportion of minority workers are employed in government as compared to the other two sectors. Higher wages for minorities in public service and traditionally greater employment opportunities may be the attraction.<sup>16</sup> A higher proportion of women, however, are employed in the third sector, particularly in comparison to for-profit employment. Apart from opportunity, three other factors may contribute to this. First, there are more part-time employees proportionately in the third sector and the flexibility of part-time employment may be especially attractive to working mothers. Indeed, a higher proportion of women employed in the third sector have children under 18 in their households. Second, a higher proportion of women in nonprofits have working spouses and/or other earners in their families when compared to women employed in government. In this sense, they may be better able to afford to work in third-sector organizations. Finally it may be that the ideal of selfless service simply draws proportionately more women to the sector.

### Education, experience, mobility, and orientation

Data on the education, experience, mobility, and work orientation of employees in the three sectors show proportionately many more workers with college and post-graduate degrees in nonprofits (42.5 percent) and government agencies (39.5 percent) when compared to the for-profit sector (11.6 percent). In part, this may be attributable to the greater proportion of professional jobs in these sectors. Yet, this difference remains in the sample matched by occupation. Thus, it may be that education serves a "credentialing" as well as preparatory function for employees in these two sectors. Particularly for professionals, it serves as a surrogate measure of performance and value to the institution.<sup>17</sup> Of course, it may also be that employees who work in these sectors simply have a greater interest in formal education.

There is little difference in the years of work experience for employees in the three sectors; the average for-profit worker has been in the labor force 18 years, compared with 17 years for those in the other sectors. Nonprofit workers, however, have less tenure in their jobs than those employed in government and in for-pro-



fit firms: 42 percent have been on the job less than 1 year, compared with 33 percent in the for-profit sector and 23 percent in government; and only 7 percent have tenure of more than 10 years, versus about 18 percent in the other two sectors. This may reflect the volatility of nonprofit organizations, but it also may reflect the greater mobility of nonprofit employees. Those employed in the sector are more likely to believe their skills will be valuable in 5 years than those employed in government and for-profit firms. (See table 2.) Other things equal, this suggests that they have greater job mobility.

Two other factors promoting mobility are organization size and promotional opportunities within a firm. For-profit employees work in larger firms and report having more chances for promotion than do nonprofit workers. Lack of promotional opportunities may contribute to the lower levels of tenure among third-sector people. Interestingly, government employees report having even less chance for promotion, yet have relatively longer tenure than nonprofit employees. Perhaps the income and job security afforded by government employment reduce the effect that lower chances of advancement might otherwise have on turnover decisions.

These findings can help address the question of whether employment in the second and third sectors is a "first choice" or "last resort." In the sample matched by occupation, we found second- and third-sector employees to be better educated and somewhat older than their for-profit counterparts with equal levels of work experience, suggesting that employment in the second and third sectors is based upon choice. But two caveats need insertion. First, some employees are simply funneled into jobs unique to a sector. Second, differences in ratings of mobility and tenure in the sectors, key indicators that employment remains a choice, are less pronounced in the matched occupation sample.

Nonetheless, speculation on the factors contributing to the employment choice of second- and third-sector workers is worthwhile. The appeal of human service in these sectors could be a factor in the occupational decisions of women and minorities. In the choice between government and nonprofit service, however, other factors may be present. One obvious factor could be finances. Those choosing nonprofits may have greater financial security (women in the nonprofit sector are more likely to have other earners in their homes). Another factor might be the work orientation of employees. Nonprofit employees are more likely to report that their work is more important to them than the money they earn.<sup>18</sup> (Differences in this nonmonetary orientation are also significant in the matched sample comparison.) Work as such is not more important to them, for employees in all three sectors indicate that working is important to them and say that they would continue to work even if it were not a financial necessity. But em-

ployees in the nonprofit sector, and to a lesser extent in government, say that their jobs are more important to them than do those in the for-profit sector.

Apparently, second- and third-sector workers bring a stronger commitment to their jobs than do their counterparts in for-profit organizations. Data suggest that some government workers get locked into their jobs by the material security. Thus, at some point, employment in their jobs may become less a choice and more of a necessity. But others in government and those in the nonprofit sector may make and sustain their choices on an ideological basis.

### **Wages, working conditions, and work roles**

Significant differences were found in wages, working conditions, jobs, and work roles among employees in the three sectors. Two income statistics are reported and both show nonprofit employees earning much less than those in the other two sectors. (See table 1.) In the case of all persons employed 20 hours or more per week, nonprofit employees earn 67.5 percent of for-profit and 67.1 percent of government wages. For persons employed 35 hours or more per week, nonprofit employees earn 68.1 percent of for-profit and 72.8 percent of government wages. These findings conform to rough estimates of differences in wages between sectors computed by T. Nicholas Tideman using BLS data.

Several factors may account for the earnings differentials between sectors, such as differences in occupational distributions, the percentage of men versus women in the sectors, and so forth.<sup>19</sup> However, significant differences were also found in the matched occupation sample. Again, differences in job and sex compositions may account for some of the differential, but it is suspected that nonprofit organizations simply pay less than for-profit and governmental organizations. The number of fringe benefits received also shows sectoral differences in compensation. Fully one-third of those employed in nonprofit establishments receive only one or no fringe benefits, compared with one-fifth of profit-sector workers and one-tenth of government employees.

The actual earning differential between the sectors is reflected in respondents' ratings of their wages and benefits. (See table 2.) Employees in the nonprofit sector rate wages and benefits less favorably than those in the other two sectors. Interestingly, they do not appear to rate their compensation as less fair in comparison to what others are paid, for the intersectoral differences are not statistically significant.

In the total sample, government employees earned more than for-profit employees, but in the case of full-time workers only, the relationship was reversed. Because wage rates between these two sectors were roughly comparable in 1977, the greater number of weekly hours (43.6 versus 40.4 in government) worked by for-profit

employees may account for part of this income difference. Nonprofit employees worked an average of 42.2 hours per week, earned significantly less than their counterparts, but still rated their pay to be as fair as did those employed in the other two sectors. Two explanations can be offered for these judgments. First, nonprofit employees' reference group may be others in the sector, rather than workers in government or in profit-making firms. Second, nonprofit employees' non-monetary orientation toward their work would make wages and fringe benefits less salient rewards.

The data show no differences across the three sectors in ratings of job comfort, including work hours, physical surroundings, workload, ease of travel to and from work, and so on. There are also no differences in ratings of job security. This latter statistic is surprising as we expected non-profit employees to have less security (they work in smaller firms and fewer are unionized). The survey was taken in 1977, however, when unemployment was lower and governmental grants to nonprofits were proportionately greater than today. Moreover, the job mobility of nonprofit people might ease their concerns over job security.

There were several differences between the sectors in employees' ratings of their jobs. First, nonprofit employees saw more variety and challenge in their jobs than did those in government, and those in government saw more than did those in for-profit employment. Second, profit-sector employees report the highest levels of feedback from the job, followed in turn by government and nonprofit employees. Thus, it appears that nonprofit employees have more interesting work but less direct feedback on how well they are performing.

Several factors may account for differences across the sectors. The lower ratings of job challenge and variety in the for-profit sector may be because of the substantial share of blue-collar manufacturing work in the sector. But, because this difference is sustained in the matched sample comparison, it is suspected that the economic rationality embedded in the sector has fractionated the scope and variety of work of for-profit professionals, managers, and service personnel more than in the other sectors. The gain is greater quantification of work results and, thus, more feedback for employees.<sup>20</sup> In government, it is believed that, through administrative rationality, the variety and challenge of service work has been reduced. That the structure of the work environment has created a "misfit" between the skills of employees and the demands of jobs in the for-profit and government sectors is evident in ratings of education versus job demands. More than one-third of employees in these sectors report they are "overeducated" for their work, compared with only one-eighth of nonprofit workers, and this difference remains significant in the matched occupation sample.

Another major difference in jobs across the sectors concerns employees' autonomy—their freedom and responsibility to decide what to do and when. Government employees have less autonomy than their counterparts in both the full and matched occupation samples. It may be that centralization limits the freedom and responsibility of government workers.<sup>21</sup> In the profitmaking sector, however, there is also less autonomy than in the nonprofit sector. Perhaps tighter controls, as shown in work measurement and accountability systems, limit the freedom of professional and service workers to set their own performance standards.<sup>22</sup> Non-profit employees, less fettered by centralization and controls, have more autonomy in doing their jobs, report more variety and challenge, and find that their education is matched to their job demands.

All of this suggests that nonprofit employees get satisfaction from their work which may compensate for lower wages and benefits.<sup>23</sup> This is not to say that for-profit employees are not satisfied with the work itself—only that they are less satisfied than those in the other sectors. Nor is it to suggest that government workers take less satisfaction in doing their jobs. Indeed, the data indicate that both nonprofit and government employees find that their work is more meaningful and has a greater effect on others than do those in the for-profit sector. Human service seems a great source of satisfaction for those in the second and third sectors. But nonprofit employees may derive greater satisfaction from the service delivery process itself.

There seems to be one cost to this in the nonprofit sector: the lack of job feedback. One possibility is that third-sector workers rely on feedback from their peers and supervisors, rather than from the job itself, to learn about their performance. But the data do not support this, suggesting instead that their autonomy may simply leave them less informed about the results of their work.

Data on work roles highlight other costs and benefits of the nonprofit organization form. In theory, nonprofit employees should have greater role stress. Given the nature of their work, their job duties should be less clear; given their funding base, they should have fewer resources. Finally, given that many have human service functions, they should report in a dual hierarchy to administrators and supervisors and thus have more role conflict.<sup>24</sup> Along this line of reasoning, government employees should have somewhat less role stress and for-profit workers even less.

The data, however, show only that nonprofit and government workers face more demanding time pressures. Nonprofit employees have slightly more ambiguous job duties, fewer resources, and more role conflict in comparison with respondents in the other two sectors, but the differences are not statistically significant and disappear in the matched sample. Several explana-

tions can be offered for these findings.

One possibility is that stress is simply based upon occupation, independent of the organization's form. Another is that nonprofit and government workers have accommodated themselves to these stressors and come to regard lower levels of resources and higher levels of ambiguity and conflict as "acceptable" in calibrating their ratings of their work roles. This would be consistent with the "burnout" literature.<sup>25</sup> A third possibility is that the organization form in these sectors has helped them to adapt. Government workers have more rules and procedures governing their work. Other data, while not statistically significant, suggest that they receive somewhat more help from their supervisors and co-workers. Thus, collegial assistance and precise rules may clarify their job duties and reduce role pressures and conflicts.

How do nonprofit workers cope? They, too, receive more help. In addition, W. H. Newman and H. W. Wallender suggest that they develop a "mystique" about the organization and come to accept pressures and conflicts as integral to their work and the organization's mission.<sup>26</sup> Two findings hint at the existence of such a nonprofit mystique. Nonprofit workers are slightly (though not significantly) more inclined to rate their services as up to public standards and are less likely to report that their jobs sometimes go against their conscience. Another factor contributing to this mystique could be the collegial form of governance practiced in many nonprofits. Private schools and colleges, and many of the so-called "alternative" organizations found in the third sector espouse and practice a democratic form of organization.<sup>27</sup> Nonprofit workers indicate that they have more influence in work and organization decisions than do those in government and for-profit employment. (See table 2.) This form of organization may create a greater sense of commitment and involvement for employees, and serve to clarify jobs and soften role stresses.

There are costs associated with the organizational adaptations in the second and third sectors. Bureaucracy, Peter Drucker notes, threatens to "swallow up" performance in the public sector.<sup>28</sup> Indeed, the data here show that governmental supervisors are seen as having lower performance standards in comparison to supervisors in the other two sectors.<sup>29</sup> Collectivism, in turn, can also slow decision processes and promote "meeting mania." The key question, to be examined next, is whether these adaptations contribute to greater motivation and satisfaction in the second and third sectors.

### Rewards and outcomes

J. W. Porter and E. E. Lawler have argued that wages, working conditions, jobs, and work roles serve to motivate employees when they are linked to job performance.<sup>30</sup> This conception treats compensation, interesting work, influence, and the like as rewards for

employees. Two types of rewards are distinguished. Those linked to material gratification and advancement are called extrinsic rewards, while those endemic to the work itself are called intrinsic rewards. These researchers, and many others, find that individuals value these rewards differently.<sup>31</sup> Job satisfaction follows from the receipt of valued rewards.

Employees in the for-profit sector report some likelihood of receiving extrinsic rewards, whereas nonprofit and government employees report that it is unlikely they will receive a pay increase or promotion as a reward for good performance. (See table 2.) By contrast, workers in these two sectors are more likely to feel a sense of accomplishment and to feel better about themselves when they do their jobs well. Their ratings of intrinsic rewards complement their higher ratings of job characteristics.

Ratings of the effort expended on the job are higher in the nonprofit and government sectors than in the for-profit sector, but this difference also disappears in the matched sample. However, ratings of higher job satisfaction in the second and third sectors are recorded in both the full and matched samples. This same trend is evident in ratings of total effort and emotional investment in the job (a combination of effort, satisfaction, and job involvement ratings).

One interpretation of these data is that intrinsic features of their jobs are prime motivators for professionals, managers, clericals, and service workers in all three sectors. As a source of satisfaction, however, government and especially nonprofit employees place a greater emphasis on them. This would be consistent with their nonmonetary orientation and higher job involvement. Further confirmation of sectoral differences in employees' commitment to their jobs is found in ratings of employees' desires, if they could do it all over again, to take the same job. More for-profit employees would choose a different job than those in government, and more in government would choose differently than in the third sector. This trend is significant in the matched occupation sample as well.

In these data, there is scant indication that the high quality of worklife of nonprofit employees "spills over" into nonwork life.<sup>32</sup> Ratings of satisfaction with life and of health are not significantly different across the sectors. Government and nonprofit employees take a greater interest in politics and are more likely to vote and work in political campaigns than are those in the profit sector. This difference disappears in the matched occupation sample, however, and is likely a result of sector selection processes.

### Summary and commentary

The survey results show that employees in the for-profit sector have higher wages, rate their benefits,

wages, and promotional opportunities more favorably, and find their extrinsic rewards to be based more upon their performance. In turn, third-sector employees bring to their jobs a greater commitment and nonmonetary

orientation and find more challenge, variety, and autonomy in their jobs and more influence and, perhaps, mystique in their work roles. Nonprofit workers also find more intrinsic rewards in their jobs. The majority

**Table 2. Workers' ratings of selected aspects of their jobs by sector,<sup>1</sup> and statistical significance level of intersectoral differences**

Job aspect	Sector			Significance level of intersectoral differences <sup>2</sup>	
	Profit	Nonprofit	Government	Total sample	Sample matched by occupation
<b>Job mobility</b>					
Value of skills in 5 years .....	3.4	3.7	3.5	.01	.01
Promotion opportunities .....	3.9	3.6	2.9	.01	.01
<b>Work orientation</b>					
Nonmonetary orientation of worker .....	3.0	4.2	3.5	.01	.01
Work involvement .....	3.8	3.8	3.8	—	—
Job involvement .....	2.8	3.1	3.0	.01	.01
<b>Wages and benefits</b>					
Wage and benefit rating .....	3.4	2.9	3.5	.01	.01
<b>Work conditions</b>					
Job security rating .....	3.6	3.6	3.7	—	—
Comfort on job .....	2.9	3.0	3.0	—	—
Fairness of pay .....	2.5	2.4	2.5	—	—
<b>Task characteristics</b>					
Variety .....	3.3	3.8	3.5	.01	.05
Autonomy .....	3.4	3.6	3.3	.01	.01
Challenge .....	3.6	4.1	3.9	.01	.01
Completeness .....	3.3	3.5	3.4	—	—
Impact on others .....	4.2	4.5	4.4	.01	.05
Feedback from job .....	4.1	3.8	4.0	.01	.01
Feedback from other workers .....	3.4	3.5	3.6	—	—
Meaningfulness .....	4.1	4.4	4.3	.01	.01
<b>Work roles</b>					
Clarity of job .....	4.2	4.0	4.2	—	—
Under time pressure .....	2.6	2.9	2.8	.05	—
Demands of work conflict .....	3.0	3.3	3.1	—	—
Existence of work rules and procedures .....	3.4	3.2	3.5	.05	.01
Worker influence on job .....	3.3	3.7	3.3	—	.01
<b>Work resources</b>					
Enough information, authority, and equipment to do job .....	4.2	4.1	4.2	—	—
Enough help from supervisor .....	4.5	4.6	4.6	—	—
Rating of supervisor's standards .....	4.4	4.0	3.4	.01	.01
Rating of co-workers .....	4.1	4.2	4.3	—	—
<b>Organization standards</b>					
Products or services up to public standards .....	4.0	4.1	3.9	—	—
Job requires violating conscience .....	2.4	2.1	2.4	.05	.05
<b>Rewards for performance</b>					
Intrinsic rewards .....	4.8	5.0	4.9	.05	—
Extrinsic rewards .....	2.4	1.7	1.8	.01	.01
<b>Work outcomes</b>					
Overall effort expended .....	4.2	4.5	4.4	.05	—
Overall job satisfaction .....	3.6	4.0	3.9	.01	.05
Total energy and investment in the job .....	3.6	4.0	3.8	.01	.01
<b>Life outcomes</b>					
Satisfaction with life .....	3.2	3.4	3.3	—	—
Health <sup>3</sup> .....	5.9	6.0	5.9	—	—
Level of worker political activity .....	2.5	2.8	2.8	.01	—

<sup>1</sup>Scale scores range from 1 (low) to 5 (high). They were constructed by summing the survey items which have been shown in the literature to reflect each dimension of work, and were found to be adequately interrelated in these data using a principal components factor analysis. The original survey items typically asked workers to describe aspects of their jobs using 4- and 5-category Likert-type responses. Scale reliabilities and constituent items are available

from the authors on request.

<sup>2</sup>Dashes indicate that intersectoral differences, tested using a one-way analysis of variance, were not statistically significant.

<sup>3</sup>The health measure was based on a seven-point scale.

would prefer to continue in their present work.

Government employees have some of the same work orientation and also find intrinsic gratification in their jobs. However, lower ratings of autonomy and influence, and higher ratings of rules and procedures may dampen the effort and satisfaction of these employees. These trends were also present, though not as pronounced, in the sample of workers in the three sectors matched as to occupation.

There is growing evidence of the link between the quality of employment and employee productivity and job satisfaction. The quality of employment has also been linked to absenteeism, turnover, and poor quality workmanship.<sup>33</sup> In the past several years many for-profit organizations have taken steps to enrich jobs and increase employee influence in decision making. The data herein suggest that increasing these intrinsic aspects of work might increase the motivation and satisfaction of for-profit employees. Such efforts might also increase motivation and satisfaction in the other two sectors. But the data indicate that providing more performance feedback and reducing the role stress of government and nonprofit workers might pay an even larger dividend.

Changes in civil service laws, the increased monitoring of nonprofits by funding sources and agencies, and

the wholesale importation of motivational, training, incentive, and performance appraisal systems are all seen as ways to improve efficiency in government and nonprofit organizations.<sup>34</sup> But will they truly improve productivity and quality of worklife? Standards designed to increase accountability and efficiency could also centralize authority, limit flexibility, stifle innovation, and create pressures toward achieving measured goals of work quantity at the expense of quality. Tighter controls could limit professionals' freedom and rigid measurement systems could alienate employees from not only their service but also their ideals. Increasing demands for efficiency could lead administrators to demand too much from already time-pressured subordinates. Or worse, these people, dedicated as they are to their jobs, might assume a greater load but at the expense of their health and satisfaction and under a threat of loss of their livelihood.

The irony in all this is that just as the for-profit sector seems to be "loosening up," the second and third sectors are "tightening up." In our view, the move to run government agencies and nonprofits "more like a business" needs to be carefully considered. If not, they may lose their identities and employees' motivation and satisfaction may actually suffer. □

—FOOTNOTES—

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<sup>1</sup> For data on the characteristics and growth of the third sector, see Dale L. Hiestand, "Recent Trends in the Not-For-Profit Sector," in *Commission on Private Philanthropy and Public Needs* (U.S. Department of the Treasury, 1977), pp. 333-37; and T. Nichlaus Tideman, "Employment and Earnings in the Non-Profit Charitable Sectors," in *Commission on Private Philanthropy and Public Needs* (U.S. Department of the Treasury, 1977), pp. 325-31. For an up-to-date estimate of sector contours, see G. Rudney, "A Quantitative Profile of the Nonprofit Sector," Working Paper 40, PONPO (New Haven, Conn., Yale University, 1981).

<sup>2</sup> Eli Ginzberg, Dale L. Hiestand, and Beatrice G. Reubens, *The Pluralistic Economy* (New York, McGraw-Hill Book Co., 1965).

<sup>3</sup> Franklin P. Kilpatrick, Milton C. Cummings, Jr., and M. Kent Jennings, *The Image of the Federal Service* (Washington, The Brookings Institution, 1964); *Federal Employee Attitudes, Phase I: Business Survey, 1979* (Washington, U.S. Office of Personnel Management, 1979); Robert P. Quinn and Thomas W. Mangione, *The 1969-1970 Survey of Working Conditions: Chronicles of an Unfinished Enterprise* (U.S. Department of Labor, Employment Standards Administration, 1973); and, R.P. Quinn and G. Staines, *Quality of Employment, 1977, With Comparisons Between 1973-1977* (Ann Arbor, University of Michigan, Institute for Social Research, 1979).

<sup>4</sup> For a new report in this area, see M.P. Smith and S.L. Nock, "Social class and quality of work life in public and private organizations," *Journal of Social Issues*, Vol. 36, 1980, pp. 59-75.

<sup>5</sup> See H.B. Hansman, "The role of nonprofit enterprise," *The Yale Law Journal*, Vol. 89, 1980, pp. 835-901, for a full discussion of the

nonprofit form.

<sup>6</sup> The nonprofit organization is defined by Section 170(c)(2) of the Internal Revenue Code as "A corporation, trust, or community chest, fund, or foundation . . . organized exclusively for religious, charitable, scientific, literary, or educational purposes or for the prevention of cruelty to children or animals . . ." The nondistribution requirement comes from State charters. For a discussion of chartering arrangements, see S. Lakeoff, "Private government in managed society," in J.R. Pennock and J. Chapman, eds., *Voluntary Organizations* (New York, Atherton Press, 1969).

<sup>7</sup> As per Department of Commerce's National Income and Product Accounts and IRS Code.

<sup>8</sup> Nonprofit boards, however, are not accountable to any particular group of interests and may be self-perpetuating. Some States mandate that community representatives sit on nonprofit boards. See W. Cohen, *Some Aspects of Evolving Social Policy in Relation to Private Philanthropy*, The Commission on Private Philanthropy and Public Needs, Research Papers V. II (U.S. Department of the Treasury, 1977), for discussion of boards; and J.M. Underwood, "How to serve on a hospital board," *Harvard Business Review*, July-August 1969, for discussion of board members' responsibilities.

<sup>9</sup> Evidence of the size of public versus private schools, universities, and health care institutions comes from *Statistical Abstract of the United States* (Bureau of the Census, 1978); for public versus private museums, from *Museums U.S.A.: A Survey Report* (National Research Center for the Endowment for the Arts, 1974); and for public versus private nursing homes, B. Dunlop, *The Growth of Nursing Home Care* (Lexington, Mass., D.C. Heath and Co, 1979).

<sup>10</sup> T. Nichlaus Tideman, using data from the Bureau of Labor Statistics and the American Hospital Association, estimated that 5.2 percent of U.S. employment was in the nonprofit sector in 1974. Using a different data base, Dale Hiestand estimated nonprofit employment at 5.9 percent. Both estimates, however, were based upon the numbers of employees working in particular industries weighted by the proportions of nonprofit organizations within those industries. Such a

weighting assumes that organizations are of equal size across the sectors. However, employment data indicate that public schools, universities, and health care institutions are larger than private ones, so that these estimates may be inflated. In any case, the proportion of employees in the nonprofit sector in the Quality of Employment survey sample roughly approximates the proportion found in other employment data. Department of Labor data for 1977 show some 16 percent of the employed civilian labor force over age 16 to be in government service. Again, the Quality of Employment sample of government employees is slightly lower but in close approximation to the proportion found in employment statistics.

<sup>11</sup> Ginzberg, *The Pluralistic Economy*.

<sup>12</sup> B.A. Weisbrod, "Toward a theory of the voluntary nonprofit sector in a three sector economy," in F.S. Phelps, ed., *Altruism, Morality, and Economic Theory* (New York, Russell Sage Foundation, 1975).

<sup>13</sup> Smith and Nock, "Social class and quality of work life"; and *Federal Employee Attitudes*.

<sup>14</sup> For a complete accounting of the analysis procedures and tables showing education levels, job tenure, years in the work force, and ratings of the various characteristics of the quality of employment across the sectors for the full and matched respondent samples, please write the authors c/o The Center for Applied Social Science, Boston University, 195 Bay State Rd., Boston, Mass. 02215.

<sup>15</sup> S.B. Sarason, *Work, Aging, and Social Change* (New York, Free Press, 1977).

<sup>16</sup> Melvin W. Reder, "The theory of employment and wages in the public sector," in Daniel S. Hamermesh, ed., *Labor in the Public and Nonprofit Sectors* (Princeton, N.J., Princeton University Press, 1975), pp. 1-48.

<sup>17</sup> Tideman, "Employment and earnings," pp. 325-31.

<sup>18</sup> These ratings may reflect "justification," for example, nonprofit employees find that they earn less and, therefore, to explain their interest in work, come to justify it with a nonmonetary orientation. See B.M. Staw, "Motivation in organizations: toward synthesis and redirection," in B.M. Staw and G.R. Salancik, eds., *New Directions in Organizational Behavior* (Chicago, St. Clair Press, 1977), for a discussion of this phenomenon.

<sup>19</sup> See Quinn and Mangione, *Survey of Working Conditions*; and, Quinn and Staines, *Quality of Employment*, for detail on occupational and sex differences in earnings in the QOE sample.

<sup>20</sup> See R.M. Kanter, "The Measurement of Organizational Effectiveness, Productivity, Performance and Success," Working Paper 8, PONPO (New Haven, Conn., Yale University, 1979).

<sup>21</sup> A. Etzioni, *A Comparative Study of Complex Organizations* (New York, Free Press, 1961); P. Blau and R. Scott, *Formal Organizations* (San Francisco, Chandler, 1962); and C. Perrow, "A Framework for Comparative Analysis of Organizations," *American Sociological Review*, Vol. 32, 1967.

<sup>22</sup> See footnote 20; and J.B. McKinlay, "On the professional regula-

tion of change," *The Sociological Review Monograph*, 21, 1973, pp. 61-84.

<sup>23</sup> J.R. Hackman and G.R. Oldham, "Motivation through the design of work," *Organizational Behavior and Human Performance*, Vol. 16, 1976, pp. 25-279; and E.E. Lawler, *Pay and Organizational Effectiveness* (New York, McGraw-Hill Book Co., 1971).

<sup>24</sup> C.C. Selby, "Better performance from 'non-profits'," *Harvard Business Review*, September-October 1978, pp. 92-98.

<sup>25</sup> D. Mechanic, *Medical Sociology* (New York, Free Press, 1978); and H. Freudenberger, "Staff Burnout," *Journal of Social Issues*, Vol. 30, 1974.

<sup>26</sup> W.H. Newman and H.W. Wallender, "Managing not-for-profit enterprises," *Academy of Management Review*, January 1978, pp. 24-31.

<sup>27</sup> J. Rothschild-Whitt, "The Collectivist Organization: An Alternative to Rational-Bureaucratic Models," *American Sociological Review*, Vol. 44, 1979, pp. 509-27. For a broader discussion of this feature of organizations, see R.L. Satow, "Value-Rational Authority and Professional Organizations: Weber's Missing Type," *Administrative Science Quarterly*, Vol. 20, 1975, pp. 526-31.

<sup>28</sup> See H.B. Hansman, "The Role of Nonprofit Enterprise," pp. 835-901, for a full discussion of the nonprofit form; see also Peter Drucker, "Managing the 'third sector,'" *The Wall Street Journal*, Oct. 3, 1978, for a discussion of growing bureaucracy in nonprofits.

<sup>29</sup> See R.A. Mittenhall and W.W. Mahoney, "Getting management help to the nonprofit sector," *Harvard Business Review*, September-October 1977, p. 9.

<sup>30</sup> For a review, see E.E. Lawler, *Motivation in Work Organizations* (Monterey, Calif., Brooks/Cole, 1973); and E.E. Lawler, "Reward Systems," in J.R. Hackman and J.L. Suttle, eds., *Improving Life at Work* (Santa Monica, Calif., Goodyear Publishing Co., 1977).

<sup>31</sup> For a review, see Lawler, *Motivation in Work Organizations*.

<sup>32</sup> G. Staines, "The Relation of Work and Non-Work Factors in the Quality of Employment Survey" (Ann Arbor, Mich., University of Michigan, Institute for Social Research, 1976). Mimeographed.

<sup>33</sup> P.H. Mirvis and B.A. Macy, "Accounting for the costs and benefits of human resources development programs: An interdisciplinary approach," *Organizations, Accounting, and Society*, Vol. 1, 1976, pp. 179-94; and P.H. Mirvis and E.E. Lawler, "Measuring the financial impact of employee attitudes," *Journal of Applied Psychology*, Vol. 62, 1977, pp. 1-8.

<sup>34</sup> R.H. Brade, "MBO goes to work in the public sector," *Harvard Business Review*, March 1973, pp. 65-74; T.J.C. Raymond and S.A. Geyser, "The business of managing the arts," *Harvard Business Review*, July-August 1978, pp. 123-32; D. Schooler, "Rethinking and re-making the nonprofit sector," *Foundation News*, January-February 1978, pp. 17-23; and R. Anthony, "Can nonprofit organizations be well-managed?" in D. Borst and P.J. Montana, eds., *Managing Nonprofit Organizations* (New York, AMACOM, 1977).

## APPENDIX: The Quality of Employment Survey

The 1977 Quality of Employment Survey was designed to measure the physical and social contexts of work in the United States through personal interviews with a representative sample of employed adults. Each survey sampled a population of persons age 16 or over who were employed at least 20 hours per week and who lived in households in the contiguous United States, excluding institutions and military reservations. Details on the sampling procedures, response rate, and 1977 sam-

ple are available from the Institute for Social Research. A comparison of distributions of demographic variables based on the 1977 survey with statistics from the appropriate Current Population Surveys showed considerable agreement, with differences (notably in education, employment status, and industry) that may be explained by differences in sampling frames and definitions of response categories.

# Work experience, earnings, and family income in 1981

*The number of employed Americans increased but so did the number without jobs, as recovery from the 1980 recession proved to be brief; the family income of high-wage workers exceeded the poverty level, even when unemployed*

SYLVIA LAZOS TERRY

A total of 117 million Americans worked all or part of 1981, an increase of 1 million from the year before. However, the number of Americans who encountered some unemployment during the year rose to 23.4 million, an increase of more than 2 million, as the economy managed only a brief recovery from the 1980 recession and then entered a deeper slump.

Although it was a relatively small gain by historical standards, the 1981 increase in employment was still larger than the 1980 rise. The proportion of women employed year round, full time reached 45 percent, a new high.

The work experience and income supplement to the March Current Population Survey (CPS), the data source for this article, provides a comprehensive view of labor force activity, earnings, and family income for the preceding year for all members of the population of working age.<sup>1</sup> The total number of persons with some employment or unemployment in a given year, as measured by the March household survey, is always much greater than the average of the monthly CPS figures. In 1981, for example, the *average* number of persons employed, as measured during the course of the year, was 100.4 million, while the *total* number with some employment was 16.4 million higher, according to the March 1982 survey. The number of persons with some

unemployment in 1981, as measured in March 1982, was nearly three times as high as the average level of the monthly numbers.<sup>2</sup>

A total of 15.8 million families reported that one or more members had encountered some unemployment in 1981. The median income of these families was 23 percent lower than that of families with no unemployment. Moreover, in about 18 percent of the families with one or more unemployed members, family incomes fell below the poverty level.<sup>3</sup> The likelihood of living in families below the poverty level, of course, depends not only on a spell of unemployment, but also on who in the family experiences it, the number of earners, the types of jobs held while employed, and other factors that may not even be related to the labor market.

## Unemployment, earnings, and poverty

In general, workers in high-wage industries manage to hold family income above the poverty line despite periods of unemployment. In contrast, workers in low-wage industries often remain in poverty even when not affected by unemployment. This is evident from table 1, which shows the number of workers in each major industry in 1981 by employment or unemployment during the year, median annual earnings, median family income, and the percent whose family income fell below the poverty line.

One striking finding is that, for persons with work experience in the durable goods industries, family income in 1981 remained relatively high, despite what

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**Table 1. Earnings and family income of workers by industry of longest job and employment status, 1981**

[Numbers in thousands]

Industry	Workers with no unemployment				Workers with some unemployment				
	Number	Median annual earnings	Median family income	Percent in poverty	Number	Percent of all workers	Median annual earnings	Median family income	Percent in poverty
Total	96,276	\$11,669	\$26,618	5.4	20,518	17.6	\$5,144	\$18,495	16.0
Agriculture, forestry, and fisheries	3,481	3,447	15,636	23.9	665	16.0	2,829	11,611	37.1
Mining	1,011	20,943	31,359	1.1	237	19.0	12,365	21,947	9.3
Construction	4,730	14,436	25,893	6.1	2,613	35.6	8,086	17,835	15.2
Manufacturing	18,923	15,791	27,407	2.8	5,241	21.7	7,956	20,223	10.3
Durable goods	11,193	17,269	28,368	2.7	3,139	21.9	9,933	21,498	8.4
Lumber, wood products, and furniture	1,193	12,167	23,691	8.0	477	28.6	6,936	16,818	14.0
Stone, clay, and glass products	492	17,038	28,624	1.7	172	25.9	9,805	18,702	6.7
Primary metal industries	882	20,259	28,880	2.3	277	23.9	14,184	22,399	4.9
Fabricated metal products	1,364	16,384	27,001	2.4	352	20.5	9,754	21,146	12.7
Machinery, except electrical	2,528	18,544	29,682	2.2	523	17.1	10,372	21,659	6.6
Electric and electronic equipment	2,129	15,644	28,224	1.9	493	18.8	8,317	21,341	8.9
Automobiles	682	21,884	30,973	1.2	402	37.1	17,308	26,777	3.3
Aircraft and other transportation equipment	963	21,308	31,877	1.1	200	17.2	11,970	20,950	7.9
Instruments and related products	561	17,320	29,584	1.5	103	15.5	6,930	20,908	5.4
Miscellaneous manufacturing industries	399	10,384	23,984	6.3	141	26.1	5,582	18,880	10.6
Nondurable goods	7,729	13,490	25,960	3.0	2,102	21.4	6,142	18,566	13.0
Transportation and public utilities	6,055	18,910	28,796	2.4	970	13.8	7,716	18,574	13.7
Wholesale trade	4,177	15,710	29,008	2.8	721	14.7	6,668	18,651	12.9
Retail trade	16,309	5,917	24,801	7.5	4,083	20.0	2,878	18,136	19.7
Finance, insurance, and real estate	6,075	12,600	29,422	2.7	669	9.9	5,594	21,813	10.7
Business and repair services	4,120	10,301	25,317	6.4	992	19.4	4,554	16,939	20.1
Private household	1,438	927	14,773	20.5	304	17.5	612	10,476	35.3
Personal services, except private household	2,597	5,115	20,894	9.3	536	17.1	2,967	14,137	22.1
Entertainment and recreational services	1,168	3,971	26,811	7.7	327	21.9	3,031	16,832	18.8
Professional and related services	20,870	10,985	27,720	4.4	2,572	11.0	4,094	18,543	15.6
Public administration	5,323	17,454	29,391	2.1	589	10.0	5,052	18,770	15.1

were for some industries very high incidences of unemployment. In the automobile industry, for example, the number of jobless workers during the year was 402,000, or 37 percent out of a total of 1.1 million. Yet the median family income of these workers—\$26,777—was still relatively high, with only 3.3 percent of the families dropping below the poverty level.

In contrast, workers whose jobs were in agriculture, forestry, and fisheries or the various service-producing industries were much more likely to live in poor families regardless of their unemployment status. This was probably because their earnings tended to be much lower than those of workers in most of the durable goods industries. An extreme illustration of this is the agricultural, forestry, and fishery workers, who had very high incidences of poverty—24 percent—even when they experienced no unemployment during the year.

It should be noted, however, that in the work experience data, workers are classified according to the industry of their longest job during the year. Thus, workers who might have lost their jobs in a given industry (say, autos) early in the year and who, after a period of unemployment, managed to find work in another industry are likely to be classified on the basis of the industry of their last job. Moreover, the count of unemployed workers includes persons who were ending periods of joblessness at the beginning of 1981 or entering unemployment at the end of 1981. Among the latter, many may have remained unemployed far into 1982, and their economic situation may have deteriorat-

ed further as the Nation's unemployment rate moved to higher levels.

On average, workers with some unemployment earned only 44 percent as much for all of 1981 as did workers with no unemployment. However, only a portion of the earnings gap between the two groups was attributable to unemployment. Even when working, the persons who fell victim to unemployment earned much less than did workers who kept their jobs. As shown below, when one takes into account the number of weeks worked by the two groups, the median weekly earnings of workers with unemployment equaled only 72 percent of the median for workers with no unemployment.<sup>4</sup>

	<i>No unemployment</i>		<i>Some unemployment</i>		<i>Earnings ratios</i>	
	<i>Annual</i>	<i>Weekly</i>	<i>Annual</i>	<i>Weekly</i>	<i>Annual</i>	<i>Weekly</i>
Median earnings:						
All workers	\$11,669	\$243	\$5,148	\$175	.44	.72
Men . . . . .	16,855	340	6,741	219	.40	.64
Women . . . . .	7,928	175	3,863	136	.49	.78
Whites . . . . .	11,874	248	5,408	181	.46	.73
Blacks . . . . .	9,975	206	3,986	148	.40	.72
Hispanics . . . . .	9,848	206	4,826	162	.49	.79

On a weekly basis, women with some unemployment earned 78 percent as much as their counterparts who were not unemployed. Men with some unemployment fared even worse; their median weekly earnings equaled only 64 percent of the median for men with no unemployment.



## The role of the family

During the past decade, the dramatic increase in the number of working wives and youths has led to substantial gains in the number of families with two or more earners. Among other things, this rapid rise has meant an increase in average family income, in spite of an accompanying decline in "average" real earnings per worker. For the unemployed, the presence of additional earners in the family has offered some financial protection and is another important factor which keeps many such families out of poverty.

Table 2 provides a detailed look at the different types of families in terms of the number of earners and whether any member encountered unemployment in 1981. Overall, there were 15.8 million families in which one or more members experienced some unemployment in 1981. Of these, 12 million were married-couple families, and the great majority, or 79 percent, had two or more earners during the year, only 2.4 million being one-earner families.

For married-couple families with two or more earners, the incidence of poverty in 1981 was 2 percent without unemployment and 6 percent with unemployment. For all one-earner families, the incidence of poverty was 7 percent without unemployment and 24 percent with unemployment. The main reason for the much higher incidence of poverty in the latter case is

that the worker unemployed is generally the husband, and because men generally earn more than women, the decline in family income is greater.

In families in which only the husband is an earner and in families in which only the wife is an earner, the incidence of poverty was identical—7 percent for those with no unemployment and 24 percent with unemployment. From this, it may appear that husbands and wives who are sole earners have similar earnings. But this is not the case. In traditional families in which husbands are the only earners, median family income is \$21,091, with the major portion, 89 percent, derived from their wages or salaries. In families in which wives are the only earners, median family income is 25 percent lower, and wages account for less than half of it. In fact, the \$7,189 median annual earnings of wives who were the sole earners was not substantially different from the median for all working wives—\$7,314.<sup>5</sup>

Because families maintained by women are the least likely to have more than one earner, the financial impact of unemployment is much greater. In 1981, there were 3 million families maintained by women in which at least one member was unemployed for part of the year, and 43 percent had income which fell below the poverty level. (See table 2.) In families headed by women with only one earner, unemployment meant a 50-percent chance of poverty, while in those with at least two earners, unemployment meant a 17-percent chance of poverty.

**Table 2. Income by family type, number of earners, and unemployment status, 1981**

[Numbers in thousands]

Family type and number of earners	With a member in the labor force			With no member unemployed			With at least one member unemployed		
	Number	Median family income	Percent in poverty	Number	Median family income	Percent in poverty	Number	Median family income	Percent in poverty
All families	53,496	\$24,393	9.4	37,692	\$26,154	5.9	15,803	\$20,089	17.7
Married-couple families	43,627	26,759	5.8	31,639	28,139	4.0	11,989	22,929	10.6
No earners	171	6,783	65.1	3	( <sup>1</sup> )	( <sup>1</sup> )	167	6,818	65.3
One earner	13,303	20,303	10.2	10,927	21,731	7.2	2,376	14,394	24.1
Husband	11,223	21,091	10.0	9,329	22,440	7.3	1,894	14,821	23.8
Wife	1,502	15,864	10.5	1,200	16,871	7.1	302	12,695	23.7
Other family member	578	19,953	13.5	399	22,190	7.1	179	14,270	27.8
Two or more earners	30,153	29,791	3.5	20,708	31,478	2.3	9,445	25,824	6.3
Husband and wife	26,226	29,576	3.2	18,299	31,280	2.0	7,927	25,263	5.9
Husband and other family member	3,325	32,973	5.2	2,099	34,520	4.4	1,225	30,154	6.4
Husband is not an earner	603	23,483	9.5	310	25,004	4.5	293	21,141	14.9
Families maintained by women	7,889	12,377	27.6	4,919	13,970	18.5	2,970	9,473	42.6
No earners	543	3,108	89.1	10	( <sup>1</sup> )	( <sup>1</sup> )	533	3,120	89.2
One earner	4,604	10,773	29.9	3,439	11,910	23.3	1,165	7,273	49.5
Two or more earners	2,741	19,655	11.5	1,469	21,368	7.0	1,272	17,745	16.7
Families maintained by men	1,980	19,584	16.2	1,135	23,412	5.6	844	12,192	30.5
No earners	232	1,271	77.9	4	( <sup>1</sup> )	( <sup>1</sup> )	228	1,233	79.0
One earner	873	18,500	12.1	650	19,979	7.6	223	12,719	25.0
Two or more earners	874	25,098	4.0	482	28,217	2.8	393	21,224	5.5
Persons not living in families	17,632	12,430	13.1	14,008	13,974	8.8	3,624	7,284	29.7
Persons living alone	10,869	13,655	9.6	9,057	14,796	6.8	1,812	8,162	23.3
Men	5,539	15,749	8.7	4,453	17,692	5.4	1,086	8,911	22.4
Women	5,330	11,903	10.4	4,604	12,640	8.2	726	7,504	24.7
All others <sup>2</sup>	6,762	10,733	18.9	4,951	12,209	12.6	1,811	6,304	36.0
Men	4,088	11,927	16.5	2,899	14,341	10.0	1,189	7,038	32.3
Women	2,674	9,194	22.5	2,051	10,455	16.3	623	5,277	43.1

<sup>1</sup> Percent not shown when base is less than 75,000.

<sup>2</sup> The majority of these persons are living with nonrelatives. Also included are persons in

married-couple families where the husband is in the Armed Forces, persons in secondary families, and some whose family status is unknown.

Aside from those in a family environment, 17.6 million persons lived alone or with unrelated persons and participated in the labor force at some time in 1981. For the 1.8 million such persons who lived alone and incurred some joblessness in 1981, personal income was \$8,162, and 23 percent were living in poverty. For the other 1.8 million who also had some unemployment but lived with others, personal income was \$6,304 and the incidence of poverty was 36 percent.

In terms of the changes in family income in 1981 compared with 1980, income did not keep up with the pace of inflation.<sup>6</sup> This was true not only for the families with some unemployment but also for those with no unemployment in both 1980 and 1981. The loss in real income was slightly greater for families (numbers in thousands) with at least one unemployed member—4.5 percent—than for those with no unemployed members—1.2 percent:

	1980		1981		Income change in percent (constant dollars)
	Number	Income	Number	Income	
No member unemployed . . .	38,455	\$24,020	37,692	\$26,154	-1.2
At least one member unemployed . . .	14,592	19,076	15,808	20,089	-4.5

In making year-to-year comparisons, it should be kept in mind that many of the families with unemployment in 1980 may not have had any unemployment in 1981. During the previous recession, March-to-March matches of the work experience data showed that 41 percent of all persons who encountered unemployment in 1974 also were unemployed at some time during 1975. The comparable figure for 1977-78, a much healthier employment period, was 35 percent. However, for many persons and families who were free of unemployment in 1980 but not in 1981, actual gains or losses in income were greater than the average changes shown above.<sup>7</sup>

### Family income by race and Hispanic origin

The median income of black families in which at least one member was unemployed in 1981 was \$13,479, compared with \$21,586 for white families and \$15,772 for Hispanic families. The proportion of blacks whose family income fell below the poverty line when affected by unemployment was 36 percent, compared to 16 percent for white families, and 25 percent for Hispanic families.

Actually, the incidence of poverty is consistently greater for black families, relative to white or Hispanic families, regardless of the labor force status of the members of such families. Even when blacks were employed the entire year at full-time jobs, the incidence of poverty among their families was still 8 percent, more than twice as high as among whites with year-round full-time

work. And Hispanic families were only slightly better off than blacks, as indicated in the tabulation below:

Labor force status	Percent in poverty		
	White	Hispanic	Black
Full-time year-round workers . . .	3.2	7.1	8.0
All workers:			
No unemployment . . . . .	4.7	10.4	12.3
Some unemployment . . . . .	16.1	25.3	36.2
Some involuntary part-time work . . . . .	14.2	26.7	31.1
Some involuntary part-time work and unemployment . . .	18.6	31.9	34.8
Persons who did not work but looked . . . . .	32.8	45.2	59.1

An important factor contributing to the relatively high incidence of poverty among blacks and Hispanics is that, even when employed, the members of these two groups tend to be concentrated in jobs that are not as secure or as high-paying as those held by whites.

### Changes in employment

The relatively small increase of 1 million in the number of persons with jobs in 1981 reflected the fact that the continued growth in some sectors of the economy was partly offset by large declines in government and manufacturing jobs and by a static situation in other key industries. Table 3 shows the total number of persons with some employment during the year in terms of the principal industries in which they worked.

Of particular interest is the 416,000 increase in the number of persons who were primarily self-employed, which accounted for two-fifths of the net gain in jobs in 1981. The number of such workers has been rising secularly since 1974, expanding by 2.6 million, or 30 percent. The relatively large gain posted in 1981 may also reflect the fact that many workers who lost their wage and salary jobs shifted to self-employment as an alternate means of support.

With population growth outpacing job growth in 1981, as it had in 1980, the proportion of the popula-

**Table 3. Employment by industry of longest job and class of worker, 1980 and 1981**

[Numbers in thousands]			
Industry and class of worker	1980	1981	Change
Total . . . . .	115,752	116,794	1,042
Wage and salary workers . . . . .	106,342	106,956	614
Agriculture . . . . .	1,923	2,054	131
Mining . . . . .	1,054	1,206	152
Construction . . . . .	6,114	6,107	-7
Manufacturing . . . . .	24,539	23,788	-751
Transportation and public utilities . . . . .	6,744	6,708	-36
Wholesale and retail trade . . . . .	22,442	23,121	680
Finance and service industries . . . . .	37,500	38,061	561
Government . . . . .	6,206	5,911	-295
Self-employed . . . . .	8,513	8,929	416
Unpaid family workers . . . . .	897	909	12

**Table 4. Persons with work experience by extent of employment, race, Hispanic origin, and sex, 1980 and 1981**

[In percent]

Extent of employment	Total		Men		Women	
	1980	1981	1980	1981	1980	1981
<b>Total</b>						
Population (in thousands) <sup>1</sup>	169,452	171,666	80,193	81,231	89,259	90,436
Worked during the year: <sup>2</sup>						
Number (in thousands)	115,752	116,794	64,260	64,769	51,492	52,025
Percent of the population	68.3	68.0	80.1	79.7	57.7	57.5
Persons who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0
Full time <sup>3</sup>	78.5	77.6	87.2	86.2	67.8	67.0
50 to 52 weeks	56.1	55.9	65.2	64.5	44.7	45.1
27 to 49 weeks	12.5	12.9	12.9	12.9	12.0	11.7
1 to 26 weeks	10.0	9.4	9.1	8.7	11.0	10.1
Part time <sup>4</sup>	21.5	22.4	12.8	13.8	32.2	33.0
50 to 52 weeks	7.7	7.8	4.4	4.5	11.9	11.9
27 to 49 weeks	5.2	5.6	3.0	3.2	8.0	8.7
1 to 26 weeks	8.5	8.9	5.5	6.1	12.3	12.4
<b>White</b>						
Population (in thousands) <sup>1</sup>	147,371	149,136	70,154	71,018	77,217	78,118
Worked during the year: <sup>2</sup>						
Number (in thousands)	101,904	102,825	57,122	57,615	44,782	45,210
Percent of the population	69.1	68.9	81.4	81.1	58.0	57.9
Persons who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0
Full time <sup>3</sup>	78.4	77.3	87.5	86.3	66.9	65.9
50 to 52 weeks	56.5	56.1	66.2	65.2	44.1	44.5
27 to 49 weeks	12.4	12.2	12.7	12.7	12.0	11.6
1 to 26 weeks	9.5	9.0	8.5	8.4	10.8	9.8
Part time <sup>4</sup>	21.6	22.7	12.5	13.7	33.1	34.1
50 to 52 weeks	7.8	8.0	4.4	4.6	12.2	12.3
27 to 49 weeks	5.4	5.8	3.0	3.2	8.4	9.1
1 to 26 weeks	8.4	8.9	5.1	5.8	12.6	12.7
<b>Black</b>						
Population (in thousands) <sup>1</sup>	18,105	18,480	8,065	8,236	10,039	10,244
Worked during the year: <sup>2</sup>						
Number (in thousands)	11,153	11,211	5,652	5,653	5,502	5,558
Percent of the population	61.6	60.7	70.1	68.6	54.8	54.3
Persons who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0
Full time <sup>3</sup>	78.9	79.6	84.5	85.0	73.1	74.1
50 to 52 weeks	52.7	54.0	56.4	58.8	49.0	49.2
27 to 49 weeks	13.1	13.3	14.3	14.5	11.9	12.0
1 to 26 weeks	13.1	12.3	13.9	11.8	12.2	12.9
Part time <sup>4</sup>	21.1	20.4	15.5	15.0	26.9	25.9
50 to 52 weeks	6.9	6.3	3.8	3.5	10.0	9.0
27 to 49 weeks	4.3	4.5	2.8	3.1	5.9	5.8
1 to 26 weeks	9.9	9.7	8.9	8.3	11.0	11.0
<b>Hispanic origin</b>						
Population (in thousands) <sup>1</sup>	8,862	9,227	4,255	4,393	4,607	4,834
Worked during the year: <sup>2</sup>						
Number (in thousands)	5,914	6,125	3,484	3,605	2,430	2,520
Percent of the population	66.7	66.4	81.9	82.1	52.7	52.1
Persons who worked during the year	100.0	100.0	100.0	100.0	100.0	100.0
Full time <sup>3</sup>	82.4	81.9	88.3	87.6	73.9	73.8
50 to 52 weeks	53.1	54.6	61.1	61.4	41.6	45.0
27 to 49 weeks	15.2	14.8	15.7	14.9	14.4	14.7
1 to 26 weeks	14.1	12.4	11.5	11.3	17.8	14.1
Part time <sup>4</sup>	17.6	18.1	11.7	12.4	26.1	26.2
50 to 52 weeks	5.9	6.1	4.0	4.1	8.6	9.0
27 to 49 weeks	4.2	4.0	2.4	3.0	6.7	5.5
1 to 26 weeks	7.6	8.0	5.4	5.4	10.8	11.7

<sup>1</sup> Population as of the survey date.

