

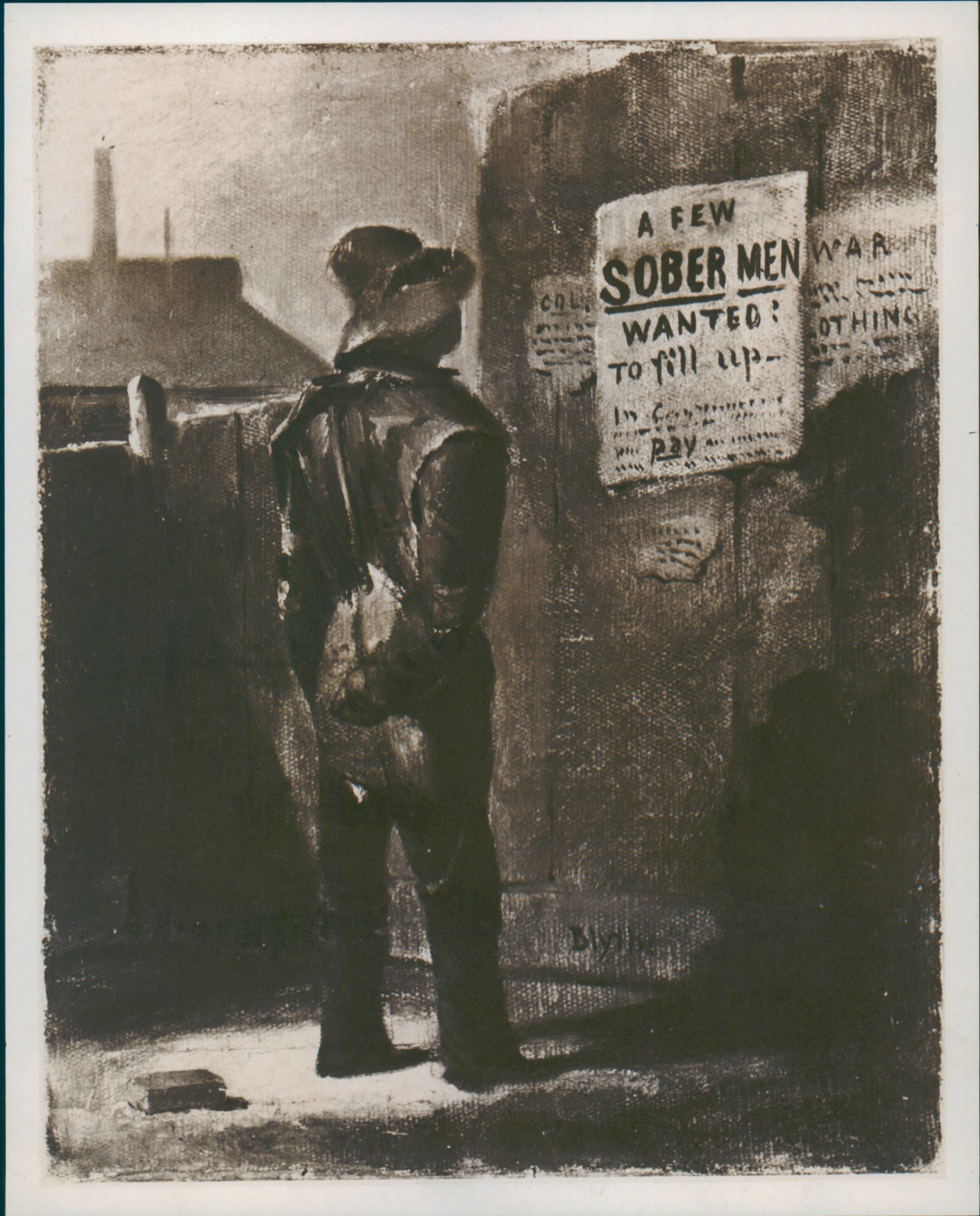


MONTHLY LABOR REVIEW

U.S. Department of Labor  
Bureau of Labor Statistics  
February 1981



Employment:  
A special issue







**U.S. DEPARTMENT OF LABOR**  
**BUREAU OF LABOR STATISTICS**

Janet L. Norwood, *Commissioner*

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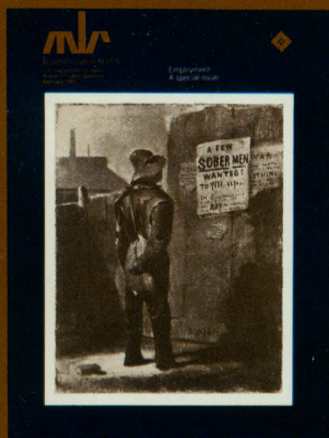
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## MONTHLY LABOR REVIEW

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Henry Lowenstern, Editor-in-Chief  
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### A SPECIAL ISSUE ON EMPLOYMENT

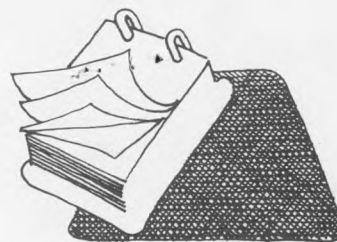
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# Labor Month In Review



**INDEXING BENEFITS.** In its final budget message to the Congress, the Carter Administration proposed some changes in the way benefits under Federal entitlement programs are adjusted for inflation. Such benefits (social security, Federal retirement programs, veterans' pensions, and so on) are expected to account for nearly one-third (\$231 billion) of Federal budget outlays in fiscal 1982. One of the proposals suggests switching to a variant of the present Consumer Price Index for such adjustments.

**The choice of an index.** Indexing entitlement programs are meant to ensure that benefits increase commensurately with the cost of living. The Consumer Price Index is used for this purpose, but it has serious shortcomings as a measure of the cost of living. The most important of these is its treatment of homeownership, which for substantial periods of time appears to have led to an overstatement of the cost of living. This problem aside, the treatment of homeownership results in volatile movements of the index that distort the timing of expenditure flows and may add to inflationary pressures. In addition, the CPI is currently based on consumer expenditure patterns from the early 1970's, which leads it to overstate increases in the cost of living.

There are several alternatives to the conventional CPI for indexing entitlement programs. One possibility is to use a price index for personal consumption expenditures (PCE) from the national income accounts. While the PCE price indexes offer some advantages over the CPI as measures of changes in the cost of living, they have several important drawbacks, including the fact that they

are subject to revision for long periods after initial publication. These problems, as well as a lack of public awareness and acceptance of the indexes, would argue against use of the PCE indexes.

A better alternative is to use a cost-of-living index obtained by modifying the CPI to change its inappropriate treatment of housing costs. The Bureau of Labor Statistics currently publishes a number of alternate indexes that modify the treatment of housing costs in various ways. Of these, the CPI-X1, which uses a rental equivalence approach to shelter, appears to be the most attractive alternative index.

Use of the CPI-X1 index would eliminate the major problem with the current CPI—its treatment of housing—and would thus provide a sounder basis for indexing entitlement programs. Over the longer run, further improvements could be made. For example, when the Continuing Survey of Consumer Expenditures becomes available, it would be possible to update the market basket of this cost-of-living index on a more timely basis.

The administration is proposing in the 1982 budget that, beginning in 1982, the CPI-X1 be substituted for the current CPI in computing benefit level changes in indexed Federal programs.

**Other adjustments.** The report to the Congress also suggests that civil service and military retirement benefits be adjusted only once each year and that other limitations on the size and timing of cost-of-living adjustments be considered.

Options for limitations include those

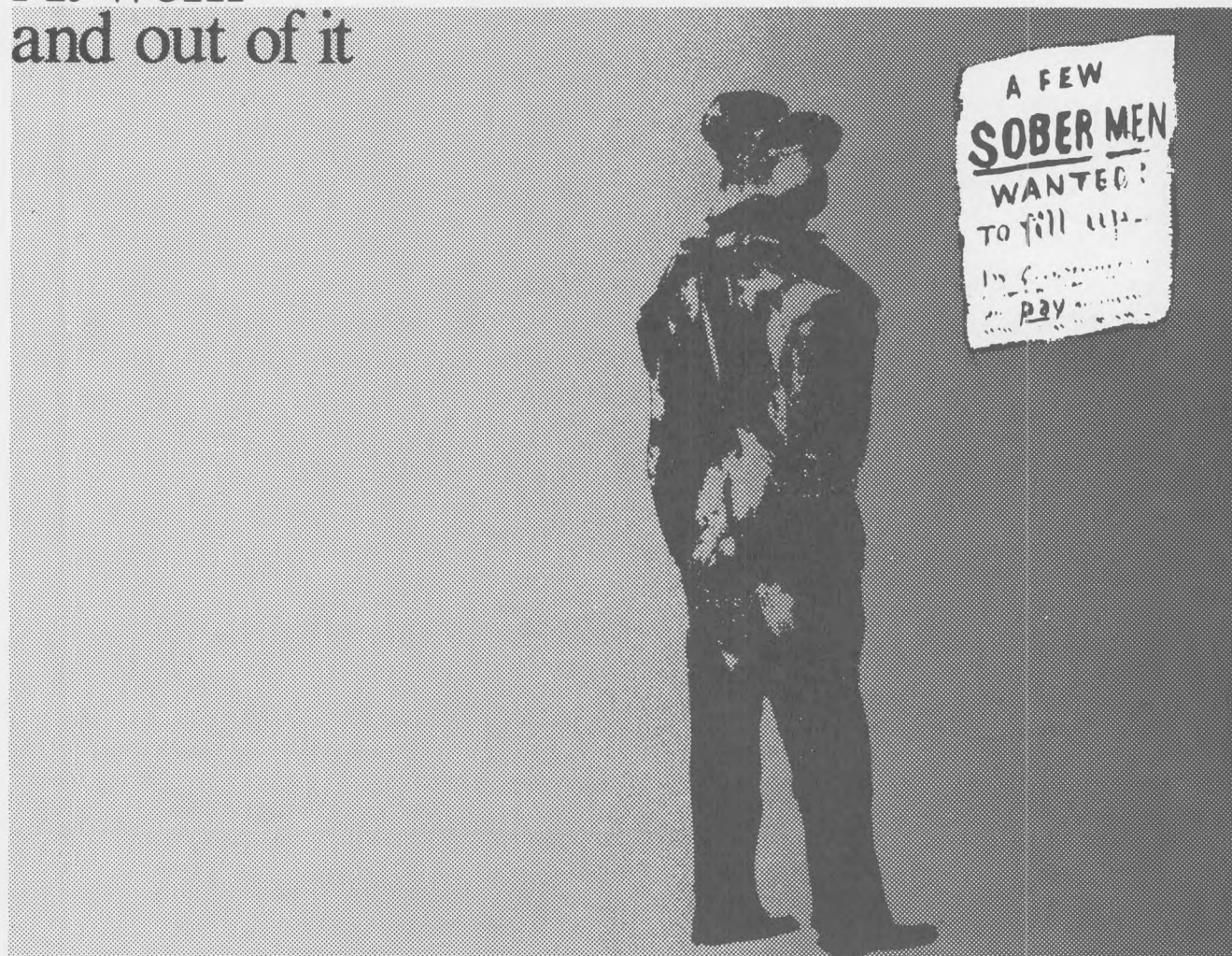
to impose numerical or proportional "caps" on cost-of-living adjustments, such as a maximum 10-percent increase, or a limit of two-thirds of the calculated full adjustment. Another type of cap, a "wage cap," would limit benefit increases to the size of private sector wage increases rather than price increases under certain circumstances, as when workers' real incomes are falling because prices are increasing more rapidly than wages.

Over the 2 years between the first quarter of 1979 and the first quarter of 1981, for example, the CPI, and the budget payments indexed to it, will have risen about 10 percent more than hourly earnings. Proposals to introduce greater discretionary control range from those that would return to the system of completely discretionary *ad hoc* adjustments that prevailed prior to the introduction of indexing to those that would provide limited discretionary control to the President and the Congress under certain economic conditions. The use of discretionary control to limit the rise in benefits to less than the rise in prices would have to be based on a careful weighing of the budgetary and macroeconomic gains against the reduction of real benefits levels for beneficiaries, many of whom are heavily dependent on such benefits as a sole or major source of income.

The proposals are discussed in detail in *Report on Indexing Federal Programs*, for sale (\$3.75) by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. A fuller report on the proposed CPI variant will appear in the March issue of the *Monthly Labor Review*. □



## At work and out of it



Employment is the main concern of the articles in this special issue of the *Review*—having or looking for a job, or *not* wanting one. Diane Westcott and Robert Bednarzik open with an analytical review of the labor market in 1980, which started badly, improved somewhat, then entered a sort of holding pattern. In a longer perspective, Norman Bowers looks at what has been happening to employment in seven postwar recessions. The impact of imports on jobs has been a topical issue and Michael Aho and James Orr identify the U.S. workers most affected by

foreign trade. The employment-population ratio has been touted as a useful guide to labor market health and Carol Boyd Leon examines it demographically, and by region and State, mainly from 1968 to the present. Howard Hayghe explores a growing phenomenon—families in which husband and wife work, and Robert Bannon provides an annotated bibliography on the subject. In the sixth article, Allyson Sherman Grossman reports on the surge in jobseeking military wives, partly in response to inflation outrunning Armed Services pay and

benefits. Dropped from most of the monthly labor force statistics in 1967, workers 14 and 15 years old are discussed by Diane Westcott. In the last article, Sylvia Lazos Terry examines new data on jobholders forced to work part time.

THE EDITORS THANK all contributors to this special issue, with particular appreciation to John E. Bregger, Paul O. Flaim, and the staff of the Office of Current Employment Analysis, Bureau of Labor Statistics.



# Employment and unemployment: a report on 1980

*At the onset of 1980, the Nation entered a recession—employment fell sharply but recouped in the fourth quarter, except in the hard-hit housing and auto industries: unemployment rose faster than at any time since the 1974–75 recession, peaked at midyear, and was well above prerecession levels at yearend*

DIANE N. WESTCOTT AND ROBERT W. BEDNARZIK

The labor market, weakened in early 1980 by declining employment and rising joblessness, recovered a bit in the second half of the year, with employment showing gradual improvement and unemployment holding at 7.5 percent. Although both major employment series<sup>1</sup> followed this pattern, they differed in terms of their pace of improvement.

In the establishment survey, job cutbacks totaled 1.3 million. The downturn was primarily concentrated in the goods-producing industries—specifically housing, automobiles, and related supplier industries. The number of jobs in the services sector continued to grow, albeit at a slower pace than in recent years. By the fourth quarter of 1980, the payroll job total, at 90.9 million, had essentially recouped earlier losses, although not in the hard-hit goods industries.

On the other hand, total employment, as measured by the household survey, had not yet fully recovered by yearend. For example, employment among blue-collar workers, adult men, and full-time workers remained below their pre-1980 peak levels. Moreover, a relatively large number of persons were still reported as working involuntarily on part-time schedules.

The number of unemployed, near 8 million persons at yearend, was much higher than prerecession levels. Thus, although the economy has shown some indications of turning upward, a large number of workers

were still suffering from the economic consequences of a recessionary period.

## Workers and jobs

*Payroll jobs.* As the decade began, the Nation entered a recession.<sup>2</sup> In the first three quarters of 1980, nonfarm payroll employment declines totaled about 1 million,<sup>3</sup> the first quarter-to-quarter declines since the 1974–75 recession. A rise in the number of payroll jobs in the fourth quarter brought the total to 360,000 higher than its year ago level. (See table 1.)

The depth and severity of payroll job cutbacks in 1980 were not of the same magnitude as in previous postwar recessions.<sup>4</sup> Table 2 illustrates measures of duration, depth, and diffusion of payroll job losses in each of the postwar recessions. Clearly, the 1980 downturn in payroll employment, in all amplitudes, was the mildest of the seven recorded in the postwar era. In contrast to the 1974–75 recession which is generally conceded to be the worst of the seven, the 1980 downturn in the number of payroll jobs was shorter, much shallower, and not nearly as pervasive. The reduction in payroll jobs in this recession was very similar to that which occurred in the 1969–70 recession; the two differed in that the earlier contraction endured over a slightly longer time span and was somewhat more diffused. (It is important to note that July 1980 is not necessarily the officially designated turning point of the current recession, only the date that payroll employment reached its 1980 low.)

Diane N. Westcott and Robert W. Bednarzik are economists in the Office of Current Employment Analysis, Bureau of Labor Statistics.



**Table 1. Nonagricultural payroll employment, seasonally adjusted quarterly averages, 1978-80**

[Numbers in thousands]

Industry	1978				1979				1980			
	IV	I	II	III	IV	I	II	III	IV <sup>p</sup>			
Total nonagricultural payroll employment	88,200	89,141	89,668	90,186	90,557	91,120	90,489	90,131	90,916			
Goods-producing industries	26,124	26,426	26,517	26,555	26,549	26,605	25,763	25,317	25,785			
Mining	919	934	947	971	986	1,005	1,021	1,018	1,054			
Construction	4,534	4,403	4,451	4,499	4,566	4,644	4,427	4,362	4,469			
General building contractors	1,259	1,262	1,276	1,280	1,282	1,280	1,212	1,185	1,218			
Manufacturing	20,852	21,088	21,119	21,085	20,997	20,955	20,314	19,937	20,263			
Durable goods	12,577	12,771	12,819	12,815	12,721	12,701	12,176	11,878	12,125			
Motor vehicles and equipment	1,030	1,045	1,035	969	931	869	746	726	766			
Nondurable goods	8,275	8,317	8,300	8,270	8,276	8,254	8,138	8,059	8,138			
Service-producing industries	62,075	62,715	63,150	63,632	64,008	64,516	64,726	64,814	65,131			
Transportation and public utilities	5,025	5,082	5,095	5,174	5,210	5,201	5,160	5,122	5,138			
Wholesale and retail trade	19,906	20,114	20,201	20,302	20,447	20,592	20,492	20,572	20,638			
Wholesale trade	5,080	5,150	5,188	5,221	5,255	5,294	5,266	5,263	5,297			
Retail trade	14,826	14,964	15,012	15,081	15,192	15,298	15,226	15,308	15,341			
Finance, insurance, and real estate	4,820	4,889	4,948	5,008	5,049	5,102	5,135	5,180	5,227			
Services	16,599	16,829	17,016	17,153	17,311	17,527	17,643	17,803	17,963			
Government	15,725	15,801	15,890	15,994	15,990	16,093	16,296	16,137	16,165			
Federal	2,751	2,758	2,771	2,786	2,772	2,834	3,009	2,829	2,796			
State and local	12,974	13,043	13,119	13,208	13,219	13,259	13,287	13,308	13,368			

p=preliminary

It has been argued that employment in the United States has become increasingly resistant to recession and that this trend is likely to continue, largely because of the continuing shift in jobs from goods to service industries (7 of 10 nonfarm jobs are now service-producing). Employment in the services sector has historically been less cyclically sensitive than employment in the goods sector. As table 2 illustrates, the duration in months from peak to trough in nonfarm payroll employment has become progressively shorter in each of the postwar recessions.<sup>5</sup> Although the 1974-75 recession was the most severe of all the postwar contractions, payroll job declines turned around in 6 months. Job declines in 1980 began in March and ended 4 months later.

Job reductions took place almost entirely in the goods-producing industries—particularly those engaged in and related to marketing higher priced consumer goods. For example, the downturn never spread much beyond the auto, construction, and steel industries. And, although there were some "ripple" effects in related industries, the bulk of the economy experienced only minor setbacks.

After a year of almost no growth, the number of jobs in manufacturing declined by 1.1 million between the fourth quarter of 1979 and the third quarter of 1980. In the durable goods sector, particularly sharp cutbacks in fabricated metal products, primary metals, and transportation equipment reflected the drop in demand for U.S. automobiles. In addition to these industries, smaller declines were posted in machinery as well as in lumber and wood products, an industry which relies heavily on construction activities. The nondurable sector was characterized by small employment declines during 1980; only rubber and plastic products, a heavy

supplier to the automobile industry, posted a sizable decrease.

Demand for domestic automobiles, as reflected by sales figures, started to weaken in early 1979, and domestic production significantly declined a few months later. Among the factors contributing to the declining demand for U.S. automobiles were the unprecedented high cost of financing a car, the rising relative price of gasoline and stiff competition from small foreign cars. These developments had a devastating effect on employment in the industry, as the total loss of jobs between

**Table 2. Measures of duration, depth, and diffusion in peak to trough changes in nonfarm payroll employment, selected dates, 1948-80**

Peak to trough <sup>1</sup>	Duration (in months)	Depth (percent decline in employment level over period)	Diffusion <sup>2</sup> (percent)	
			30 industries <sup>3</sup>	172 industries
September 1948 to				
October 1949	13	-5.2	90	( <sup>4</sup> )
June 1953 to August 1954	14	-3.5	87	( <sup>4</sup> )
July 1957 to May 1958	10	-4.2	88	( <sup>4</sup> )
April 1960 to February 1961	10	-2.2	82	76
March 1969 to November 1970	8	-1.5	77	76
October 1974 to April 1975	6	-2.9	92	87
February 1980 to July 1980	5	-1.4	62	75

<sup>1</sup> Peak to trough dates in nonfarm payroll employment near the following National Bureau of Economic Research designated postwar recessionary periods: November 1948 to October 1949, July 1953 to May 1954, August 1957 to April 1958, April 1960 to February 1961, December 1969 to November 1970, November 1973 to March 1975, January 1980 to -; the 1980 trough has not yet been designated by the National Bureau of Economic Research.

<sup>2</sup> Percent of industries in which employment declined over a 6-month span, centered on the fourth month of the span: February 1949, March 1954, September 1957, August 1960, June 1970, January 1975, and May 1980.

<sup>3</sup> Indexes of diffusion, 30 industries, 6-month span for April 1947 to May 1974 are published in John F. Early, "Introduction to Diffusion Indexes," *Employment and Earnings*, December 1974, p. 11, table 8. Indexes of diffusion, 30 industries, 6-month span for subsequent time periods under study were calculated specifically for this report.

<sup>4</sup> Data are not available.



the first quarter of 1979 and the third quarter of 1980 was 310,000, or 33 percent.

Employment in the construction industry decreased by nearly 300,000 between the first and third quarters of 1980. About a third of this decline occurred in homebuilding (general building contractors). Employment showed some growth at the end of the year, as construction activity recovered subsequent to a temporary decline in mortgage interest rates. However, continued inflationary pressures and a resurgence in interest rates leave the likelihood of further improvement in considerable doubt.

Service-producing employment continued to follow its long-run upward trend, although at a considerably slower pace. Job expansion in this sector was led by gains in the services industry—which includes hotels and motels, entertainment, and personal, medical, and educational services—and finance, insurance, and real estate. After falling off in the second quarter, there was a moderate expansion in retail trade; the number of jobs in the wholesale trade industry turned upward in the fourth quarter. As a result of temporary hiring for the 1980 Decennial Census, Federal Government employment surged between the first and second quarters but fell in the third quarter and ended the year at a slightly higher level than a year ago. The only services sector industry to post a noticeable job loss in 1980 was transportation and public utilities (70,000); however, employment was on the rebound at yearend.

Beginning in August, payroll employment turned up, as the plunge in auto and other manufacturing production ended. This was reflected in a rise, starting in the third quarter, in the factory accession rate (new hires and recalls from layoff). Likewise, the layoff rate for manufacturing workers began dropping around midyear after reaching an all-time high of 35 per 1,000 workers in the second quarter of 1980. Only the quit rate, which is an indication of how workers assess the strength of demand for labor, had shown almost no improvement, after reaching a 5-year low of 13 per 1,000 workers in the third quarter of 1980.

In addition to the increase in employment and the reduction in layoffs, hours of work also began to recover in the second half of 1980. For example, the manufacturing workweek, which had fallen to a 5-year low of 39.0 hours at midyear, rose 1.2 hours in subsequent months, partially as a result of a rise in factory overtime hours. Overtime hours had been reduced to 2.4 a week, down from a high of 3.9 in late 1978. Reflecting both the rise in hours worked and employment, the index of aggregate weekly hours<sup>6</sup>—a comprehensive measure of current employment performance—moved back up in the last quarter of 1980, although at 125.1 it was still well below its level a year earlier. While there was a slight improvement in employment and hours during the final quarter, high interest rates combined with an

unrelenting high rate of inflation, augured for the likelihood of a slow recovery.

*Total employment.* The labor market effects of the recession were also evident in the data gathered through the survey of households, as total employment, which had shown strong growth over the last several years, declined sharply between the first and second quarters of 1980 falling by 680,000 (but 1.0 million between February and June). The resumption in employment gains was only moderate during the last 6 months, not sufficient to outweigh the earlier losses. As a consequence, employment was still down by 300,000 between the fourth quarters of 1979 and 1980. The employment-population ratio<sup>7</sup>, which is the percentage of the working-age population that is employed, stood at 58.3 and 58.2 percent in the third and fourth quarters of 1980, respectively, the lowest levels in 2 years.

The drop in this ratio reflected declines among adult men and teenagers. The third and fourth quarter ratio for adult men, at 72.5 percent, was at an all-time low. In contrast, the ratio for adult women reached a high of 48.2 percent in the first quarter of 1980; however, employment growth slowed for women during 1980 and, thus, their ratio slipped to 47.9 percent by the fourth quarter.

*Major demographic groups.* The drop in employment among adult men and teenagers between the fourth quarter of 1979 and the second quarter of 1980 totaled 875,000, with adult men accounting for two-thirds of the decrease. Employment among teenagers fell slightly in subsequent quarters. Employment among adult men rebounded by the end of the year; however, their employment level was still below fourth quarter of 1979. There were moderate employment gains among adult women over the year, more than half a million from the fourth quarter 1979 to the fourth quarter 1980. (See table 3.)

The employment patterns of white and black workers<sup>8</sup> were roughly parallel during 1980. Both groups experienced employment declines during the first half of the year. Proportionally, blacks were hit harder, and their downturn began earlier. The second half of 1980 brought some recovery for each group, and at yearend, employment levels for both blacks (9.1 million) and whites (86.4 million) were only slightly below their employment peaks of the previous year. The number of employed Hispanics rose by 9 percent between the fourth quarters of 1979 and 1980. However, because this increase was less than the rapid pace of their population growth, the percent of employed Hispanics in the working-age population (employment-population ratio) actually declined over the period. By contrast, the decline in the ratio for blacks and whites resulted from the drop in their employment levels.



**Table 3. Employment status of selected worker categories, 1978-80**

[Numbers in thousands]

Category	Annual averages			Seasonally adjusted quarterly averages								
	1978	1979	1980	1978	1979				1980			
				IV	I	II	III	IV	I	II	III	IV
<b>Employment-population ratios:</b>												
Total, 16 years and over	58.6	59.3	58.5	59.0	59.2	59.2	59.4	59.2	59.1	58.5	58.3	58.2
Men, 20 years and over	74.6	74.7	72.9	74.7	74.9	74.8	74.8	74.3	73.9	72.9	72.5	72.5
Women, 20 years and over	46.5	47.7	48.1	47.1	47.3	47.4	47.9	48.0	48.2	48.1	48.1	47.9
Both sexes, 16 to 19 years	47.6	47.9	45.9	48.0	48.4	47.9	47.4	47.8	47.3	46.0	45.2	45.2
White	59.3	60.0	59.5	59.8	60.0	60.0	60.1	60.1	60.0	59.5	59.2	59.2
Black and other	53.3	53.6	51.9	53.5	53.6	53.6	53.9	53.5	52.7	51.9	51.8	51.4
Black	52.6	52.7	51.0	52.8	52.6	52.6	52.8	52.6	51.9	51.1	50.8	50.5
Hispanic origin	57.2	58.3	57.5	59.5	59.7	57.7	57.2	58.7	59.1	57.3	56.2	57.8
<b>Employed, 16 years and over</b>												
Total	94,373	96,945	97,270	95,581	96,359	96,574	97,282	97,572	97,718	97,040	97,061	97,276
Men, 20 years and over	51,212	52,264	51,972	51,682	52,082	52,191	52,426	52,360	52,310	51,810	51,776	52,005
Women, 20 years and over	35,180	36,698	37,676	35,866	36,181	36,390	36,957	37,260	37,549	37,603	37,807	37,828
Both sexes, 16 to 19 years	7,981	7,984	7,603	8,032	8,096	7,993	7,900	7,952	7,859	7,627	7,477	7,443
White	83,836	86,025	86,380	84,895	85,552	85,715	86,254	86,591	86,784	86,216	86,150	86,386
Black and other	10,537	10,920	10,890	10,711	10,788	10,863	11,009	11,008	10,925	10,830	10,899	10,900
Black	8,925	9,160	9,098	9,053	9,066	9,114	9,214	9,238	9,161	9,072	9,080	9,080
Hispanic origin	4,366	4,604	4,931	4,468	4,563	4,616	4,601	4,648	4,833	4,874	4,945	5,074
White-collar workers	47,205	49,342	50,809	47,975	48,729	49,149	49,594	49,896	50,363	50,643	51,135	51,105
Professional and technical workers	14,245	15,050	15,613	14,514	14,904	15,053	15,090	15,164	15,395	15,583	15,669	15,818
Managers and administrators, except farm	10,105	10,516	10,919	10,122	10,366	10,459	10,631	10,613	10,785	10,850	11,038	11,001
Sales workers	5,951	6,163	6,172	6,035	6,053	6,142	6,163	6,285	6,231	6,055	6,195	6,202
Clerical workers	16,904	17,613	18,105	17,304	17,406	17,496	17,710	17,835	17,952	18,154	18,232	18,083
Blue-collar workers	31,531	32,066	30,800	31,913	32,090	31,942	32,188	32,032	31,669	30,788	30,315	30,481
Craft and kindred workers	12,386	12,880	12,529	12,600	12,819	12,827	12,924	12,943	12,756	12,540	12,413	12,415
Operatives, except transport	10,875	10,909	10,346	10,970	10,944	10,821	10,972	10,886	10,632	10,354	10,179	10,217
Transport equipment operatives	3,541	3,612	3,468	3,600	3,595	3,626	3,625	3,599	3,566	3,461	3,422	3,425
Nonfarm laborers	4,729	4,665	4,456	4,744	4,732	4,667	4,667	4,604	4,715	4,433	4,300	4,424
Service workers	12,839	12,834	12,958	12,960	12,801	12,827	12,759	12,952	12,985	12,966	12,963	12,920
Farm workers	2,798	2,703	2,704	2,770	2,750	2,662	2,706	2,698	2,704	2,679	2,690	2,756

**Occupations.** The decline in employment during 1980 was concentrated in blue-collar occupations. As employers found their finished goods inventories growing and sales declining in the latter part of 1979, assembly lines were shut down, and blue-collar workers, especially operatives, were laid off in large numbers. Employment among nonfarm laborers, which had also been declining through most of 1979, fell steadily during the recession. Total blue-collar employment dropped 1.7 million between the fourth quarter of 1979 and the third quarter of 1980 and had only just begun to edge up during the final quarter as production levels increased.

In contrast, white-collar jobs continued to grow steadily during 1980, increasing 2.4 percent to 51.1 million over the year. Employment increases were particularly strong in the professional and technical professions. Only sales workers failed to show an employment rise during the year.

Among the other occupational categories, service employment, which had shown no growth over the previous year, remained sluggish during 1980. Interestingly, farm employment remained constant over the year, a departure from its long, slow historical decline.

**Full- and part-time workers.** An examination of full- and part-time work schedules provides further important insights into the employment picture in 1980. The number of persons at work on full-time schedules—persons

who worked 35 hours or more a week—in nonagricultural industries was 71.4 million in the third quarter of 1980, down markedly from 73.0 million three quarters previously. (Persons at work exclude those with a job but not at work during the survey period for such reasons as vacation, illness, or industrial dispute.) And while employment was again on the rise by yearend, this was the first time since the 1974-75 recession that full-time employment failed to register a year-to-year increase. The following tabulation traces the recent movement in the number of full- and part-time workers in nonagricultural industries, using seasonally adjusted quarterly averages (data in thousands):

Quarter	Full-time schedules	Part time for economic reasons	Voluntary part time
1978:			
IV	71,497	3,155	12,098
1979:			
I	72,148	3,230	12,098
II	72,298	3,266	12,013
III	73,183	3,228	12,415
IV	72,969	3,412	12,327
1980:			
I	72,839	3,491	12,484
II	71,647	4,016	12,340
III	71,427	4,137	12,393
IV	72,156	4,205	12,190



Another indication of a weakened economy was the substantial increase in the number of persons on part-time schedules for economic reasons.<sup>9</sup> This group of workers accepted part-time jobs only after an unsuccessful search for full-time work or because their employers reduced their hours in response to unfavorable economic conditions. The number of such workers increased continuously during 1980, reaching 4.2 million in the fourth quarter.

In recovery periods, the number of persons involuntarily on shortened workweeks usually turns downward a few months *prior* to unemployment. That is, employers tend to restore workers hours before recalling those on layoff or hiring new workers. The fact that the number of involuntary part-timers had not declined by yearend implies a continued sluggishness to the jobless picture, at least in the near term.

While the number of persons involuntarily on shortened workweeks and the number on full-time schedules move in a cyclical fashion, changes in voluntary part-time work are much more volatile. The number of such workers, after seesawing throughout the year, ended slightly below the level of a year earlier. The growth in the number of part-time workers, which was especially strong from the 1950's through the late 1960's, has continued at a fairly steady pace in the past decade. However, where once it exceeded the growth rate for their full-time counterparts, this rate of increase has now become about the same or slightly below it. Thus, part-timers share of total employment has flattened out at a little more than 14 percent in recent years.

## The unemployed and the discouraged

Unemployment increased sharply in 1980, as the number of jobless persons reached nearly 8 million, or 7.6 percent of the labor force around midyear. Unemployment hovered near the 6-million level throughout 1978 and 1979 before the onset of the recession. As the recession took hold, the unemployment rate rose rapidly, jumping 1.1 percentage points between the first and second quarters of 1980. The unemployment rate showed very little improvement in the last half of the year. (See table 4.) Although by most accounts the current recession is neither as severe nor as pervasive as its predecessor, only in the 1974-75 recession had unemployment jumped so rapidly or reached a level and rate of these proportions.

Unemployment developments in 1980 differed widely by age and sex, as adult men, who predominate in those industries where job cutbacks were most extensive, absorbed a major proportion of the increases. Their jobless rate also showed a marked deterioration earlier than other worker groups. Moreover, the impact on men was so extensive—a 2.2 percentage point increase—that, by the end of the third quarter, their rate actually exceeded that for adult women, a highly unusual labor market occurrence. However, a sizable recall of men from layoff in the fourth quarter left their unemployment rate lower than that of women—6.3, compared with 6.7 percent. The rate for women did not begin to rise until the second quarter of 1980, when it increased half a percentage point. During the last recession, the

**Table 4. Selected unemployment indicators, 1978-80**

[Unemployment rates]

Category	Annual averages			Seasonally adjusted quarterly averages								
	1978	1979	1980	1978	1979				1980			
				IV	I	II	III	IV	I	II	III	IV
Total, 16 years and over	6.0	5.8	7.1	5.9	5.8	5.7	5.7	5.9	6.2	7.3	7.5	7.5
Men, 20 years and over	4.2	4.1	5.9	4.1	4.0	3.9	4.1	4.4	4.8	6.2	6.6	6.3
Women, 20 years and over	6.0	5.7	6.3	5.7	5.8	5.6	5.6	5.7	5.8	6.4	6.4	6.7
Both sexes, 16 to 19 years	16.3	16.1	17.7	16.3	16.0	16.0	16.0	16.2	16.4	17.9	18.4	18.3
White	5.2	5.1	6.3	5.1	5.1	4.9	5.0	5.2	5.5	6.5	6.7	6.6
Black and other	11.9	11.3	13.2	11.5	11.5	11.4	10.8	11.3	11.8	13.2	13.9	14.1
Black	12.6	12.2	14.1	12.2	12.5	12.3	11.9	12.1	12.6	14.1	14.9	15.2
Hispanic origin	9.1	8.3	10.1	8.5	8.0	8.0	8.0	9.0	9.3	10.1	10.8	10.2
Married men, spouse present	2.8	2.7	4.2	2.6	2.7	2.6	2.8	3.0	3.4	4.4	4.8	4.4
Married women, spouse present	5.5	5.1	5.8	5.4	5.3	5.1	5.0	5.0	5.4	5.9	5.9	5.9
Women who maintain families	8.5	8.3	9.1	7.8	8.1	8.5	8.0	8.4	8.7	8.6	8.9	10.2
Full-time workers	5.5	5.3	6.8	5.3	5.3	5.1	5.2	5.5	5.8	7.0	7.3	7.3
Part-time workers	9.0	8.7	8.7	9.0	9.0	8.8	8.6	8.6	8.7	8.9	8.7	8.6
White-collar workers	3.5	3.3	3.7	3.3	3.4	3.3	3.4	3.3	3.4	3.7	3.8	3.9
Blue-collar workers	6.9	6.9	10.0	6.7	6.7	6.6	6.9	7.5	8.1	10.5	11.1	10.7
Service workers	7.4	7.1	7.9	7.4	7.5	7.1	6.9	6.8	7.0	8.0	8.3	8.1
Farm workers	3.8	3.8	4.4	3.7	3.2	3.4	4.0	4.3	4.2	4.7	4.8	4.1
Nonagricultural private wage and salary workers	5.9	5.7	7.4	5.7	5.7	5.6	5.8	5.9	6.2	7.7	7.9	7.8
Construction	10.6	10.2	14.2	11.5	10.7	9.8	9.4	10.6	11.8	15.6	16.3	14.4
Manufacturing	5.5	5.5	8.5	5.1	5.1	5.3	5.8	6.0	6.7	9.1	9.4	9.0
Durable goods	4.9	5.0	8.9	4.6	4.4	4.6	5.2	5.7	6.6	9.9	10.3	9.2
Nondurable goods	6.3	6.4	7.9	5.9	6.2	6.4	6.7	6.5	6.8	7.9	8.1	8.7



rate for adult women had jumped much more substantially, reaching 8.5 percent. Unemployment among teenagers stood at 18.3 percent at yearend, 2.3 percentage points above its prerecession low but less than half the increase posted during the 1974–75 recession. By contrast, the jobless rate for men at its peak was within half a point of its 1975 high.

In contrast to adults, teenagers share of unemployment is much higher than their share of the labor force. The rapidly growing teenage workforce in recent years has had a considerable impact on the overall jobless rate since the early 1960's. However, the effect of the postwar baby boom on the expansion of the youth population has now run its course, and the percentage of youth in the labor force has begun to decline, from a peak of 9.7 percent in 1974 to 9.2 percent in 1979 and to 9.0 percent in 1980. This development should begin to exert considerable downward pressure on the overall unemployment rate in the 1980's.

As is evident from the foregoing, any analysis of unemployment during the 1980 downturn is heavily influenced by adult men—whether black or white—constituting a major proportion of the rise in joblessness. For example, the unemployment rate for married men rose rapidly until the third quarter of the year, increasing to 4.8 percent from the fourth quarter 1979 rate of 3.0 percent. In contrast, part-time workers, the bulk of whom are adult women and teenagers, showed almost no increase in joblessness during 1980, while the rate for full-time workers, of whom the majority are adult males, jumped from 5.5 percent at the end of 1979 to 7.3 percent in the third and fourth quarters of 1980.

*Blacks and Hispanics.* Unemployment rose for both white and black workers in 1980. The unemployment rate for blacks jumped 2.8 percentage points to 14.9 percent from the fourth quarter 1979 to the third quarter of 1980. Over the same period, the rate for whites increased from 5.2 to 6.7 percent.

Although blacks have always been disproportionately represented among the unemployed, their share of unemployment in 1980, at 20 percent (double their share of the labor force), was particularly acute. Blacks' share of unemployment has been holding at a higher level in recent years than early in the decade. It is also interesting to note that the ratio of black to white unemployment rates, which had hovered in the 1.9 to 2.1 range throughout the early and mid-1970's, has over the last several years become noticeably higher, averaging 2.4 or 2.5.<sup>10</sup>

The unemployment rate for Hispanics rose from 9.0 to 10.8 percent between the end of 1979 and the third quarter of 1980; the rise in unemployment was about in line with the increases experienced by both blacks and whites. The unemployment rate for Hispanics fell slight-

ly by yearend, but remained considerably above the rate for whites, but below that for blacks.

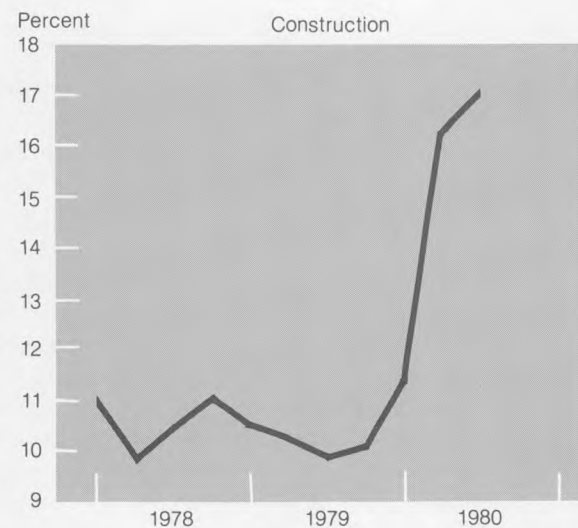
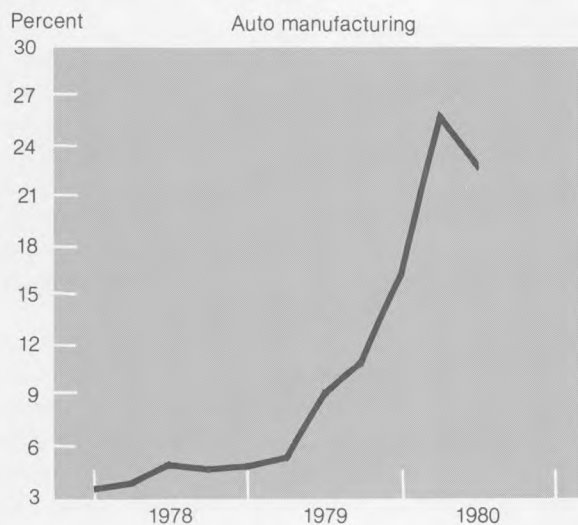
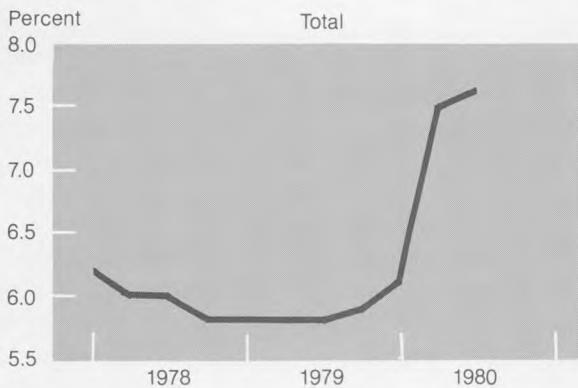
*Industry and occupation.* The impact and incidence of unemployment was unevenly distributed among the various industry and occupational groups. (See table 4.) Workers in the goods-producing industries bore the brunt of the rise in unemployment, with those in automobile manufacturing reporting the sharpest cutbacks in jobs. The unemployment rate for auto workers, which had been comparatively low in the second quarter of 1979 (4.8 percent), rose sharply to an all-time high of 24.7 percent a year later. (See chart 1.) During the last half of the year, unemployment in the auto industry began to recede steadily, falling to 17.2 percent at yearend, a considerable improvement from midyear but still well above prerecession levels. In addition to the automobile industry, joblessness was up substantially for workers in every other durable goods manufacturing industry, but particularly in lumber and wood products, primary metals, and fabricated metals. Among the nondurable industries, only rubber and plastic products showed a sizable increase in unemployment.

Construction worker unemployment also grew substantially during the recession, increasing 5.7 percentage points from the last quarter of 1979 to a rate of 16.3 percent in the third quarter of 1980 before finally turning downward. In contrast to automobile manufacturing, construction was harder hit in the 1974–75 downturn, when its rate exceeded that of all others and jumped to a postwar record of 20.3 percent.

Given the nature of the industries which sustained the hardest economic setbacks, it follows that the unemployment rate for workers in blue-collar occupations reached unusually high levels during 1980. After rising only marginally in 1979, from 6.7 percent at the beginning of the year to 7.5 percent at the end, blue-collar unemployment increased rapidly thereafter, peaking at 11.1 percent in the third quarter of 1980. White-collar workers, on the other hand, were much less affected by the recession, as their unemployment rate showed only a slight increase during the year. The jobless rates for both groups were considerably short of the peak reached during the 1974–75 recession.

*Job losers, leavers, and entrants.* As the number of unemployed persons rises during an economic downturn, there are also changes in their distribution in terms of the proportions of those who have lost their jobs (either because they were laid off or their jobs were terminated), those who have voluntarily left their jobs, and those who are entering or reentering the labor force. Reflecting the deterioration of the economy, the number of persons who had lost their jobs increased substantially, rising 1.6 million between the fourth quarter of 1979

**Chart 1. Unemployment rates for all workers and the auto manufacturing and construction industries, 1978-80 (seasonally adjusted)**



and the third quarter of 1980. Job loss accounted for 55 percent of total unemployment by the third quarter of 1980, up from 43 percent a year ago and almost equaling the 57 percent high set in the third quarter of 1975.

The number of persons on layoff, a subset of the job losers category and a sensitive cyclical indicator, increased rapidly during 1979 and early 1980, reaching 1.8 million in the third quarter of 1980 before declining toward yearend. Indeed, job losers dominate movements in total unemployment during all cyclical periods. (See table 5.) For example, unemployment among job leavers and entrants to the labor force also rose during this period, but at a slower pace than that caused by job loss.

*Duration.* Although measures of average duration of unemployment—the mean and the median—typically increase with a worsening in the economic situation, their movements tend to lag those in the incidence of joblessness because it takes time for the newly unemployed to reach the longer duration categories. This lag phenomenon was evident in 1980. Thus, whereas overall joblessness had peaked earlier in the year, the timing of the duration peaks was not yet apparent at yearend. (See table 5.)

Persons with long-term unemployment (15 weeks and over) became an increasing proportion of total joblessness as the year progressed; they accounted for 30 percent of the unemployed by the fourth quarter of 1980, up from 19 percent of the unemployed during the third quarter of 1979. At yearend, persons who had been jobless for more than 6 months passed the 1 million mark, double the number of a year earlier.

*Discouraged workers.* A rather large number of persons not actually in the labor force want jobs. Their reasons for not being active vary, and many, indeed, can be expected to enter the labor force at some later date. A relatively small but important group of these nonparticipants are often equated with the unemployed because they are not looking for work in the belief they would not find any. These so-called “discouraged workers” are not counted among the unemployed because they have not searched for work as recently as 4 weeks prior to being surveyed; many, in fact, have not searched at all. As shown in chart 2, however, changes in the number of discouraged workers move in a roughly parallel fashion with the cyclical changes in the unemployment rate. The relationship improves significantly when unemployment is tracked with “discouraged for job market factors”—repeated failures in finding a job or a belief that there were no suitable jobs in their line of work or geographic area. This group is very sensitive to labor market conditions.<sup>11</sup> During the fourth quarter of 1980, two-thirds of all the discouraged cited job market



**Table 5. Duration of and reason for unemployment, seasonally adjusted quarterly averages, 1978-80**

[Numbers in thousands]

Duration and reason	1978	1979				1980			
	IV	I	II	III	IV	I	II	III	IV
<b>DURATION</b>									
Less than 5 weeks	2,820	2,778	2,805	2,927	2,977	3,072	3,418	3,205	3,136
5 to 14 weeks	1,863	1,916	1,871	1,837	1,947	2,112	2,591	2,589	2,414
15 weeks and over	1,247	1,261	1,184	1,130	1,216	1,336	1,687	2,127	2,333
15 to 26 weeks	717	714	671	640	693	789	978	1,233	1,233
27 weeks and over	530	547	513	490	524	548	709	894	1,100
Median duration, in weeks	5.7	5.8	5.6	5.4	5.5	5.6	6.0	7.5	7.5
Mean (average) duration, in weeks	11.2	11.4	10.8	10.5	10.6	10.8	11.2	12.4	13.5
<b>REASON</b>									
Lost last job	2,449	2,497	2,396	2,553	2,786	3,040	4,071	4,357	4,232
On layoff	718	796	763	828	974	1,098	1,716	1,758	1,538
Other job losers	1,731	1,701	1,633	1,725	1,812	1,942	2,355	2,598	2,693
Left last job	853	882	857	848	829	814	907	870	860
Reentered labor force	1,806	1,759	1,746	1,770	1,755	1,806	1,906	1,865	1,926
Seeking first job	846	833	804	750	800	818	832	875	879

factors. The remainder had either never worked at all or had dropped out of the job market for personal reasons, such as viewing themselves as being too young or too old, lacking requisite education or training, or having other personal handicaps to jobseeking.

The total number of discouraged workers in the fourth quarter of 1980 was 1.1 million, more than one-third larger than a year earlier. Over the same period, the number of unemployed had increased by a little less than a third. However, contrary to the composition of the unemployed, the ranks of discouraged workers included very few men of prime working age (25 to 59 years); in fact, these men, account for only slightly more than one-tenth of all discouraged workers. The largest group consisted of women, who accounted for six-tenths of the total discouraged in 1980.

### Families

Interesting labor force patterns emerge when workers are grouped according to their position within the family structure. These data show a continual upward movement in the proportion of multi-earner families—that is, two or more workers in a household. Moreover, among husband-wife families in 1980, the proportion in which the husband and wife were both employed (42 percent) exceeded the proportion in which only the husband was employed (36 percent). This phenomenon has occurred only since 1978.

The extent of the impact of joblessness on the family depends upon how many of the unemployed were in families in which someone else was employed. Almost half of all unemployed husbands had no other employed person in their families in 1980; a year earlier, only two-fifths of husband-wife families had this experience. In addition, the percentage of unemployed wives with no other working member almost doubled over the year—from 8.1 to 16.6 percent.

Inflation more than offset wage and salary gains of American workers and their families in 1980. Median weekly earnings of families increased 8 percent between the first 3 quarters of 1979 and the same average period in 1980,<sup>12</sup> to \$400; there was, however, an even greater rise in consumer prices, so that the real earnings for the families declined by slightly more than 5 percent over this time period. The following tabulation shows the 1980 average (first 3 quarters) median weekly earnings of families by selected characteristics and change from 1979:

	Number (in thousands)	Weekly earnings	Percent change in earnings, 1979-80	
			Current dollars	Constant dollars
Total families with				
earners . . . . .	40,392	\$402	7.9	-5.2
Married-couple . . . . .	33,228	434	7.8	-5.3
One earner . . . . .	14,576	310	5.3	-7.5
Two earners or more . . . . .	18,652	535	9.2	-4.0
Families maintained by women . . . . .	5,559	227	9.8	-3.5
Families maintained by men . . . . .	1,605	359	7.5	-5.5

Among married couples, the one-earner family experienced the largest drop in real earnings—7.5 percent. The number of such families declined by more than half a million in 1980, with most of the reduction occurring in families in which only the husband worked. The number of families where both husband and wife were wage and salary workers posted a modest increase, reflecting the continuing increases in labor force participation among married women.

The number of families maintained by female wage and salary earners (5.5 million) increased in 1980, as

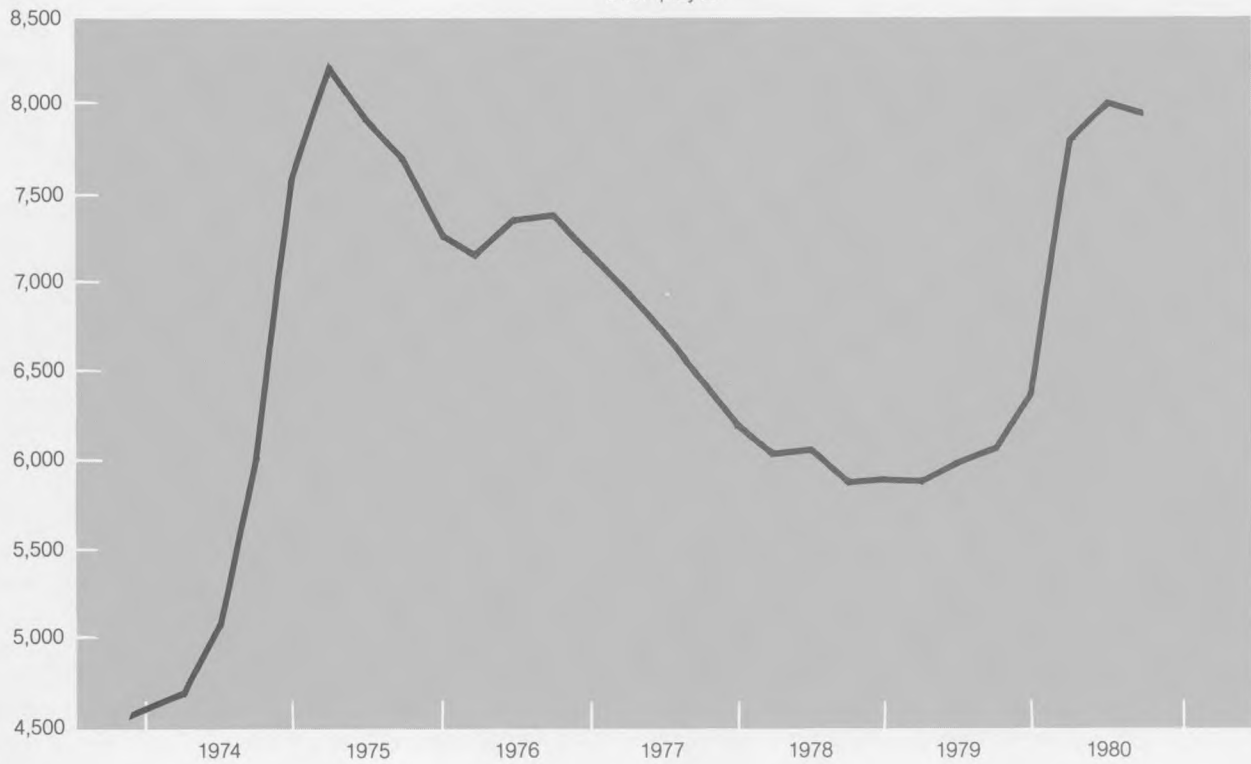
**Chart 2. Unemployed and discouraged workers, 1974-80 (seasonally adjusted)**

(Thousands)

Discouraged



Unemployed





did their median weekly earnings. As with all family groups, however, because of a faster rise in prices, their purchasing power also declined. The median earnings of these families is still very low, \$225 a week, compared with \$435 for married-couple families and \$360 for families maintained by men.

### In and out of the labor force

Despite the recession, the civilian labor force continued to grow during 1980, although slower than in recent years. This is the usual pattern over the business cycle. Between the fourth quarters of 1979 and 1980, the labor force grew 1.4 million, compared with increases of 2.2 and 2.7 million in 1979 and 1978. Labor force changes across demographic groups in 1980 were much like the changes that occurred in the last recession: strong growth among women, moderate growth among men, and no growth among teenagers.

At 63.8 percent, the civilian labor force participation rate was unchanged over the year. In recent years, overall participation has grown almost continuously, primarily because of the pronounced labor market entry of women. The following shows the participation rates of various demographic groups for selected years of labor market contraction:

	1971	1975	1980
Total	60.2	61.2	63.8
Teenagers (16-19 years)	49.7	54.1	56.9
Men (20 years and over)	82.1	80.3	79.4
Women (20 years and over)	43.3	46.0	51.4
Never married	68.1	68.7	71.8
Married	41.3	44.8	50.5
Widowed, separated, divorced	39.0	38.8	42.4

More than half of all adult women are now working or seeking work; some 40 million were in the labor force in 1980. Moreover, their share of the labor force, nearly 40 percent in 1980, has continued to grow, while that of adult men and teenagers has fallen. The greatest labor force increases have occurred among married women. After declining over several years, male participation in the labor force, holding relatively steady following the 1974-75 recession, showed a further drop in 1980, to 79.4 percent. Participation among teenagers, at 56.9 percent, was down slightly from the level of the past few years.

The changing aspects of the labor force are often overlooked in discussions of the national employment situation. Although a majority of workers are attached to the labor force, there is a substantial amount of ebb and flow in the labor force, employment, and unemployment each month. Thus, a deeper understanding of labor force behavior can be obtained through an examination of gross monthly movements.<sup>13</sup> The flow data show that in 1980, 5 percent of the employed and about

50 percent of the unemployed—more than 8 million workers—changed labor force status each month. Moreover, this count does not include the large number of persons outside the labor force who found jobs or began actively looking for a job over the month (4.5 million), or the unknown number of workers who changed jobs over the month but were tabulated as employed in both months. (CPS flow data indicate only that there was a change in labor force status between measurements, not that an actual job change occurred.)

The following tabulation, based on CPS flow data, provides a percent distribution of subsequent month labor force status of employed and unemployed men and women for the past 3 recessionary years:

<i>Status in previous month</i>	<i>Status in current month</i>				
	<i>Employed</i>	<i>Unemployed</i>	<i>Not in labor force</i>		
			<i>Home duties</i>	<i>School</i>	<i>Other</i>
Employed:					
Men:					
1971 ..	96.4	1.5	—	0.9	1.2
1975 ..	95.8	2.0	—	0.9	1.3
1980 ..	95.9	2.0	—	0.8	1.4
Women:					
1971 ..	92.5	1.3	4.2	1.2	0.8
1975 ..	92.8	1.7	3.5	1.1	.9
1980 ..	93.8	1.5	2.8	0.9	0.9
Unemployed:					
Men:					
1971 ..	30.7	52.1	0.3	7.3	9.5
1975 ..	25.5	60.2	0.2	5.4	8.5
1980 ..	28.2	57.0	0.3	5.2	9.2
Women:					
1971 ..	24.1	43.5	22.1	6.5	3.9
1975 ..	23.1	51.6	19.0	5.0	3.6
1980 ..	24.6	47.7	17.3	5.3	5.1

The vast majority of employed men and women who were working in any given month were also found to be employed in the following month. In contrast, the percentage movements out of and into (not shown in the above tabulation) unemployment each month are sizable. Generally, the changes among male workers are more likely to occur within the labor force between employment and unemployment, while changes among female workers are more likely to involve a period of time outside the labor force.

Interestingly, the outflow of women from the labor force because of home responsibilities has been declining. That is, although women are still more likely to leave the labor force than men, particularly when unemployed, the reason is increasingly less likely to be for traditional family purposes and more likely to be such things as prolonged illness or disability, discouragement over job prospects, or simply retirement from the labor force. Men leaving the labor force are also increasingly

likely to cite these same reasons. Indeed, women are becoming more firmly attached to the labor force, as evidenced by the high and climbing percentage that remain employed from one month to the next. Apparently, they are unwilling to give up the income needed to maintain or increase consumption in the wake of rising prices or to leave promising careers to maintain a family on a full-time basis.

### Recovery or respite?

Labor market developments were unsettled at the close of 1980. The onset of the recession in January was accompanied by an overall deterioration in labor market indicators. But as early as midyear, there was evidence that the economy had improved, as retail sales picked up, interest rates fell, and total employment

turned upward. Nevertheless, other disturbing signs by yearend left doubt as to whether the economy was in fact on the road to recovery or rather was experiencing a brief and mild respite before plunging even further.

The doubt arises from the unusual nature of the recession. The end of the year again showed a rise in the interest rates to levels that prevailed earlier. While employment had increased steadily over the second half, it had not improved sufficiently in the two industries—housing and auto manufacturing—hardest hit in the downturn. Instead, fourth quarter figures for housing sales and auto purchases were relatively weak, giving little hope for a strong improvement in employment in these industries. Also, the unemployment rate had shown very little improvement from the recession high. □

### — FOOTNOTES —

<sup>1</sup> Statistics on nonagricultural payroll employment and hours from the Current Employment Survey are collected by State agencies from payroll records of employers and are tabulated by the Bureau of Labor Statistics. Data on labor force, total employment, and unemployment are derived from the Current Population Survey (CPS), a sample survey of households conducted and tabulated by the Bureau of the Census for the Bureau of Labor Statistics. A description of the two surveys appears in the monthly Bureau of Labor Statistics publication, *Employment and Earnings*.

<sup>2</sup> The National Bureau of Economic Research, a well-known group of private-sector economists that traditionally establishes business cycle turning points in the United States, announced that the Nation had entered the recessionary phase of the cycle in January 1980.

<sup>3</sup> As noted earlier, the overall decline, based on monthly figures, was somewhat larger—1.3 million.

<sup>4</sup> Geoffrey H. Moore, "Lessons of the 1973-1976 Recession and Recovery" in William Fellner, ed., *Contemporary Economic Problems 1977* (Washington D.C., American Enterprise Institute for Public Policy Research, 1977), pp. 117-58.

<sup>5</sup> Norman Bowers, "Have employment patterns in recessions changed?" pp. 15-28, this issue.

<sup>6</sup> Aggregate hours is a joint measure of the cutback in both hours and employment. It is calculated by multiplying the number of production or nonsupervisory workers in a particular group by their corresponding average weekly hours and then putting the total on an index basis (1967=100).

<sup>7</sup> For a discussion of the employment population ratio as a cyclical indication, see Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976, pp. 3-10.

<sup>8</sup> It should be noted that blacks now represent a smaller proportion of the black and other group—85 percent, down from 89 percent 10 years earlier—the result of the gradual influx of Asians, particularly Vietnamese, into the U.S. labor force in the 1970's. For this reason, and because of the availability and increased reliability of black only data, it is no longer necessary to use the term "black and other"

when discussing black workers. Thus, unless otherwise stated, the term black in this article refers exclusively to the black "only" population and not to the "black and other" category which is comprised of blacks, American Indians, Alaskan Natives, and Asian and Pacific Islanders.

<sup>9</sup> For an analysis of the "part time for economic reasons" measure as an economic indicator, see Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12-18.

<sup>10</sup> For a detailed discussion of the black to white unemployment ratio, see Curtis Gilroy, "Black and white unemployment: the dynamics of the differential," *Monthly Labor Review*, February 1974, pp. 38-47 and Barbara Cottman Job, "The black labor force during the 1975-78 recovery," *Monthly Labor Review*, May 1979, pp. 3-7.

<sup>11</sup> For further detail on this subject, see Paul O. Flaim, "Discouraged workers and changes in unemployment," *Monthly Labor Review*, March 1973, pp. 8-16 and Carol M. Ondeck, "Discouraged workers' link to jobless rate reaffirmed," *Monthly Labor Review*, October 1978, pp. 40-42.

<sup>12</sup> Median wage and salary earnings adjusted for inflation for the fourth quarter of 1980 were not available at the time of this writing.

<sup>13</sup> Gross change data, a byproduct of the CPS, show the labor force status of persons not only for the current month but also for the previous month. The data thus permit the identification and measurement of the flow of persons who leave employment or unemployment from one month to the next. Gross changes, therefore, represent a short-run "flow" rather than a "stock" of a particular labor force group. Historically, gross flow data were published between 1949 and 1952, but publication was suspended when serious statistical deficiencies became apparent. The limitations of the gross flow data and the problems involved in trying to use the monthly household survey data for longitudinal analysis are discussed in *Using the Current Population Survey as a Longitudinal Data Base*, Report 608 (Bureau of Labor Statistics, 1980). The BLS is, however, presently planning the publication of an annual report on this topic. The initial report is still in the developmental stages and may become available about mid-1981.



# Have employment patterns in recessions changed?

*A survey of postwar recessions shows that the increasing proportion of service sector jobs has moderated overall employment declines; women in nontraditional jobs, blacks, and youths bear a disproportionate share of job losses*

NORMAN BOWERS

By virtually all economic indicators, the U.S. economy entered its seventh post-World War II recession in early 1980.<sup>1</sup> What now remains open to analysis is the depth, duration, and diffusion of the downturn, as well as the rapidity or sluggishness of recovery. Such measures, however, are far more meaningful when examined in a historical context.

A survey of postwar recessions offers an opportunity to address many interesting questions. For example, what is (has been) the magnitude of cyclical changes? Have there been any changes in the way the employment of different groups is affected during downturns? Some recent research has suggested that the response of employment to cyclical fluctuations in production (output) has changed over the past 3 decades, although the "significance" of this change is apparently quite dependent on the degree of aggregation used in the analysis.<sup>2</sup> In addition, no clear consensus yet exists about the reason(s) for any change in this relationship.

Okun's Law has often been cited in this context. As originally formulated,<sup>3</sup> the law states that the aggregate unemployment rate moves by about one-third as much as the gap between actual and potential gross national product (GNP gap). Although some recent research has questioned the continued viability of the original relationship, other analysts have argued that there has been little actual change in the unemployment-output correlation; rather, the responsiveness of unemployment to the GNP gap has always been around 45 percent. However, the relationship may differ substantially among sectors of the economy so that an exclusively aggregate approach is not always the appropriate procedure, and the connection between employment changes and the unemployment rate is not entirely a direct one. A goal of this article is to present information needed to estimate the sensitivity of employment to given declines in production within particular key sectors of the economy. Related to this is the question of the relative importance of the unemployment rate as a cyclical indicator. For example, to some analysts the high rate of unemployment experienced in the 1973-75 recession was not entirely the result of employer-initiated job ter-

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minations and the resulting shortfall in job opportunities. Instead, it has been suggested that a surge in the participation of women in the labor force, either in response to a deterioration in family earnings caused by the recession or as the result of a temporary misperception of available opportunities, was a major reason for the large increase in unemployment.<sup>4</sup>

The purpose of this article is to present and analyze data that may be useful in answering these and other questions on labor force statistics in recessions. The employment-production relationship is explored first. Then the impact of cyclical declines on the employment of specific worker groups is examined. Finally, in light of changes in the composition of the labor force, the usefulness of the unemployment rate as an indicator of labor market conditions is discussed.

### How job losses trace production declines

Faced with a decline in product demand and given expectations of the severity and duration of the decline, firms may react by reducing hours worked and inventories, laying off workers, attempting to reduce (the growth of) hourly compensation, or some combination of these possibilities and others. Cutbacks in employment have always been a central response by firms reducing their production. Factors affecting a firm's decision to lay off workers include the technology of production, the desire to retain the most experienced workers (assuming that the plant is not shut down for good), and often a union's ability to constrain the labor cost flexibility of the firm.<sup>5</sup>

To evaluate the impact of recessions on employment and determine whether the impact has changed over time, it is necessary to compare cycles of similar severity or amplitude.<sup>6</sup> This involves computing a measure or index of cyclical severity.<sup>7</sup> But how should the index be calculated and what weight should be given to various cycle indicators? Geoffrey Moore and others have suggested that cycles can be usefully separated by their duration, depth, and diffusion (DDD).<sup>8</sup> While this scheme can provide many insights, it creates a few measurement problems, because employer response may vary substantially depending on which of the three "D's" is prevalent (and employer decisions can feed back to change the actual situation). For example, a short but sharp decline in production may engender a different response than a long but mild downturn. Another measure, used by Jeffrey Sacks, calculates the percentage deviation of industrial output from its trend value at cycle troughs and peaks.<sup>9</sup> This "output gap" yields a single index but may overlook some of the complexities pointed out by the separability of "DDD." Another approach is to attempt to actually estimate the parameters of the employment response by using regression analysis. For example, a researcher may have theoretical reasons to distinguish between time periods and test the

hypothesis that the employment-production relation has changed significantly. Each method has its merits. In this analysis, a very simple measure was used: various indexes of changes in industrial production and components of real gross national product. Fortunately, the analysis does not appear to be overly sensitive to this simple index. However, it is important to emphasize that many interesting questions cannot be answered with this elementary approach; for example, little can be said about how quickly firms initiate employment adjustments in response to a decline in demand and whether such lags have been modified over time.

Given these limitations, what do the data suggest? Table 1 contains information on the percentage changes in employment, real GNP, and industrial production for each of the six complete postwar recessions plus the current period.<sup>10</sup>

The data seem to suggest some change, toward moderation, in the elasticity of employment with respect to production. For example, during the 1973-75 recession—characterized here as the most severe of the postwar downturns—the percentage drop appears to be significantly less than during 1957-58 (the next most severe recession), especially among nonfarm payroll jobs.<sup>11</sup> A similar conclusion is reached in comparing the 1960-61 and 1969-70 recessions, which were much the same with respect to depth and duration. It seems that, for any given short-run drop in production, over time there has been a smaller reduction in employment.

A certain amount of caution is required in interpreting this assessment as support for the idea that the relationship between production and employment adjustments has changed over time. By all accounts, for example, the 1973-75 recession was unusual. It technically began in the fourth quarter of 1973, but firms con-

**Table 1. Percent changes in employment, real gross national product, and industrial production from postwar business cycle peaks to troughs, seasonally adjusted**

Business cycles	Over the period changes in:			
	Total employment	Nonfarm payroll employment	Real gross national product	Index of industrial production
November 1948 to October 1949	-2.0	-5.0	-1.4	-8.5
July 1953 to May 1954	-2.4	-3.0	-3.3	-8.9
August 1957 to April 1958	-2.1	-4.0	-2.5	-12.4
April 1960 to February 1961	-6	-2.2	-6	-6.1
December 1969 to November 1970	-3	-1.2	-6	-5.8
November 1973 to March 1975	-1.6	-1.8	-5.7	-15.1
January 1980 to July 1980 <sup>1</sup>	-8	-1.3	-2.3	-8.4

<sup>1</sup> July 1980 has not been designated by the NBER as the business cycle trough.

Note: Data for industrial production are from *Industrial Production 1976 Revision* (Federal Reserve System, Board of Governors, 1977); *Industrial Production January 1976-December 1978* (Federal Reserve System, Board of Governors, 1979); and *Federal Reserve Bulletin*, various issues. Data for gross national product are from *Survey of Current Business* (U.S. Department of Commerce), January 1980, pp. 38-39, and subsequent issues. Gross national product is estimated on a quarterly basis. The calculations presented here are based on the quarter within which each cycle reference date falls. For example, the calculation for the current recession is based on the change between the first and second quarters of 1980.



tinued to add to their workforces throughout the first half of 1974, apparently unwilling to retrench despite early signs of declines in final sales. Indeed, the index of industrial production showed little change until late 1974, while inventories accumulated rapidly. Whatever the reasons for the unusual nature of the 1973-75 recession—the carryover of momentum from the durable goods boom of 1973 into 1974, interpreting final sales weakness as but a temporary oil embargo phenomenon, and others—table 1 still supports the view that employment is less sensitive to changes in production now than in past recessions.<sup>12</sup>

However, this conclusion is less revealing than might be thought. It leaves the critical question of whether this change results from different firm behavior within industries or from a different (greater) proportion of employment in industries that, irrespective of the reasons, are less sensitive to cyclical developments. As noted by many analysts, the service-producing industries account for a steadily increasing share of total employment, and are generally viewed as more recession-proof than the manufacturing sector. The following tabulation shows nonfarm payroll jobs from selected business cycle peaks and troughs in the service- and goods-producing industries:<sup>13</sup>

Date	Total payroll jobs (in 000's)	Goods-producing share	Service-producing share
November 1948 . . .	45,083	41.7	58.3
October 1949 . . . . .	42,823	39.2	60.8
April 1960 . . . . .	54,561	38.0	62.0
July 1964 . . . . .	53,373	36.6	63.4
November 1973 . . .	77,867	32.4	67.6
March 1975 . . . . .	76,429	29.4	70.6
January 1980 . . . . .	91,031	29.3	70.7
July 1980 . . . . .	89,867	28.0	72.0

The data reveal some clear characteristics. First, service-sector jobs as a proportion of total payroll employment have increased steadily. Second, at the cyclical trough, service jobs are always a higher proportion of the total than at the peak. Third, the employment share of the goods-producing sector has steadily declined, and this sector is very vulnerable to cyclical developments.

However, the data do not prove that service sector employment is immune to recessions. Evidence of immunity would have to be measured from a trend-adjusted time series. Even if service jobs do not decline in recessions, the rate of growth may decline. Moreover, the relative buoyancy of service employment may be unevenly distributed across industry categories.

Table 2 contains information to assess certain of these issues.<sup>14</sup> Interestingly, prior to the late 1960's, service sector employment grew negligibly or posted mod-

est declines during recessions. But such retrenchment hardly matched that shown in the more vulnerable goods-producing industries (to be examined in detail later). Of equal significance is the source of employment strength in the service sector. Government employment increased in each recession, with especially large gains in the last two complete recessions. The services industry—legal, health, and business services, hotels and motels, auto repair, amusement and recreation, and others—also posted sizable gains, especially during 1973-75. However, for the entire sector, increases were below trend growth, indicating that service employment is not completely unaffected by recessions. Of course, the output of services—as measured in the national product accounts—actually increased 2.8 percent during the 1973-75 downturn.<sup>15</sup> Moreover, the services industries generally exhibit low productivity growth, less technological advancement, and have a high ratio of direct labor to machines; hence, employment growth is not surprising, even during an economic contraction.<sup>16</sup>

The data in table 2 clearly show that the cyclically vulnerable part of the economy is the goods-producing sector. Thus, it is this sector that must be analyzed before any statements about the (hypothesized) changed responsiveness of employment to declines in production can be supported with any confidence.

Table 3 presents information on employment and production in manufacturing. The question of interest: Has there been a discernible change in the amplitude of fluctuations in employment relative to fluctuations in production? Two points should be noted prior to examining the data. First, production workers are more susceptible to recession-induced layoffs than managerial and other employees. Because of this and the fact that the proportion of production workers among all manufacturing employees has declined secularly, it is important to analyze this group separately.<sup>17</sup> Second, it is important to use an appropriate measure of production. For example, although certainly correlated with production, real gross national product includes the output of both goods and services, and is therefore a less than appropriate comparative measure. Instead, the index of manufacturing production, stratified by durable and nondurable goods production, is used for analysis.<sup>18</sup>

Several salient conclusions emerge from table 3. Predictably, production jobs always fall more sharply than all jobs combined. Durable goods industries are always more severely affected in recessions, as indicated by the magnitude of fluctuations in both employment and production. The data provide less than unequivocal support for the hypothesis that the aggregate employment elasticity during business contractions has moderated—at least for reasons other than changes in the aggregate mix of employment.