<sup>2</sup> Weeks worked include paid vacation and sick leave.

<sup>3</sup> Usually worked 35 hours or more per week.

<sup>4</sup> Usually worked 1 to 34 hours per week.

<sup>5</sup> Persons of Hispanic origin may be of any race.

tion with some employment edged down further, to 68 percent. (See table 4.) For men, the proportion who worked continued a 15-year decline and, at 79.7 percent, reached its lowest level since 1948. For women, the proportion who worked at any time during the year was essentially unchanged and remained near the high of 58 percent, reached in 1979.<sup>8</sup>

The proportion of blacks who worked during 1981 also receded to a new low of 60.7 percent. For black

men, the proportion dropped to 69 percent, 4 percentage points lower than in 1978. The proportion of whites and Hispanics with some employment during the year remained largely unchanged at 69 and 66 percent.

Another important aspect of the work experience situation is the number of weeks that persons worked during the year. In 1981, the proportion of workers who worked all year long at full-time jobs was 56 percent, largely unchanged from the previous year. The percent-

age of women with full-time year-round jobs, which has been increasing steadily over the last 20 years, reached 45 percent in 1981, another high. For men, however, the proportion employed full time year round, 65 percent in 1981, edged down for the fourth straight year; the low of 64 percent was reached in 1975.

The proportion of black women who worked all year at full-time jobs in 1981—49 percent—was higher than for either white or Hispanic women. However, the proportion of Hispanic women employed full time, year round did increase in 1981, and at 45 percent, was equal to that of white women. The rate for Hispanic women has increased steadily since these data were first collected in 1975.

Another way to look at employment trends is to look at hours usually worked over the course of the year, that is, whether those with jobs were employed full time or part time. In 1981, the number who usually worked full time (35 hours or more a week) edged down by 250,000, while the number who usually worked part time increased significantly, by 1.3 million. Because of these shifts, the proportion of the work force usually employed part time, 22 percent in 1981, was at its highest level since 1950. The proportion tends to increase during recessions as fewer persons are able to find full-time jobs.

### Involuntary part-time work

Whether those working part time do so because of adverse economic conditions, such as slack work or material shortages, or whether they do so entirely by personal choice is an important indication of the economy's health. Largely because of the recession, the number of persons who worked part time due to labor market related reasons (or involuntarily) increased by 1.6 million in 1981 and totaled 14.6 million. This was the highest level since 1975.<sup>9</sup>

Close to 10 million had seen their hours cut because of slack work; the remaining 4.8 million worked part time because they had not been able to find full-time jobs.

Involuntary part-timers are also vulnerable to other labor market problems. The data for 1981 reveal that of the 14.6 million such persons, nearly one-half also experienced some periods of unemployment during the year:

	<i>Involuntary part-time work only</i>	<i>Involuntary part-time work and unemployment</i>	<i>Unemployment only</i>
Number of persons (in thousands) . . .	8,166	6,461	16,921
Median weeks worked . . . . .	52	32	28
Median family income . . . . .	\$19,622	\$15,600	\$18,516
Percent below poverty level . . . . .	13.2	21.2	18.3

As shown, the family economic situation of workers experiencing involuntary part-time employment and unemployment was actually worse than that of workers experiencing only unemployment or involuntary part-time work. Workers with both some unemployment and involuntary part-time work reported much lower family income, the median being \$15,600, and had a much higher incidence of poverty—21.2 percent. With a median of only 32 weeks of work, the annual earnings of these workers, many of them householders,<sup>10</sup> were relatively low.

### Persons with unemployment

The 23.4 million persons who encountered some unemployment in 1981 accounted for 19.5 percent of all persons with labor force activity during the year. (See table 5.) In 1980, this proportion was 18.1 percent and in 1975, a record 20.2 percent.<sup>11</sup>

Among men, the proportion was 20.0 percent, the same as in 1975. Among women, the proportion was

**Table 5. Selected characteristics of persons who were unemployed during the year, 1980 and 1981**

[Numbers in thousands]

Characteristic	1980			1981		
	Number of persons	Percent of labor force	Median weeks unemployed	Number of persons	Percent of labor force	Median weeks unemployed
<b>Sex, race, and Hispanic origin</b>						
Total . . . . .	21,410	18.1	13	23,382	19.5	13
Men . . . . .	12,072	18.5	13	13,175	20.0	14
Women . . . . .	9,338	17.6	11	10,207	19.0	11
White . . . . .	17,506	16.9	12	19,140	18.3	13
Men . . . . .	10,005	17.3	13	10,963	18.8	13
Women . . . . .	7,501	16.4	10	8,177	17.7	11
Black . . . . .	3,352	28.0	14	3,703	30.5	15
Men . . . . .	1,755	29.4	17	1,884	31.2	20
Women . . . . .	1,596	26.6	13	1,819	29.7	13
Hispanic origin . . . . .	1,396	23.0	13	1,491	23.7	13
Men . . . . .	822	23.2	14	891	24.2	16
Women . . . . .	574	22.7	12	600	22.9	12
<b>Occupation <sup>1</sup></b>						
Professional and technical workers . . . . .	1,458	8.2	10	1,596	8.7	12
Managers and administrators, except farm . . . . .	867	7.0	12	935	7.6	12
Salesworkers . . . . .	827	11.4	10	1,020	13.5	11
Clerical workers . . . . .	2,907	13.4	11	3,110	14.5	11
Craft and kindred workers . . . . .	2,959	20.6	13	3,244	22.6	13
Operatives, except transport . . . . .	3,520	28.6	13	3,758	30.8	12
Transport equipment operatives . . . . .	894	22.4	13	952	24.1	13
Nonfarm laborers . . . . .	1,821	30.8	14	1,903	31.5	17
Private household workers . . . . .	162	11.5	14	221	16.0	14
Other service workers . . . . .	2,987	19.1	13	3,327	20.7	13
Farmers and farm managers . . . . .	34	( <sup>2</sup> )	( <sup>2</sup> )	24	( <sup>2</sup> )	( <sup>2</sup> )
Farm laborers . . . . .	376	22.1	16	428	24.2	17
<b>Family status <sup>3</sup></b>						
Husbands . . . . .	5,397	13.3	13	5,735	14.1	13
Wives . . . . .	4,226	14.6	11	4,581	15.6	12
Women who maintain families . . . . .	1,406	22.3	12	1,510	23.4	12
Men who maintain families . . . . .	315	20.3	14	331	21.1	13

<sup>1</sup> Only persons who worked during the year are asked to report their occupation; therefore, the percent of the labor force with unemployment represents the percent of workers with unemployment.

<sup>2</sup> Percentages and medians not shown where base is less than 75,000.

<sup>3</sup> Not all classifications shown.

19.0 percent, compared with the 1975 peak of 20.5 percent. Men were not only more likely to become unemployed but generally remained unemployed longer than women.

For blacks, the proportion experiencing some unemployment in 1981—30.5 percent—was up from the 1980 level (28.0 percent) and even higher than the 1975 peak (29.5 percent). By comparison, the proportion of whites with unemployment, 18.3 percent in 1981, was higher than in 1980 but still lower than in 1975. For Hispanics, the proportion remained largely unchanged over the 1980–81 period at 24 percent.

While the great majority of the 23.4 million persons with some unemployment in 1981 managed to work during some or most of the year, about 2.9 million were completely unsuccessful in their job search. The number of such persons was about 270,000 higher than in 1980.

About 2.1 million of these unsuccessful job-seekers spent only part of the year looking for work and the balance outside the labor force—keeping house, going to school, drawing retirement, and so forth. However, when asked the *main* reason they had not worked in 1981, 1.7 million of all unemployed workers cited the lack of job opportunities.

Those who searched for jobs but did not work at all were predominantly women (59 percent), youths (42 percent), and blacks (33 percent). But these percentages have varied in recent years, reflecting the changes in the general employment climate. In 1979, a much healthier year in terms of demand for labor, the total number of such workers was much smaller and its composition was dominated by women, whites, and youths:

	1979	1980	1981
Number (in thousands)	1,990	2,597	2,863
Percent	100	100	100
Men	34	39	41
Women	66	61	59

Whites	68	66	64
Blacks	30	32	33
Others	2	2	3
16 through 24 years	47	47	42
25 years and over	53	53	58

The 2.9 million persons who searched for a job but never held one during the year can be divided into two groups, about equal in size, in terms of certain characteristics. One group of about 1.4 million consisted of persons who looked for work for a relatively long period and who were mainly family householders and persons responsible for their own support. The other group consisted of persons who looked for work for a much shorter period and who probably did not carry the main burden of family support:

	<i>Family householders and persons not living in families</i>	<i>Family members other than householders</i>
Job searchers with no employment (in thousands)	1,408	1,455
Median weeks of unemployment	22	10
Median family income	\$3,242	\$19,085
Percent below poverty level	76	20

What is even more strikingly different between the two groups is that the one composed mostly of householders had a very low median family income (\$3,242) and a very high incidence of poverty (76 percent). In contrast, the other group, made up mostly of young family members, generally the sons and daughters of the householder, had a much higher family income (\$19,085) and a much lower incidence of poverty (20 percent). □

— FOOTNOTES —

<sup>1</sup> The data for this report are based on responses to special "work experience" questions included in the March 1982 Current Population Survey, conducted for the Bureau of Labor Statistics by the Bureau of the Census. The questions refer to the civilian work experience of persons during the entire preceding year. Persons who reached age 16 during January, February, or March 1982 are included. However, the work experience of persons in the civilian labor force during 1981 but not in the civilian noninstitutional population in March 1982 is not included; similarly, data on persons who died in 1981 or in 1982, before the survey date, are not reflected.

<sup>2</sup> For a review of the employment and unemployment situation in 1981 based on data collected during the year, see Robert W. Bednarzik, Marillyn A. Hewson, and Michael A. Urquhart, "The employment situation in 1981: new recession takes its toll," *Monthly Labor Review*, March 1982, pp. 3–14.

<sup>3</sup> Poverty statistics presented in this report are based on a definition developed by the Social Security Administration in 1964 and revised

by a Federal Interagency Committee in 1969. These indexes are based on the Department of Agriculture's Economy Food Plan and reflect the different consumption requirements of families based on their size, composition, and age of the family head. In 1981, the poverty level for a family of four was \$9,287.

Poverty thresholds are updated each year to reflect changes in the Consumer Price Index. The poverty definition was changed slightly in 1981. For more information on the income and poverty population in 1981 and the change in the definition of poverty, see *Money Income and Poverty Status of Families and Persons in the United States: 1981* (Advance Data From the March 1982 Current Population Survey), Series P-60, No. 134 (Bureau of the Census, 1982).

<sup>4</sup> Estimates of median weekly earnings are derived by dividing annual earnings by the number of weeks worked during the year and then computing the median.

<sup>5</sup> Unpublished data, March 1982 work experience and income supplement.

<sup>6</sup> The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) is used to convert current dollars to constant dollars. This index rose by 10.2 percent from 1980 to 1981.

<sup>7</sup> For a discussion of the year-to-year changes in family income and the factors which bring them about, see Greg J. Duncan, "Who Gets Ahead? And Who Gets Left Behind?" *American Demographics*, July/August 1982, pp. 38-41.

<sup>8</sup> Historical work experience data are published in *Labor Force Statistics Derived from the Current Population Survey: A Databook, Volume I*, Bulletin 2096 (Bureau of Labor Statistics, 1982).

<sup>9</sup> The total number of persons with some involuntary part-time work over the course of the year is three times greater than the annual average of the monthly figure. For a detailed study of involuntary part-time work based on the March CPS, see Sylvia Lazos Terry, "Involuntary part-time work: new information from the CPS," *Monthly Labor Review*, February 1981, pp. 70-74.

<sup>10</sup> Unpublished data, March 1982 work experience and income supplement. As defined in the March CPS, the householder is the first adult listed on the questionnaire. The instructions call for listing first the person (or one of the persons) in whose name the home is owned

or rented. If the house is owned jointly by a married couple, either the husband or the wife may be listed first, thereby becoming the reference person, or householder, to whom the relationship of the other household members is recorded. One person in each household is designated as the householder. In March 1982, 96 percent of all husbands were designated as householders, and 100 percent of all men and women who maintain families were householders.

<sup>11</sup> Many researchers have made comparisons of the unemployment figures derived from the derived work experience survey and those from the monthly surveys. This is done by converting the work experience unemployment figures to a total number of weeks of unemployment. Results show that the work experience unemployment number tends to understate the comparable figure based on the annual average of the monthly figure. For further discussion, see Richard Morgenstern and Nancy Barrett, "The Retrospective Bias in Unemployment Reporting by Sex, Race and Age," *Journal of the American Statistical Association*, June 1974, pp. 355-57; Wayne Vroman, "Measuring Annual Unemployment," Working Paper 1280-01 (Washington, The Urban Institute, 1979); and Francis W. Horvath, "Forgotten unemployment: recall bias in retrospective data," *Monthly Labor Review*, March 1982, pp. 40-43.

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### "Never married" women on the rise

Irrespective of their household and family-membership status, the proportion of women remaining single is experiencing a substantial upswing. . . . In 1980, the proportion of women 20 to 24 years of age who had never married (50.2 percent) was almost twice the equivalent for 1960 (28.4 percent), with a similar evolution over time in the 25-to-29-years-of-age category. It should be pointed out that the increase in the 20-to-24-year-old sector is particularly significant since this is the age when most women have traditionally married. Moreover, in conjunction with the increased prevalence of nonmarriage in the subsequent age group (25 to 29 years), it may suggest the general acceptance by young women for either postponing marriage or remaining single throughout their lives.

It is interesting to note the reverse pattern as we focus on the older age groups. In 1960, there was a far higher proportion of women, particularly in those age categories above 45 years, who had never married than holds true currently (1980). Is this the residual of trends earlier in this century in Suffragettism? Is it related in part, particularly among the middle-aged members of this group, to the depression years? Or does it perhaps indicate that in the future we will see a shift toward later marriage? And if it is the last, what impact will that have on population growth?

—GEORGE STERNLIEB, JAMES W. HUGHES,  
and CONNIE O. HUGHES, *Demographic Trends and  
Economic Reality: Planning and Markets in the '80s*  
(New Brunswick, N.J., Rutgers, The State University  
of New Jersey, Center for Urban Policy Research,  
1982), p. 29.

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# The service-producing sector: some common perceptions reviewed

*Many service industries are capital intensive, and the range of expansion in output per hour is not significantly different from that found among goods-producing industries*

RONALD E. KUTSCHER and JEROME A. MARK

Over the past three decades, the rapid growth of the economy's service sector and the increasing interest in the sector on the part of both scholars and policymakers have helped give currency to three perceptions about service industries. The perceptions are that (1) the service sector is composed entirely of industries that have very low rates of productivity growth; (2) service industries are highly labor intensive and low in capital intensity; and (3) shifts in employment to the service-producing sector have been a major reason for the slowdown in productivity growth over the past 10 to 15 years. This article examines these perceptions in the light of available data.

*The service sector defined.* The broadest definition of the service sector encompasses all industries except those in the goods-producing sector—agriculture, mining, construction, and manufacturing. Under this definition, services include transportation, communication, public utilities, wholesale and retail trade, finance, insurance, real estate, other personal and business services, and government. One variation on this definition of the service sector (or service-producing sector, as it is frequently called) excludes government activities at all levels. A third definition of the service sector is still narrower, including only private personal and business

services and excluding transportation, communication, wholesale and retail trade, finance, insurance, and real estate. All three definitions will be referenced in the following discussion.

*Growth rates vary widely by industry.* The first apparently generally held perception of the service sector is that it consists entirely of industries with low growth in productivity. Comparison of growth rates for output and employment by industry over the last two decades might seem to lend support for this belief, for the data show that the widely discussed growth in services in the U.S. economy has been more pronounced from an employment perspective than from the output view.

Over the last two decades, there was a very noticeable shift toward service employment. The share accounted for by the service-producing sector, using the broadest definition, increased by 10 percentage points from 1960 to 1981. A shift is also apparent when alternative definitions of the sector are used. When limited to "private" services, the sector share of employment increased by nearly 8 percentage points between 1960 and 1981. Even when limited only to "other services," the sector has increased its employment share by nearly 7 percentage points over the period. Thus, over two-thirds of the total shift toward service employment is accounted for by this one relatively small portion of the service sector. (See table 1.)

There has been a large, steady shift in employment toward the service sector not only in absolute terms but also in relative terms. The goods-producing industries have shown some absolute growth over the period but

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**Table 1. Percent distribution of output and employment between the goods- and service-producing sectors, selected years, 1959-81**

Item	1959	1969	1973	1979	1981
<b>Output<sup>1</sup></b>					
Total private	100.0	100.0	100.0	100.0	100.0
Goods-producing	41.4	40.0	39.6	36.7	35.4
Service-producing	58.6	60.0	60.4	63.3	64.6
<b>Employment<sup>2</sup></b>					
Total nonagricultural	100.0	100.0	100.0	100.0	100.0
Goods-producing sector	38.3	34.6	32.4	29.5	28.0
Service-producing sector	61.7	65.4	67.6	70.5	72.0
Public	15.2	17.3	17.9	17.8	17.6
Private	46.0	48.1	49.7	52.8	54.4
"Other services"	13.3	15.9	16.7	19.1	20.4

<sup>1</sup>Data are from the Bureau of Economic Analysis, U.S. Department of Commerce. The specific measure is "gross product originating" in (or net output of) each of the sectors.

<sup>2</sup>Data relate to numbers of wage and salary workers in the nonagricultural economy, as determined by the Bureau of Labor Statistics Current Employment Statistics survey.

have declined in relative terms. Between 1960 and 1981, goods-producing industries (manufacturing, mining, and construction) gained jobs at an average rate of 1.0 percent a year, while employment in service-producing industries (all other industries and government) grew by 3.2 percent annually. Within the service-producing sector, civilian government employment increased at a pace that was faster than the average for all jobs through the 1960's and early 1970's, but has recorded slower-than-average gains since then. Public job growth has tapered to almost zero since 1979. Job gains in the private portion of the service-producing sector, on the other hand, have consistently led total employment growth.

A component of the private service-producing economy, "other services," includes industries such as business services, medical services, professional services, hotels, personal services, and several others. This component has shown the most rapid job increases of any of the major industry divisions in the economy in the last two decades, averaging growth of 4.4 percent per year between 1960 and 1981. Within this narrowly defined "other service" sector, the fastest job gains have been posted by other medical services (9.2 percent a year) and miscellaneous business services (7.5 percent annually).

On the basis of such evidence, it is tempting to conclude that the service sector comprises only industries in which employment is growing at very rapid rates, rates which may exceed the pace of growth in output. Overall service sector employment, as we have just seen, is growing rapidly. However, within the sector there are a few industries, such as railroad transportation, in which employment is declining, and others, such as public utilities, motion picture production and distribution, and barber and beauty shops, in which employment is growing very slowly.

Data from the Bureau's expanding effort to measure

productivity in the service sector also argue against labeling all service industries as productivity drains. These data, which at present cover one-third of sector employment, clearly illustrate that not all services have low productivity growth.<sup>1</sup> During the 1965-80 period, productivity growth in the sector ranged from a high of 7.9 percent a year in petroleum pipelines between 1965 and 1973 to a low, reflecting declines of up to 1.0 percent annually, in laundries and cleaning services, eating and drinking places, and retail food stores over the 1973-80 period. In addition to petroleum pipelines, rapid productivity growth has also been found in air transportation, drug and proprietary stores, telephone communication, and gasoline service stations. The range of productivity growth noted in the service sector is not significantly different from the range among goods-producing industries. The perception that service industries all have low productivity growth is not at all consistent with these data.

*Capital intensity rather high.* To assess a second common perception—that service industries are very low in

**Exhibit 1. Service industries ranked in descending order of capital intensity, 1973**

Rank	Capital stock per worker hour
First decile (most capital intensive)	Pipeline transportation Railroad transportation Radio and TV broadcasting Electric utilities Gas utilities Water and sanitary service Real estate •Advertising
Second decile	Water transportation Air transportation •Miscellaneous consumer services •Automobile repair •Amusements
Third decile	Truck transportation Transportation services Miscellaneous •Professional services Medical, education, and non-profit
Fourth decile	Financial institutions •Miscellaneous business services
Fifth decile	Local transportation and buses
Sixth decile	—
Seventh decile (least capital intensive)	Wholesale trade Retail trade



capital intensity—we used 1973 data on capital stock by industry.<sup>2</sup> (This measure of capital stock covers plant and equipment but excludes land, inventory, and monetary assets.) A measure of capital intensity was calculated for each of 145 industry divisions on the basis of capital stock per worker hour. The industry divisions were then ranked in descending order of capital intensity as indicated by the measure. (See exhibit 1.) The surprising result of this exercise was that service industry divisions made up nearly one-half of the 30 divisions in the first two deciles of the ranking. Transportation industries and utilities were most often found in these “high capital intensity” deciles. The ranking of industry divisions by capital intensity did not contain any service industries in the bottom three deciles. These findings are hardly consistent with the supposition that the service industries are low in capital intensity.

Related to this perception about the service sector is the belief that service industries are highly labor intensive. To assess this perception, we ranked industries according to labor intensity, as indicated by 1981 data on labor hours per unit of output.<sup>3</sup> (See exhibit 2.) The ranking indicated that services tend to be dominant among labor-intensive industries; for example, service industries represented 17 of the 30 most labor-intensive industries in the economy. However, service industries were found in nearly every decile of the ranking, and three appeared in the least labor-intensive decile. Thus, while the assumption that service industries are relatively labor intensive has a strong element of truth about it, it is far from being the case for all service-producing industries.

*Employment shifts unrelated to productivity growth.* A third common perception is that the shift in employment from the goods-producing sector to the service sector has been the major element in the productivity slowdown of the last 10 to 15 years.

To evaluate this assumption, we assembled data which measure 1959–79 employment shifts in a number of different ways:

- Using measures of production
  - Gross product originating
  - Gross duplicated output<sup>4</sup>
- Tracking interindustry employment movements
  - From the farm to the nonfarm sector
  - From goods-producing to service-producing industries
    - Among goods-producing industries
    - Among service-producing industries

Estimates of the effects on productivity growth of the various types of shifts in employment are presented in table 2. (The shifts were measured in terms of labor hours rather than employment to account for differ-

ences in the amount of hours per job and different rates of change in average hours.)

**Exhibit 2. Service industries ranked by labor intensity, 1981**

<i>Rank</i>	<i>Labor hours per unit of output</i>
First decile (most labor intensive)	Local government passenger transit Transportation services Hotels and lodging places Educational services ♦ Medical services, except hospitals ♦ Nonprofit organizations ♦ Hospitals Post office Agricultural, forestry, and fishery services Barber and beauty shops Retail trade, except eating and drinking places
Second decile	- Eating and drinking places - State and local government enterprises, n.e.c. - Other Federal enterprises, n.e.c. - Personal and repair services - Wholesale trade - Business services, n.e.c.
Third decile	Banking Local transit and intercity buses Amusement and recreation services ♦ Professional services, n.e.c. Radio and television broadcasting
Fourth decile	Truck transportation Credit agencies and financial brokers Railroad transportation
Fifth decile	♦ Advertising Insurance
Sixth decile	Doctors' and dentists' services
Seventh decile	Air transportation
Eighth decile	—
Ninth decile	♦ Automobile repair Electric utilities, public and private
Tenth decile (least labor intensive)	Pipeline transportation Gas utilities, excluding public Real estate

NOTE: The data base for the labor intensity measure does not have the same industry configuration as that for the capital intensity measure. Thus, some slight variation in industries can be noted between exhibit 1 and exhibit 2.  
n.e.c. = not elsewhere classified.

According to these estimates, the shift in employment between goods-producing and service-producing industries has had a negligible effect on productivity growth.

This is true regardless of the period chosen or the output measure used. In no instance does the employment shift to services account for as much as .1 per year change in productivity growth. When "gross product originating" weights are used, the shift to service employment actually boosts productivity slightly. In fact, of the movements depicted in the table, the shifts among the goods-producing industries were most important—accounting for as much as .6 per year productivity growth.

**Table 2. Impact of employment shifts on labor productivity change, selected measures, 1959-79**

Measure and type of shift	Rate of productivity change		
	Actual	Productivity within sector <sup>1</sup>	Portion of change accounted for by employment shifts <sup>1</sup>
<b>Gross product originating</b>			
Farm to nonfarm shift:			
1959-79 (Total private business) . . . . .	2.29	2.11	.18
1959-66 . . . . .	3.36	3.01	.34
1966-73 . . . . .	2.41	2.27	.14
1973-79 . . . . .	0.92	0.84	.08
Goods- to service-producing industries shift:			
1959-79 (Total private business) . . . . .	2.29	2.25	.04
1959-66 . . . . .	3.36	3.34	.03
1966-73 . . . . .	2.41	2.38	.02
1973-79 . . . . .	0.92	0.90	.02
Shift among goods-producing industries:			
1959-79 (Goods-producing industries) . . . . .	2.58	2.23	.34
1959-66 . . . . .	3.94	3.31	.63
1966-73 . . . . .	2.73	2.50	.23
1973-79 . . . . .	0.85	0.72	.13
Shifts among service-producing industries:			
1959-79 (Service-producing industries) . . . . .	2.00	1.88	.12
1959-66 . . . . .	2.84	2.77	.08
1966-73 . . . . .	2.09	1.92	.17
1973-79 . . . . .	0.93	0.88	.04
<b>Gross duplicated output</b>			
Farm to nonfarm shift:			
1959-79 (Total private) . . . . .	2.15	2.04	.12
1959-66 . . . . .	3.19	2.93	.27
1966-73 . . . . .	2.31	2.22	.09
1973-79 . . . . .	0.77	0.74	.03
Goods- to service-producing industries shift:			
1959-79 (Total private) . . . . .	2.15	2.32	-0.16
1959-66 . . . . .	3.19	3.27	-0.08
1966-73 . . . . .	2.31	2.53	-0.22
1973-79 . . . . .	0.77	0.99	-0.21
Shift among goods-producing industries:			
1959-79 (Goods-producing) . . . . .	2.81	2.49	0.31
1959-66 . . . . .	3.73	3.12	0.61
1966-73 . . . . .	3.00	2.76	0.24
1973-79 . . . . .	1.52	1.45	0.07
Shift among service-producing industries:			
1959-79 (Service-producing) . . . . .	1.44	1.28	.17
1959-66 . . . . .	2.70	2.75	-.04
1966-73 . . . . .	1.58	1.29	.29
1973-79 . . . . .	-0.17	-0.39	.22

<sup>1</sup> The actual productivity change has been partitioned into two broad contributing factors, and the interaction effect between them. The interaction effect (not shown) has been allocated equally between these two columns.

IT IS NOT our purpose here to offer alternative explanations of the significant slowdown in productivity growth that has taken place since the late 1960's. However, we believe we have clearly shown that the productivity slowdown is not primarily (or even importantly) the result of shifts in employment to the service-producing industries.<sup>5</sup> □

— FOOTNOTES —

<sup>1</sup> For a discussion of the Bureau's program, see Jerome A. Mark, "Measuring productivity in the service industries," *Monthly Labor Review*, June 1982, pp. 3-8.

<sup>2</sup> For a description of this data base, see *Capital Stock Estimates for Input-Output Industries: Methods and Data*, Bulletin 2034 (Bureau of Labor Statistics, 1979).

In addition to the measure described below, an industry ranking in terms of capital stock per dollar of output was also developed. Results of this ranking were quite similar to those presented in exhibit 1.

<sup>3</sup> For a description of methods used in developing this data base, see *Time Series Data for Input-Output Industries*, Bulletin 2018 (Bureau of Labor Statistics, 1979).

<sup>4</sup> "Gross product originating" is a measure of net output—the final value of goods and services produced in a sector less the cost of materials and purchased services. "Gross duplicated output" is a measure of gross output that includes not only the gross product originating in a sector, but also the cost of materials and purchased services.

<sup>5</sup> For detailed analyses of the slowdown in productivity, see J.R. Norsworthy, Michael Harper, and Kent Kunze, "Slowdown in Productivity Growth: Analysis of Some Contributing Factors," *Brookings Papers on Economic Activity*, Fall 1979, pp. 387-427; Barbara M. Fraumeni and Dale W. Jorgenson, "The role of capital in U.S. economic growth, 1943-76," in George M. Von Furstenburg, ed., *Capital Efficiency in Growth* (Cambridge, Mass., Ballinger Publishing Co., 1980), pp. 9-250; Edward F. Denison, *Accounting for Slower Economic Growth in the United States* (Washington, The Brookings Institution, 1979); and John Kendrick, *Understanding Productivity: An Introduction to the Dynamics of Productivity Change* (Baltimore, Md., The Johns Hopkins Press, 1977).

# Conference Papers



The following excerpts are adapted from papers presented at the Thirty-Fifth Annual Meeting of the Industrial Relations Research Association, December 1982, in New York.

The full text of all papers appears in the copyrighted IRRA publication, *Proceedings of the Thirty-Fifth Annual Meeting*, available from IRRA, Social Science Building, Madison, Wis. 53706.

## Regulatory system encourages employers to take the offensive

MYRON J. ROOMKIN and RICHARD N. BLOCK

Are the structure and processes of the industrial relations regulatory system well suited to the reality of labor-management relations? It may be time to recognize that they are not. That system is characterized by the juridical model, a system of impartial adjudication of either party's good faith disputes. In such a system, the employer enjoys an inherent advantage because of its ability to initiate practices. We also must question whether the current system can function properly when employers are using the legal system aggressively and opportunistically.

By the nature of the system, it is the employer that initiates actions through its right to manage property. The union must, in general, react to the employer's initiative. Even in situations where employees appear to be initiating action, such as a strike, employers retain the ultimate power to initiate action. In the case of a strike an employer through its power of discipline can remove employees from the payroll.

Because of this power to initiate actions, the regulatory system gives employers a greater opportunity than it gives unions to alter the state of the law. Employers are capable of initiating practices which, if litigated, could enhance employer rights. The union, for all intents and

purposes, does not have an equal ability to institute conduct in pursuit of more favorable legal doctrines. This imbalance exists despite our commitment to due process in regulatory matters.

Not only is there an imbalance in the right to initiate actions, there is also a differential right to maintain good faith conduct while the actions are being adjudicated. Employers can maintain such conduct until all appeals have been exhausted, thus imposing costs on the union or its members.

It is not always acknowledged, but employers can reap benefits from those judgments they lose, thus getting even more encouragement to initiate action. Litigation tends to take private disputes and transform them into public disputes. As information in the public record reaches them, employers can take advantage of the case-by-case approach to distinguish their case from its predecessor, rebutting old arguments, and eventually bringing about changes in doctrines.

This appears to be what happened with decisions involving dual-purpose discharges—cases in which union supporters may or may not have been discharged for cause. The National Labor Relations Board's original "in part" test was continually challenged by employers.<sup>1</sup> Even the newer doctrine of the "shifting burden of proof," which requires the General Counsel to make a *prima facie* case of anti-union motivations<sup>2</sup> continues to be a subject of employer legal actions. Two recent Courts of Appeals decisions, for instance, have chipped away at the "shifting burden of proof" test by requiring employers to provide evidence that would simply rebut, rather than outweigh, the General Counsel's *prima facie* case.<sup>3</sup> While, in theory, an employee who supports the union could engage in conduct that he or she believes is lawful, that employee must risk discipline and discharge by the employer, that is, the employee cannot maintain the action pending a final legal decision. Even if the General Counsel or Regional Director chooses to issue a complaint,<sup>4</sup> and the employee's action is ultimately found to be lawful, the employee still must bear the burden of the employer's unlawful discipline pending a resolution of the dispute. It is reasonable to believe that such a cost would be a substantial disincentive to employees to explore their rights under the Act or to attempt to have established legal doctrines reexamined.

An incrementalist strategy in pursuit of their good faith beliefs concerning the legality of their actions is

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also relatively unavailable to unions under Section 8(b) of the National Labor Relations Act. Union actions such as pressuring employees of neutral employers or recognition picketing may prompt an employer to file a charge. The charge, if found by the Regional Director to have merit, triggers Section 10(1) of the Act, under which the case is given priority handling and which requires a request for an injunction by the General Counsel. Thus, the employer can have the action terminated before it is vetoed by the Board, and the union cannot maintain the action. Even if the union ultimately wins the case in court, the union and employees who were enjoined are not likely to be the same parties to actual benefit from the victory.<sup>5</sup>

The fact that union respondents under Section 8(b) cannot maintain actions pending a dispositive legal determination, as can employer respondents under Section 8(a), means there is a greater disincentive to unions than employers to explore the legality of their actions. Evidence of the dissatisfaction of unions with this inequity is the inclusion in the defeated Labor Law Reform Act of 1977-78 of a provision that would have required the Board to treat alleged violations of Section 8(a)(3) in the same manner as alleged violations of Sections 8(b)(4), 8(b)(7), and 8(e).

It is becoming clear that the system cannot cope when employers aggressively and opportunistically follow their self-interest. While most charge cases are still filed by employees and unions and not by employers, unions and employees are responding to the initiated conduct of the employer. To some significant but as yet unmeasured extent, employers show a greater willingness to initiate conduct—to exercise and perhaps to capitalize upon their inherent advantages under the regulatory framework. A traditional concern along these lines is that such aggressive actions by employers detract from the credibility of the system, because they overload the NLRB's limited resources and create delays. We suspect another consequence as well.

The tendency to initiate conduct aggressively may create direct challenges to the basic tenets of the National Labor Relations Act. Usually this occurs when an employer commits egregious violations of the law, forcing the agency to deny one party its rights in order to protect the rights of another. At such a point, one is likely to get a "strange" remedy which, given its strangeness or unusual quality, becomes a barrier to its own use.

Consider the *Conair Corp.* case.<sup>6</sup> Apparently the employer by its "outrageous and pervasive" practices destroyed the workers' ability to choose or not to choose a union of their choice. Thus, the Board imposed a union on the workers, even if they might not have chosen one in the absence of employer unfair labor practices. Freedom of choice had to be sacrificed to pro-

tect the integrity of the regulatory system. One is reminded of the military people in Vietnam who said it was necessary to destroy a village in order to save it! Considering the exceptional nature of the remedy, the Board should and will show a great deal of reluctance in evoking the policy. In the end, then, the employer is in fact encouraged to act aggressively in labor relations and the acceptability of the machinery to the unions is lessened. We would not advocate constraining employers in their access to the legal system. Rather, we believe that unions should have the same access to the legal system as employers in order to get their good faith beliefs litigated. □

—FOOTNOTES—

<sup>1</sup> The history of the litigation in "dual motive" discharge cases is reviewed in *Wright Line, A Division of Wright Line, Inc.*, 251, NLRB 1083-86, (1980).

<sup>2</sup> 251 NLRB at 1086-91, enf. *NLRB v. Wright Line*, 662 F.2d 899, 108 LRRM 2513 (CA 1, 1981).

<sup>3</sup> See, for example, *NLRB v. Wright Line*, and *NLRB v. Transportation Management, Inc.*, 674 F.2d 130, 109 LRRM 3391 (CA 1, 1982). For the opposite point of view, see *NLRB v. Fixtures Manufacturing Corp.*, 669 F.2d 547, 550 (CA 8, 1982). The Supreme Court has granted *certiorari* in *Transportation Management*, Washington, Bureau of National Affairs, *Daily Labor Report*, No. 220, pp. A2-A3, Nov. 15, 1982.

<sup>4</sup> The possibility that the discretion of the General Counsel in issuing a complaint may result in a barrier to an affected party having its rights litigated has gone unnoticed by the Supreme Court. See *Vaca v. Sipes*, 386 U.S. 171, 182-83 (1967) and *Detroit Edison Co. v. NLRB*, 440 U.S. 301, 316 (1979).

<sup>5</sup> See also Richard N. Block, Benjamin W. Wolkinson, and David E. Mitchell, "The NLRB and Alternative Situs Picketing: The Search for the Elusive Standard," *Industrial Relations Law Journal*, Winter 1979, pp. 668-70.

<sup>6</sup> 262 NLRB 178 (1982).

## Labor market segmentation theory: critics should let paradigm evolve

MICHAEL J. PIORE

The chilly reception accorded the fledgling theory of labor market segmentation by members of the economics profession provides an interesting example of the conflicts that can arise between competing theories, and between their related research practices. Thomas Kuhn introduces the notion of a scientific paradigm, and then distinguishes between periods of "normal" science, which occur within an established paradigm, and per-

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iods of scientific revolution.<sup>1</sup> As an exponent of labor market segmentation in the community of “normal” economics, I can assure you that labor market segmentation does not fit the conventional paradigm.

In most discussions, labor market segmentation is contrasted with the more optimistic human capital theory, but this does not, I think, account for the hostile reception it has received. In fact, the treatment accorded labor market segmentation by the profession is not so very different from that accorded human capital theory when it was first advanced by Gary Becker and others. Rather, the antagonism of conventional economics toward labor market segmentation seems to have more to do with where the observation comes from and how its supporters have sought to present it than with the existence of segmentation as a fact of nature. It has to do, in other words, with the practice of economics rather than with theoretical content in the strict sense of the term.

Two aspects of that practice are, I believe, central. First the manner in which segmentation theory was “uncovered” involves approaches to empirical investigation which are excluded from conventional practice. By and large, the notion of labor market stratification emerged through “participant observation.” The idea was originally put forward by a group of analysts who observed the labor market while participating in the civil rights movement and serving as advocates for the community-based groups which grew up around that movement and President Johnson’s War on Poverty. Segmentation theory was an attempt to make sense out of the labor market problems as the people in these communities experienced them (or at least described their experience) and to describe the labor market as these people saw it. The initial research underlying the theory took the form of relatively open-ended, unstructured interviews with the economic actors themselves. This approach contrasts sharply with the practice of econometric estimation of deductive neoclassical models, which use data gathered from highly structured interviews, the results of which are reduced, before they are introduced into the analysis, into continuous, quantitative variables. To find a precedent in economics for the kind of research out of which labor market stratification grows, one has to go back to the old institutional labor economics of the 1930’s and 1940’s and the generation of scholar-practitioners whose theory was an effort to organize their experience as arbitrators, mediators, and wage-control administrators, or to the early labor market studies of people like Lloyd G. Reynolds or Frederic Meyers, whose research techniques in many ways simulated through interviews the exposure they had received through direct participation in labor relations. At the time during which stratification theories were being developed, the economics profession was in

strong reaction against the “eclectic” nature of this research methodology and the *ad hoc* theories which it generated. A decade later, this older institutional research was no longer even displayed as a practice to students in the classroom. Thus, however consistent the segmentation ideas might have been with orthodox theory, they were suspect because they were uncovered by unorthodox research practices and but for those practices might never have come into existence.

The second respect in which the notions surrounding labor market stratification clash with the conventional paradigm is in the sharp discontinuities which they introduce into the world which theory has to explain. Conventional theory is infused by what one of my colleagues in physics calls an “aesthetic” of continuity and homogeneity: The basic tools of theoretical analysis are applicable only in a continuous, homogeneous world, and the theories which are displayed in the classroom and which constitute the standards of rigor and elegance against which students learn to judge their own work and that of their colleagues pertain only to such a world. (By convention, perfect competition is the agency by which continuity and homogeneity are maintained in an economic system.) Therefore, labor market segmentation or any other characterization of the world which is sharply discontinuous and involves heterogeneous behavior is, on its face, intractable and unappealing. Given the fact that the empirical origins of labor market segmentation are already suspect, the theoretical aesthetic of the conventional paradigm strengthens the tendency to reject the new theory out of hand.

To explain why conventional economics is so hostile to the notion of labor market stratification does not completely dispose of the question at hand. One might still ask whether segmentation can be made consistent with conventional theory.

At a certain level, the answer is clearly yes. Although conventional theory assumes that all workers are rational and that their labor market behavior is instrumental, it does recognize sharp discontinuities between the labor force attachment of various demographic groups. Virtually all economists, for example, would accept a distinction between prime-age working males, on the one hand, and women and youth on the other. So long as the latter have a weak commitment to the labor market and a strong, inherent tendency to high turnover, one would expect distinct labor market institutions to govern their behavior. Add to that a certain variability in the stability of labor demand across different industries and occupations—a variability which the conventional aesthetic might well characterize as “continuous”—and one tends toward exactly the dual labor market which was the fulcrum for labor market segmentation theories. Most conventional segmentation-type theories proceed along these lines.

One can also build conventional segmentation-type theories out of institutional imperfections in the labor market—out of the tendency for workers or employers to organize to protect their interests in the face of economic flux and competition. Because it is competition which generally enforces continuity and homogeneity in conventional theory, any abridgment of it will introduce the kind of discontinuous structure which notions of segmentation entail in a completely conventional way.

However, it has been more difficult for conventional theory to cope with the concept of internal labor markets which basically asserts that, in large territories of the labor market, job allocation and pricing are governed by institutional rules and customs which are only tenuously linked to rational, instrumental behavior or to competitive market forces, if they are so linked at all. The convention has been to assume that factors such as the internal rules of the firm or the internal psychology of the individual are either very stable or so tightly constrained by the market that reference to the latter will explain their variability.

It is at this point that I think the whole attempt to encompass notions of labor market stratification within conventional theory begins to break down. Take, for example, the derivation of the dual labor market from the differences in labor force attachment among various demographic groups. Conventional explanations focus upon women and youth. The focus is no accident: Women and youth are biological categories. And biologically rooted behavioral differences combine relatively easily with an economic theory of social processes. But the question is not whether women and youth are biologically different from prime-age males; the relevant question is whether their labor market behavior is a result of those biological differences. Because that behavior has varied historically, is currently undergoing significant change, and is demonstrably linked to social institutions like marriage, laws governing military service, school attendance, and the like, it seems doubtful that it can be biologically explained. The doubt that biological differences explain labor market segmentation is strengthened by the fact that other groups with a marginal labor force attachment are not biologically based: Worker-peasants, temporary migrants, even aspiring actors and artists play labor force roles similar to those of women and youth. Hence, it would appear that one needs a social, not a biological, theory to explain labor market segmentation. And most social theories do not combine so easily with the conventional paradigm.

Much the same can be said of institutional “imperfections” as an explanation of labor market segmentation. The conventional paradigm has no theory of such imperfections. In their face, it switches from a positive to a normative mode. It can explain behavior in their absence. And, in their presence, it prescribes their elimina-

tion. But it has no coherent theoretical story about where imperfection came from and how it should be gotten rid of. Labor market imperfections invariably involve cohesive institutions, and any argument about the imperfections that one wants to eliminate would imply something about other cohesive institutions, like the family and the firm, which are taken as the building blocks of economics and which the theory does not—indeed could not—get rid of.

If labor market segmentation ultimately cannot be encompassed by the conventional paradigm, to what paradigm does it belong? At the core of labor market segmentation are social groups and institutions. The processes governing allocation and pricing within internal labor markets are social, opposed either to competitive processes or to instrumental calculations. The marginal labor force commitment of the groups which creates the potential for a viable secondary sector of a dual labor market is social. The structures which distinguish professional and managerial workers from other members of the labor force and provide their distinctive education and training are also social. To understand these phenomena, one therefore needs a paradigm which recognizes and encompasses social, as opposed to individual, phenomena. □

—FOOTNOTE—

<sup>1</sup>Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 2d. ed. (Chicago, University of Chicago Press, 1970).

## Are long-duration contracts insurance against strikes?

SANFORD M. JACOBY AND DANIEL J.B. MITCHELL

Evidence indicates that wage contracts in the union sector are typically multiyear, while the nonunion sector remains on either a 1-year decision cycle, or no fixed cycle at all. It is difficult to argue that long-term union contracts merely reflect the long-term nature of implicit contracts, given the union/nonunion duration discrepancy. An alternative explanation is that the cost of strikes in the union sector accounts for the difference. Ultimately, it is the ability of the union to impose strike costs that accounts for union wage premiums and other concessions from employers. Thus, it is reasonable to assume that strike costs influence the union contract's duration as well as its contents.

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The usual explanation for the development of the multiyear union contract is that it reduced the negotiation frequency and, hence, exposure to strike risk.<sup>1</sup> However, available data on strikes do not suggest that unionized employers reduced annual strike frequency or worktime lost to strikes by signing longer-duration contracts.

In fact, there is a slight upward trend in wage strikes per member during the period when contract durations were increasing, somewhat counterbalanced by a decline in other-issue strikes per member. No trend is evident for the other measures pertaining to wage strikes: worker involvement in strikes and days lost per member fell in the 1960's but rose in the 1970's; worker involvement and days lost per member rose for other-issue strikes in the 1960's, but declined or stabilized in the 1970's. There is no evidence that employers obtained a reduction in long-term "downtime" due to strikes by lengthening their union contract durations.

If the threat of strikes influenced contract duration, it must be through the avoidance of uncertainty and fixed (rather than variable) costs due to strikes. Contracts of long duration facilitate long-run investment and production planning by making labor costs more predictable. Also, firms can undertake multiyear projects with reasonable certainty that they will not be interrupted by work stoppages. For example, General Motors signed its first multiyear agreement with the UAW in 1948 during a crucial period when it was bringing into production its new models.<sup>2</sup>

There also are fixed strike costs which can be amortized over a longer period if contract expirations occur less frequently. A firm must put its customers on notice that a strike may occur each time it renegotiates a contract. There are shutdown and startup costs unrelated to the duration of a strike. Few firms provide detailed estimates of strike costs, but data are available from a large manufacturer of metal products. The data show the expected costs of an impending strike to be "front-loaded." That is, the cost of a projected 4-month strike was highest during the first month and declined over the course of the next 3 months. Clearly the firm would prefer a 3-month strike every 3 years to three 1-month strikes during the same period.<sup>3</sup> Negotiations entail fixed costs as well since they absorb an organization's time and resources. In a 1949 survey, many industrial relations executives reported preferring 2-year to shorter agreements, because they reduced the amount of time spent in negotiations.<sup>4</sup>

In the postwar period, pressure to lengthen contract duration appeared to come mainly from the management side. Of course, reducing the frequency of negotiations may result in savings for unions, too. However, there was reluctance by union officials to give up the appearance of an annual "delivery" of benefits. Hence,

unions demanded concessions such as union-security clauses in return for longer contracts.

The relationship between strike costs and agreement duration is not new. Most pre-World War I lengthy contracts contained no-strike clauses. One 5-year contract signed in 1910 provided that strikes would be renounced in favor of arbitration,

"... to the end that fruitless controversy shall be avoided and good feeling and harmonious relations be maintained, and the regular and orderly prosecution of the business in which the parties have a community of interest be insured beyond the possibility of an interruption."<sup>5</sup>

But if this relationship is not new, why did mean contract durations increase after World War II? Long-duration contracts are a product of a mature relationship in which the parties have bargained for a number of years.<sup>6</sup> Employers are reluctant to sign a lengthy agreement until they have accepted the union as a permanent feature and are convinced of the union's integrity with regard to its no-strike promise. When contract duration in renewed agreements is compared with initial agreements, the initial agreements show a clear tendency to be shorter, thus supporting the maturity argument. Extended-duration contracts were not uncommon before World War II. They were most prevalent in industries with a long history of contracting with unions, such as mining, apparel, and printing. In apparel, for example, the proportion of agreements of 2 or more years' duration approached modern levels before World War II.

Between 1935 and 1945, collective bargaining on a wide scale was introduced to a variety of industries such as rubber, transportation equipment, and metals. Relatively few contracts in these industries were of extended duration during this period. But mean contract duration rose steadily after the war as these newer relationships matured. By 1961, there was little difference in the propensity of new and old relationship industries to sign long-duration contracts. □

—FOOTNOTES—

<sup>1</sup> Joseph W. Garbarino, *Wage Policy and Long-Term Contracts* (Washington, The Brookings Institution, 1962), p. 89.

<sup>2</sup> Frederick H. Harbison, "The General Motors-United Auto Workers Agreement of 1950," *Journal of Political Economy*, October 1950, p. 402.

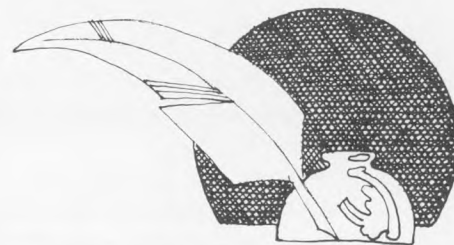
<sup>3</sup> John G. Hutchinson, *Management Under Strike Conditions* (New York, Holt, Rinehart and Winston, 1966), p. 59.

<sup>4</sup> W.S. Woytinsky, *Labor and Management Look at Collective Bargaining* (New York, Twentieth Century Fund, 1949), pp. 46-48.

<sup>5</sup> Contract between Chicago Local of the American Newspaper Publishers' Association and Chicago Typographical Union No. 16, in 1910.

<sup>6</sup> Sanford M. Jacoby and Daniel J.B. Mitchell, "Development of Contractual Features of the Union-Management Relationship," *Labor Law Journal*, vol. 33, August 1982, pp. 513-16.

# Communications



## The use of worklife tables in estimates of lost earning capacity

DAVID M. NELSON

A March 1982 *Monthly Labor Review* article by Shirley J. Smith updated Bureau of Labor Statistics worklife expectancies of the population, using 1977 data.<sup>1</sup> Such statistics are frequently employed by economists and attorneys when preparing estimates of future lost earnings for personal injury and wrongful death cases.

The general procedure is for worklife estimates to be added to an individual's age at time of injury or death in order to estimate his or her probable age at final separation from the labor force (through retirement or death), had the injury or death not occurred. The probable age at final separation less the individual's current age is used to represent the years the person had potentially available for work. This is then used as the basis for calculating any economic loss of earning capacity. The courts have generally instructed that the estimate of loss be based on the worker's earning capacity—that is, potential earnings if he or she were to have been employed on an ongoing basis until retirement. Thus, the possibility of voluntary periods of inactivity during the working years prior to final separation should not reduce the loss estimate.

It is apparent that the above procedure represents an inappropriate use of the new worklife tables, because the new estimates using the increment-decrement model represent only the years actually spent in the labor force. As Smith's article points out, for increasing numbers of individuals, working life is not continuous, but is spread over a greater number of years of potential economic activity. What is needed for purposes of litigation are estimates of the median age of final separation for individuals of both sexes at various ages. Such estimates have been prepared for this communication, and are presented in table 1.

The probability of net final separation from the labor force at each stated age in the table was determined us-

ing data contained in the Bureau's complete 1977 increment-decrement working life tables. It was computed by dividing total labor force separations minus accessions at each age by the active population at that age. Separations include those who were active in the labor force

**Table 1. Determination of the median age of final separation from the labor force, by sex and age, 1977**

Age	Men			Women		
	Probability of net final separation at stated age	Median number of years until final separation	Median age at final separation	Probability of net final separation at stated age	Median number of years until final separation	Median age at final separation
Under 24	—	—	61.5	—	—	61.0
24	—	37.5	61.5	.00532	37.0	61.0
25	—	36.5	61.5	.00769	36.0	61.0
26	—	35.5	61.5	.00934	35.1	61.1
27	—	34.5	61.5	.01120	34.1	61.1
28	—	33.5	61.5	.01190	33.2	61.2
29	—	32.5	61.5	.01086	32.3	61.3
30	—	31.5	61.5	.00513	31.4	61.4
31	—	30.5	61.5	-.00294	30.4	61.4
32	.00016	29.5	61.5	-.01179	29.4	61.4
33	.00107	28.5	61.5	-.01208	28.3	61.3
34	.00097	27.5	61.5	-.01208	27.2	61.2
35	.00138	26.5	61.5	-.00835	26.1	61.1
36	.00251	25.5	61.5	-.00291	25.1	61.1
37	.00361	24.6	61.6	-.00159	24.1	61.1
38	.00264	23.6	61.6	-.00082	23.1	61.1
39	.00389	22.6	61.6	.00033	22.1	61.1
40	.00546	21.6	61.6	.00025	21.1	61.1
41	.00587	20.7	61.7	.00230	20.1	61.1
42	.00585	19.7	61.7	.00304	19.1	61.1
43	.00711	18.7	61.7	.00638	18.1	61.1
44	.00826	17.8	61.8	.00846	17.1	61.1
45	.00905	16.8	61.8	.01159	16.2	61.2
46	.00967	15.9	61.9	.01343	15.3	61.3
47	.01341	14.9	61.9	.01564	14.4	61.4
48	.01579	14.0	62.0	.01793	13.5	61.5
49	.01639	13.1	62.1	.02258	12.6	61.6
50	.01764	12.2	62.2	.02706	11.8	61.8
51	.01961	11.3	62.3	.02857	10.9	61.9
52	.02193	10.4	62.4	.02897	10.1	62.1
53	.02538	9.6	62.6	.03041	9.3	62.3
54	.02967	8.7	62.7	.03236	8.5	62.5
55	.03377	7.9	62.9	.03847	7.7	62.7
56	.03752	7.1	63.2	.04620	6.9	62.9
57	.04521	6.3	63.3	.05984	6.1	63.1
58	.06081	5.5	63.5	.07247	5.5	63.5
59	.08181	4.8	63.8	.08674	4.8	63.8
60	.11344	4.2	64.2	.11210	4.3	64.3
61	.14209	3.7	64.7	.13711	3.9	64.9
62	.16281	3.5	65.5	.16203	3.6	65.6
63	.17901	3.2	66.2	.17578	3.5	66.5
64	.19756	3.0	67.0	.18100	3.5	67.5
65	.20736	3.1	68.1	.18265	3.6	68.6
66	.20697	3.3	69.3	.17550	3.8	69.8
67	.19495	3.5	70.5	.17262	3.9	70.9
68	.18207	3.7	71.7	.16491	4.0	72.0
69	.16953	3.9	72.9	.15698	4.1	73.1
70	.16875	4.0	74.0	.15929	4.0	74.0
71	.15576	4.0	75.0	.15710	4.0	75.0

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but who died during the year, plus those who became inactive. For men, separations exceed accessions for the first time at age 32. From this age on, there is, on balance, a net outflow of men from active life. During the early years, this outflow is very small, remaining less than 1 percent until age 47. From the mid-50's on, however, the probability of final separation in any given year accelerates quickly from around 3 percent to a peak of 20.7 percent at age 65.

For women, separations exceed accessions for the first time at age 24 and remain that way through age 30. From age 31 through 38, accessions exceed separations. This can, undoubtedly, be explained by women who leave the work world temporarily during the child-bearing years. During this entire time the net flow of women in and out of the labor force in any given year is very nearly balanced. From age 39 on, separations exceed accessions but the probability of final termination from an active working life in any given year remains less than 1 percent until age 45.

The estimates for median number of years until final separation in table 1 show how many years will elapse from the stated age until 50 percent of the active population of that age has become inactive through death or retirement. This figure was added to the stated age to obtain the median age of final separation from the work

force. Median ages of final separation are remarkably similar for both men and women over the entire spectrum, varying from each other by less than 1 year. Among persons of the same age, men have a higher final separation age until age 59, and women have a higher separation age thereafter. Increased mortality rates for men during these later years may account for the switch.

One may also compare worklife expectancies of the male and female population with the median number of years until final separation to estimate the median number of years persons will be inactive during their "pre-retirement" years. For a man age 20, it is 4.7 years, but for a woman of the same age, it is 15 years. At age 30, it is 2.3 years for men, while for women it is 11.5 years. At age 40, there are 1.3 years of pre-retirement inactivity for men and 7.4 years for women. The figures indicate that, while men and women do differ significantly in the number of years each group works, there is little difference in the median age at which each group finally withdraws from the labor force. □

— FOOTNOTE —

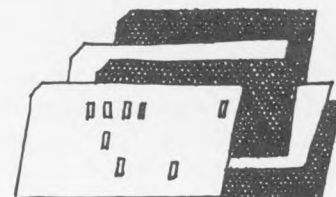
<sup>1</sup> Shirley J. Smith, "New worklife estimates reflect changing profile of labor force," *Monthly Labor Review*, March 1982, pp. 15-20.

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#### A note on communications

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

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## Comparing annual and weekly earnings from the Current Population Survey

NANCY RYTINA

Information on both annual and usual weekly earnings of full-time wage and salary workers is available from the Current Population Survey (CPS). The annual data are collected each March from the entire household survey sample as part of the supplemental questions on work experience and income in the previous calendar year. In contrast, the weekly earnings data are obtained each month from one quarter of the CPS sample as part of the regular survey on employment and unemployment.<sup>1</sup> To increase the reliability of the weekly data, the data are aggregated into quarterly and annual averages, which show trends in earnings.<sup>2</sup>

Because the weekly data are available before the annual March data for a given year, questions have arisen regarding the comparability between the two earnings series. In particular, it has often been asked how closely annualized weekly earnings (usual weekly earnings times 52) approximate reported annual earnings.

This report evaluates the comparability of the series in two ways. First, the reported 1981 earnings of men and women who worked full time, year round in 50 occupations are compared with the estimated annual earnings of all full-time workers in those occupations. The estimates for the latter series are obtained by taking the annual averages of the usual weekly earnings times 52. Second, the ratio of women's earnings to men's is calculated, using both reported annual and average usual weekly earnings for 1981.

### Estimated earnings lower

The first two columns of tables 1 and 2 show the reported annual earnings and annual averages of the usual weekly earnings in 1981 for men and for women. The third column shows the estimated annualized weekly earnings (usual weekly earnings times 52). Column 4 in each table presents ratios of annualized weekly earnings

to reported annual earnings. A ratio of 1.00 indicates that annualized weekly earnings are the same as the estimate of annual earnings, while a ratio greater than (less than) 1.00 indicates that annualized weekly earnings are more than (less than) reported annual earnings.

The ratios of annualized weekly earnings to annual earnings range from .67 to 1.14. In most occupations the estimate of annual earnings based on usual weekly earnings is less than the reported earnings of those who actually worked the whole year. It is also apparent that the degree of such understatement is greater for men than for women. Moreover, the ratios do not vary systematically by sex and occupation; for men, they range from a low of .81 for transport equipment operatives to 1.06 for miners, and for women, from a low of .81 for protective service workers to a high of 1.14 for personal service workers.

A number of basic differences between the two earnings series should be noted. First, both estimates of earnings vary because of sampling error. The standard error is a measure of the extent to which a sample is representative of the universe and tends to vary inversely with the size of the sample. The weekly data generally have smaller standard errors because the households surveyed are triple the number in the annual survey.<sup>3</sup>

Second, while the reference period for the weekly data is the previous week, it is 2 to 14 months earlier for the annual data. As a result, the annual data are more affected than the weekly data by the ability of respondents to recall events. Moreover, the annual data relate to all jobs held during the reference year, whereas the weekly data relate only to primary jobs. Moonlighting is typical of only a small percentage of workers—4.9 percent in May 1980 (the most recently available figure).<sup>4</sup> For those holding more than one job, total annual earnings as reported in March should, of course, exceed an annualized estimate derived from average weekly earnings. Moreover, the annualized estimate will result in a greater understatement of earnings for men than for women because moonlighting is more common among men. In May 1980, the dual and multiple job-holding rate for men was 5.8 percent and for women, 3.8 percent.

Third, the occupation to which earnings are assigned in the March CPS is that of the longest job held during the previous year, while in the weekly data it is that of the primary job. For most workers, the primary and

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longest jobs are the same; only about 10 percent of workers change occupations in a year.<sup>5</sup> Annualized weekly earnings and reported annual earnings will thus vary to the extent that earnings from the longest job differ from the earnings of the primary job held the rest of the year.

Fourth, the weekly data refer to "usual" earnings, rather than "actual." Among workers employed the same number of hours each week, usual and actual weekly earnings should be identical. However, for work-

ers with irregular hours from either overtime or part-time work, usual and actual weekly earnings will tend to vary. This possible exclusion of overtime earnings in reporting usual weekly earnings would also lead to an annualized figure that falls short of actual annual earnings. Because men are more likely than women to work overtime, this would tend to lead to a greater underestimation of men's annual earnings.

Fifth, income from self-employment in incorporated businesses is included in the annual data and excluded

**Table 1. Median weekly and annual earnings of male full-time wage and salary workers by occupation, 1981**

Occupation	Weekly earnings	Annual earnings	Weekly earnings times 52	Ratio of weekly (times 52) to annual earnings
Total	\$346.74	\$20,593	<sup>3</sup> \$18,030	0.88
Professional and technical workers	439.26	25,350	<sup>3</sup> 22,842	.90
Engineers	547.13	31,069	<sup>3</sup> 28,451	.92
Physicians, dentists, and related practitioners	494.95	38,504	<sup>3</sup> 25,737	.67
Health workers, except practitioners	331.19	16,389	<sup>3</sup> 17,222	1.05
Teachers, except college and university	384.37	20,369	19,987	.98
Engineering and science technicians	371.00	21,690	<sup>3</sup> 19,292	.89
Other professional and technical workers	443.34	( <sup>1</sup> )	23,054	( <sup>1</sup> )
Managers and administrators, except farm	466.28	26,656	<sup>3</sup> 24,247	.91
Salaried workers, manufacturing	558.22	30,444	<sup>3</sup> 29,027	.95
Salaried workers, other industries	440.82	( <sup>1</sup> )	22,923	( <sup>1</sup> )
Salesworkers	365.67	22,144	<sup>3</sup> 19,015	.86
Retail trade	258.65	15,948	<sup>3</sup> 13,450	.84
Other industries	421.29	24,599	<sup>3</sup> 21,907	.89
Clerical workers	327.67	18,728	<sup>3</sup> 17,039	.91
Bookkeepers	320.37	18,065	<sup>3</sup> 16,659	.92
Office machine operators	324.39	16,062	16,868	1.05
Stenographers, typists, and secretaries	290.58	( <sup>2</sup> )	15,110	( <sup>2</sup> )
Other clerical workers	328.23	19,065	<sup>3</sup> 17,068	.90
Craft and kindred workers	359.93	20,458	<sup>3</sup> 18,716	.91
Carpenters	324.86	16,635	16,893	1.02
Other construction craftworkers	371.72	20,480	<sup>3</sup> 19,329	.94
Blue-collar supervisors, not elsewhere classified	408.57	24,097	<sup>3</sup> 21,246	.88
Machinists and job setters	359.33	19,022	<sup>3</sup> 18,685	.98
Metal craftworkers, except mechanics, machinists, and job setters	411.17	22,555	<sup>3</sup> 21,381	.95
Mechanics, automobiles	287.03	16,305	<sup>3</sup> 14,926	.92
Mechanics, except automobiles	348.33	20,074	<sup>3</sup> 18,113	.90
Other craft and kindred workers	359.53	20,859	<sup>3</sup> 18,696	.90
Operatives, except transport	298.13	16,686	<sup>3</sup> 15,503	.93
Mine workers	412.95	20,194	21,473	1.06
Motor vehicles and equipment	386.33	20,182	20,089	1.00
Other durable goods manufacturing	294.05	16,987	<sup>3</sup> 15,291	.90
Nondurable goods manufacturing	277.13	16,554	<sup>3</sup> 14,411	.87
Other industries	263.83	15,054	<sup>3</sup> 13,719	.91
Transport equipment operatives	306.94	17,425	<sup>3</sup> 15,961	.92
Delivery and route workers	306.09	16,973	<sup>3</sup> 15,917	.94
Other transport equipment operatives	310.87	19,961	<sup>3</sup> 16,165	.81
Nonfarm laborers	243.63	14,690	<sup>3</sup> 12,669	.86
Construction	246.87	12,860	12,837	1.00
Manufacturing	259.46	15,991	<sup>3</sup> 13,492	.84
Other industries	233.98	14,569	<sup>3</sup> 12,167	.84
Private household workers	174.31	( <sup>2</sup> )	9,064	( <sup>2</sup> )
Service workers, except private household	238.08	14,255	<sup>3</sup> 12,380	.87
Cleaning service workers	221.99	12,634	<sup>3</sup> 11,543	.91
Food service workers	186.09	9,618	9,677	1.01
Health service workers	216.12	12,827	<sup>3</sup> 11,238	.88
Personal service workers	223.63	14,018	<sup>3</sup> 11,629	.83
Protective service workers	321.52	19,654	<sup>3</sup> 16,719	.85
Farmworkers:				
Farmers and farm managers	246.42	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Farm laborers and supervisors	180.47	9,016	9,384	1.04
Paid workers	180.47	9,016	9,384	1.04

<sup>1</sup> Although median annual earnings for men employed in these occupations exceeded \$25,000, the medians are reported as \$25,000-plus in the tabulations from which these data are derived.

<sup>2</sup> Data not shown where base is less than 75,000 for annual data or 50,000 for weekly data.

<sup>3</sup> Difference between reported annual earnings and annual averages of weekly earnings times 52 is significant at the .10 level, based on comparability test used by the Bureau of

the Census.

NOTE: Data on annual earnings refer to full-time year-round wage and salary workers and are collected in the March supplement to the Current Population Survey. Weekly earnings data, which are collected monthly in the CPS, refer to the annual average of usual median weekly earnings of full-time wage and salary workers.

in the weekly. The effect of this difference is apparent among male physicians, dentists, and related practitioners. A substantial proportion of workers in these occupations have income from their own incorporated businesses (for example, private practice) as well as from wages and salaries (as received from hospitals and clinics). Annualized weekly earnings thus very much understate reported annual earnings in these occupations. In most other occupations, the proportion of self-employed incorporated workers is quite small, and there is little reason to suppose that annual earnings as estimated from the data on weekly earnings would lead to

a large understatement of reported annual earnings.

Sixth, compositional differences among workers in the two series also arise because of the time reference. The annual data show the earnings of all individuals who were usually employed full time, year round. In contrast, the weekly data provide just a snapshot of the workers who were usually employed full time one week of each month during the year. The annual averages of the weekly data thus relate not only to all persons who worked full time, year round but also those who worked full time part of the year. The latter group consists disproportionately of women and young workers.

**Table 2. Median weekly and annual earnings of female full-time wage and salary workers by occupation, 1981**

Occupation	Weekly earnings	Annual earnings	Weekly earnings times 52	Ratio of weekly (times 52) to annual earnings
Total	\$224.45	\$12,345	<sup>2</sup> \$11,671	0.95
Professional and technical workers	315.55	16,312	16,409	1.01
Engineers	370.84	( <sup>1</sup> )	<sup>2</sup> 19,284	( <sup>1</sup> )
Physicians, dentists, and related practitioners	400.64	( <sup>1</sup> )	<sup>2</sup> 20,833	( <sup>1</sup> )
Health workers, except practitioners	313.87	16,471	16,321	.99
Teachers, except college and university	310.98	15,769	<sup>2</sup> 16,171	1.03
Engineering and science technicians	279.22	14,371	14,519	1.01
Other professional and technical workers	320.91	16,627	16,687	1.00
Managers and administrators, except farm	283.31	15,432	<sup>2</sup> 14,732	.95
Salaried workers, manufacturing	312.44	16,367	16,247	.99
Salaried workers, other industries	280.54	15,331	<sup>2</sup> 14,588	.95
Salesworkers	190.04	11,395	<sup>2</sup> 9,882	.87
Retail trade	157.64	8,833	<sup>2</sup> 8,197	.93
Other industries	277.11	14,861	14,410	.97
Clerical workers	219.69	11,929	<sup>2</sup> 11,424	.96
Bookkeepers	222.39	12,315	<sup>2</sup> 11,564	.94
Office machine operators	223.17	12,102	<sup>2</sup> 11,605	.96
Stenographers, typists, and secretaries	226.15	12,041	<sup>2</sup> 11,760	.98
Other clerical workers	215.30	11,693	<sup>2</sup> 11,196	.96
Craft and kindred workers	239.42	13,275	12,450	.94
Carpenters	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Other construction craftworkers	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Blue-collar supervisors, not elsewhere classified	262.34	14,289	13,642	.95
Machinists and job setters	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Metal craftworkers, except mechanics, machinists, and job setters	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Mechanics, automobiles	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Mechanics, except automobiles	279.28	( <sup>1</sup> )	<sup>2</sup> 14,523	( <sup>1</sup> )
Other craft and kindred workers	214.24	12,008	11,140	.93
Operatives, except transport	187.38	10,191	<sup>2</sup> 9,744	.96
Mine workers	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Motor vehicles and equipment	280.47	( <sup>1</sup> )	<sup>2</sup> 14,584	( <sup>1</sup> )
Other durable goods manufacturing	211.06	11,721	<sup>2</sup> 10,975	.94
Nondurable goods manufacturing	174.63	9,359	<sup>2</sup> 9,081	.97
Other industries	169.39	9,021	8,808	.98
Transport equipment operatives	237.04	12,850	12,326	.96
Delivery and route workers	228.16	13,139	<sup>2</sup> 11,864	.90
Other transport equipment operatives	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Nonfarm laborers	193.20	10,477	10,046	.96
Construction	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Manufacturing	208.59	11,934	10,847	.91
Other industries	182.69	9,652	9,500	.98
Private household workers	104.18	5,216	5,417	1.04
Service workers, except private household	169.82	8,625	<sup>2</sup> 8,831	1.02
Cleaning service workers	167.90	8,337	8,731	1.05
Food service workers	148.35	7,153	<sup>2</sup> 7,714	1.08
Health service workers	184.56	9,860	<sup>2</sup> 9,597	.97
Personal service workers	207.92	9,513	<sup>2</sup> 10,812	1.14
Protective service workers	226.14	14,578	<sup>2</sup> 11,759	.81
Farmworkers:				
Farmers and farm managers	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Farm laborers and supervisors	146.30	( <sup>1</sup> )	7,608	( <sup>1</sup> )
Paid workers	146.30	( <sup>1</sup> )	7,608	( <sup>1</sup> )

<sup>1</sup> Data not shown where base is less than 75,000 for annual data or 50,000 for weekly data.

<sup>2</sup> See footnote 3, table 1.

NOTE: Data on annual earnings refer to full-time year-round wage and salary workers

and are collected in the March supplement to the Current Population Survey. Weekly earnings data, which are collected monthly in the CPS, refer to the annual average of usual median weekly earnings of full-time wage and salary workers.

For example, the 16–24 age group accounted for 19 percent of full-time workers in the weekly series but only 13 percent of those in the annual data. When combined with the fact that young workers are typically in relatively low-paying jobs, their differential weights in the computation of the two series mean that they tend to lower the weekly earnings average more than they do the measures of annual earnings.

Overall, the absence of any clear pattern in the ratios of annualized weekly to reported annual earnings highlights the many dimensions in which the annual and weekly earnings series vary. Both series are affected by sampling error. They differ in terms of the definition of full-time employment, the demographic composition of the workers and the characteristics of the jobs. As a result, it is difficult to isolate any one factor as the reason one ratio is larger (smaller) than another.

### Sex-earnings ratios differ

The usual weekly and reported annual earnings also differ in terms of the ratios of women's earnings to men's. As shown in table 3, the earnings of women are generally closer to those of men when based on the weekly data rather than annual earnings data, although the ratios in the series are not consistent within the same occupation. Thus, for purposes of comparing women's earnings to men's by occupation, it is advisable to use the same series, especially if the sex-earnings ratio is being contrasted among a number of occupations.

As a last observation, the data in table 4 present trends in sex-earnings ratios based on both the annual earnings of full-time, year-round workers and the weekly earnings of full-time workers (ratios are shown only for totals, not by occupation). The annual data are from the March CPS for the period 1955–81, while the weekly data, available only since 1967, are from the May CPS for 1967–78, and from the second quarterly averages of the CPS for 1979–82.

Both series convey the same information: There has been very little change in the ratio of women's to men's earnings. There are, however, slight variations in the trends depicted by the ratios in the two series because of differences in the weekly and annual data noted earlier. The ratios based on the weekly data have always been about 2–5 percentage points above the ratios based on the annual data. Moreover, the ratios within each series have fluctuated by about 3 percentage points. Thus, put in historical context, neither the annual nor weekly CPS earnings series necessarily signifies any real change in women's earnings relative to men's earnings.

THE RESULTS of this research have indicated that the annual averages of weekly earnings when multiplied by

**Table 3. Ratio of women's to men's annual and weekly earnings based on full-time employment by occupation, 1981**

Occupation	Ratio of women's to men's earnings	
	Annual	Weekly
Total	59.9	64.7
Professional and technical workers	64.3	71.8
Engineers	( <sup>1</sup> )	67.8
Physicians, dentists, and related practitioners	( <sup>1</sup> )	80.9
Health workers, except practitioners	100.5	94.9
Teachers, except college and university	77.4	80.9
Engineering and science technicians	66.3	75.2
Other professional and technical workers	( <sup>2</sup> )	72.5
Managers and administrators, except farm	57.9	60.8
Salaried workers, manufacturing	53.8	55.9
Salaried workers, other industries	( <sup>2</sup> )	63.7
Salesworkers	51.4	52.0
Retail trade	55.4	61.0
Other industries	60.4	65.8
Clerical workers	63.7	67.0
Bookkeepers	68.2	69.4
Office machine operators	75.3	68.8
Stenographers, typists, and secretaries	( <sup>1</sup> )	77.1
Other clerical workers	61.3	65.5
Craft and kindred workers	64.9	66.5
Carpenters	( <sup>1</sup> )	( <sup>1</sup> )
Other construction craftworkers	( <sup>1</sup> )	( <sup>1</sup> )
Blue-collar supervisors, not elsewhere classified	59.3	64.1
Machinists and job setters	( <sup>1</sup> )	( <sup>1</sup> )
Metal craftworkers, except mechanics, machinists, and job setters	( <sup>1</sup> )	( <sup>1</sup> )
Mechanics, automobiles	( <sup>1</sup> )	( <sup>1</sup> )
Mechanics, except automobiles	( <sup>1</sup> )	80.2
Other craft and kindred workers	57.6	59.4
Operatives, except transport	61.1	62.9
Mine workers	( <sup>1</sup> )	( <sup>1</sup> )
Motor vehicles and equipment	( <sup>1</sup> )	72.5
Other durable goods manufacturing	69.0	71.8
Nondurable goods manufacturing	56.5	63.2
Other industries	59.9	64.0
Transport equipment operatives	73.7	77.2
Delivery and route workers	77.4	74.5
Other transport equipment operatives	( <sup>1</sup> )	( <sup>1</sup> )
Nonfarm laborers	71.3	79.3
Construction	( <sup>1</sup> )	( <sup>1</sup> )
Manufacturing	74.6	80.7
Other industries	66.3	78.2
Private household workers	( <sup>1</sup> )	( <sup>1</sup> )
Service workers, except private household	60.5	71.3
Cleaning service workers	66.0	75.6
Food service workers	74.4	79.7
Health service workers	76.9	85.4
Personal service workers	67.9	80.0
Protective service workers	74.2	70.3
Farmworkers:		
Farmers and farm managers	( <sup>1</sup> )	( <sup>1</sup> )
Farm laborers and supervisors	( <sup>1</sup> )	( <sup>1</sup> )
Paid workers	( <sup>1</sup> )	( <sup>1</sup> )

<sup>1</sup> Not available.

<sup>2</sup> Not computed. Although median annual earnings for men employed in these occupations exceeded \$25,000, the medians are reported as \$25,000-plus in the tabulations from which these data are derived.

NOTE: Data on annual earnings refer to full-time year-round wage and salary workers and are collected in the March supplement to the Current Population Survey. Weekly earnings data, which are collected monthly in the CPS, refer to the annual average of usual median weekly earnings of full-time wage and salary workers.

52 are generally less than the reported annual earnings of men and women by occupation. Moreover, the ratio of women's earnings to men's, although slightly higher when based on the weekly rather than annual data, shows about the same trend. Both series have their

**Table 4. Ratio of women's to men's annual and weekly earnings based on full-time employment, 1955-82**

Year	Annual	Weekly
1955	64	( <sup>1</sup> )
1956	63	( <sup>1</sup> )
1957	64	( <sup>1</sup> )
1958	63	( <sup>1</sup> )
1959	61	( <sup>1</sup> )
1960	61	( <sup>1</sup> )
1961	59	( <sup>1</sup> )
1962	60	( <sup>1</sup> )
1963	60	( <sup>1</sup> )
1964	60	( <sup>1</sup> )
1965	60	( <sup>1</sup> )
1966	58	( <sup>1</sup> )
1967	58	62
1968	58	( <sup>1</sup> )
1969	61	61
1970	59	62
1971	60	62
1972	58	63
1973	57	62
1974	59	61
1975	59	62
1976	60	62
1977	59	62
1978	59	61
1979	60	62
1980	60	63
1981	60	64
1982	( <sup>1</sup> )	65

<sup>1</sup> Not available.

NOTE: Data on annual earnings refer to full-time, year-round wage and salary workers and are collected in the March supplement to the Current Population Survey. Weekly earnings data, which are collected monthly in the CPS, refer to usual median weekly earnings of full-time wage and salary workers. Data shown for the years 1967-78 were collected in May; for 1979-82, they are second quarter averages.

strengths and weaknesses. The purposes for which the data are to be used thus largely determine whether the annual or weekly data are more appropriate. □

## FOOTNOTES

<sup>1</sup> Prior to 1979, comparable weekly earnings data were collected in the May CPS.

<sup>2</sup> Quarterly data on weekly earnings from the CPS are published in the press release, "Weekly Earnings of Workers and Their Families." For annual averages of weekly earnings, see *Analyzing 1981 Earnings Data from the Current Population Survey*, Bulletin 2149 (Bureau of Labor Statistics, 1982). For uses of reported annual earnings data, see *Linking Employment Problems to Economic Status*, Bulletin 2123 (Bureau of Labor Statistics, 1982); and Sylvia L. Terry, "Unemployment and its effect on family income," *Monthly Labor Review*, April 1982, pp. 35-43. Also, the Bureau of the Census regularly publishes the reported annual earnings data as part of the Current Population Reports P-60 Series.

<sup>3</sup> The sample size for the monthly CPS is about 60,000 households. Thus, one quarter or 15,000 times 12 equals about 180,000 households as the base for the annual averages. For further discussion, see *Technical Description of the Quarterly Data on Weekly Earnings from the Current Population Survey*, Bulletin 2113 (Bureau of Labor Statistics, 1982).

<sup>4</sup> See Daniel E. Taylor and Edward S. Sekscenski, "Workers on long schedules, single and multiple jobholders," *Monthly Labor Review*, May 1982, pp. 47-53.

<sup>5</sup> See Nancy F. Rytina, "Occupational changes and tenure, 1981," *Monthly Labor Review*, September 1982, pp. 29-33.

## Unemployment experience in Canada: a 5-year longitudinal analysis

SUNDER MAGUN

This report presents a picture of Canadian joblessness over 5 years and reveals serious chronic unemployment. In a 1975-79 longitudinal analysis, we used three indicators: total amount of all unemployment across all spells over the period; the number of unemployment spells per person; and the average duration of such a spell. Also, we considered sex, age, province, industry, and occupation. Among our findings:

- A few bear the greatest unemployment burden;
- The people with histories of hardcore unemployment are at a relatively greater disadvantage in the labor market and risk further episodes of chronic unemployment;
- Long-term spells are relatively few but account for much greater unemployment than would be expected on the basis of probability.

We find that the long-run structure of unemployment in Canada is not consistent with the "dynamic" or the "turnover" view of the labor market. According to this view, the characteristics of the unemployment problem are rapid job turnover and brief spells of unemployment, and the burden of unemployment is not concentrated, but is widely shared among workers. This "benevolent" viewpoint of unemployment contends that unemployment is mainly frictional and voluntary. The benign view, by rejecting the existence of chronic and persistent unemployment, de-emphasizes the social and economic costs of joblessness. Our results do not support the turnover view. As noted, there are, in fact, three aspects of the real problem of unemployment in the country.

We used the linked Longitudinal Labour Force Data Base, which is composed of several administrative data files of the Canada Unemployment Insurance Commission. This data base contains microdata on the labor market experience of a 10-percent sample of all "insured" workers.<sup>1</sup> A sample of about 20,200 people who had at least one episode of unemployment from 1975 to 1979 was drawn from the data set. These individuals had filed regular unemployment insurance claims<sup>2</sup> for about 56,000 job separations over the 5-year span. The sample is a representation of Canadian workers who have relatively more difficulties in the labor market and

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who are often clients of the Commission's manpower programs.

### Who are the unemployed?

The bulk of the unemployment burden falls on a small proportion of workers. About 25 percent of unemployed individuals accounted for almost half of the total time lost because of unemployment between 1975 and 1979. Each individual in this group experienced, on average, 2 years of unemployment, consisting of repeated and long spells of joblessness. This concentration of unemployment was not confined to a particular sex, age, or regional group but occurred among male, female, young, and adult workers in all regions.

There are, however, important regional differences in the distribution of unemployment burden. In a region where the unemployment rate is high, unemployment is more equally shared. In the Atlantic region, the top one-quarter of workers accounted for 45 percent of total unemployment, compared with 57 percent in the Prairie region. Therefore, the unemployment burden is somewhat more equally shared in the Atlantic region than in the Prairie provinces. This is because unemployment is more widespread in the former region than in the latter.

We define the chronically unemployed as individuals with 27 weeks or more of unemployment during a given year without regard to the number of times they were out of work. Persons with less than 27 weeks of total unemployment we consider short-term unemployed, and those with no spells of unemployment during the given year we define as not unemployed.

The chronically unemployed as a proportion of the sample, ranged from 12.5 percent in 1975 to 17.8 percent in 1978, reflecting worsening economic conditions. Of great significance are the large movements of people among the three labor force categories. For example, a worker might be chronically unemployed in 1975, not unemployed in 1976, jobless for the short term in 1977, and then chronically unemployed again.

Despite these intergroup movements, a subgroup of individuals who remained over time in a given status had little likelihood of leaving the group. This aspect of unemployment experience can be expressed in terms of conditional probability. By creating a probability tree we can track the labor market experience of certain groups of individuals. We have constructed two probabilities trees—one relates to a cohort of the long-term unemployed and the other to a cohort of the short-term unemployed during the 4-year period, 1975–78. Both trees show the influence of hardcore unemployment.

A comparison of the two probability distributions reveals an important finding: those chronically unemployed in 1975 had a much greater likelihood of repeating their experience in the following 3 years than did the short term unemployed in 1975. The probabili-

ties of a period of prolonged joblessness (27 weeks or more) were 51 percent compared with only 27 percent for the 1975 short-term unemployed cohort. Moreover, the 1975 cohort of chronically unemployed had a five times greater probability of annual long-term unemployment than the 1975 cohort of short-term unemployed.

A sequence of chronic unemployment may have a cumulative effect by worsening job skills. If a person is chronically unemployed in 1976 as well as 1975, his or her chance of becoming so in 1978 is almost 50 percent, compared with only 15 percent for the short-term unemployed. Furthermore, if an individual is also chronically out of work in 1977, his or her risk in 1978 is 64 percent, compared with 12 percent for the short-term unemployed in 1975, 1976, and 1977.

Most of the spells of unemployment are less than 21 weeks. Longer spells are relatively fewer but account for much greater unemployment. Although this would be expected on theoretical grounds, the effect was substantially larger than would be expected on the basis of chance alone.

During 1975–79, the Canadian unemployment rate rose from 6.9 percent in 1975 to 8.4 percent in 1978. By quantifying the relationship between the unemployment rate and the unemployment experience over the 5-year period, we find that a 1-percentage-point increase in the unemployment rate reflected, on average, a rise in unemployment frequency by four-tenths of a spell, duration of a spell by 2.3 weeks, and length of total unemployment by almost 10 weeks.

A closer examination of unemployment spells shows that with increasing unemployment spell length, the probability of leaving unemployment and finding a job first decreases until the spell length reaches 26 weeks, but increases up to a length of 40 weeks, because of stricter benefit control activity of the Unemployment Insurance Program, and then drops off sharply. As noted, the majority of spells are 1 to 26 weeks. An important finding is the sharp decline in the probability of employment after 40 weeks. The individual with such a long spell of unemployment may have greater problems in finding a job, or may not be actively searching for employment in the labor market.

As mentioned, we investigated how unemployment experience—measured in total length of unemployment, spell incidence, and duration—is distributed among individuals by sex, age, province, industry, and occupation. The total duration of unemployment for men was lower than that for women; so were the number of unemployment spells per person and spell length. The main reason the male worker fared better than the female worker is that the spell length for the former is shorter, on average. This could be because men are subject to more layoffs and the length of those spells which start with layoffs is relatively shorter.

With regard to age, we find two fundamental tendencies in the labor market:

- The spell *frequency* decreases with age, first slowly and then rapidly after age 44.
- The spell *length* increases with age, first slowly and then sharply after age 40.

The offsetting influences of these two tendencies determine the variation in total duration of unemployment by age group. The duration first drops with age, then increases for the 35 to 44 age group and finally falls sharply for the older age groups (45 years and over). In general, spell frequency has a more pronounced influence than increasing spell length on total unemployment.

In keeping with the overall unemployment rates, people in the Atlantic provinces and Quebec suffered greater unemployment with more frequent and more prolonged spells. Those in Ontario and the Western provinces, however, incurred fewer and shorter spells of unemployment.

The disparity in unemployment experience by industry is not as great as the disparity by province. Greater unemployment occurred in primary industries, including farming, forestry, and fishery, mainly because of seasonal factors. Both the average number of spells and the length of each spell were substantially higher than the national averages. The workers in the construction industry had more unemployment, largely because of the frequency of joblessness, while those in finance, insurance, and real estate, and trade, experienced relatively less unemployment principally because of fewer episodes per person. In general, we found more and shorter spells of unemployment in the goods-producing industries than in the service sector. In the latter sector, the spells are longer because of relatively more quits by people who often search longer for a job in the labor market. By contrast, there are relatively more layoffs in the goods sector, and workers often find reemployment faster.

The analysis of unemployment experience by occupation indicates fairly large disparities. People working in managerial or professional positions; clerical, sales, machining, or product fabricating occupations, and other crafts experience less unemployment, whereas those whose work involves construction; processing; primary industries; transport equipment; or material handling experience more unemployment. These dissimilarities in unemployment experience by occupation come mainly from the differences in spell frequencies rather than from spell durations.

As we have suggested, most unemployment is not short term. On the contrary, the burden falls mainly on a small proportion of workers experiencing repeated and long spells of unemployment. For these workers,

we would recommend intensive and carefully targeted employment and training programs. □

— FOOTNOTES —

<sup>1</sup> Unemployment, as measured by weeks on regular unemployment insurance claim, constitutes the bulk of unemployment in Canada owing to the almost universal nature of the Unemployment Insurance Program.

<sup>2</sup> Regular claims exclude sickness, maternity, retirement, fishing, and Adult Occupational Training Act claims.

## Labor organizations directory for 1978–80 is published

The biennial *Directory of National Unions and Employee Associations*, published by the Bureau of Labor Statistics, was discontinued as part of the overall BLS budget reduction last year. The Bureau of National Affairs, Inc., has published the *Directory of U.S. Labor Organizations, 1982–83 Edition*, incorporating data compiled by BLS's Division of Developments in Labor-Management Relations. The statistics include previously unpublished data which have been available to the public.

The 99-page directory combines two separate, discontinued government surveys of labor organization membership into one edition. In one chapter, membership estimates are based on information provided voluntarily to BLS in 1981 by the individual labor organizations. In a separate chapter, membership estimates are based on the May 1980 Current Population Survey on labor organization membership, conducted for BLS by the Bureau of the Census. As did the BLS directory, the new directory contains a chapter on the structure of the AFL-CIO, other federations, and independent labor organizations, and a listing of approximately 250 national labor organizations, their officers, addresses, and other pertinent information.

During the past few years, total membership of organized labor has been decreasing, while the total labor force has been increasing. Labor organization membership in the United States dropped by 391,000 to 22,366,000 during 1978–80 (or to 20.5 percent of the total labor force), according to the union response survey from BLS. Total membership fell 355,000 to approximately 23,883,000 during the same period. Membership estimates based on the Current Population Survey show a greater decline for 1979–80—a drop of 891,000 to 20,095,000.

The *Directory of U.S. Labor Organizations, 1982–83 Edition*, edited by Courtney Gifford, staff editor of BNA's *Daily Labor Report*, is available from BNA Books, Distribution and Customer Service Center, 9401 Decoverly Hall Road, Rockville, Md. 20850. The cost is \$15 per copy. □



# Major Agreements Expiring Next Month



This list of collective bargaining agreements expiring in May 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
Aluminum Co. of America (Interstate)	Primary metals	Aluminum Workers	1,950
Aluminum Co. of America (Interstate)	Primary metals	Auto Workers	10,000
American Enka Corp. (Enka, N.C.)	Chemicals	Textile Workers	1,300
Associated General Contractors of America, Inc.: Inland Empire Chapter, 3 agreements (Washington and Idaho)	Construction	Carpenters; Laborers; and Operating Engineers	1,450
Ohio Building Chapter (Interstate)	Construction	Operating Engineers	4,000
Oklahoma Builders Chapter, 2 agreements	Construction	Carpenters and Laborers	5,000
Oklahoma Builders Chapter (Interstate)	Construction	Iron Workers	1,700
Seattle and Tacoma Chapters (Washington)	Construction	Laborers and Teamsters (Ind.)	11,500
St. Louis Chapter (Missouri)	Construction	Carpenters	4,200
Western Central Area Chapter (Washington)	Construction	Carpenters	9,000
Associated Steel Erectors of Chicago, Illinois	Construction	Iron Workers	2,500
Boston Edison Co. (Massachusetts)	Utilities	Utility Workers	1,900
Brewery Proprietors of Milwaukee, Miller-Pabst (Wisconsin)	Food products	Brewery Workers (D.A.L.U.)	2,700
Champion International Corp., Champion Paper Division (Texas)	Paper	Paperworkers	1,200
Colt Industries, Holley Carburetor Division (Paris, Tenn.)	Machinery	Auto Workers	1,200
Erwin Mills (Durham, N.C.)	Textiles	Textile Workers	1,200
Food Employers Council, Inc. (Las Vegas, Nevada)	Retail trade	Food and Commercial Workers	2,300
Gardner-Denver Co. (Quincy, Ill.)	Machinery	Machinists	1,000
Hayes International Corp. (Alabama)	Transportation equipment	Auto Workers	1,800
International Paper Co., Southern Kraft Division (Interstate)	Paper	Paperworkers and Electrical Workers (IBEW)	8,000
Kaiser Aluminum and Chemical Corp. (Interstate)	Primary metals	Steelworkers	11,000
Kroger Co., Louisville stores (Kentucky)	Retail trade	Food and Commercial Workers	4,800
MARBA and Excavators, Inc. (Illinois)	Construction	Teamsters (Ind.)	1,500
Mechanical Contractors Association of Washington	Construction	Plumbers	2,000
Mechanical Contractors Association of St. Louis (Missouri)	Construction	Plumbers	1,800
Michigan Road Builders Association	Construction	Operating Engineers	2,250
Mid-America Regional Bargaining Association (Illinois)	Construction	Carpenters	25,000
Munsingwear, Inc. (Interstate)	Textiles	Clothing and Textile Workers	1,150
National Electric Contractors Association: Los Angeles County Chapter (California)	Construction	Electrical Workers (IBEW)	5,500
Puget Sound Chapter (Washington)	Construction	Electrical Workers (IBEW)	2,700
Westchester-Fairfield Chapter (Interstate)	Construction	Electrical Workers (IBEW)	1,300
Northern Illinois Ready Mix and Materials Association (Illinois)	Wholesale trade	Teamsters (Ind.)	1,800
Omaha Building Contractors Association (Nebraska)	Construction	Laborers	4,000
Ormet Corp. (Hannibal, Ohio)	Primary metals	Steelworkers	2,000
Plumbing and heating contractors associations (Illinois)	Construction	Plumbers	5,900
Potlatch Corp. (Idaho)	Lumber and wood products	Woodworkers	2,000
Reynolds Metals Co. (Alabama)	Primary metals	Aluminum, Brick and Clay Workers	1,150
Reynolds Metals Co. (Interstate)	Primary metals	Aluminum, Brick and Clay Workers	1,500
Reynolds Metals Co. (Interstate)	Primary metals	Steelworkers	8,000
Robertshaw Controls Co. (California)	Instruments and related products	Auto Workers	1,200

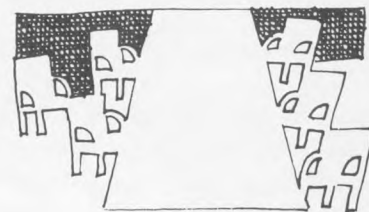
See footnotes at end of table.

Continued—Major Agreements Expiring Next Month

Employer and location	Industry	Labor organization <sup>1</sup>	Number of workers
Sacramento Hotel and Restaurant and Tavern Association (California) . . .	Services . . . . .	Hotel and Restaurant Employees . . . .	1,700
Scott Paper Co. (Alabama) . . . . .	Paper and allied products . . . .	Paperworkers . . . . .	2,600
Simpson Timber Co. (Washington) . . . . .	Lumber and wood products . . . .	Woodworkers . . . . .	1,450
Sunstrand Corp. (Illinois) . . . . .	Machinery . . . . .	Auto workers . . . . .	1,200
Union Camp Corp. (Savannah, Ga.) . . . . .	Paper and allied products . . . .	Paperworkers . . . . .	1,600
Western States Wood Products Employers Association (Interstate) . . . . .	Lumber and wood products . . . .	Woodworkers . . . . .	37,000
Weyerhaeuser Co. (Longview, Wash.) . . . . .	Lumber and wood products . . . .	Paperworkers . . . . .	1,150
Weyerhaeuser Co. (Oregon) . . . . .	Lumber and wood products . . . .	Paperworkers . . . . .	1,200

<sup>1</sup> Affiliated with AFL-CIO except where noted as independent (Ind.).

# Developments in Industrial Relations



## GM, Toyota join to make subcompact car

General Motors Corp. and Toyota Motor Corp. announced plans to jointly produce a new subcompact car, beginning in late 1984. The venture was still being reviewed by the Japanese and U.S. Governments for possible antitrust implications, but it drew immediate praise from the Reagan Administration. During the signing ceremony, an assistant to President Reagan said that the Administration considered the joint venture preferable to mandatory trade restrictions and laws requiring foreign auto manufacturers to use specified amounts of U.S.-made parts in vehicles sold in the United States.

The joint effort also drew backing from Douglas Fraser, president of the Auto Workers' union, which had represented employees of the idle GM plant in Fremont, Calif., that will be used to produce the new car.

Initially there was some question whether UAW members employed in the plant prior to its March 1982 shutdown would receive preference for the expected 3,000 jobs at the new operation. GM Chairman Roger B. Smith subsequently said they would, but he said the issue of whether the plant's employees would be represented by the UAW was not yet settled. The plant, which had produced mid-size cars, had peak employment of 6,800 in 1979, and had 2,500 workers when it closed.

GM and Toyota said that the venture would result in 9,000 new jobs in Japan, and another 9,000 at U.S. companies that will manufacture parts for the new car. However, some auto industry observers were less optimistic, contending that the expected production of 200,000 cars a year might cut into sales of other cars produced by GM and other domestic companies.

The joint venture agreement provides that the new company will be headed by a Toyota official and will use Toyota processes because they are "closer to the manufacturing technologies we are trying to implant here," according to GM Chairman Smith. Both compa-

nies stressed that the joint relationship had a fixed duration of 12 years, and would not be extended to any other plants or vehicles, apparently to reduce the possibility of any antitrust actions. GM's 50-percent share of the \$300 million venture includes the \$120-million value of the Fremont plant.

The accord was generally viewed as beneficial to Toyota because it enables the company to produce cars in the United States at a small cost, compared with Honda Motor Co. and Nissan Motor Co., which recently opened plants in the United States using their own resources. In recent years, foreign auto producers have come under increasing pressure from the U.S. Government and the Auto Workers' union to produce their vehicles for the U.S. market in this country.

Officials of Ford Motor Co. had no immediate comment on the enterprise, but Chrysler Corp. Chairman Lee A. Iacocca called it "fundamentally bad," claiming that it would create "the world's most powerful automotive combine." He also questioned the long-term effects on the U.S. car market, saying that the deal "puts world markets within the dominating grasp of two companies that together already control 25 percent of the world's auto sales."

Meanwhile, Japan extended for another year its voluntary limit on vehicle exports to the United States. During the year beginning April 1, 1983, the Japanese will limit their exports to the United States to 1,680,000 vehicles, the same limit that applied during each of the first 2 years of the program. The Japanese currently hold more than 20 percent of the U.S. auto market.

## Allis-Chalmers, International Harvester accords

There was a breakthrough in the prolonged round of bargaining in the farm and construction equipment industry, as Allis-Chalmers Corp. and the Auto Workers negotiated a 3-year contract that provided for labor cost reductions to aid the company, which lost \$207 million in 1982. One gain for the union was a provision that "such production as occurs by Allis-Chalmers of agricultural tractors will be at the West Allis (Wisc.) plants." Prior to the settlement, the union had been concerned that the company would either shift produc-

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

tion to other plants or sell the operation.

The settlement, which did not provide for any specified pay increases, suspended operation of the automatic quarterly cost-of-living pay adjustment clause for 15 months; reduced the number of paid holidays to 10 a year, from 15; eliminated vacation and Christmas pay bonuses; and reduced Supplemental Unemployment Benefits (combined with State unemployment benefits) to about 70 percent (formerly about 95 percent) of weekly after-tax pay. The company agreed to make a special payment of \$3.5 million into the SUB fund, which had been depleted by layoffs. Currently, the Auto Workers represents about 2,000 workers (including more than 700 on layoff) at the plants, compared with 20,000 in the 1950's.

The accord also covered plants in Memphis, Tenn., and La Porte, Ind. The La Porte plant is scheduled to close at the end of 1983. Affected workers will receive severance pay of \$400 for each year of service up to 30 years.

International Harvester agreed to continue operating its Indianapolis, Ind., foundry in return for Auto Workers' acceptance of a new pay system. The company promised the union that as long as the agreement is in force, "barring unforeseen circumstances, the foundry won't be sold and will remain in operation." The agreement also provided for a group incentive plan under which employees' earnings "will be directly affected by the productivity of the total foundry operations." The agreement has no expiration date, and is a supplement to the national contract the parties negotiated in 1982. (See *Monthly Labor Review*, July 1982, pp. 53-54.)

Elsewhere in the industry, the Auto Workers' strike against Caterpillar Tractor Co. was in its fifth month, and employees of Deere & Co. remained on the job while bargaining continued on replacing a contract that expired September 30, 1982.

### **Tobacco contracts increase wages, benefits**

The Bakery, Confectionery and Tobacco Workers negotiated similar 3-year contracts for 14,000 workers at Philip Morris Inc. and the American Tobacco Co. The accord with Philip Morris, for 10,500 workers at Richmond, Va., and Louisville, Ky., provided for wage increases of 4.2 percent in the first year, 4.1 percent in the second year, and 3.5 percent in the final year. The employees also will continue to receive automatic quarterly cost-of-living adjustments of 1 cent an hour for each 0.3-point movement in the BLS Consumer Price Index for Urban Wage Earners and Clerical Workers (1967=100).

The minimum pension rate was increased to \$21 a month for each year of credited service, from \$16, and workers with 30 years of service may retire at age 53,

instead of 55, without actuarial reduction in pensions. There also were improvements in disability pay, vision and dental care, and paid vacations.