Take all manufacturing industries, for example. Among production workers, the data tend to suggest

**Table 2. Changes in nonfarm payroll employment from postwar business cycle peaks to troughs, by selected industry divisions, seasonally adjusted**

[Numbers in thousands]

Business cycles	Total nonfarm payroll employment	Goods-producing industries					Service-producing industries				
		Goods sector total	Construction	Manufacturing			Service sector total	Wholesale trade	Retail trade	Services	Government
				Total	Durable goods	Nondurable goods					
November 1948 to October 1949:											
Actual change	-2,250	-2,018	-52	-1,554	-1,348	-203	-232	-38	-57	54	100
Percent change	-5.0	-10.7	-2.3	-10.0	-16.2	-2.8	-9	-1.4	-9	1.0	1.7
July 1953 to May 1954:											
Actual change	-1,528	-1,539	26	-1,488	-1,151	-337	11	5	-48	85	130
Percent change	-3.0	-7.2	19	-8.1	-10.5	-4.5	( <sup>1</sup> )	.2	-6	1.5	2.0
August 1957 to April 1958:											
Actual change	-2,131	-1,676	-172	-1,417	-1,168	-249	-455	-66	-242	-14	124
Percent change	-4.0	-8.0	-5.9	-8.2	-11.8	-3.4	-1.4	-2.2	-3.1	-2	1.6
April 1960 to February 1961:											
Actual change	-1,188	-1,162	-136	-970	-787	-183	-26	-24	-122	161	57
Percent change	-2.2	-5.6	-4.6	-5.7	-8.1	-2.5	-.1	-.8	-1.5	2.2	.7
December 1969 to November 1970:											
Actual change	-855	-1,651	-70	-1,580	-1,318	-262	796	18	62	250	351
Percent change	-1.2	-6.8	-1.9	-7.9	-11.2	-3.2	1.7	.5	.6	2.2	2.8
November 1973 to March 1975:											
Actual change	-1,438	-2,736	-628	-2,192	-1,367	-825	1,298	88	-.3	614	721
Percent change	-1.8	-10.9	-15.1	-10.7	-11.2	-9.9	2.5	2.0	( <sup>1</sup> )	4.7	5.2
January 1980 to July 1980:											
Actual change	-1,164	-1,552	-423	-1,143	-862	-281	388	-31	8	298	125
Percent change	-1.3	-5.8	-8.9	-5.5	-6.8	-3.4	.6	-6	( <sup>1</sup> )	1.7	.8

<sup>1</sup> Less than 0.05 percent.

**Table 3. Percent changes in manufacturing payroll employment and production from postwar business cycle peaks to troughs, seasonally adjusted**

Business cycles	Manufacturing		
	All workers	Production workers	Production
November 1948 to October 1949	-10.1	-11.6	-7.1
July 1953 to May 1954	-8.1	-10.4	-9.6
August 1957 to April 1958	-8.2	-10.7	-13.1
April 1960 to February 1961	-5.7	-7.7	-7.4
December 1969 to November 1970	-7.9	-9.3	-7.1
November 1973 to March 1975	-10.7	-13.9	-17.2
January 1980 to July 1980	-5.5	-7.7	-9.9
	Durable goods		
November 1948 to October 1949	-16.2	-18.7	-16.0
July 1953 to May 1954	-10.5	-13.7	-15.1
August 1957 to April 1958	-11.8	-15.2	-19.6
April 1960 to February 1961	-8.1	-11.1	-11.2
December 1969 to November 1970	-11.2	-13.3	-11.5
November 1973 to March 1975	-11.3	-14.5	-19.3
January 1980 to July 1980	-6.8	-9.7	-11.8
	Nondurable goods		
November 1948 to October 1949	-2.8	-3.4	+2.6
July 1953 to May 1954	-4.5	-6.0	-1.9
August 1957 to April 1958	-3.4	-4.4	-4.1
April 1960 to February 1961	-2.5	-3.4	-1.6
December 1969 to November 1970	-3.2	-3.7	-.8
November 1973 to March 1975	-9.9	-13.1	-14.1
January 1980 to July 1980	-3.4	-4.7	-7.6

NOTE: Data for manufacturing production are from *Industrial Production 1976 Revision* (Federal Reserve System, Board of Governors, 1977); *Industrial Production January 1976-December 1978* (Federal Reserve System, Board of Governors, 1979) and *Federal Reserve Bulletin*, various issues.

some moderation occurred after the first two recessions. From 1957 forward, however, and subject to the limitations of a less than ideal empirical index of the severity of recession, the relationship shows no clear trend. The data for durable and nondurable industries yield similarly mixed results. The employment of production workers in durable goods fell 18.7 percent during 1948-49, but only 15.2 and 14.5 percent over the course of the 1958 and 1975 recessions; yet, production actually declined by larger percentages in the latter two downturns. However, other comparisons are possible which suggest the opposite: contrast production and employment in 1953-54, 1960-61, and 1969-70.

Examination of the sectors in the economy that have been most sensitive to cyclical fluctuations provides less support for the hypothesis that the response of employment—or, more appropriately, the hiring and firing decision of firms—to short-run output changes has become more moderate. Using standard regression analysis, Martin Baily found that there was a decline in the “long-run output elasticity” for production workers in all manufacturing, but it was not as pronounced as the highly aggregate data in table 1 might have implied.<sup>19</sup> This contrast suggests that, at the empirical level, business cycles are very complex phenomena unlikely to be understood by simple employment-production comparisons. Moreover, a single measure of “cycle severity” is



very difficult to construct. Cycles can be alike in duration and diffusion, but differ significantly in depth. Exactly how these features may interact and affect firms' hiring and firing decisions depends upon a number of factors not entirely understood and difficult to observe.

*Aggregate hours.* As the economy weakens, both jobs and hours are usually cut. The joint effect is presented in table 4 for manufacturing production workers.

The data clearly show the predominance of the employment effect in each recession, with the 1973-75 period the most severe. In addition, the data indicate that the hours effect reached its greatest magnitude among the six complete postwar recessions during 1973-75. Information on the current downturn shows that aggregate hours lost have been substantial in just a short period of time. Interestingly, while the employment effect again dominates, the hours effect in manufacturing and durable goods is larger than in all but the 1973-75 recession. This may indicate the relative importance of hours reductions in the early stages of a recession. Of equal interest is the fact that over the postwar period there appears to be no trend in the relative importance of the employment effect. Some recent theoretical work has implied that certain structural changes, especially the development of unemployment insurance would have increased the importance of the employment effect.<sup>20</sup> The data presented here are inconsistent with this view. However, offsetting changes in other variables are possible. Also, each recession differs in terms of its depth and duration, and these differences may engender dissimilar personnel responses by firms.

It must be emphasized that numerous interesting

questions have been ignored. There is no suggestion that aggregate data tell us much about the total impact of recessions on workers—questions about standards of living, probability of finding a good job, and others.

### Impact on age, sex, and race groups

Economic contractions directly affect people's living standards through lost jobs, reduced hours of work, and other factors. Just as jobs in certain industries are more vulnerable to cyclical contractions, so it is possible that identifiable demographic groups—because they may be associated with certain occupations or industries—experience the employment impact of recession more directly than others.

Who bears the burden of recession-induced cutbacks in employment? This question will be examined with a relatively narrow focus; no attempt will be made to study the overall impact of recession on different groups. Thus, the main question is, given relative levels of employment at the onset of recession, are cutbacks unevenly distributed? The major advantage of analyzing only employment changes is the perspective it may provide on the "last hired, first fired" syndrome, thought to especially affect women, minorities, and youth.

Throughout the 1970's, a number of analysts have suggested using indicators of employment rather than unemployment to evaluate the state of the labor market. In particular, the employment-population ratio has been advocated as both a more "objective" measure and in better accord with estimates of the level of aggregate demand.<sup>21</sup> One's belief on these matters aside, it is possible to examine the peak-to-trough changes in the employment ratio as one dimension of a recession's

**Table 4. Declines in aggregate weekly hours of manufacturing production workers from postwar business cycle peaks to troughs, seasonally adjusted**

[Hours in millions]

Industry and effect	Hours	Percent of total effect	Hours	Percent of total effect	Hours	Percent of total effect	Hours	Percent of total effect	Hours	Percent of total effect	Hours	Percent of total effect	Hours	Percent of total effect
	November 1948 to October 1949		July 1953 to May 1954		August 1951 to April 1958		April 1960 to February 1961		December 1969 to November 1970		November 1973 to March 1975		January 1980 to July 1980	
<b>Manufacturing</b>														
Total effect	62,677	100.0	74,745	100.0	74,247	100.0	44,082	100.0	68,354	100.0	109,675	100.0	64,312	100.0
Employment <sup>1</sup>	59,272	94.6	60,656	81.2	56,078	75.5	39,343	89.2	55,080	80.6	85,144	77.6	46,426	72.2
Hours <sup>2</sup>	3,853	6.1	14,089	18.8	15,859	21.3	5,135	11.6	14,634	21.4	28,505	26.0	19,384	30.1
Residual <sup>3</sup>	-448	-7	...	...	+2,309	2.2	-396	-8	-1,360	-2.0	-3,975	-3.6	-1,498	-2.3
<b>Durable goods</b>														
Total effect	55,749	100.0	56,352	100.0	55,454	100.0	44,294	100.0	56,291	100.0	68,483	100.0	46,773	100.0
Employment <sup>1</sup>	51,818	92.9	46,999	83.4	46,426	83.7	32,080	72.4	46,680	82.9	53,323	77.9	35,455	75.8
Hours <sup>2</sup>	4,834	8.7	10,832	19.2	10,641	19.2	3,614	8.2	11,084	19.7	17,736	25.9	12,534	26.8
Residual <sup>3</sup>	-902	-1.6	-1,479	-2.6	-1,613	-2.9	+8,600	+19.4	-1,473	-2.6	-2,576	-3.8	-1,216	-2.6
<b>Nondurable goods</b>														
Total effect	6,236	100.0	18,624	100.0	15,432	100.0	9,113	100.0	13,129	100.0	41,515	100.0	16,854	100.0
Employment <sup>1</sup>	7,956	127.6	14,133	75.9	10,074	65.3	7,487	82.2	9,012	68.6	31,919	76.9	11,179	66.3
Hours <sup>2</sup>	-1,781	-28.6	7,164	38.5	5,615	36.3	1,683	18.5	4,276	32.6	11,043	26.6	5,958	35.4
Residual <sup>3</sup>	+61	+1.0	-2,673	-14.4	-257	-1.6	-57	-7	-159	-1.2	-1,447	-3.5	-283	-1.7

<sup>1</sup> Employment effect (EE) equals the change in employment ( $\Delta E$ ) from peak to trough times hours at the peak ( $EE = \Delta E \times \text{Hours}_p$ ).

<sup>2</sup> Hours effect (HE) equals the change in hours ( $\Delta H$ ) from peak to trough times employment

at the peak ( $HE = \Delta H \times \text{Employment}_p$ ).

<sup>3</sup> The combination of employment and hours effects that cannot be allocated.

impact. (This approach assumes that the trend factor between peak and trough is negligible.)

Table 5 contains information on the level of and change in the employment ratio for all postwar contractions.<sup>22</sup> As measured by changes in the employment ratio, men are more affected than women, and teenagers more so than adults, a fact borne out by other research.<sup>23</sup> For example, in the 1973–75 recession, the ratio for teenagers and men fell 4.4 and 4.3 points, respectively, while that of women dropped half a point. The current recession indicates a similar pattern. The differences in the aggregate between men and women are not surprising. For reasons such as discrimination, men and women tend to work in different jobs, and certain jobs are more sensitive than others to business cycles. Table 5 also strongly suggests that the employment situation of black workers weakens substantially relative to that of whites. In each recession for which data are available, the black employment ratio fell quite a bit more than the ratio for whites.

Of course, there are many other ways to examine employment data. It may be of somewhat greater interest to probe the share of the employment decline accounted for by each group relative to its peak share of employment. For example, if the “last hired, first fired” perspective is correct, women, blacks, and teenagers should experience a disproportionate share of the total drop in employment.

Table 6 shows employment changes from peak to trough—as measured by the household survey—for selected age, sex, and race categories. Also shown is each group’s share of total employment at the cyclical peak, and the proportion of the decline in employment accounted for by the group. Teenagers quite clearly account for a sizable share of recession drops in employment. While never comprising more than 9 percent of peak employment, teens accounted for between 14 and 38 percent of the total net decline in jobs. Men—the group that makes up the largest, but declining, share of employment—have often accounted for far less of the decrease in employment than their peak share of jobs. This is not true of the current recession, however, in which men have made up 88 percent of the decline. Save for the relatively mild 1970–71 recession, the employment of women seems less affected by economic contractions than that of their male counterparts. Indeed, during the 1980 downturn, female employment has actually increased, as parts of the service sector, where a large proportion of women are employed, have continued to add jobs. The data by race show that, over the course of a recession, black workers are generally more affected than whites, although so far in 1980 this has not been the case.<sup>24</sup>

As before, aggregate data obscure many interesting issues. One important issue is whether the probability of experiencing a recession-induced job layoff is greater for, say, women than for men, or for blacks than for whites, within certain cyclically sensitive industry aggregates and occupations. But this is very difficult to determine on the basis of available data.

Table 7 uses manufacturing payroll employment data by sex for each recession for which seasonally adjusted data are available. (Data by race and age are not available.) The presentation is limited to manufacturing because the bulk of recession layoffs occurs in that sector. Further, the data refer to all employees; while it would be preferable to use information on production workers, such data (by sex) are not available in a seasonally adjusted form. In addition, there are no payroll data on the occupational distribution of men and women within manufacturing, which would be extremely useful in assessing the potential for a job termination. Lastly, within the manufacturing sector, industries differ in their cyclical sensitivity, and because men and women differ in their industry mix of employment the data in table 7 may mask some interesting facts.

Given these important caveats, the data in table 7 are revealing. In manufacturing industries as a whole, the relative employment impact on women has tended to steadily increase, while that of men has dropped. For example, in the 1960–61 recession, while women were 26 percent of peak employment, they accounted for only 18 percent of the decline; by 1973–75, the percentages were 29.3 and 38.3, respectively. (In the current-re-

**Table 5. Changes in employment-population ratios from postwar business cycle peaks to troughs by sex, age, and race, seasonally adjusted**

Business cycles <sup>1</sup>	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White workers	Black and other workers
Peak: December 1948	56.8	85.8	30.9	48.6	( <sup>2</sup> )	( <sup>2</sup> )
Trough: October 1949	54.9	82.5	30.8	44.2	( <sup>2</sup> )	( <sup>2</sup> )
Over-the-period change	-1.9	-3.3	-1	-4.4	( <sup>2</sup> )	( <sup>2</sup> )
Peak: March 1953	58.1	86.9	33.5	49.5	( <sup>2</sup> )	( <sup>2</sup> )
Trough: July 1954	55.0	83.3	31.9	41.1	( <sup>2</sup> )	( <sup>2</sup> )
Over-the-period change	-3.1	-3.6	-1.6	-8.4	( <sup>2</sup> )	( <sup>2</sup> )
Peak: July 1957	57.5	84.2	35.4	42.8	57.2	60.0
Trough: April 1958	55.2	80.8	34.6	39.8	55.1	56.6
Over-the-period change	-2.3	-3.4	-8	-3.0	-2.1	-3.4
Peak: June 1960	56.5	82.0	36.0	42.5	56.1	58.5
Trough: April 1961	55.2	80.6	35.4	38.4	55.2	55.4
Over-the-period change	-1.3	-1.4	-6	-4.1	-9	-3.1
Peak: December 1969	58.1	80.7	41.4	44.5	58.1	58.4
Trough: March 1971	56.4	78.4	40.7	40.6	56.5	55.2
Over-the-period change	-1.7	-2.3	-7	-3.9	-1.6	-3.2
Peak: November 1973	58.2	78.8	42.7	47.0	58.6	55.2
Trough: June 1975	55.8	74.5	42.2	42.6	56.5	50.9
Over-the-period change	-2.4	-4.3	-5	-4.4	-2.1	-4.3
Peak: January 1980	59.9	75.7	48.3	48.5	60.7	54.3
Trough: July 1980	59.0	74.2	48.1	46.5	59.9	53.1
Over-the-period change	-9	-1.5	-2	-2.0	-8	-1.2

<sup>1</sup> Percent changes are based on the actual peaks and troughs of the series rather than those defined by the National Bureau of Economic Research (NBER). Employment-population ratios represent civilian employment as a proportion of the civilian noninstitutional population.

<sup>2</sup> Not available.



**Table 6. Percent changes in employment from postwar business cycle peaks to troughs by sex, age, and race, seasonally adjusted**

Category	November 1948 to October 1949	March 1953 to July 1954	July 1957 to April 1958	June 1960 to April 1961	April 1970 to March 1971	July 1974 to April 1975	February 1980 to July 1980
Total employment . . . . .	-2.5	-3.8	-3.0	-1.2	-0.7	-2.5	-0.8
Men, 20 years and over . . . . .	-2.9	-2.9	-3.2	-8	-6	-2.5	-1.4
Percent of peak total employment . . .	67.3	65.6	64.3	62.8	57.9	56.1	53.6
Percent of total employment decline . .	77.8	49.9	70.4	43.7	46.7	57.4	88.3
Women, 20 years and over . . . . .	.8	-3.6	-1.5	-7	-8	-1.7	.4
Percent of peak total employment . . .	25.8	28.1	29.8	30.7	34.3	35.4	38.4
Percent of total employment decline . .	( <sup>1</sup> )	26.2	15.3	18.3	38.5	24.3	( <sup>1</sup> )
Both sexes, 16 to 19 years . . . . .	-11.0	-14.3	-7.2	-7.0	-1.3	-5.3	-3.4
Percent of peak total employment . . .	6.9	6.4	5.9	6.5	7.8	8.5	8.0
Percent of total employment decline . .	30.5	23.9	14.3	38.0	14.8	18.3	32.3
White workers . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	-2.8	-6	-7	-2.2	-9
Percent of peak total employment . . .	( <sup>2</sup> )	( <sup>2</sup> )	89.7	89.3	89.3	89.2	88.8
Percent of total employment decline . .	( <sup>2</sup> )	( <sup>2</sup> )	84.4	48.1	92.3	80.8	97.1
Black and other workers . . . . .	( <sup>2</sup> )	( <sup>2</sup> )	-4.5	-4.0	-6	-4.1	-4
Percent of peak total employment . . .	( <sup>2</sup> )	( <sup>2</sup> )	10.4	10.6	10.7	10.8	11.2
Percent of total employment decline . .	( <sup>2</sup> )	( <sup>2</sup> )	15.8	35.3	9.9	18.0	5.3

<sup>1</sup> Employment did not decline over this period.

<sup>2</sup> Not available.

NOTE: See footnote 1, table 5.

cession, the relative employment impact on men has been just slightly greater than for women.)

These data could reflect several different phenomena. First, although difficult to prove, some women may have gained access to occupations both more vulnerable to cutbacks and previously the domain of men. One might expect that—if simply for seniority reasons alone—women would be more likely to lose these recently acquired jobs in a recession. Second, and not inconsistent with the first interpretation is that the employment gains made by women may have been predominantly in cyclically sensitive industries, for example, metals, machinery, and transportation equipment. In fact, the evidence does suggest that there has been substantial growth in the employment of women in durable goods industries. Between 1959 and 1980, female employment in manufacturing increased about 2.3 million, and almost 65 percent of this was in durable goods. And, as table 7 shows, the largest percentage drops in the employment of women during recession occurred in durable goods, and women's share of the employment cutbacks in that sector has risen steadily relative to their share of employment over the three completed recessions shown.<sup>25</sup>

Turning to nondurable goods, a slightly different pattern emerges. The percentage drop in the employment of women is always greater than for men. Also, even in the 1960-61 recession, women bore a disproportionate share of the total employment decline. This probably reflects the concentration of women in industries such as textiles and apparel, both cyclically sensitive.

Household survey data were used to examine the relative vulnerability of blacks and whites, teenagers and adults. The required data are not seasonally adjusted, and usable data exist only for those recessions from

1969 forward. To mitigate one problem of using unadjusted data, table 8 presents quarterly average changes between the same quarter a year apart, for example fourth quarter 1969 and 1970. Although this method does not provide a perfect match with actual recession dates, it is close enough to provide useful insight. The data shown are for all manufacturing industries and all blue-collar occupations.

Women in manufacturing tend to account for a more than proportionate share of the drop in employment, except during the current recession. In blue-collar jobs, again except for 1980, both the percentage and propor-

**Table 7. Percent changes in manufacturing employment from postwar business cycle peaks to troughs by sex, seasonally adjusted**

Category	Apr. 1960 to Feb. 1961	Dec. 1969 to Nov. 1970	Nov. 1973 to Mar. 1975	Jan. 1980 to July 1980
Total manufacturing employment . . .	-5.7	-7.9	-10.7	-5.5
Men . . . . .	-6.3	-8.0	-9.4	-5.6
Percent of peak employment . . .	74.1	78.0	70.7	68.8
Percent of employment decline . .	82.0	73.1	61.7	71.3
Women . . . . .	-4.0	-7.5	-14.0	-5.0
Percent of peak employment . . .	25.9	22.0	29.3	31.2
Percent of employment decline . .	18.0	26.9	38.3	28.7
Durable goods . . . . .	-8.1	-11.2	-11.3	-6.8
Men . . . . .	-8.6	-10.9	-10.3	-6.8
Percent of peak employment . . .	82.3	79.4	78.0	75.2
Percent of employment decline . .	87.2	77.2	70.8	75.6
Women . . . . .	-5.9	-12.4	-15.0	-6.7
Percent of peak employment . . .	17.7	20.6	22.0	24.8
Percent of employment decline . .	12.8	22.8	29.2	24.4
Nondurable goods . . . . .	-2.5	-3.2	-9.9	-3.4
Men . . . . .	-2.3	-2.7	-8.7	-3.3
Percent of peak employment . . .	63.3	61.0	60.0	59.0
Percent of employment decline . .	59.6	52.3	46.5	58.0
Women . . . . .	-2.7	-3.9	-13.3	-3.5
Percent of peak employment . . .	36.7	39.0	40.0	41.0
Percent of employment decline . .	40.4	47.3	53.5	42.0

**Table 8. Percent changes in manufacturing and blue-collar employment from postwar business cycle peaks to troughs by sex, age, and race, quarterly averages, not seasonally adjusted, 1969–80**

Category	Percent change in manufacturing employment from			Percent change in blue-collar employment from		
	IV 1969 to IV 1970	I 1974 to I 1975	III 1979 to III 1980	IV 1969 to IV 1970	I 1974 to I 1975	III 1979 to III 1980
Total employment . . . . .	-4.2	-7.3	-4.1	-2.6	-7.1	-5.9
Men, 20 years and over . . . . .	-2.9	-5.6	-3.7	-1.3	-5.6	-5.1
Percent of peak employment . . . . .	68.4	67.4	65.5	75.5	76.9	73.4
Percent of employment decline . . . . .	47.0	49.3	59.1	37.1	59.3	62.6
Women, 20 years and over . . . . .	-6.2	-8.1	-2.2	-7.3	-10.4	-5.5
Percent of peak employment . . . . .	27.1	27.2	29.0	17.1	16.6	16.7
Percent of employment decline . . . . .	39.6	28.7	15.7	47.5	24.3	15.6
Both sexes, 16 to 19 years . . . . .	-12.3	-30.9	-18.9	-5.5	-14.2	-13.0
Percent of peak employment . . . . .	4.6	5.4	5.5	7.3	6.5	9.9
Percent of employment decline . . . . .	13.4	22.0	25.1	15.4	16.4	21.7
White workers . . . . .	-4.0	-7.2	-4.1	-2.4	-6.5	-6.0
Percent of peak employment . . . . .	89.6	89.0	88.5	86.8	87.2	87.4
Percent of employment decline . . . . .	84.8	83.8	87.8	79.4	79.6	88.6
Black and other workers . . . . .	-6.2	-11.2	-4.4	-4.1	-11.3	-5.4
Percent of peak employment . . . . .	10.4	11.0	11.5	13.2	12.8	12.6
Percent of employment decline . . . . .	15.2	16.2	12.3	20.6	20.4	11.4

tionate employment declines are far larger for women than men. Teenagers in both manufacturing and blue-collar jobs experience a very large proportion of employment cutbacks relative to their peak share of employment. This is consistent with the very high cyclical sensitivity of youth employment. As expected, black workers in manufacturing are more likely than whites to experience employment separation in recessions. For example, in the 1973–75 recession, black workers made up 16 percent of the manufacturing employment drop but only 11 percent of peak employment. The data for blue-collar occupations tell a similar story. That is, even though white workers may account for most of the job loss, it tends to be less than proportional. To what extent this reflects differential job access, promotion criteria, industry distribution, or other factors cannot be answered on the basis of these data.

Subject to data limitations and the exception of the current recession, the data in tables 7 and 8 tend to be consistent with the hypothesis that women, youth, and blacks bear a disproportionate share of employment contractions in recessions. Of course, this does not prove that these groups are more likely to be laid off than men. It might be argued, for example, that some groups are more likely to quit jobs and that the data simply reflect this assumed voluntary behavior. Employment separations can result either from leaving the job or being laid off, but the evidence is very clear that in a recession the bulk of labor turnover results from job loss.<sup>26</sup> Not only is there evidence that quits decline as job opportunities dry up, but there is also some indication that, other things equal, as the proportion of women employed across industries has increased, it has been negatively associated with the manufacturing quit rate.<sup>27</sup>

This information is suggestive but not definitive. Ideally, one requires a measure of the overall probability of job loss. That is, information is needed on the number of persons in a given demographic group, employed in a particular industry and occupation, who are laid off during an economic contraction. This necessitates information on labor force flows from a given job to unemployment, not in the labor force, or to another job because of layoff. (Thus, persons laid off do not necessarily become unemployed.) This type of information is not available, though certain inferences are possible.<sup>28</sup>

Table 9 contains information calculated from Current Population Survey gross flow data and shows the probability of moving from employed to unemployed or to not in the labor force for selected industry and occupation groupings. The gross flow data are subject to a number of crucial limitations, and must be used with great caution. This is especially true the more disaggregated the data.<sup>29</sup> A straightforward way to interpret the numbers is as follows: If there were 100 persons employed in manufacturing in month *t*, and 35 are unemployed in month *t*+1, then the probability of moving from employed to unemployed is .35.

The first two columns of table 9 show the flow probabilities for all employed persons. As expected, at both the cyclical peak and trough, employed women have a higher probability of leaving the labor force than men. Whether this reflects greater discouragement by women cannot be determined, because this flow would have to be separated into job losers and leavers and distinguished by reasons for dropping out. Interestingly, the flow from employed to unemployed is always higher at the trough of a recession among men than among women. Moreover, the peak-to-trough percentage increase in



**Table 9. The probability of employment separations from selected industries and occupations by sex, selected quarterly averages, not seasonally adjusted**

Total	From employment to		From manufacturing employment to		From construction employment to		From employment as craftworkers to		From employment as operatives to		From employment as nonfarm laborers to	
	Unemployment	Not in labor force	Unemployment	Not in labor force	Unemployment	Not in labor force	Unemployment	Not in labor force	Unemployment	Not in labor force	Unemployment	Not in labor force
All workers												
IV 1969 ..	.0096	.0376	.0117	.0169	.0280	.0308	.0105	.0157	.0164	.0266	.0290	.0658
IV 1970 ..	.0148	.0349	.0203	.0151	.0453	.0256	.0184	.0146	.0273	.0252	.0411	.0674
I 1974 ...	.0154	.0323	.0190	.0157	.0546	.0254	.0195	.0140	.0171	.0154	.0189	.0429
I 1975 ...	.0243	.0313	.0367	.0131	.0913	.0204	.0372	.0136	.0490	.0211	.0642	.0408
III 1979 ...	.0154	.0420	.0174	.0213	.0295	.0425	.0153	.0210	.0263	.0322	.0333	.0744
III 1980 ...	.0188	.0397	.0223	.0280	.0477	.0388	.0204	.0207	.0335	.0299	.0498	.0820
Men												
IV 1969 ..	.0098	.0238	.0095	.0109	.0292	.0286	.0107	.0149	.0136	.0184	.0289	.0650
IV 1970 ..	.0160	.0220	.0187	.0091	.0467	.0235	.0187	.0136	.0263	.0174	.0412	.0670
I 1974 ...	.0163	.0185	.0164	.0095	.0575	.0232	.0197	.0128	.0245	.0162	.0457	.0413
I 1975 ...	.0268	.0304	.0313	.0092	.0972	.0173	.0375	.0118	.0426	.0147	.0661	.0382
III 1979 ...	.0153	.0291	.0160	.0155	.0298	.0413	.0153	.0192	.0255	.0249	.0338	.0719
III 1980 ...	.0204	.0283	.0213	.0133	.0502	.0353	.0206	.0186	.0331	.0243	.0511	.0784
Women												
IV 1969 ..	.0093	.0604	.0170	.0232	.0055	.0718	.0060	.0392	.0220	.0445	.0242	.0806
IV 1970 ..	.0128	.0562	.0244	.0469	.0170	.0682	.0114	.0540	.0304	.0429	.0388	.0775
I 1974 ...	.0140	.0544	.0253	.0311	.0088	.0614	.0149	.0404	.0327	.0423	.0229	.0621
I 1975 ...	.0205	.0504	.0502	.0229	.0048	.0677	.0304	.0564	.0632	.0361	.0411	.0645
III 1979 ...	.0155	.0608	.0208	.0347	.0245	.0572	.0153	.0556	.0282	.0482	.0305	.1016
III 1980 ...	.0167	.0557	.0246	.0303	.0190	.0786	.0172	.0543	.0323	.0427	.0383	.1129

this flow is always greater among men. Because this is calculated for all employed persons, it probably reflects the different distribution of men compared to women among industries and occupations and the fact that, on average, more men are employed in cyclically vulnerable industries.

The story changes in a rather interesting manner for manufacturing workers (columns 3 and 4). The probability of becoming unemployed is always higher for women. And the peak-to-trough percent change in that probability shifted between 1969–70 and 1974–75 such that the increase became greater for women than men. Among all operative workers, the male-female differences are similar to those in manufacturing. But the pattern does not hold for either nonfarm laborers or for craft workers. In these occupations, men have a higher probability of going from employed to unemployed regardless of the stage of the recession. Nevertheless, the percentage increase in the employed to unemployed flow between peak and trough was greater for women nonfarm laborers and craftworkers than for men in the two complete recessions. As relatively new entrants into these occupations, women would be more likely to be laid off in a recession, and the fact that their employment-to-unemployment flow probability often increases more than that for men is consistent with this possibility. The construction flows are baffling. While the change from employed to unemployed among men is as expected and reflects the fact that construction is a cyclical industry, the reduced probabilities of unemployment for women jobholders during 1974–75 and 1979–80 are not easily explained.

The data in table do not prove—but are generally consistent with—the hypothesis that employment declines in economic contractions result primarily from job loss and that certain groups are more likely to suffer such cutbacks. Additional information provides supporting evidence. For all workers, the largest proportion of the net change in unemployment in recessions is accounted for by job losers.<sup>30</sup> For example, during the 1973–75 recession 92 percent of the net increase in unemployment in manufacturing resulted from job loss; among men it was 97.5 percent, while for women it was 85.7 percent. Among blue-collar workers, the results were similar, with job loss accounting for 93.5 percent of the net change in male unemployment, and 85.4 percent of the change among women. As expected, job loss tends to account for far less of net unemployment changes in service occupations, making up only 40.5 percent in the 1973–75 recession. Net change data also show that recession-induced unemployment for both blacks and whites comes predominantly in the form of layoffs. Therefore, there is support for the “last hired, first fired” hypothesis.

**Unemployment in recession**

Little attention has been given thus far to the unemployment rate. That neglect will be rectified in this section.

tion, although the focus will turn on a set of questions somewhat different from the usual. In table 1, the data suggest a mild decline in employment in the 1973–75 recession. Yet, the unemployment rate reached a postwar high of 8.5 percent at the business cycle trough (March 1975) and, in fact, did not peak until May 1975, when it hit 9.0 percent.

To many, the movements in employment and unemployment during the 1973–75 recession have seemed anomalous.<sup>31</sup> Indeed, some have suggested that the unemployment rate, at least in the 1973–75 recession, was a misleading indicator of the state of the labor market and that more attention should be given to the civilian employment-population ratio. As Geoffrey Moore has argued:

A high level of unemployment not accompanied by a low level of employment (relative to population) may not imply a deficiency of demand. It may, on the contrary, imply that large numbers of workers are seeking jobs, or seeking to change jobs, because employment opportunities are plentiful.<sup>32</sup>

Moore contrasts the unemployment rate and employment-population ratio at the trough of each postwar recession, and finds that the data suggest that 1975 was the worst year by the unemployment measure, but the second best year by the employment measure, topped only by 1970.

In certain respects this statement is quite true, recognizing—if only implicitly—the dynamics of labor force flows and the importance of perceived and actual employment opportunities as one determinant of those flows. From the standpoint of assessing the impact of recession on labor force statistics, however, the statement is not correct. What is critical is not the *level* of the employment ratio—which is the product of long-term secular trends—but its *change* in a recession. Viewed in this way, as the following tabulation indicates, both series show a very similar pattern.

Period	Percentage point change in the—	
	Unemployment rate	Employment-population ratio
November 1948–October 1949	4.1	–1.6
July 1953–May 1954 . . . . .	3.3	–2.0
August 1957–April 1958 . . .	3.2	–1.7
April 1960–February 1961 . .	1.7	–.9
December 1969–November 1970 . . . . .	2.4	–1.2
November 1973–March 1975	3.7	–2.2
January 1979–July 1980 . . . .	1.4	–.9

Although the two series do not match perfectly, they are clearly not so at odds as to support the hypothesis that the employment ratio gives an entirely different perspective on cyclical movement of the economy.<sup>33</sup> Both series are very useful, and each has its place in any analysis of cyclical developments.

Minimizing the unemployment rate as a cyclical indicator has recently been based on another set of arguments. In particular, it has become popular to contend that the relatively high unemployment rate reached in the last recession was primarily the result of a recession-induced surge in the number of women—and in some scenarios one might include teenagers—entering the labor force. As an economic analyst for *The Wall Street Journal* explained:

The distressing increase in the unemployment rate during the 1973–75 slump mainly reflected the economy's inability to provide enough jobs to accommodate a sharply rising number of job-seekers, especially women.<sup>34</sup>

If this argument were true, one would reasonably expect the data to show that the proportion of the unemployed who are women tends to be significantly lower at the cyclical peak than at the trough. The fact that over half of the peak-to-trough increment in the number unemployed between 1973 and 1975 consisted of men, of whom 90 percent were job losers, while adult women accounted for one-third of the increment and 68 percent were job losers already casts some doubt on the thesis.<sup>35</sup>

Other data tell a similar story. Table 10 contains information on unemployment rates. Irrespective of the stage of the cycle, men tend to have lower unemployment rates than women or teenagers, and whites lower rates than blacks. Moreover, the percentage-point increase for men was greater than that for women in four of the seven recessions, including 1973–75. In addition, the percentage increases for men are always higher than those for women or teenagers. Of course, these data do not show whether there was a significant, above-trend increase in female labor force participation. However, both the relative importance of job losers and the generally greater increase in adult male unemployment does suggest that a sharply rising number of job seeking entrants into the labor force is an unsatisfactory explanation for recession-induced increments in unemployment.<sup>36</sup>

More information on this thesis is contained in table 11, which shows the proportion of the unemployed who were women and teenagers during each cycle peak and trough. For women, this proportion of unemployment declined in all but the 1960–61 contraction. Between 1973 and 1975, the proportion fell from 48.6 to 44.5 percent. The teenage fraction of unemployment declined in each recession. This is inconsistent with the “women swelling the labor force” hypothesis about unemployment.

It is true, of course, that the labor force participation rate of women increased between 1973 and 1975 (from 45.3 percent in November 1973 to 46.1 percent in March 1975), but this increase was little more than part of a long term secular change in participation and not an extra surge.<sup>37</sup>



**Table 10. Changes in unemployment rates from postwar business cycle peaks to troughs by sex, age, and race, seasonally adjusted, 1948-80**

Business cycles	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White workers	Black and other workers
Peak: November 1948	3.8	3.3	3.4	9.1	( <sup>2</sup> )	( <sup>2</sup> )
Trough: October 1949 <sup>1</sup>	7.9	7.9	5.9	15.8	( <sup>2</sup> )	( <sup>2</sup> )
Over-the-period change	4.1	4.6	2.5	6.7	( <sup>2</sup> )	( <sup>2</sup> )
Peak: July 1953	2.6	2.2	2.5	7.3	( <sup>2</sup> )	( <sup>2</sup> )
Trough: May 1954	5.9	5.2	5.8	13.4	( <sup>2</sup> )	( <sup>2</sup> )
Over-the-period change	3.3	3.0	3.3	6.1	( <sup>2</sup> )	( <sup>2</sup> )
Peak: August 1957	4.1	3.4	4.1	11.5	3.7	7.5
Trough: April 1958	7.4	6.7	6.8	17.2	6.7	13.8
Over-the-period change	3.3	3.3	2.7	5.7	3.0	6.3
Peak: April 1960	5.2	4.4	4.8	14.2	4.6	10.1
Trough: February 1961	6.9	5.9	6.5	17.4	6.2	12.8
Over-the period change	1.7	1.5	1.7	3.2	1.6	2.7
Peak: December 1969	3.5	2.3	3.5	11.8	3.3	5.9
Trough: November 1970	5.9	4.2	5.6	17.4	5.5	9.2
Over-the-period change	2.4	1.9	2.1	5.6	2.2	3.3
Peak: November 1973	4.8	3.1	4.8	14.9	4.3	8.9
Trough: March 1975	8.5	6.8	8.3	19.9	7.8	14.0
Over-the-period change	3.7	3.7	3.5	5.0	3.5	5.1
Peak: January 1980	6.2	4.8	5.8	16.5	5.5	11.9
Trough: July 1980	7.6	6.6	6.6	18.7	6.8	13.9
Over-the-period change	1.4	1.8	.8	2.2	1.3	2.0

<sup>1</sup> This rate was, in part, the result of a one-month blip related to a serious labor dispute in the mining industry. The rates for September and November 1949 were 6.6 and 6.4 percent, respectively.

<sup>2</sup> Not available.

One way to view the impact of this increase in participation is to assume away the trend increase and ask what the overall unemployment rate would have been at the trough of the 1975 recession had female participation remained unchanged at the November 1973 rate. Given this assumption, it is possible to estimate, other things equal, the maximum change in the unemployment rate that could be attributed to the change in the female labor force.<sup>38</sup> On the basis of this mechanical approach to the labor market, it would be hypothesized that a highly significant proportion of the increase in unemployment would be accounted for by this adjustment procedure. Even under such favorable conditions, how-

ever, the data do not provide support for the argument. The "adjusted" rate of unemployment for March 1975 is 7.9 percent instead of 8.5 percent, not an insignificant drop but certainly not of such magnitude to account for much of the increase in joblessness (in fact, it accounts for just 16.2 percent of the increase in unemployment).

The analysis presented in this section is not intended to suggest that the unemployment rate is the only useful cyclical indicator of the performance of the labor market. However, used properly and in conjunction with other statistics such as the employment ratio, the unemployment rate is both useful and suggestive of the relative performance of the economy.

**Table 11. Women and teenagers as a proportion of total unemployed at postwar business cycle peaks and troughs**

[Numbers in thousands]

Business cycles	Total unemployed	Women, 16 years and over as a percent of total unemployed	Women, 20 years and over as a percent of total unemployed	Teenagers as a percent of total unemployed
Peak: November 1948	2,285	29.9	23.5	17.1
Trough: October 1949	4,916	24.8	19.6	13.8
Peak: July 1953	1,660	34.0	27.3	17.5
Trough: May 1954	3,767	33.0	28.0	14.3
Peak: August 1957	2,747	36.7	29.3	17.5
Trough: April 1958	5,016	33.5	27.6	14.6
Peak: April 1960	3,260	35.5	30.8	19.2
Trough: February 1961	4,832	36.3	29.1	17.5
Peak: December 1969	2,884	48.1	33.9	29.3
Trough: November 1970	4,885	45.2	32.6	26.2
Peak: November 1973	4,321	48.6	34.6	30.2
Trough: March 1975	7,874	44.5	34.3	22.1
Peak: January 1980	6,500	47.0	35.6	24.0
Trough: July 1980	8,021	42.7	33.1	21.6

## Summary

The purpose of this article has been to survey what happens to key indicators of the labor market in recessions. Among the principal observations:

1. There is some evidence that the response of aggregate employment to short-run changes in production has moderated in the postwar period.
2. This apparent moderation could result from a shift in the mix of employment from cyclically sensitive industries to those less cyclical, especially service-producing industries; or it could reflect a change in the response of firms to production cutbacks within industries. There is clear evidence to support the employment mix thesis, but support for the second hypothesis is somewhat less clear. Moreover, the very simple comparative approach adopted in this article did not strongly

uphold the second hypothesis.

3. Black workers and teenagers, both in the aggregate and within key cyclical sectors, bear a disproportionate share of the decline in employment in recessions.
4. Adult female employment, largely as a result of industrial and occupational distribution, is less affected by recession than some other groups. However, there is evidence—from both the payroll and household surveys—that *within* manufacturing industries and blue-collar occupations, women tend disproportionately to lose their jobs (the exception being during the 1980 recession).
5. The unemployment rate remains a useful statistic to assess the relative performance of the labor market. There is little evidence that the obvious secular changes in the demographic composition of the labor force are critically important in explaining cyclical changes in unemployment. □

### — FOOTNOTES —

<sup>1</sup> The National Bureau of Economic Research (NBER)—the organization that has historically dated business cycle activity—announced that January 1980 marked the pre-recession peak for the recession. For purposes of analysis, the peak to trough for the current recession is taken to be January to July 1980. Even though July has not been designated as the trough, some economic indicators began to turn up after July.

<sup>2</sup> See, for example, Martin Neil Baily, "Stabilization Policy and Private Economic Behavior," *Brookings Papers on Economic Activity*, No. 1, 1978, pp. 11–60; Glen Cain, "Labor Force Concepts and Definitions in View of Their Purposes," *Concepts and Data Needs, Appendix, Vol. 1* (Washington, National Commission on Employment and Unemployment Statistics, 1979), pp. 3–55; Geoffrey H. Moore, "Lessons of the 1973–1976 Recession and Recovery," in William Fellner, ed., *Contemporary Economic Problems* (Washington, American Enterprise Institute for Public Policy Research, 1977), pp. 117–58; and Michael Piore, ed., *Unemployment and Inflation: Institutional and Structuralist Views* (White Plains, N.Y., M. E. Sharpe Inc., 1979).

<sup>3</sup> Arthur Okun, *The Political Economy of Prosperity* (Washington, Brookings Institution, 1970), pp. 132–45; and Robert J. Gordon and Robert E. Hall, "Arthur Okun, 1928–1980," *Brookings Papers on Economic Activity*, No. 1, 1980, pp. 1–6.

<sup>4</sup> Alfred L. Malabre, Jr., "The Outlook," *The Wall Street Journal*, Apr. 16, 1979, p. 1. The apparent belief underlying this argument is that the economy was unable to "absorb" an extra surge of women entering the labor force during the depths of the 1973–75 recession. Note that the issue is that of accounting for cyclical changes in unemployment and is not connected to the argument that secular changes in the structure of the labor force may have had an impact on the "nonaccelerating inflation unemployment rate." Also see George Perry, "Changing Labor Markets and Inflation," *Brookings Papers on Economic Activity*, No. 3, 1970, pp. 411–41; and Michael L. Wachter, "The Demographic Impact on Unemployment: Past Experience and the Outlook for the Future," *Demographic Trends and Full Employment*, Special Report No. 12 (Washington, National Commission for Manpower Policy, 1976), pp. 27–99.

<sup>5</sup> Martin Neil Baily, "On the Theory of Layoffs and Unemployment," *Econometrica*, July 1977, pp. 1043–63; Costas Azariadis, "Implicit Contracts and Underemployment Equilibria," *Journal of Political Economy*, December 1975, pp. 1183–1202; Roger Kaufman, "Why the U.S. Unemployment Rate Is So High," in Michael Piore, ed., *Unemployment and Inflation*, pp. 155–69; and James Medoff, "Layoffs and Alternatives Under Trade Unions in U.S. Manufacturing," *The American Economic Review*, June 1979, pp. 380–95.

<sup>6</sup> While data from both the establishment and household surveys will be examined here, the focus will be on the establishment survey,

because of its more precise industry data and the ability to distinguish production and nonproduction workers. See Gloria P. Green, "Comparing employment estimates from household and payroll surveys," *Monthly Labor Review*, December 1969, pp. 9–20.

<sup>7</sup> Our sole concern is with the postwar period—1948 to the present. It should be noted, therefore, that there is pretty clear evidence that the magnitude of cyclical fluctuations up to the 1940's was much sharper than those of the last 3 decades, although this recent period has not been uniformly stable. Some economists, therefore, have tried to differentiate "classical cycles"—periods of absolute declines and expansions—from "growth cycles"—deviations around rising trends. See Baily, "Stabilization Policy," pp. 15–18; and Philip A. Klein, *Business Cycles in the Postwar World: Some Reflections on Recent Research* (Washington, American Enterprise Institute for Public Policy Research, 1976), pp. 2–7.

<sup>8</sup> Moore, "Lessons of the 1973–1976 Recession," pp. 118–23.

<sup>9</sup> Jeffrey Sachs, "The Changing Cyclical Behavior of Wages and Prices: 1890–1976," *The American Economic Review*, March 1980, p. 81.

<sup>10</sup> Unless otherwise noted, cycle dates are those of the National Bureau of Economic Research (NBER). Actual labor market developments do not match perfectly with NBER cycle dates, most particularly when special circumstances are involved. However, the observations in this section are not affected by using actual peaks and troughs for employment.

<sup>11</sup> Another interesting feature of the data is that the lag between changes in production and actual employment adjustments, at least up to the 1980 recession, has apparently increased. For example, in 1960, employment cutbacks began almost simultaneously with retrenchment in production, while by 1969 there was a 3 to 4 month lag between the two series. This is consistent with Baily's estimate that the proportion of the total employment response to changes in production in the first month has declined. See Baily, "Stabilization Policy," pp. 24–27. While Baily interprets this as evidence that the expectation of countercyclical policy has changed behavior in the direction of relative stability, other possible explanations cannot be ruled out.

<sup>12</sup> Some perspective on the 1973–75 downturn can be found in Arthur Okun, "Unemployment and Output in 1974," *Brookings Papers on Economic Activity*, No. 2, 1974, pp. 495–506; and Barry Bosworth, "Capacity Creation in Basic Materials Industry," *Brookings Papers on Economic Activity*, No. 2, 1976, pp. 297–350.

<sup>13</sup> While only selected recessions are shown, the relationship has been the same throughout the postwar period.

<sup>14</sup> Only a few broad industry categories are shown in order to avoid



the cumbersome task of analyzing detailed industries. Obviously, even within the goods-producing sector, there are differences across industries in the impact of a recession on employment. Some of the more sensitive manufacturing industries are motor vehicles, primary metals, fabricated metals, and furniture products. Within the service sector, transportation and public utilities is cyclically sensitive, because it includes the transportation of goods, which contracts quite a bit in recessions.

<sup>15</sup> Data on the components of gross national product are from *The National Income and Product Accounts of the United States, 1929-74: Statistical Tables, a Supplement to the Survey of Current Business* (Washington, U.S. Department of Commerce), and various issues of the *Survey of Current Business* (Washington, U.S. Department of Commerce). A complete analysis would have to explain the historically increasing importance of the services, a task that is beyond the scope of this paper.

<sup>16</sup> Different interpretations of the source of and relationship among these factors (and others) may be seen in Bennett Harrison and Thomas Vietorisz, "Labor Market Segmentation: Positive Feedback and Divergent Development," *The American Economic Review*, May 1973, pp. 366-76; John Kendrick, "Productivity Trends and Prospects," in *U.S. Economic Growth From 1976 to 1986: Prospects, Problems, and Patterns*, Vol. 1, Studies prepared for the Joint Economic Committee, United States Congress (Washington, Government Printing Office, 1976), pp. 1-20; and Michael Piore, "Introduction," in Piore, ed., *Unemployment and Inflation*, pp. IX-XXX.

<sup>17</sup> For example, while production workers accounted for about 83 percent of all manufacturing workers in 1948, by January 1980 the proportion had dropped to 71 percent. Similar relative declines have occurred in durable and nondurable industries.

<sup>18</sup> Data on industrial production can be found in *Industrial Production: 1976 Revision* (Washington, Federal Reserve System, Board of Governors, 1977), and *Federal Reserve Bulletin*, various issues.

<sup>19</sup> Baily, "Stabilization Policy," pp. 25-26. Baily did not perform regressions for durable and nondurable goods separately, and did not explicitly separate periods of expansions and contractions in his analysis.

<sup>20</sup> See, for example, Martin Feldstein, "Temporary Layoffs in the Theory of Unemployment," *Journal of Political Economy*, October 1976, pp. 937-57.

<sup>21</sup> See Geoffrey H. Moore, "Employment, Unemployment, and the Inflation-Recession Dilemma," in William Fellner, ed., *Contemporary Economic Problems* (Washington, American Enterprise Institute for Public Policy Research, 1976), pp. 163-82. The apparent coincidence of high unemployment and a high employment-population ratio as observed in 1975 has been used to suggest that the unemployment rate provided misleading signals about the performance of the economy. However, there is a very serious problem with using the level of the employment ratio as a cyclical indicator unless it is adjusted for the secular trend in the series. This is hardly an insignificant task, given the highly divergent trends between various demographic groups.

<sup>22</sup> Throughout this section the dates for peaks and troughs are based on the actual highs and lows as given by the series for all workers. It must be emphasized that the data presented throughout most of this section are "net changes," for example, they show the net change in employment among demographic groups. Many more persons could experience the loss of a job over the course of a recession than the data indicate. Further, some persons who lost a job could have subsequently found another job.

<sup>23</sup> See Lawrence Summers and Kim Clark, "The Demographic Composition of Cyclical Variations in Employment," *Journal of Human Resources*, forthcoming.

<sup>24</sup> The 1960-61 data for whites and blacks are somewhat anomalous. These data are independently seasonally adjusted and therefore would not be expected to add up to the total employment figure. However, the 1960-61 numbers indicate that about 15 percent of the total decline in employment cannot be apportioned to either group. This is too high to reflect a simple seasonal adjustment issue. The data should be interpreted with some care. Not seasonally adjusted data for April 1960 and 1961 show white workers with 89.4 percent of peak employment but just 57.7 percent of the decline, while the

figures for blacks were 10.6 percent and 42.3 percent, respectively.

<sup>25</sup> See also Robert W. Bednarzik, "The plunge of employment during the recession," *Monthly Labor Review*, December 1975, pp. 3-10; and *Job loss and other factors behind the recent increase in unemployment*, Report 446 (Bureau of Labor Statistics, 1976). It is true, of course, that in absolute terms men account for most of the decline in employment. While not intending to slight this fact, it is not really germane to the issue at hand.

<sup>26</sup> See Peter Barth, "A Time Series Analysis of Layoff Rates," *Journal of Human Resources*, Fall 1971, pp. 448-65.

<sup>27</sup> Paul Armknecht and John Early, "Quits in manufacturing: a study of their causes," *Monthly Labor Review*, November 1972, pp. 31-37.

<sup>28</sup> The ideal measure for the probability of being laid off is

$$P(LO) = \frac{U_{t+1}^{la} + N_{t+1}^{la} + E_{t+1}^{la}}{E_t}$$

where  $E_t$  is the number employed in a job at time  $t$ ;

$U_{t+1}^{la}$  is the number who were laid off and became unemployed;

$N_{t+1}^{la}$  is the number who were laid off and left the labor force;

$E_{t+1}^{la}$  is the number who were laid off and found another job.

<sup>29</sup> See Harvey Hilaski, "The status of research on gross changes in the labor force," *Employment and Earnings*, October 1968, pp. 6-13; Ralph Smith and Jean Vanski, "Gross Change Data: The Neglected Data Base," *Data Collection, Processing and Presentation, National and Local, Appendix, Vol. 2* (Washington, National Commission on Employment and Unemployment Statistics, 1979), pp. 132-59; and *Measuring Labor Force Movements: A New Approach*, Report 581 (Bureau of Labor Statistics, 1980). Three of the more important problems with the data are: rotation group bias, differential probabilities of reinterview for various groups, and errors in the classification and coding of occupations and industries. The information shown in table 9 is not available by age or race.

<sup>30</sup> As with other data presented in this section, seasonally adjusted series on reasons for unemployment by sex, race, and industry and occupation are not available. Therefore quarterly averages and over-the-year comparisons are the basis for the statements in the text. Of course, these data refer to the net change in unemployment and do not indicate the total flow of employed workers into unemployment by reason of job layoff.

<sup>31</sup> See Malabre, "The Outlook," p. 1.

<sup>32</sup> Geoffrey H. Moore, "Employment, Unemployment, and the Inflation-Recession Dilemma," p. 175.

<sup>33</sup> It has also been noted that, from a forecasting perspective, the unemployment rate is actually somewhat superior to the employment ratio. See Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976, pp. 3-10.

<sup>34</sup> Malabre, "The Outlook," p. 1. A different perspective is presented in James Henry, "Lazy, Young, Female, and Black: The New Conservative Theories of Unemployment," *Working Papers*, May-June 1978, pp. 55-65.

<sup>35</sup> It must be emphasized that even were the "surge of female participation" view correct, that is, the added worker effect predominates, it still would not follow that the unemployment rate was (is) a less than adequate cyclical indicator. On the contrary, the data could just as easily be a reflection of the employment-related severity of the recession.

<sup>36</sup> Data from the gross flows in and out of the labor force also suggest that there was not an extra surge of labor force entrance among women. In the first quarter of 1974, the probability of entering the labor force among women was .0543 (2,346,000 persons), while the probability of leaving the labor force was .0697 (2,426,000 persons). In the first quarter of 1975, the probabilities were .0538 (2,311,000 persons) and .0691 (2,514,000 persons), respectively. The probability of going from not in the labor force to unemployed in the first quarter of 1974 was .0167 (719,000 persons) and .0217 (813,000 persons) in the first quarter of 1975. The probability of going from unemployed to not in the labor force was .3194 (643,000 persons) and

.2672 (840,000 persons) respectively.

<sup>37</sup> There is some evidence of the "added worker" effect among women over age 45, while the "discouraged worker" effect is predominant among younger women. See Summers and Clark, "The Demographic Composition." A recent paper that attempted to distinguish between the behavioral response of married women to short- and long-run market conditions did find some evidence of an added worker response among married women. See Olivia S. Mitchell, "The Cyclical Responsiveness of Married Females Labor Supply: Added and Discouraged Worker Effects," in *Industrial Relations Research Association, Proceedings of the Thirty-second Annual Meetings* (Madison, Wis-

consin, 1980), pp. 251-57.

<sup>38</sup> Formally, the procedure is:

- a) November 1973 participation rate times the March 1975 female civilian noninstitutional population equals the adjusted labor force;
- b) Subtraction of the actual March 1975 labor force from the adjusted labor force equals the "extra" number unemployed;
- c) Subtraction of the extra number unemployed from the actual number unemployed equals the adjusted number of unemployed persons; and
- d) Dividing the adjusted unemployed by the adjusted labor force yields the adjusted rate of unemployment.

### Mexican repatriation during the Depression

Mexican migration to the United States virtually stopped during the Great Depression of the 1930's. Public hostility rose against alien labor, and unemployed native workers eagerly grabbed for jobs previously held only by Mexicans. In the period from 1931 to 1934 more than 350,000 Mexicans were repatriated, and during the remainder of the decade Mexican emigrants generally found themselves unwelcome. The Depression had ended an exodus to the United States. This is shown in U.S. figures, imperfect as they may be from 1901 to 1930 about 728,000 Mexican immigrants were legally admitted to the United States, but in the decade from 1931 to 1940 only some 23,000 Mexican immigrants were admitted. The number of unregistered migrants who settled on the United States side of the border during the 1901-30 period was probably over a million, but many of these returned during the crisis of the Depression, some attracted by the repatriation efforts of the Mexican government.

—ARTHUR F. CORWIN, ED.,

*Immigrants—and Immigrants: Perspective on Mexican Labor Migration to the United States*  
(Westport, Conn., Greenwood Press, 1978), (Contributions in Economics and Economic History, 17.) p. 53.



# Trade-sensitive employment: who are the affected workers?

*More than 1 in 8 manufacturing jobs now relate to exports, creating openings for workers with above average skills; however, imports have displaced job prospects in industries with less skilled labor and more women and minorities*

C. MICHAEL AHO AND JAMES A. ORR

Economic theory teaches that there are gains from trade, but the gains are net gains. Although the secular increase in both imports and exports as a percentage of Gross National Product is generally regarded as beneficial to the economy and increased exports have generated additional employment opportunities, these changes have been accompanied by reduced employment opportunities and adjustment burdens for workers in import-competing industries. The adaptation of workers in the import-competing industries to these new and changing demand conditions can involve extended periods of job search, retraining, and relocation and is likely to be costly. Based on our analysis, the adjustment burden falls more often on women, minorities, the less-educated, and the lower paid—the groups least able to afford it.

This article provides a detailed description of the demographic and occupational characteristics of employees in those industries that experienced the largest changes in employment opportunities as a result of trade during 1964–75. As was done by the Bureau of

International Labor Affairs in exploring this issue,<sup>1</sup> our present analysis uses a disaggregated industrial perspective because (a) the impacts of trade often appear in specific and well-defined product categories; (b) trade policy decisions are usually made at an industry level; and (c) worker characteristics, necessary to accurately measure adjustment costs, vary substantially from industry to industry.

To the extent that worker characteristics differ between trade-enhanced industries and those adversely affected by trade, the labor adjustment costs will be greater. Furthermore, to the extent that industries which experienced the largest negative impact on job opportunities are characterized by relatively intensive use of unskilled labor, adjustment costs include reduced income for this already low-income group, as real wages fall in response to lower demand.<sup>2</sup>

## Measuring the impact of trade

The following methodology was used to identify the impact of trade on employment opportunities by industry. The impact of imports on “employment opportunities” was measured by the number of jobs that would be required to produce the dollar value of the imports (including transportation margins and tariff duties) in

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the same industry in the United States. The impact of exports on job opportunities was measured by the number of jobs necessary to produce those exports.<sup>3</sup>

Estimates of the impact of manufacturing trade on domestic employment opportunities during 1964–75 were made on a detailed industry basis using the 367-sector U.S. input-output table, annual U.S. trade data, and labor-output ratios. The use of the input-output table made it possible to estimate both the direct and indirect impacts of trade on employment opportunities.<sup>4</sup> The direct impact on employment opportunities in an industry occurs when demand changes because of changes in industry exports or in imports of similar products. The indirect impact includes the effects on industries which supply inputs to industries whose products are directly affected by trade. For example, the indirect effect of automobile imports on the domestic production of steel is included in the estimates of the impact of trade on employment in the steel industry.

There can be no doubt that trade has become a more important influence on U.S. employment. Table 1 shows employment opportunities in manufacturing directly and indirectly related to manufactures exports during 1964–75. In 1964, approximately 1 in 14 manufacturing workers was involved in the production of manufactures exports. By 1974, more than 1 in 8 workers was involved either directly or indirectly in the production of manufactures exports. With the expansion of exports and related job opportunities, however, imports have grown, slowing employment growth or displacing workers in import-competing industries.

The net effect of these trade-related changes in employment opportunities is relatively small and is largely a function of the business cycle. However, the net effect masks the impact on workers because international trade theory predicts that workers in export- and import-competing sectors will possess different skills. Empirical studies have shown that the United States has a comparative advantage in the production of goods which intensively use skilled labor and a comparative disadvantage in the production of goods which intensively use unskilled labor. Over time, with the strengthening of the other major industrial countries and, most recently, the rapid growth of the upper-tier developing countries, the United States has met increased competition in more traditional industries which employ proportionately more unskilled labor. Alternatively, U.S. production and export of advanced technology products, such as aircraft and computers, which employ relatively more skilled labor, has historically led other nations.

The next segment of the analysis will identify those industries which had the largest change in employment opportunities as a result of changes in trade and examine the characteristics of the workers in those industries. Examination of workers' characteristics will identify the

**Table 1. Employment in manufacturing directly related to manufacturing exports**

[thousands]

Year	Opportunities in manufacturing related to manufacturing exports	Manufacturing employment	Ratio
1964 .....	1,236	17,274	14.0
1965 .....	1,265	18,062	14.3
1966 .....	1,369	19,214	14.0
1967 .....	1,409	19,447	13.8
1968 .....	1,509	19,781	13.1
1969 .....	1,686	20,167	12.0
1970 .....	1,723	19,349	11.2
1971 .....	1,615	18,572	11.5
1972 .....	1,648	19,090	11.6
1973 .....	2,155	20,068	9.3
1974 .....	2,641	20,046	7.6
1975 .....	2,436	18,347	7.5

effects which changes in trade have had upon the composition of employment.

Tables 2 and 3 list the 20 manufacturing industries which had the largest positive and negative trade-related employment changes between 1964 and 1975.<sup>5</sup> The direct and indirect components of the net trade-related employment opportunities are also shown for each of these industries. In general, if the industry was favorably or unfavorably affected when direct and indirect effects were combined, it was affected both directly and indirectly in the same direction. Data for all industries are available on request.

Table 2 shows that the sector with the largest decline in employment opportunities was apparel with a decline of more than 103,000 between 1964 and 1975. Several other textile and apparel sectors were also among the 20 most adversely affected industries. Other industries that experienced large negative impacts included motor vehicles, steel, footwear (both rubber and nonrubber), and radio and television sets. Each of these sectors have applied for relief from import competition under Section 201 of the Trade Act of 1974.

Among the industries which had the largest increase in employment opportunities as a result of trade (table 3), aircraft equipment and computing machines stand out with gains ranging from more than 38,000 to 54,000 job opportunities. The other positively affected industries included several electrical and nonelectrical machinery sectors. Gains generally occurred among advanced technology industries; the few exceptions were in logging, veneer and plywood, and sawmills. These three industries each had negative net employment opportunities in 1964, but they registered an improvement over the period. The improvement in these sectors may not be surprising because they are dependent, directly or indirectly, on an abundance of arable land that is relatively plentiful in the United States. Improved performance in these sectors may be analogous to the recent improved export performance of U.S. agriculture.



**Table 2. The 20 industries in which job opportunities were most adversely affected by trade between 1964 and 1975**

I-O class <sup>1</sup>	Industry description	Net trade-related job opportunities		Change in net trade-related job opportunities between 1964 and 1975		
		1964	1975	Total	Direct	Indirect
1804	Apparel, purchased	-41,569	-144,932	-103,363	-87,048	-16,315
5903	Motor vehicles and parts	12,256	-63,939	-76,195	-54,299	-21,896
3701	Furnaces, steel products	10,055	-36,447	-46,502	-32,825	-13,677
3402	Nonrubber footwear	-8,570	-46,315	-37,745	-36,790	-957
6105	Motorcycles, bicycles, and parts	-7,150	-29,817	-22,667	-19,980	-2,687
5601	Radio and television sets	-5,581	-25,986	-20,405	-19,098	-1,307
1601	Broadwoven fabric mills	-22,688	-40,815	-18,127	7,810	-25,937
3202	Rubber footwear	-4,601	-15,292	-10,691	-10,377	-314
3101	Petroleum refining	-2,190	-12,395	-10,205	-9,843	-362
2307	Furniture and fixtures, n.e.c.	-3,101	-13,094	-9,993	-9,933	-66
5104	Office machines, n.e.c.	-700	-9,235	-8,535	-8,329	-206
3403	Other leather products	-7,337	-15,647	-8,310	-7,898	-412
5701	Electron tubes	359	-7,443	-7,802	1,022	-8,824
1802	Knit apparel mills	-3,186	-9,946	-6,760	0	-6,760
2801	Plastic materials and resins	9,923	3,531	-6,392	-5,493	-899
4802	Textile machinery	4,325	-1,805	-6,130	-5,519	-611
1903	Fabricated textiles, n.e.c.	4,149	-1,714	-5,863	-1,709	-4,154
4701	Machine tools, metal cutting types	9,388	3,558	-5,830	-6,161	331
2201	Wood household furniture	-96	-5,242	-5,146	1,324	-6,470
3201	Tires and inner tubes	1,722	-3,357	-5,079	-3,882	-1,197

<sup>1</sup>The concordance between I-O classifications and standard industrial classifications is published in *Survey of Current Business*, February 1974.

n.e.c.=Not elsewhere classified.

Table 4 compares the demographic, occupational, and industrial characteristics of the adversely affected industries with those of the trade-enhanced industries and with the overall average for the manufacturing sector. The weights used to construct these averages were the actual employment figures by industry in 1974. Most of the data were taken from the 1970 Census of Population.

The industries are compared on the basis of the following demographic characteristics: the sex, minority,

and age composition of employment, employee family income, and employee earnings and education.<sup>6</sup> The occupational characteristics include the degree of unionization, employee skill levels, and industry skill mix. Industry characteristics include measures of the technical intensity of production and foreign direct investment activity. The basic data for each of these variables for each of the 20 adversely affected and 20 enhanced industries are available on request.

To the extent that these data reflect the characteristics of the workers who made trade-related employment changes during 1964-75, they reveal those groups that benefited from increasing trade and those that were forced to bear the burden of adjustment, principally through reduced job opportunities. And to the extent that these trends continue, the statistical comparison indicates the systematic effects of U.S. trade on the demand for specific types of labor inputs.<sup>7</sup> Following is a description of the findings for each group of characteristics.

### Demographic characteristics

**Sex.** Women comprised an average of 41.1 percent of the work force in the adversely affected industries compared with 21.5 percent for the favorably affected industries. The proportion of women was highest in apparel (80 percent), knit apparel (69 percent), fabricated textiles (66 percent), and nonrubber footwear (62 percent). The lowest percentage of female workers was in steel (7 percent) among the adversely impacted industries, and in logging (4 percent), veneer and plywood (10 percent), construction machinery (10 percent), and fabricated plate (12 percent) among the trade-enhanced industries. Although there is some variance among the individual sectors, the adversely affected industries—particularly

**Table 3. The 20 industries in which job opportunities were most favorably affected by trade between 1964 and 1975**

I-O class <sup>1</sup>	Industry description	Net trade-related job opportunities		Change in net trade-related job opportunities between 1964 and 1975		
		1964	1975	Total	Direct	Indirect
6001	Aircraft	22,633	76,683	54,050	48,014	6,036
6004	Aircraft equipment, n.e.c.	33,246	78,542	45,296	19,507	25,789
5101	Computing machines	16,183	54,666	38,483	32,544	5,939
2001	Logging	-17,967	8,278	26,245	13,785	12,460
4503	Oil field machinery	6,410	26,915	20,505	19,313	1,192
4501	Construction machinery	30,094	47,720	17,626	16,267	1,359
5301	Electric measuring inst.	4,897	17,671	12,774	11,671	1,103
2002	Sawmills and planing mills	-31,566	-19,372	12,194	10,021	2,173
6002	Aircraft engines and parts	15,769	26,201	10,432	3,812	6,618
2402	Paper mills	-23,444	-13,154	10,290	9,518	772
4806	Special industrial machines	11,738	21,392	9,654	9,134	520
4901	Pumps and compressors	7,711	17,006	9,295	7,598	1,697
5304	Motors and generators	9,244	16,473	7,229	5,267	1,962
5503	Wiring devices	4,351	11,458	7,107	4,440	2,667
5703	Electronic components	15,371	21,990	6,619	5,138	1,481
5702	Semiconductors	4,984	11,182	6,198	4,961	1,237
2006	Veneer and plywood	-13,734	-7,669	6,065	4,806	1,259
4006	Fabricated plate work	6,664	11,926	5,262	4,401	861
5203	Refrigeration machines	5,932	11,120	5,188	6,154	-966
5000	Machine shop products	12,128	17,204	5,076	1,612	3,464

<sup>1</sup>The concordance between I-O classifications and standard industrial classifications is published in *Survey of Current Business*, February 1974.  
n.e.c.=Not elsewhere classified.

those with the heaviest losses of job opportunities like apparel—employ a larger proportion of women than the trade-enhanced industries.

**Minorities.** Minority workers were defined as all non-white workers. The adversely affected industries had an average of 11.5 percent minority workers compared with 7.4 percent for the trade-enhanced industries and an average of 10.1 percent for all manufacturing. The average for the enhanced industries was 7.0 percent, with only three of the trade-enhanced sectors (logging, plywood, and sawmills) employing more than 7 percent minority workers. However, in 11 of the adversely affected industries, 10 percent or more of the work force was composed of minority workers. The highest percentages were in motor vehicles (14 percent) and steel (14 percent).

**Age.** There was little difference between the two sets of industries in the percentage of workers under age 25. Both had an average below that for all manufacturing.

The two trade-sensitive industry groups did differ in terms of the percentage of the labor force over age 50. The trade-enhanced industries had 24.4 percent of their labor force over age 50 compared with 28.0 percent for the adversely affected industries and 26.5 percent for all manufacturing. Eleven of the industries unfavorably affected by trade had a larger proportion of older workers than the manufacturing average. The highest percentages were in leather products (33 percent) and nonrubber footwear (31 percent). Only six of the industries favorably affected by trade had a proportion of older workers in excess of the manufacturing average. The smallest proportion of older workers was in computing machines, with only 9.7 percent of the labor force over age 50.

**Income and earnings.** Three different measures were used to compare the income and earnings of the labor forces in the two sets of industries. They were the percentage of the work force which had a total family income below the poverty level (\$3,000) in 1969, the percentage of those working in the industry earning less than \$10,000 in 1969, and the percentage earning less than \$12,000 in 1969. The median income in manufacturing was \$8,813 in 1969.

The unfavorably affected industries had a poverty rate of 9.8 percent compared with a poverty rate of 5.8 percent in the trade-enhanced industries. Nine of the industries adversely affected by trade had poverty rates which exceeded the manufacturing average compared with only three of the trade-enhanced sectors (logging, plywood, and sawmills). The highest poverty rates in the unfavorably affected industries were in other leather products (17.2 percent), apparel (15.4 percent), non-

**Table 4. Characteristics of workers and industries most affected by trade-related employment changes between 1964 and 1975**

Item	Average of the 20 most favorably affected industries	Overall manufacturing average	Average of the 20 most adversely affected industries
<b>Demographic characteristics of the labor force (in percent)<sup>1</sup></b>			
Women .....	21.5	29.4	41.1
Minorities .....	7.4	10.1	11.5
Under age 25 .....	15.4	16.4	15.8
Over age 50 .....	24.4	26.5	28.0
Family income below poverty level .....	5.8	7.0	9.8
Annual earnings under \$10,000 .....	72.1	77.4	81.7
Annual earnings under \$12,000 .....	83.5	87.2	89.7
High school education (4 years) .....	39.1	36.6	34.0
College education (4 years) .....	6.9	5.1	3.1
<b>Occupational measures</b>			
Unionized workers as a percentage of the labor force <sup>2</sup> .....	40.0	49.0	51.3
Skill measured as a percentage of the average wage in manufacturing (1973) .....	104.0	100.0	97.8
Skilled workers as a percentage of the labor force <sup>3</sup> .....	55.8	50.0	38.8
White-collar workers as a percentage of the labor force <sup>3</sup> .....	36.3	30.3	21.1
<b>Industry characteristics</b>			
Technical intensity (scientists and engineers as a percentage of the labor force) <sup>4</sup> .....	6.87	3.20	2.29
Technical intensity (research and development as a percentage of sales) <sup>5</sup> .....	5.90	2.36	1.39
Foreign direct investment proxy (foreign dividends plus tax credits as a percentage of firm's assets) <sup>4</sup> .....	.53	.34 (median)	.52

<sup>1</sup> From *Census of Population, 1970, Subject Reports: Industrial Characteristics* (Department of Commerce, 1972).

<sup>2</sup> From Richard Freeman and James Medoff, "New Estimates of Private Sector Unionism in the United States," *Industrial and Labor Relations Review*, January 1979, pp. 143-74.

<sup>3</sup> From *Census of Population, 1970, Subject Reports: Occupations by Industry* (Department of Commerce, 1973).

<sup>4</sup> From C. Fred Bergsten, Tom Horst and Ted Moran, *American Multinationals and American Interests*, (Washington, Brookings Institution, 1978) table 3-2.

<sup>5</sup> From Regina Kelly, "The Impact of Technological Innovation on International Trade Patterns," Staff Economist Report, ER-24 (Department of Commerce, December 1977).

rubber footwear (13.7 percent), and other fabricated textiles (13.5 percent).

The high poverty rates in the unfavorably affected industries reflect the high percentage of their labor force with low earnings. An examination of the earnings distribution in 1969 shows that 81.7 percent of the work force in the adversely affected industries earned less than \$10,000 and 89.7 percent earned less than \$12,000. In nine of the 20 unfavorably affected industries more than 80 percent of the work force earned less than \$10,000. The highest percentages were in nonrubber footwear (95.2 percent) and apparel (93.8 percent). In the trade-enhanced industries, 72.1 percent of the work force earned less than \$10,000 and 83.5 percent less than \$12,000. Other than the lumber-related industries, each of the trade-enhanced sectors had 78 percent or less of its work force earning under \$10,000. The lowest percentages were in computing machines (56 percent) and aircraft (60 percent).



*Education.* The percentage of the labor force that had completed 4 years of high school and the percentage that had completed 4 years of college were used to measure educational attainment. On both measures, the labor force in the adversely affected sectors had a lower level of educational attainment than the average for all manufacturing. The 20 trade-enhanced sectors employed workers with above average educational attainment.