At Philip Morris, wages and benefits were negotiated under provisions of a 9-year agreement negotiated in 1979, which provides for binding arbitration of bargaining stalemates over wages and benefits. In return for giving up the right to strike over these issues, the workers are guaranteed annual pay increases of at least 3 percent, and they receive indexed bonus payments at the time of each wage-and-benefit settlement. The bonus started at \$300 and has now increased to about \$330. The agreement was modeled after the lapsed Experimental Negotiating Agreement, which regulated wage-and-benefit bargaining in the steel industry.

### **Trucking union rejects concession talks**

The Teamsters' union has rejected the trucking industry's request to discuss contract concessions to help counter continuing adverse economic conditions. In a letter to Teamsters' President Roy L. Williams, Trucking Management, Inc. (TMI), the industry's major bargaining arm, asked for an immediate meeting to discuss the industry's deteriorating conditions, citing "a devastating loss of Teamsters' jobs due to companies going out of business and increasing layoffs by companies whose financial losses force drastic measures to continue in business."

A Teamsters' official said that one reason the union's leaders rejected the request was that the industry is in such bad condition that reducing wages and benefits "isn't going to do anybody any good." Another reason, he said, was that the union leaders believed they would have difficulty in "selling" a concession accord, noting that in 1982 workers in the steel industry twice rejected concessions recommended by leaders of the United Steelworkers union.

The Teamsters' decision not to reopen bargaining at this time also apparently stemmed from the fact that the union is still in the process of negotiating new agreements with hundreds of smaller companies which are seeking larger concessions than the union accepted in the March 1982 "national" accord with TMI. (See *Monthly Labor Review*, April 1982, p. 64.) According to this view, if the union negotiates concessions with TMI now, it would lead the independent companies to press for even larger cuts, possibly destroying the more-or-less uniform national wage and benefit levels the union has attained in recent years.

### **Independent truckers' strike ends**

Freight truck owner-operators struck in February, but there was wide disagreement on how many drivers

participated, and the impact of the stoppage. The strike was called by Michael Parkhurst, president of the Independent Truckers Association, which claims to represent 30,000 of the Nation's 100,000 owner-operators. According to Parkhurst, the purpose of the strike was to induce Congress to repeal portions of the Surface Transportation Assistance Act of 1982 which, he claimed, would put an onerous, new financial burden on truckers already experiencing difficulties because of high operating costs and lack of cargo. In particular, he cited a 5-cent-a-gallon increase in gasoline and diesel fuel taxes scheduled for April 1983, and a \$1,360 increase (to \$1,600) in the truckers' annual "use tax" scheduled for July 1985. Parkhurst also called for an increase in the Federal 55-mile-an-hour speed limit, and for Federal legislation limiting the taxes, fees, and restrictions States can impose on truckers, complaining that truckers who operate in the 48 contiguous States must obtain 216 licenses of various types.

Secretary of Transportation Drew Lewis offered to meet with industry representatives to discuss their complaints, but said that, "It is totally unrealistic to expect that we will rescind the 5-cent gas tax, especially when the truckers are some of the biggest beneficiaries and are paying only 73 percent of the cost to repair the damage they cause to the roads."

Initially, Parkhurst predicted that 98 percent of all independent owner-drivers would participate in the strike, but later claimed 50 to 70 percent participation; in contrast, Secretary Lewis said that only about 20 percent of the drivers participated. It was difficult to determine the effect of the strike because some slowdown in shipping was attributed to adverse weather which affected crop shipments from Florida and California. Generally, managers of various terminals said the strike had only a minor effect that diminished as the strike continued.

The stoppage was marked by some violence and damage to truckers. Parkhurst called an end to the strike after about 10 days, when 40 members of Congress signed an "Expression of Concern" which said that a "review of these tax and user fee increases is definitely in order, in our opinion."

The Teamsters union, whose members are directly employed by trucking firms—unlike the independents, who often lease their services and equipment to firms—did not support the stoppage, although it also was seeking similar changes in laws and regulations.

### **Brewery workers retain Machinists union**

Employees of the Miller Brewing Co., Fulton, N.Y., voted to retain the Machinists union as their bargaining agent in the face of a challenge by the Teamsters union. The Machinists then negotiated a 3-year contract for

the workers that included at least \$2.30 an hour in wage increases and a new pension plan.

The wage increases will be effective in the first and second years. In the third year, the wages of the 1,200 workers will be "pegged" to national wage levels in the brewing industry.

Benefits provided by the existing pension plan were frozen, with the company continuing to finance the plan at the rate of 50 cents an hour. In addition, Miller will contribute 25 cents an hour (10 cents in both the first and second years, and 5 cents in the third) to individual accounts for the workers, who can contribute up to 10 percent of their earnings. The accounts will have a guaranteed interest rate of 11.95 percent, and the employees can withdraw the entire amount at retirement.

The Machinists and the Teamsters worked out a national agreement which will end efforts by either union to displace the other as a bargaining agent. However, the agreement does not cover organizing activities that began earlier, or organizing efforts at nonunion operations.

### **General Contractors win pay freeze, rollback**

In a move to reduce a 40-percent unemployment rate among its 19,000 members, the Northern California Council of Laborers signed a 3-year agreement with the Associated General Contractors that reduced wages in 40 counties and froze wages in six counties in the San Francisco area. Council of Laborers' business agent Thomas Clarke said that the concession accord, which ended 8 months of negotiations, was needed because his members were "competing with the (nonunion) people making \$8-\$12 per hour with no fringe benefits." Under the existing agreement, which had been scheduled to run to June 1983, the workers in the 40 counties received pay of \$14.73 an hour. Now, they will receive \$13.73 an hour (plus the existing \$5 an hour in benefits) until June 1984 when the \$1 cut will be restored, to be followed by a raise to \$15.73 a year later.

In the six San Francisco area counties where non-union competition was reportedly not as intense, the workers' pay rate was frozen at \$14.73 until June 1984, when they also will receive the first of two \$1-an-hour annual pay hikes.

The Associated General Contractors consists of 1,600 firms primarily engaged in commercial and high-rise apartment construction. Reportedly, it plans to seek similar assistance from other types of workers. Last year, the Associated General Contractors negotiated a pay freeze at \$17.75 an hour for Carpenters' union members in the San Francisco area, and a rollback to \$16.25 elsewhere in Northern California.

The current agreement was preceded by a Council of Laborers' accord with the Engineering and Grading

Contractors Association of Northern California that provided for the same type of assistance. Members of this association are primarily engaged in highway construction.

### **Workers take pay cut to aid Standard Steel**

Employees of the Standard Steel Co. of Burnham, Pa., agreed to a cut of \$1.70 an hour in wages and benefits. Richard Fisher, an international representative of the United Steelworkers, said the local union officers and leadership "realized that the company is in bad financial condition and we had to do something to help them get out of it to help make our jobs more secure."

Joseph Wapner, Standard Steel's vice president for industrial relations, conceded that the specialty steel company was operating at a higher rate than the industry in general but said the concessions were still vital "to weather the current recession" and to minimize further layoffs. About 1,000 of the plant's 1,900 workers were on layoff.

The \$1.70 concession package included a 56-cent cut in wages, elimination of vacation bonuses, and doubling of medical insurance premiums. The parties also agreed to suspend operation of the automatic cost-of-living pay adjustment clause for 1983.

### **OSHA exempts 'safe' firms from recordkeeping**

In accord with its announced policy of reducing reporting requirements for employers in "safe" industries, the Occupational Safety and Health Administration exempted about 474,000 companies from a requirement that they keep a log of on-the-job injuries and illnesses. The companies are mostly in the retail, financial, and other service industries.

The Department of Labor agency said that the exemption from the recordkeeping requirements of the Occupational Safety and Health Act of 1970 was warranted because about 94 percent of the affected employers have fewer than two job-related injuries per year. The agency also said that the industries met the two criteria for exemption: they are not in OSHA's "targeted" inspection groups that have above-average occupational illness or injury rates, and they are in industries where the injury rate was 75 percent below the private economy average for 1978-80.

A spokeswoman for the AFL-CIO criticized the action, contending that the exemption includes some categories, such as laundries and certain eating and drinking establishments, "whose injury rates are quite high." She also said the exemption was not necessary because compa-

nies that have few injuries would have only a minimum of paperwork.

In another development, the Occupational Safety and Health Administration extended for up to 6 months an experimental consultation program under which employers in seven southern States may be exempt from OSHA inspections for a year. The program, established in July 1982, exempts firms from the usual annual inspection if they request free onsite advice from OSHA-sponsored safety and health consultants and correct any deficiencies that are found. There are no penalties or citations issued for such deficiencies. Assistant Secretary of Labor Thorne G. Auchter said that "preliminary indications from the experiment have been very encouraging" and that employers have been showing increasing interest in the program.

OSHA reports that 1,500 employers had requested consultations as of December 31. The program is available to about 835,000 workplaces employing about 12.7 million people in Alabama, Florida, Georgia, Mississippi, Arkansas, Oklahoma, and Texas.

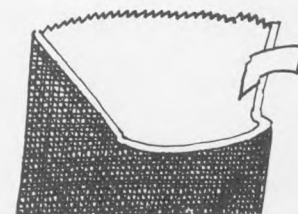
### **Job hazard complaint valid, court says**

Construction worker Wayne Kidd received the largest financial award ever handed down to an employee fired for complaining about on-the-job safety and health conditions. In addition to the \$32,500 back pay, a Federal district judge ordered contractor Hahner, Foreman and Harness, Inc., of Wichita, Kans., to reinstate Kidd in his job as a cement finisher foreman.

The case arose in 1980 when Kidd refused to work on a scaffold he claimed was unsafe. According to the testimony, Kidd's supervisor initially told him that he was fired, but later told a Department of Labor representative that Kidd was only on layoff because the scaffold was out of service. Kidd then filed for State unemployment benefits but the contractor challenged the claim, saying that Kidd had been fired. This led Kidd to initiate court action under Section 11(c) of the Occupational Safety and Health Act, which prohibits retribution against employees who complain or take other action against job hazards.

In the trial, the contractor contended that Kidd's suit was not valid because he had not filed within 30 days after the adverse action, as required by the act. However, the court ruled that in this case, the 30-day period actually started when Kidd learned that he was fired. The court also rejected the employer's contention that Kidd had been fired for reasons other than complaining about the hazard. □

# Book Reviews



## Work stoppages—history and analysis

*Strikes in the United States, 1881–1974.* By P. K. Edwards. New York, St. Martin's Press, 1981. 336 pp. \$27.50.

The United States has already observed the 100th anniversary of work stoppage statistics, and P. K. Edwards' study provides a comprehensive analysis of this long-term data base. The first effort by a Federal agency to compile data on strikes and lockouts was made in 1880, when the Bureau of the Census sent questionnaires to employers and workers involved in disputes occurring that year and which were reported in the press. Seven years later, the Bureau of Labor—then in the Department of the Interior—developed data on stoppages between 1881 and 1886. Similar studies were conducted in 1894, 1901, and 1906, yielding information for each year between 1881 and 1905 on such items as number of strikes, number of workers and establishments involved, percentage of stoppages ordered by labor organizations, and causes and results of strikes.

No Federal agency collected national data on strikes occurring between 1906 and 1913. Since 1914, however, the Bureau of Labor Statistics has provided a continuing series of strike statistics, with emphasis on number of stoppages, workers involved, and resulting days of idleness. Prior to 1982, the Bureau compiled data on strikes involving six workers or more. Currently, because of budget stringencies, collection is limited to stoppages involving 1,000 workers or more. Current Bureau data do not distinguish between strikes and lockouts; both are included in the term "work stoppage" and, for convenience in writing, in the term "strike."

This statistical record has long provided a fertile resource for a wide variety of researchers, including both analysts of the level of economic activity and specialists in labor-management relations. As early as 1921, for example, Alvin Hansen examined the relation between strikes and the business cycle, stimulating a line of analysis that has continued to the present time. Other writers have compared the strike records of different industries and countries. In the past decade, many researchers have examined the determinants of stoppages, at times focusing on the relative importance of "economic" as against "organizational-political" influences

on strike activity. (We ignore here separate bodies of literature—essentially nonstatistical—examining the nature and conduct of strikes, their effect, and methods of resolving industrial conflict.)

Edwards touches on these strands in his review of the U.S. strike record. His main objective is to explain how strike activity has been affected by industrial and institutional changes over the past century. Although considerable qualitative material is presented, the core of the study is an analysis of statistical evidence for the 1881–1974 period.

Edwards begins with a review of the overall strike record. He concludes that work-stoppage patterns in the post-World War II period have been much the same as in earlier years, with no pronounced general upward or downward trend in measures of worker involvement or strike duration. This finding might surprise a number of readers, in view of the numerous developments over the years that one might expect to be reflected in the strike record, such as growth in the extent of unionization and collective bargaining, growing maturity in union-management relations, increasing negotiation of multiyear collective bargaining agreements, increasing reliance on the grievance procedure and arbitration in the resolution of contract administration disputes, establishment of National Labor Relations Board representation election procedures as substitutes for economic muscle in determining disputes over bargaining status, and creation of both legal and internal union procedures for resolving jurisdictional disputes.

Edwards, at this point in his analysis, does not give detailed consideration to the relation between these institutional developments and the finding of long-term constancy in the statistical strike record. Instead, he turns to a review of economic, organizational, and political determinants of strike activity. His analysis, which follows the dominant approach in the current strike literature, employs highly aggregative regression models—economywide strike indexes are his dependent variables. Based on models incorporating unemployment and real wage variables, Edwards finds a strong link between economic circumstances and strike activity, but not in any consistent manner over time. (Separate regression results are shown for the following subperiods: 1890–1910, 1900–39, and 1946–72.) On the other hand, he re-

jects models which stress the effect of institutional and political forces.

This overall analysis is followed by more intensive treatment of developments in three distinct time periods—1881–1905, 1933–46, and 1947–74—representing, respectively, periods of industrialization of our economy, widespread growth of unionism, and maturity in collective bargaining. Emphasis remains on the statistical record, but here the analysis is at a lower level of aggregation. For example, much attention is given to both the industrial distribution of strike activity and developments within individual industries. Consideration is also given to such topics as the effect of city size on strike rates and the impact of immigration. Furthermore, the quantitative analysis is now supplemented by considerable narrative material on unionism and labor disputes. For example, discussions are found on steel industry unions and strikes during the late 19th and early 20th centuries, sitdown strikes of the late 1930's, and the alleged growth of worker unrest in the 1960's and early 1970's. This nonstatistical material, in fact, may well provide the most interesting parts of the book for readers unfamiliar with the long-term strike record. More intensive analysis, however, does not result in simple generalizations. Industrialization is shown to have affected individual industries in different ways.

Edwards' final chapter notes that the United States has tended to experience longer walkouts and greater overall volume of strike activity than other countries. He attributes both this finding and the previously noted constancy of the historical record to a continuing intense struggle in this country between employers and workers for control of the job.

Overall evaluation of Edwards' work must distinguish between his statistical and narrative analyses. While his regression equations help in evaluating suggested market and institutional determinants of strike activity, it is clear they do not provide adequate predictors of strike incidence. The Federal Mediation and Conciliation Service, for example, would not be expected to rely on them in planning its workload. One issue in Edwards' statistical methodology is his tendency to use overall strike data in regression models. Is it desirable to use as a dependent variable a strike total composed of such disparate elements as disputes over the negotiation of new or renewed collective bargaining agreements, wild-cat strikes, jurisdictional disputes, and walkouts over union recognition?

Edwards' descriptions of individual walkouts do not, in themselves, provide an integrated analysis of strikes. However, they provide valuable supplements to the statistical analysis, adding details not possible through the regression models. The study as a whole is stimulating, and points out the direction for comprehensive strike analyses—review of the statistical evidence, but at a

disaggregated level, appropriately combined with case studies of relevant individual episodes.

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### Academic unionism

*The Scope of Faculty Collective Bargaining: An Analysis of Faculty Union Agreements at Four-Year Institutions of Higher Education.* By Ronald L. Johnstone. Westport, Conn., Greenwood Press, 1981. 196 pp. \$27.50.

This book is based upon an analysis of collective bargaining agreements between 1972 and 1979 at 89 American colleges and universities, covering 95 percent of those that are unionized. The vast majority are public institutions. Despite the book's subtitle, institutions with graduate programs are also included. The author is a professor of sociology and an associate dean.

Faculty unions appeared on the academic scene in the late 1960's as a response to increasing bureaucratization of higher education, rise of other white-collar unions, decline of faculty salaries, and legislation in a number of States supportive of faculty collective bargaining. Ronald L. Johnstone has summarized these developments in the introductory chapter. Unlike other books, which deal with the causes of faculty unionization and collective bargaining at particular institutions, this work is unique in that it concentrates on contracts and their provisions. Such a book was long overdue.

Topics covered include faculty and administration rights, compensation, fringe benefits, working conditions, academic governance, and professional responsibilities. All are dealt with in a balanced manner.

There is a great diversity in the various contracts with no one provision contractualized in all of the agreements. Johnstone points out, however, that the absence of a particular item does not necessarily mean that it does not have any standing in actual practice, for it may be taken for granted, based upon academic tradition, or cited in another document. It is also evident that faculty has gained in a number of areas, but in all probability not as much as expected by some union leaders. However, administrators have not lost any appreciable ground. The whole negotiation process is fragile and slow.

*The Scope of Faculty Collective Bargaining* is of special interest to faculty and administrators, especially at institutions not yet unionized. It may be predicted



that with increasing unionization of college and universities, Johnstone's book will gain in readership.

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## Publications received

### Economic growth and development

- Gemmell, Norman, "Economic Development and Structural Change: The Role of the Service Sector," *The Journal of Development Studies*, October 1982, pp. 37-66.
- Giddens, Anthony and Gavin Mackenzie, eds., *Social Class and the Division of Labour: Essays in Honour of Ilya Neustadt*. New York, Cambridge University Press, 1982, 337 pp.
- Humphrey, Thomas M., "Of Hume, Thornton, the Quantity Theory, and the Phillips Curve," *Economic Review*, Federal Reserve Bank of Richmond, November-December 1982, pp. 13-18.
- McCallum, Bennett T., "Macroeconomics After a Decade of Rational Expectations: Some Critical Issues," *Economic Review*, Federal Reserve Bank of Richmond, November-December 1982, pp. 3-12.
- Nelson, Joel I., *Economic Inequality: Conflict Without Change*. New York, Columbia University Press, 1982, 280 pp. \$30, cloth; \$14, paper.
- Stigler, George J., *The Economist as Preacher and Other Essays*. Chicago, Ill., The University of Chicago Press, 1982, 259 pp., bibliography. \$20.
- Wible, James R., "Friedman's Positive Economics and Philosophy of Science," *Southern Economic Journal*, October 1982, pp. 350-60.

### Economic and social statistics

- Auernheimer, Leonardo, "The Price Change Equation in Simple Models of Monetary Adjustment," *Southern Economic Journal*, October 1982, pp. 440-49.
- Bernstein, Jeffrey I. and Ishaq Nadiri, *Financing and Investment in Plant and Equipment and Research and Development*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1982, 39 pp. (NBER Working Paper Series, 1017.) \$1.50.
- Dorsey, Stuart, "A Model and Empirical Estimates of Worker Pension Coverage in the U.S.," *Southern Economic Journal*, October 1982, pp. 506-20.
- Frydman, Roman, Gerald P. O'Driscoll, Jr., Andrew Schotter, "Rational Expectations of Government Policy: An Application of Newcomb's Problem," *Southern Economic Journal*, October 1982, pp. 311-19.
- Lewis, Donald E. "The Measurement of the Occupational and Industrial Segregation of Women," *The Journal of Industrial Relations*, September 1982, pp. 406-23.

## Education

- Molnar, Andrew and Patricia W. Babb, "The Electronic Age Challenges Education," *Appalachia*, November-December 1982, pp. 1-7.
- "Rethinking the Federal Role in Education: A Special Issue," *Harvard Educational Review*, November 1982, pp. 374-593.

## Industrial Relations

- Drost, Donald A. and Fabius P. O'Brien, "Are There Grievances Against Your Non-Union Grievance Procedure?" *Personnel Administrator*, January 1983, pp. 36-41.
- Enderwick, Peter and Peter J. Buckley, "Strike Activity and Foreign Ownership: An Analysis of British Manufacturing 1971-1973," *British Journal of Industrial Relations*, November 1982, pp. 308-21.
- Goodman, J. F. B., "At the Point of Production: Some Aspects of Workplace Industrial Relations," *The Journal of Industrial Relations*, September 1982, pp. 365-81.
- Johnson, Richard, "Interest Arbitration Examined," *Personnel Administrator*, January 1983, pp. 53-57.
- Kassalow, Everett M., "Industrial Democracy and Collective Bargaining: A Comparative View," *Labour and Society*, July-September 1982, pp. 209-29.
- Poole, Michael and others, "Managerial Attitudes and Behaviour in Industrial Relations: Evidence from a National Survey," *British Journal of Industrial Relations*, November 1982, pp. 285-307.
- Princeton University, *Executive Termination*. Prepared by Katherine Bagin. Princeton N.J., Princeton University, Industrial Relations Section, 1982, 4 pp. (Selected References, 212.) 50 cents.
- Sterrett, Grace and Antone Aboud, *The Right to Strike in Public Employment*. Ithaca, N.Y., Cornell University, New York State School of Industrial and Labor Relations, 1982, 59 pp., bibliography. (Key Issues Series, 15.) \$5, paper.
- Swann, James P., Jr., "The Decertification of a Union," *Personnel Administrator*, January 1983, pp. 47-51.
- Taylor, Benjamin J. and Fred Witney, *Labor Relations Law*. 4th ed. Englewood Cliffs, N.J., Prentice-Hall, Inc., 1983, bibliography. 914 pp. \$28.95.
- The Bureau of National Affairs Editorial Staff, "Give-Backs Highlight Three Major Bargaining Agreements," *Personnel Administrator*, January 1983, beginning on p. 33.
- Wilson, David C. and others, "The Limits of Trade Union Power in Organizational Decision Making," *British Journal of Industrial Relations*, November 1982, pp. 322-41.
- Wrong, Elaine Gale, "Selecting an Arbitrator for a Discrimination Grievance," *Personnel Administrator*, January 1983, beginning on p. 58.

## International economics

- Chalupa, Karel V., "Foreign Currency Futures: Reducing Foreign Exchange Risk," *Economic Perspectives*, Federal Reserve Bank of Chicago, Winter 1982, pp. 3-11.
- Fairlamb, David with Henriette Sender, "Rescuing the Banking System," *Dun's Business Month*, February 1983, beginning on p. 44.

Frankel, Jeffrey A., "A Test of Perfect Substitutability in the Foreign Exchange Market," *Southern Economic Journal*, October 1982, pp. 406-16.

Hawk, Barry E., "International Antitrust Policy and the 1982 Acts: The Continuing Need for Reassessment," *Fordham Law Review*, November 1982, pp. 201-54.

Hervey, Jack L., "Economic Stagnation and the Resurgence of Trade Restrictions," *Economic Perspectives*, Federal Reserve Bank of Chicago, Winter 1982, pp. 23-35.

Jonson, P. D., W. J. McKibbin, R. G. Trevor, "Exchange Rates and Capital Flows: A Sensitivity Analysis," *Canadian Journal of Economics*, November 1982, pp. 669-92.

#### Labor force

Bernardin, H. John, ed., *Women in the Work Force*. New York, Praeger Publishers and the V.P.L. Educational Foundation, Inc., 1982, 242 pp. \$28.95.

Buss, Terry F. and F. Stevens Redburn, *Shutdown at Youngstown: Public Policy for Mass Unemployment*. Albany, N.Y., State University of New York Press, 1983, 219 pp. \$39.50, cloth; \$10.95, paper.

Eccles, Sandra, "The Role of Women in Australian Labour Market: A Survey of the Literature," *Journal of Industrial Relations*, September 1982, pp. 315-36.

Hasan, A. and P. De Broucker, "Duration and Concentration of Unemployment," *Canadian Journal of Economics*, November 1982, pp. 735-56.

Humple, Carol Segrave and Morgan Lyons, *Management and the Older Workforce: Policies and Programs*. New York, American Management Associations, Membership Publications Division, 1983, 71 pp., bibliography. \$7.50, AMA members; \$10, nonmembers.

Lynch, Lisa M. and Ray Richardson, "Unemployment of Young Workers in Britain," *British Journal of Industrial Relations*, November 1982, pp. 362-72.

Wilson, Marilyn, "What Is 'Full Employment'?" *Dun's Business Month*, February 1983, pp. 36-39.

#### Management and organization theory

Ackerman, Linda S., "Transition Management: An In-Depth Look at Managing Complex Change," *Organizational Dynamics*, Summer 1983, pp. 46-66.

Bargal, David and Boas Shamir, "Occupational Welfare as an Aspect of Quality of Working Life," *Labour and Society*, July-September 1982, pp. 255-64.

Ellis, R. Jeffrey, "Responsive Managing: Getting on with the Job," *Management Review*, January 1983, pp. 59-60.

Feinberg, Mortimer R. and Aaron Levenstein, "Executive Survival . . . How to Hang in There," *Management Review*, January 1983, pp. 26-28.

Gillett, Darwin, "Better QCs: A Need for More Manager Action," *Management Review*, January 1983, pp. 19-25.

"Human Resource Management and the Law," *Personnel Administrator*, February 1983, pp. 23-56.

Hyde, Albert C. and Wayne F. Cascio, eds., "Special Issue: Performance Appraisal," *Public Personnel Management*, Winter 1982, pp. 293-375.

Kanter, Rosabeth Moss, "Dilemmas of Managing Participation," *Organizational Dynamics*, Summer 1982, pp. 5-27.

Michael, Stephen R., "Organizational Change Techniques: Their Present, Their Future," *Organizational Dynamics*, Summer 1982, pp. 67-80.

Mine, Manabu, "Quality of Working Life in Japan: Trends and Characteristics," *Labour and Society*, July-September 1982, pp. 265-78.

Nadler, David A., "Managing Transitions to Uncertain Future States," *Organizational Dynamics*, Summer 1982, pp. 37-45.

Palmer, Barbara C. and Kenneth R. Palmer, *The Successful Meeting Master Guide for Business and Professional People*. Englewood-Cliffs, N.J., Prentice-Hall, Inc., 1983, 276 pp. \$18.95, cloth; \$9.95, paper.

Seitzinger, Michael, "Planning Supervisor/Subordinate Pay Differentials," *Personnel Administrator*, February 1983, pp. 74-77.

Smith, William J., "Executive Compensation After ERTA," *Personnel Administrator*, February 1983, pp. 63-65.

White, Charles S., "Problem Solving: The Neglected First Step," *Management Review*, January 1983, pp. 52-55.

#### Monetary and fiscal policy

Cacy, J. A., Glenn H. Miller, Jr., Diane Seibert, "The U.S. Economy and Monetary Policy in 1982," *Economic Review*, Federal Reserve Bank of Kansas City, December 1982, pp. 3-15.

Hughes, Dean W., "The Costs of Inflation: An Analytical Overview," *Economic Review*, Federal Reserve Bank of Kansas City, November 1982, pp. 3-14.

#### Productivity and technological change

Darby, Michael R., *The U.S. Productivity Slowdown: A Case of Statistical Myopia*. Cambridge, Mass., National Bureau of Economic Research, Inc., 1982, 56 pp. (NBER Working Paper Series, 1018.) \$1.50.

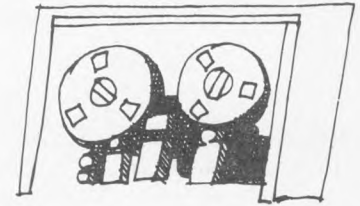
U.S. Bureau of Labor Statistics, *Labor and Material Requirements for Federal Building Construction*. Prepared by John G. Olsen, Washington, 1982, 54 pp. (Bulletin 2146.) Stock No. 209-001-02741-9. \$4.75, Superintendent of Documents, Washington 20402.

#### Wages and compensation

Mitchell, Daniel J. B., "Gain-Sharing Pay Plans: In Quest of a More Stable Economy," *Public Affairs Report*, University of California, Institute of Governmental Studies, October 1982, pp. 1-5.

U.S. Bureau of Labor Statistics, *Area Wage Surveys: Gainesville, Florida, Metropolitan Area, September 1982* (Bulletin 3015-44, 23 pp., \$3.25); *Cleveland, Ohio, Metropolitan Area, September 1982* (Bulletin 3015-45, 40 pp., \$4.50); *Albany-Schenectady-Troy, New York, Metropolitan Area, September 1982* (Bulletin 3015-46, 27 pp., \$3.50); *Kansas City, Missouri-Kansas, Metropolitan Area, September 1982* (Bulletin 3015-49, 55 pp., \$4.75); *Miami, Florida, Metropolitan Area, October 1982* (Bulletin 3015-52, 36 pp., \$4.50); *Louisville, Kentucky-Indiana, Metropolitan Area, November 1982* (Bulletin 3015-53, 30 pp., \$3.75); *Omaha, Nebraska-Iowa, Metropolitan Area, October 1982* (Bulletin 3015-54, 27 pp., \$3.50). □

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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 major BLS statistical series**

Series	Release date	Period covered	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation .....	April 1	March	May 6	April	June 3	May	1-11
Producer Price Index .....	April 15	March	May 13	April	June 10	May	22-26
Consumer Price Index .....	April 22	March	May 24	April	June 22	May	18-21
Real earnings .....	April 22	March	May 24	April	June 22	May	12-16
Productivity and costs:							
Nonfarm business and manufacturing .....	April 27	1st quarter 1983					27-30
Nonfinancial corporations .....			May 26	1st quarter 1983			27-30
Major collective bargaining settlements .....	April 27	1st quarter 1983					34-35
Employment Cost Index .....			May 5	1st quarter 1983			31-33

## 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 un-

employed 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 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.

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	47,617
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	4,365	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	85,846	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	163,541	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	64.2	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	10,678	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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
<b>Total</b>																
Noninstitutional population <sup>1,2</sup>	171,775	173,939	173,153	173,338	173,512	173,691	173,854	174,038	174,200	174,360	174,549	174,718	174,864	175,021	175,169	
Labor force <sup>2</sup>	110,315	111,872	111,028	111,149	111,408	112,043	111,811	112,090	112,303	112,528	112,420	112,702	112,794	112,215	112,217	
Participation rate <sup>3</sup>	64.2	64.3	64.1	64.1	64.2	64.5	64.3	64.4	64.5	64.5	64.4	64.5	64.5	64.1	64.1	
Total employed <sup>2</sup>	102,042	101,194	101,359	101,268	101,152	101,659	101,345	101,262	101,372	101,213	100,844	100,796	100,758	100,770	100,727	
Employment-population ratio <sup>4</sup>	59.4	58.2	58.5	58.4	58.3	58.5	58.3	58.2	58.2	58.0	57.8	57.7	57.6	57.6	57.5	
Resident Armed Forces <sup>1</sup>	1,645	1,668	1,664	1,671	1,668	1,665	1,664	1,674	1,689	1,670	1,668	1,660	1,665	1,667	1,664	
Civilian employed	100,397	99,526	99,695	99,597	99,484	99,994	99,681	99,588	99,683	99,543	99,176	99,136	99,093	99,103	99,063	
Agriculture	3,368	3,401	3,367	3,367	3,356	3,446	3,371	3,445	3,429	3,363	3,413	3,466	3,411	3,412	3,393	
Nonagricultural industries	97,030	96,125	96,328	96,230	96,128	96,548	96,310	96,143	96,254	96,180	95,763	95,670	95,682	95,691	95,670	
Unemployed	8,273	10,678	9,669	9,881	10,256	10,384	10,466	10,828	10,931	11,315	11,576	11,906	12,036	11,446	11,490	
Unemployment rate <sup>5</sup>	7.5	9.5	8.7	8.9	9.2	9.3	9.4	9.7	9.7	10.1	10.3	10.6	10.7	10.2	10.2	
Not in labor force	61,460	62,067	62,125	62,189	62,104	61,648	62,043	61,948	61,897	61,832	62,129	62,016	62,070	62,806	62,952	
<b>Men, 16 years and over</b>																
Noninstitutional population <sup>1,2</sup>	82,023	83,052	82,673	82,763	82,844	82,929	83,006	83,097	83,173	83,231	83,323	83,402	83,581	83,652	83,720	
Labor force <sup>2</sup>	63,486	63,979	63,683	63,693	63,829	64,172	63,851	63,898	64,055	64,301	64,300	64,414	64,384	63,916	63,996	
Participation rate <sup>3</sup>	77.4	77.0	77.0	77.0	77.0	77.4	76.9	76.9	77.0	77.3	77.2	77.2	77.0	76.4	76.4	
Total employed <sup>2</sup>	58,909	57,800	58,197	58,031	57,973	58,251	57,775	57,664	57,710	57,598	57,456	57,408	57,338	57,283	57,234	
Employment-population ratio <sup>4</sup>	71.8	69.6	70.4	70.1	70.0	70.2	69.6	69.4	69.4	69.2	69.0	68.8	68.6	68.5	68.4	
Resident Armed Forces <sup>1</sup>	1,512	1,527	1,527	1,532	1,529	1,527	1,526	1,537	1,551	1,526	1,524	1,516	1,529	1,531	1,528	
Civilian employed	57,397	56,271	56,670	56,499	56,444	56,724	56,249	56,127	56,159	56,072	55,932	55,892	55,809	55,752	55,706	
Unemployed	4,577	6,179	5,486	5,662	5,856	5,921	6,076	6,234	6,345	6,703	6,844	7,006	7,046	6,633	6,762	
Unemployment rate <sup>5</sup>	7.2	9.7	8.6	8.9	9.2	9.2	9.5	9.8	9.9	10.4	10.6	10.9	10.9	10.4	10.6	
<b>Women, 16 years and over</b>																
Noninstitutional population <sup>1,2</sup>	89,751	90,887	90,480	90,576	90,668	90,762	90,848	90,941	91,027	91,129	91,226	91,316	91,283	91,369	91,449	
Labor force <sup>2</sup>	46,829	47,894	47,345	47,456	47,579	47,871	47,960	48,192	48,248	48,227	48,120	48,288	48,410	48,299	48,220	
Participation rate <sup>3</sup>	52.2	52.7	52.3	52.4	52.5	52.7	52.8	53.0	53.0	52.9	52.7	52.9	53.0	52.9	52.7	
Total employed <sup>2</sup>	43,133	43,395	43,162	43,237	43,179	43,408	43,570	43,598	43,662	43,615	43,388	43,388	43,420	43,486	43,493	
Employment-population ratio <sup>4</sup>	48.1	47.7	47.7	47.7	47.6	47.8	48.0	47.9	48.0	47.9	47.6	47.5	47.6	47.6	47.6	
Resident Armed Forces <sup>1</sup>	133	139	137	139	139	138	138	137	138	144	144	144	136	136	136	
Civilian employed	43,000	43,256	43,025	43,098	43,040	43,270	43,432	43,461	43,524	43,471	43,244	43,244	43,284	43,350	43,357	
Unemployed	3,696	4,499	4,183	4,219	4,400	4,463	4,390	4,594	4,586	4,612	4,732	4,900	4,990	4,813	4,727	
Unemployment rate <sup>5</sup>	7.9	9.4	8.8	8.9	9.2	9.3	9.2	9.5	9.5	9.6	9.8	10.1	10.3	10.0	9.8	

<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]

Employment status	Annual average		1982												1983	
	1981	1982	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
<b>TOTAL</b>																
Civilian noninstitutional population <sup>1</sup>	170,130	172,271	171,489	171,667	171,844	172,026	172,190	172,364	172,511	172,690	172,881	173,058	173,199	173,354	173,505	
Civilian labor force	108,670	110,204	109,364	109,478	109,740	110,378	110,147	110,416	110,614	110,858	110,752	111,042	111,129	110,548	110,553	
Participation rate	63.9	64.0	63.8	63.8	63.9	64.2	64.0	64.1	64.1	64.2	64.1	64.2	64.2	63.8	63.7	
Employed	100,397	99,526	99,695	99,597	99,484	99,994	99,681	99,588	99,683	99,543	99,176	99,136	99,093	99,103	99,063	
Employment-population ratio <sup>2</sup>	59.0	57.8	58.1	58.0	57.9	58.1	57.9	57.8	57.8	57.6	57.4	57.3	57.2	57.2	57.1	
Agriculture	3,368	3,401	3,367	3,367	3,356	3,446	3,371	3,445	3,429	3,363	3,413	3,466	3,411	3,412	3,393	
Nonagricultural industries	97,030	96,125	96,328	96,230	96,128	96,548	96,310	96,143	96,254	96,180	95,763	95,670	95,682	95,691	95,670	
Unemployed	8,273	10,678	9,669	9,881	10,256	10,384	10,466	10,828	10,931	11,315	11,576	11,906	12,036	11,446	11,490	
Unemployment rate	7.6	9.7	8.8	9.0	9.3	9.4	9.5	9.8	9.9	10.2	10.5	10.7	10.8	10.4	10.4	
Not in labor force	61,460	62,067	62,125	62,189	62,104	61,648	62,043	61,948	61,897	61,832	62,129	62,016	62,070	62,806	62,952	
<b>Men, 20 years and over</b>																
Civilian noninstitutional population <sup>1</sup>	72,419	73,644	73,209	73,287	73,392	73,499	73,585	73,685	73,774	73,867	73,984	74,094	74,236	74,339	74,434	
Civilian labor force	57,197	57,980	57,581	57,633	57,794	58,008	57,959	58,055	58,064	58,354	58,363	58,454	58,443	58,048	58,177	
Participation rate	79.0	78.7	78.7	78.6	78.7	78.9	78.8	78.8	78.7	79.0	78.9	78.9	78.7	78.1	78.2	
Employed	53,582	52,891	53,130	53,026	53,024	53,190	52,943	52,905	52,832	52,776	52,649	52,589	52,534	52,452	52,428	
Employment-population ratio <sup>2</sup>	74.0	71.8	72.6	72.4	72.2	72.4	71.9	71.8	71.6	71.4	71.2	71.0	70.8	70.6	70.4	
Agriculture	2,384	2,422	2,388	2,392	2,417	2,446	2,424	2,462	2,433	2,436	2,444	2,434	2,389	2,426	2,374	
Nonagricultural industries	51,199	50,469	50,742	50,634	50,607	50,744	50,519	50,443	50,399	50,340	50,205	50,155	50,145	50,025	50,054	
Unemployed	3,615	5,089	4,451	4,607	4,770	4,818	5,016	5,150	5,232	5,578	5,714	5,865	5,909	5,597	5,749	
Unemployment rate	6.3	8.8	7.7	8.0	8.3	8.3	8.7	8.9	9.0	9.6	9.8	10.0	10.1	9.6	9.9	
<b>Women, 20 years and over</b>																
Civilian noninstitutional population <sup>1</sup>	81,497	82,864	82,367	82,478	82,591	82,707	82,811	82,926	83,035	83,152	83,271	83,385	83,383	83,490	83,593	
Civilian labor force	42,485	43,699	43,111	43,285	43,355	43,632	43,819	43,983	44,039	43,996	43,936	44,112	44,286	44,201	44,216	
Participation rate	52.1	52.7	52.3	52.5	52.5	52.8	52.9	53.0	53.0	52.9	52.8	52.9	53.1	52.9	52.9	
Employed	39,590	40,086	39,825	39,883	39,827	40,064	40,254	40,311	40,368	40,286	40,112	40,123	40,215	40,238	40,291	
Employment-population ratio <sup>2</sup>	48.6	48.4	48.4	48.4	48.2	48.4	48.6	48.6	48.6	48.4	48.2	48.1	48.2	48.2	48.2	
Agriculture	604	601	620	625	600	614	586	598	590	588	578	590	628	625	65.7	
Nonagricultural industries	38,986	39,485	39,205	39,258	39,227	39,450	39,668	39,713	39,778	39,698	39,534	39,533	39,587	39,613	39,634	
Unemployed	2,895	3,613	3,286	3,402	3,528	3,568	3,565	3,672	3,671	3,710	3,824	3,989	4,071	3,963	3,925	
Unemployment rate	6.8	8.3	7.6	7.9	8.1	8.2	8.1	8.3	8.3	8.4	8.7	9.0	9.2	9.0	8.9	
<b>Both sexes, 16 to 19 years</b>																
Civilian noninstitutional population <sup>1</sup>	16,214	15,763	15,913	15,902	15,861	15,820	15,794	15,753	15,702	15,671	15,625	15,579	15,580	15,525	15,478	
Civilian labor force	8,988	8,526	8,672	8,560	8,591	8,738	8,369	8,378	8,511	8,508	8,453	8,476	8,400	8,299	8,160	
Participation rate	55.4	54.1	54.5	53.8	54.2	55.2	53.0	53.2	54.2	54.3	54.1	54.4	53.9	53.5	52.7	
Employed	7,225	6,549	6,740	6,688	6,633	6,740	6,484	6,372	6,483	6,481	6,415	6,424	6,344	6,413	6,345	
Employment-population ratio <sup>2</sup>	44.6	41.5	42.4	42.1	41.8	42.6	41.1	40.4	41.3	41.4	41.1	41.2	40.7	41.3	41.0	
Agriculture	380	378	359	350	339	386	361	385	406	339	391	442	394	361	362	
Nonagricultural industries	6,845	6,171	6,381	6,338	6,294	6,354	6,123	5,987	6,077	6,142	6,024	5,982	5,950	6,052	5,983	
Unemployed	1,763	1,977	1,932	1,872	1,958	1,998	1,885	2,006	2,028	2,027	2,038	2,052	2,056	1,886	1,815	
Unemployment rate	19.6	23.2	22.3	21.9	22.8	22.9	22.5	23.9	23.8	23.8	24.1	24.2	24.5	22.7	22.2	
<b>White</b>																
Civilian noninstitutional population <sup>1</sup>	147,908	149,441	148,855	149,132	149,249	149,250	149,429	149,569	149,536	149,652	149,838	149,887	150,056	150,129	150,187	
Civilian labor force	95,052	96,143	95,459	95,602	95,941	96,405	96,165	96,385	96,375	96,640	96,453	96,719	96,864	96,176	95,987	
Participation rate	64.3	64.3	64.1	64.1	64.3	64.6	64.4	64.4	64.4	64.6	64.4	64.5	64.6	64.1	63.9	
Employed	88,709	87,903	88,080	88,033	88,011	88,350	88,089	88,021	87,979	87,872	87,477	87,435	87,443	87,466	87,194	
Employment-population ratio <sup>2</sup>	60.0	58.8	59.2	59.0	59.0	59.2	59.0	58.8	58.8	58.7	58.4	58.3	58.3	58.3	58.1	
Unemployed	6,343	8,241	7,379	7,569	7,930	8,055	8,076	8,364	8,396	8,768	8,976	9,284	9,421	8,711	8,793	
Unemployment rate	6.7	8.6	7.7	7.9	8.3	8.4	8.4	8.7	8.7	9.1	9.3	9.6	9.7	9.1	9.2	
<b>Black</b>																
Civilian noninstitutional population <sup>1</sup>	18,219	18,584	18,450	18,480	18,511	18,542	18,570	18,600	18,626	18,659	18,692	18,723	18,740	18,768	18,796	
Civilian labor force	11,086	11,331	11,219	11,228	11,201	11,318	11,267	11,341	11,400	11,443	11,398	11,475	11,522	11,542	11,548	
Participation rate	60.8	61.0	60.8	60.8	60.5	61.0	60.7	61.0	61.2	61.3	61.0	61.3	61.5	61.5	61.4	
Employed	9,355	9,189	9,260	9,209	9,135	9,209	9,171	9,211	9,220	9,172	9,102	9,159	9,127	9,142	9,276	
Employment-population ratio <sup>2</sup>	51.3	49.4	50.2	49.8	49.3	49.7	49.4	49.5	49.5	49.2	48.7	48.9	48.7	48.7	49.4	
Unemployed	1,731	2,142	1,959	2,019	2,066	2,109	2,096	2,130	2,180	2,271	2,296	2,316	2,395	2,400	2,271	
Unemployment rate	15.6	18.9	17.5	18.0	18.4	18.6	18.6	18.8	19.1	19.8	20.1	20.2	20.8	20.8	19.7	
<b>Hispanic origin</b>																
Civilian noninstitutional population <sup>1</sup>	9,310	9,400	9,341	9,297	9,235	9,297	9,428	9,521	9,689	9,464	9,474	9,355	9,301	9,328	9,368	
Civilian labor force	5,972	5,983	6,051	6,015	5,966	6,004	5,965	5,972	6,045	5,961	5,973	5,923	5,898	5,981	5,992	
Participation rate	64.1	63.6	64.8	64.7	64.6	64.6	63.3	62.7	62.4	63.0	63.3	63.3	63.4	64.1	64.0	
Employed	5,348	5,158	5,297	5,253	5,211	5,182	5,155	5,136	5,162	5,097	5,075	5,012	4,998	5,053	5,042	
Employment-population ratio <sup>2</sup>	57.4	54.9	56.7	56.5	56.4	55.7	54.7	53.9	53.3	53.9	53.6	53.6	53.7	54.2	53.8	
Unemployed	624	825	754	762	755	822	810	836	883	864	898	911	900	929	950	
Unemployment rate	10.4	13.8	12.5	12.7	12.7	13.7	13.6	14.0	14.6	14.5	15.0	15.4	15.3	15.5	15.8	

<sup>1</sup> The population figures are not seasonally adjusted.

<sup>2</sup> Civilian employment as a percent of the civilian noninstitutional population.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" groups are not presented and Hispanics are included in both the white and black population groups.