Thus, a pattern appears in virtually all employee characteristics between these two sets of industries. Workers in industries most enhanced by trade were less likely to be women or minorities and more likely to have more education and higher earnings than those in industries adversely affected by trade. These differences in characteristics, particularly in earnings patterns, suggest that those workers who have to bear the burden of both the short-run adjustment costs to changes in trade and the potential decline in their long-run earnings capacity are those least able to afford it.<sup>8</sup>

### Occupational measures

*Unionization.* Roughly half of all production workers in the manufacturing sector are union members. In the 20 industries most adversely affected by trade, 51.3 percent of the production workers were unionized; among the industries in which trade had the most favorable impact, 40 percent were union members.

Some variation in the degree of unionization existed within the two trade-sensitive industry groups. Among the adversely affected industries, more than 60 percent of the production workers in the tire and inner tube, rubber footwear, motor vehicle, and steel industries were unionized, but less than 40 percent of the workers were organized in the apparel, knit apparel, broadwoven fabrics, nonrubber footwear, furniture, fabricated textiles, and machine tool industries. Among trade-enhanced industries, more than 60 percent of the production workers in the refrigeration, aircraft, aircraft engines and parts, and construction and oil field machinery industries were unionized.

*Skill classification.* The skill and occupational characteristics of the labor force were measured in three different ways. The wage in an industry as a percentage of the average wage in manufacturing was taken as an indication of the skill or human capital embodied in the labor force.<sup>9</sup> Two other skill measures were derived on an occupational basis from data taken from the 1970 census data. One expressed skilled employees, defined to include professionals, managers, sales, clerical, and craftworkers, as a percentage of total employment in the industry.<sup>10</sup> The other measure identified white-collar workers (all skilled workers except craftworkers) as a percentage of total employment.

On all three measures, the workers in adversely af-

ected industries were less skilled than workers in the trade-enhanced industries and in the manufacturing sector as a whole. The wage in adversely affected industries was 97.8 percent of the average manufacturing wage compared with 104 percent for the favorably affected sectors. On an occupational basis, the adversely affected sectors had a labor force consisting of 38.8 percent skilled workers, overall manufacturing had 50.0 percent skilled workers, and trade-enhanced sectors, 55.8 percent. Similarly, only 21.1 percent of the workers in adversely affected sectors were white-collar workers compared with a manufacturing average of 30.3 percent and 36.3 percent in the trade-enhanced sectors. As a result of increased trade, therefore, domestic demand for skilled labor should increase and the demand for unskilled labor should decrease, other things being equal.

### Industry characteristics

The technical intensity of an industry was measured alternatively as the proportion of scientists and engineers in the labor force or as expenditures on research and development as a percentage of sales. The scientist and engineer variable is taken from C. Fred Bergsten, Tom Horst, and Ted Moran, who derived it from 1970 census data.<sup>11</sup> Research and development as a percentage of sales on a product line basis was taken from Regina Kelly.<sup>12</sup>

Both measures showed the trade-enhanced industries to be more technically intensive than the adversely affected industries. The weighted average for those industries is more than twice the manufacturing average and three times larger than the weighted average for the adversely affected industries. These results are consistent with sophisticated econometric studies showing that U.S. comparative advantage lies in technology-intensive products.<sup>13</sup>

Foreign direct investment by an industry may reflect a tendency to take advantage of lower labor costs outside the United States. Such a practice may result in fewer U.S. job opportunities for less skilled workers.

The proxy for foreign direct investment is the value of foreign dividends plus tax credits as a percentage of firm assets. It is taken from Bergsten, Horst, and Moran. As table 3 shows, there is little difference between the two sets of industries as a whole. Even within the two groups of trade-sensitive industries, the differences do not appear to be systematic. Eleven of the adversely affected industries had a lower percentage than the median for all of the industries studied by Bergsten, Horst, and Moran. However, nine of the trade-enhanced industries also had a percentage below the median. Apparently there is little difference between the two groups of industries in their foreign direct investment activity, at least on the basis of this proxy evidence.

### A focus for adjustment assistance

This analysis demonstrated the increased importance of trade in determining the level and composition of employment and identified those U.S. manufacturing industries most affected by trade during 1964–75. An input-output analysis was used to estimate the impact of trade on job opportunities in each industry, and the demographic and occupational characteristics of workers were compared to determine any pattern among industries most adversely affected by trade or among those most enhanced by trade.

The industrial sectors that experienced the largest negative impact on job opportunities employed more women and minorities and their work forces were less educated and less skilled than industries that benefited most from trade. In addition, workers in the adversely affected industries had lower earnings and were more likely to have a family income below the poverty level than those in trade enhanced industries.

To the extent that these data accurately reflect the characteristics of workers in industries most affected by trade during 1964–75, the brunt of the adjustment burden caused by trade was borne by workers with limited education and skills.<sup>14</sup> Because such workers generally have a higher frequency of unemployment and relatively less occupational and geographic mobility, the adjustment process could be long and costly.

Furthermore, adjustment may imply reduced wages in occupations most affected by import competition, because the workers available from contracting industries may be unable to meet the demand for labor in sectors expanding because of trade. For example, wage rates of unskilled workers may fall or not rise as quickly because of the decrease in overall demand for their services.

Thus, even though international trade produces gains, these gains are reduced for the Nation as a whole by the presence of adjustment costs—costs that fall most heavily on those workers least able to afford them.

Both equity and efficiency considerations dictate that the “losers” from trade should be compensated for the adjustment costs they must bear. The Trade Adjustment Assistance Program was designed for such purposes.<sup>15</sup> However, policies to reduce the losses suffered by dislocated workers may be more effective if they consider the characteristics of workers forced to make the adjustments.

The results of our analysis suggest that insight into the adjustment problems of workers adversely affected by trade can be gained by examining their demographic and occupational patterns. In particular, the extent of their adjustment burden can be determined by estimating earnings losses and by monitoring the overall re-employment experiences of displaced workers. Such information would be useful in the design of an improved trade adjustment assistance program. □

#### — FOOTNOTES —

<sup>1</sup> This analysis represents an extension of a project exploring the impact of foreign trade on domestic manufacturing employment conducted by the Bureau of International Labor Affairs (ILAB). Specifically, ILAB has attempted to estimate the total (direct and indirect) number of job opportunities associated with manufacturing exports and imports and to examine how those opportunities have changed over time. The model which is used by the Office of Foreign Economic Research in ILAB for estimating the effects of trade on employment has also been used to estimate the effects on employment of changes in trade policies, including the Tokyo Round of the Multilateral Trade Negotiations, the granting of Most-Favored-Nation status to the People's Republic of China, and the elimination of the Generalized System of Preferences.

<sup>2</sup> Numerous researchers have shown on a more aggregated basis that U.S. comparative advantage lies in products produced with relatively greater inputs of technology and skilled labor. For a summary of the literature see Robert M. Stern, “Testing Trade Theories,” in Peter Kenen, ed., *International Trade and Finance: Frontiers of Research* (New York, Cambridge University Press, 1975). For a recent analysis of the structure of U.S. trade, see the *President's Report on U.S. Competitiveness*, Office of Foreign Economic Research, Department of Labor, December 1980.

<sup>3</sup> Changes in employment opportunities should not be equated with changes in employment. Among other factors, actual job losses (lay-offs) depend upon general economic conditions. Estimating job opportunities involves projecting demand and production behavior—what would have happened if exports or imports had *not* changed as they did? Employment may be increasing as part of a general economic upswing so that the decline in employment opportunities would correspond to a smaller increase in employment rather than a decline. Similarly, a decline in aggregate employment opportunities

due to trade does not necessarily mean that aggregate employment in the economy as a whole declines by the same magnitude.

<sup>4</sup> The estimates of the impact of trade on manufacturing employment opportunities were derived from the 367-sector input-output table constructed by the Bureau of Economic Analysis of the Department of Commerce for 1967, updated for price and productivity changes. The estimates were obtained by allocating imports, on tariff line (TSUSA) basis, and exports, classified according to Schedule B, to the appropriate input-output sectors and then deflating by sector to express them in 1967 dollars. Imports were adjusted by cost-insurance-and-freight margins to obtain the dollar values actually spent on imports by U.S. residents. Exports were expressed in f.o.b. values. These changes in imports and exports by industry were then run through the input-output table to obtain the total, direct, and indirect changes in output by industry. The employment requirements for these sectoral outputs were computed using average output-employment ratios for each sector updated through 1975. It should be stressed that the estimation technique is not a general equilibrium analysis but rather a set of demand or impact estimates made under the restrictive set of assumptions central to all input-output analyses.

<sup>5</sup> A complete description of the methodology used to identify the industries most significantly affected by trade is given in “The Impact of Changes in Manufacturing Trade on Sectoral Employment Patterns—Progress Report,” Office of Foreign Economic Research, Bureau of International Labor Affairs, U.S. Department of Labor, in *Trade and Employment*, National Commission for Manpower Policy, Special Report No. 30, November 1978. The paper lists the assumptions underlying the analysis and points out the possible limitations of the methodology. The paper also describes several tests which were conducted to determine the sensitivity of the estimates to variations in exchange rates and cyclical changes in the pattern of trade.



<sup>6</sup> A study by Daniel Mitchell compared a similar set of demographic characteristics associated with workers in industries directly affected by exports and imports in 1965 and 1970. His study tested the hypothesis that a significant increase in the labor intensity of U.S. imports relative to exports occurred over the period. However, he did not consider either indirect employment impacts or the skill levels and occupational characteristics of trade-impacted sectors. See Daniel J. B. Mitchell, "Recent Changes in the Labor Content of U.S. International Trade," *Industrial and Labor Relations Review*, April 1975, pp. 355-77.

<sup>7</sup> Because the input-output table was more disaggregated than the corresponding census data, roughly to the three and four-digit level of the Standard Industrial Classification, the demographic characteristics of the industries are usually the characteristics of a broader industrial grouping.

<sup>8</sup> Though many of these characteristics are jointly determined, for example, education and earnings, the systematic differences in all characteristics are important in indicating the nature of the affected industries and potential adjustment problems in the labor market. Losses of displaced workers include the earnings lost not only during the period of unemployment following layoff, but also throughout the worker's career as a result of the obsolescence of skills and on-the-job training. See Louis Jacobson, "Earnings Losses of Workers Displaced From Manufacturing Industries," in *The Impact of International Trade and Investment on Employment* (Department of Labor, Bureau of International Labor Affairs, 1978).

<sup>9</sup> This measure of skill, after discounted to obtain a stock measure, has been used in several empirical investigations of the structure of trade. See, for example William Branson and Nikolaos Monayias, "Factor Inputs in U.S. Trade," *Journal of International Economics*, May 1977, pp. 111-32.

<sup>10</sup> Except for the inclusion of service workers in the unskilled category, this measure is similar to a skill index constructed from 1960 Census data. See Helen Waehrer, "Wage Rates, Labor Skills and United States Foreign Trade," in Peter Kenen and David Lawrence, eds., *The Open Economy: Essays on International Trade and Finance* (New York, Columbia University Press, 1968).

<sup>11</sup> C. Fred Bergsten, Tom Horst, and Ted Moran, *American Multinationals and American Interests* (Washington, The Brookings Institution, 1978).

<sup>12</sup> Regina Kelly, "The Impact of Technological Innovation on International Trade Patterns," Staff Economic Report, ER-24 (Department of Commerce, 1977).

<sup>13</sup> See Stern, "Testing Trade Theories."

<sup>14</sup> These results are consistent with the factor-endowment theory of international trade. The theory predicts that U.S. exports should utilize skilled labor and capital equipment relatively intensively in production and its imports should utilize primarily unskilled labor. Thus, as trade expands, U.S. industries utilizing unskilled labor are the most vulnerable to foreign competition.

<sup>15</sup> The Trade Adjustment Assistance Program was established by the Trade Act of 1974. It attempts to aid firms and workers who are adversely affected by international trade. A more modest program had been established under the Trade Expansion Act of 1962. For a discussion of the application of the 1962 program, see James E. McCarthy, "Contrasting experiences with trade adjustment assistance," *Monthly Labor Review*, June 1975, pp. 25-30. For a discussion of the experience under the current program, see C. Michael Aho and Thomas Bayard, "The U.S. Trade Adjustment Assistance Program after Five Years," *The World Economy*, November 1980, pp. 359-76.

# The employment-population ratio: its value in labor force analysis

*This statistic measures the economy's ability to provide jobs for a growing population; its consistent cyclical properties and the relative accuracy of its seasonal adjustment make the ratio especially useful for evaluating demographic employment trends*

CAROL BOYD LEON

Many publicized measures of labor market conditions are available to the analyst. The best known of these is the unemployment rate, probably followed by the level of employment. However, another useful—although less widely used—measure of economic performance is the employment-population ratio. It answers the question, “What proportion of the working-age population is employed?”

A great deal more is written about the unemployment rate than about the employment-population ratio because of public concern over hardships suffered by many of the unemployed. Moreover, the unemployment rate provides a simple yardstick for measuring the overall state of the economy—large increases signify bad times, declines indicate recovery and expansion. But the employment-population ratio can be similarly used to show how well the economy is performing.

This article describes the differences in the movements over time of this ratio, the employment level, the labor force participation rate, and the unemployment rate, and demonstrates the use of the employment-population ratio in secular and cyclical analysis and for inter-area comparisons. All data presented are derived from the Current Population Survey (CPS).<sup>1</sup>

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*Why an employment-population ratio?* The two numbers needed to compute the employment-population ratio—the total noninstitutional working-age population and civilian employment—have been presented in the Bureau of Labor Statistics' monthly release on the Nation's employment situation for many years, but the actual ratio was not published until 1977. Although some labor market analysts had used the employment-population ratio beginning in the 1960's, BLS became interested in its possibilities under the leadership of Commissioners Geoffrey Moore and Julius Shiskin during the 1970's.<sup>2</sup> Over the last decade, it became apparent that the ratio had several advantages relative to other labor market indicators—as well as some disadvantages.

*Relationship to employment level.* The employment-population ratio and the employment level are, of course, closely related. Movements in the employment level reflect net changes in the number of jobholders, while movements in the ratio are net changes in the number of jobholders relative to changes in the size of the population. Because the population is continually growing, a rise in employment may or may not appear as an increase in the employment-population ratio, while a decrease in employment will always be reflected as a decline in the ratio.

The simple count of employment—while generally exhibiting at least some decline during recessionary



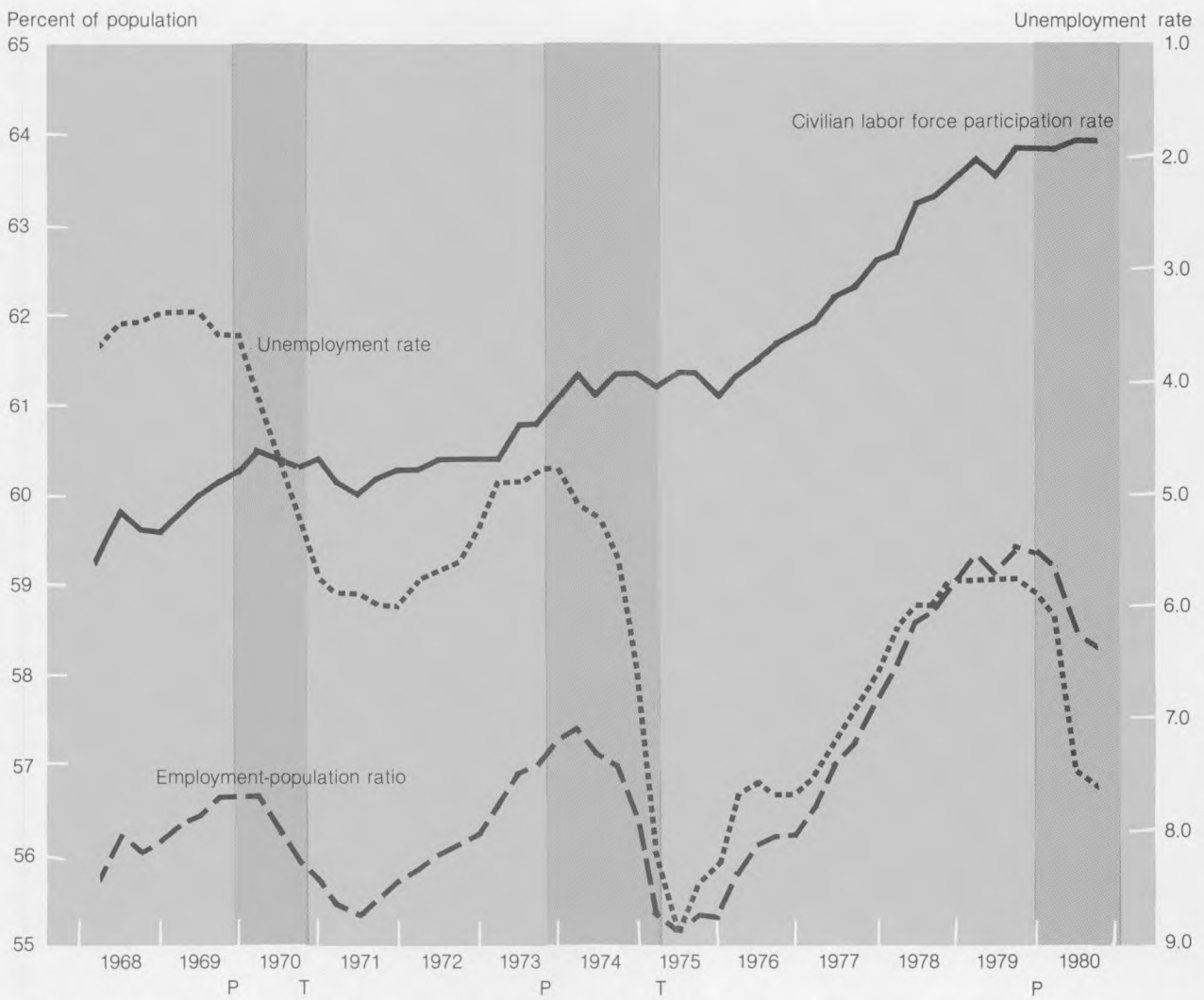
periods—is strongly dominated by the economy’s long-term growth trend. But changes in the employment-population ratio tell whether the economy is generating jobs fast enough to provide employment for a constant proportion of the population. In other words, by relating employment to population, we can evaluate the magnitude of job growth.

Finally, use of the ratio facilitates comparisons between changes at different points in time. For example, a 0.3-percentage-point drop in the ratio over a month in 1980 can be compared to a monthly decrease of the same magnitude in 1960, whereas it is more difficult to compare an employment-level decline of 300,000 with one of the same size two decades earlier.

*The ratio and the participation rate.* We have seen how a rate or ratio can be analytically superior to a level. But why would one want to use the employment-population ratio rather than the labor force participation rate, which is perhaps the most widely publicized *rate* with the exception of that for unemployment?

The civilian labor force participation rate—the proportion of the working-age population that is in the labor force, either working or looking for work—functions well as an indicator of secular trends; it has risen more or less steadily since the mid-1960’s, as growing participation among women has more than offset declines among men. The overall participation rate, however, is difficult to interpret during recessionary pe-

**Chart 1. Labor force participation and employment rates, and employment–population ratios of all persons age 16 and over, 1968 through third quarter 1980**



NOTE: Data are quarterly averages, seasonally adjusted. Darker areas indicate recessionary periods; P is the initial peak, T is the trough. The NBER has not yet designated a trough for the recession which began January 1980. The participation rate uses the civilian noninstitutional population as a base, while the employment-population ratio uses the total noninstitutional population.

riods, because it demonstrates no established cyclical pattern; the labor force can either expand or contract in response to worsening economic conditions, as the unemployment of one family member may spur another to look for a job or may influence others to refrain from entering an unpromising labor market.

Chart 1 shows, for example, that the labor force participation rate fluctuated from quarter to quarter during the 1974–75 recession, while remaining around 61 percent. Similarly, it exhibited no clear trend during the early stages of the 1980 economic downturn. The employment-population ratio, however, fell substantially in 1974 and again in 1980. This is because the ratio measures the success of the civilian economy at providing jobs, rather than the proportion of the population who want to work.

A technical difference between the bases used in calculating the labor force participation rate and the employment-population ratio may lend more stability to the latter estimate during a period of expanding or contracting military forces. Currently, the employment-population ratio measures civilian employment as a percent of the *total* noninstitutional population (including members of the Armed Forces) age 16 and over, while the most commonly used participation rate measures the civilian labor force as a percent of the *civilian* noninstitutional population 16 and over. Although both the labor force and employment may be affected by growth in the size of the military—many civilian employees become members of the Armed Forces, while some persons from outside the labor force get civilian jobs—only the civilian population figure used in computing the participation rate experiences much change. As a result, the participation rate may register movements even if the size of the civilian labor force is stable.

*Comparisons with the unemployment rate.* The unemployment rate is often perceived as the most important of the labor force measures. Even movements of a magnitude too small to have statistical significance are reported by the news media. And, as an excellent measure of economic performance, it deserves to be monitored. Nevertheless, the employment-population ratio provides certain insights into the labor force not afforded by the unemployment rate.<sup>3</sup>

The concept of unemployment is fuzzier than that of employment. To be counted as unemployed, a person must be without a job, be available for work, and have actively sought a job sometime during the month, or must be on layoff expecting to be recalled. To be counted as employed, a person must have worked at least 1 hour during the week for pay or profit (or at least 15 hours as an unpaid worker in a family business), or have a job but be temporarily absent from it. In other words, being employed is an observable experience,

while being unemployed often lacks that same concreteness. According to Geoffrey Moore, "Seeking a job is not as clear-cut a condition as having a job. . . . For a sizable number of the jobless, whether one is unemployed or not is to some degree a matter of opinion."<sup>4</sup> Hence, the employment-population ratio has the advantage of measuring something which is quite observable.

The employment-population ratio is calculated using a much larger numerator and denominator than the jobless rate and is thus subject to less statistical error. And, because it is based on the less volatile employment count, there is greater accuracy in its seasonal adjustment. As we shall see, the level of unemployment can change radically due to both seasonal and cyclical phenomena, and is thus difficult to seasonally adjust with reliability. But employment changes are *relatively* small, meaning that the employment level does not change by more than about 2 percent in any given month, making seasonal adjustment distortions less likely.

For example, in June of 1976–80, the not-seasonally-adjusted increase in the number of unemployed averaged about 1 million, or nearly 20 percent of the corresponding May jobless level. During the same 4-year period, the June level of employment rose an average of 1.5 million, or less than 2 percent over the May number of employed.

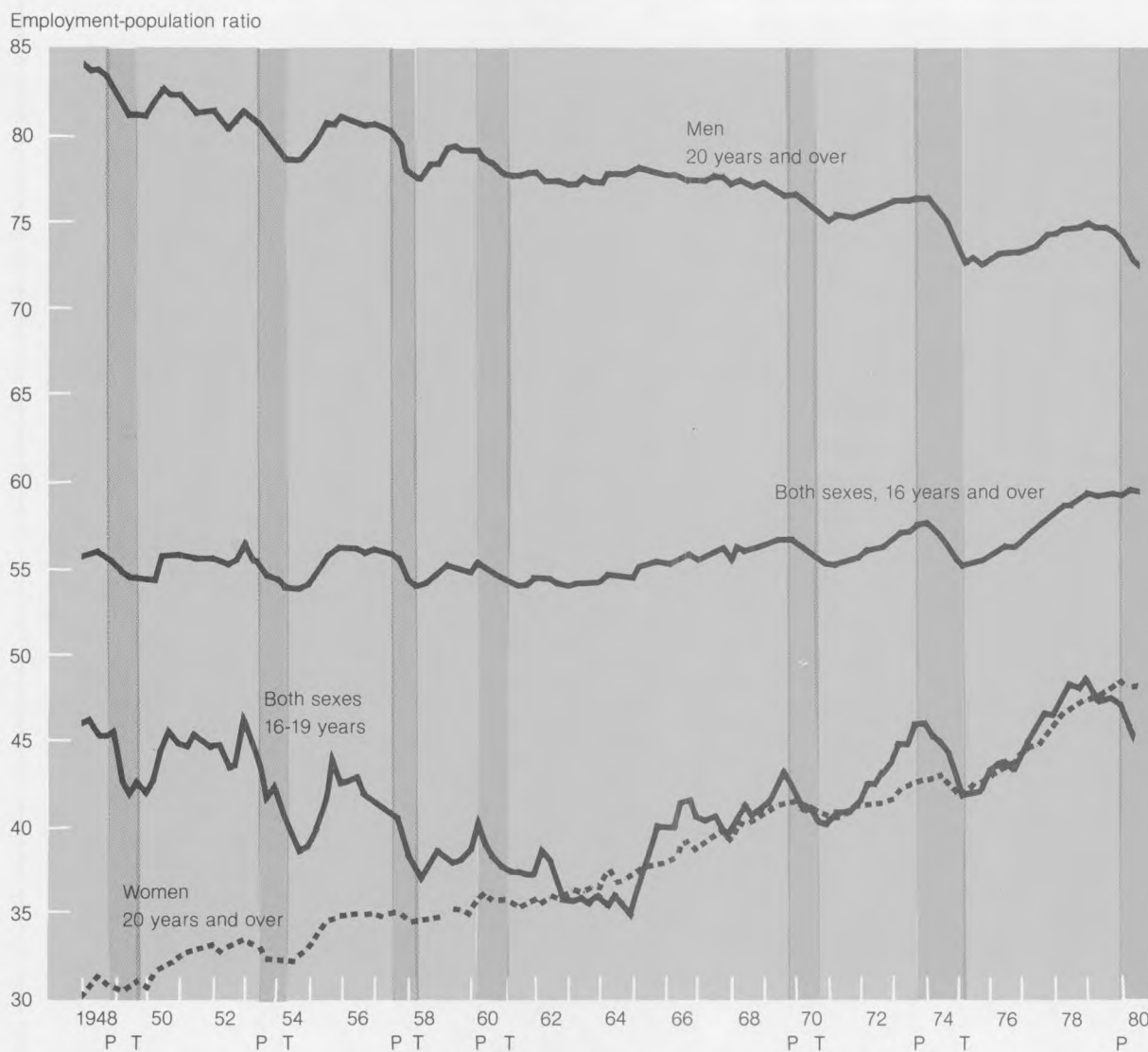
Another example illustrates how large cyclical swings in the labor market also make unemployment more volatile—and therefore more difficult to seasonally adjust—than employment. Between January and July 1980, when the economy was in a downswing, the number of unemployed shot up by more than 1.5 million (seasonally adjusted), or 23 percent. Employment faltered during these months, falling by about 700,000, or less than 1 percent. Again, the swing in unemployment—this time cyclical—was relatively much larger than that in employment.

### Trends in the ratio

The employment-population ratio can be used to measure secular changes in employment patterns among working-age Americans. Chart 2, which traces movements in the ratio over three decades, shows that the overall ratio fluctuated around the 55-percent mark from the late 1940's until the late 1960's. Since that time, it has generally risen—to nearly 60 percent—although declines occurred during recessionary periods.

Trends differ for men, women, and teenagers, however.<sup>5</sup> The rate for men—close to 85 percent in 1948—decreased fairly steadily to its 1980 level of about 73 percent. The bulk of this drop resulted from declining labor market activity among older men, as early retirements became more widespread. In dramatic fashion, the employment-population ratio for men 55 and over fell more than 20 points over the last three decades.

**Chart 2. Employment-population ratios by age and sex, 1948 through third quarter 1980**



NOTE: Data are quarterly averages, seasonally adjusted. Darker areas indicate recessionary periods; P is the initial peak, T is the trough. The NBER has not yet designated a trough for the recession which began January 1980.

In contrast to the downtrend in the employment-population ratio among men, the ratio for women advanced over the last 30 years. Rising from 30 to about 48 percent, it has shown almost yearly increases, with barely perceptible recessionary declines. Women in all but the oldest age group (65 years and over) played a part in this increase. Interestingly, those between the ages of 45 and 65 experienced the greatest increase in their employment-population ratio during the first two of the three decades, while women between 25 and 45 posted the largest gains after 1970. In particular, women 25 to 34 showed the greatest increase over the entire time span—about 30 points—and their ratio rose from

about 43 to 60 percent during the 1970's alone! Changes in attitudes towards working mothers, the decline in fertility, and increases in education are important factors in the especially rapid growth of the ratio for these women.<sup>6</sup>

The employment-population ratio of persons age 16 to 19 has also undergone dramatic changes over time. A general downtrend lasted from the late 1940's to the mid-1960's, as increasing school enrollment rates were accompanied by decreasing labor force participation. (Analysis of CPS data has shown that participation is lower among teenagers enrolled in school than among those out of school.) Because participation is closely re-



lated to the employment-population ratio, the ratio for young people had dropped from 46 percent in 1948 to 36 percent by 1964.

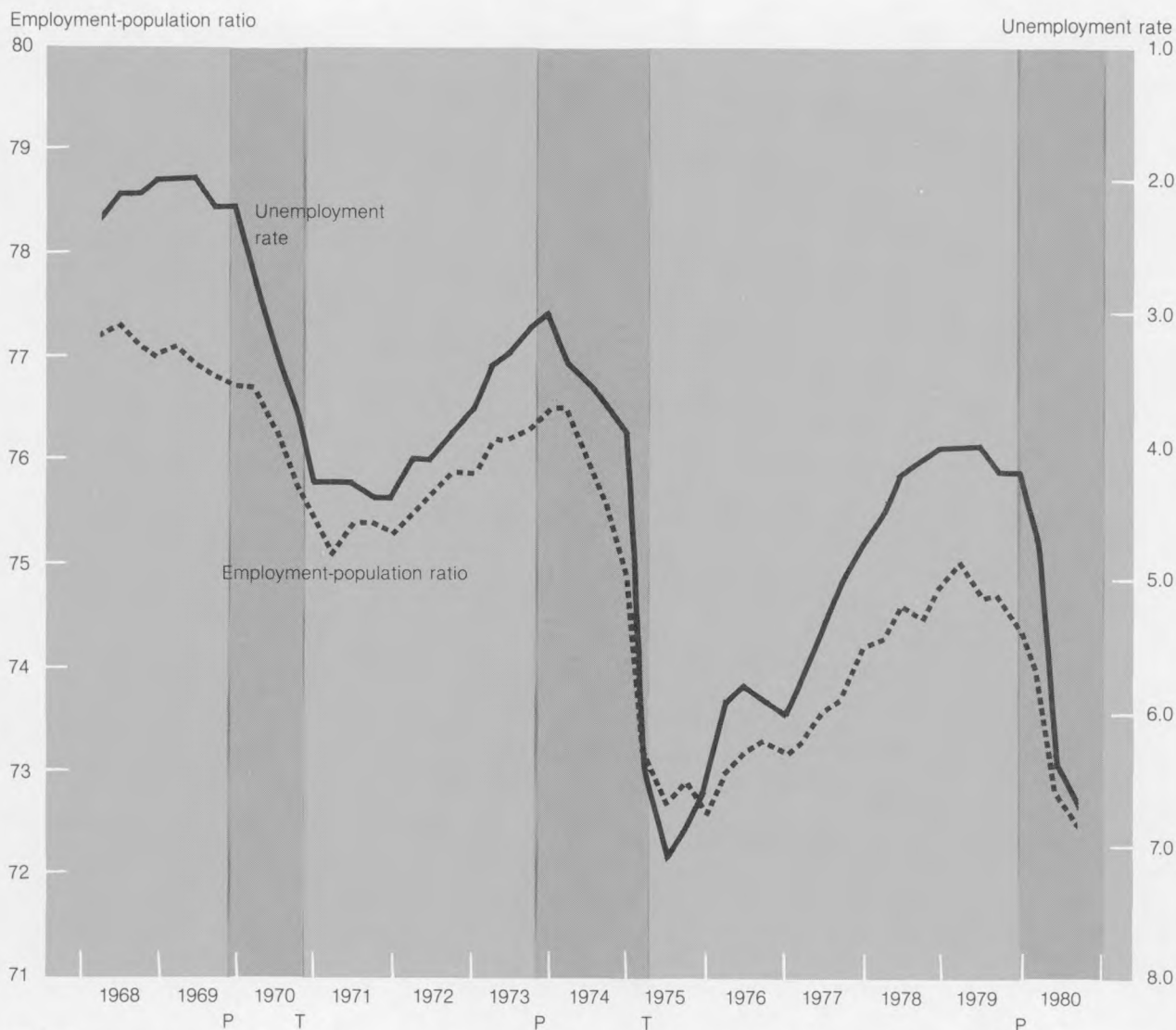
But while school enrollment rates stabilized in the 1970's, the youth ratio grew rapidly. This is partly attributable to the greater increase in the participation rate of students compared with that of young people not enrolled in school. By the end of the decade, the ratio for teenagers was again 46 percent.

This advance is especially noteworthy because it occurred during a period when jobless rates for teens were at historically high levels. Moreover, members of the "baby boom" generation reached their teen years in the

mid-1960's and 1970's, creating more competition in the youth job market. And finally, minimum wage restrictions often are said to discourage employers from hiring teenagers, who generally lack the working experience of adults. Nonetheless, the proportion of employed teenagers has shown substantial growth over the last decade and a half, while the population of 16- to 19-year-olds has declined since mid-1977.

*The ratio during business cycles.* Because movements in the employment-population ratio generally correspond to changes in aggregate demand,<sup>7</sup> the ratio is a relatively good cyclical indicator. Chart 2 shows that the overall

**Chart 3. Unemployment rates and employment-population ratios of men, age 20 and over, 1968 through the third quarter of 1980**



NOTE: Data are quarterly averages, seasonally adjusted. Darker areas indicate recessionary periods; P is the initial peak, T is the trough. The NBER has not yet designated a trough for the recession which began January 1980.

ratio has fallen during all seven business downturns since 1948 and has typically risen during periods of recovery and growth. It has not, however, shown consistent timing at business cycle peaks and tends to lag at the troughs. During the most recent complete cycle (November 1973–January 1980), the ratio lagged about 3 to 4 months behind both the initial economic peak and trough. In 1980, the ratio appears to have lagged only slightly; it began its decline one month after the official business cycle peak (January 1980), and leveled off by mid-year, about the same time that a number of other coincident indicators began to show some improvement.

Employment-population ratios are also useful in measuring the cyclical effects of recession on various demographic groups. According to chart 2, the employment of men is more affected by business declines than that of women. And, secular movements for all three major demographic groups—men, women, and teenagers—overshadow cyclical movements over the long run, although cyclical movements may dominate during a single business cycle. To demonstrate the way in which the ratios for demographic groups react differently to changes in the economic climate, charts 3, 4, and 5 plot the *inverse* of the jobless rate against the ratio for men, women, and teenagers, respectively.

Despite a long-term secular downtrend in the employment-population ratio for men, the decline throughout the 1970's appears to be largely a function of cyclical developments. As chart 3 indicates, movements in the ratio for men have closely paralleled changes in the (inverted) jobless rate. Both series substantially declined before or at each business cycle peak; in fact, neither series fully rebounded after either the 1970 or 1974–75 recession periods. According to chart 2, which also shows the behavior of the employment-population ratio in four earlier recessions, this series consistently dropped sharply—by about 3 to 4 points—during economic downturns, and generally started to stabilize at the troughs. By mid-1980, for example, the ratio for men had fallen about 2½ points from its highest 1979 value.

Although movements in the ratio for women bear some relationship to changes in their rate of joblessness, that relationship is camouflaged somewhat by the previously cited strong secular uptrend in their employment. For example, chart 4 indicates that the magnitude of the drop in their ratio is typically much less than the increase in their jobless rate.

Another major reason for the relative mildness of declines in the employment-population ratio for women has been their concentration in industries and occupations least likely to be affected by an economic downturn. In 1979, for example, 65 percent of all employed women were white-collar workers, compared with just

over 40 percent of men, and only about 20 percent were in the cyclically-sensitive construction, manufacturing, and transportation and public utilities industries, compared with more than 45 percent of men.

The timing of employment-population ratio declines for women has varied with different recessions, although most recently they have lagged behind both the starts of the recessions and the upturns in the unemployment rate.

Among teenagers, dramatic changes in the employment-population ratio have taken place during—and before—each recession. As chart 5 indicates, youth unemployment rates also swing widely. Nevertheless, the secular uptrend in the teen employment-population ratio since the mid-1960's has tended to moderate recessionary declines even though the series shows strong cyclical movements.

Although the ratio for teenagers peaked after the start of the 1974–75 recession, it had wavered or actually declined before the start of some other downturns.

### Differences by geographic area

Just as employment-population ratios vary by sex and age, and between points in time, they also reflect differences in the employment situation among geographic areas. The following discussion focuses on these geographic differences, with special attention to inter-area variations among men, women, and teenagers, in 1979.<sup>8</sup>

Of the four major regions of the Nation—Northeast, South, North Central, and West—the latter two have the highest overall employment-population ratios, as well as the highest ratios for each of the three demographic groups in 1979:

	<i>Overall</i>	<i>Men</i>	<i>Women</i>	<i>Teenagers</i>
North Central . . .	61.7	78.1	48.1	54.6
West . . . . .	61.5	77.2	49.4	51.4
South . . . . .	59.1	75.9	47.3	44.0
Northeast . . . . .	58.0	74.9	46.3	44.0

However, a somewhat different picture is presented when these regions are subdivided into nine smaller divisions. Below are these divisions, ranked from highest to lowest overall employment-population ratio:

<i>Division and region</i>	<i>Employment-population ratio</i>
West North Central (North Central)	63.8
New England (Northeast) . . . . .	62.3
Mountain (West) . . . . .	62.1
Pacific (West) . . . . .	61.3
East North Central (North Central) . .	60.9
West South Central (South) . . . . .	60.4
South Atlantic (South) . . . . .	59.4
East South Central (South) . . . . .	56.7
Middle Atlantic (Northeast) . . . . .	56.6

**Chart 4. Unemployment rates and employment-population ratios of women, 20 and over, 1968 through third quarter 1980**



NOTE: Data are quarterly averages, seasonally adjusted. Darker areas indicate recessionary periods; P is the initial peak, T is the trough. The NBER has not yet designated a trough for the recession which began January 1980.

Divisional rankings change when employment-population ratios for men, women, or teenagers are examined separately. For example, although the West North Central division would be at the top of all three lists, New England is next on the women's list but takes only middle place on the men's. The following brief overview of employment-population ratios in each of the four major regions points out differences among the three demographic groups in more detailed geographic areas.

*North Central.* Although persons in the East North Central division account for more than two-thirds of this region's population, especially high employment-

population ratios for men, women, and teenagers in nearly all of the West North Central States are responsible for the high ranking of the North Central region as a whole. (See table 1.) Ratios for men were 80 percent or higher in Minnesota, Iowa, Kansas, and South Dakota, while those for women were above 52 percent in Minnesota, Kansas, and South Dakota. Among teenagers, ratios topped 60 percent in all but one of the West North Central States. In the East North Central division, employment-population ratios were generally in line with national averages, although men, women, and teenagers all posted higher than average ratios in Wisconsin.



Table 1. Employment-population ratios<sup>1</sup> by region and State, for men, women, and teenagers, 1979 annual averages

Area	Employment-population ratios				Percent distribution of regional working-age population, by State	Area	Employment-population ratios				Percent distribution of regional working-age population, by State
	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16-19 years			Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16-19 years	
Northeast	58.0	74.9	46.3	44.0	100.0	North Central	61.7	78.1	48.1	54.6	100.0
New England	62.3	77.2	50.8	54.9	25.0	East North Central	60.9	77.8	47.0	52.9	70.6
Connecticut	63.6	78.7	52.2	54.8	6.4	Illinois	61.0	76.1	48.4	49.2	19.2
Maine	56.6	70.3	45.6	49.4	2.2	Indiana	61.9	78.8	49.3	50.8	9.2
Massachusetts	62.5	77.5	50.9	54.8	11.8	Michigan	59.2	75.4	45.5	54.6	15.6
New Hampshire	66.0	81.7	52.1	60.7	1.8	Ohio	59.9	78.0	45.5	51.7	18.4
Rhode Island	60.0	73.0	49.1	54.2	1.9	Wisconsin	65.1	80.3	51.7	62.3	8.1
Vermont	63.0	77.1	50.9	55.3	1.0	West North Central	63.8	78.9	50.9	59.1	29.4
Middle Atlantic	56.6	74.2	44.8	40.3	75.0	Iowa	63.8	80.4	49.2	60.0	5.0
New Jersey	59.8	76.7	48.5	44.3	14.9	Kansas	66.1	80.5	54.1	60.6	4.1
New York	56.0	73.8	44.8	37.3	35.9	Minnesota	66.1	80.0	54.1	61.3	7.0
Pennsylvania	55.4	73.1	42.6	42.3	24.1	Missouri	60.3	75.8	48.0	53.2	8.4
South	59.1	75.9	47.3	45.5	100.0	Nebraska	64.9	79.5	51.9	63.5	2.7
South Atlantic	59.4	75.2	48.2	46.7	49.5	North Dakota	62.4	78.1	48.1	61.1	1.1
Delaware	59.1	76.4	46.2	48.9	0.8	South Dakota	65.7	80.7	52.7	62.1	1.2
District of Columbia	60.5	69.8	57.8	30.0	0.9	West	61.5	77.2	49.4	51.4	100.0
Florida	53.4	67.3	42.5	47.3	13.0	Mountain	62.1	78.2	48.5	56.1	25.1
Georgia	60.9	78.1	48.8	49.2	7.0	Arizona	57.2	71.9	44.2	55.3	5.9
Maryland	64.0	81.0	51.5	52.5	5.9	Colorado	65.8	81.8	52.9	59.2	6.8
North Carolina	63.3	79.3	53.0	46.4	7.8	Idaho	52.8	80.0	48.6	53.0	2.1
South Carolina	60.6	76.5	50.7	41.9	3.9	Montana	61.6	77.7	47.8	54.5	1.9
Virginia	62.9	79.6	52.1	45.8	7.2	Nevada	67.1	81.5	54.8	56.6	1.7
West Virginia	50.4	69.0	36.0	38.0	2.7	New Mexico	58.1	75.3	45.1	46.5	2.9
East South Central	56.7	74.5	44.7	40.0	19.7	Utah	62.3	79.5	46.5	62.3	3.0
Alabama	55.3	74.5	42.9	35.4	5.3	Wyoming	67.8	85.4	52.8	56.3	1.1
Kentucky	57.9	75.5	45.1	43.2	4.9	Pacific	61.3	76.9	49.6	49.6	74.9
Mississippi	55.2	71.5	44.3	41.0	3.2	Alaska	64.6	76.1	56.9	50.0	0.9
Tennessee	57.7	75.2	46.1	41.2	6.2	California	61.4	77.1	50.0	48.6	56.5
West South Central	60.4	78.1	47.3	47.3	30.8	Hawaii	61.3	73.8	54.3	38.9	2.1
Arkansas	56.2	70.5	46.6	44.1	3.1	Oregon	60.2	75.9	46.3	53.4	6.3
Louisiana	55.6	75.9	42.3	36.1	5.4	Washington	61.4	77.2	48.1	54.2	9.7
Oklahoma	58.5	74.7	44.8	56.7	4.1						
Texas	62.9	80.7	49.6	49.6	18.3						

<sup>1</sup> Calculated as the ratio of civilian employment to the civilian noninstitutional population. Data for members of the Armed Forces were not available at sub-national levels for inclusion in the denominator.

*West.* The West trailed the North Central only slightly in terms of its overall employment-population ratio. The ratio for men was especially high—at least 80 percent in Wyoming, Colorado, Nevada, and Idaho, all in the Mountain division. Men's ratios in the Pacific States were about average. The high-ratio States for women were scattered throughout the Mountain and Pacific States and included Alaska, Nevada, Hawaii, Colorado, and Wyoming. Employment-population ratios for adults were relatively low in Arizona, reflecting that State's large retired population. Ratios for teenagers were higher than average in all Western States except California, Hawaii, and New Mexico.

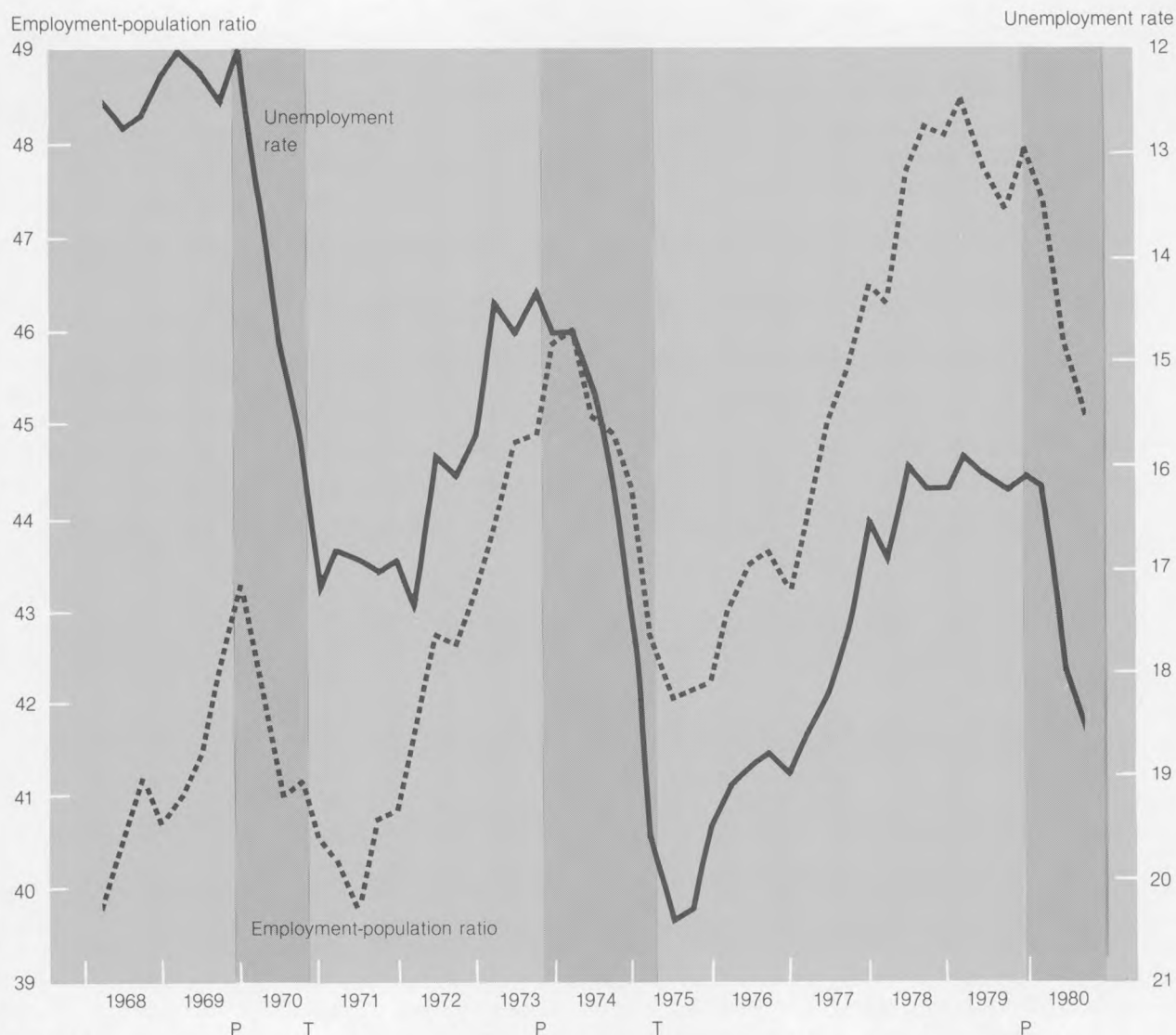
*South.* The overall employment-population ratio for the South was about a point below the national average, although the ratio for women was not much different from the corresponding national mean. The range among Southern States was quite large—from West Virginia's 50 percent (the lowest in the Nation) to Maryland's 64 percent. West Virginia is an economically-depressed area, and a large share of its jobs are in

mining and durable goods manufacturing—industries which have provided few new job opportunities in recent years. The high employment-population ratio for Maryland, on the other hand, probably reflects the large number of more stable white-collar jobs generated in urban areas and especially in nearby Washington, D.C. Generally, the employment-population ratio was relatively low in the South Central States—except for Texas—and about average in most of the South Atlantic division.

The Southern States in which the ratios for women were especially high were Maryland, Virginia, and the Carolinas. At nearly 58 percent, the women's ratio for the District of Columbia was the Nation's highest, probably because the District is totally urban, encompasses numerous Federal Government jobs, and its population includes many unmarried women. Low employment-population ratios for women were posted in West Virginia (36 percent), Louisiana (42 percent), Alabama and Florida (both 43 percent), and Mississippi (44 percent).

Among men, the employment-population ratio for

**Chart 5. Unemployment rates and employment-population ratios of persons of both sexes, age 16-19, 1968 to third quarter 1980**



NOTE: Data are quarterly averages, seasonally adjusted. Darker areas indicate recessionary periods; P is the initial peak, T is the trough. The NBER has not yet designated a trough for the recession which began January 1980.

those who live in the District of Columbia was one of the lowest in the Nation. The ratio was even lower, however, in West Virginia and lowest of all in Florida, where a relatively large segment of the population is retired. Other Southern States with low employment-population ratios for men were Arkansas and Mississippi. On the other hand, the ratio was especially high in Maryland, Virginia, and Texas.

The average employment-population ratio for teenagers in the South was about 3 points below the national mean. Three of the four States with low employment-population ratios for women—Alabama, Louisiana, and West Virginia—also had low ratios for teenagers. The lowest ratio, however, was registered in the District of Columbia (30 percent), which, as we have seen, is an

area with unusual ratios for adults as well.

*Northeast.* Although most States in the Northeast had employment-population ratios which were at least as high as the national average, relatively low ratios for the two most populous—New York and Pennsylvania—placed the Northeast, and in particular the Middle Atlantic division, at the bottom of the rankings. Ratios were low for all three major demographic groups in these two States, and particularly so for teenagers.

Other Northeast States with low employment-population ratios for men were Maine and Rhode Island; only New Hampshire had high employment among men. Women's ratios were high in Connecticut, Massachusetts, and Vermont, as well as in New Hampshire. And,

New Hampshire was the only Northeastern State with a particularly high employment-population ratio for teenagers, although teens in almost every New England State had somewhat higher than average ratios.

*Why these differences?* Several factors contribute to geographic differences in employment-population ratios. Labor force participation rates, unemployment rates, age and sex distributions, degree of urbanization, and type and amount of industry differ among States and regions. The following discussion provides a partial explanation of the differences between the employment-population ratios of two selected States, based on some quantifiable dissimilarities.

The two test States each have a working-age population of slightly less than 10 million—Pennsylvania, with a 1979 employment-population ratio of about 55 percent, and Texas, with a ratio of nearly 63 percent. To begin with, the populations of the two States are distributed differently by age and sex. If the population of Pennsylvania had the same age and sex distributions as Texas, and the participation rates for those groups and the Statewide unemployment rate were held constant, the overall employment-population ratio in Pennsylvania would be almost 2½ points higher.<sup>9</sup>

Secondly, participation rates of most of the age and sex groups were higher in Texas. Given Pennsylvania's age and sex population distribution and unemployment rate, and combining them with the participation rates that prevailed in Texas, Pennsylvania's overall employment-population ratio would be more than 3½ points higher than reported.

Thirdly, the incidence of unemployment in Pennsylvania is higher than it is in Texas. Other things equal, if Pennsylvania had Texas' rate of joblessness, its employment-population ratio would be about a point and a

half higher.

Reasons behind the interstate differences in population, labor force participation, and unemployment are not readily explicable. They may be due to differences in industry composition—for example, a larger share of jobs in Pennsylvania are in manufacturing. And they may also arise from differing long-term trends in population growth and employment—rapid population growth, for example, results in a relatively youthful population.

PERSONS EVALUATING the Nation's labor force situation will generally cite the unemployment rate, or perhaps the level of employment, but the ratio of employment-to-population also provides an excellent measure of economic performance. Because it relates the employment level to population size, the ratio is less strongly dominated by the economy's long-term growth trend than is the simple count of jobholders. The employment-population ratio often is statistically more reliable than the unemployment rate—employment being a more clear-cut condition than unemployment—and is subject to fewer sampling errors and seasonal adjustment problems. And, compared with labor force participation rates, the ratio has a more easily observable cyclical pattern with generally less month-to-month fluctuation.

Although the employment-population ratio does not have quite the same consistency in terms of cyclical timing as the jobless rate, it does move in a fairly predictable manner over the course of a business cycle and can be used to measure the effect of an economic downturn on longer-term employment trends. The ratio is also a useful tool for identifying substantial labor force variations, including those among demographic groups and among various States or regions of the Nation. □

—FOOTNOTES—

<sup>1</sup> The Current Population Survey is a sample survey of about 65,000 households conducted monthly by the Bureau of the Census for the Bureau of Labor Statistics. Persons counted as employed are noninstitutionalized civilians age 16 or older.

<sup>2</sup> The use of the employment-population ratio in labor market studies is generally believed to have originated with Alfred Tella. See Alfred Tella, "The Relations of Labor Force to Employment," *Industrial and Labor Relations Review*, April 1964, pp. 454–69, and "Labor Force Sensitivity to Employment by Age, Sex," *Industrial Relations*, February 1965, pp. 69–83. See also Julius Shiskin, "Employment and unemployment: the doughnut or the hole?" *Monthly Labor Review*, February 1976; and Edward I. Steinberg, "The Employment Ratio," *Survey of Current Business*, December 1976, pp. 13–16 and p. 50.

<sup>3</sup> For a discussion of how "the ratio is much more ambiguous than the unemployment rate as an indicator . . . of performance" and of the difficulty of interpreting the employment-population ratio due to "the heterogeneity of the underlying trends," see Glen C. Cain, "Labor Force Concepts and Definitions in View of Their Purposes," in *Concepts and Data Needs—Appendix Volume 1* (Washington, National Commission on Employment and Unemployment Statistics, 1979).

<sup>4</sup> Geoffrey H. Moore, "Employment: The Neglected Indicator," *The Wall Street Journal*, Feb. 3, 1972, p. 10.

<sup>5</sup> As used in this paper, the term "teenagers" refers to persons age 16 to 19, while "men" and "women" refer to persons age 20 and over.

<sup>6</sup> For more on employment and labor force trends among men and women, see Robert W. Bednarzik and Deborah P. Klein, "Labor force trends: a synthesis and analysis," *Monthly Labor Review*, October 1977, pp. 3–15; Beverly L. Johnson, "Marital and family characteristics of workers, 1970–78," *Monthly Labor Review*, April 1979, pp. 49–52; Philip L. Rones, "Older men—the choice between work and retirement," *Monthly Labor Review*, November 1978, pp. 3–10; and Elizabeth Waldman and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 39–49.

<sup>7</sup> See Christopher Green, "The employment ratio as an indicator of aggregate demand pressure," *Monthly Labor Review*, April 1977, pp. 25–32.

<sup>8</sup> All employment-population ratios presented in this article for States and regions are the ratio of civilian employment to civilian noninstitutional population, as data are not available for Armed Forces members below the national level.

<sup>9</sup> The standardization of population and labor force participation was achieved by using data disaggregated by sex for the age groups 16 and 17, 18 and 19, 20 to 24, 25 to 44, 45 to 64, and 65 and over.



# Husbands and wives as earners: an analysis of family data

*Most working wives hold full-time jobs, are younger on average, better educated, and less likely to have preschool children than are wives who are not employed*

HOWARD HAYGHE

Until the late 1960's, not much attention was paid to families in which both husband and wife worked ("dual-earner families"). At that time, however, wives' labor force participation rates began to increase dramatically.<sup>1</sup> As a result, between 1968 and 1978, the number of families in which only the husband worked ("traditional-earner families") declined by approximately 4.1 million, while that of dual-earner families rose by about 4.5 million (or nearly 25 percent).

The following article provides a broad base of information on this increasingly prevalent family type, focusing on their demographic and economic characteristics, and including comparisons with the traditional family.<sup>2</sup> An accompanying bibliography lists recent studies dealing with dual-earner families and their unique problems, as well as related topics.

## Most work full time

Any count of dual- or traditional-earner families includes some where the husband or wife may work only a small part of the year. However, this is not usually the case. As shown in the percentages below, the major-

ity of spouses in dual-earner couples worked 40 weeks or more in 1978:

	<u>Dual-earner families</u>		<u>Traditional families</u>
	Husbands	Wives	Husbands
Total who worked	100	100	100
Worked 40 weeks or more	90	67	88
Full time . . . . .	88	51	84
Part time . . . . .	2	16	4
Worked less than 40 weeks	10	33	12
Full time . . . . .	8	17	9
Part time . . . . .	2	16	3

Also, as can be seen, husbands in traditional families do not necessarily have a firmer commitment to the job market than husbands whose wives are employed.

## Long-term trends

The industrial revolution of the 19th century created certain paid jobs that women, and sometimes their children, filled. But, decennial census figures show that in the closing years of the 19th century, as well as the early years of the 20th century, the overwhelming majority of wives did not work for pay.<sup>3</sup> The percentages of

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wives gainfully employed during selected years are shown in the following tabulation:

Year	Wives employed
1890 (estimated)	4.6
1900	5.6
1910	10.7
1920	9.0

According to 1920 census data, both husband and wife were working in just 9 percent of all married couples.<sup>4</sup>

The social dictum—the wife's place is in the home—was rigorously followed for many subsequent years. As a result, dual-earner families were not the subject of widespread interest until the late 1960's when dramatic increases in wives' labor force participation rates began to capture public attention.

By 1968, the number and proportion of dual-earner families about equaled those of traditional-earner families. Out of a total of 43.8 million married couples that year, 19.7 million (45 percent) were dual-earner and 19.8 million (also 45 percent) were traditional-earner families. (In the remaining married-couple families there were either no earners at all or the earners did not include the husband.) Over the ensuing decade, the number of dual-earner families rose by about one-fourth, so that in 1978, 51 percent of all married couples were dual-earner families while just 33 percent were of the traditional-earner type. This growth in the number of dual-earner families between 1968 and 1978 resulted directly from the increase in wives' labor force participation. During this period, many factors affected the supply and demand for women workers. On the supply side, the post-war baby-boom generation entered the labor force in huge numbers. Also, wives postponed having children and had fewer of them, resulting in diminished child-care responsibilities and therefore more time to work outside the home. Moreover, society became more receptive to the working wife and mother and to the notion that responsible long-term child care could be provided by persons other than the mother. In addition, women were attending college in increasing numbers.

On the demand side, the U.S. economy was continuing its trend towards service-producing industries (such as banking, real estate, government, health care, etc.) where white-collar jobs of the kind women traditionally hold predominate. Moreover, new technological innovations in computer science, electronics, and chemistry were being introduced into households and industries, simplifying many chores, creating new kinds of jobs, and altering the nature of many old occupations.

*Occupational distributions.* These developments, especially the shift towards service-producing industries, affected not only the numbers of wives in the labor force, but also the kinds of jobs available to them and to their

husbands as they entered the labor force. For example, the proportion of employed wives working in clerical as well as professional-technical and managerial jobs rose, while the proportion who were operatives fell between 1968 and 1978 (table 1). Among husbands, where the occupational distribution was more diverse, similar increases in the percent who were professional-technical and managerial workers also took place. Over the longer term (1960 to 1979) these changes are even more striking.

Despite the changing occupational distribution of husbands and wives between 1968 and 1978, there was relatively little difference in the proportion of husbands in professional-technical or managerial jobs whose wives worked in the same general occupational group. The proportion of all working couples where both spouses were in professional-technical or managerial jobs rose by less than 4 percentage points—not quite reaching 14 percent by 1978. Instead, the most significant changes in the occupations of spouses in dual-earner families have come about because of increases in the proportion of wives in clerical occupations. For instance, in 1968, 35 percent of the wives of craftworkers were in clerical occupations as were 21 percent of the wives of laborers and 26 percent of operatives' wives. By 1978, these proportions were 39 percent (craft), 31 (laborers), and 32 (operatives). See table 2.

### Demographic characteristics

The demographic characteristics of dual-earner families are considerably different from traditional families, reflecting in part the rapid increase of working wives between 1968 and 1978 among those under age 35. Many of these differences are highlighted in the following discussion of the ages of the spouses and their children; the formal education of husbands and wives; and their race and Hispanic origin.

*Age.* Dual-earner families are considerably younger than traditional-earner families. In 1978, husbands and wives

**Table 1. Occupations of husbands and wives, March of selected years, 1960-79**

[In percent]

Occupations	Husbands				Wives			
	1960	1968	1978	1979	1960	1968	1978	1979
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Professional-technical	11.6	14.4	16.1	16.9	13.0	15.1	17.0	17.7
Managerial	15.8	16.1	17.2	17.2	5.0	4.9	6.9	6.7
Sales	5.8	5.6	6.3	6.0	8.4	7.1	7.0	6.5
Clerical	6.4	6.3	5.5	5.4	28.3	32.2	34.9	35.8
Craft	20.9	21.8	22.8	23.0	1.0	1.2	1.8	1.8
Operative	19.7	19.8	17.2	16.9	18.6	17.5	12.5	11.8
Nonfarm labor	5.9	5.0	4.9	4.6	.3	.4	.9	1.1
Private household service	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	6.2	4.2	1.9	2.0
Other service	5.5	5.5	6.2	6.1	15.9	15.1	15.7	15.5
Farm	8.2	5.5	3.8	3.8	3.3	2.2	1.3	1.2

<sup>1</sup> Less than 0.05 percent.

**Table 2. Occupations of wives by occupations of husbands, March of selected years, 1960-79**

[In percent]

Husband's occupation	Total	Wife's occupation									
		White-collar				Blue-collar			Service		Farm
		Professional-technical	Managerial	Sales	Clerical	Craft	Operative	Nonfarm labor	Private household	Other services	
<b>White-collar</b>											
Professional-technical											
1960	100.0	43.4	3.8	5.3	34.5	0.4	4.3	...	1.1	6.6	0.5
1968	100.0	43.4	4.0	5.4	34.5	0.9	3.8	...	1.1	6.5	0.2
1978	100.0	40.5	7.6	6.7	32.0	0.7	2.6	0.3	0.8	8.1	0.8
1979	100.0	39.7	6.4	6.6	33.7	1.0	3.2	0.2	0.8	8.0	0.3
Managerial											
1960	100.0	12.1	14.0	13.4	36.6	0.9	8.7	0.3	1.0	12.6	0.4
1968	100.0	18.2	11.0	11.0	42.8	0.9	6.4	0.1	1.3	8.2	0.2
1978	100.0	20.3	12.2	8.5	40.6	1.8	4.9	0.8	0.5	10.1	0.4
1979	100.0	21.0	13.1	8.2	41.1	1.4	4.7	0.4	0.6	9.3	0.2
Sales											
1960	100.0	15.1	8.5	14.8	41.8	0.8	7.9	...	1.5	9.6	...
1968	100.0	18.7	6.8	9.2	44.3	1.0	7.8	...	1.6	10.2	0.2
1978	100.0	19.4	10.0	13.0	41.4	1.3	4.5	0.2	0.7	9.4	0.1
1979	100.0	22.1	9.2	12.1	41.5	0.8	3.8	0.6	1.3	8.6	...
Clerical											
1960	100.0	13.6	2.5	6.4	47.9	0.4	14.5	...	2.9	10.6	1.2
1968	100.0	11.5	4.7	6.4	46.3	1.0	14.1	0.3	2.1	13.3	0.2
1978	100.0	17.5	4.4	7.0	44.4	1.9	9.9	0.3	1.8	12.7	0.3
1979	100.0	14.1	6.3	6.6	49.2	1.5	7.2	1.2	1.2	12.4	0.4
<b>Blue-collar</b>											
Craft											
1960	100.0	10.3	4.3	8.7	30.6	1.3	21.7	0.4	5.0	17.3	0.3
1968	100.0	8.4	3.9	7.9	34.9	1.7	22.2	0.6	3.0	16.5	0.9
1978	100.0	10.0	5.5	6.6	38.6	2.6	16.9	1.2	1.6	16.3	0.6
1979	100.0	10.9	4.9	5.9	40.1	2.7	14.3	1.6	2.1	17.0	0.5
Operative											
1960	100.0	5.9	3.7	7.1	23.8	1.0	34.1	0.3	5.9	17.0	0.4
1968	100.0	6.6	2.9	5.7	27.0	1.7	30.6	0.8	5.3	18.5	0.8
1978	100.0	7.5	4.4	5.2	32.1	2.1	24.7	1.6	2.1	19.7	0.6
1979	100.0	8.3	4.1	5.0	31.6	2.3	24.9	2.0	2.5	18.7	0.6
Nonfarm labor											
1960	100.0	1.9	1.4	7.3	14.5	0.5	27.5	0.9	17.5	27.0	1.4
1968	100.0	4.8	1.6	3.7	20.6	1.2	28.3	0.7	13.5	22.9	2.4
1978	100.0	7.6	3.3	5.6	30.8	1.7	18.3	2.5	4.6	24.8	0.8
1979	100.0	7.2	2.5	6.1	29.4	2.4	21.0	2.6	5.0	22.9	0.9
<b>Service</b>											
1960	100.0	8.2	3.0	5.8	20.8	2.0	18.8	0.2	11.2	29.0	1.1
1968	100.0	8.3	3.6	7.4	23.7	0.8	20.7	0.2	6.2	28.8	0.2
1978	100.0	12.3	6.6	6.7	28.7	1.2	12.6	0.4	3.1	28.0	0.4
1979	100.0	11.3	5.9	4.6	31.0	2.3	11.2	1.0	3.3	29.3	0.1
<b>Farm</b>											
Farmers and farm managers											
1960	100.0	13.9	2.5	4.6	7.8	1.2	12.0	...	3.1	8.6	46.3
1968	100.0	13.6	3.7	3.7	12.4	1.3	12.3	0.4	1.1	8.2	43.4
1978	100.0	14.5	3.4	4.6	23.4	0.5	5.1	...	2.5	11.3	34.5
1979	100.0	18.2	4.0	2.1	22.2	1.3	7.2	1.1	2.5	9.9	31.7
Farm labor and supervisors											
1960	100.0	3.7	...	4.7	2.8	...	25.2	...	34.6	15.9	13.1
1968	100.0	1.6	...	4.5	12.8	1.5	25.6	...	18.8	19.6	15.8
1978	100.0	10.4	2.2	0.7	18.5	2.2	17.0	0.7	13.3	17.8	17.0
1979	100.0	6.7	8.7	3.4	15.4	2.7	11.4	2.0	8.1	21.5	20.1

in dual-earner families were about 7 years younger (on average) than their counterparts in traditional-earner families. The median age for dual-earner husbands was 39 and that for wives was 36, compared with 46 and 43 years for spouses in traditional families. This wide age gap between the two types of families is not very surprising because the preponderance of labor force gains for wives during 1968-78 occurred among those under

age 35. Over the 10-year period, wives 20 to 34 years old accounted for nearly two-thirds of the 6-million increase in the number of married women in the labor force.

*Children.* In 1978, about 58 percent of dual-earner families had children under age 18, a proportion that was not much different from the 60 percent of traditional-earner families. However, among families with children,



51 percent of the traditional families had preschool children compared with 42 percent of dual-earner families.

**Education.** Dual-earner couples generally have more education than their traditional-earner counterparts. As shown below, the percentage of husbands and wives with 13 years or more of schooling (some college) was greater for those in dual-earner families than for spouses in traditional families:

	0-11 years	12 years	13+ years
<b>Husbands in:</b>			
Dual-earner families . . .	22	37	41
Traditional families . . . .	29	36	35
<b>Wives in:</b>			
Dual-earner families . . .	18	48	33
Traditional families . . . .	30	47	24

Nearly 6 of 10 husbands in dual-earner families with 13 years or more of formal education had graduated from college, about the same proportion as for their counterparts in traditional families. For wives, 5 of 10 in dual-earner families had that much schooling as did 4 of 10 in traditional-earner families.

**Race and Hispanic origin.** The incidence of dual-earner families was higher among blacks than either whites or Hispanics. In 1978, 57 percent of black married couples were dual-earner families compared with about 50 percent of either whites or Hispanics (table 3). However, Hispanic couples were more likely to be the traditional-earner type (40 percent) than whites (34 percent) or blacks (25 percent).

Hispanic families are more likely to be in the traditional-earner category, partly because of their cultural heritage. This group, although they are of several distinct national backgrounds (principally Mexican, Puerto Rican, and Cuban) with different histories and traditions, are linked by a common Spanish heritage. And, typical of Latin cultures in Europe as well as other parts of the world, women's labor force participation rates are low.<sup>5</sup>

On the other hand, black wives historically have had higher labor force participation rates than other wives so that dual-earner families have been substantially more prevalent among blacks. However, it should be noted that the labor force participation rate of white wives has been rising faster than for blacks in recent years.

Because the Hispanic population is, on average, younger than the white or black populations, Hispanic spouses in both dual- and traditional-earner families were younger than their white or black counterparts, and Hispanic families of both types were more apt to have children under age 18.

Hispanic spouses in dual-earner families lagged well behind their black and white counterparts in terms of years of school completed. Nearly half the Hispanic husbands and 44 percent of the wives had not completed high school, compared with 36 percent of black husbands, 29 percent of black wives, 21 percent of white husbands, and 17 percent of white wives in dual-earner families. Even higher proportions of Hispanic husbands and wives in traditional families had not finished high school.

### Income and earnings

Dual-earner families have considerably higher annual money incomes than traditional-earner families. Annual money income includes income from the earnings of all family members as well as from other sources such as investments, pensions, and so forth. In 1978, median dual-earner family income was over \$23,000, almost 20 percent higher than the median for traditional-earner families (table 4). Since 1968, this relative gap has remained fairly constant.

The trends in family income during the 1970's have been affected not only by two recessions—one in 1970 and the other in 1974-75—but also by relatively high levels of inflation. These economic conditions had an

**Table 3. Selected characteristics of white, black, and Hispanic dual-earner and traditional-earner families, 1978**

Characteristic	White	Black	Hispanic
<b>Married-couple families, total</b>			
(in thousands) . . . . .	43,634	3,244	2,089
Percent . . . . .	100.0	100.0	100.0
Dual-earner . . . . .	50.3	57.3	49.6
Traditional-earner . . . . .	33.7	25.2	39.7
Husband nonearner . . . . .	5.1	9.0	4.3
No earners . . . . .	11.0	8.5	6.4
<b>Median age of spouses (in years)</b>			
<b>Dual-earner:</b>			
Husbands . . . . .	39.2	38.6	35.9
Wives . . . . .	36.3	36.0	33.1
<b>Traditional-earner:</b>			
Husbands . . . . .	46.1	45.6	38.4
Wives . . . . .	42.8	41.4	35.0
<b>Years of school completed (in percent)</b>			
<b>Dual-earner:</b>			
Husbands, total . . . . .	100.0	100.0	100.0
0-11 years . . . . .	20.5	36.1	47.7
12 years only . . . . .	37.5	37.2	28.7
13 years or more . . . . .	42.0	26.7	23.6
Wives, total . . . . .	100.0	100.0	100.0
0-11 years . . . . .	16.8	28.7	43.5
12 years only . . . . .	49.3	40.6	38.8
13 years or more . . . . .	33.9	30.7	17.7
<b>Traditional-earner:</b>			
Husbands, total . . . . .	100.0	100.0	100.0
0-11 years . . . . .	27.6	51.5	58.7
12 years only . . . . .	36.4	32.2	24.9
13 years or more . . . . .	36.0	16.3	16.4
Wives, total . . . . .	100.0	100.0	100.0
0-11 years . . . . .	28.5	48.2	62.5
12 years only . . . . .	47.1	37.5	27.9
13 years or more . . . . .	24.4	14.3	9.6
<b>Presence of children under age 18</b>			
<b>Percent with children:</b>			
Dual-earner . . . . .	56.7	67.5	71.9
Traditional-earner . . . . .	60.1	60.3	76.9

**Table 4. Median family income by type of family and relationship of earners in married-couple families, 1968-78**

[In current and constant 1967 dollars]

Characteristic	Year										
	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
	Current dollars										
Married-couple families, total . . .	\$ 9,140	\$10,000	\$10,520	\$10,990	\$11,900	\$13,030	\$13,850	\$14,860	\$16,350	\$17,720	\$19,410
Dual-earner . . . . .	10,630	11,520	12,150	12,930	13,880	15,080	16,580	17,620	19,080	20,720	22,730
Traditional-earner . . . . .	8,700	9,570	10,010	10,540	11,490	12,580	13,480	14,450	15,480	17,430	18,990
Husband only earner . . . . .	8,060	8,800	9,150	9,690	10,590	11,500	12,360	13,130	14,430	15,800	17,450
Husband nonearner . . . . .	6,040	6,870	6,870	7,330	7,980	8,760	9,630	10,110	11,020	11,810	13,140
No earners . . . . .	3,130	3,370	3,610	4,070	4,440	4,830	5,520	5,910	6,570	6,930	7,850
	Constant dollars										
Married-couple families, total . . .	\$ 8,770	\$ 9,110	\$ 9,050	\$ 9,060	\$ 9,500	\$ 9,790	\$ 9,380	\$ 9,220	\$ 9,590	\$ 9,760	\$ 9,940
Dual-earner . . . . .	10,200	10,490	10,450	10,660	11,080	11,330	11,230	10,930	11,190	11,420	11,640
Traditional-earner . . . . .	8,350	8,720	8,610	8,690	9,170	9,450	9,130	8,960	9,080	9,600	9,720
Husband only earner . . . . .	7,730	8,020	7,870	7,990	8,450	8,640	8,370	8,140	8,460	8,700	8,940
Husband nonearner . . . . .	5,800	6,260	5,910	6,040	6,370	6,580	6,520	6,270	6,460	6,510	6,730
No earners . . . . .	3,000	3,070	3,100	3,350	3,540	3,630	3,740	3,670	3,850	3,820	4,020

adverse impact not only on the income of dual-earner families, but also on the growth in the number of such families.

During recessions, many family members may experience unemployment or be forced to work fewer hours than usual. As a result, family income may not grow as rapidly as in better times, and, when combined with inflation, real family income may even decline. During the 1970 recession, prices rose by about 6 percent (as measured by the Consumer Price Index) and the real dollar income of both dual- and traditional-earner families barely changed. However, during the 1974-75 recession, prices rose by around 20 percent and the real income of dual-earner families declined by 4 percent and that of traditional-earner families by 6 percent. Only in 1977 did both family types regain their prerecession real income levels.