**4. Selected employment indicators, seasonally adjusted**

[Numbers in thousands]

Selected categories	Annual average		1982												1983	
	1981	1982	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
<b>CHARACTERISTIC</b>																
Civilian employed, 16 years and over	100,397	99,526	99,695	99,597	99,484	99,994	99,681	99,588	99,683	99,543	99,176	99,136	99,093	99,103	99,063	
Men	57,397	56,271	56,670	56,499	56,444	56,724	56,249	56,127	56,159	56,073	55,932	55,892	55,809	55,752	55,706	
Women	43,000	43,256	43,025	43,098	43,040	43,270	43,432	43,461	43,524	43,471	43,244	43,244	43,284	43,350	43,357	
Married men, spouse present	38,882	38,074	38,326	38,227	38,212	38,274	38,254	38,177	38,121	37,998	37,852	37,641	37,507	37,450	37,428	
Married women, spouse present	23,915	24,053	23,807	23,933	23,891	24,112	24,331	24,173	24,235	24,159	24,081	23,985	24,155	24,205	24,070	
Women who maintain families	4,998	5,099	5,157	5,094	5,093	4,991	5,120	5,200	5,208	5,118	5,107	5,025	4,985	5,038	5,050	
<b>MAJOR INDUSTRY AND CLASS OF WORKER</b>																
<b>Agriculture:</b>																
Wage and salary workers	1,464	1,505	1,430	1,428	1,442	1,530	1,457	1,523	1,548	1,537	1,576	1,584	1,547	1,637	1,624	
Self-employed workers	1,638	1,636	1,613	1,645	1,656	1,679	1,661	1,655	1,620	1,569	1,621	1,628	1,627	1,587	1,541	
Unpaid family workers	266	261	334	270	266	251	254	254	255	254	229	241	224	231	223	
<b>Nonagricultural industries:</b>																
Wage and salary workers	89,543	88,462	88,702	88,620	88,454	88,872	88,548	88,491	88,576	88,562	88,064	87,936	87,976	87,813	87,794	
Government	15,689	15,516	15,515	15,491	15,464	15,454	15,614	15,471	15,562	15,681	15,436	15,514	15,477	15,386	15,501	
Private industries	73,853	72,945	73,187	73,129	72,990	73,418	72,934	73,020	73,014	72,881	72,628	72,422	72,499	72,427	72,293	
Private households	1,208	1,207	1,181	1,218	1,196	1,204	1,205	1,200	1,227	1,220	1,216	1,221	1,163	1,162	1,232	
Other	72,645	71,738	72,006	71,911	71,794	72,214	71,729	71,820	71,787	71,661	71,412	71,201	71,336	71,265	71,061	
Self-employed workers	7,097	7,262	7,097	7,150	7,246	7,262	7,301	7,286	7,338	7,422	7,332	7,349	7,335	7,465	7,385	
Unpaid family workers	390	401	410	431	410	392	398	393	408	378	403	382	383	380	353	
<b>PERSONS AT WORK <sup>1</sup></b>																
Nonagricultural industries	91,377	90,552	90,087	90,579	90,755	91,082	90,917	90,414	90,486	90,884	90,232	90,238	90,219	90,903	90,207	
Full-time schedules	74,339	72,245	73,026	72,699	72,562	72,869	72,545	72,288	72,045	71,723	71,394	71,442	71,499	71,786	71,564	
Part time for economic reasons	4,499	5,852	5,489	5,611	5,750	5,731	5,561	5,577	5,820	6,495	6,903	6,411	6,425	6,845	6,481	
Usually work full time	1,738	2,169	2,155	2,187	2,197	2,195	2,126	2,047	2,100	2,519	2,381	2,228	2,153	2,200	2,097	
Usually work part time	2,761	3,683	3,334	3,424	3,553	3,536	3,435	3,530	3,720	3,976	4,022	4,183	4,272	4,645	4,384	
Part time for noneconomic reasons	12,539	12,455	12,352	12,269	12,443	12,482	12,811	12,549	12,621	12,666	12,435	12,385	12,295	12,271	12,162	

<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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	
<b>CHARACTERISTIC</b>																
Total, all civilian workers .....	7.6	9.7	8.8	9.0	9.3	9.4	9.5	9.8	9.9	10.2	10.4	10.7	10.8	10.4	10.4	
Both sexes, 16 to 19 years .....	19.6	23.2	22.3	21.9	22.8	22.9	22.5	23.9	23.8	23.8	24.1	24.2	24.5	22.7	22.2	
Men, 20 years and over .....	6.3	8.8	7.7	8.0	8.3	8.3	8.7	8.9	9.0	9.6	9.8	10.0	10.1	9.6	9.9	
Women, 20 years and over .....	6.8	8.3	7.6	7.9	8.1	8.2	8.1	8.3	8.3	8.4	8.7	9.0	9.2	9.0	8.9	
White, total .....	6.7	8.6	7.7	7.9	8.3	8.4	8.4	8.7	8.7	9.1	9.3	9.6	9.7	9.1	9.2	
Both sexes, 16 to 19 years .....	17.3	20.4	19.7	19.2	20.4	19.9	19.7	20.9	20.8	20.7	21.5	21.2	21.6	20.0	19.7	
Men, 16 to 19 years .....	17.9	21.7	20.4	20.4	21.9	20.9	21.2	22.5	22.5	22.2	23.0	22.6	22.8	21.2	21.1	
Women, 16 to 19 years .....	16.6	19.0	19.0	17.9	18.8	18.7	18.0	19.1	18.9	19.1	19.9	19.8	20.4	18.7	18.2	
Men, 20 years and over .....	5.6	7.8	6.7	7.0	7.3	7.5	7.7	7.9	8.0	8.6	8.8	9.1	9.2	8.4	8.7	
Women, 20 years and over .....	5.9	7.3	6.6	6.8	7.1	7.2	7.1	7.3	7.2	7.5	7.6	8.0	8.1	7.8	7.7	
Black, total .....	15.6	18.9	17.5	18.0	18.4	18.6	18.6	18.8	19.1	19.8	20.1	20.2	20.8	20.8	19.7	
Both sexes, 16 to 19 years .....	41.4	48.0	43.5	46.3	48.0	49.4	51.2	49.3	51.2	48.6	47.7	49.8	49.5	45.7	45.4	
Men, 16 to 19 years .....	40.7	48.9	42.2	47.6	48.4	49.7	55.7	48.9	50.5	51.0	49.2	53.0	52.5	45.9	45.3	
Women, 16 to 19 years .....	42.2	47.1	45.0	44.9	47.7	49.1	46.0	49.7	52.1	45.9	45.9	46.2	46.2	45.5	45.4	
Men, 20 years and over .....	13.5	17.8	16.2	16.3	17.0	17.1	17.3	17.4	17.6	19.2	19.6	19.2	20.5	19.7	18.7	
Women, 20 years and over .....	13.4	15.4	14.5	15.1	15.4	15.3	15.1	15.5	15.4	15.7	16.2	16.5	16.5	18.2	17.0	
Hispanic origin, total .....	10.4	13.8	12.5	12.7	12.7	13.7	13.6	14.0	14.6	14.5	15.0	15.4	15.3	15.5	15.8	
Married men, spouse present .....	4.3	6.5	5.4	5.6	6.0	6.1	6.4	6.6	6.8	7.2	7.5	7.6	7.8	7.1	7.2	
Married women, spouse present .....	6.0	7.4	6.9	7.0	7.6	7.3	7.1	7.4	7.3	7.6	7.9	8.2	8.2	7.8	7.6	
Women who maintain families .....	10.4	11.7	10.4	10.8	11.5	11.9	12.1	12.0	11.7	12.4	11.3	12.5	13.2	13.2	13.0	
Full-time workers .....	7.3	9.6	8.5	8.9	9.1	9.2	9.4	9.6	9.7	10.2	10.5	10.6	10.8	10.3	10.4	
Part-time workers .....	9.4	10.5	10.4	10.0	10.8	10.5	10.0	11.2	10.4	10.6	10.3	11.3	11.1	10.6	10.1	
Unemployed 15 weeks and over .....	2.1	3.2	2.5	2.7	2.8	3.0	3.2	3.2	3.3	3.5	3.8	4.1	4.3	4.2	4.2	
Labor force time lost <sup>1</sup> .....	8.5	11.0	9.9	10.3	10.4	10.7	10.4	10.7	10.9	11.7	12.0	12.4	12.7	11.7	12.0	
<b>INDUSTRY</b>																
Nonagricultural private wage and salary workers ..	7.7	10.1	9.0	9.4	9.8	9.8	10.0	10.2	10.2	11.0	11.0	11.4	11.6	10.8	10.8	
Mining .....	6.0	13.4	8.3	9.3	10.6	12.1	14.0	15.8	16.0	18.5	17.9	18.1	18.1	17.1	18.4	
Construction .....	15.6	20.0	18.3	18.2	19.3	18.9	19.5	20.3	20.4	22.3	22.3	21.8	22.0	20.0	19.7	
Manufacturing .....	8.3	12.3	10.6	10.7	11.3	11.5	12.2	12.1	12.4	14.1	14.1	14.8	14.8	13.0	13.3	
Durable goods .....	8.2	13.3	11.2	10.8	11.9	12.2	13.1	12.8	13.3	16.0	16.0	17.0	17.1	14.7	14.7	
Nondurable goods .....	8.4	10.8	9.6	10.6	10.6	10.4	11.1	11.0	11.2	11.2	11.4	11.4	11.4	10.5	11.4	
Transportation and public utilities .....	5.2	6.8	5.9	5.7	6.7	6.4	6.8	6.6	7.1	7.9	7.9	8.3	8.0	7.8	8.0	
Wholesale and retail trade .....	8.1	10.0	9.1	10.1	9.9	10.2	9.7	10.3	10.0	10.4	10.4	10.6	11.0	10.8	10.9	
Finance and service industries .....	5.9	6.9	6.5	6.8	7.0	6.8	6.9	7.0	7.0	7.1	7.1	7.7	7.9	7.6	7.3	
Government workers .....	4.7	4.9	5.1	4.8	5.2	4.9	4.7	4.7	4.7	4.9	4.9	5.1	5.1	5.7	6.0	
Agricultural wage and salary workers .....	12.1	14.7	13.4	14.0	14.6	18.1	15.0	14.1	14.2	13.3	13.3	15.6	16.5	16.0	16.4	

<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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Total, 16 years and over	7.6	9.7	8.8	9.0	9.3	9.4	9.5	9.8	9.9	10.2	10.5	10.7	10.8	10.4	10.4
16 to 24 years	14.9	17.8	16.9	16.9	17.4	17.4	17.3	17.9	18.2	18.3	18.7	19.0	18.9	18.3	18.3
16 to 19 years	19.6	23.2	22.3	21.9	22.8	22.9	22.5	23.9	23.8	23.8	24.1	24.2	24.5	22.7	22.2
16 to 17 years	21.4	24.9	22.9	23.2	24.4	25.1	23.6	25.8	25.8	26.5	26.1	26.3	27.4	24.1	23.4
18 to 19 years	18.4	22.1	21.8	21.3	21.8	21.4	22.0	22.6	22.5	22.0	22.9	22.8	22.7	21.7	21.5
20 to 24 years	12.3	14.9	14.1	14.1	14.5	14.5	14.5	14.7	15.3	15.3	15.8	16.3	16.0	16.1	16.3
25 years and over	5.4	7.4	6.5	6.8	7.0	7.1	7.3	7.5	7.5	7.9	8.1	8.3	8.6	8.1	8.2
25 to 54 years	5.8	7.9	6.9	7.2	7.4	7.6	7.7	8.0	8.0	8.6	8.7	8.9	9.1	8.7	8.7
55 years and over	3.6	5.0	4.3	4.6	4.9	4.9	5.1	5.3	5.2	5.2	5.5	5.7	5.8	5.4	5.4
Men, 16 years and over	7.4	9.9	8.8	9.1	9.4	9.5	9.7	10.0	10.2	10.7	10.9	11.1	11.2	10.6	10.8
16 to 24 years	15.7	19.1	17.9	18.2	18.7	18.6	18.7	19.2	19.5	20.0	20.2	20.6	20.5	19.7	19.8
16 to 17 years	20.1	24.4	22.6	23.3	24.1	23.8	24.3	25.2	25.1	25.4	25.6	25.7	25.8	23.9	23.6
18 to 19 years	22.0	26.4	23.3	24.5	24.8	26.3	25.4	27.7	27.4	29.0	28.8	28.2	29.0	24.4	23.6
20 to 24 years	18.8	23.1	22.1	22.6	23.7	22.2	23.7	23.4	23.4	23.0	23.4	24.1	24.0	23.5	23.4
25 years and over	13.2	16.4	15.3	15.6	15.9	15.8	15.9	16.2	16.6	17.3	17.4	18.0	17.8	17.6	17.8
25 to 54 years	5.1	7.5	6.4	6.7	6.9	7.0	7.4	7.5	7.7	8.2	8.5	8.6	8.8	8.2	8.5
55 years and over	5.5	8.0	6.8	7.1	7.3	7.5	7.9	8.1	8.2	9.0	9.1	9.2	9.4	8.7	9.1
Women, 16 years and over	3.5	5.1	4.3	4.7	5.0	4.7	4.9	4.9	5.5	5.5	6.0	6.2	6.3	5.8	5.7
16 to 24 years	7.9	9.4	8.9	8.9	9.3	9.3	9.2	9.6	9.5	9.6	9.9	10.2	10.3	10.0	9.8
16 to 19 years	14.0	16.2	15.9	15.2	16.0	16.0	15.6	16.4	16.8	16.3	17.0	17.2	17.1	16.7	16.6
20 to 24 years	19.0	21.9	21.9	20.3	21.3	21.8	20.6	22.6	22.5	22.1	22.5	22.6	23.0	21.5	20.7
25 years and over	20.7	23.2	22.4	21.7	24.0	23.6	21.6	23.8	23.9	23.8	22.9	24.2	25.6	23.7	23.2
55 years and over	17.9	21.0	21.6	19.9	19.8	20.6	20.2	21.9	21.5	20.9	22.3	21.4	21.3	19.8	19.3
25 years and over	11.2	13.2	12.6	12.5	13.0	12.9	13.0	13.1	13.7	13.1	14.0	14.4	14.0	14.2	14.5
25 to 54 years	5.9	7.3	6.6	6.9	7.1	7.3	7.2	7.4	7.1	7.5	7.6	7.9	8.2	7.9	7.7
55 years and over	6.3	7.7	7.0	7.4	7.5	7.8	7.5	7.7	7.7	8.0	8.2	8.5	8.8	8.7	8.2
55 years and over	3.8	4.8	4.3	4.7	4.7	5.0	5.4	5.8	4.8	4.8	4.8	4.9	5.1	4.8	4.9

**7. Unemployed persons by reason for unemployment, seasonally adjusted**

[Numbers in thousands]

Reason for unemployment	Annual average		1982											1983	
	1981	1982	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
<b>NUMBER OF UNEMPLOYED</b>															
Job losers	4,267	6,268	5,246	5,628	5,889	5,938	6,181	6,323	6,446	6,979	7,325	7,369	7,295	6,704	6,809
On layoff	1,430	2,127	1,777	1,858	1,967	1,956	2,097	2,126	2,218	2,625	2,519	2,531	2,468	2,131	2,024
Other job losers	2,837	4,141	3,469	3,770	3,922	3,982	4,084	4,197	4,228	4,354	4,806	4,838	4,827	4,573	4,784
Job leavers	923	840	942	885	901	864	826	819	814	786	803	794	826	839	848
Reentrants	2,102	2,384	2,272	2,261	2,342	2,393	2,378	2,478	2,440	2,437	2,322	2,546	2,629	2,623	2,491
New entrants	981	1,185	1,096	1,061	1,096	1,159	1,091	1,230	1,304	1,303	1,296	1,244	1,288	1,174	1,161
<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	54.9	57.2	57.6	57.3	59.0	58.3	58.6	60.7	62.4	61.6	60.6	59.1	60.2
On layoff	17.3	19.9	18.6	18.9	19.2	18.9	20.0	19.6	20.2	22.8	21.4	21.2	20.5	18.8	17.9
Other job losers	34.3	38.8	36.3	38.3	38.3	38.5	39.0	38.7	38.4	37.8	40.9	40.5	40.1	40.3	42.3
Job leavers	11.2	7.9	9.9	9.0	8.8	8.3	7.9	7.5	7.4	6.8	6.8	6.6	6.9	7.4	7.5
Reentrants	25.4	22.3	23.8	23.0	22.9	23.1	22.7	22.8	22.2	21.2	19.8	21.3	21.8	23.1	22.0
New entrants	11.9	11.1	11.5	10.8	10.7	11.2	10.4	11.3	11.9	11.3	11.0	10.4	10.7	10.4	10.3
<b>PERCENT OF CIVILIAN LABOR FORCE</b>															
Job losers	3.9	5.7	4.8	5.1	5.4	5.4	5.6	5.7	5.8	6.3	6.6	6.6	6.6	6.1	6.2
On layoff	.8	.8	.9	.8	.8	.8	.7	.7	.7	.7	.7	.7	.7	.8	.8
Other job losers	1.9	2.2	2.1	2.1	2.1	2.2	2.2	2.2	2.2	2.2	2.1	2.3	2.4	2.4	2.3
Job leavers	.9	1.1	1.0	1.0	1.0	1.1	1.0	1.1	1.2	1.2	1.2	1.1	1.2	1.1	1.1

**8. Duration of unemployment, seasonally adjusted**

[Numbers in thousands]

Weeks of unemployment	Annual average		1982											1983	
	1981	1982	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.
Less than 5 weeks	3,449	3,883	3,807	3,831	3,930	3,871	3,605	3,959	3,933	4,004	3,930	3,963	4,019	3,536	3,731
5 to 14 weeks	2,539	3,311	3,068	3,098	3,255	3,281	3,398	3,249	3,346	3,549	3,511	3,549	3,460	3,328	3,106
15 weeks and over	2,285	3,485	2,750	2,962	3,080	3,267	3,517	3,569	3,637	3,856	4,167	4,524	4,732	4,634	4,618
15 to 26 weeks	1,122	1,708	1,479	1,605	1,582	1,633	1,683	1,780	1,808	1,830	1,951	2,191	2,125	1,928	1,928
27 weeks and over	1,162	1,776	1,271	1,357	1,498	1,634	1,834	1,789	1,829	2,026	2,216	2,333	2,607	2,706	2,689
Mean duration, in weeks	13.7	15.6	14.0	13.9	14.3	14.9	16.3	15.6	16.1	16.6	17.1	17.3	18.0	19.4	19.0
Median duration, in weeks	6.9	8.7	7.4	7.7	8.3	8.6	9.8	8.3	8.3	9.4	9.6	10.0	10.1	11.5	9.6

## 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 177,000 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 11-15 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.

### 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 1982 data, published in the July 1982 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Earlier comparable unadjusted and seasonally adjusted data are published in a Supplement to *Employment and Earnings* (unadjusted data from April 1977 through February 1982 and seasonally adjusted data from January 1974 through February 1982) 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 for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976).

**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	50,689	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	14,705	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	4,046	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	19,682	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	4,366	20,285	64,748	5,146	20,310	5,275	15,035	5,160	17,890	16,241	2,866	13,375
1981	91,105	75,081	25,481	1,132	4,176	20,173	65,625	5,157	20,551	5,359	15,192	5,301	18,592	16,024	2,772	13,253
1982	89,630	73,842	23,882	1,121	3,913	18,848	65,748	5,058	20,551	5,294	15,258	5,350	19,001	15,788	2,739	13,050

<sup>1</sup>Data include Alaska and Hawaii beginning in 1959.

**10. Employment by State**

[Nonagricultural payroll data, in thousands]

State	January 1982	December 1982	January 1983 <sup>p</sup>	State	January 1982	December 1982	January 1983 <sup>p</sup>
Alabama	1,304.4	1,310.1	1,301.8	Montana	267.0	271.3	266.6
Alaska	172.1	196.3	191.9	Nebraska	602.2	598.3	580.1
Arizona	1,028.2	1,043.5	1,029.0	Nevada	399.7	405.1	399.2
Arkansas	711.1	719.7	710.0	New Hampshire	387.1	390.4	382.5
California	9,834.7	9,828.0	9,677.5	New Jersey	3,028.4	3,059.3	2,979.8
Colorado	1,303.8	1,322.0	1,299.9	New Mexico	469.4	476.5	467.6
Connecticut	1,414.4	1,440.8	1,405.7	New York	7,136.4	7,261.7	7,089.6
Delaware	244.5	261.5	252.9	North Carolina	2,331.7	2,352.4	2,311.6
District of Columbia	591.4	593.5	585.0	North Dakota	242.8	253.1	246.1
Florida	3,771.9	3,834.4	3,822.4	Ohio	4,137.5	4,102.5	4,012.2
Georgia	2,160.1	2,226.5	2,195.8	Oklahoma	1,227.1	1,218.6	1,198.6
Hawaii	399.5	402.8	396.5	Oregon	956.6	950.2	929.6
Idaho	306.7	312.2	303.5	Pennsylvania	4,575.3	4,475.7	4,391.4
Illinois	4,623.3	4,543.2	4,440.8	Rhode Island	386.0	391.4	383.4
Indiana	2,020.9	1,979.8	1,944.8	South Carolina	1,163.2	1,159.7	1,140.0
Iowa	1,031.8	1,023.0	998.6	South Dakota	224.9	228.7	223.5
Kansas	930.5	908.9	888.2	Tennessee	1,687.0	1,668.1	1,639.0
Kentucky	1,160.9	1,165.6	1,149.1	Texas	6,271.7	6,219.7	6,168.7
Louisiana	1,613.6	1,607.1	1,587.6	Utah	555.3	563.1	552.5
Maine	399.6	407.9	397.4	Vermont	200.5	203.4	199.7
Maryland	1,651.7	1,688.1	1,637.7	Virginia	2,104.1	2,140.2	2,109.2
Massachusetts	2,576.8	2,628.7	2,546.2	Washington	1,556.8	1,564.1	1,544.7
Michigan	3,204.6	3,165.9	3,110.6	West Virginia	611.8	595.7	586.9
Minnesota	1,710.1	1,693.9	1,648.6	Wisconsin	1,859.4	1,846.0	1,797.5
Mississippi	789.9	793.6	779.7	Wyoming	213.7	210.7	205.3
Missouri	1,891.0	1,908.6	1,869.2	Virgin Islands	36.0	35.5	( <sup>1</sup> )

<sup>1</sup>Data not available.

p= 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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P	
<b>TOTAL</b> .....	91,105	89,630	90,459	90,304	90,083	90,166	89,839	89,535	89,313	89,264	88,877	88,750	88,565	88,895	88,715	
<b>PRIVATE SECTOR</b> .....	75,081	73,842	74,609	74,445	74,231	74,313	74,007	73,900	73,640	73,504	73,118	72,996	72,810	73,169	72,978	
<b>GOODS-PRODUCING</b> .....	25,481	23,882	24,631	24,450	24,289	24,255	23,994	23,840	23,657	23,530	23,239	23,081	22,986	23,141	23,018	
Mining .....	1,132	1,121	1,203	1,197	1,182	1,152	1,124	1,100	1,086	1,075	1,058	1,046	1,037	1,028	1,015	
Construction .....	4,176	3,913	3,974	3,934	3,938	3,988	3,940	3,927	3,899	3,883	3,856	3,854	3,818	3,916	3,782	
Manufacturing .....	20,173	18,848	19,454	19,319	19,169	19,115	18,930	18,813	18,672	18,572	18,325	18,181	18,131	18,197	18,221	
Production workers .....	14,021	12,782	13,290	13,179	13,042	13,008	12,852	12,760	12,647	12,566	12,335	12,203	12,172	12,238	12,278	
<b>Durable goods</b> .....	12,117	11,112	11,575	11,490	11,375	11,332	11,203	11,133	10,993	10,900	10,666	10,550	10,519	10,563	10,602	
Production workers .....	8,301	7,364	7,759	7,685	7,576	7,553	7,443	7,388	7,272	7,191	6,979	6,874	6,853	6,908	6,951	
Lumber and wood products .....	668.7	613.9	611	607	615	617	615	614	614	616	614	616	621	632	636	
Furniture and fixtures .....	467.3	441.7	449	446	443	443	442	439	443	439	434	435	436	436	436	
Stone, clay, and glass products .....	638.2	577.2	596	590	584	586	580	579	574	571	565	556	552	553	555	
Primary metal industries .....	1,121.1	918.5	1,024	1,007	976	945	926	906	889	865	831	813	803	813	812	
Fabricated metal products .....	1,592.4	1,442.6	1,505	1,496	1,481	1,472	1,452	1,446	1,427	1,414	1,381	1,365	1,358	1,368	1,372	
Machinery, except electrical .....	2,507.0	2,288.7	2,446	2,419	2,389	2,377	2,322	2,274	2,230	2,208	2,142	2,108	2,086	2,064	2,057	
Electric and electronic equipment .....	2,092.2	2,011.2	2,048	2,038	2,034	2,034	2,026	2,018	2,011	1,995	1,969	1,963	1,946	1,959	1,965	
Transportation equipment .....	1,892.6	1,726.0	1,778	1,774	1,748	1,755	1,745	1,759	1,719	1,709	1,658	1,631	1,662	1,677	1,708	
Instruments and related products .....	726.8	705.2	718	716	713	708	708	702	701	694	689	682	684	684	684	
Miscellaneous manufacturing .....	410.7	387.3	400	397	392	390	387	390	384	382	378	374	373	377	377	
<b>Nondurable goods</b> .....	8,056	7,736	7,879	7,829	7,794	7,783	7,727	7,680	7,679	7,672	7,659	7,631	7,612	7,634	7,619	
Production workers .....	5,721	5,418	5,531	5,494	5,466	5,455	5,409	5,372	5,375	5,375	5,356	5,329	5,319	5,330	5,327	
Food and kindred products .....	1,674.3	1,644.0	1,663	1,658	1,643	1,652	1,637	1,643	1,628	1,629	1,644	1,644	1,636	1,640	1,628	
Tobacco manufactures .....	69.8	65.6	68	68	67	67	67	65	65	63	63	61	66	67	67	
Textile mill products .....	822.5	748.9	777	760	773	759	741	741	737	735	735	726	725	722	723	
Apparel and other textile products .....	1,244.0	1,158.3	1,201	1,186	1,165	1,165	1,161	1,126	1,145	1,143	1,141	1,134	1,131	1,144	1,136	
Paper and allied products .....	687.8	659.5	670	668	664	661	658	657	653	657	650	652	650	650	647	
Printing and publishing .....	1,265.8	1,270.7	1,276	1,278	1,274	1,274	1,269	1,267	1,269	1,269	1,268	1,266	1,265	1,269	1,270	
Chemicals and allied products .....	1,107.3	1,074.0	1,093	1,088	1,082	1,079	1,073	1,068	1,070	1,066	1,061	1,059	1,054	1,053	1,056	
Petroleum and coal products .....	215.6	206.8	208	207	206	207	205	205	205	209	208	206	206	207	206	
Rubber and miscellaneous plastics products .....	736.1	697.8	708	703	706	708	704	700	699	694	684	678	678	680	685	
Leather and leather products .....	233.0	210.1	215	213	214	211	212	208	208	207	205	205	201	202	201	
<b>SERVICE-PRODUCING</b> .....	65,625	65,748	65,828	65,854	65,794	65,911	65,845	65,695	65,656	65,734	65,638	65,669	65,579	65,754	65,697	
Transportation and public utilities .....	5,157	5,058	5,115	5,100	5,094	5,101	5,078	5,044	5,025	5,031	5,007	4,992	4,983	4,959	4,951	
Wholesale and retail trade .....	20,551	20,551	20,670	20,655	20,584	20,652	20,595	20,615	20,550	20,492	20,441	20,425	20,316	20,500	20,431	
Wholesale trade .....	5,359	5,294	5,343	5,336	5,323	5,331	5,307	5,299	5,278	5,272	5,254	5,228	5,205	5,198	5,178	
Retail trade .....	15,192	15,258	15,327	15,319	15,261	15,321	15,288	15,316	15,272	15,220	15,187	15,197	15,111	15,302	15,253	
Finance, insurance, and real estate .....	5,301	5,350	5,326	5,336	5,335	5,342	5,352	5,359	5,360	5,367	5,357	5,363	5,377	5,390	5,401	
Services .....	18,592	19,001	18,867	18,904	18,929	18,963	18,988	19,042	19,048	19,084	19,074	19,135	19,148	19,179	19,177	
<b>Government</b> .....	16,024	15,788	15,850	15,859	15,852	15,853	15,832	15,835	15,673	15,760	15,759	15,754	15,755	15,726	15,737	
Federal .....	2,772	2,739	2,737	2,736	2,730	2,728	2,739	2,737	2,740	2,731	2,740	2,745	2,761	2,751	2,751	
State and local .....	13,253	13,050	13,113	13,123	13,122	13,125	13,093	12,898	12,933	13,029	13,019	13,009	12,994	12,975	12,986	

p=preliminary.

**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	\$1.335	\$67.16	37.9	\$1.772	\$69.68	37.4	\$1.863	\$58.32	40.5	\$1.440
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	112.67	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	439.19	43.7	10.05	398.52	36.9	10.80	318.00	39.8	7.99
1982	266.92	34.8	7.67	460.93	42.6	10.82	425.41	36.8	11.56	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	\$1.100	\$50.52	37.7	\$1.340			
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	190.95	32.2	5.93	229.05	36.3	6.31	208.97	32.6	6.41
1982	402.09	39.0	10.31	198.42	31.9	6.22	245.44	36.2	6.78	225.27	32.6	6.91

<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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P
<b>PRIVATE SECTOR</b> .....	35.2	34.8	35.0	34.9	34.9	35.0	34.9	34.9	34.8	34.8	34.7	34.7	34.8	35.1	34.4
<b>MANUFACTURING</b> .....	39.8	38.9	39.4	39.0	39.0	39.1	39.2	39.2	39.0	38.8	38.8	38.9	38.9	39.8	38.9
Overtime hours .....	2.8	2.3	2.4	2.3	2.4	2.3	2.4	2.4	2.4	2.3	2.3	2.3	2.3	2.3	2.4
<b>Durable goods</b> .....	40.2	39.3	39.8	39.5	39.5	39.6	39.7	39.7	39.4	38.9	39.0	39.2	39.2	40.1	39.3
Overtime hours .....	2.8	2.2	2.2	2.2	2.2	2.2	2.3	2.2	2.2	2.1	2.0	2.1	2.1	2.1	2.3
Lumber and wood products .....	38.7	38.0	37.9	37.6	37.6	38.5	38.7	38.6	38.2	38.5	38.0	38.5	38.5	40.7	39.0
Furniture and fixtures .....	38.4	37.3	37.7	37.3	37.4	37.5	37.8	37.6	37.9	37.4	37.5	37.6	37.7	38.9	37.6
Stone, clay, and glass products .....	40.6	40.1	40.1	40.0	40.0	40.2	40.4	40.6	40.3	40.2	40.2	40.0	40.0	41.4	39.9
Primary metal industries .....	40.5	38.6	39.4	38.8	38.5	38.5	38.9	38.9	38.8	37.8	38.0	38.2	38.9	39.0	38.8
Fabricated metal products .....	40.3	39.2	39.7	39.5	39.4	39.5	39.4	39.5	39.2	38.8	38.9	39.0	39.1	39.8	39.2
Machinery, except electrical .....	40.9	39.6	40.7	40.2	40.1	39.8	39.6	39.8	39.5	39.0	39.2	39.2	39.3	39.7	39.3
Electric and electronic equipment .....	39.9	39.3	39.8	39.4	39.3	39.4	39.5	39.8	39.3	38.8	39.0	39.2	39.3	39.8	39.2
Transportation equipment .....	40.9	40.5	40.5	40.4	41.1	41.1	41.6	41.0	40.5	39.8	40.1	40.8	39.9	41.6	40.8
Instruments and related products .....	40.4	39.8	39.9	39.9	39.9	40.2	40.2	40.1	40.1	39.8	39.4	39.2	39.6	40.6	39.4
Miscellaneous manufacturing .....	38.8	38.5	38.6	38.6	38.5	38.7	38.6	38.7	38.6	38.3	38.6	38.6	38.4	39.3	37.6
<b>Nondurable goods</b> .....	39.1	38.4	38.9	38.5	38.4	38.5	38.6	38.6	38.5	38.6	38.5	38.5	38.5	39.3	38.4
Overtime hours .....	2.8	2.5	2.6	2.5	2.6	2.5	2.5	2.6	2.6	2.6	2.6	2.5	2.5	2.5	2.5
Food and kindred products .....	39.7	39.5	40.2	39.5	39.4	39.4	39.5	39.5	39.1	39.4	39.7	39.4	39.2	39.3	38.9
Textile mill products .....	39.6	37.5	38.3	37.6	37.7	37.9	37.8	37.7	38.2	38.1	38.2	38.6	38.4	40.3	38.9
Apparel and other textile products .....	35.7	34.7	35.5	35.0	34.7	34.8	35.1	35.2	35.0	35.2	35.0	35.1	35.0	36.9	34.9
Paper and allied products .....	42.5	41.8	42.3	41.8	42.1	41.8	42.0	41.9	41.7	41.5	41.7	41.6	41.6	41.7	41.4
Printing and publishing .....	37.3	37.0	37.4	37.1	37.1	36.8	37.1	37.0	36.8	37.0	36.9	37.1	37.1	37.6	37.0
Chemicals and allied products .....	41.6	40.9	41.2	40.7	40.7	41.0	41.0	40.9	40.9	41.2	40.8	40.6	40.9	41.0	40.9
Petroleum and coal products .....	43.2	43.9	43.5	43.5	44.0	44.1	44.1	43.3	43.9	44.0	43.3	43.9	44.4	45.1	44.7
Rubber and miscellaneous plastics products .....	40.3	39.6	40.0	39.6	39.8	39.9	40.1	40.2	39.7	39.6	39.0	39.3	39.6	40.2	39.6
Leather and leather products .....	36.8	35.6	35.6	35.8	35.6	35.6	35.7	36.1	36.0	35.7	35.2	35.9	35.8	36.6	34.4
<b>WHOLESALE AND RETAIL TRADE</b> .....	32.2	31.9	32.0	31.9	31.8	32.0	31.9	31.9	31.9	32.1	31.9	31.8	32.1	32.0	31.4
<b>WHOLESALE TRADE</b> .....	38.6	38.4	38.5	38.4	38.3	38.5	38.6	38.5	38.5	38.4	38.3	38.4	38.4	38.6	38.2
<b>RETAIL TRADE</b> .....	30.1	29.9	29.9	29.8	29.8	30.0	29.8	29.9	29.9	30.1	29.9	29.8	30.2	30.0	29.3
<b>SERVICES</b> .....	32.6	32.6	32.6	32.6	32.7	32.7	32.7	32.6	32.6	32.8	32.6	32.6	32.7	32.8	32.5

p=preliminary.

**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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P
<b>PRIVATE SECTOR</b> .....	\$7.25	\$7.67	\$7.54	\$7.55	\$7.58	\$7.63	\$7.64	\$7.67	\$7.70	\$7.76	\$7.79	\$7.81	\$7.82	\$7.90	\$7.90
Seasonally adjusted .....	( <sup>1</sup> )	( <sup>1</sup> )	7.53	7.54	7.59	7.65	7.67	7.71	7.74	7.72	7.77	7.79	7.82	7.86	7.88
<b>MINING</b> .....	10.05	10.82	10.62	10.62	10.65	10.66	10.82	10.91	10.93	11.04	11.02	11.06	11.08	11.21	11.34
<b>CONSTRUCTION</b> .....	10.80	11.56	11.32	11.33	11.32	11.46	11.41	11.53	11.60	11.68	11.82	11.66	11.90	11.85	11.92
<b>MANUFACTURING</b> .....	7.99	8.50	8.34	8.37	8.42	8.45	8.50	8.55	8.51	8.59	8.56	8.61	8.69	8.71	8.75
<b>Durable goods</b> .....	8.53	9.05	8.89	8.91	8.94	9.01	9.06	9.11	9.09	9.16	9.13	9.17	9.23	9.26	9.30
Lumber and wood products .....	7.00	7.50	7.27	7.28	7.24	7.41	7.59	7.64	7.61	7.70	7.61	7.63	7.59	7.70	7.67
Furniture and fixtures .....	5.91	6.32	6.19	6.21	6.21	6.23	6.30	6.34	6.39	6.41	6.41	6.44	6.47	6.51	6.50
Stone, clay, and glass products .....	8.27	8.87	8.62	8.65	8.72	8.80	8.86	8.93	8.93	9.03	9.04	9.04	9.08	9.08	9.11
Primary metal industries .....	10.81	11.33	11.20	11.15	11.24	11.23	11.31	11.37	11.49	11.54	11.42	11.49	11.49	11.57	11.53
Fabricated metal products .....	8.20	8.78	8.57	8.64	8.69	8.79	8.83	8.85	8.85	8.90	8.85	8.90	8.97	8.99	9.06
<b>Nondurable goods</b> .....	7.18	7.73	7.54	7.57	7.65	7.66	7.70	7.77	7.74	7.84	7.81	7.88	7.96	7.97	8.01
Food and kindred products .....	7.43	7.89	7.74	7.79	7.90	7.92	7.90	7.88	7.85	7.91	7.88	8.00	8.06	8.06	8.10
Tobacco manufactures .....	8.88	9.78	9.56	9.72	10.05	9.93	10.35	10.42	9.53	9.57	9.50	10.16	9.63	9.87	10.43
Textile mill products .....	5.52	5.83	5.76	5.76	5.79	5.79	5.79	5.81	5.82	5.86	5.87	5.92	6.03	6.08	6.09
Apparel and other textile products .....	4.96	5.18	5.13	5.15	5.18	5.16	5.18	5.17	5.18	5.20	5.19	5.22	5.26	5.31	5.30
Paper and allied products .....	8.60	9.32	8.99	9.03	9.11	9.14	9.28	9.41	9.45	9.63	9.54	9.60	9.66	9.66	9.70
Printing and publishing .....	8.18	8.73	8.56	8.59	8.59	8.61	8.66	8.74	8.79	8.90	8.87	8.91	8.99	8.97	9.00
Chemicals and allied products .....	9.12	9.98	9.68	9.71	9.81	9.83	9.95	10.02	10.03	10.20	10.24	10.28	10.34	10.35	10.40
Petroleum and coal products .....	11.38	12.46	12.29	12.32	12.50	12.52	12.53	12.42	12.42	12.62	12.57	12.69	12.72	13.15	13.15
Rubber and miscellaneous plastics products .....	7.16	7.63	7.49	7.45	7.52	7.56	7.64	7.65	7.64	7.76	7.72	7.79	7.89	7.90	7.93
Leather and leather products .....	4.99	5.33	5.22	5.24	5.32	5.32	5.36	5.30	5.33	5.41	5.39	5.41	5.44	5.48	5.50
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	9.70	10.31	10.13	10.07	10.14	10.17	10.20	10.29	10.43	10.46	10.48	10.59	10.62	10.66	10.68
<b>WHOLESALE AND RETAIL TRADE</b> .....	5.93	6.22	6.16	6.16	6.18	6.20	6.20	6.21	6.22	6.26	6.30	6.32	6.29	6.44	6.47
<b>WHOLESALE TRADE</b> .....	7.57	8.06	7.94	7.93	7.97	8.03	8.01	8.07	8.11	8.14	8.17	8.18	8.24	8.33	8.34
<b>RETAIL TRADE</b> .....	5.25	5.49	5.42	5.43	5.44	5.47	5.47	5.48	5.48	5.52	5.54	5.58	5.56	5.68	5.70
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	6.31	6.78	6.62	6.59	6.64	6.77	6.71	6.78	6.87	6.90	6.97	7.01	7.01	7.21	7.17
<b>SERVICES</b> .....	6.41	6.91	6.79	6.77	6.81	6.85	6.84	6.87	6.90	6.99	7.05	7.08	7.12	7.19	7.15

<sup>1</sup> Not available.

p=preliminary.

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

[1977=100]

Industry	Not seasonally adjusted					Seasonally adjusted						
	Feb. 1982	Dec. 1982	Jan. 1983 P	Feb. 1983 P	Percent change from: Feb. 1982 to Feb. 1983	Feb. 1982	Oct. 1982	Nov. 1982	Dec. 1982	Jan. 1983 P	Feb. 1983 P	Percent change from: Jan. 1983 to Feb. 1983
<b>PRIVATE SECTOR (in current dollars)</b> .....	145.4	152.1	153.3	153.4	5.5	145.0	150.8	151.2	152.1	152.7	152.9	0.1
Mining .....	156.0	163.4	164.5	165.8	6.3	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Construction .....	136.5	143.9	143.2	143.8	5.3	137.9	142.3	141.0	143.8	143.4	145.2	1.3
Manufacturing .....	149.1	156.2	157.0	157.2	5.4	149.1	154.6	155.3	155.6	156.5	157.1	.4
Transportation and public utilities .....	146.3	154.2	154.7	155.3	6.2	146.0	151.1	152.3	153.4	154.4	155.0	.4
Wholesale and retail trade .....	143.3	147.8	149.9	150.1	4.7	142.5	147.6	148.1	148.6	148.9	149.2	.2
Finance, insurance, and real estate .....	144.9	153.0	157.2	156.4	7.9	143.3	152.9	152.7	153.7	156.6	154.6	-1.2
Services .....	144.9	152.1	153.4	152.5	5.3	143.7	150.8	150.9	152.4	152.2	151.3	-.6
<b>PRIVATE SECTOR (in constant dollars)</b> .....	93.3	94.5	95.3	( <sup>2</sup> )	( <sup>2</sup> )	93.1	93.2	93.5	94.3	94.7	( <sup>2</sup> )	( <sup>2</sup> )

<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.



### 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	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P	Feb. P	
	<b>PRIVATE SECTOR</b>															
Current dollars	\$255.20	\$266.92	\$262.39	\$261.99	\$262.27	\$265.52	\$267.40	\$269.98	\$271.04	\$270.05	\$270.31	\$271.01	\$274.48	\$273.34	\$270.18	
Seasonally adjusted	( <sup>1</sup> )	( <sup>1</sup> )	263.55	263.15	264.89	267.75	267.68	269.08	269.35	268.66	269.62	270.31	272.14	275.89	271.07	
Constant (1977) dollars	170.13	167.87	168.31	168.37	167.80	168.16	167.33	167.90	168.24	167.42	167.06	167.81	170.59	169.88	( <sup>1</sup> )	
<b>MINING</b>	439.19	460.93	463.03	465.16	454.76	454.12	463.10	463.68	463.43	462.58	461.74	460.10	467.58	476.43	462.67	
<b>CONSTRUCTION</b>	398.52	425.41	406.39	419.21	415.44	429.75	427.88	438.14	436.16	430.99	438.52	420.93	437.92	437.27	421.97	
<b>MANUFACTURING</b>																
Current dollars	318.00	330.65	326.93	327.27	325.85	329.55	334.05	332.60	331.89	334.15	333.84	338.37	344.99	341.43	338.63	
Constant (1977) dollars	212.00	207.96	209.70	210.33	208.48	208.71	209.04	206.84	206.40	207.16	206.33	209.52	214.41	212.20	( <sup>1</sup> )	
<b>Durable goods</b>	342.91	355.67	352.93	352.84	350.45	355.90	360.59	357.11	356.33	357.24	357.90	363.13	370.12	367.62	364.56	
Lumber and wood products	270.90	285.00	272.63	273.73	270.05	285.29	297.53	294.90	295.27	298.76	292.22	293.76	295.25	301.62	295.30	
Furniture and fixtures	226.94	235.74	231.51	233.50	230.39	231.76	238.77	233.31	243.46	241.66	244.22	245.36	250.39	244.78	242.45	
Stone, clay, and glass products	335.76	355.69	337.90	344.27	347.93	355.52	361.49	362.56	365.72	367.02	367.02	367.02	366.83	364.11	355.29	
Primary metal industries	437.81	437.34	443.52	434.85	434.99	430.11	439.96	437.75	440.07	438.52	431.68	440.07	450.41	452.39	449.67	
Fabricated metal products	330.46	344.18	337.66	342.14	338.91	346.33	349.67	344.27	346.04	346.21	346.04	350.66	359.70	355.11	352.43	
Machinery except electrical	360.33	367.49	374.44	370.87	367.75	367.62	367.09	363.63	364.80	367.54	365.19	370.66	380.16	371.84	369.03	
Electric and electronic equipment	304.04	321.08	316.81	316.40	313.17	315.56	319.56	319.84	322.18	322.43	326.09	331.85	339.69	335.41	334.38	
Transportation equipment	424.95	450.36	437.13	439.96	441.05	455.39	466.34	456.75	447.20	443.98	457.65	467.62	474.76	467.81	468.46	
Instruments and related products	300.17	328.75	317.60	320.80	318.77	327.22	330.85	328.25	335.16	335.91	334.96	341.09	349.86	351.75	346.02	
Miscellaneous manufacturing	231.25	247.17	241.54	244.58	242.57	245.63	247.43	244.48	246.65	250.51	253.50	256.50	259.74	259.78	251.33	
<b>Nondurable goods</b>	280.74	296.83	291.04	289.93	291.47	294.14	297.99	299.15	299.54	304.19	302.25	306.53	311.24	307.64	305.18	
Food and kindred products	294.97	311.66	307.28	303.81	306.52	312.05	312.05	312.05	310.86	315.61	312.84	317.60	319.98	313.53	311.04	
Tobacco manufactures	344.54	369.68	366.15	362.56	367.83	369.40	397.44	383.46	363.09	379.93	370.50	386.08	364.98	361.24	384.87	
Textile mill products	218.59	218.63	219.46	217.15	215.39	219.44	220.60	216.13	222.91	223.85	227.17	231.47	236.38	236.51	235.68	
Apparel and other textile products	177.07	179.75	180.58	180.77	178.19	180.08	183.89	183.02	183.37	182.52	183.21	184.79	186.20	187.44	183.38	
Paper and allied products	365.50	389.58	377.58	376.55	380.80	379.31	389.76	391.46	393.12	401.57	397.82	402.24	410.55	402.82	399.64	
Printing and publishing	305.11	323.01	317.58	318.89	316.11	315.99	319.55	322.51	326.11	331.08	328.19	332.34	340.72	332.79	330.30	
Chemicals and allied products	379.39	408.18	397.85	395.20	399.27	401.06	406.96	407.81	408.22	420.24	417.79	421.48	428.08	422.28	424.32	
Petroleum and coal products	491.62	546.99	518.64	-522.37	550.00	549.83	553.83	546.48	546.48	572.95	555.59	564.71	563.50	578.60	570.71	
Rubber and miscellaneous plastics products	288.55	302.15	298.85	295.77	297.04	300.13	306.36	302.94	303.31	307.30	303.40	308.48	317.97	316.79	313.24	
Leather and leather products	183.63	189.75	184.27	186.54	187.26	191.52	196.71	191.33	192.95	192.06	190.27	194.76	196.38	195.64	188.10	
<b>TRANSPORTATION AND PUBLIC UTILITIES</b>	382.18	402.09	397.10	392.73	393.43	394.60	399.84	403.37	409.90	405.85	406.62	413.01	415.24	409.34	405.84	
<b>WHOLESALE AND RETAIL TRADE</b>	190.95	198.42	194.66	194.66	195.91	197.78	199.02	202.45	202.77	200.95	200.97	200.34	203.80	202.86	199.92	
<b>WHOLESALE TRADE</b>	292.20	309.50	303.31	303.72	304.45	308.35	309.19	312.31	313.05	312.58	314.55	314.93	318.89	319.04	316.09	
<b>RETAIL TRADE</b>	158.03	164.15	159.35	159.64	161.02	163.01	164.65	168.24	168.24	166.70	165.09	165.73	170.14	166.42	164.16	
<b>FINANCE, INSURANCE, AND REAL ESTATE</b>	229.05	245.44	239.64	239.22	240.37	245.75	242.23	245.44	249.38	249.09	252.31	253.76	254.46	263.89	259.55	
<b>SERVICES</b>	208.97	225.27	220.68	220.03	221.33	222.63	224.35	227.40	227.70	228.57	229.13	230.10	232.82	234.39	231.66	

<sup>1</sup> Not available.

p = preliminary.

## 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 unem-

ployed. 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.

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.

### 17. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1982												1983
	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. P
All programs:													
Insured unemployment	4,681	4,723	4,892	4,760	4,388	4,327	4,495	4,398	4,283	4,391	4,635	5,074	5,459
State unemployment insurance program: <sup>1</sup>													
Initial claims <sup>2</sup>	3,328	2,272	2,418	2,347	1,989	2,399	2,655	2,358	2,342	2,443	2,661	3,080	3,143
Insured unemployment (average weekly volume)	4,470	4,376	4,282	4,067	3,729	3,707	3,912	3,831	3,712	3,828	4,156	4,581	4,923
Rate of insured unemployment	5.1	5.0	4.9	4.6	4.3	4.3	4.6	4.4	4.2	4.4	4.7	5.2	5.6
Weeks of unemployment compensated	15,962	15,631	18,144	16,158	13,679	14,648	14,655	15,015	14,547	13,786	15,162	17,873	17,052
Average weekly benefit amount for total unemployment	\$114.83	\$116.95	\$117.10	\$117.61	\$118.08	\$118.64	\$117.28	\$118.97	\$120.78	\$122.75	\$123.36	\$123.42	\$125.60
Total benefits paid	\$1,764,206	\$1,781,830	\$2,072,642	\$1,849,881	\$1,573,444	\$1,692,150	\$1,679,378	\$1,746,195	\$1,710,573	\$1,646,554	\$1,818,220	\$2,135,302	\$2,077,739
State unemployment insurance program: <sup>1</sup> (Seasonally adjusted data)													
Initial claims <sup>2</sup>	2,304	2,354	2,521	2,442	2,379	2,528	2,317	2,814	2,902	2,688	2,680	2,586	2,187
Insured unemployment (average weekly volume)	3,604	3,644	3,777	3,939	3,925	3,995	3,959	4,137	4,446	4,680	4,618	4,355	3,980
Rate of insured unemployment	4.1	4.2	4.3	4.5	4.5	4.6	4.5	4.7	5.1	5.3	5.3	5.0	4.6
Unemployment compensation for ex-servicemen: <sup>3</sup>													
Initial claims <sup>1</sup>	8	8	10	9	8	10	10	11	11	10	17	24	21
Insured unemployment (average weekly volume)	16	13	11	10	9	8	7	7	8	9	14	26	37
Weeks of unemployment compensated	65	49	48	37	31	29	25	24	25	28	33	90	122
Total benefits paid	\$7,098	\$5,304	\$5,141	\$4,013	\$3,395	\$3,314	\$2,821	\$2,793	\$2,900	\$3,378	\$4,007	\$11,191	\$15,349
Unemployment compensation for Federal civilian employees: <sup>4</sup>													
Initial claims	17	12	13	13	11	14	13	12	13	16	14	15	16
Insured unemployment (average weekly volume)	40	40	38	33	29	28	29	27	26	28	31	33	35
Weeks of unemployment compensated	162	154	172	146	120	123	120	118	111	109	126	146	136
Total benefits paid	\$18,040	\$17,517	\$19,677	\$16,806	\$13,526	\$13,922	\$13,445	\$13,140	\$12,303	\$12,119	\$14,023	\$16,114	\$15,462
Railroad unemployment insurance:													
Applications	22	11	9	5	5	36	68	68	14	20	17	17	....
Insured unemployment (average weekly volume)	75	67	65	57	44	44	55	55	61	82	81	83	....
Number of payments	153	140	154	130	95	93	100	100	137	159	162	172	....
Average amount of benefit payment	\$213.39	\$214.07	\$215.71	\$209.48	\$200.75	\$199.15	\$202.54	\$202.54	\$216.14	\$212.35	\$216.55	\$217.00	....
Total benefits paid	\$30,544	\$28,011	\$33,853	\$26,262	\$19,110	\$18,574	\$17,998	\$17,998	\$31,123	\$31,638	\$35,061	\$39,500	....
Employment service: <sup>5</sup>													
New applications and renewals	....	....	7,439	....	....	10,965	....	....	14,320	....	....	....	....
Nonfarm placements	....	....	1,232	....	....	1,902	....	....	2,804	....	....	....	....

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

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

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

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

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

### Notes on the data

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

Beginning with the January 1983 data, tables 19 through 21 introduce a new treatment of homeownership costs into the Consumer Price Index for All Urban Consumers (CPI-U). The Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) will not be affected by this change until 1985. For an explanation of the change, see "Changing the treatment of shelter costs for homeowners in the CPI" by Robert Gillingham and Walter Lane in the June 1982 issue of the *Monthly Labor Review* and "Labor Month in the Review" in the March 1983 issue. Additional information appears in the *CPI Detailed Report*, January 1983.

**18. 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	116.8	5.8
1971	121.3	4.3	118.3	3.1	123.4	4.4	119.8	3.2	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	6.0	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	267.2	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

**19. 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		
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
All items	282.5	292.8	293.3	294.1	293.6	292.4	293.1	282.1	292.4	292.8	293.6	293.2	292.0	291.1
Food and beverages	273.6	279.9	280.1	279.6	279.1	279.1	280.7	273.9	280.2	280.4	279.9	279.4	279.6	281.1
Housing	306.1	320.1	319.7	320.7	319.0	316.3	317.9	305.6	320.5	320.0	321.2	319.6	316.8	317.0
Apparel and upkeep	187.3	191.8	194.9	195.5	195.4	193.6	191.0	186.5	190.7	184.1	194.6	194.4	192.8	190.0
Transportation	289.9	296.2	295.3	295.5	295.8	294.8	293.0	291.6	298.0	296.9	297.0	297.3	296.3	294.3
Medical care	313.4	333.3	336.0	338.7	342.2	344.3	347.8	312.0	331.3	333.9	336.5	339.8	341.8	345.3
Entertainment	229.2	237.4	238.3	240.3	239.9	240.1	241.5	226.1	233.9	234.8	236.5	236.1	236.5	237.7
Other goods and services	248.4	258.3	266.6	271.2	273.8	276.6	279.9	245.0	255.7	262.8	267.8	270.9	274.0	277.8
Commodities	258.8	266.4	266.6	267.5	267.8	267.7	267.2	259.3	266.8	267.0	267.9	268.2	268.2	268.0
Commodities less food and beverages	248.0	255.9	256.1	257.6	258.2	258.0	256.5	248.7	256.5	256.8	258.3	258.9	258.8	257.8
Nondurables less food and beverages	265.6	268.8	269.9	271.0	271.4	270.0	267.4	267.8	270.7	271.8	272.9	273.3	271.9	269.3
Durables	233.4	244.6	244.1	246.0	246.6	247.3	247.3	232.4	244.0	243.6	245.4	246.2	247.0	247.3
Services	323.9	338.9	339.7	340.3	338.6	335.6	337.9	324.3	340.0	340.5	341.2	339.3	336.2	336.9
Rent, residential	217.8	226.0	226.9	228.9	230.2	230.8	232.2	217.4	225.5	226.4	228.4	229.7	230.2	231.7
Household services less rent of shelter (12/82=100)	...	...	...	...	...	100.0	100.9	...	...	...	...	...	...	...
Transportation services	286.6	297.8	298.7	300.5	299.9	299.4	300.1	285.9	296.5	296.0	298.4	297.5	296.7	297.1
Medical care services	339.4	361.0	364.0	366.9	371.0	373.4	377.4	337.5	358.3	361.1	363.9	367.7	370.1	374.0
Other services	251.7	259.7	266.3	268.4	269.2	270.0	271.5	250.0	258.4	264.0	266.1	266.8	267.5	269.1
Special indexes:														
All items less food	281.4	292.5	292.9	294.0	293.6	292.1	292.6	281.3	292.4	292.8	293.9	293.5	292.1	291.9
All items less mortgage interest costs	266.1	275.6	276.7	278.0	278.2	278.4	...	266.4	275.8	276.7	277.9	278.1	278.3	278.5
Commodities less food	245.9	253.8	253.9	255.4	256.0	255.8	254.4	246.6	254.4	254.7	256.1	256.7	256.6	255.7
Nondurables less food	260.2	263.6	264.6	265.7	266.1	264.7	262.4	262.4	265.4	266.5	267.5	267.9	266.6	264.2
Nondurables less food and apparel	301.0	304.2	304.2	305.5	306.2	305.2	303.1	302.6	305.5	305.6	306.9	307.5	306.5	304.4
Nondurables	270.8	275.5	276.2	276.5	276.4	275.8	275.2	271.9	276.5	277.2	277.4	277.4	276.8	276.2
Services less rent of shelter (12/82=100)	...	...	...	...	...	100.0	100.7	...	...	...	...	...	...	...
Services less medical care	320.0	334.1	334.8	335.1	332.9	329.3	331.4	320.5	335.6	335.8	336.3	334.0	330.4	330.7
Domestically produced farm foods	262.4	268.4	268.0	266.6	265.3	264.8	265.7	261.4	267.4	267.0	265.5	264.4	264.0	265.0
Selected beef cuts	269.6	280.8	279.3	272.0	271.9	270.0	271.2	271.1	281.9	280.7	273.2	273.2	271.2	272.5
Energy <sup>1</sup>	416.4	424.5	424.2	425.0	422.6	419.9	414.5	419.0	426.1	425.6	426.0	423.7	420.8	415.1
Energy commodities <sup>1</sup>	446.4	436.6	433.3	431.9	431.6	425.4	414.9	447.0	437.3	433.8	423.3	431.8	425.6	282.2
All items less energy	272.1	282.7	283.1	284.0	283.6	282.5	283.8	270.9	281.5	281.9	282.8	282.5	281.5	279.3
All items less food and energy	268.5	279.8	280.4	281.5	281.2	279.9	281.1	267.1	278.7	279.2	280.4	280.2	279.0	237.1
Commodities less food and energy	223.7	233.6	234.1	236.0	236.6	237.1	237.1	222.8	232.8	233.6	235.4	236.2	236.8	415.2
Services less energy	320.5	333.6	334.4	334.4	333.1	329.6	331.8	321.0	334.7	334.8	335.2	333.7	330.1	330.5
Purchasing power of the consumer dollar, 1967 = \$1	\$0.354	\$0.342	0.341	\$0.340	\$0.341	\$0.342	\$0.341	\$0.354	\$0.342	\$0.342	\$0.341	\$0.341	\$0.342	\$0.342

See footnotes at end of table.

19. 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
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>FOOD AND BEVERAGES</b>	273.6	279.9	280.1	279.6	279.1	279.1	280.7	273.9	280.2	280.4	279.9	279.4	279.6	281.1
<b>Food</b>	281.0	287.4	287.6	287.0	286.4	286.5	288.1	281.1	287.5	287.7	287.2	286.6	286.7	288.4
Food at home	275.3	280.8	280.6	279.4	278.3	277.8	279.3	274.4	279.8	279.7	278.5	277.4	277.1	278.6
Cereals and bakery products	279.8	284.8	284.6	285.0	285.5	286.3	287.8	278.6	283.4	283.4	283.7	284.1	284.9	286.4
Cereals and cereal products (12/77 = 100)	153.0	154.5	154.3	154.0	153.2	153.4	154.0	153.9	155.5	155.2	154.9	154.1	154.2	154.8
Flour and prepared flour mixes (12/77 = 100)	139.1	141.6	141.4	139.9	139.2	139.5	140.3	139.6	142.1	141.8	140.3	139.5	139.8	140.6
Cereal (12/77 = 100)	163.1	166.5	166.9	167.5	167.2	168.0	168.1	165.1	168.6	169.0	169.7	169.4	170.1	170.3
Rice, pasta, and cornmeal (12/77 = 100)	151.1	149.3	148.2	147.6	146.1	145.3	146.5	152.4	150.5	149.4	148.7	147.3	146.5	147.6
Bakery products (12/77 = 100)	146.4	149.4	149.4	149.7	150.3	150.9	151.7	145.3	148.1	148.2	148.6	149.1	149.6	150.5
White bread	243.3	246.6	246.1	246.7	246.8	248.1	248.9	239.4	242.5	241.9	242.6	242.6	243.9	244.6
Other breads (12/77 = 100)	143.9	146.2	147.1	146.5	147.3	147.6	147.7	145.7	148.2	149.0	148.4	149.4	149.6	149.7
Fresh biscuits, rolls, and muffins (12/77 = 100)	146.5	150.5	149.5	151.0	150.9	151.6	152.6	142.5	146.6	145.6	147.1	146.9	147.6	148.6
Fresh cakes and cupcakes (12/77 = 100)	147.2	149.5	150.3	150.1	150.5	151.5	153.1	145.8	147.6	148.7	148.5	148.8	149.7	151.3
Cookies (12/77 = 100)	148.1	149.6	150.9	152.2	153.6	153.7	153.6	148.9	150.6	152.1	153.2	154.5	154.6	154.6
Crackers, bread, and cracker products (12/77 = 100)	133.4	141.3	140.8	141.9	143.3	144.1	144.9	134.7	142.6	142.3	143.3	144.6	145.5	146.4
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	146.2	148.9	149.2	148.7	149.6	150.4	152.3	148.9	151.5	151.8	151.4	152.3	152.9	154.9
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	151.2	156.6	154.7	154.4	155.8	155.2	156.8	144.7	149.5	148.1	147.6	148.6	148.4	149.8
Meats, poultry, fish, and eggs	253.7	265.4	267.8	265.1	263.6	261.6	263.0	253.3	265.1	267.7	265.0	263.5	261.5	262.8
Meats, poultry, and fish	259.1	273.7	275.3	272.4	270.8	268.8	270.3	258.6	273.3	275.1	272.1	270.6	268.6	270.0
Meats	257.8	276.5	278.4	274.9	273.6	271.1	272.2	257.3	275.8	277.9	274.6	273.2	270.8	271.8
Beef and veal	269.4	280.5	279.1	272.2	272.0	270.2	271.3	270.1	280.8	278.8	272.7	272.5	270.6	271.8
Ground beef other than canned	262.2	268.1	265.4	262.4	263.0	261.7	262.7	263.7	269.0	267.0	263.7	264.2	262.7	263.7
Chuck roast	279.6	289.7	286.9	281.9	281.7	281.0	281.7	288.5	298.9	295.9	290.4	290.3	289.6	290.4
Round roast	241.6	245.0	245.4	237.9	241.4	243.0	243.3	244.7	247.9	249.2	240.5	244.3	246.4	246.6
Round steak	257.5	263.4	262.0	253.4	257.1	253.5	255.1	256.1	261.1	260.6	251.0	255.1	251.3	253.0
Sirloin steak	258.2	285.5	285.2	266.3	259.8	253.0	253.1	258.9	286.8	286.7	268.0	260.6	252.7	254.5
Other beef and veal (12/77 = 100)	160.9	169.7	169.3	164.9	164.1	162.8	163.7	159.3	168.0	167.6	163.4	162.4	161.2	162.1
Pork	234.7	268.2	277.1	277.9	274.2	270.1	272.0	234.4	267.6	276.3	277.0	273.4	269.5	271.4
Bacon	235.5	295.6	315.5	312.4	298.7	290.8	290.8	239.3	300.4	320.7	317.7	304.0	296.1	295.5
Chops	219.2	248.0	252.5	252.3	249.0	242.4	245.6	217.6	246.3	250.6	250.0	247.0	240.8	243.9
Ham other than canned (12/77 = 100)	107.3	116.8	122.1	126.5	127.3	129.6	129.2	104.8	113.8	119.1	123.4	124.2	126.4	126.0
Sausage	297.6	332.2	341.2	342.1	337.7	332.0	333.6	298.8	333.5	342.5	343.2	338.5	332.5	335.0
Canned ham	245.4	257.6	259.7	267.2	270.5	272.4	275.2	249.0	261.1	263.5	271.4	275.0	276.9	279.7
Other pork (12/77 = 100)	129.5	150.8	153.8	151.3	149.6	145.6	147.9	128.8	150.0	153.0	150.5	148.6	144.9	147.1
Other meats	258.1	272.8	272.1	272.2	271.6	269.7	269.3	257.3	272.3	271.7	272.2	271.5	269.8	268.7
Frankfurters	256.7	275.6	275.3	274.8	274.4	268.9	269.7	256.1	274.9	274.7	274.0	273.8	268.4	268.5
Bologna, liverwurst, and salami (12/77 = 100)	145.4	157.5	156.6	158.5	156.6	155.3	154.0	145.4	157.6	156.6	158.5	156.4	155.1	153.9
Other lunchmeats (12/77 = 100)	132.2	138.3	138.9	140.1	141.3	141.8	139.9	130.2	136.1	136.7	137.9	139.1	138.8	137.7
Lamb and organ meats (12/77 = 100)	138.6	142.3	140.5	137.0	135.4	134.3	137.4	141.4	145.6	143.6	140.6	138.5	137.5	140.3
Poultry	194.2	196.2	196.2	195.4	192.0	190.4	191.3	192.4	194.4	194.2	193.2	190.0	188.4	189.4
Fresh whole chicken	193.1	193.8	194.8	192.6	189.3	185.4	186.8	190.9	191.8	192.5	190.3	187.4	183.5	185.0
Fresh and frozen chicken parts (12/77 = 100)	128.5	128.2	127.1	126.8	125.3	124.8	125.0	126.9	126.5	125.4	124.9	123.5	123.1	123.5
Other poultry (12/77 = 100)	123.2	127.7	127.9	128.5	125.4	126.0	126.3	123.0	127.4	128.0	124.6	126.3	125.7	125.1
Fish and seafood	373.3	367.6	369.4	367.1	366.6	369.6	376.7	372.4	365.8	368.4	366.0	365.3	368.2	375.1
Canned fish and seafood (12/77 = 100)	140.6	139.4	139.3	138.6	139.0	138.9	140.2	140.0	138.8	138.7	138.1	138.4	138.2	139.5
Fresh and frozen fish and seafood (12/77 = 100)	143.2	140.4	141.5	140.5	140.0	141.9	145.4	143.0	139.7	141.3	140.2	139.6	141.5	140.0
Eggs	189.4	161.2	175.2	175.8	175.0	172.5	172.9	190.6	162.3	176.1	176.7	176.2	173.3	173.7
Dairy products	245.8	247.5	247.0	247.1	247.4	247.8	249.5	245.2	246.8	246.3	246.4	246.7	247.1	248.9
Fresh milk and cream (12/77 = 100)	135.1	135.4	135.1	135.0	135.1	135.5	136.7	134.6	134.8	134.5	134.5	134.6	135.0	136.2
Fresh whole milk	221.2	221.2	220.8	220.8	220.9	221.9	223.7	220.2	220.3	219.9	220.2	220.1	221.1	222.9
Other fresh milk and cream (12/77 = 100)	135.1	136.0	135.6	135.3	135.4	135.2	136.9	134.7	135.5	135.0	134.7	134.9	134.7	136.3
Processed dairy products (12/77 = 100)	144.4	146.3	146.1	146.2	146.6	146.6	147.1	144.7	146.6	146.3	146.5	146.9	146.9	147.4
Butter	249.3	252.1	252.2	252.6	252.5	252.1	253.4	252.0	254.6	254.7	255.1	255.1	254.5	255.9
Cheese (12/77 = 100)	142.0	144.8	144.9	144.7	144.5	144.6	145.2	142.3	145.1	145.2	145.0	144.8	144.9	145.5
Ice cream and related products (12/77 = 100)	150.8	150.6	149.3	150.4	152.4	151.8	152.5	149.9	149.6	148.4	149.6	151.5	150.8	151.6
Other dairy products (12/77 = 100)	138.4	140.7	141.1	141.0	140.9	141.7	141.6	139.1	141.6	141.8	141.7	141.5	142.4	142.3
Fruits and vegetables	294.7	291.4	284.1	280.7	276.1	277.6	276.2	291.3	286.7	278.8	275.0	271.3	273.6	272.6
Fresh fruits and vegetables	308.0	296.9	283.5	277.4	268.3	272.3	269.2	303.1	289.7	275.2	268.4	261.0	266.6	264.3
Fresh fruits	276.7	336.1	329.0	317.1	288.9	273.9	268.3	267.0	323.2	313.6	300.4	275.4	262.5	258.9
Apples	273.0	314.5	285.5	250.7	239.4	243.7	244.2	272.6	316.7	286.6	251.9	239.9	243.7	244.8
Bananas	253.5	233.7	240.7	227.8	243.7	242.6	241.3	251.1	231.3	238.5	226.7	241.9	240.0	239.9
Oranges	283.1	473.0	516.3	520.8	399.6	313.0	292.2	255.1	433.5	466.8	465.7	360.4	283.0	267.5
Other fresh fruits (12/77 = 100)	145.9	163.9	152.1	148.0	143.3	144.8	143.1	141.0	158.1	146.4	142.4	137.5	138.7	138.0
Fresh vegetables	337.3	260.2	241.0	240.2	249.1	270.8	270.0	335.8	259.6	240.6	239.7	248.1	270.4	269.2
Potatoes	288.8	328.1	272.4	243.8	240.8	241.3	236.2	282.7	323.4	269.6	240.5	235.9	237.5	231.5
Lettuce	514.4	246.3	236.1	259.2	259.2	304.6	301.3	515.8	247.5	237.9	260.9	259.8	336.0	303.4
Tomatoes	245.6	194.3	184.9	210.5	242.9	272.8	236.8	248.8	198.2	187.9	213.7	246.6	278.4	241.5
Other fresh vegetables (12/77 = 100)	174.8	138.3	134.0	131.5	137.6									

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19. 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							
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<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)	139.9	143.6	141.3	140.8	140.8	140.3	139.5	137.5	141.2	138.8	138.4	138.4	137.8	137.0
Other canned and dried vegetables (12/77=100)	135.0	135.6	134.8	133.9	133.0	132.0	131.0	133.5	134.2	133.3	132.4	131.6	130.5	129.6
Other foods at home	328.7	333.3	333.6	334.8	334.3	333.7	337.1	329.6	334.0	334.5	335.7	335.1	334.6	337.9
Sugar and sweets	361.6	370.1	371.2	370.6	370.3	369.2	371.5	361.6	370.3	371.3	370.6	370.1	369.1	371.4
Candy and chewing gum (12/77=100)	150.1	150.0	149.7	149.4	149.6	149.5	149.8	150.0	150.1	149.8	149.3	149.5	149.6	149.8
Sugar and artificial sweeteners (12/77=100)	155.6	166.7	167.5	167.3	165.2	164.3	167.0	157.0	168.2	169.0	168.8	166.6	165.6	168.5
Other sweets (12/77=100)	147.1	149.6	151.1	151.0	152.5	151.7	152.0	145.2	147.5	148.9	148.9	150.2	149.4	149.8
Fats and oils (12/77=100)	261.6	258.3	258.4	258.4	258.6	258.6	259.3	261.5	258.2	258.3	258.4	258.5	258.7	259.3
Margarine	257.8	257.9	259.3	258.4	257.5	256.5	259.4	257.2	257.3	258.5	257.8	256.8	255.4	258.5
Nondairy substitutes and peanut butter (12/77=100)	157.7	154.2	151.2	151.2	152.0	151.7	151.6	156.0	152.4	149.5	149.5	150.3	150.2	150.0
Other fats, oils, and salad dressings (12/77=100)	130.5	128.5	129.4	129.7	129.8	130.3	130.2	131.0	129.0	130.0	130.2	130.3	130.8	130.7
Nonalcoholic beverages	418.7	423.8	424.2	427.5	426.2	424.3	431.1	420.5	425.3	425.9	429.2	427.9	426.1	432.8
Cola drinks, excluding diet cola	302.4	304.3	305.0	308.9	308.8	307.2	312.9	300.0	301.7	302.8	306.2	306.2	304.8	310.3
Carbonated drinks, including diet cola (12/77=100)	141.9	144.8	144.6	146.2	144.8	142.4	145.2	139.7	142.6	142.3	144.0	142.4	140.2	142.8
Roasted coffee	353.3	365.5	362.9	362.0	360.0	361.4	365.0	348.8	360.4	357.9	357.2	354.8	356.2	359.9
Freeze dried and instant coffee	336.9	344.9	343.1	343.6	344.2	346.1	348.2	336.5	344.4	342.5	343.2	343.7	345.6	347.8
Other noncarbonated drinks (12/77=100)	138.0	137.7	138.8	139.1	138.8	139.0	141.0	138.2	137.8	139.0	139.3	139.1	139.2	141.3
Other prepared foods	264.6	269.9	269.9	270.5	270.2	270.7	272.6	266.3	271.5	271.7	272.2	271.9	272.4	274.2
Canned and packaged soup (12/77=100)	134.3	137.9	137.4	136.8	136.6	136.9	138.1	136.4	140.0	139.5	138.7	138.5	138.9	140.1
Frozen prepared foods (12/77=100)	147.8	149.1	148.9	148.5	149.7	149.0	150.6	147.4	148.5	148.4	147.9	149.2	148.5	150.0
Snacks (12/77=100)	152.6	153.1	153.0	153.3	153.1	152.7	154.0	154.6	155.1	155.0	155.4	155.2	154.8	156.0
Seasonings, olives, pickles, and relish (12/77=100)	149.7	154.1	155.3	156.5	157.1	157.4	159.5	148.6	153.2	154.4	155.6	156.2	156.4	158.5
Other condiments (12/77=100)	146.4	151.9	152.2	152.1	151.7	152.6	153.8	148.0	153.6	154.0	153.9	153.4	154.4	155.6
Miscellaneous prepared foods (12/77=100)	146.9	150.2	149.7	151.4	150.2	151.0	151.1	147.0	150.3	149.9	151.6	150.3	151.2	151.4
Other canned and packaged prepared foods (12/77=100)	142.5	145.4	145.9	145.8	145.0	146.1	146.1	143.9	146.8	147.3	147.2	146.4	147.3	147.3
Food away from home	299.8	308.7	309.8	310.7	311.4	312.6	314.5	302.8	311.8	312.9	313.8	314.6	315.8	317.7
Lunch (12/77=100)	146.1	150.3	150.7	151.2	151.6	152.2	153.1	147.7	152.0	152.3	152.8	153.2	153.8	154.8
Dinner (12/77=100)	144.8	148.6	149.2	149.5	149.7	150.4	151.3	146.4	150.3	150.9	151.2	151.4	152.1	153.0
Other meals and snacks (12/77=100)	145.4	150.7	151.5	152.1	152.7	153.0	154.0	146.2	151.3	152.1	152.7	153.3	153.7	154.6
<b>Alcoholic beverages</b>	204.0	210.1	210.1	210.6	210.9	210.9	211.6	206.0	212.1	212.2	212.8	213.0	213.0	213.7
Alcoholic beverages at home (12/77=100)	132.2	136.1	135.9	136.2	136.2	136.1	136.5	133.4	137.4	137.2	137.6	137.5	137.4	137.8
Beer and ale	205.0	211.9	211.4	212.7	212.5	212.6	213.3	204.3	210.9	210.5	211.8	211.7	211.7	212.5
Whiskey	145.9	149.6	149.8	150.0	150.7	150.2	150.5	146.8	150.4	150.5	150.7	151.2	150.7	151.2
Wine	232.2	238.9	237.5	236.4	235.9	235.6	235.6	239.8	247.1	246.2	244.8	243.7	243.3	243.0
Other alcoholic beverages (12/77=100)	117.5	120.3	120.3	120.3	120.4	120.2	120.6	117.5	120.5	120.4	120.3	120.4	120.1	120.6
Alcoholic beverages away from home (12/77=100)	137.0	141.2	142.5	142.7	143.6	144.2	144.8	138.6	142.4	143.9	144.0	144.8	145.3	146.0
<b>HOUSING</b>	306.1	320.1	319.7	320.7	319.0	316.3	317.9	305.6	320.5	320.0	321.2	319.6	316.8	317.0
<b>Shelter (CPI-U)</b>	328.3	344.2	342.6	342.8	340.7	335.9	338.3							
Renters' costs							100.0	100.8						
Rent, residential	217.8	226.0	226.9	228.9	230.2	230.8	232.2							
Other renters' costs	313.6	333.9	343.0	341.6	337.8	333.0	339.2							
Homeowners' costs <sup>2</sup>							100.0	100.7						
Owners' equivalent rent							100.0	100.7						
Household insurance							100.0	100.9						
Maintenance and repairs	326.7	335.9	338.4	339.4	339.0	337.8	342.9							
Maintenance and repair services	358.2	368.5	372.5	374.1	373.4	371.4	380.6							
Maintenance and repair commodities	252.5	258.8	257.7	257.3	257.8	258.5	259.4							
<b>Shelter (CPI-W)</b>								329.4	346.5	344.7	345.2	343.0	338.0	337.9
Rent, residential								217.4	225.5	226.4	228.4	229.7	230.3	231.7
Other rental costs								312.3	333.3	341.1	339.5	335.6	330.7	337.3
Lodging while out of town	331.1	362.0	363.1	358.0	351.6	343.7	352.8	328.4	359.5	360.7	355.6	349.3	341.4	350.8
Tenants' insurance (12/77=100)	141.8	147.5	147.3	149.3	150.1	150.3	152.6	142.0	146.6	146.3	148.3	149.1	149.3	151.5
Homeownership								369.9	390.1	387.0	387.1	383.7	376.8	375.9
Home purchase								267.4	287.3	286.4	289.7	290.4	290.9	291.9
Financing, taxes, and insurance								512.2	536.8	528.9	524.3	514.6	495.7	490.2
Property insurance								395.6	404.6	407.4	408.5	409.7	412.1	414.5
Property taxes								214.5	223.7	225.6	226.4	227.5	228.8	230.6
Contracted mortgage interest cost								666.3	699.6	686.3	678.8	663.4	633.5	624.0
Mortgage interest rates								245.7	241.2	237.5	232.4	226.6	215.9	212.0
Maintenance and repairs								323.3	332.5	334.6	335.4	334.9	333.7	337.8
Maintenance and repair services								359.2	369.6	373.4	374.9	374.0	371.7	377.3
Maintenance and repair commodities								246.4	253.0	251.8	251.2	251.6	252.3	253.6
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	149.4	154.2	153.0	152.8	153.1	153.6	154.5	142.3	147.3	145.9	145.7	145.9	146.5	148.2
Lumber, awnings, glass, and masonry (12/77=100)	124.6	124.1	123.6	122.8	123.3	123.7	122.4	121.9	121.7	121.3	120.4	120.8	121.3	120.5
Plumbing, electrical, heating, and cooling supplies (12/77=100)	131.9	136.3	136.1	135.4	135.8	136.4	138.1	131.8	135.6	135.3	134.6	135.3	136.2	137.3
Miscellaneous supplies and equipment (12/77=100)	133.6	138.8	139.0	139.4	139.4	139.0	138.9	135.7	140.9	141.2	141.8	141.6	141.2	141.3

19. 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
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>Fuel and other utilities</b>	336.2	356.3	359.5	363.4	362.2	364.1	365.4	337.0	357.7	361.0	364.7	363.6	365.5	366.8
<b>Fuels</b>	426.9	454.0	458.5	464.5	461.9	464.0	463.5	426.2	453.8	458.4	464.0	461.7	463.9	463.3
Fuel oil, coal, and bottled gas	686.0	659.9	662.8	677.2	691.3	688.5	671.1	688.9	662.7	665.4	679.7	693.7	690.8	673.4
Fuel oil	716.8	686.8	685.9	699.1	712.8	708.7	689.3	719.3	689.1	688.1	701.2	714.7	710.6	691.2
Other fuels (6/78 = 100)	170.9	169.2	176.8	183.7	189.0	190.4	188.4	172.1	170.5	178.0	184.8	190.3	191.6	189.5
Gas (piped) and electricity	367.4	404.4	409.2	413.4	407.6	410.6	413.5	366.0	403.7	408.6	412.4	406.9	410.0	412.8
Electricity	306.6	333.7	332.5	327.0	318.4	319.6	319.2	305.3	333.7	332.5	326.3	317.3	318.7	318.3
Utility (piped) gas	447.2	500.6	517.6	542.0	543.1	549.6	559.1	445.2	497.5	514.5	538.8	541.6	547.6	556.9
<b>HOUSING</b>														
<b>Fuel and other utilities</b>														
Other utilities and public services	192.7	202.4	203.6	204.5	205.1	206.6	210.1	193.1	203.1	204.3	205.3	205.9	207.3	210.9
Telephone services	157.2	164.2	165.5	166.2	166.6	168.2	171.4	157.3	164.6	165.9	166.6	167.0	168.6	171.7
Local charges (12/77 = 100)	124.0	132.5	134.3	135.2	135.4	137.8	140.6	124.2	132.9	134.8	135.7	135.9	138.1	140.8
Interstate toll calls (12/77 = 100)	116.8	119.7	119.7	119.7	119.7	119.7	121.0	116.9	120.1	120.1	120.2	120.2	120.2	121.5
Intrastate toll calls (12/77 = 100)	109.2	110.0	110.1	110.4	111.1	111.5	114.0	109.0	109.6	109.7	110.1	110.9	111.3	113.9
Water and sewerage maintenance	309.8	331.9	332.4	334.1	335.1	335.8	341.6	312.2	334.8	335.4	337.1	338.2	338.9	344.8
<b>Household furnishings and operations</b>	228.4	233.4	234.2	235.4	235.1	235.7	235.8	224.9	230.0	231.0	232.3	231.8	232.3	232.6
<b>Housefurnishings</b>	189.8	193.3	194.3	195.9	195.1	195.3	194.9	187.7	191.3	192.4	193.9	193.0	193.2	193.0
Textile housefurnishings	210.1	220.4	222.1	223.2	222.6	222.0	221.9	212.5	222.9	225.0	226.4	225.8	224.9	224.5
Household linens (12/77 = 100)	127.3	132.9	135.4	136.4	133.8	132.7	131.5	128.6	134.1	136.4	137.6	135.0	134.0	132.6
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	134.8	142.2	141.6	142.0	144.0	144.4	145.6	137.0	144.7	144.8	145.3	147.5	147.6	148.6
Furniture and bedding	209.5	210.3	213.3	215.8	214.1	215.4	213.9	205.9	206.9	210.3	212.3	210.3	211.6	210.4
Bedroom furniture (12/77 = 100)	139.7	141.4	145.5	146.7	146.2	147.4	146.1	136.5	137.3	142.1	143.5	142.1	143.4	142.6
Sofas (12/77 = 100)	117.3	117.0	117.2	119.4	116.4	118.2	117.3	117.6	117.5	117.7	119.6	117.0	118.8	117.9
Living room chairs and tables (12/77 = 100)	118.9	121.1	123.1	122.6	122.1	122.2	121.6	119.0	121.4	123.4	122.9	122.5	122.5	122.0
Other furniture (12/77 = 100)	138.5	137.1	137.8	140.6	140.1	140.4	139.4	133.9	133.3	134.1	136.0	135.3	135.6	134.6
Appliances including TV and sound equipment	148.8	151.3	151.5	152.0	151.7	151.5	151.9	148.5	151.2	151.4	151.9	151.5	151.4	151.8
Television and sound equipment (12/77 = 100)	108.8	108.3	108.2	108.5	108.1	107.2	107.0	107.9	107.5	107.4	107.6	107.3	106.3	106.1
Television	104.4	103.9	103.7	103.5	102.9	102.6	102.3	103.1	102.7	102.6	102.1	101.7	101.4	101.1
Sound equipment (12/77 = 100)	113.8	113.3	113.2	114.1	113.9	112.4	112.2	113.0	112.6	112.5	113.3	113.1	111.4	111.3
Household appliances	178.0	184.1	184.7	185.4	185.2	186.1	187.6	178.1	184.6	185.1	185.9	185.6	186.7	187.9
Refrigerators and home freezers	180.8	187.4	190.2	191.1	192.7	193.3	193.2	186.1	192.9	196.1	196.9	198.4	199.1	199.2
Laundry equipment (12/77 = 100)	132.2	137.3	137.6	140.0	140.0	141.0	141.5	132.4	137.5	137.9	140.4	140.3	141.4	142.1
Other household appliances (12/77 = 100)	120.6	124.3	124.0	123.5	122.7	123.2	124.7	118.5	122.7	122.0	121.7	120.7	121.5	122.8
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	119.4	122.7	123.4	122.9	120.7	121.5	123.7	117.4	121.4	121.5	121.4	119.2	120.1	121.9
Office machines, small electric appliances, and air conditioners (12/77 = 100)	121.9	126.0	124.6	124.0	124.7	125.1	125.8	119.7	124.2	122.5	122.0	122.4	123.0	123.8
Other household equipment (12/77 = 100)	134.9	138.2	137.8	139.6	139.1	139.2	139.1	132.9	136.0	135.6	137.6	137.1	137.1	137.0
Floor and window coverings, infants', laundry, cleaning, and outdoor equipment (12/77 = 100)	136.3	142.9	143.3	143.4	142.6	142.7	141.2	128.6	135.4	135.9	136.0	134.5	134.3	133.2
Clocks, lamps, and decor items (12/77 = 100)	128.6	129.8	129.7	131.3	131.3	131.0	130.8	124.8	125.1	124.9	126.4	126.8	126.6	126.1
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	142.3	143.8	141.6	145.1	144.6	145.1	145.9	138.2	140.0	137.6	141.3	141.0	141.2	141.9
Lawn equipment, power tools, and other hardware (12/77 = 100)	127.8	132.3	133.4	134.8	134.2	134.1	134.1	133.2	137.2	138.8	140.1	139.5	139.5	139.3
<b>Housekeeping supplies</b>	279.1	288.7	289.2	290.1	290.3	292.3	294.0	275.7	284.9	285.7	286.7	287.1	288.8	290.7
Soaps and detergents	275.5	279.4	282.8	283.5	283.5	285.3	288.9	272.0	275.4	278.9	279.7	279.9	281.5	285.0
Other laundry and cleaning products (12/77 = 100)	139.6	144.6	145.6	146.8	147.3	148.0	149.0	138.4	143.6	144.5	145.7	146.2	146.9	147.7
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	145.1	148.5	148.0	148.9	148.2	148.6	150.2	145.1	148.3	147.9	148.9	148.1	148.5	150.3
Stationery, stationery supplies, and gift wrap (12/77 = 100)	128.8	135.4	136.8	137.6	138.3	137.9	138.1	131.7	138.6	140.0	140.7	141.4	141.0	141.1
Miscellaneous household products (12/77 = 100)	146.2	150.7	150.2	150.9	151.6	152.3	153.5	141.2	145.5	145.0	145.6	146.2	146.9	148.3
Lawn and garden supplies (12/77 = 100)	137.1	145.7	143.8	142.3	141.9	145.7	144.3	129.2	138.1	136.4	135.1	134.9	138.5	137.0
<b>Housekeeping services</b>	307.4	312.9	313.4	313.8	314.3	315.0	315.4	305.9	312.2	312.7	313.2	313.7	314.5	315.0
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)	148.4	156.1	156.6	157.0	157.7	158.6	159.3	148.0	156.4	156.8	157.2	157.8	158.7	159.5
Appliance and furniture repair (12/77 = 100)	133.6	137.7	138.3	139.0	139.5	140.2	140.4	132.2	136.1	136.7	137.4	137.9	138.5	138.7
<b>APPAREL AND UPKEEP</b>	187.3	191.8	194.9	195.5	195.4	193.6	191.0	186.5	190.7	194.1	194.6	194.4	192.8	190.0
<b>Apparel commodities</b>	177.0	180.8	184.1	184.6	184.3	182.3	179.2	176.7	180.3	183.8	184.1	183.8	181.9	178.7
Apparel commodities less footwear	172.8	176.9	180.4	180.9	180.6	178.4	175.0	172.2	176.2	179.9	180.2	179.8	177.8	174.3
Men's and boys'	178.7	183.7	186.5	188.6	189.0	187.4	184.9	178.6	183.5	186.6	188.6	188.9	187.6	185.2
Men's (12/77 = 100)	112.9	115.9	117.7	119.0	119.3	118.3	116.8	113.3	116.2	118.2	119.4	119.7	118.8	117.4
Suits, sport coats, and jackets (12/77 = 100)	104.3	108.0	110.6	111.6	111.5	108.7	106.5	97.8	101.2	103.5	104.3	104.2	101.7	99.9
Coats and jackets (12/77 = 100)	96.4	99.1	103.7	103.7	103.4	103.2	98.8	97.6	100.3	106.4	106.4	105.4	105.5	100.5
Furnishings and special clothing (12/77 = 100)	133.6	138.4	138.6	141.0	142.4	141.5	142.2	129.8	134.9	135.8	137.7	139.1	137.9	138.7
Shirts (12/77 = 100)	120.7	121.9	123.8	125.2	125.8	126.5	124.5	123.3	123.9	126.2	128.1	128.7	129.2	127.5
Dungarees, jeans, and trousers (12/77 = 100)	108.2	110.5	111.4	112.4	112.6	111.9	111.0	113.6	116.0	116.9	118.0	118.1	117.5	116.5
Boys' (12/77 = 100)	114.6	118.4	120.2	121.7	121.6	120.7	118.9	112.9	116.7	118.3	119.8	119.7	119.0	117.2
Coats, jackets, sweaters, and shirts (12/77 = 100)	104.7	110.5	113.7	114.5	113.7	112.2	108.9	105.3	111.3	114.6	115.3	114.6	113.3	110.4
Furnishings (12/77 = 100)	127.3	131.1	132.6	133.6	132.6	132.4	132.0	123.3	127.2	128.6	129.5	128.5	128.3	128.0
Suits, trousers, sport coats, and jackets (12/77 = 100)	117.2	119.5	120.3	122.7	123.4	122.8	121.5	114.7	117.1	117.3	119.7	120.5	120.0	118.6
Women's and girls'	154.3	159.2	163.6	163.0	162.2	159.6	153.9	156.4	160.9	165.7	164.7	163.8	161.3	155.4
Women's (12/77 = 100)	102.3	105.4	106.7											

19. 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	
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>APPAREL AND UPKEEP—Continued</b>														
<b>Apparel commodities—Continued</b>														
Apparel commodities less footwear—Continued														
Separates and sportswear (12/77 = 100)	96.7	98.3	101.4	102.0	100.1	97.1	93.7	97.3	99.1	102.6	102.9	100.9	97.8	94.4
Underwear, nightwear, and hosiery (12/77 = 100)	124.0	129.3	129.7	129.9	130.6	130.8	128.8	123.7	129.0	129.4	129.6	130.2	130.5	128.4
Suits (12/77 = 100)	84.2	85.6	92.7	88.6	87.4	82.8	76.9	104.0	99.8	111.9	106.7	105.8	99.7	91.8
Girls' (12/77 = 100)	104.4	108.2	109.6	109.9	110.4	109.5	105.1	104.2	107.4	108.9	108.7	109.6	109.2	105.0
Coats, jackets, dresses, and suits (12/77 = 100)	93.4	101.4	102.5	104.5	103.9	103.7	95.8	91.2	99.4	100.5	102.3	102.2	102.0	95.2
Separates and sportswear (12/77 = 100)	106.3	105.8	107.8	106.0	106.0	104.1	102.1	108.2	105.9	108.5	105.2	105.9	105.1	102.9
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	119.2	124.0	124.4	126.0	129.3	129.1	125.7	118.2	123.0	123.5	125.1	128.1	128.0	124.9
Infants' and toddlers'	259.6	272.4	276.8	275.8	274.2	273.1	277.1	270.1	283.0	288.1	286.8	285.5	284.2	287.5
Other apparel commodities	212.9	210.8	212.6	213.1	212.7	210.1	211.5	201.4	199.5	201.2	201.7	201.4	199.2	200.1
Sewing materials and notions (12/77 = 100)	116.2	121.5	121.9	119.3	120.0	120.8	120.4	114.3	119.6	120.0	117.7	118.2	118.5	118.5
Jewelry and luggage (12/77 = 100)	146.7	142.6	144.1	145.6	144.9	142.2	143.7	137.5	133.3	134.7	136.2	135.7	133.5	134.4
<b>Footwear</b>	202.8	204.4	206.2	206.8	206.9	205.9	204.8	203.1	204.1	205.9	206.7	206.7	205.8	204.6
Men's (12/77 = 100)	130.3	130.9	132.4	133.2	132.5	132.0	131.4	132.2	132.7	134.1	135.0	134.2	133.7	133.0
Boys' and girls' (12/77 = 100)	131.1	128.7	129.4	129.5	129.3	129.0	130.4	132.5	131.3	131.9	132.1	131.8	131.5	132.9
Women's (12/77 = 100)	122.6	125.4	126.5	126.9	127.6	126.8	124.5	118.9	121.1	122.4	122.8	123.6	122.9	120.4
<b>Apparel services</b>	267.6	277.4	279.2	281.3	282.0	282.8	283.9	265.5	275.2	277.2	279.7	280.3	281.1	282.2
Laundry and drycleaning other than coin operated (12/77 = 100)	160.0	165.6	166.7	167.2	167.9	168.9	169.6	158.5	164.1	165.2	165.8	166.4	167.5	168.1
Other apparel services (12/77 = 100)	139.4	145.0	145.9	148.2	148.1	147.7	148.3	139.9	145.5	146.6	149.3	149.2	148.8	147.4
<b>TRANSPORTATION</b>	289.9	296.2	295.3	295.5	295.8	294.8	293.0	291.6	298.0	296.9	297.0	297.3	296.3	294.3
<b>Private</b>	286.6	292.4	291.1	291.1	291.4	290.4	288.4	289.0	295.2	293.8	293.8	294.1	293.1	290.9
New cars	197.4	198.7	197.7	197.7	199.0	200.1	201.0	197.3	198.6	197.5	197.4	198.7	199.9	200.8
Used cars	280.5	304.4	304.6	306.7	310.5	312.6	311.0	280.5	304.4	304.6	306.7	310.5	312.6	311.1
Gasoline	406.0	398.4	394.2	390.6	388.1	381.3	371.9	407.5	399.7	395.5	391.9	389.5	383.0	373.6
Automobile maintenance and repair	305.5	319.2	320.6	321.9	322.3	323.1	324.4	306.2	320.0	321.3	322.6	323.1	323.8	325.2
Body work (12/77 = 100)	151.5	158.2	159.4	160.4	161.0	161.4	162.2	149.8	156.8	158.1	159.4	159.8	160.2	161.1
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100)	145.7	152.5	153.1	153.2	153.7	154.3	155.4	149.5	156.6	157.1	157.2	157.8	158.3	159.4
Maintenance and servicing (12/77 = 100)	142.0	148.5	148.9	149.3	149.3	149.9	150.5	141.5	147.8	148.2	148.6	148.6	149.2	149.9
Power plant repair (12/77 = 100)	146.2	152.4	153.3	154.3	154.4	154.2	154.4	145.7	151.9	152.8	153.8	153.9	153.7	153.9
Other private transportation	253.3	260.8	260.0	261.4	260.7	259.6	259.9	256.9	263.9	263.0	264.1	262.9	261.6	261.5
Other private transportation commodities	215.5	214.8	213.9	214.4	215.1	214.3	215.6	218.0	217.1	216.3	216.9	217.7	216.9	218.0
Motor oil, coolant, and other products (12/77 = 100)	148.2	153.2	152.5	151.9	153.3	153.3	153.9	146.9	151.8	151.2	151.0	152.3	152.3	153.0
Automobile parts and equipment (12/77 = 100)	138.1	136.8	136.3	136.7	137.0	136.5	137.3	140.0	138.6	138.1	138.6	139.0	138.4	139.1
Tires	192.8	189.5	188.5	189.6	190.4	190.0	191.3	196.5	193.0	192.1	193.2	194.0	193.7	194.9
Other parts and equipment (12/77 = 100)	134.3	135.8	135.8	135.4	135.1	133.8	134.3	134.5	136.0	135.8	135.4	135.4	133.9	134.3
Other private transportation services	265.8	275.5	274.7	276.4	275.3	274.2	274.2	269.7	278.9	277.9	279.1	277.5	276.0	275.6
Automobile insurance	266.8	275.8	276.9	283.9	286.9	288.8	292.0	266.6	275.2	276.3	283.2	286.1	288.2	291.3
Automobile finance charges (12/77 = 100)	190.9	193.5	189.6	185.2	178.9	173.8	169.6	190.3	192.9	188.9	184.6	178.1	173.0	168.7
Automobile rental, registration, and other fees (12/77 = 100)	127.6	138.0	138.9	138.8	139.2	139.3	139.8	128.4	138.8	140.0	139.8	140.0	140.1	140.5
State registration	166.9	183.8	183.7	183.7	183.8	183.8	184.6	166.2	183.4	183.3	183.2	183.4	183.4	184.0
Drivers' licenses (12/77 = 100)	117.3	132.8	132.8	132.8	132.8	132.8	132.8	117.1	133.1	133.1	133.1	133.1	133.1	133.1
Vehicle inspection (12/77 = 100)	129.2	128.5	128.5	128.5	128.5	128.5	128.6	130.5	129.9	129.9	129.9	129.8	129.8	129.9
Other vehicle-related fees (12/77 = 100)	142.5	151.9	154.5	154.2	155.0	155.2	155.8	150.4	159.4	163.0	162.7	162.9	163.2	163.9
<b>Public</b>	334.9	348.1	353.3	356.3	356.0	355.6	357.7	329.4	341.0	345.4	348.2	348.2	348.0	349.8
Airline fare	375.5	397.5	409.5	413.7	411.6	408.8	412.3	372.7	393.5	407.0	411.1	408.8	405.9	409.8
Intercity bus fare	367.3	370.5	368.9	370.6	373.8	377.7	381.8	368.9	372.3	371.0	372.5	375.7	379.3	383.3
Intracity mass transit	305.9	312.8	312.6	315.2	316.1	317.7	318.5	305.1	312.3	312.1	314.7	315.7	316.7	317.4
Taxi fare	296.3	299.7	299.8	300.2	300.5	300.8	300.9	305.6	309.3	309.3	309.9	310.1	310.5	310.5
Intercity train fare	318.1	338.6	338.4	338.4	338.4	351.3	351.8	317.9	338.6	338.4	338.4	349.3	351.9	352.3
<b>MEDICAL CARE</b>	313.4	333.3	336.0	338.7	342.2	344.3	347.8	312.0	331.3	333.9	336.5	339.8	341.8	345.3
<b>Medical care commodities</b>	195.9	208.2	209.9	211.6	212.9	213.7	215.3	196.4	208.8	210.5	212.1	213.4	214.0	215.9
Prescription drugs	181.9	195.6	197.2	199.4	201.0	202.8	204.1	182.8	196.6	198.2	200.5	202.1	203.9	205.3
Anti-infective drugs (12/77 = 100)	138.2	146.0	147.5	149.1	150.1	150.9	151.4	140.1	147.5	149.2	151.2	152.3	153.1	153.5
Tranquilizers and sedatives (12/77 = 100)	145.4	157.6	158.8	161.5	163.5	165.8	166.6	144.9	157.4	158.6	161.1	163.2	165.5	166.4
Circulators and diuretics (12/77 = 100)	132.2	140.7	141.5	143.0	144.0	144.9	145.9	132.1	140.6	141.3	142.8	143.9	144.8	145.8
Hormones, diabetic drugs, biologicals, and prescription medical supplies (12/77 = 100)	165.6	181.6	182.3	183.5	183.9	185.5	186.5	166.9	183.1	183.8	185.1	185.2	187.0	188.0
Pain and symptom control drugs (12/77 = 100)	147.3	157.6	159.5	161.7	164.0	166.2	167.7	148.7	159.3	161.4	163.6	166.0	168.0	169.5
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100)	138.8	149.6	150.8	152.3	153.4	154.2	155.8	138.8	149.8	150.9	152.4	153.6	154.5	156.2
Nonprescription drugs and medical supplies (12/77 = 100)	139.9	147.2	148.4	149.2	149.9	149.7	151.0	140.4	147.9	149.1	149.8	150.5	150.3	151.8
Eyeglasses (12/77 = 100)	128.3	131.6	131.9	132.6	132.9	133.0	133.9	127.1	130.3	130.5	131.4	131.6	131.8	132.6
Internal and respiratory over-the-counter drugs	222.8	236.6	239.3	240.7	241.9	241.3	244.3	223.9	237.9	240.6	241.9	243.0	242.2	245.7
Nonprescription medical equipment and supplies (12/77 = 100)	135.9	142.9	143.5	144.1	145.2	145.2	145.3	136.6	144.2	144.8	145.1	146.2	146.3	146.3
<b>Medical care services</b>	339.4	361.0	364.0	366.9	371.0	373.4	377.4	337.5	358.3	361.1	363.9	367.7	370.1	374.0
Professional services	292.0	304.4	305.9	306.6	308.3	309.4	312.5	292.2	304.6	306.1	306.9	308.4	309.5	312.7
Physicians' services	315.5	330.4	332.3	334.2	335.3	336.6	341.3	318.6	333.5	335.4	337.4	338.6	339.9	344.6



**19. 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
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
<b>MEDICAL CARE — Continued</b>														
<b>Medical care services — Continued</b>														
Professional services — Continued														
Dental services	275.8	286.4	287.7	287.0	289.2	290.1	291.6	274.1	284.4	285.7	285.0	287.0	288.0	289.3
Other professional services (12/77 = 100)	140.3	145.6	145.9	146.1	147.2	147.6	149.1	137.2	142.5	142.7	143.0	143.9	144.4	145.7
Other medical care services	396.8	429.4	434.1	439.8	446.8	450.8	455.9	393.8	425.4	429.9	435.6	442.3	446.3	451.3
Hospital and other medical services (12/77 = 100)	165.6	177.1	178.3	180.0	182.6	183.2	185.1	164.0	175.2	176.5	178.3	180.7	181.5	183.4
Hospital room	529.4	565.5	570.1	576.8	586.6	588.5	594.6	522.0	557.6	562.1	569.1	578.7	581.3	587.1
Other hospital and medical care services (12/77 = 100)	162.2	173.6	174.7	176.0	178.1	178.7	180.6	161.2	172.2	173.3	174.7	176.7	177.5	179.4
<b>ENTERTAINMENT</b>	229.2	237.4	238.3	240.3	239.9	240.1	241.5	226.1	233.9	234.8	236.5	236.1	236.5	237.7
<b>Entertainment commodities</b>	232.0	240.5	240.8	242.9	241.4	241.8	242.6	226.7	234.4	235.0	236.6	235.4	236.0	236.7
Reading materials (12/77 = 100)	142.9	149.4	150.1	153.1	153.4	154.3	156.1	142.1	148.9	149.6	152.4	152.7	153.8	155.5
Newspapers	270.5	286.3	288.5	290.4	290.9	294.7	295.7	270.1	286.0	288.2	290.1	290.5	294.8	295.6
Magazines, periodicals, and books (12/77 = 100)	149.0	153.8	153.9	159.2	159.6	159.3	162.6	148.8	153.6	153.8	159.2	159.6	159.2	162.6
Sporting goods and equipment (12/77 = 100)	129.5	133.2	132.9	134.3	132.1	131.6	131.5	122.4	124.9	125.0	125.8	124.7	124.3	124.4
Sport vehicles (12/77 = 100)	131.4	135.7	135.3	137.1	133.8	133.3	132.9	120.1	122.4	122.8	123.6	122.2	122.0	122.0
Indoor and warm weather sport equipment (12/77 = 100)	120.1	119.7	120.5	120.6	119.9	120.0	120.3	118.2	117.5	118.1	118.3	117.6	117.7	117.0
Bicycles	194.8	199.4	199.0	198.7	198.3	197.1	197.3	196.2	200.4	200.0	199.9	199.5	198.5	198.4
Other sporting goods and equipment (12/77 = 100)	125.3	130.3	129.4	131.9	131.5	130.6	131.4	125.2	130.9	129.8	132.1	131.3	130.0	130.9
Toys, hobbies, and other entertainment (12/77 = 100)	132.2	136.9	137.1	137.1	136.4	136.8	136.8	131.2	135.7	136.0	136.1	135.2	135.6	135.6
Toys, hobbies, and music equipment (12/77 = 100)	130.8	136.4	136.4	136.4	135.5	135.5	135.5	127.7	132.8	132.9	133.0	131.8	132.0	131.9
Photographic supplies and equipment (12/77 = 100)	125.2	130.2	130.1	129.6	129.0	129.7	129.9	126.3	131.4	131.3	130.6	130.1	130.8	131.0
Pet supplies and expenses (12/77 = 100)	139.7	142.5	143.4	143.9	143.4	144.2	144.2	140.5	143.6	144.6	145.0	144.5	145.1	145.1
<b>Entertainment services</b>	225.5	233.5	235.2	237.2	238.2	238.2	240.5	226.1	234.2	235.8	237.6	238.4	238.5	240.8
Fees for participant sports (12/77 = 100)	139.6	143.4	146.0	148.0	149.0	148.9	150.0	141.2	144.8	147.4	149.4	150.1	150.0	151.2
Admissions (12/77 = 100)	131.2	137.4	136.4	136.6	136.9	137.3	139.9	130.1	136.5	135.5	135.6	135.9	136.4	138.8
Other entertainment services (12/77 = 100)	124.2	128.3	128.8	129.6	129.8	129.6	129.8	124.7	129.2	129.6	130.5	130.7	130.6	130.6
<b>OTHER GOODS AND SERVICES</b>	248.4	258.3	266.6	271.2	273.8	276.6	279.9	245.0	255.7	262.8	267.8	270.9	274.0	277.8
<b>Tobacco products</b>	227.1	240.1	246.8	257.3	264.0	272.3	280.3	226.2	239.3	246.1	256.6	263.4	271.9	279.9
Cigarettes	230.0	243.1	250.6	262.3	269.8	279.0	287.6	229.1	242.3	249.8	261.4	268.8	278.0	286.5
Other tobacco products and smoking accessories (12/77 = 100)	134.7	142.4	142.6	142.9	142.8	143.8	145.8	135.0	142.5	142.8	143.1	143.0	143.9	145.8
<b>Personal care</b>	240.9	250.6	251.1	252.9	254.2	254.8	256.1	238.8	248.8	249.3	250.9	252.1	252.5	253.9
Toilet goods and personal care appliances	236.4	249.5	249.1	251.5	253.5	252.2	253.9	236.9	250.5	250.0	252.1	254.1	253.1	254.8
Products for the hair, hairpieces, and wigs (12/77 = 100)	137.2	145.0	144.6	147.8	148.3	146.8	147.1	136.4	144.4	144.0	146.9	147.3	146.2	146.5
Dental and shaving products (12/77 = 100)	144.0	153.1	153.3	155.2	157.2	156.2	157.6	142.6	151.6	151.8	153.5	155.4	154.6	155.9
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100)	134.1	141.3	140.7	141.4	141.7	142.2	144.0	134.5	142.0	141.4	142.1	142.3	143.0	144.8
Other toilet goods and small personal care appliances (12/77 = 100)	135.9	142.5	142.4	142.2	144.7	143.2	143.6	138.9	146.2	146.2	145.8	148.4	147.0	147.3
Personal care services	245.7	252.5	253.8	255.1	255.8	258.0	259.0	241.0	247.6	248.9	250.0	250.6	252.4	253.4
Beauty parlor services for women	246.9	255.0	256.3	258.3	258.9	262.1	263.3	240.5	248.7	249.8	251.6	252.1	254.7	255.8
Haircuts and other barber shop services for men (12/77 = 100)	138.0	140.2	141.1	141.0	141.4	141.6	142.0	136.8	139.0	139.9	139.8	140.3	140.4	140.8
<b>Personal and educational expenses</b>	288.1	295.8	316.1	319.3	320.0	320.5	322.1	288.9	297.9	317.4	320.4	321.3	321.7	323.6
Schoolbooks and supplies	260.7	265.3	280.5	283.0	283.1	283.3	288.4	264.8	269.6	284.3	286.8	286.8	287.0	292.4
Personal and educational services	294.8	303.1	324.4	327.7	328.6	329.1	330.2	295.2	305.1	325.6	328.7	329.8	330.3	331.5
Tuition and other school fees	150.5	152.6	165.6	167.2	167.2	167.2	167.3	150.7	153.2	166.2	167.7	167.7	167.7	167.7
College tuition (12/77 = 100)	149.9	151.9	164.9	166.8	166.8	166.8	166.9	149.6	152.0	165.0	166.9	166.9	166.9	167.0
Elementary and high school tuition (12/77 = 100)	152.1	154.6	168.7	168.6	168.7	168.7	168.7	152.8	155.6	169.6	169.6	169.7	169.7	169.7
Personal expenses (12/77 = 100)	154.3	167.4	169.4	171.9	174.1	175.4	178.8	153.7	167.6	169.6	171.7	174.0	175.2	177.9
<b>Special indexes:</b>														
Gasoline, motor oil, coolant, and other products	400.5	393.2	389.2	385.7	383.5	377.0	367.9	401.8	394.4	390.3	386.9	384.8	378.5	369.4
Insurance and finance	423.9	441.3	436.0	432.9	426.2	413.4	422.8	441.7	436.3	433.9	427.2	414.7	411.1	411.1
Utilities and public transportation	297.7	320.3	323.8	326.5	324.1	326.0	329.1	296.4	318.4	322.8	325.4	323.2	325.1	328.1
Housekeeping and home maintenance services	343.0	351.4	353.8	355.0	354.8	354.0	355.3	343.3	352.2	354.6	355.7	355.4	354.4	357.9

<sup>1</sup> Excludes motor oil, coolant, and other products as of January 1983.