Also, during both recessions no significant growth was recorded in the number of dual-earner families because of the effects of the downturns on trends of working husbands and wives. Over the decade as a whole, the average proportion of husbands who worked at some time during the year declined—by a half percentage point or so per year—while that of working wives rose. However, during 1970, the proportion of working husbands continued its gradual decline, while the proportion of wives who worked at some time during the year remained fairly constant. During the second recession, the percent of husbands who worked during the year fell sharply, by nearly 3 points, while the proportion of wives with work experience stayed the same.

Despite recession or inflation, dual-earner families are financially much better off than traditional families. In 1978, dual-earner families constituted 60 percent of all families with incomes over \$20,000. In fact, close to one-third of all dual-earner couples had incomes placing them in the upper fifth of the family income distribution while only 5 percent were in the lowest quintile. In con-

trast, 15 percent of families whose earnings patterns were traditional were in the lowest quintile and just 18 percent were in the highest. (See chart 1).

The primary reason why dual-earner family income is so high is that the wife is an earner. Although husbands in dual-earner families usually earn more than their wives, their earnings tend to be less than those of husbands in traditional families. In 1978, median annual earnings of husbands in dual-earner families were \$14,900 compared with \$16,000 for husbands in traditional families. However, this difference is more than offset by wives' earnings which averaged around \$5,700 and accounted for 26 percent of family income in 1978. When the wife was a year-round, full-time worker, her earnings (\$9,400) and contribution to family income (37 percent) were even greater.

These data on husbands' and wives' earnings tend to support the idea that wives work because of financial necessity—a conclusion confirmed by other research.<sup>6</sup> However, one recent study<sup>7</sup> offers information that casts some doubt on conventional ideas of the role of financial necessity in the decision of wives to enter the labor force. This study shows that in some instances husbands with working wives work fewer hours per year than husbands with nonworking wives. This would imply that, *ceteris paribus* husbands of working wives would tend to earn less. Thus, it appears that whatever factors are engaged in strengthening “. . . the employment commitment of married women . . .” are “. . . relaxing the commitment of men. . . .”<sup>8</sup>

What do dual-earner families do with their income? Typically, they spend relatively more of it on goods and services related to the wife's work needs. While spending about the same (relative to income) on durable items such as washing machines and refrigerators, dual-earner families tend to purchase more convenience items and services that reduce the time that the wife must devote to such tasks as food preparation, laundry, and

childcare. Moreover, expenditures on transportation tend to be larger. Partly as a result of the relatively higher expenses on nondurable items, and partly because a working wife helps provide an economic cushion, dual-earner families tend to save less than their traditional counterparts.<sup>9</sup>

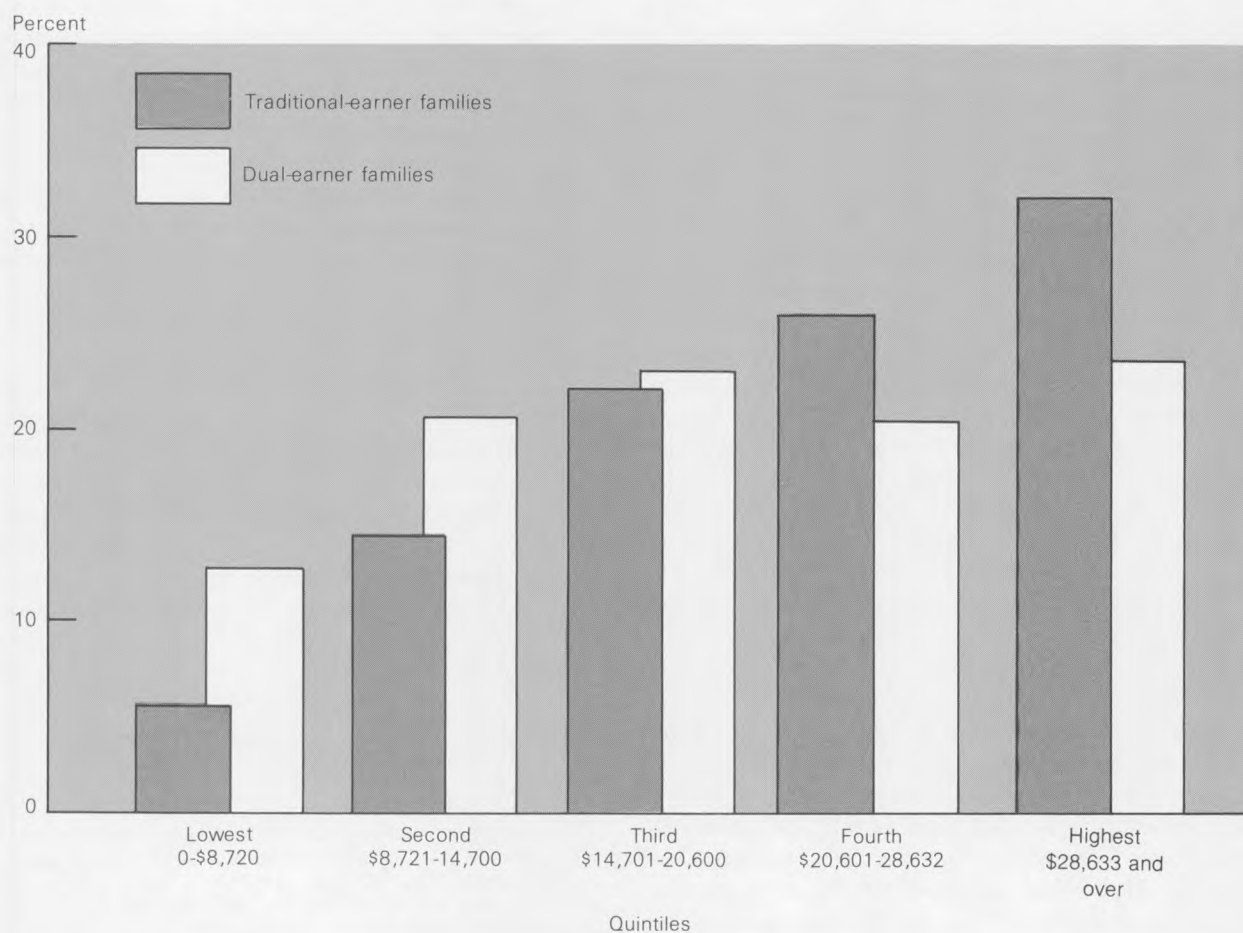
**Poverty.** There are relatively few dual-earner families whose incomes fall below the Government's poverty threshold.<sup>10</sup> In 1978, only about 434,000, or 1.8 percent of such families had incomes at or below the poverty level (table 5). Among traditional-earner families 863,000 or 5.5 percent were in poverty. Blacks, who made up only 8 percent of dual-earner families, accounted for 18 percent of those in poverty in 1978.

Working couples below the poverty threshold were younger and less educated than those with incomes above the poverty line. The median age for the husband

in poor dual-earner couples was about 35 years and that of the wives, 31 years, compared with 39 and 36 years, respectively, for spouses not in poverty. Moreover, husbands and wives in poverty averaged 12 years of schooling compared with 12.8 and 12.7 years for spouses not in poverty. In addition, those in poverty were more apt to have children than nonpoverty families. These factors—youth, less education, and more children—are all likely to depress earnings, and, taken together, can greatly reduce a family's current and future financial prospects.

Nevertheless, a significant factor bearing on the poverty status of dual-earner families is that the husbands and wives in poverty work less than their counterparts in nonpoor families. Only 62 percent of the husbands and 22 percent of the wives in poor dual-earner families worked full time for 40 weeks or more in 1978, compared with 88 percent of husbands and 51 percent of

**Chart 1. Distribution of dual-earner and traditional-earner families by family income quintiles, 1978**



NOTE: "Dual-earner families" refers to married couples where both husband and wife were earners at sometime during the year. A "traditional-earner family" is one where the husband, but not the wife, was an earner. In both types of families other members may also be earners and there may not be children under age 18.



**Table 5. Dual-earner and traditional-earner families by poverty status, selected characteristics, 1978**

[In thousands]

Characteristics	Dual-earner families			Traditional-earner families		
	Total	Poverty	Non-poverty	Total	Poverty	Non-poverty
Total .....	24,253	434	23,819	15,777	863	14,914
Percent of total .....		1.8	98.2		5.5	94.5
<b>Race and Hispanic origin</b>						
Number:						
White .....	21,937	340	21,597	14,710	720	13,990
Black .....	1,858	78	1,780	818	113	705
Hispanic .....	1,037	47	990	830	126	704
Percent of total:						
White .....	100.0	1.5	98.5	100.0	4.9	95.1
Black .....	100.0	4.2	95.8	100.0	13.8	86.2
Hispanic .....	100.0	4.5	95.5	100.0	15.2	84.8
<b>Age of spouses (median years)</b>						
Husband .....	39.5	34.6	39.6	45.8	39.2	46.3
Wife .....	36.5	31.5	36.6	42.7	36.5	43.1
<b>Years of school completed (median years)</b>						
Husband .....	12.8	12.0	12.8	12.6	11.0	12.6
Wife .....	12.7	12.0	12.7	12.4	11.5	12.5
<b>Presence of children</b>						
Percent with children under age 18 .....	57.7	81.6	57.2	60.4	74.5	59.5

wives among their nonpoor counterparts.

*Weekly earnings.* Data on the annual income of dual- and traditional-earner families do not reveal very much about the financial effects of either the unemployment of various family members or their movement in and out of the work force. However, some recently developed information on weekly wage and salary earnings sheds considerable light on these questions.<sup>11</sup>

As might be expected, families where both husband and wife work have considerably higher earnings than traditional families. In the second quarter of 1980, dual-earner families had median weekly earnings of \$530, 42 percent more than the \$375 earned by traditional families. (These earnings figures include wages and salaries of all family members whether they worked full or part time.)

An example of how family income may be affected by changes in the labor force status of husbands and wives occurs when one or the other is unemployed. The financial impact can be quite severe depending on who is jobless. Median weekly earnings of families where the husband was unemployed but the wife worked were only about \$190 in the second quarter of 1980. In contrast, where the wife but not the husband was jobless, earnings averaged \$310. Where both spouses were working, but someone else was unemployed (typically a son or daughter) family earnings averaged between \$570 and \$580.

## A look ahead

This article provides a broad overview of dual-earner families largely in the context of their labor force behavior and their income. However, the true complexity of the dual-earner phenomenon cannot be explained solely from a labor force standpoint. The family life and problems of working couples may have an increasing impact on society as a whole if, as expected, the number and proportion of wives in the labor force continue to grow.

Several examples of the current and future effects of dual-earner families on society come easily to mind. For instance, child care is certainly a major problem for dual-earner parents. In March 1979, 50 percent of all children under age 18 in married-couple families and 41 percent of those under age 6 had working mothers. Nine years earlier, the proportions were 38 and 28 percent. Currently, the major caretakers of children are public schools and nuclear families, supplemented by a wide variety of other means, formal as well as informal. This amalgam of child-care methods evidently stems from the limited availability of institutional day care, the parents' financial considerations, and their desire to control as much of their children's upbringing as possible.<sup>12</sup> Assuming that the proportion of children in dual-earner families will continue to grow as the number of such families increases, the Nation may soon confront the necessity of formulating some sort of child-care policies which take dual-earner families into account.

Similar observations can be made with respect to care of the elderly—parent care—which can pose major difficulties for some dual-earner families. As the Nation's population ages, the dimensions of this problem may increase.

Many other areas of present concern, such as accommodating work schedules to family needs and equity in taxation and social security benefits are also likely to become more pressing as the number of dual-earner couples increases. It is of the utmost importance that current research in these areas be continued and augmented by new investigative efforts if practical steps are to be taken to deal with the problems and concerns of this growing family type. □

### FOOTNOTES

<sup>1</sup> In this article, the term "dual-earner family" refers to married couples where both husband and wife were earners at some time during a calendar year. A "traditional-earner family" is one where the husband, but not the wife, was an earner. In both kinds of families other members may also be earners and there may or may not be children under age 18.

<sup>2</sup> Unless otherwise indicated, data in this article are based on information collected by the 1969 through 1979 March supplements to the Current Population Survey and relate to the calendar year preceding the March collection date. This survey is conducted for BLS by the Bureau of the Census, which also tabulated most of the data. Addi-

tional information for this report on dual-earner families in calendar 1978 was tabulated from the March 1979 Survey microtape by the Data Services Group of the Office of Current Employment Analysis, BLS.

Estimates based on a sample, such as those used in this article may vary considerably from results obtained by a complete count, especially in cases where the estimated numbers are small. Therefore, differences between small numbers or percents based on them may not be statistically significant. For more information on the interpretation of such differences, see *Marital and Family Characteristics of Workers, March 1978*, Special Labor Force Report 219 (BLS, 1979).

Previous articles by the author relating to families include: "Families and the rise of working wives—an overview," *Monthly Labor Review*, May 1976, pp. 12–19; "New data series on families shows most jobless have working relatives," *Monthly Labor Review*, December 1976, pp. 46–49; "Working wives' contribution to family income in 1977," *Monthly Labor Review*, October 1979, pp. 62–64; "The effect of unemployment on family income in 1977," *Monthly Labor Review*, December 1979, pp. 42–44.

<sup>3</sup> J. A. Hill, *Women in Gainful Occupations, 1870 to 1920*, Census Monograph IX, Bureau of the Census, 1929, p. 76.

The term "gainfully employed" is not strictly comparable to "employed" as used in labor force concepts since 1940. For a detailed account of the differences between the gainful worker concept and the current labor force concept of employment, see Alba M. Edwards, *Comparative Occupation Statistics for the United States, 1870 to 1940*, U.S. Department of Commerce, Bureau of the Census, 1943. Also, see *Historical Statistics of the United States—Colonial Times to 1957*, U.S. Department of Commerce, Bureau of the Census, 1960, p. 68.

<sup>4</sup> *Ibid.*, Tables 111 and 156.

<sup>5</sup> Morris J. Newman, "A profile of Hispanics in the U.S. work force," *Monthly Labor Review*, December 1978, pp. 3 and 5.

<sup>6</sup> Jeanne L. Hafstrom and Marilyn M. Dansing, "Socioeconomic and Social-Psychological Influences on Reasons Wives Work," *Journal of Consumer Research*, December 1978, pp. 168–175.

<sup>7</sup> See Marta Whitmer Mooney in accompanying bibliography.

<sup>8</sup> *Ibid.*, p. 6.

<sup>9</sup> See Myra H. Strober in accompanying bibliography.

<sup>10</sup> See Table 17, p. 27 in "Money Income and Poverty Status of Families and Persons in the United States: 1978" (Advance Report), Current Population Reports, Series P-60, No. 120, U.S. Department of Commerce, Bureau of the Census, for poverty level cut-offs by size and type of family.

<sup>11</sup> See "Earnings of Workers and Their Families: Second Quarter, 1980," Press Release 80–540, August 29, 1980, Bureau of Labor Statistics, U.S. Department of Labor. Families where the husband or wife were self-employed are not included.

<sup>12</sup> See Mary Jo Bane, Laura Lein, and others in accompanying bibliography.

## Dual-earner families: an annotated bibliography

ROBERT BANNON

This annotated bibliography is designed to supplement and expand upon the various issues raised in the accompanying article. Although an attempt has been made to

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focus on the most recent material, certain dated articles are included because of their ground-breaking nature in a particular field.

The sources are divided into four distinct categories. The first, dual-earner studies, deals with problems which touch upon the dual-earner family as a whole, such as decisionmaking within the family. The second category is a compendium of related subject areas all with the central theme of the rise in importance of the working wife. Topics included are earnings and consumption, labor force participation, child care, and fertility. A third section deals with articles which give a general overview or survey of working wives and the dual-earner family and include historical, statistical, and bibliographical data. The fourth category features material that has appeared in the popular media.

### I. Dual-earner studies

Berger, M., and others, "Finding Two Jobs," in Rhona and Robert Rappoport, eds., *Working Couples* (New York, Harper and Row, 1978), pp. 23–35.

The job search and decisionmaking process falls into three categories: traditional in, which the wife follows the husband; nontraditional, where husbands follow their wives; and egalitarian, a hodgepodge of miscellaneous choices including long-distance commuting or alternating careers between spouses. Dual-career couples interviewed claimed they tried to hold to an egalitarian choice but eventually the wife followed the husband. The reason for this was not a reversal of beliefs but a pragmatic acceptance that the market catered more to the husband's career and he was more likely to receive the earliest and most lucrative job offer.

Farris, Agnes, "Commuting," in Rhona and Robert Rappoport, eds., *Working Couples* (New York, Harper and Row, 1978), pp. 100–07.

Although not common among dual-career couples, commuting to jobs in widely separated cities has become an alternative for those who are dedicated to their careers yet married. Problems with commuting vary by the age of the couples, stage of career, and presence of children.

Lazear, Edward P., and Robert T. Michael, "Real Income Equivalence Among One- and Two-Earner Families," *American Economic Review: Papers and Proceedings*, May 1980, pp. 203–12.

Lazear and Michael investigate the differential in standards of living for one- and two-earner families. Although the nominal family income difference is high, there are several unique costs for two-earner families which reduce this advantage. The authors list

such decrements as higher tax rates, costs of employment, and paid substitutes for household services formerly provided by the housewife.

Lein, Laura and Mary Blehar, "Working Couples as Parents," in Eunice Corfman, ed., *Families Today: A Research Sampler on Families and Children*, Vol. 1 (U.S. Department of Health and Human Services, 1979) pp. 299-321.

The Working Family Project, an investigation of 25 middle class, dual-worker families with children under age 18, and its findings are reviewed. Children were found to be the most important aspect of the families' lives, despite the fact that economic necessity often limited family size. Both men and women seemed reluctant to break with the traditional stereotype of breadwinner/homemaker, thus placing higher amounts of stress and toil on the working wife.

Mooney, Marta Whitmer, *The Employment Behavior of Husbands in Two-Worker Families: An Empirical Investigation*, Ph.D. diss. (U.S. Department of Labor, Employment and Training Administration, 1977), Grant MPRC 91-06-71-08.

Men who work in two-earner families earn less than husbands whose wives are not earners. The direction of causality is found to be from dual-earner family status to lower earnings. The hypothesis presented by the author is that the wife's salary adds to the permanent family income, inducing the husband into such activities as more frequent job mobility and a higher valuation of leisure. These results did not hold true for lesser educated and blue-collar families where there is a greater emphasis on traditional role stereotypes. Here the wife's income is viewed as transient and has less effect on the husband's labor force activity.

## II. Related areas

### A. Child care

Bane, Mary Jo and others, "Child Care Arrangements of Working Parents," *Monthly Labor Review*, October 1979, pp. 50-55.

The major caretakers of children under age 14 are, in the words of the authors, "nuclear families and public school." Other forms of extra-familial child care only supplement family and school. The authors also undertake a short cost-benefit analysis of the private and social expenses of day care.

Bruce-Biggs, B., "'Child Care': The Fiscal Time Bomb," *The Public Interest*, Fall 1977, pp. 87-102.

The article examines the need for publicly funded child care, its costs, quality, and educational uses as

compared to private services. Also examined is the effect of regulatory efforts on the private system, which appear to hamper its ability to meet child-care needs. The absence of such regulation, according to the author, would give private day care the flexibility it needs to meet changing demand.

Cook, Alice H., "Working Women: European Experience and American Need," *Hearings: American Women Workers in a Full Employment Economy*, (U.S. Congress, Joint Economic Committee on Economic Growth and Stabilization, 95th Cong., 1977), pp. 271-306.

Several barriers exist to the successful reentry of mothers into the labor force. In particular, the author concentrates her review on the provision of support services such as retraining and child care. She examines and compares programs and efforts designed to improve employment opportunities for women and mothers in five countries.

Presser, Harriet B., and Wendy Baldwin, "Child Care as a Constraint on Employment: Prevalence, Correlates and Bearing on the Work and Fertility Nexus," *American Journal of Sociology*, March 1980, pp. 1202-13.

The researchers find that a significant minority of mothers with children under age 5 are constrained in their quest for full-time employment because of the presence of children, either by limiting the number of hours worked or by precluding labor force entry altogether. Using data from the June 1977 Current Population Survey, it was discovered that 17 percent of mothers with children under age 5 would enter the labor force and 16 percent would work more hours if child care were reasonably available.

### B. Earnings and consumption

Blumber, Grace Ganz, "Federal Income Tax and Social Security Law," *Hearings: American Women Workers in a Full Employment Economy* (U.S. Congress, Joint Economic Committee, Subcommittee on Economic Growth and Stabilization, 95th Cong., 1977), pp. 237-48.

This paper analyzes the effects of current Federal income tax law on two-earner families. The work disincentive is higher because of the high marginal tax rate on the wives' earnings. In addition, the paper discusses some of the major inequities in social security coverage, particularly the lack of any additional benefits paid to retired wives who did not work outside the home. Several solutions are proposed to alleviate these disparities, including following some of



the more equitable policy examples of other Western nations.

Gregory, Paul and William J. Moore, "Earnings, Occupational Choice, and the Early Years of Family Formation, White and Black Women; A Study From the National Longitudinal Survey (U.S. Department of Labor, Employment and Training Administration, November 1977), Contract 91-48-76-47.

This report examines several variables which affect the labor force participation and hours worked of married women. Presence of children is the most influential, followed by wages, husband's income, and education. All variables have a more significant impact on young women.

Hayghe, Howard, "The effect of unemployment on family income in 1977," *Monthly Labor Review*, December 1979, pp. 42-44.

Nearly 1 of 4 husband-wife families encountered some period of unemployment during 1977. For the most part, only one member in these families was unemployed at any given time, usually the wife or teenage son or daughter. In most families where the wife or other relative was jobless at some time, the husband worked full time.

———, "Working wives contribution to family income in 1977," *Monthly Labor Review*, October 1979, pp. 62-64.

A record number of wives contributed significantly to their families' economic welfare in 1977. Over half of all wives worked at some time during the year earning approximately one-fourth of their families' income. Married mothers were the most likely to have earned income, as well as the most apt to work only part-time or part-year. Wives still work mainly in the traditional female-dominated occupations, but are moving slowly into male-dominated fields.

Horvath, Francis, "Working wives reduce inequality in distribution of family earnings," *Monthly Labor Review*, July 1980, pp. 51-53.

Past studies have found that the contribution of wives' earnings to family earnings tends to equalize the distribution of family earnings. Recently there has been an influx of wives in the labor force whose husbands have incomes in the upper middle and upper ranges. The author tests whether this recent phenomenon has caused a trend towards inequality in the distribution of family earnings, and finds that working wives still tend to be an equalizing force in their distribution.

Leibowitz, Arleen, "Women's Work in the Home," in

Cynthia Lloyd, ed., *Sex, Discrimination, and the Division of Labor* (New York, Columbia University, 1975), pp. 223-41.

Leibowitz examines the effect of women's education on time spent in the home. Assuming an increase in labor force participation and productivity because of an increase in education, the author tries to prove that it will also lead to an increase in home productivity. Her reasoning follows that as the wife's time becomes scarce she turns to more capital-intensive devices which are for convenience. Also, time spent in child care also rises because of what Leibowitz identifies as feelings of guilt over devoting so much time to the job.

Rosen, Harvey S., "The Impact of U.S. Tax Laws on the Labor Supply of Married Women," (Cambridge, Mass., Harvard University), 1974.

Rosen posits the argument that current U.S. tax rates penalize white married women who work to a greater extent than do their husbands or comparable single women. This "marriage tax penalty" is perceived by the wife and is a disincentive to labor force participation. Although the author discovers significant welfare loss because of the high level of marginal taxation on joint returns, he does not recommend singular taxation of spousal returns. Such a change would lead, Rosen suggests, to a shift of the burden of taxes onto the lower income families.

Ryscavage, Paul, "More wives in the labor force have husbands with 'above average' incomes," *Monthly Labor Review*, June 1979, pp. 40-42.

An analysis of the rise in married women's labor force participation during 1960-77 shows that the greatest gains are attributable to women whose husbands earn incomes in the upper middle or upper ranges. This change was most significant among women 35 years old and over with school-age children. Approximately 60 percent of the increases in married women's labor force participation occurred among wives whose husbands earned in the upper middle and upper ranges.

Strober, Myra H., "Wives' Labor Force Behavior and Family Consumption Patterns," *American Economic Review*, February 1977, pp. 410-21.

Strober analyzes the effect of wives' labor force participation on the ratio of consumption to income and durable goods purchases to income. Purchases of durable goods are found to be equivalent for families with and without working wives; however, the consumption to income ratio is higher in families with a working wife. This represents a substitute effect where the wife's time formerly spent in household

work is now replaced by expenditures on nondurable time-saving and work-related expenses.

### C. Fertility

Butz, William P., and Michael P. Ward, "The Emergence of Countercyclical U.S. Fertility," *American Economic Review*, June 1979, pp. 318-28.

A positive relationship has been presumed by some analysts between economic activity and fertility, namely that the husband's income determines plans for children. However, the authors contend that the major determinant is the opportunity cost to the wife of childbearing and rearing, as manifested in the wife's employment status. The authors claim that their model correctly interprets the opportunity cost dilemma, and can be used to predict both pro- and countercyclical changes in U.S. fertility patterns.

Cramer, James C., "Fertility and Female Employment: Problems of Causal Directions," *American Sociological Review*, April 1980, pp. 167-90.

Cramer attempts to resolve the problem of causal direction for the fertility/female-unemployment debate. He criticizes the statistical and theoretical underpinnings of two prior models: Stolzenberg and Waite, (1976) and Smith-Lovin and Tickamyer, (1978) (see annotations) and develops a new model using comparable data from the Panel Study of Income Dynamics. The author concludes that the dominant effects are from fertility to unemployment in the short run, and from employment to fertility in the long run.

Gregory, Paul R., and William J. Moore, "Relationship Between Fertility and Labor Force Participation of Married Women, White and Black" (U.S. Department of Labor, Employment and Training Administration, 1976), Grant DL 91-48-74-44.

This report studies the impact of fertility (as measured by the number of children and their spacing) on the labor force participation, labor supply, and hourly earnings of married women ages 30-44 in 1967. Data are from the National Longitudinal Survey. The basic finding is that fertility has a significant and negative impact on the lifetime earnings and labor supply of married women, holding constant other factors such as education, husband's income, and background.

Groat, Theodore H., and others, "Labor Force Participation and Family Formation: A Study of Working Mothers," *Demography*, February 1976, pp. 115-25.

This article finds significant association between the extent, timing, and kind of employment and a series of family formation variables. Generally, lower ferti-

ty, longer first birth intervals, and earlier use of birth control were associated with the longest work durations, the highest status jobs, and work before the birth of the first child. The data failed, however, to show any significant relationship between expected family size and the wife's labor force participation.

Hotz, Joseph, *A Theoretical and Empirical Model of Fertility and Married Women's Allocation of Time Over the Life Cycle*. Ph.D. diss. (U.S. Department of Labor, Employment and Training Administration, 1980), Grant 91-42-78-15.

In this report a model is developed to explain the dynamic aspects of life cycle fertility and a wife's time allocation decisions. The model is designed as a household utility function incorporating variables such as the decision to conceive, the wife's time spent in leisure, work, or home production, consumption of market goods, and family income. Equations are derived to estimate demand for children, labor force participation, and wife's wage.

Ross, Sue Goetz, *The Timing and Spacing of Births and Women's Labor Force Participation: An Economic Analysis*, Ph.D. diss. (U.S. Department of Labor, Employment and Training Administration, 1974), Grant 91-36-72-35.

This dissertation analyzes some economic aspects of the timing and spacing of births and women's labor force participation relative to this timing and spacing. Hypotheses are advanced and tested which relate husband's and wife's educational attainment and family income to timing and spacing. The higher the wife's education, the sooner after school completion until she has her first and the shorter the intervals between children. But, if the husband's educational level was high, *ceteris paribus*, there was a longer interval until the first child.

Smith-Lovin, Lynn, and Ann R. Tickamyer, "Labor Force Participation, Fertility Behavior, and Sex-Role Attitudes," *American Sociological Review*, August 1978, pp. 541-57.

Two causal models of the relationship between fertility and women's labor force participation are tested. A negative relationship is presumed between the two variables. The researchers' main attempt is to isolate the direction of causality—to find out if fertility causes lower labor force participation or vice versa. Both models confirm that the direction is from fertility to participation, indicating that number of children influence working plans and not the reverse.

Stolzenberg and Waite, "Age, Fertility Expectations, and Plans for Employment," *American Sociological*

*Review*, October 1977, pp. 769–83.

This paper examines the effect a woman's age has on her plans to either enter the labor force or have children. They hypothesize that the older a woman is the better her perception of child rearing costs and consequently, she is less desirous of having children if she plans to work. The costs of child rearing are perceived not as lost time and wages alone, but as the depreciation of possible skills and talents.

#### D. Labor force participation

Bednarzik, Robert W., and Carol Leon, "A Profile of Women on Part-Time Schedules," *Monthly Labor Review*, October 1979, pp. 3–12.

Growth of the economy, especially among the services industries, has spurred the expansion of part-time employment. The majority of these persons working part time by choice were women. A composite of the average female part-time employee shows that she is married to an employed husband, has children who are at least of school age, is a high school graduate, and works 20 hours a week in a white-collar occupation—usually clerical or sales work—earning roughly the minimum wage.

Jones, Ethel B., and James E. Long, *Women and Part-time Work* (U.S. Department of Labor, Employment and Training Administration, 1978), Grant 12-01-76-21.

This report attempts to answer four questions about married women and part-week work: (a) what is the extent of part-time employment; (b) what are the determinants of the motivation to work part week; (c) what effect does part-week work have on earnings; and (d) what is the impact of part-week work on a wife's unemployment. Data are taken from the National Longitudinal Survey of Young and Mature Married Women. It was found that presence and age of children, husband's income, and age, race, and health of the wife affect part-week work. Also, part-week work is associated with fewer and shorter periods of unemployment, but wage increases are rarer than for the full-time worker.

Mitchell, Olivia S., "Labor force activity of married women as a response to changing jobless rates," *Monthly Labor Review*, June 1980, pp. 32–33.

Research on whether married women enter the labor force in response to local unemployment or prosperity provides conflicting answers. Results vary as to whether cross-sectional or time-series data are used. Mitchell finds in her research that married women enter the labor force primarily in response to large

deviations from the "average" local unemployment rates.

Sandell, Steven H., "Lifetime Participation in the Labor Force and Unemployment Among Mature Women," *Hearings: American Women Workers in a Full Employment Economy* (U.S. Congress, Joint Economic Committee, Subcommittee on Economic Growth and Stabilization, 95th Cong., 1977), pp. 142–51.

The labor force participation of mature women is hindered by their earlier intermittent employment history. Using data from the National Longitudinal Study of Mature Women, Sandell ascertains that interrupted work experience leads to low wages, reduced labor force participation, and high unemployment.

Shapiro, David, and Frank L. Mott, "Labor Supply Behavior of Prospective and New Mothers," *Demography*, May 1979, pp. 159–208.

In recent years, the labor force patterns of young women has been several years of post-school employment, followed by intermittent participation to bear and rear children, and consequently a return to the labor force when the children reach school age. Shapiro and Mott examine the middle cohort, specifically women who are about to or have recently given birth to test the hypothesis that young women's labor force participation is becoming more continuous. By applying multivariate analysis to the National Longitudinal Survey data of young women, this hypothesis is found to have tentative support.

Stephan, Paula E., *The Labor Force Response of Career vs. Noncareer Married Women to the Unemployment Rate*, (U.S. Department of Labor, 1977).

The author hypothesizes that discouraged women workers are women who lack job commitment and experience (that is, a career). To verify this proposition she tests the responsiveness of women with "careers" (defined as women who have worked 70 percent of the time since marriage) against the local unemployment rate. The results bear out the hypothesis that the attitude of the wife (as to whether she has a career) affects her labor force participation to a greater degree than such variables as husband's income and number of children.

### III. Overview

Fields, Judith M., "A Comparison of Intercity Differences in the Labor Force Participation Rates of Married Women in 1970 with 1940, 1950, and 1960," *Journal of Human Resources*, Fall 1976, pp. 568–77.

The Bowen and Finegan model fared well with data from the 1940, 1950, and 1960 Decennial Cen-



sus. However, 1970 data showed that women were behaving more like primary than secondary wage earners; that is, they were showing less sensitivity to variables such as supply, demand, and price for their services. The author concludes that the variables chosen by Bowen and Finegan are no longer significant for explaining married women's labor force participation rates.

Glazer, Nona, and others, "The Homemaker, the Family and Employment," *Hearings: American Women Workers in a Full Employment Economy*, (U.S. Congress, Joint Economic Committee, Subcommittee on Economic Growth and Stabilization, 95th Cong., 1977), pp. 155-69.

The authors have reviewed several influential aspects of work and family life which affect the working wife and mother. It is their contention that women will never achieve equality in worklife unless Government support services are provided in the areas of employment, child care, housework, leisure, and housing. A detailed proposal is presented for comprehensive women's legislation which the authors feel could substantially improve most of the problem areas cited.

Johnson, Beverly, "Changes in marital and family characteristics of workers, 1970-78," *Monthly Labor Review*, April 1979, pp. 49-51.

This Special Labor Force Report summarizes the trends and changes for working men and women between 1970-78. Statistics and tabulations are provided on working wives, their children, and their contributions to family earnings. Also examined are men and women who are supporting their families alone.

Kahne, Hilda, and Andrew Kohen, "Economic Perspectives on the Roles of Women in the American Economy," *Journal of Economic Literature*, December 1975, pp. 1249-92.

This article is one of the most comprehensive, nontechnical reviews of the literature on women and work yet done in an academic journal. The authors provide, in outline form, annotations of the issues and writers involved in the current discussion of women's roles. Topics covered include fertility, labor force participation, household production, occupational differentiation, marriage, child care, education, tax laws, and future policy implications of legislation. A bibliography is available with more than 250 entries.

Mason, Karen Oppenheim, and others, "Change in U.S.

Women's Sex-Role Attitudes, 1964-74," *American Sociological Review*, August 1976, pp. 573-96.

The authors try to isolate the extent and nature of attitude change among women during the 1964-74 period. They investigate the shift from traditional models of women to a more egalitarian arrangement. Hypotheses are tested for the possibilities that the attitude shift was caused by the women's liberation movement, or a bias in the sample such as overrepresentation of better educated women.

Waldman, Elizabeth, and others, "Working mothers in the 1970's: a look at the statistics," *Monthly Labor Review*, October 1979, pp. 35-49.

Fewer women bore children in the 1970's and those who did, gave birth to one or two, on average, rather than the two and three child norm of the 1960's. The 1970's also saw an upward surge in the labor force participation rate of mothers with children under age 18. The report also discussed the rise of families maintained by unmarried persons.

#### IV. The popular media

Bird, Caroline, "Two Paycheck Power: Redesigning Jobs Around People," *Vital Speeches*, Jan. 15, 1980, pp. 202-05.

Bird describes the inertia of modern society to accept and adapt to two paycheck families. Obstacles include tax penalties on joint returns, the 9-to-5 standardization of most services, and planning children. The author calls upon employers to better match jobs to families. Her remedies cover such changes as part-time work opportunities for both spouses, flexitime, job sharing, sabbaticals for child rearing, taking more work home, and ultimately a greater understanding by employers for domestic needs of young parents.

"Commuting: A Solution For Two-Career Couples," *Business Week*, Apr. 13, 1978, pp. 62-68.

Examined here is an alternative lifestyle for the two-career couple—living a considerable geographical distance apart and commuting frequently to be together. Several couples interviewed gave their opinions as to the relative costs and benefits of such a situation. Advantages cited by the couples to this arrangement are primarily career pursuit and satisfaction, with many couples devoting a great deal of time to jobs for lack of constant companionship.

"Focus on Books: Women Working," *Business Horizons*, August 1978, pp. 75-93.

The editors of this journal have provided a comprehensive guide to current books on the subject of women and work. They have included bibliographies (some annotated) and full length reviews of old and

new material on women.

Hall, Francine and Douglas Hall, "Dual Careers—How Do Couples and Companies Cope With The Problems?" *Organizational Dynamics*, Spring 1978, pp. 55–77.

The authors probe the impact of careers on families and corporations. They break down the dual-career couple's lifetime into several stages, including market entry, early and mid-career, and family. The dual-career couple seems to be responding better and more flexibly than the corporation. Suggestions are offered to help the companies overcome dual-career conflicts.

Lublin, Joann S., "As Women's Roles Grow More Like Men's So Do Their Problems," *Wall Street Journal*, Jan. 14, 1980, p. 14.

According to this article, working women seem to be acquiring the same problems as working men: alcoholism, cigarette smoking, suicide, heart disease, automobile accidents, crime, and decreased longevity.

Maynard, Catherine, and Robert Zawacki, "Mobility and the Dual-Career Couple," *Personnel Journal*, July 1979, pp. 469–73.