<sup>2</sup> See box with "Price Data."

**20. 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)		
	1982			1982			1982			1982		
	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.	Aug.	Oct.	Dec.
<b>Northeast</b>												
<b>EXPENDITURE CATEGORY</b>												
All items .....	149.0	151.8	151.0	155.8	156.6	157.1	161.2	160.7	162.3	155.3	155.8	156.3
Food and beverages .....	144.9	145.1	144.4	143.4	142.4	142.1	148.9	147.0	147.4	142.9	141.9	142.0
Housing .....	153.3	157.7	155.9	164.5	164.9	166.5	174.5	172.9	175.2	163.7	163.0	163.2
Apparel and upkeep .....	119.6	122.2	119.8	122.4	127.0	124.9	128.4	128.5	129.1	124.8	131.4	131.1
Transportation .....	159.4	160.7	161.0	166.5	166.6	166.7	164.7	165.2	166.2	163.7	164.6	164.5
Medical care .....	150.0	151.4	153.6	156.1	158.1	160.6	157.2	161.5	163.6	156.1	157.0	159.8
Entertainment .....	139.7	140.6	140.2	137.4	139.9	135.9	136.8	138.1	139.2	143.8	144.8	145.0
Other goods and services .....	141.7	150.0	152.8	143.2	151.4	153.9	148.1	154.3	157.8	144.6	153.4	158.7
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities .....	145.3	147.7	147.5	151.6	152.4	153.5	152.3	152.0	153.7	149.8	150.9	151.7
Commodities less food and beverages .....	145.5	149.3	149.4	155.6	157.2	159.0	153.9	154.3	156.6	153.1	155.2	156.3
Services .....	153.8	157.1	155.6	162.4	163.3	162.9	175.6	175.0	176.4	163.8	163.5	163.4
<b>North Central Region</b>												
<b>EXPENDITURE CATEGORY</b>												
All items .....	162.2	163.1	162.0	157.0	158.9	159.3	158.9	155.9	156.2	160.2	159.0	156.8
Food and beverages .....	143.7	143.5	143.3	142.7	142.6	141.9	144.9	143.8	143.4	149.2	149.2	149.1
Housing .....	179.8	181.2	179.1	165.6	168.5	169.1	169.4	162.6	162.8	171.4	167.8	161.9
Apparel and upkeep .....	117.0	118.8	116.4	124.1	128.7	129.4	126.7	127.8	126.1	120.1	121.9	121.4
Transportation .....	166.1	164.5	163.8	165.0	164.1	164.5	166.7	165.0	165.2	164.1	163.1	163.8
Medical care .....	155.8	157.9	160.3	161.2	162.7	164.0	157.7	160.9	162.9	161.0	163.7	166.5
Entertainment .....	138.8	140.7	140.2	131.7	133.5	134.1	139.9	142.5	143.7	131.4	133.3	134.5
Other goods and services .....	142.3	150.5	152.8	153.3	161.4	163.8	142.8	148.1	150.6	150.2	157.3	160.3
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities .....	150.9	151.9	151.7	148.8	149.7	150.8	150.8	148.2	148.7	149.1	147.6	148.4
Commodities less food and beverages .....	154.2	155.8	155.7	151.3	152.6	154.5	153.4	150.1	150.9	149.0	147.0	148.1
Services .....	179.0	179.7	177.3	170.3	173.7	173.1	172.0	168.6	168.4	177.8	177.0	170.1
<b>South</b>												
<b>EXPENDITURE CATEGORY</b>												
All items .....	156.9	158.1	157.5	159.1	159.6	159.3	158.6	159.1	158.8	158.8	159.8	159.1
Food and beverages .....	147.2	146.8	147.0	146.5	146.4	146.4	146.0	145.6	145.4	147.5	147.5	147.3
Housing .....	165.0	166.1	164.3	167.9	167.5	166.0	167.8	167.3	166.0	168.4	169.7	168.2
Apparel and upkeep .....	124.0	127.5	128.0	122.6	125.3	124.7	121.0	123.7	122.6	107.9	112.4	111.1
Transportation .....	165.3	164.7	164.6	168.6	167.7	168.0	166.4	166.0	166.8	165.6	164.5	163.5
Medical care .....	156.2	160.9	164.0	157.3	161.3	163.5	166.2	169.4	173.5	169.3	173.9	179.4
Entertainment .....	131.7	135.5	135.0	145.0	147.3	148.5	142.1	144.5	144.4	148.1	149.7	143.8
Other goods and services .....	145.6	152.9	155.0	143.6	152.5	158.1	145.2	153.3	154.9	152.3	153.2	155.8
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities .....	149.7	150.1	150.9	150.9	151.7	152.3	149.6	149.9	150.2	149.6	150.6	150.6
Commodities less food and beverages .....	150.8	151.6	152.6	152.8	154.0	154.8	151.2	151.8	152.3	150.5	152.0	151.9
Services .....	166.9	169.2	166.9	171.5	171.5	169.9	172.4	173.2	172.1	172.6	173.6	172.1
<b>West</b>												
<b>EXPENDITURE CATEGORY</b>												
All items .....	160.3	160.3	156.9	159.9	160.1	157.9	153.3	152.6	150.1	158.5	158.1	157.8
Food and beverages .....	147.5	148.3	147.8	148.6	148.6	149.2	144.9	145.7	144.8	150.6	150.8	150.7
Housing .....	167.7	166.9	160.7	166.6	166.0	161.2	155.6	153.4	148.3	160.5	158.7	158.3
Apparel and upkeep .....	119.8	120.7	119.9	124.9	126.5	125.8	122.8	123.8	123.4	138.5	138.6	136.9
Transportation .....	169.9	169.4	166.3	169.7	169.8	168.1	167.0	166.0	165.1	166.2	165.7	165.2
Medical care .....	167.1	168.9	171.1	163.3	165.1	168.4	167.0	168.8	170.7	168.5	169.6	171.5
Entertainment .....	135.8	136.6	137.8	141.0	142.4	142.5	135.7	136.2	137.2	153.1	154.9	154.3
Other goods and services .....	149.3	155.4	159.3	149.8	155.0	158.9	141.7	148.0	153.0	154.4	164.2	165.2
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities .....	148.8	149.4	148.1	151.0	151.6	150.7	149.9	150.6	149.0	149.2	147.7	148.9
Commodities less food and beverages .....	149.4	149.9	148.3	152.1	152.9	151.3	152.0	152.6	150.7	148.7	146.4	148.1
Services .....	175.5	174.8	168.5	172.1	171.8	167.9	158.1	155.4	151.7	172.1	173.4	171.0

**21. 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
	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Jan.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.
U.S. city average <sup>2</sup> .....	...	292.8	293.3	294.1	293.6	...	...	...	292.4	292.8	293.6	293.2	...	...
Anchorage, Alaska (10/67=100) .....	253.0	...	263.4	...	257.2	...	257.6	248.6	...	258.9	...	254.4	...	250.6
Atlanta, Ga. ....	...	295.6	...	297.8	...	296.1	...	...	297.1	...	298.7	...	297.8	...
Baltimore, Md. ....	282.1	...	289.2	...	290.1	...	291.4	282.3	...	288.8	...	289.7	...	289.7
Boston, Mass. ....	274.0	...	282.9	...	285.0	...	286.2	273.4	...	282.7	...	284.4	...	283.9
Buffalo, N.Y. ....	...	267.7	...	277.1	...	277.8	...	...	265.5	...	274.3	...	275.0	...
Chicago, Ill.-Northwestern Ind. ....	275.4	293.2	294.0	294.4	294.3	293.1	294.0	275.9	292.5	292.9	293.2	293.1	291.8	292.8
Cincinnati, Ohio-Ky.-Ind. ....	285.7	...	300.2	...	304.2	...	306.0	288.4	...	302.8	...	307.1	...	305.2
Cleveland, Ohio ....	...	312.2	...	316.6	...	317.6	...	...	310.6	...	314.1	...	315.0	...
Dallas-Ft. Worth, Tex. ....	...	304.3	...	306.7	...	303.3	...	...	300.2	...	302.5	...	299.4	...
Denver-Boulder, Colo. ....	305.4	...	324.5	...	326.2	...	327.5	310.5	...	331.3	...	332.5	...	323.9
Detroit, Mich. ....	280.8	292.7	294.9	295.2	296.0	292.6	292.6	277.8	289.3	291.2	291.2	292.1	288.7	288.0
Honolulu, Hawaii ....	...	269.4	...	275.2	...	269.9	...	...	269.5	...	274.7	...	271.0	...
Houston, Tex. ....	...	318.6	...	317.6	...	318.1	...	...	315.3	...	314.9	...	316.1	...
Kansas City, Mo.-Kansas ....	...	285.0	...	289.3	...	290.6	...	...	283.6	...	287.3	...	288.6	...
Los Angeles-Long Beach, Anaheim, Calif. ....	285.6	289.1	288.2	289.5	288.5	285.3	285.6	289.6	292.8	291.7	292.8	291.6	288.0	288.0
Miami, Fla. (11/77=100) ....	155.2	...	156.1	...	156.8	...	157.9	156.4	...	157.5	...	158.6	...	159.2
Milwaukee, Wis. ....	291.3	...	302.4	...	303.1	...	305.0	295.3	...	306.3	...	306.9	...	303.5
Minneapolis-St. Paul, Minn.-Wis. ....	...	313.8	...	307.7	...	306.1	...	...	313.3	...	307.6	...	306.1	...
New York, N.Y.-Northeastern N.J. ....	286.5	278.5	280.7	284.5	283.6	281.8	282.6	267.5	277.1	278.9	282.7	281.9	280.3	280.8
Northeast, Pa. (Scranton) ....	272.5	...	276.0	...	279.4	...	278.9	274.5	...	277.1	...	280.6	...	282.6
Philadelphia, Pa.-N.J. ....	275.7	281.3	283.0	281.8	282.9	281.6	282.1	275.1	280.7	282.1	281.2	282.0	281.0	282.5
Pittsburgh, Pa. ....	...	291.4	...	300.7	...	302.1	...	...	291.8	...	300.3	...	301.7	...
Portland, Oreg.-Wash. ....	288.4	...	288.2	...	285.6	...	286.6	285.5	...	285.8	...	283.5	...	281.7
St. Louis, Mo.-Ill. ....	278.4	...	294.1	...	290.0	...	291.1	277.1	...	293.1	...	288.9	...	285.3
San Diego, Calif. ....	323.1	...	325.6	...	321.7	...	324.9	317.4	...	321.1	...	318.2	...	313.6
San Francisco-Oakland, Calif. ....	...	304.3	...	302.4	...	293.9	...	...	302.8	...	301.3	...	293.6	...
Seattle-Everett, Wash. ....	295.9	...	302.2	...	297.5	...	297.5	291.9	...	298.3	...	294.1	...	291.4
Washington, D.C.-Md.-Va. ....	278.0	...	286.5	...	286.3	...	289.0	281.8	...	291.9	...	291.6	...	292.9

<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.

**22. Producer Price Indexes, by stage of processing**

[1967 = 100]

Commodity grouping	Annual average 1982	1982										1983		
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>1</sup>	Nov.	Dec.	Jan.	Feb.
<b>FINISHED GOODS</b>														
Finished goods .....	280.6	277.9	277.3	277.3	277.8	279.9	281.7	282.3	281.2	284.1	284.9	285.1	283.6	283.7
Finished consumer goods .....	280.9	278.6	277.7	277.3	277.7	280.1	282.1	282.8	281.9	284.3	285.2	285.1	283.0	283.0
Finished consumer foods .....	259.3	258.2	257.1	260.0	262.3	263.4	260.6	259.7	259.9	257.7	257.6	258.2	258.3	259.9
Crude .....	252.5	282.5	263.3	266.6	259.9	254.7	241.0	239.2	228.2	232.4	235.6	247.2	232.6	240.4
Processed .....	257.7	254.0	254.5	257.3	260.3	262.0	260.2	259.4	260.6	257.9	257.4	257.1	258.4	259.5
Nondurable goods less foods .....	333.5	330.3	328.8	325.7	324.3	328.7	335.3	337.2	338.3	340.0	342.4	341.4	335.2	332.5
Durable goods .....	226.7	224.0	223.9	224.1	225.0	225.9	226.7	227.5	223.0	231.0	230.8	231.5	231.9	233.5
Consumer nondurable goods less food and energy .....	223.6	219.6	220.5	222.3	223.1	223.5	223.7	224.3	225.5	227.8	228.1	228.3	227.4	227.7
Capital equipment .....	279.6	275.0	275.8	277.2	278.1	279.2	280.2	280.7	278.7	283.2	284.0	285.1	285.7	286.2
<b>INTERMEDIATE MATERIALS</b>														
Intermediate materials, supplies, and components .....	310.4	311.1	310.6	309.9	309.8	309.9	311.1	310.8	310.5	309.9	310.1	310.2	309.9	310.5
Materials and components for manufacturing .....	289.9	290.9	290.4	290.6	291.4	289.8	289.2	288.7	289.9	289.4	288.9	288.7	289.0	291.3
Materials for food manufacturing .....	255.2	252.8	252.0	254.4	260.0	260.7	259.7	258.0	257.3	254.2	251.4	250.1	250.9	253.0
Materials for nondurable manufacturing .....	284.5	289.3	288.8	287.6	287.6	285.4	283.1	282.6	281.7	280.4	279.5	278.2	277.4	277.4
Materials for durable manufacturing .....	310.1	313.1	310.9	311.0	311.0	307.5	308.0	306.5	310.5	309.8	309.8	309.8	312.1	319.1
Components for manufacturing .....	274.0	270.9	271.8	272.6	273.6	273.6	273.9	274.3	275.8	276.7	277.0	277.7	277.4	278.1
Materials and components for construction .....	293.5	293.0	293.3	294.0	293.7	294.5	294.3	293.5	294.2	293.7	293.0	294.5	296.2	298.6
Processed fuels and lubricants .....	591.8	596.8	593.0	579.9	570.9	581.1	600.7	603.8	592.3	590.0	594.3	593.6	583.5	571.1
Manufacturing industries .....	497.9	497.8	496.1	487.5	481.4	491.7	506.9	510.7	496.4	496.6	502.5	500.4	493.2	483.5
Nonmanufacturing industries .....	674.4	684.2	678.3	661.1	649.5	659.5	683.0	685.5	676.9	672.1	674.9	675.5	662.7	647.8
Containers .....	285.5	285.5	286.3	287.0	287.0	286.5	286.3	285.4	285.3	285.1	284.7	284.6	284.9	285.1
Supplies .....	272.2	270.4	270.6	272.1	273.4	273.4	273.1	272.6	272.2	272.0	273.0	273.2	273.6	274.2
Manufacturing industries .....	266.0	263.3	264.5	265.3	266.7	266.7	266.8	266.5	266.7	266.9	267.2	267.4	268.0	268.7
Nonmanufacturing industries .....	275.7	274.4	274.1	276.0	277.2	277.1	276.7	276.0	275.3	274.9	276.3	276.5	276.8	277.3
Feeds .....	207.1	212.0	208.1	213.1	214.2	213.1	210.3	203.1	198.1	192.9	199.5	204.9	206.9	207.6
Other supplies .....	289.9	287.3	287.9	288.9	290.1	290.4	290.5	291.1	291.3	291.9	292.2	291.3	291.3	291.8
<b>CRUDE MATERIALS</b>														
Crude materials for further processing .....	319.5	321.6	320.0	322.6	328.3	325.6	323.4	319.8	316.1	312.0	313.4	312.6	313.7	321.0
Foodstuffs and feedstuffs .....	247.8	248.3	247.9	254.4	262.6	259.9	255.5	249.6	242.9	236.3	236.3	237.0	239.6	249.3
Nonfood materials .....	474.0	479.3	475.2	469.9	470.2	467.7	469.8	471.0	473.7	474.8	479.0	475.0	473.0	475.5
Nonfood materials except fuel .....	376.9	394.8	387.1	378.8	376.6	370.0	369.2	369.5	369.5	371.9	369.5	366.0	368.1	366.6
Manufacturing industries .....	387.2	407.5	398.4	389.0	386.3	378.9	378.4	378.9	379.1	382.2	379.3	375.0	377.5	375.5
Construction .....	270.7	270.5	273.2	273.3	274.5	274.2	271.4	270.3	268.8	266.3	267.3	269.4	268.9	270.8
Crude fuel .....	886.3	824.5	839.7	851.2	864.8	883.9	901.3	906.9	923.5	917.2	955.3	949.5	926.3	949.1
Manufacturing industries .....	1,034.8	954.4	974.7	989.1	1,006.7	1,032.0	1,053.9	1,061.1	1,083.6	1,075.3	1,124.8	1,117.0	1,088.2	1,118.7
Nonmanufacturing industries .....	782.7	735.4	746.6	755.8	766.4	780.5	794.5	798.9	810.7	805.9	835.2	830.9	812.0	828.8
<b>SPECIAL GROUPINGS</b>														
Finished goods excluding foods .....	285.7	282.4	281.9	281.1	281.0	283.4	286.7	287.9	286.3	290.8	291.9	292.0	289.9	289.6
Finished consumer goods excluding foods .....	287.8	284.9	284.0	282.3	281.8	284.8	288.8	290.2	288.9	293.3	294.6	294.3	291.1	290.3
Finished consumer goods less energy .....	251.2	241.3	241.3	243.0	244.3	245.1	244.5	244.7	243.9	246.5	246.5	247.0	246.9	248.0
Intermediate materials less foods and feeds .....	315.7	316.4	316.0	315.1	314.6	314.7	316.1	316.0	315.9	315.5	315.7	315.7	315.3	315.9
Intermediate materials less energy .....	290.5	290.7	290.5	291.0	291.6	290.8	290.4	289.7	290.5	290.1	289.9	290.2	290.7	292.6
Intermediate foods and feeds .....	239.5	239.4	237.7	240.9	245.0	245.1	243.6	240.2	238.1	234.4	234.6	235.4	236.5	238.2
Crude materials less agricultural products .....	536.5	543.9	538.4	531.6	531.5	529.1	531.5	532.0	535.5	537.2	542.3	537.0	534.8	537.5
Crude materials less energy .....	240.4	243.4	242.8	247.3	252.8	248.7	245.1	240.7	235.6	230.0	229.3	229.9	232.6	241.6

<sup>1</sup> Data for October 1982 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.

### 23. Producer Price Indexes, by commodity groupings

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1982	1982										1983		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. 1	Nov.	Dec.	Jan.	Feb.
	All commodities	299.3	298.6	298.0	298.0	298.6	299.3	300.4	300.2	299.3	'299.8	300.4	300.6	300.0	301.2
	All commodities (1957-59 = 100)	317.6	316.8	316.2	316.2	316.8	317.6	318.7	318.5	317.6	'318.1	318.7	318.9	318.3	319.6
	Farm products and processed foods and feeds	248.9	248.4	247.5	251.6	255.8	255.3	252.4	249.6	247.4	'243.8	244.0	244.8	245.9	249.9
	Industrial commodities	312.3	311.6	311.0	309.9	309.6	310.6	312.8	313.2	312.7	'314.3	315.1	315.0	314.0	314.4
	<b>FARM PRODUCTS AND PROCESSED FOODS AND FEEDS</b>														
01	Farm products	242.3	247.1	244.7	250.6	256.5	252.7	246.6	240.8	234.5	'299.2	230.6	232.5	233.1	240.8
01-1	Fresh and dried fruits and vegetables	253.4	290.1	257.3	267.6	271.5	264.5	239.1	238.6	221.0	'223.0	232.5	248.1	227.0	227.2
01-2	Grains	210.9	223.2	220.9	226.0	228.2	225.7	212.8	197.2	187.3	183.2	198.6	202.3	206.3	222.4
01-3	Livestock	257.8	251.2	255.6	267.6	282.9	277.5	270.3	268.4	259.0	248.5	239.1	237.2	242.3	251.1
01-4	Live poultry	191.9	197.3	197.7	186.2	192.7	207.2	212.5	189.3	196.5	177.1	181.6	177.8	177.1	200.1
01-5	Plant and animal fibers	202.9	193.5	199.5	207.4	214.1	203.1	220.8	207.5	196.8	198.1	195.3	200.6	201.7	206.4
01-6	Fluid milk	282.5	285.8	282.5	280.3	278.8	278.9	279.0	278.8	281.9	285.0	285.9	285.5	284.5	284.5
01-7	Eggs	178.7	200.6	204.0	192.1	164.3	159.3	171.7	171.7	173.3	177.9	172.5	170.0	170.0	170.0
01-8	Hay, hayseeds, and oilseeds	212.8	217.6	213.7	222.8	227.3	219.3	220.0	204.5	201.8	194.3	204.8	209.0	212.4	217.9
01-9	Other farm products	274.5	273.7	273.0	274.2	273.9	271.8	265.5	274.4	276.8	274.0	276.3	280.1	279.9	282.0
02	Processed foods and feeds	251.5	248.1	248.1	251.1	254.4	255.8	254.6	253.5	253.5	'250.8	250.4	250.6	251.8	253.9
02-1	Cereal and bakery products	253.9	253.3	253.3	253.5	252.8	252.7	253.0	252.7	254.0	'253.0	254.6	256.6	256.9	257.3
02-2	Meats, poultry, and fish	257.6	247.9	250.0	258.2	267.6	271.2	266.0	262.2	265.7	256.9	251.5	249.9	252.2	257.7
02-3	Dairy products	248.9	248.0	248.0	248.4	248.5	248.7	248.6	248.8	249.1	'249.8	250.2	250.8	250.7	251.0
02-4	Processed fruits and vegetables	274.3	276.3	275.9	275.2	273.8	275.8	274.4	274.1	272.8	'273.4	273.1	273.0	274.6	273.9
02-5	Sugar and confectionery	269.9	257.2	255.0	256.0	265.3	269.1	275.7	285.5	278.5	'276.3	281.1	280.8	281.8	286.4
02-6	Beverages and beverage materials	256.9	255.1	256.4	256.6	256.5	256.7	256.9	258.0	257.1	'257.9	258.9	259.0	260.9	261.6
02-7	Fats and oils	215.5	216.8	213.7	218.1	222.3	221.8	221.3	215.6	211.4	'213.8	209.0	204.3	203.6	205.6
02-8	Miscellaneous processed foods	248.6	250.9	249.5	249.6	248.0	248.6	248.1	245.9	247.0	'247.9	247.9	248.6	248.9	248.9
02-9	Prepared animal feeds	211.3	214.9	211.4	216.3	217.4	216.4	213.9	207.5	204.3	'199.8	205.7	210.5	212.1	212.4
	<b>INDUSTRIAL COMMODITIES</b>														
03	Textile products and apparel	204.3	205.6	205.0	205.4	205.4	205.0	204.1	204.2	204.3	'204.1	203.5	202.4	202.6	202.4
03-1	Synthetic fibers (12/75 = 100)	162.4	163.2	161.3	163.0	163.4	162.8	161.5	162.2	162.5	'161.1	162.1	160.6	158.4	155.4
03-2	Processed yarns and threads (12/75 = 100)	137.7	140.7	140.5	140.4	141.0	139.4	135.9	135.9	136.6	'136.5	136.7	136.7	135.1	135.4
03-3	Gray fabrics (12/75 = 100)	145.3	147.3	146.6	146.3	145.9	146.0	144.9	144.6	143.6	'143.7	143.0	143.3	144.8	144.4
03-4	Finished fabrics (12/75 = 100)	124.6	127.1	125.6	125.4	125.2	124.0	123.8	124.3	123.7	'123.2	123.1	122.9	122.3	122.4
03-81	Apparel	193.8	193.2	193.4	194.1	194.5	195.0	194.8	195.1	195.4	'195.7	193.8	191.7	192.9	193.3
03-82	Textile housefurnishings	240.0	240.8	241.4	241.8	239.5	239.7	238.2	236.4	238.2	'236.2	240.5	240.5	240.8	238.7
04	Hides, skins, leather, and related products	263.0	261.6	260.6	263.4	263.2	261.8	263.1	262.0	263.5	'263.2	264.3	265.2	265.6	265.0
04-2	Leather	311.3	317.7	313.3	310.6	308.8	307.7	307.4	304.9	309.2	309.5	312.8	314.3	314.9	312.7
04-3	Footwear	245.0	238.6	239.8	244.8	244.5	244.2	247.3	247.7	248.3	'248.0	249.1	248.2	247.5	246.9
04-4	Other leather and related products	248.9	248.1	248.1	248.1	248.1	245.6	246.9	244.9	247.7	'247.2	250.9	253.1	254.6	255.0
05	Fuels and related products and power	693.4	697.8	689.7	670.6	662.2	677.3	701.1	705.6	700.4	'698.8	707.3	702.6	686.3	673.5
05-1	Coal	535.3	529.9	529.6	532.6	534.0	533.6	538.0	539.0	538.5	'538.1	540.3	540.3	532.3	534.6
05-2	Coke	461.8	469.7	467.5	467.5	467.5	462.0	460.3	459.1	460.0	'452.3	452.3	452.3	450.9	450.9
05-3	Gas fuels <sup>2</sup>	1,061.2	987.6	990.5	992.7	1,001.2	1,027.5	1,054.3	1,074.6	1,112.2	'1,130.1	1,190.9	1,177.4	1,143.5	1,169.2
05-4	Electric power	406.6	392.9	403.7	406.3	407.1	405.7	416.0	414.9	415.0	'408.7	405.2	410.3	411.2	411.2
05-61	Crude petroleum <sup>3</sup>	733.5	770.3	744.8	717.9	717.8	718.2	718.4	718.4	718.3	'735.3	734.1	720.4	720.1	693.3
05-7	Petroleum products, refined <sup>4</sup>	761.5	789.7	770.6	733.5	713.2	739.4	776.5	781.7	761.6	'754.6	759.9	753.0	727.1	699.2
06	Chemicals and allied products	292.4	293.6	294.6	294.3	295.0	293.3	291.6	291.6	290.7	'289.9	290.5	289.3	289.2	290.6
06-1	Industrial chemicals <sup>5</sup>	353.0	362.2	361.4	357.8	357.1	351.2	349.1	349.1	346.5	'345.8	345.8	342.9	339.9	341.0
06-21	Prepared paint	262.9	258.9	258.9	258.9	264.7	264.7	264.7	264.7	264.7	'264.7	265.1	265.1	265.1	265.1
06-22	Paint materials	304.6	306.4	306.8	306.7	306.9	304.9	304.5	302.5	303.0	'303.0	302.3	301.5	301.3	299.3
06-3	Drugs and pharmaceuticals	210.1	204.4	205.9	208.9	209.9	209.7	210.0	211.2	212.4	'214.9	215.4	216.0	218.3	221.3
06-4	Fats and oils, inedible	267.1	274.2	290.1	282.6	288.4	287.5	278.2	254.2	254.1	'242.3	239.6	240.8	241.9	253.4
06-5	Agricultural chemicals and chemical products	292.7	298.0	297.1	295.8	294.8	294.1	291.5	290.8	289.9	'288.8	287.3	286.2	282.8	282.5
06-6	Plastic resins and materials	283.3	287.3	285.5	286.0	283.2	282.1	280.9	282.2	281.6	'281.3	281.4	281.4	282.8	282.3
06-7	Other chemicals and allied products	269.8	264.9	268.5	270.0	272.7	273.8	271.1	272.3	271.2	'268.6	271.7	270.2	272.6	274.8
07	Rubber and plastic products	241.6	239.3	240.8	241.1	242.1	242.5	242.0	242.6	242.5	'242.2	242.6	243.0	244.5	242.8
07-1	Rubber and rubber products	268.5	266.0	266.7	266.6	269.0	269.3	268.8	270.1	269.5	'268.9	270.2	270.5	273.9	270.0
07-11	Crude rubber	278.9	282.1	283.5	283.3	283.7	282.5	280.3	278.7	276.6	'272.5	270.8	271.0	271.0	274.2
07-12	Tires and tubes	255.2	256.7	253.7	253.4	254.9	255.3	255.0	257.8	255.6	'255.7	254.8	256.2	259.1	250.4
07-13	Miscellaneous rubber products	278.8	268.8	274.3	274.7	278.8	279.5	279.4	279.7	281.6	'281.4	286.5	285.5	290.7	290.8
07-2	Plastic products (6/78 = 100)	132.2	131.0	132.3	132.6	132.5	132.8	132.5	132.5	132.7	'132.7	132.4	132.8	132.6	132.8
08	Lumber and wood products	284.7	285.2	285.3	286.5	284.6	289.0	288.6	284.2	283.0	'279.4	279.9	284.8	292.1	302.7
08-1	Lumber	310.8	308.1	308.2	312.4	310.5	315.8	319.2	311.6	310.3	'305.6	305.1	311.0	324.2	343.6
08-2	Millwork	279.4	278.6	276.5	276.6	276.3	280.5	282.3	280.2	279.5	'278.6	280.3	286.1	293.7	300.5
08-3	Plywood	232.1	235.1	236.5	234.0	230.5	239.2	232.4	229.0	228.5	'224.0	227.8	231.2	234.4	239.3
08-4	Other wood products	236.2	238.7	238.6	237.7	237.4	236.0	236.0	235.8	235.6	'235.8	233.1	231.3	232.0	233.2

See footnotes at end of table.

23. Continued — Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1982	1982										1983		
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>1</sup>	Nov.	Dec.	Jan.	Feb.
<b>INDUSTRIAL COMMODITIES — Continued</b>															
09	Pulp, paper, and allied products	288.6	286.3	287.4	288.5	289.6	289.5	289.1	289.3	289.4	†289.8	289.6	289.5	291.1	293.3
09-1	Pulp, paper, and products, excluding building paper and board	273.3	276.8	276.6	275.3	274.8	274.1	272.6	272.2	271.5	†270.3	269.9	269.1	269.1	269.0
09-11	Woodpulp	379.8	410.3	411.6	389.9	393.3	388.0	368.3	367.0	365.0	†350.4	349.4	349.3	350.5	349.5
09-12	Wastepaper	121.1	128.8	129.2	128.1	121.5	115.2	115.6	116.0	116.0	116.0	116.0	116.0	116.0	116.0
09-13	Paper	286.6	289.8	289.6	289.4	288.2	287.8	286.3	285.3	285.3	†285.4	281.7	280.0	279.8	279.1
09-14	Paperboard	254.9	261.4	261.1	261.2	258.8	255.9	255.0	255.4	250.7	†248.0	247.6	244.5	243.6	244.0
09-15	Converted paper and paperboard products	264.4	264.7	264.5	264.3	264.3	264.5	264.4	264.3	264.2	†264.0	265.0	264.9	265.0	265.1
09-2	Building paper and board	239.3	231.4	239.6	236.3	240.2	240.0	239.8	244.4	243.4	†242.1	240.4	241.4	240.5	240.8
10	Metals and metal products	301.8	304.2	302.9	303.1	302.8	299.3	299.5	299.2	301.8	†301.6	301.0	300.9	301.7	306.1
10-1	Iron and steel	339.1	342.9	342.5	342.8	341.3	338.3	337.5	337.1	336.5	†337.6	336.3	333.3	333.2	340.3
10-17	Steel mill products	349.7	350.3	350.5	352.2	352.1	349.9	349.0	348.6	348.2	†348.8	349.3	345.5	343.7	351.8
10-2	Nonferrous metals	263.6	273.6	267.2	266.1	263.6	253.4	256.4	255.7	265.1	†262.9	262.0	264.0	267.6	275.5
10-3	Metal containers	328.1	326.2	327.2	330.0	330.2	329.9	330.0	328.8	328.8	†329.7	327.0	325.7	327.0	330.3
10-4	Hardware	279.5	274.8	278.2	278.5	278.9	280.3	281.2	282.6	282.7	†283.0	280.8	283.5	284.9	285.6
10-5	Plumbing fixtures and brass fittings	278.7	276.4	279.1	280.3	281.0	282.6	283.3	274.6	277.1	†277.8	278.2	279.1	280.6	283.4
10-6	Heating equipment	237.3	233.1	235.4	236.0	237.2	238.5	238.9	238.4	239.1	†238.4	238.9	239.3	240.1	240.8
10-7	Fabricated structural metal products	304.2	304.0	304.5	305.2	304.9	305.3	303.9	304.3	306.4	†305.9	302.8	306.3	303.3	302.5
10-8	Miscellaneous metal products	284.1	278.7	279.0	279.7	284.5	283.9	283.2	283.3	283.8	†284.1	288.5	288.7	288.6	288.6
11	Machinery and equipment	278.7	275.4	276.2	277.6	278.2	278.6	279.6	279.9	280.2	†281.1	281.3	281.8	282.7	283.6
11-1	Agricultural machinery and equipment	310.9	304.6	306.4	306.8	308.2	309.7	311.0	312.2	314.1	†317.5	318.1	319.9	321.4	322.5
11-2	Construction machinery and equipment	343.8	337.9	339.2	341.5	343.5	343.9	346.1	346.5	347.5	†347.6	347.8	347.9	348.6	348.1
11-3	Metalworking machinery and equipment	320.7	317.2	317.8	319.6	320.7	321.2	322.5	322.8	323.1	†323.1	323.0	323.1	323.7	324.5
11-4	General purpose machinery and equipment	303.9	301.3	302.0	303.4	303.8	303.5	304.8	304.9	305.0	†305.9	306.0	306.6	306.9	307.5
11-6	Special industry machinery and equipment	325.2	320.7	321.3	322.9	323.9	325.0	327.1	326.7	326.8	†327.8	329.1	330.1	331.7	332.9
11-7	Electrical machinery and equipment	231.5	229.5	230.3	231.7	231.3	231.5	231.6	231.8	231.7	†232.6	233.0	233.0	234.3	235.8
11-9	Miscellaneous machinery	268.2	264.0	264.9	266.1	267.9	268.5	269.5	270.9	271.5	†271.6	271.7	272.0	272.5	272.5
12	Furniture and household durables	206.8	204.6	205.5	206.0	206.5	207.0	206.8	208.1	208.3	†208.9	208.3	208.6	210.1	211.7
12-1	Household furniture	229.9	227.4	227.6	229.7	230.0	230.2	230.0	230.4	230.7	†231.2	231.6	231.8	231.5	231.6
12-2	Commercial furniture	275.7	271.2	273.6	274.2	275.2	276.0	277.4	278.1	278.2	†278.3	279.1	279.0	281.6	282.6
12-3	Floor coverings	180.7	180.6	180.6	181.1	181.3	181.9	181.2	181.0	181.5	†181.6	180.2	180.1	181.0	181.2
12-4	Household appliances	198.8	195.3	197.3	197.8	198.9	199.6	200.2	201.0	201.2	†201.3	200.3	200.7	202.1	203.2
12-5	Home electronic equipment	88.1	89.6	89.1	87.9	88.0	88.4	87.2	88.0	87.4	†87.8	87.3	87.2	87.6	87.2
12-6	Other household durable goods	288.2	283.7	285.0	285.9	285.4	286.1	285.1	291.8	293.4	†296.5	294.5	295.4	302.0	313.9
13	Nonmetallic mineral products	320.2	319.0	319.9	320.2	321.2	320.9	321.1	320.5	321.2	†321.1	321.5	320.9	321.5	321.9
13-11	Flat glass	221.5	216.2	216.2	216.2	226.4	226.4	226.1	221.1	221.1	†221.1	225.3	225.3	229.7	229.7
13-2	Concrete ingredients	310.5	308.4	309.8	309.5	312.5	312.7	311.8	311.2	310.8	†309.9	311.7	309.3	308.1	309.6
13-3	Concrete products	297.8	295.9	296.3	297.7	298.2	298.5	298.8	299.0	298.7	†298.6	298.1	298.5	298.6	299.5
13-4	Structural clay products, excluding refractories	259.9	257.7	257.7	258.1	258.6	258.9	259.3	263.9	264.0	†264.0	264.3	264.3	264.4	264.4
13-5	Refractories	337.3	335.1	337.4	338.7	339.5	340.4	340.4	340.7	340.8	†340.8	337.7	337.7	338.2	338.2
13-6	Asphalt roofing	399.6	400.4	394.4	386.7	385.5	396.4	399.8	400.1	413.4	†406.7	397.5	395.4	392.2	378.9
13-7	Gypsum products	256.0	255.0	260.7	263.2	259.4	256.4	255.8	253.9	253.9	†255.1	254.9	253.9	259.7	263.4
13-8	Glass containers	355.6	352.2	356.0	358.1	358.1	358.1	358.1	358.0	358.6	†358.5	358.5	358.5	358.2	355.8
13-9	Other nonmetallic minerals	471.6	478.7	479.6	479.1	471.3	465.2	466.6	466.0	467.7	†470.4	471.3	470.6	471.8	476.1
14	Transportation equipment (12/68 = 100)	249.7	245.2	245.2	245.8	247.5	249.1	249.8	250.6	244.5	†256.0	256.1	257.5	257.1	257.3
14-1	Motor vehicles and equipment	251.3	246.8	246.8	247.2	249.2	251.1	252.0	252.8	244.6	†257.8	257.5	257.9	257.8	258.1
14-4	Railroad equipment	348.7	345.8	346.3	343.5	342.8	342.8	342.6	347.7	348.0	†350.8	357.5	357.5	357.6	357.3
15	Miscellaneous products	276.6	273.5	272.7	273.2	272.2	271.5	273.4	272.0	279.5	†285.4	285.7	290.3	284.7	285.7
15-1	Toys, sporting goods, small arms, ammunition	222.1	220.1	220.7	221.0	221.8	221.9	222.0	223.5	221.8	†221.2	223.7	223.2	223.7	225.6
15-2	Tobacco products	323.2	306.6	306.6	306.7	307.0	307.0	311.5	311.5	329.1	†365.4	365.1	383.5	350.9	338.1
15-3	Notions	277.1	270.4	271.5	271.5	280.1	280.1	280.1	280.1	280.1	†280.1	280.1	280.1	280.5	280.6
15-4	Photographic equipment and supplies	210.7	210.5	212.1	214.2	210.6	210.4	208.9	208.9	209.9	†209.7	210.2	210.3	210.3	212.1
15-5	Mobile homes (12/74 = 100)	161.7	159.6	161.9	162.2	162.5	162.4	162.6	162.8	162.9	†162.6	161.4	161.5	161.3	161.3
15-9	Other miscellaneous products	338.1	341.1	334.5	334.1	331.3	328.6	333.7	327.0	345.2	†345.2	344.6	351.0	350.3	359.2

<sup>1</sup> Data for October 1982 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> Prices for natural gas are lagged 1 month.

<sup>3</sup> Includes only domestic production.

<sup>4</sup> Most prices for refined petroleum products are lagged 1 month.

<sup>5</sup> Some prices for industrial chemicals are lagged 1 month.

† = revised.

## 24. Producer Price Indexes, for special commodity groupings

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1982	1982											1983	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>1</sup>	Nov.	Dec.	Jan.	Feb.
All commodities — less farm products	303.0	301.9	301.4	300.9	301.2	302.2	303.9	304.1	303.7	304.7	305.2	305.2	304.6	305.2
All foods	254.5	253.2	251.6	254.7	257.9	259.0	256.6	255.8	255.3	<sup>r</sup> 252.8	252.1	252.7	252.4	254.7
Processed foods	256.1	251.9	252.1	255.1	259.0	260.8	259.5	258.7	259.2	<sup>r</sup> 256.2	255.0	254.8	255.8	258.2
Industrial commodities less fuels	272.8	271.5	271.7	272.3	272.8	272.4	272.5	272.6	272.5	274.4	274.4	274.8	275.4	277.0
Selected textile mill products (Dec. 1975 = 100)	138.2	139.7	139.0	139.0	138.7	138.2	137.6	137.8	137.8	<sup>r</sup> 137.4	137.1	136.6	136.6	136.7
Hosiery	138.3	136.9	137.5	138.0	138.5	138.5	138.5	138.5	138.7	138.7	139.7	139.7	141.7	144.5
Underwear and nightwear	217.4	215.6	215.9	215.9	215.9	217.4	218.6	218.6	219.6	<sup>r</sup> 220.1	219.4	219.5	223.1	222.3
Chemicals and allied products, including synthetic rubber and fibers and yarns	283.9	285.1	285.6	285.6	286.1	284.5	282.9	283.3	282.5	<sup>r</sup> 281.8	282.4	281.2	280.8	281.6
Pharmaceutical preparations	206.0	199.3	201.1	204.5	205.8	205.4	205.9	207.4	209.0	<sup>r</sup> 211.7	212.3	213.0	215.5	218.4
Lumber and wood products, excluding millwork	288.8	287.9	288.5	290.5	288.1	294.5	294.6	288.3	287.2	<sup>r</sup> 282.5	283.5	288.6	298.7	313.5
Steel mill products, including fabricated wire products	349.4	350.3	350.5	352.2	352.1	349.9	348.4	348.1	347.8	<sup>r</sup> 349.1	348.5	344.8	343.1	350.5
Finished steel mill products, excluding fabricated wire products	348.4	348.9	349.2	351.0	350.9	348.6	347.7	347.3	346.9	348.6	348.0	344.0	342.1	350.5
Finished steel mill products, including fabricated wire products	348.1	348.9	349.2	351.0	350.9	348.6	347.0	346.7	346.3	<sup>r</sup> 347.8	347.2	343.3	341.5	349.1
Special metals and metal products	286.7	286.0	285.3	285.6	286.3	285.2	285.7	285.8	284.0	<sup>r</sup> 289.5	289.0	289.2	289.7	292.3
Fabricated metal products	292.0	289.0	289.9	290.8	292.6	292.8	292.0	291.9	292.9	<sup>r</sup> 293.0	293.1	294.0	293.9	294.2
Copper and copper products	185.6	194.1	190.8	191.6	193.0	179.7	179.2	179.8	181.0	<sup>r</sup> 178.8	181.8	182.1	190.5	201.6
Machinery and motive products	272.1	268.1	268.5	269.6	270.7	271.7	272.8	273.3	270.7	<sup>r</sup> 276.4	276.7	277.6	277.9	278.5
Machinery and equipment, except electrical	306.3	302.3	303.1	304.6	305.7	306.2	307.6	308.1	308.6	<sup>r</sup> 309.4	309.6	310.3	311.1	311.6
Agricultural machinery, including tractors	322.8	316.0	318.4	319.0	319.9	321.3	321.8	322.8	325.5	<sup>r</sup> 330.6	331.3	333.7	336.0	337.1
Metalworking machinery	350.4	344.9	346.4	348.8	349.3	350.1	352.6	353.1	353.5	<sup>r</sup> 354.1	354.3	354.2	354.8	355.9
Numerically controlled machine tools (Dec. 1971 = 100)	239.8	239.8	239.9	239.9	239.9	240.0	239.2	239.2	239.4	<sup>r</sup> 239.4	239.8	239.8	238.0	238.7
Total tractors	354.7	346.9	349.1	352.4	353.6	354.1	354.8	355.5	359.6	<sup>r</sup> 361.4	360.7	363.2	365.3	365.6
Agricultural machinery and equipment less parts	313.5	307.4	309.7	310.3	311.0	312.2	312.8	313.6	315.8	<sup>r</sup> 320.1	320.8	323.1	325.1	326.1
Farm and garden tractors less parts	327.4	319.7	323.5	323.5	325.0	325.8	325.4	326.0	333.0	<sup>r</sup> 336.1	334.9	339.1	342.2	342.2
Agricultural machinery, excluding tractors less parts	319.3	313.2	314.6	315.6	316.1	317.9	319.1	319.6	319.6	<sup>r</sup> 326.4	328.6	329.6	331.2	333.3
Construction materials	288.0	286.9	287.5	288.2	288.2	289.5	289.2	288.3	288.4	<sup>r</sup> 288.0	287.6	288.3	290.0	294.4

<sup>1</sup> Data for October 1982 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.

## 25. Producer Price Indexes, by durability of product

[1967 = 100]

Commodity grouping	Annual average 1982	1982											1983	
		Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>1</sup>	Nov.	Dec.	Jan.	Feb.
Total durable goods	279.0	277.4	277.4	278.1	278.5	278.3	278.9	278.8	278.6	<sup>r</sup> 281.2	281.2	282.0	282.8	285.2
Total nondurable goods	315.3	315.4	314.2	313.6	314.5	316.0	317.6	317.1	315.7	314.3	315.5	315.1	313.4	313.5
Total manufactures	292.7	292.0	291.4	291.1	291.3	292.4	293.7	293.8	292.9	<sup>r</sup> 293.8	294.0	294.1	293.7	294.1
Durable	279.9	277.8	277.8	278.7	279.2	279.3	279.9	279.8	279.6	<sup>r</sup> 282.3	282.4	283.2	283.9	286.1
Nondurable	306.4	307.2	305.9	304.1	304.0	306.3	308.5	308.6	307.1	<sup>r</sup> 306.0	306.3	305.6	303.9	302.3
Total raw or slightly processed goods	331.3	330.6	329.7	331.9	335.1	333.4	333.2	331.1	329.9	<sup>r</sup> 327.9	331.1	331.5	330.3	336.2
Durable	234.1	253.7	250.1	245.3	239.7	225.4	225.3	225.0	226.2	<sup>r</sup> 224.2	220.0	218.2	225.2	236.3
Nondurable	337.4	335.2	334.5	337.2	341.1	340.3	340.1	337.9	336.5	<sup>r</sup> 334.5	338.2	338.8	337.0	342.5

<sup>1</sup> Data for October 1982 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 for the output of selected SIC industries**

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1982	1982												1983	
			Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct. <sup>1</sup>	Nov.	Dec.	Jan.	Feb.	
<b>MINING</b>																
1011	Iron ores (12/75 = 100)	175.2	171.3	171.3	171.3	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	313.7	325.0	327.0	308.3	307.5	306.2	287.5	289.5	312.5	308.3	312.5	306.2	289.5	289.5
1311	Crude petroleum and natural gas	925.7	913.9	905.4	893.3	901.2	914.3	924.3	926.7	937.6	945.9	969.0	956.0	942.8	938.4	938.4
1455	Kaolin and ball clay (6/76 = 100)	151.2	149.6	149.6	151.7	151.7	151.7	151.7	151.7	151.7	151.7	151.7	151.7	151.7	153.6	156.3
<b>MANUFACTURING</b>																
2021	Creamery butter	276.0	276.4	276.8	275.3	274.9	274.9	275.0	276.3	276.8	276.8	276.5	277.8	275.5	275.6	275.6
2024	Ice cream and frozen desserts (12/72 = 100)	214.4	212.8	210.9	214.2	214.2	214.2	213.6	213.6	216.5	216.5	216.5	216.5	216.5	216.5	217.7
2041	Flour mills (12/71 = 100)	186.2	187.5	187.3	192.5	188.4	189.1	185.5	180.2	182.2	179.6	184.8	185.5	182.6	181.7	181.7
2044	Rice milling	185.1	192.2	183.5	177.9	183.0	180.3	177.6	183.0	183.0	183.0	175.2	196.1	191.3	183.0	183.0
2067	Chewing gum	304.1	303.3	303.3	303.4	303.4	303.4	303.3	304.7	304.7	304.8	306.0	306.1	326.0	326.0	326.0
2074	Cottonseed oil mills	168.3	170.5	158.1	164.7	167.9	170.2	174.6	173.1	164.4	157.6	164.2	169.4	157.5	160.4	160.4
2083	Malt	256.9	267.1	267.1	259.1	259.8	259.8	259.8	251.2	251.2	240.6	240.6	240.6	232.6	232.6	232.6
2085	Distilled liquor, except brandy (12/75 = 100)	140.1	137.9	140.2	140.2	139.8	139.8	139.8	140.4	140.4	140.4	141.3	141.3	141.3	141.3	141.3
2091	Canned and cured seafoods (12/73 = 100)	187.0	187.0	187.7	188.2	188.0	188.4	187.8	184.3	186.2	186.3	186.4	186.6	182.8	179.2	179.2
2098	Macaroni and spaghetti	258.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	259.5	255.5	255.5	255.5	255.5	255.5	255.5
2251	Women's hosiery, except socks (12/75 = 100)	116.8	115.6	116.1	116.2	116.9	116.9	116.8	116.9	116.9	116.9	118.5	118.4	118.6	122.7	122.7
2261	Finishing plants, cotton (6/76 = 100)	139.5	140.3	140.8	141.6	141.5	141.4	140.3	139.8	138.5	136.8	136.2	136.1	135.3	136.0	136.0
2262	Finishing plants, synthetics, silk (6/76 = 100)	128.2	129.9	128.5	128.5	128.4	127.6	126.8	129.0	128.2	127.5	127.7	127.2	125.6	125.5	125.5
2284	Thread mills (6/76 = 100)	157.2	156.8	156.8	156.7	156.6	156.6	156.5	158.0	158.0	157.9	157.8	157.8	157.9	161.9	161.9
2298	Cordage and twine (12/77 = 100)	141.5	141.0	141.0	141.0	141.0	141.0	141.0	141.0	142.6	142.6	142.6	142.6	142.6	142.7	142.7
2321	Men's and boys' shirts and nightwear	214.6	215.9	216.9	217.3	217.5	217.8	218.1	218.2	221.5	221.6	220.9	220.4	223.4	223.5	223.5
2323	Men's and boys' neckwear (12/75 = 100)	119.5	117.3	117.3	117.3	117.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3	121.3
2331	Women's and misses' blouses and waists (6/78 = 100)	125.8	126.5	126.5	126.5	126.5	126.6	126.4	126.7	126.6	126.7	125.5	124.8	124.8	124.7	124.7
2361	Children's dresses and blouses (12/77 = 100)	120.6	123.2	123.2	122.2	122.2	122.2	119.4	120.3	118.6	118.6	117.0	117.0	117.0	117.0	117.0
2381	Fabric dress and work gloves	292.1	297.4	295.5	295.5	295.5	294.5	294.5	288.2	288.2	287.4	287.4	287.4	288.8	288.8	288.8
2394	Canvas and related products (12/77 = 100)	145.6	144.9	147.2	145.7	145.9	143.1	143.1	143.1	144.8	147.3	148.0	148.0	149.4	149.4	149.4
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	131.0
2448	Wood pallets and skids (12/75 = 100)	145.5	149.0	148.2	145.9	144.7	144.2	144.1	143.9	143.8	144.3	144.1	144.5	144.5	145.1	145.1
2515	Mattresses and bedsprings	207.2	205.6	205.6	205.7	205.9	205.9	205.7	205.9	206.0	206.0	210.3	210.3	208.7	208.7	208.7
2521	Wood office furniture	270.6	270.7	270.8	270.8	270.8	270.8	270.9	271.3	271.3	271.3	272.4	272.4	272.5	272.5	272.5
2647	Sanitary paper products	348.4	344.6	344.5	344.5	343.6	346.2	346.9	351.5	352.3	351.8	358.5	356.6	356.9	356.6	356.6
2654	Sanitary food containers	260.2	256.9	260.0	259.9	259.9	259.9	259.9	259.9	260.8	261.7	263.1	263.2	263.2	263.1	263.1
2655	Fiber cans, drums, and similar products (12/75 = 100)	177.8	176.5	176.5	176.5	176.7	176.7	176.7	177.5	177.9	177.9	180.7	183.8	183.8	183.8	183.8
2911	Petroleum refining (6/76 = 100)	278.4	289.1	281.7	267.4	259.2	267.9	281.5	283.7	279.6	279.6	280.5	278.4	268.3	258.5	258.5
2952	Asphalt felts and coating (12/75 = 100)	172.9	173.8	171.2	168.1	168.4	173.1	174.7	174.4	180.4	177.2	173.1	172.3	170.8	165.1	165.1
3031	Reclaimed rubber (12/73 = 100)	207.1	200.4	207.2	209.2	209.5	210.7	209.9	209.7	209.8	209.8	207.0	206.5	207.1	207.4	207.4
3251	Brick and structural clay tile	306.6	299.4	299.4	303.4	304.5	305.0	305.9	313.8	314.0	314.0	316.9	316.9	317.1	317.1	317.1
3253	Ceramic wall and floor tile (12/75 = 100)	139.7	140.4	140.4	140.6	140.6	140.6	140.6	140.7	140.7	140.7	138.0	138.0	138.0	138.0	138.0
3255	Clay refractories	353.1	354.4	355.6	355.2	355.5	356.2	356.3	356.8	356.9	357.0	351.2	351.2	352.0	352.0	352.0
3259	Structural clay products, n.e.c.	219.8	226.0	225.9	215.9	215.8	215.9	215.9	219.0	219.0	219.0	219.4	219.5	219.5	219.5	219.5
3261	Vitreous plumbing fixtures	265.0	260.6	260.8	261.8	265.4	265.5	264.2	263.9	267.2	269.1	270.3	269.7	272.1	273.3	273.3
3262	Vitreous china food utensils	354.3	347.7	347.3	346.5	355.5	360.2	360.2	360.2	360.2	360.8	359.4	366.8	369.2	369.2	369.2
3263	Fine earthenware food utensils	317.5	315.1	315.0	314.9	316.2	316.9	316.9	316.9	316.9	323.5	322.7	323.7	363.5	363.5	363.5
3269	Pottery products, n.e.c. (12/75 = 100)	166.4	164.3	164.2	164.0	166.3	167.4	167.4	167.4	167.4	169.6	169.1	170.9	183.8	183.8	183.8
3274	Lime (12/75 = 100)	186.4	183.7	185.7	186.3	188.0	188.3	188.0	188.0	187.8	187.7	187.8	186.0	187.5	185.8	185.8
3297	Nonclay refractories (12/74 = 100)	201.8	198.3	200.4	202.3	203.2	203.8	203.8	203.8	203.8	203.8	203.7	203.6	203.7	203.6	203.6
3313	Electrometallurgical products (12/75 = 100)	121.4	123.4	120.3	120.3	120.3	120.4	120.4	121.4	121.4	121.3	121.3	121.2	121.1	121.2	121.2
3425	Hand saws and saw blades (12/72 = 100)	218.9	214.8	214.9	215.3	221.3	221.4	221.5	221.6	221.6	221.6	221.4	221.2	221.4	226.0	226.0
3482	Small arms ammunition (12/75 = 100)	170.7	167.5	167.5	166.3	166.3	170.3	170.3	170.3	149.0	150.1	175.9	174.8	180.9	180.9	180.9
3623	Welding apparatus, electric (12/72 = 100)	237.9	236.9	232.3	237.6	237.6	237.8	241.6	242.4	242.8	243.0	238.0	238.3	238.5	238.9	238.9
3636	Sewing machines (12/75 = 100)	154.3	155.8	155.8	154.3	154.3	154.3	154.3	153.6	153.6	154.2	153.6	153.6	153.6	153.8	153.8
3641	Electric lamps	294.0	286.1	283.6	296.6	294.5	293.9	291.8	293.7	296.3	302.9	303.0	303.4	305.6	311.1	311.1
3648	Lighting equipment, n.e.c. (12/75 = 100)	170.0	167.8	168.8	170.9	171.2	171.1	171.1	171.2	171.2	171.2	171.2	171.5	171.5	171.7	171.7
3671	Electron tubes, receiving type	382.3	374.2	374.4	374.5	374.4	374.5	375.4	375.4	380.2	380.3	414.5	414.5	431.6	432.0	432.0
3942	Dolls (12/75 = 100)	136.6	136.6	136.6	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.5	136.5	136.8	136.5	136.5
3944	Games, toys, and children's vehicles	233.1	232.5	234.1	234.1	234.3	234.3	234.4	234.4	234.8	235.3	232.8	232.8	232.7	238.6	238.6
3955	Carbon paper and inked ribbons (12/75 = 100)	140.0	140.3	140.3	140.3	140.5	140.6	140.4	140.5	139.3	139.3	139.2	139.4	139.2	139.2	139.2
3995	Burial caskets (6/76 = 100)	148.4	143.8	143.8	145.3	149.3	149.3	150.8	150.8	150.8	150.8	150.8	150.8	147.0	152.1	152.1
3996	Hard surface floor coverings (12/75 = 100)	155.9	155.2	156.1	156.1	156.3	154.3	155.0	155.7	155.9	156.9	156.9	156.8	159.2	159.2	159.2

<sup>1</sup> Data for October 1982 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.

NOTE: Indexes which were deleted in the March issue may now be found in Table 4 of the BLS monthly report, *Producer Prices and Price Indexes*.  
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.

The use of the term "man hours" to identify the labor component of productivity and costs, in tables 27 through 30, has been discontinued. **Hours of all persons** is now used to describe the labor input of payroll workers, self-employed persons, and unpaid family workers. **Output per all-employee hour** is now used to describe 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.

Beginning with the September 1982 issue of the *Review*, all of the productivity and cost measures contained in these tables are based on revised output and compensation measures released by the Bureau of Economic Analysis in July as part of the regular revision cycle of the National Income and Product Accounts. Measures of labor input have been revised to reflect results of the 1980 census, and seasonal factors have been recomputed for use in the preparation of quarterly measures. The word "private" is no longer being used as part of the series title of one of the two business sector measures prepared by BLS; no change has been made in the definition or content of the measures as a result of this change.

**27. Annual indexes of productivity, hourly compensation, unit costs, and prices, selected years, 1950-82**

[1977=100]

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	99.6	98.9	100.7	101.0
Compensation per hour	20.0	26.4	33.9	41.7	58.2	85.5	92.9	100.0	108.6	119.1	131.4	144.1	<sup>r</sup> 154.5
Real compensation per hour	50.5	59.6	69.5	80.1	90.8	96.3	98.9	100.0	100.9	99.4	96.7	96.0	97.0
Unit labor cost	39.7	45.2	52.0	53.3	67.5	90.5	95.1	100.0	108.0	119.5	132.9	143.1	<sup>r</sup> 152.9
Unit nonlabor payments	43.4	47.6	50.6	57.6	63.2	90.4	94.0	100.0	106.7	112.8	119.3	135.2	138.7
Implicit price deflator	41.0	46.0	51.6	54.7	66.0	90.5	94.7	100.0	107.5	117.2	128.3	140.4	<sup>r</sup> 148.1
<b>Nonfarm business sector:</b>													
Output per hour of all persons	56.3	62.8	68.3	80.5	86.8	94.7	97.8	100.0	100.6	99.3	98.5	99.9	100.0
Compensation per hour	21.8	28.3	35.7	42.8	58.7	86.0	93.0	100.0	108.6	118.8	130.9	143.6	154.0
Real compensation per hour	55.0	64.0	73.0	82.2	91.5	96.8	99.0	100.0	100.9	99.2	96.3	95.7	<sup>p</sup> 96.7
Unit labor cost	38.8	45.0	52.2	53.2	67.6	90.8	95.1	100.0	108.0	118.6	133.0	143.8	<sup>r</sup> 154.0
Unit nonlabor payments	42.7	47.8	50.4	58.0	63.7	88.5	93.5	100.0	105.3	110.3	119.1	134.8	<sup>r</sup> 139.0
Implicit price deflator	40.1	46.0	51.6	54.8	66.3	90.0	94.6	100.0	107.1	116.5	128.3	140.8	149.0
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	( <sup>1</sup> )	( <sup>1</sup> )	68.0	81.9	87.4	95.5	98.2	100.0	100.9	100.7	100.3	102.0	<sup>p</sup> 103.0
Compensation per hour	( <sup>1</sup> )	( <sup>1</sup> )	37.0	43.9	59.4	86.1	92.9	100.0	108.5	118.7	130.9	143.5	<sup>p</sup> 154.1
Real compensation per hour	( <sup>1</sup> )	( <sup>1</sup> )	75.8	84.3	92.7	96.9	98.9	100.0	100.8	99.1	96.2	95.6	<sup>p</sup> 96.8
Unit labor cost	( <sup>1</sup> )	( <sup>1</sup> )	54.4	53.5	68.0	90.2	94.6	100.0	107.5	117.8	130.5	140.6	<sup>p</sup> 149.6
Unit nonlabor payments	( <sup>1</sup> )	( <sup>1</sup> )	54.6	60.8	63.1	90.8	95.0	100.0	104.2	106.9	117.7	134.8	<sup>p</sup> 140.5
Implicit price deflator	( <sup>1</sup> )	( <sup>1</sup> )	54.5	56.1	66.3	90.4	94.7	100.0	106.4	114.1	126.1	138.6	<sup>p</sup> 146.5
<b>Manufacturing:</b>													
Output per hour of all persons	49.4	56.4	60.0	74.5	79.1	93.4	97.5	100.0	100.9	101.5	101.7	104.5	<sup>r</sup> 103.5
Compensation per hour	21.5	28.8	36.7	42.8	57.6	85.4	92.3	100.0	108.3	118.9	132.8	146.4	158.8
Real compensation per hour	54.0	65.1	75.1	82.3	89.8	96.2	98.3	100.0	100.6	99.2	97.7	97.5	99.7
Unit labor cost	43.4	51.0	61.1	57.5	72.7	91.5	94.6	100.0	107.4	117.1	130.6	140.0	<sup>r</sup> 153.4
Unit nonlabor payments	54.3	58.5	61.1	69.3	65.0	87.3	93.7	100.0	102.5	99.9	97.1	108.8	<sup>p</sup> ( <sup>1</sup> )
Implicit price deflator	46.6	53.2	61.1	61.0	70.5	90.3	94.4	100.0	106.0	112.0	120.8	130.8	<sup>p</sup> ( <sup>1</sup> )

<sup>1</sup> Not available.  
<sup>r</sup> = revised.

<sup>p</sup> = preliminary.

**28. 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	-0.9	-0.7	1.8	0.4	P2.4	P1.1
Compensation per hour	6.5	8.0	9.4	9.6	8.6	7.7	8.6	9.7	10.4	9.6	7.3	P6.3	P9.0
Real compensation per hour	3.1	1.6	-1.4	0.5	2.6	1.2	0.9	-1.4	-2.8	-0.7	1.1	P2.3	P0.1
Unit labor cost	2.9	5.3	12.1	7.3	5.1	5.1	8.0	10.7	11.2	7.7	6.9	P3.8	P7.8
Unit nonlabor payments	4.5	5.9	4.4	15.1	4.0	6.4	6.7	5.7	5.8	13.3	2.7	P3.7	P7.3
Implicit price deflator	3.4	5.5	9.5	9.8	4.7	5.6	7.5	9.0	9.4	9.5	5.5	P3.7	P7.5
<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	-1.3	-0.9	1.4	r0.1	P2.1	P0.9
Compensation per hour	6.7	7.6	9.4	9.6	8.1	7.5	8.6	9.3	10.2	9.7	r7.2	P6.0	P8.8
Real compensation per hour	3.3	1.3	-1.4	0.4	2.2	1.0	0.9	-1.7	-2.9	-0.7	r1.0	P2.0	P0.0
Unit labor cost	2.9	5.0	12.2	7.5	4.7	5.2	8.0	10.7	11.2	8.1	r7.1	P3.8	P7.8
Unit nonlabor payments	3.2	1.3	5.9	16.7	5.7	6.9	5.3	4.7	8.0	13.1	r3.2	P3.7	P7.5
Implicit price deflator	3.0	3.8	10.2	10.3	5.0	5.7	7.1	8.8	10.2	9.7	r5.8	P3.8	P7.7
<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	-0.4	1.7	P1.0	( <sup>1</sup> )	P1.0
Compensation per hour	5.7	7.5	9.4	9.6	7.9	7.6	8.5	9.4	10.3	9.6	P7.4	( <sup>1</sup> )	P8.8
Real compensation per hour	2.4	1.2	-1.5	0.4	2.0	1.1	0.8	-1.7	-2.9	-0.7	P1.2	( <sup>1</sup> )	P0.0
Unit labor cost	2.8	4.9	13.6	6.5	4.9	5.7	7.5	9.6	10.7	7.8	P6.4	( <sup>1</sup> )	P7.7
Unit nonlabor payments	2.7	1.5	7.1	20.1	4.6	5.3	4.2	2.6	10.1	14.6	P4.2	( <sup>1</sup> )	P7.4
Implicit price deflator	2.8	3.8	11.4	10.9	4.8	5.6	6.4	7.2	10.5	10.0	P5.7	( <sup>1</sup> )	P7.6
<b>Manufacturing:</b>													
Output per hour of all persons	5.0	5.4	-2.4	2.9	4.4	2.5	0.9	0.7	0.2	2.8	-1.0	P2.6	P1.7
Compensation per hour	5.4	7.2	10.6	11.9	8.0	8.3	8.3	9.7	11.8	10.2	8.5	P5.9	P9.5
Real compensation per hour	2.0	0.9	-0.3	2.5	2.1	1.8	0.6	-1.4	-1.6	-0.2	2.2	P1.9	P0.6
Unit labor cost	0.3	1.7	13.3	8.8	3.4	5.7	7.4	9.0	11.6	7.2	9.6	P3.2	P7.7
Unit nonlabor payments	0.8	-3.3	-1.8	25.9	7.4	6.7	2.5	-2.6	-2.7	12.0	( <sup>1</sup> )	P2.1	P3.7
Implicit price deflator	0.5	0.3	9.0	13.1	4.6	6.0	6.0	5.7	7.8	8.4	( <sup>1</sup> )	P2.9	P6.7

<sup>1</sup> Not available. p= preliminary.  
r= revised.

**29. Quarterly indexes of productivity, hourly compensation, unit costs, and prices, seasonally adjusted**

[1977=100]

Item	Annual average		Quarterly indexes											
			1980			1981				1982				
	1981	1982	II	III	IV	I	II	III	IV	I	II	III	IV	
<b>Business sector:</b>														
Output per hour of all persons	100.7	101.0	98.2	98.9	99.3	100.7	100.7	101.0	100.2	100.0	100.3	101.2	102.2	
Compensation per hour	144.1	154.6	130.0	133.1	136.1	140.0	142.5	145.6	148.2	150.9	153.4	155.7	r152.8	
Real compensation per hour	96.0	97.0	96.4	96.9	96.2	96.2	96.4	95.7	95.6	96.5	97.1	96.8	97.5	
Unit labor cost	143.1	r152.9	132.3	134.7	137.0	139.0	141.5	144.2	147.9	150.9	152.9	153.8	r154.4	
Unit nonlabor payments	135.2	r138.7	116.2	120.6	124.6	131.8	133.4	137.4	138.3	136.4	137.0	140.0	r141.8	
Implicit price deflator	140.4	r148.1	126.9	129.9	132.8	136.5	138.8	141.9	144.6	146.0	147.5	149.1	r150.1	
<b>Nonfarm business sector:</b>														
Output per hour of all persons	99.9	100.0	97.6	98.4	99.2	100.4	100.0	100.0	99.1	99.2	99.4	100.3	r100.8	
Compensation per hour	143.6	154.0	129.3	132.6	135.7	139.5	142.0	145.1	147.7	150.4	152.7	155.1	r157.2	
Real compensation per hour	95.7	96.7	96.0	96.5	95.9	96.0	96.0	95.4	95.3	96.3	96.6	96.4	r97.1	
Unit labor cost	143.8	r154.0	132.5	134.7	136.8	139.0	141.9	145.1	149.0	151.6	153.5	154.7	r156.1	
Unit nonlabor payments	134.8	r139.0	116.7	120.3	124.4	131.5	132.8	136.7	138.4	136.7	137.2	140.1	r142.2	
Implicit price deflator	140.8	149.0	127.2	129.9	132.7	136.5	138.9	142.3	145.5	146.6	148.1	149.8	r151.4	
<b>Nonfinancial corporations:</b>														
Output per hour of all employees	102.0	P103.0	99.3	100.6	101.1	102.3	102.2	102.2	101.6	101.6	102.3	103.5	( <sup>1</sup> )	
Compensation per hour	143.5	P154.1	129.3	132.6	135.6	139.6	141.9	144.8	147.7	150.7	153.0	155.2	( <sup>1</sup> )	
Real compensation per hour	95.6	P96.8	95.9	96.6	95.8	96.0	96.0	95.2	95.3	96.5	96.8	96.4	( <sup>1</sup> )	
Total unit costs	143.4	P154.2	130.4	132.9	135.8	138.3	141.7	144.7	149.1	151.8	153.8	154.8	( <sup>1</sup> )	
Unit labor cost	140.6	P149.6	130.2	131.9	134.1	136.5	138.9	141.7	145.4	148.3	149.5	150.0	( <sup>1</sup> )	
Unit nonlabor costs	151.4	P167.0	131.0	135.7	140.7	143.4	149.6	153.1	159.6	161.8	166.0	r168.3	( <sup>1</sup> )	
Unit profits	101.6	P87.2	81.9	87.8	90.5	104.7	98.8	105.2	97.6	86.1	82.3	r89.6	( <sup>1</sup> )	
Implicit price deflator	138.6	P145.5	124.8	127.7	130.6	134.5	136.8	140.2	143.2	144.3	145.6	r147.3	( <sup>1</sup> )	
<b>Manufacturing:</b>														
Output per hour of all persons	104.5	r103.5	100.4	100.3	103.6	105.2	105.0	105.0	102.8	102.1	102.3	r104.1	104.3	
Compensation per hour	146.4	158.8	130.9	135.2	138.4	142.6	144.9	147.3	150.7	154.7	157.6	160.0	161.8	
Real compensation per hour	97.5	99.7	97.1	98.5	97.8	98.0	97.9	96.8	97.2	99.0	99.7	99.4	99.9	
Unit labor cost	140.0	r153.4	130.3	134.9	133.6	135.5	138.0	140.3	146.6	151.5	154.0	153.6	r155.1	

<sup>1</sup> Not available. p= preliminary.  
r= revised.

**30. Percent change from preceding quarter and year in productivity, hourly compensation, unit costs, and prices, seasonally adjusted at annual rate**

[1977=100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	II 1981 to III 1981	III 1981 to IV 1981	IV 1981 to I 1982	I 1982 to II 1982	II 1982 to III 1982	III 1982 to IV 1982	III 1980 to III 1981	IV 1980 to IV 1981	I 1981 to I 1982	II 1981 to II 1982	III 1981 to III 1982	IV 1981 to IV 1982
	<b>Business sector:</b>											
Output per hour of all persons	1.1	-2.9	-1.0	1.4	3.6	4.1	2.2	0.9	-0.7	-0.4	0.2	2.0
Compensation per hour	9.0	7.4	7.3	6.9	6.1	5.6	9.4	8.9	7.8	7.6	6.9	6.6
Real compensation per hour	-2.6	-0.4	3.9	2.2	-1.4	2.9	-1.3	-0.6	0.3	0.8	1.1	1.9
Unit labor costs	7.8	10.6	8.4	5.5	2.4	1.4	7.1	7.9	8.6	8.1	6.7	4.4
Unit nonlabor payments	12.5	2.9	-5.4	1.7	8.9	5.4	13.9	11.0	3.5	2.7	1.9	2.5
Implicit price deflator	9.3	8.0	3.8	4.3	4.4	2.7	9.2	8.9	6.9	6.3	5.1	3.8
<b>Nonfarm business sector:</b>												
Output per hour of all persons	-0.3	-3.5	0.6	0.8	3.5	2.0	1.6	-0.1	-1.1	-0.6	0.3	1.7
Compensation per hour	9.0	7.3	7.7	6.1	6.6	5.6	9.4	8.8	7.8	7.5	6.9	6.5
Real compensation per hour	-2.6	-0.5	4.3	1.4	-0.9	2.9	-1.2	-0.6	0.3	0.6	1.1	1.9
Unit labor costs	9.3	11.2	7.1	5.2	3.1	3.5	7.7	8.9	9.0	8.2	6.6	4.7
Unit nonlabor payments	12.1	5.1	-4.6	1.3	8.9	6.1	13.6	11.2	4.0	3.3	2.6	2.8
Implicit price deflator	10.2	9.2	3.3	4.0	4.9	4.3	9.6	9.6	7.4	6.6	5.3	4.1
<b>Nonfinancial corporations:</b>												
Output per hour of all employees	0.2	-2.4	0.3	2.7	4.6	( <sup>1</sup> )	1.6	0.5	-0.6	0.2	1.3	( <sup>1</sup> )
Compensation per hour	8.4	8.2	8.4	6.2	5.9	( <sup>1</sup> )	9.2	8.9	8.0	7.8	7.2	( <sup>1</sup> )
Real compensation per hour	-3.1	0.3	5.0	1.6	-1.6	( <sup>1</sup> )	-1.4	-0.5	0.5	0.9	1.3	( <sup>1</sup> )
Total unit costs	8.6	12.8	7.4	5.4	2.5	( <sup>1</sup> )	8.9	9.8	9.7	8.5	7.0	( <sup>1</sup> )
Unit labor costs	8.2	10.9	8.1	3.4	1.2	( <sup>1</sup> )	7.5	8.4	8.6	7.6	5.8	( <sup>1</sup> )
Unit nonlabor costs	9.8	17.8	5.7	10.7	5.9	( <sup>1</sup> )	12.9	13.4	12.8	10.9	9.9	( <sup>1</sup> )
Unit profits	28.4	-25.9	-39.4	-16.7	40.8	( <sup>1</sup> )	19.7	7.9	-17.8	-16.7	-14.8	( <sup>1</sup> )
Implicit price deflator	10.2	8.9	3.0	3.8	4.7	( <sup>1</sup> )	9.7	9.6	7.3	6.4	5.1	( <sup>1</sup> )
<b>Manufacturing:</b>												
Output per hour of all persons	-0.1	-8.2	-2.4	0.8	7.3	0.5	4.7	-0.8	-2.9	-2.5	-0.8	1.5
Compensation per hour	6.8	9.6	11.1	7.8	6.2	4.5	8.9	8.9	8.5	8.8	8.7	7.4
Real compensation per hour	-4.6	1.6	7.6	3.1	-1.3	1.9	-1.7	-0.6	1.0	1.8	2.7	2.8
Unit labor costs	6.8	19.4	13.9	6.9	-1.0	3.9	4.0	9.8	11.7	11.6	9.5	5.8

<sup>1</sup>Not available.

r= revised.

## WAGE AND COMPENSATION DATA

DATA FOR THE EMPLOYMENT COST INDEX are reported to the Bureau of Labor Statistics by a sample of 2,000 private nonfarm establishments and 750 State and local government units selected to represent total employment in those sectors. On average, each reporting unit provides wage and compensation information on five well-specified occupations.

**Data on negotiated wage and benefit changes** are obtained from contracts on file at the Bureau, direct contact with the parties, and secondary sources.

### Definitions

The **Employment Cost Index (ECI)** is a quarterly measure of the average change in the cost of employing labor. The rate of total compensation, which comprises wages, salaries, and employer costs for employee benefits, is collected for workers performing specified tasks. Employment in each occupation is held constant over time for all series produced in the ECI, except those by region, bargaining status, and area. As a consequence, only changes in compensation are measured. Industry and occupational employment data from the 1970 Census of Population are used in deriving constant weights for the ECI. While holding total industry and occupational employment fixed, in the estimation of indexes by region, bargaining status, and area, the employment in those measures is allowed to vary over time in accord with changes in the sample. The rate of change (in percent) is available for wages and salaries, as well as for total compensation. Data are collected for the pay period including the 12th day of the survey months of March, June, September, and December. The statistics are neither annualized nor adjusted for seasonal influence.

**Wages and salaries** consist of earnings before payroll deductions, excluding premium pay for overtime, work on weekends and holidays, and shift differentials. Production bonuses, incentive earnings, commissions, and cost-of-living adjustments are included; nonproduction bonuses are included with other supplemental pay items in the benefits category; and payments-in-kind, free room and board, and tips are excluded. **Benefits** include supplemental pay, insurance, retirement and savings plans, and hours-related and legally required benefits.

**Data on negotiated wage changes** apply to private nonfarm industry collective bargaining agreements covering 1,000 workers or more. Data on compensation changes apply only to those agreements covering 5,000 workers or more. *First-year wage or compensation changes* refer to average negotiated changes for workers covered by settlements reached in the period and implemented within the first 12 months after the effective date of the agreement. *Changes over the life*

*of the agreement* refer to all adjustments specified in the contract, expressed as an average annual rate. These measures exclude wage changes that may occur under cost-of-living adjustment clauses, that are triggered by movements in the Consumer Price Index. *Wage-rate changes* are expressed as a percent of straight-time hourly earnings; *compensation changes* are expressed as a percent of total wages and benefits.

**Effective wage adjustments** reflect all negotiated changes implemented in the reference period, regardless of the settlement date. They include changes from settlements reached during the period, changes deferred from contracts negotiated in an earlier period, and cost-of-living adjustments. The data also reflect contracts providing for no wage adjustment in the period. Effective adjustments and each of their components are prorated over all workers in bargaining units with at least 1,000 workers.

### Notes on the data

The Employment Cost Index data series began in the fourth quarter of 1975, with the quarterly percent change in wages and salaries in the private nonfarm sector. Data on employer costs for employee benefits were included in 1980, to produce a measure of the percent change in employers' cost for employees' total compensation. State and local government units were added to the ECI coverage in 1981, providing a measure of total compensation change in the civilian nonfarm economy.

Data for the broad white-collar, blue-collar, and service worker groups, and the manufacturing, nonmanufacturing, and service industry groups are presented in the ECI. Additional occupation and industry detail are provided for the wages and salaries component of total compensation in the private nonfarm sector. For State and local government units, additional industry detail is shown for both total compensation and its wages and salaries component.

Historical indexes (June 1981=100) of the quarterly rates of change 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.

### 31. Employment Cost Index, total compensation, by occupation and industry group

[June 1981 = 100]

Series	1980	1981				1982				Percent change	
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months ended
	December 1982										
<b>Civilian nonfarm workers<sup>1</sup></b> .....	—	—	100.0	102.6	104.5	106.3	107.5	110.1	111.4	1.2	6.6
Workers, by occupational group	—	—	100.0	102.7	104.9	106.5	107.7	110.7	111.9	1.1	6.7
White-collar workers .....	—	—	100.0	102.3	104.1	105.7	107.1	109.2	110.5	1.2	6.1
Blue-collar workers .....	—	—	100.0	102.8	104.2	107.2	108.3	110.8	112.4	1.4	7.9
Service workers .....	—	—	100.0	102.8	104.2	107.2	108.3	110.8	112.4	1.4	7.9
Workers, by industry division	—	—	100.0	102.1	104.0	106.0	107.2	109.3	110.4	1.0	6.2
Manufacturing .....	—	—	100.0	102.8	104.8	106.4	107.7	110.5	111.8	1.2	6.7
Nonmanufacturing .....	—	—	100.0	104.4	107.1	108.2	109.2	113.5	115.0	1.3	7.4
Services .....	—	—	100.0	104.3	106.0	108.1	109.1	112.8	113.6	.7	7.2
Public administration <sup>2</sup> .....	—	—	100.0	104.3	106.0	108.1	109.1	112.8	113.6	.7	7.2
<b>Private nonfarm workers</b> .....	94.7	98.1	100.0	102.0	104.0	105.8	107.2	109.3	110.7	1.3	6.4
Workers, by occupational group	—	—	100.0	102.2	104.0	105.6	107.0	109.0	110.3	1.2	6.1
White-collar workers .....	94.5	98.3	100.0	101.8	104.0	105.8	107.2	109.5	110.8	1.2	6.5
Blue-collar workers .....	94.9	97.8	100.0	102.2	104.0	105.6	107.0	109.0	110.3	1.2	6.1
Service workers .....	94.3	99.3	100.0	101.9	103.1	106.7	107.9	109.6	111.8	2.0	8.4
Workers, by industry division	—	—	100.0	102.1	104.0	106.0	107.2	109.3	110.4	1.0	6.2
Manufacturing .....	94.7	98.0	100.0	102.1	104.0	106.0	107.2	109.3	110.4	1.0	6.2
Nonmanufacturing .....	94.7	98.2	100.0	102.0	103.9	105.7	107.1	109.3	110.8	1.4	6.6
<b>State and local government workers</b> .....	—	—	100.0	105.3	107.4	108.8	109.3	114.3	115.1	.7	7.2
Workers, by occupational group	—	—	100.0	105.7	107.8	109.1	109.5	114.9	115.8	.8	7.4
White-collar workers .....	—	—	100.0	105.7	107.8	109.1	109.5	114.9	115.8	.8	7.4
Blue-collar workers .....	—	—	100.0	104.2	105.9	108.2	108.9	112.7	113.0	.3	6.7
Workers, by industry division	—	—	100.0	105.8	107.9	109.0	109.4	114.9	115.9	.9	7.4
Services .....	—	—	100.0	106.0	107.9	108.9	109.1	114.8	115.8	.9	7.3
Schools .....	—	—	100.0	106.3	108.3	109.3	109.5	115.6	116.6	.9	7.7
Elementary and secondary .....	—	—	100.0	105.0	107.8	109.5	110.3	115.3	116.0	.6	7.6
Hospitals and other services <sup>3</sup> .....	—	—	100.0	104.3	106.0	108.1	109.1	112.8	113.6	.7	7.2
Public administration <sup>2</sup> .....	—	—	100.0	104.3	106.0	108.1	109.1	112.8	113.6	.7	7.2

<sup>1</sup>Excludes 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.

NOTE: Dashes indicate data not available.

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

[June 1981 = 100]

Series	1980	1981				1982				Percent change	
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months ended
	December 1982										
<b>Civilian nonfarm workers<sup>1</sup></b> .....	—	—	100.0	102.5	104.4	106.3	107.3	109.7	110.9	1.1	6.2
Workers, by occupational group											
White-collar workers .....	—	—	100.0	102.6	104.7	106.7	107.6	110.4	111.4	.9	6.4
Blue-collar workers .....	—	—	100.0	102.4	104.0	105.5	106.7	108.6	109.8	1.1	5.6
Service workers .....	—	—	100.0	102.5	103.6	106.8	107.9	110.1	111.8	1.5	7.9
Workers, by industry division											
Manufacturing .....	—	—	100.0	102.1	104.0	105.9	107.0	108.8	109.8	.9	5.6
Nonmanufacturing .....	—	—	100.0	102.7	104.5	106.5	107.5	110.1	111.3	1.1	6.5
Services .....	—	—	100.0	104.4	106.6	108.6	109.5	113.2	114.4	1.1	7.3
Public administration <sup>2</sup> .....	—	—	100.0	103.8	105.5	107.5	108.4	111.9	112.6	.6	6.7
<b>Private nonfarm workers</b> .....	95.4	98.0	100.0	102.0	103.8	105.9	107.1	109.0	110.3	1.2	6.3
Workers, by occupational group											
White-collar workers .....	95.2	98.1	100.0	101.8	103.9	106.2	107.3	109.4	110.6	1.1	6.4
Professional and technical workers .....	95.3	98.2	100.0	103.3	105.5	108.0	109.4	111.8	112.9	1.0	7.0
Managers and administrators .....	94.7	98.6	100.0	101.6	102.8	105.8	107.2	108.5	109.3	.7	6.3
Salesworkers .....	94.8	96.2	100.0	98.0	101.9	102.2	101.8	104.5	106.2	1.6	4.2
Clerical workers .....	95.7	98.6	100.0	102.7	104.2	107.0	108.3	110.3	111.6	1.2	7.1
Blue-collar workers .....	95.7	97.7	100.0	102.3	103.9	105.4	106.6	108.5	109.7	1.1	5.6
Craft and kindred workers .....	96.1	97.8	100.0	102.9	104.3	106.2	107.6	109.6	111.2	1.5	6.6
Operatives, except transport .....	95.5	97.8	100.0	102.1	104.1	105.4	106.6	108.3	109.3	.9	5.0
Transport equipment operatives .....	95.3	96.8	100.0	101.0	102.7	103.2	104.1	106.0	106.9	.8	4.1
Nonfarm laborers .....	95.7	97.5	100.0	101.5	103.3	104.1	105.1	106.5	107.8	1.2	4.4
Service workers .....	94.8	99.2	100.0	101.8	102.7	106.7	107.9	109.3	111.4	1.9	8.5
Workers, by industry division											
Manufacturing .....	95.7	97.9	100.0	102.1	104.0	105.9	107.0	108.8	109.8	.9	5.6
Durables .....	95.7	97.9	100.0	102.1	104.5	106.3	107.4	109.0	110.3	1.2	5.6
Nondurables .....	95.7	97.8	100.0	102.0	103.1	105.3	106.3	108.5	109.1	.6	5.8
Nonmanufacturing .....	95.2	98.1	100.0	102.0	103.8	105.9	107.1	109.1	110.5	1.3	6.5
Construction .....	95.9	97.6	100.0	103.0	104.3	105.9	107.3	109.1	109.7	.6	5.2
Transportation and public utilities .....	95.6	97.7	100.0	102.0	103.6	105.7	106.9	109.5	111.1	1.5	7.2
Wholesale and retail trade .....	95.1	98.2	100.0	101.3	102.3	103.9	105.8	106.5	107.2	.7	4.8
Wholesale trade .....	95.9	98.5	100.0	102.0	103.4	106.3	108.9	109.0	109.8	.7	6.2
Retail trade .....	94.8	98.1	100.0	101.0	101.9	103.0	104.5	105.5	106.1	.6	4.1
Finance, insurance, and real estate .....	93.1	95.7	100.0	98.3	102.3	103.7	102.4	106.1	109.0	2.7	6.5
Services .....	95.7	99.6	100.0	103.6	105.8	108.8	110.0	112.5	114.3	1.6	8.0
<b>State and local government workers</b> .....	—	—	100.0	105.0	107.0	108.2	108.7	113.5	114.0	.4	6.5
Workers, by occupational group											
White-collar workers .....	—	—	100.0	105.4	107.5	108.5	108.9	114.2	114.6	.4	6.6
Blue-collar workers .....	—	—	100.0	103.9	105.5	107.5	107.9	111.5	112.0	.4	6.2
Workers, by industry division											
Services .....	—	—	100.0	105.5	107.6	108.4	108.8	114.2	114.6	.4	6.5
Schools .....	—	—	100.0	105.7	107.7	108.3	108.5	114.2	114.5	.3	6.3
Elementary and secondary .....	—	—	100.0	106.0	107.9	108.7	108.8	114.9	115.1	.2	6.7
Hospitals and other services <sup>3</sup> .....	—	—	100.0	104.6	107.3	108.8	109.5	114.3	114.9	.5	7.1
Public administration <sup>2</sup> .....	—	—	100.0	103.8	105.5	107.5	108.4	111.9	112.6	.6	6.7

<sup>1</sup>Excludes 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.

NOTE: Dashes indicate data not available.

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

[June 1981 = 100]

Series	1980	1981				1982				Percent change		
		Dec.	March	June	Sept.	Dec.	March	June	Sept.	Dec.	3 months ended	12 months ended
											December 1982	
<b>COMPENSATION</b>												
Workers, by bargaining status <sup>1</sup>												
Union .....	94.7	97.6	100.0	102.5	104.8	106.5	108.4	110.6	112.3	1.5	7.2	
Manufacturing .....	—	—	100.0	102.3	104.6	106.3	108.0	110.3	111.8	1.4	6.9	
Nonmanufacturing .....	—	—	100.0	102.7	105.0	106.8	108.7	111.0	112.8	1.6	7.4	
Nonunion .....	94.6	98.4	100.0	101.7	103.5	105.3	106.5	108.5	109.7	1.1	6.0	
Manufacturing .....	—	—	100.0	101.8	103.5	105.7	106.6	108.4	109.2	.7	5.5	
Nonmanufacturing .....	—	—	100.0	101.7	103.5	105.2	106.4	108.6	109.9	1.2	6.2	
Workers, by area size <sup>1</sup>												
Metropolitan areas .....	94.7	98.1	100.0	102.1	104.1	105.7	107.2	109.4	110.9	1.4	6.5	
Other areas .....	94.2	98.1	100.0	101.8	103.2	106.2	107.0	108.6	109.1	.5	5.7	
<b>WAGES AND SALARIES</b>												
Workers, by bargaining status <sup>1</sup>												
Union .....	95.8	97.4	100.0	102.7	105.0	106.5	108.1	110.3	111.8	1.4	6.5	
Manufacturing .....	96.1	97.7	100.0	102.6	104.7	105.9	107.3	109.5	110.8	1.2	5.8	
Nonmanufacturing .....	95.5	97.1	100.0	102.8	105.2	107.0	108.8	111.1	112.7	1.4	7.1	
Nonunion .....	95.1	98.2	100.0	101.6	103.2	105.6	106.5	108.3	109.5	1.1	6.1	
Manufacturing .....	95.4	97.9	100.0	101.7	103.3	105.9	106.7	108.2	109.1	.8	5.6	
Nonmanufacturing .....	95.0	98.3	100.0	101.6	103.2	105.5	106.4	108.3	109.6	1.2	6.2	
Workers, by region <sup>1</sup>												
Northeast .....	96.0	98.3	100.0	101.7	104.4	106.1	106.7	109.7	111.5	1.6	6.8	
South .....	94.9	98.0	100.0	101.9	102.8	105.7	107.4	108.8	109.8	.9	6.8	
North Central .....	95.3	98.1	100.0	101.6	103.3	104.7	106.1	107.6	108.6	.9	5.1	
West .....	95.3	97.9	100.0	103.2	105.1	107.9	108.6	110.7	112.0	1.2	6.6	
Workers, by area size <sup>1</sup>												
Metropolitan areas .....	95.4	97.9	100.0	102.1	104.0	105.9	107.1	109.1	110.5	1.3	6.3	
Other areas .....	95.1	98.3	100.0	101.8	103.1	106.0	106.8	108.3	108.8	.5	5.5	

<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.

**34. Wage and compensation change, major collective bargaining settlements, 1978 to date**

[In percent]

Measure	Annual average					Quarterly average							
	1978	1979	1980	1981	1982 <sup>P</sup>	1981				1982 <sup>P</sup>			
						I	II	III	IV	I	II	III	IV
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	7.7	11.6	10.5	11.0	1.9	2.6	6.2	3.0
Annual rate over life of contract . .	6.3	6.6	7.1	8.3	2.7	7.2	10.8	8.1	5.8	1.2	2.0	4.7	4.9
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	7.1	11.8	10.8	9.0	3.0	3.4	5.5	3.7
Annual rate over life of contract . .	6.4	6.0	7.1	7.9	3.6	6.2	9.7	8.7	5.7	2.8	3.2	4.6	5.0
Manufacturing:													
First year of contract . . . . .	8.3	6.9	7.4	7.2	2.9	6.4	8.2	9.0	6.6	2.5	1.8	5.3	4.2
Annual rate over life of contract . .	6.6	5.4	5.4	6.1	2.7	5.5	6.7	7.5	5.4	2.7	1.7	4.1	4.6
Nonmanufacturing (excluding construction):													
First year of contract . . . . .	8.0	7.6	9.5	9.8	4.2	8.0	11.8	8.6	9.6	2.7	6.6	5.5	3.2
Annual rate over life of contract . .	6.5	6.2	6.6	7.3	4.1	7.3	9.1	7.2	5.6	2.1	6.1	4.8	5.4
Construction:													
First year of contract . . . . .	6.5	8.8	13.6	13.5	6.5	11.4	12.9	16.4	11.4	8.6	6.2	6.3	4.6
Annual rate over life of contract . .	6.2	8.3	11.5	11.3	6.4	10.3	11.1	12.4	11.7	8.2	6.3	5.9	3.8

p=preliminary.

**35. 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 <sup>P</sup>	1981				1982 <sup>P</sup>			
						I	II	III	IV	I	II	III	IV
Average percent adjustment (including no change):													
All industries . . . . .	8.2	9.1	9.9	9.5	6.7	1.7	3.2	3.3	1.5	1.0	2.0	2.4	1.3
Manufacturing . . . . .	8.6	9.6	10.2	9.4	5.2	2.3	2.4	3.1	1.9	.9	1.0	1.8	1.5
Nonmanufacturing . . . . .	7.9	8.8	9.7	9.5	7.9	1.2	3.8	3.4	1.1	1.0	2.7	2.9	1.2
From settlements reached in period . . . . .	2.0	3.0	3.6	2.5	1.7	.4	1.1	.5	.4	.2	.4	.5	.6
Deferred from settlements reached in earlier period . . . . .	3.7	3.0	3.5	3.8	3.6	.5	1.4	1.5	.4	.6	1.4	1.3	.4
From cost-of-living clauses . . . . .	2.4	3.1	2.8	3.2	1.4	.7	.7	1.2	.6	.3	.2	.6	.3
Total number of workers receiving wage change (in thousands) <sup>1</sup> . . . . .	—	—	—	8,648	7,855	3,855	4,701	4,364	3,225	2,882	3,431	3,759	3,387
From settlements reached in period . . . . .	—	—	—	2,270	1,893	579	909	540	604	203	511	620	815
Deferred from settlements reached in earlier period . . . . .	—	—	—	6,267	4,850	888	2,055	3,023	882	997	1,603	2,399	850
From cost-of-living clauses . . . . .	—	—	—	4,593	3,817	2,639	2,669	2,934	2,179	1,925	1,569	2,245	1,927
Number of workers receiving no adjustments (in thousands) . . . . .	—	—	—	145	501	4,937	4,092	4,428	5,568	5,473	4,925	4,597	4,969

<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.

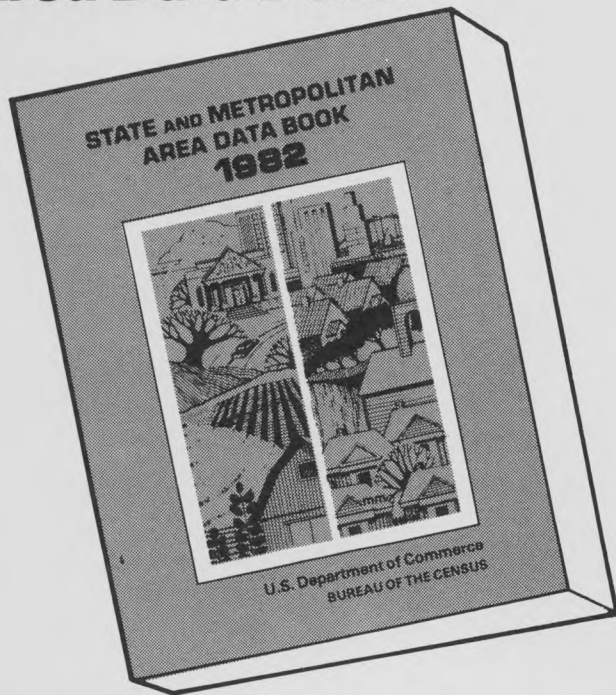
Estimates of days idle as a percent of estimated working time measures only the impact of larger strikes (1,000 workers or more). Formerly, these estimates measured the impact of strikes involving 6 workers or more; that is, the impact of virtually *all* strikes. Due to budget stringencies, collection of data on strikes involving 6 workers or more was discontinued with the December 1981 data.

**36. 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
1983 <sup>P</sup>	January	1	1.6	38.0	794.8	.04
	February	4	12.8	49.2	838.4	.05

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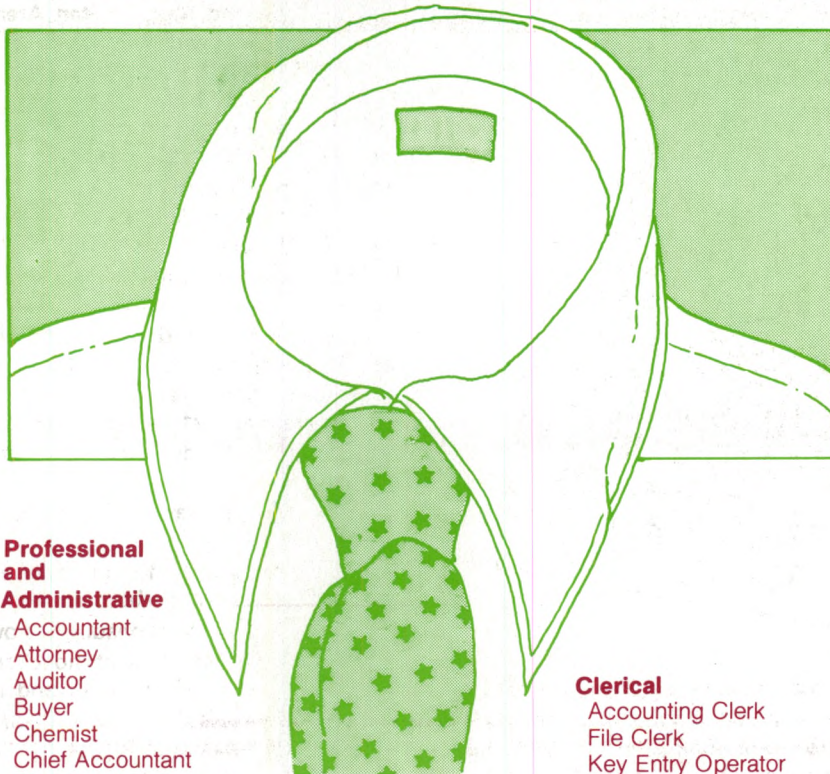
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