One of the major problems in a dual-career marriage is the conflict over job transfers, according to the authors. They provide current statistics on corporate requests to move and the responses of dual-career couples. Also, a spectrum of alternatives for those pursuing two careers is offered, along with suggestions to the corporation for adapting to change to meet current family needs.

Pospisil, Vivian C., "Problems of Dual-Career Marriages," *Industry Week*, Nov. 11, 1976, pp. 87–89.

Because role models for the young, dual-career couple are not well established, the decisionmaking process is often based on traditional views. Many couples have discovered that only a rigidly fair, "balance sheet" approach to decisions such as job choice and relocation can prevent conflict. □

# The employment situation for military wives

*The labor force participation rate of military wives soared in the 1970's; by 1979, it equaled that of civilian wives*

ALLYSON SHERMAN GROSSMAN

At the beginning of the 1970's, wives of men serving with the Armed Forces were considerably less likely to work outside their homes than were wives of civilians. But during the decade, labor force activity among armed services' wives skyrocketed as rapidly-rising prices, low military pay, and diminished benefits combined with greater societal acceptance of working wives and mothers. The labor force participation rate of military wives advanced by 20 percentage points, and now at 50 percent, is equal to that for civilian wives. Armed Forces wives, however, are plagued by unemployment to a much greater extent than their civilian counterparts. (See chart 1.)

This report describes the surge in labor market participation of armed services' wives who reside in the 50 States and the District of Columbia.<sup>1</sup> The gains for military wives occurred during a period of tremendous change for the Armed Forces. In the first half of the 1970's the Vietnam War ended, the draft was eliminated, and the all-volunteer force was implemented.<sup>2</sup> In the latter half, the military establishment—while generally meeting most of its goals for new recruits—began losing large numbers of trained, experienced personnel. Many of the men returning to civilian life had been in the service 8 or 12 years; traditionally, they would have made the military a career. Most of those who left were married. As a result, the proportion of the Armed Forces composed of married men living with their families dropped from 42 to 32 percent, a decrease of more

than a quarter-million couples. At the same time, the proportion of Armed Forces wives working or looking for work outside the home increased substantially as shown in the following tabulation:

Year	Population (in thousands)		Labor force participation rate	
	Military wives	Civilian wives	Military wives	Civilian wives
1970	1,005	43,749	30.5	41.2
1971	990	43,747	27.2	41.1
1972	1,013	44,740	26.8	41.9
1973	846	45,468	33.3	42.5
1974	910	45,900	36.3	43.3
1975	920	46,150	39.3	44.6
1976	769	46,549	38.0	45.3
1977	785	46,712	38.2	46.8
1978	729	46,656	46.6	47.7
1979	659	47,033	50.2	49.4

## Lifestyle limits opportunities

That such a large proportion of Armed Forces wives are in the work force today is somewhat surprising when the demands of military life are considered. For instance, many families are stationed in comparatively remote areas of the United States where chances for civilian employment are scarce. Frequent moves make training for certain jobs difficult to obtain, and some women must forgo employment opportunities when their spouses are transferred. Also, military families—which usually have young children—face periods of extended separation. A Navy boiler technician, for example, may spend 3 of 4 years on sea duty which would involve half of his time on deployment.<sup>3</sup> Other military

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spouses are apart even more. In one survey, a Navy wife revealed that her husband had served 7 consecutive years of sea duty, with three deployments of 6 to 8 months each. The longest time they had been together without a separation was 10 months.<sup>4</sup> Because some wives shoulder almost complete responsibility for their children's well-being during these times, their possibilities for employment may be reduced.<sup>5</sup>

The longstanding military custom of volunteer work among spouses, especially officers' wives, may also discourage women's labor market activity. Many wives still believe that volunteer activities are implicitly required for their husbands' advancement. A recent study found:

... special responsibilities [are] demanded of military wives. Her responsibilities increase as her husband progresses through the ranks and, as she increases the chances of a successful career for her husband, ... she correspondingly increases her service as a volunteer to the military structure and the military community at large. [It is] reported that officers' wives tend to be more active in the military community than the [service] member, and ... that among Army wives, 'volunteer' work is seen as a responsibility commensurate with the wife's status.<sup>6</sup>

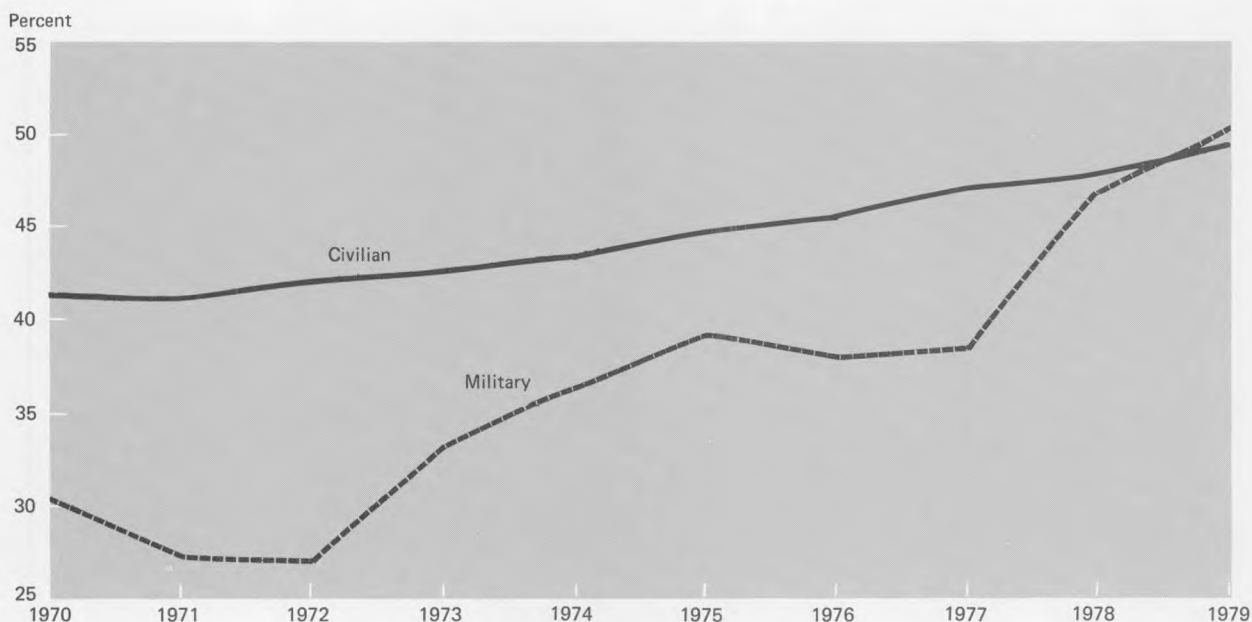
These responsibilities have always elicited mixed reactions. Ten years ago another investigation found that while some wives considered volunteer work more

flexible and suitable to their lifestyle than employment, others believed that the personal benefits of volunteerism were not particularly rewarding. Those who were not satisfied with these activities generally thought that they had more ability, skills, and knowledge than volunteer jobs were apt to require, and often turned to paid employment for greater challenges and rewards.<sup>7</sup>

According to a recent report, such dissatisfaction may be even more pervasive today. Military wives with good educations and skills are apparently hesitant to limit themselves to traditional volunteer work when they can earn money in private enterprise. Some wives recently noted that "... the Pentagon hierarchy must awaken to the 'new way of life.' No longer are all military wives content just to raise children, stay at home, and perform volunteer work. ... Numerous wives want the challenge and satisfaction of a career."<sup>8</sup>

Most also want and need the financial rewards of paid employment. While the desire for additional income has obviously always been one of the reasons why Armed Forces wives worked outside the home, labor market activity in the early and mid-1970's was very often seen as an opportunity for personal growth and mental stimulation.<sup>9</sup> But in the late 1970's, as escalating inflation combined with small military pay raises, the financial obligations of their families pressured many

**Chart 1. Labor force participation rates of wives by military or civilian status of their husbands, March 1970-March 1979**



wives into the paid labor market.<sup>10</sup>

Once in the work force, the occupational distribution of Armed Forces wives generally mirrors that of their civilian counterparts. (See table 1.) As is usually the case among employed women, in March 1979, the largest proportion held clerical jobs. Smaller but significant shares worked at professional-technical or service jobs. Military wives, however, were less likely than civilian wives to work as operatives, probably because few military installations are located near manufacturing centers.

Armed Forces wives were more likely to be unemployed than civilian wives. In March 1979, when the unemployment rate for civilian married women was 5 percent, that for military wives was more than double at 12 percent. (See chart 2.)

The circumstances of military life may undercut the labor market success of many of these women.<sup>11</sup> Besides the problems of balancing the demands of both a family and a job, military wives probably have more spells of unemployment than other wives. They are often compelled to terminate their employment each time their husbands are reassigned—usually every 3 to 4 years. These frequent transfers may inhibit the accumulation of seniority or the acquisition of specialized skills. Many wives find that regardless of former employment experi-

**Table 1. Occupational group of employed wives by military or civilian status of their husbands, March 1979**

Occupational group	Military wives	Civilian wives
Total: Number (in thousands) . . . . .	292	19,570
Percent . . . . .	100.0	100.0
Professional-technical . . . . .	18.2	18.4
Managerial . . . . .	3.8	6.9
Sales . . . . .	8.9	6.5
Clerical . . . . .	41.8	36.7
Crafts . . . . .	1.4	1.8
Operatives including transport . . . . .	5.8	11.2
Laborers . . . . .	2.4	1.1
Private household service . . . . .	2.1	1.8
Other service . . . . .	16.1	14.4
Farm . . . . .	0	1.3

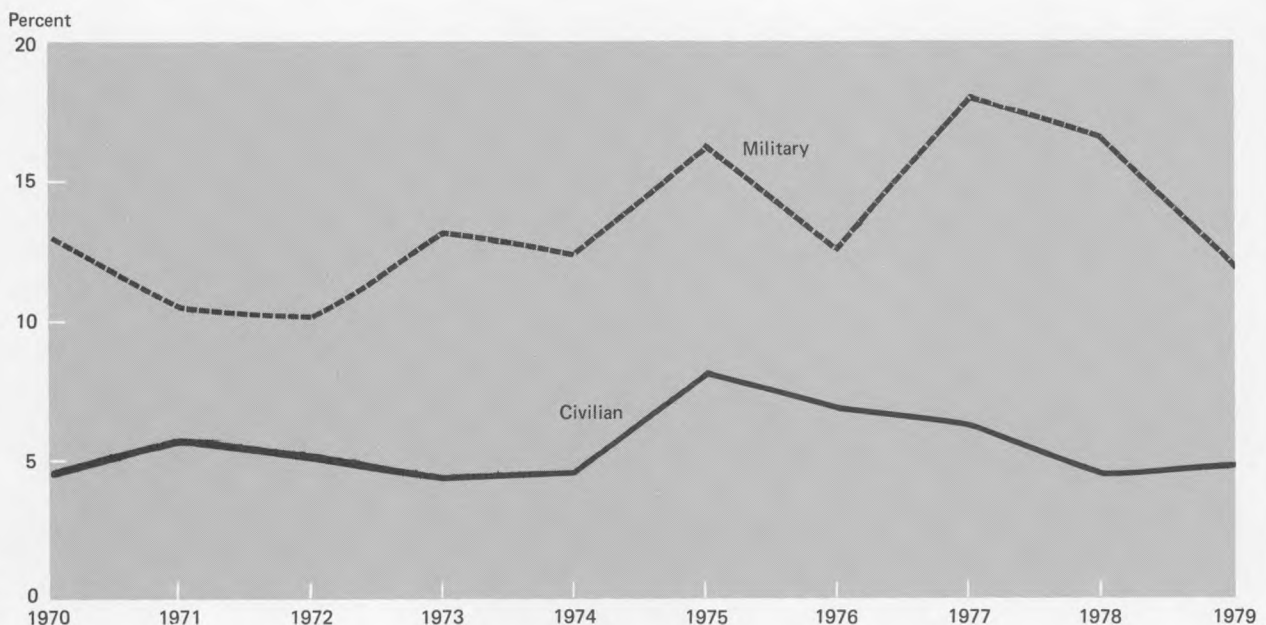
NOTE: Military wives are those living with their husbands serving with the Armed Forces in the 50 States and the District of Columbia.

ence, they must start over at entry level jobs at each new post.<sup>12</sup> Others are stigmatized by their military connection, and it has been reported that some employers even deny job interviews to these women whom they deem short-term workers.<sup>13</sup>

**Children influence participation**

Family responsibilities, which many times include the care of young children, may also contribute to the employment difficulties of military wives. Children were present in 75 percent of all armed services' families. In

**Chart 2. Unemployment rates of wives by military or civilian status of their husbands, March 1970-March 1979**



**Table 2. Married couple families with children by employment status of parents and age of children, March 1979 and median family income, 1978**

Item	Families with children under 18		Families with children 6 to 17 years only		Families with children under 6 years	
	Father in Armed Forces	Father employed civilian	Father in Armed Forces	Father employed civilian	Father in Armed Forces	Father employed civilian
All families (in thousands) . . .	498	22,229	193	12,289	305	9,939
Mother in labor force . . . . .	227	11,719	110	7,390	117	4,330
Employed . . . . .	201	11,053	101	7,039	100	4,014
Unemployed . . . . .	25	666	9	351	17	315
Mother not in labor force . . . . .	271	10,510	83	4,900	188	5,610
Median family income, total . . .	\$13,200	\$21,300	\$16,600	\$23,800	\$12,100	\$18,600
Mother in labor force . . . . .	15,300	22,900	17,800	24,900	13,700	19,700
Employed . . . . .	16,200	23,200	18,500	25,200	14,500	20,000
Unemployed . . . . .	( <sup>1</sup> )	17,600	( <sup>1</sup> )	20,100	( <sup>1</sup> )	15,000
Mother not in labor force . . . . .	12,200	19,500	14,400	22,000	11,300	17,700

<sup>1</sup> Median not shown where base is less than 75,000.

about 3 of 5 of these families, one youngster or more was under age 6. (See table 2.) In contrast, about half of all civilian married-couple families had children, and in only slightly more than 2 of 5 of these families were there youngsters below school age.

As is generally the case for civilian wives, the younger a military wife's child, the lower her labor force participation rate and the higher her unemployment rate. Fewer than 2 of 5 mothers of preschool children were in the labor force in March 1979, compared with almost 3 of 5 of those whose children were school age, proportions approximately equal to those of civilian mothers.

Military wives with children suffered from unemployment to a much greater extent than civilian mothers. Overall, about 11 percent were jobless, compared to 6 percent for civilian mothers. The unemployment rate for military mothers of children age 6 to 17 was 8 percent, and rose to 15 percent if youngsters below age 6 were present. Comparable proportions for civilian mothers were 5 and 8 percent, respectively.

Because their husbands' pay tends to be low, military mothers who are employed contribute a larger proportion of their families' income than do their civilian counterparts. Despite their contribution, average income

for Armed Forces families was substantially below that for civilian families where both parents worked. In 1978, median income for all married-couple military families with children was \$16,200 when the mother was employed, and \$12,200 when she was out of the labor force. Comparable incomes for married couples where the father was an employed civilian were \$23,200 and \$19,500, respectively. A similar income discrepancy between military and civilian families prevailed among families with children below age 6—the majority of military families—but at lower income levels.

According to a 1979 Department of Defense Pay Adequacy Study<sup>14</sup> in which 1975 mean earnings of both military and civilian wives were cross-tabulated by their husbands' earnings, wives of enlisted men generally made less than officers' wives. (See table 3.) Figures for civilian wives whose husbands had earnings comparable to those of military husbands were considerably higher. However, when the data were standardized by the wife's age, the results were different. The average earnings of most officers' wives were found to equal or exceed those of their civilian counterparts, but those of wives of enlisted men were substantially below those of civilians.

Although it is not within the scope of this article to examine the complex area of military compensation, many facets of this controversial issue undoubtedly have had some effect on the labor force participation rate of women married to men in the armed services. Even with the recent improvements in this area, military wives, like civilian wives, will probably continue to increase their rate of labor force participation during the 1980's. □

**Table 3. Earnings of wives in military and civilian families, 1975**

Selected military pay grade	Average total earnings of military husband	Mean earnings of wives in military families	Mean earnings of wives in civilian families <sup>1</sup>
O-6 . . . . .	\$34,105	\$3,776	\$6,610
O-3 . . . . .	19,472	5,649	5,243
O-1 . . . . .	11,886	4,364	5,141
E-9 . . . . .	19,172	5,417	5,243
E-6 . . . . .	12,923	4,233	5,141
E-3 . . . . .	8,756	2,699	4,117

<sup>1</sup> Adjusted by age of wife.

NOTE: For information on computations in each earnings column, see *Department of Defense Pay Adequacy Study, October 1979, Appendix C*, which is the source of the data.

FOOTNOTES

<sup>1</sup> In this report, the term civilian wives refers to those whose husbands are in the civilian noninstitutional population. Whether their husbands are in the military or are civilians, wives who are either employed or unemployed are in the civilian labor force.

In March 1979, about 11 percent of the 659,000 Armed Forces



families were black, a proportion only slightly higher than that for civilian families. Labor force data in this report are based primarily on results of the Current Population Survey, which is conducted for the Bureau of Labor Statistics by the Bureau of the Census. Estimates based on sample numbers such as those shown in the tables may vary considerably from results obtained by a complete count in cases where the numbers shown are small. Therefore, differences between small numbers or percents based on them may not be significant. For more information on sampling error, see *Employment and Earnings*, published monthly by BLS.

<sup>2</sup> Sar A. Levitan and Karen C. Alderman, "The military as employer: past performance, future prospects," *Monthly Labor Review*, November 1977, pp. 19-23.

<sup>3</sup> Melvin R. Laird, *People, Not Hardware: The Highest Defense Priority*, (Washington, American Enterprise Institute for Public Policy Research, 1980), p. 14.

<sup>4</sup> "Ladycom Survey Results," *Ladycom*, October 1977 (Washington, Downey Publications, Inc., 1977), p. 33.

<sup>5</sup> "Ladycom . . .", p. 24.

<sup>6</sup> Lynn R. Dobrofsky, "The Wife: Military Dependent or Feminist?"

in Edna J. Hunter, ed., *Changing Families in a Changing Military System*. (San Diego, Calif., Naval Health Research Center, 1977), p. 35.

<sup>7</sup> Elizabeth M. Finlayson, "A Study of the Wife of the Army Officer: Her Academic and Career Preparations, Her Current Employment and Volunteer Services," in Hamilton I. McCubbin, Barbara B. Dahl, Edna J. Hunter, eds., *Families in the Military System* (Beverly Hills, Calif., Sage Publications, 1976), pp. 35-36.

<sup>8</sup> Jay Finnegan, "Wives Voice Anger Over Service Slight," *Army Times*, Apr. 5, 1980.

<sup>9</sup> Finlayson, *Families*, p. 38, and "Ladycom . . .", p. 24.

<sup>10</sup> Dennis K. Orthner, *Families in Blue* (Greensboro, N.C., Family Research & Analysis, Inc., 1980) pp. 22-23, and Laird, *People*, pp. 14-15.

<sup>11</sup> In March 1979, about 13 percent of all unemployed military wives were black, a proportion about equal to their representation in military families. See footnote 1.

<sup>12</sup> Laird, *People*, p. 15 and "Ladycom . . .", p. 24.

<sup>13</sup> "Ladycom . . .", p. 24 and Finlayson, *Families*, p. 23.

<sup>14</sup> *Department of Defense Pay Adequacy Study, October 1979*.

### Erratum

In "U.S. labor turnover: analysis of a new measure," by Malcolm S. Cohen and Arthur R. Schwartz (*Monthly Labor Review*, November 1980), a typographical error resulted in an incorrect definition of "separation" under social security data. The definition should have read (change in italics):

Separation—The employee worked for an employer in a given quarter but did not work for that employer in the following quarter.

# The youngest workers: 14- and 15-year-olds

*Despite child labor and school attendance laws, approximately 1.6 million young teens held jobs in 1979; the labor force participation rate of girls is fast approaching that of boys, although the latter are employed in more varied occupations*

DIANE N. WESTCOTT

The prevailing image of a teenager, especially those in their early teen years, is of someone whose major activity is attending school. And among 14- and 15-year-olds, 98 percent do so. In addition to their attendance at school, about one-fifth of those in this age bracket were also employed or looking for work in 1979. Because of their relatively low labor force participation levels and the fact that the labor force patterns for these young workers differ markedly from those of older workers, they are currently excluded from the official monthly statistics on employment and unemployment, though separate data on their status have continued to be collected on a monthly basis.<sup>1</sup>

## **Exclusion from official statistics**

When the current labor force concepts were first introduced in 1940, the lower age bound was set at 14 years. In 1962, the Gordon Committee, a presidentially appointed body set up to appraise the Government's labor force statistics system, considered raising the lower age bound from 14 to 16 years but finally recommended that it be left at 14. It reasoned that the exclusion of 14- and 15-year-olds from the official labor force figures would have no significant effect on the overall data and that many of the existing historical labor force series could not easily be revised to exclude those 14 and 15

years old, with the result that there would be a break in the continuity of many existing series.<sup>2</sup> The committee's recommendation notwithstanding, labor force data pertaining to 14- and 15-year-olds were removed from the official figures in 1967 as part of an overall modification of labor force definitions. The concluding rationale was that employed youngsters 14 to 15 years old worked mainly as part-time paper carriers, babysitters, and so forth; they were bound by statute to attend school; and that they were barred from most occupations under Federal and State child labor laws. It was believed that unemployment in this age group had little significance in relation to broad economic or social accounting and that their inclusion created minor problems of interpretation and led to some unnecessary criticism of the official figures.<sup>3</sup> Because 14- and 15-year-olds accounted for only about 1.6 percent of the civilian labor force, their exclusion from the monthly employment data has made no noticeable difference in the overall unemployment rate. For example, the overall annual average unemployment rate was 5.8 percent in 1979 and would have been only a tenth of a percentage point higher with the inclusion of these very young workers. (See table 1.)

Any analysis of the labor market situation of 14- and 15-year-olds must recognize the impact of child labor and school attendance laws. The Federal Fair Labor Standards Act is the major statute in the child labor field. Under the law, 14- and 15-year-olds may not be employed in any manufacturing occupation, processing

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**Table 1. Employment status of the civilian noninstitutional population by age, 1979 annual averages**

[In thousands]

Employment status	14 and 15 years old	16 years and over	14 years and over
Civilian noninstitutional population . . .	7,925	161,532	169,457
Civilian labor force . . . . .	1,622	102,908	104,530
Participation rate . . . . .	20.7	63.7	61.7
Employed . . . . .	1,372	96,945	98,317
Unemployed . . . . .	250	5,963	6,213
Unemployment rate . . . . .	15.4	5.8	5.9
Not in the labor force . . . . .	6,302	58,623	64,925

occupations (such as laundering or dressing poultry), or any other occupation or worksite found to be hazardous by the Secretary of Labor.<sup>4</sup> In addition, every State has a child labor law; whenever a State standard differs from a Federal standard, the more restrictive one must be observed.<sup>5</sup>

In most States, children from the ages of 7 to 16 are required to attend school, thereby severely restricting the days and hours a student is available for work. In addition, 14- and 15-year-olds cannot work more than 40 hours per week nor more than 8 hours per day when school is out. When school is in session, daily working hours are limited to 3 and weekly hours to 18. Also, night work, which the Federal Government defines as working between the hours of 7 p.m. to 7 a.m., is prohibited during the school year; during the summer months, working hours are extended until 9 p.m.<sup>6</sup>

**Labor force activity increases**

Among these workers, labor force participation rates—the ratio of those employed or unemployed to the noninstitutional population—indicate that individuals in this age group are somewhat more active than in the past. Interestingly, as shown in the following tabulation, this increased labor market activity has come about because of a rising participation rate among girls which is rapidly approaching that for boys. Participation for the latter has declined slightly over the last 25 years:

	Total	Boys	Girls
1954 . . . . .	18.1	24.7	11.3
1959 . . . . .	18.7	24.3	12.9
1969 . . . . .	18.5	22.0	14.9
1979 . . . . .	20.7	22.2	18.7

As is well known, the participation rate of teenagers increases dramatically with age. In 1979, the participation rate for 14- and 15-year-olds was 20.7 percent, 48.7 percent among 16- to 17-year-olds, and 67.4 percent for 18- and 19-year-olds.

Differences in participation associated with race are of particular interest. The participation rate is noticeably lower among young black teenagers than among

whites, probably because of the much greater difficulty they face in finding part-time jobs.<sup>7</sup> During the school year, white 14- and 15-year-olds are about three times as likely as their black counterparts to be in the labor force; in the summer months, however, proportionately more black youth enter the labor force and, as a result, the ratio of white-to-black labor force participation among these young workers declines to about 1.5 to 1. (See chart 1.)

Any appraisal of the determinants of 14- and 15-year-old participation in the labor force is greatly affected by the fact that the vast majority of them are in school. Only 2 percent, or 148,000, of the 7.7 million teenagers aged 14 to 15 years were not enrolled in school in October 1979.

To obtain a fuller picture of the relationship between age and the amount of labor supplied by 14- and 15-year-olds enrolled in school, it is useful to take into account the variations in hours worked by those who are employed. In October 1979, of those enrolled in school and employed in nonagricultural industries, almost four-fifths worked only 1 to 14 hours weekly and virtually all worked 21 hours or less. (See table 2.) As expected, this pattern of short hours worked by students declines with age. Among 16- and 17-year-olds enrolled in school, 77 percent worked 21 hours or less; the proportion dropped to 63 percent among 18- and 19-year-olds and 45 percent for those 20 to 24 years old. Among those young teenagers engaged in agricultural employment, the number of hours worked per week was greater. Only two-fifths of the teenagers

**Table 2. Hours of work of 14- and 15-year-olds enrolled in school, by type of industry and sex, October 1979**

[In thousands]

Characteristic	Total	Boys	Girls
Total enrolled in school <sup>1</sup> . . . . .	1,174	652	522
Agriculture . . . . .	136	115	21
Percent . . . . .	100.0	100.0	100.0
1-14 hours . . . . .	39.0	39.1	38.1
15-21 hours . . . . .	36.8	35.7	42.9
22-34 hours . . . . .	16.2	17.4	9.5
35-39 hours . . . . .	1.5	.9	4.8
40 hours . . . . .	1.5	1.7	( <sup>2</sup> )
41 hours and over . . . . .	5.1	5.2	4.8
Nonagricultural industries . . . . .	1,041	538	503
Percent . . . . .	100.0	100.0	100.0
1-14 hours . . . . .	78.1	74.9	81.5
15-21 hours . . . . .	15.7	18.4	12.7
22-34 hours . . . . .	5.5	6.3	4.6
35-39 hours . . . . .	.2	( <sup>2</sup> )	.4
40 hours . . . . .	.4	.3	.4
41 hours and over . . . . .	.2	( <sup>2</sup> )	.4

<sup>1</sup> These statistics are based on replies to the enumerator's inquiry as to whether the person was enrolled in school. Enumerators are instructed to include anyone who has been enrolled at any time during the current term or school year in day or night school in a public, parochial, or other private school. Such schools include elementary schools, junior or senior high schools, and colleges or universities. Excluded are persons enrolled in special schools, such as trade schools or business colleges; persons enrolled in classes which do not require physical presence in school, such as correspondence courses; and those in on-the-job training courses.

<sup>2</sup> Less than 0.1 percent.



worked 1 to 14 hours, another two-fifths worked 15 to 21 hours, and almost one-fifth worked 22 to 34 hours. In both agricultural and nonagricultural industries, however, the majority of young persons worked 21 hours or less. Thus, virtually all 14- and 15-year-olds, 93 percent, were working part time.

### Employment opportunities limited

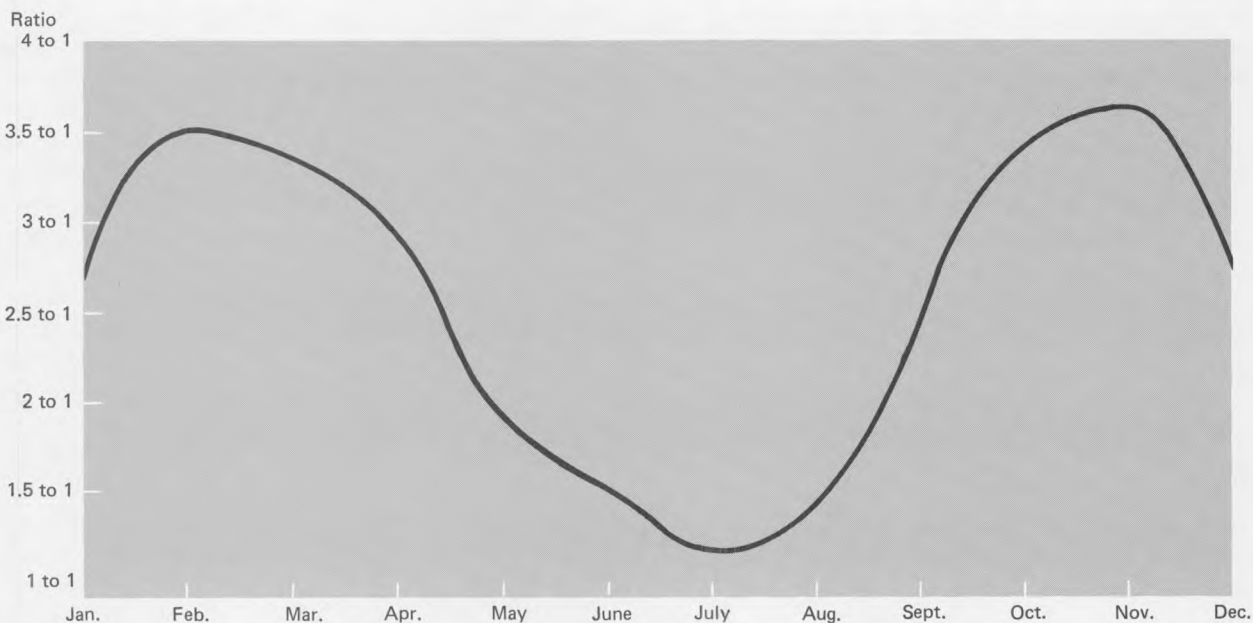
**Occupations.** In general, 14- and 15-year-olds are extremely limited in the occupations they can choose. Most white-collar jobs require more education and technical expertise than these young workers would have been able to acquire, and many blue-collar jobs are off limits because hazardous equipment is used at the worksite. Most jobs open to them fall into three categories: (1) sales work, (2) service work, and (3) unskilled labor. Three-fourths of all young teenage girls are in service occupations, the majority as private household workers (babysitters in particular). As shown in table 3, 14- and 15-year-old boys have more varied occupations; one-fourth are engaged in sales (for example, newspaper deliverers, cashiers, salespersons), another one-fourth are nonfarm laborers (such as, stock handlers, carwash attendants, yard workers), and nearly another fourth are service workers (for example, child-

care workers, dishwashers, fast-food workers, cleaning service workers).

**Industries.** Likewise, many industries are closed to 14- and 15-year-old youth. Manufacturing employment in particular and the operation of power-driven machinery are often prohibited. In addition, occupations are limited in connection with transportation, public utilities, construction, and warehousing. What this amounts to is that these youth are restricted to relatively casual, daytime employment, usually within the service and retail trade industries.

**Fewer hired.** The unemployment rate of 14- and 15-year-olds, at 15.4 percent in 1979, was well above the overall average of 5.8 percent for persons of "official" labor force age. Given the legal constraints and requirements under which they must operate, it is not surprising that employment opportunities for the youngest workers are extremely limited. But whether employers would hire significantly more 14- and 15-year-olds if the laws were relaxed is unknown.<sup>8</sup> State and Federal laws are not the only factors to consider when studying youth unemployment. Older teenagers also have significantly high levels of unemployment: 16.1

**Chart 1. Ratio of white to black labor force participation rates for youth 14 and 15 years old, January-December 1979**



**Table 3. Occupation of 14- and 15-year-old boys and girls enrolled in school, by sex, October 1979**

[In thousands]

Occupation	Total	Boys	Girls
Total enrolled in school <sup>1</sup>	1,206	669	537
Percent	100.0	100.0	100.0
White-collar workers	24.1	28.9	18.2
Professional and technical	1.2	1.0	1.3
Managers and administrators	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )
Sales	17.7	24.7	9.1
Clerical	5.2	3.1	7.8
Blue-collar workers	18.2	30.0	3.4
Craft and kindred	.7	1.2	( <sup>2</sup> )
Operatives, except transport	3.1	4.3	1.5
Transport equipment operatives	.2	.3	( <sup>2</sup> )
Nonfarm laborers	14.3	24.2	1.9
Service workers	48.6	27.7	74.7
Private household	27.9	5.2	56.1
Other	20.7	22.5	18.6
Farmworkers	9.1	13.5	3.7
Managers	.2	.3	( <sup>2</sup> )
Laborers	8.9	13.2	3.7

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

percent for 16- and 17-year-olds in 1979, 14.6 percent for 18- and 19-year-olds. Employment for 16- and 17-year-olds is limited only by orders declaring certain situations to be particularly hazardous or detrimental to one's health; and for those 18 years and over, child labor laws cease to apply. Obviously, these older teenagers have other problems which must be taken into account, principally their lack of work experience, inadequate entry skills, and intermittent attachment to the labor market.

The jobless rate of 14- and 15-year-olds differs markedly by race and sex. Unemployment among young black 14- and 15-year-old girls was nearly 50 percent in 1979, the highest of any age-sex-race group measured. In contrast, 14- and 15-year-old white girls had an unemployment rate of 11 percent, approaching a fifth that of their black counterparts. The following tabulation shows the unemployment rates of 14- and 15-year-old workers, 1979 annual averages:

	<i>Unemployment rate</i>
All workers	15.4
Boys	16.6
White	14.2
Black and other	39.8
Girls	14.0
White	11.0
Black and other	48.3

Despite the high incidence of unemployment, the length of time these young teenagers remain unemployed tends to be brief—the average (mean) being 6 weeks in 1979 for both white and black youth. Three-fifths of all who experienced unemployment had less than 5 weeks of it during the year, largely reflecting the

seasonal or intermittent nature of their labor force participation.

There are also some other mitigating factors regarding unemployment among 14- and 15-year-olds. Virtually all are in school and seeking only part-time work; and, for the most part, finding employment is not an economic necessity, as the vast majority live with their parents. However, experiencing unemployment at this young age may have negative effects for some; it is possible that those who are consistently blocked in their attempts to find work will eventually perceive that the labor market is unlikely to provide them with a "good" job in the future. Hence, some may have a psychological disadvantage in terms of motivation and attitude in their later job search.

### Most dropouts not in labor force

Given the current laws and regulations affecting 14- and 15-year-olds, formal educational requirements preempt most of the usual workday time of young people, and the Fair Labor Standards Act restricts the potential area of employment into their late teens. The act was legislated to protect the youngest members of our society from exploitation and hazardous job assignments. It was designed to limit employment abuses and allow for the gradual integration of teenagers into the labor market—not to restrict relevant employment opportunity. However, some still argue that these laws unfairly restrict the job market potential of those who do not want to or cannot finish school by denying them the chance to begin training in a trade that would provide them with solid job opportunities in the future.<sup>9</sup>

Though specific data are meager, there were roughly 150,000 teenagers age 14 and 15 years who were not enrolled in school during October 1979. Of these, only 37,000, or 25 percent, were in the labor force. Thus, more than 100,000 14- and 15-year-olds were neither attending a regular academic school, employed, nor looking for work. Information on why these youth are neither in school nor pursuing a job is sparse. Some are likely too discouraged to look because they believe they are too young to be hired, lack needed skills or training, or simply think there are no jobs available to them in their community. Others may have unsuccessfully looked for work in the past and have given up the search. Some youngsters are not enrolled in school because of what can broadly be termed "health problems" (for example, ill health, mental infirmities, the strain of academic work, or related emotional problems); and such people are not as likely to be in the labor force as persons who have left school for other reasons. It has been advanced that a sizable number of 14- and 15-year-olds who are not in school fall into this category, but that past age 15 this reason for nonenrollment declines markedly.<sup>10</sup>

Still some of the 14- and 15-year-olds not enrolled in a regular academic school are receiving vocational instruction in automobile mechanics, cosmetology, electronics, and other fields. In October 1979, one-third of all 14- and 15-year-old boys and one-sixth of all girls were learning trades at a special school.

GENERALLY, PROBLEMS relating to 14- and 15-year-olds in the labor force have focused on Federal and State regulations which were designed to afford young workers special protection from exposure to industrial hazards and enforce compulsory school attendance. Analysis of data suggest that, in addition to their in-

tended purpose, child labor laws affect the range of employment choices open to school leavers as well as students and also have the more positive effect of discouraging some youth from dropping out of high school by creating adverse constraints in the labor market. Thus, the level of employment and incidence of unemployment among these young workers is probably more directly related to mandatory school attendance laws, statutes restricting employment, and their actual job desires than to other areas of concern such as lack of experience and low skill level. The latter generally afflict older teenagers who are often seeking more permanent and responsible jobs. □

—FOOTNOTES—

<sup>1</sup> Separate data on the employment status and related characteristics for this group are published monthly in the BLS publication, *Employment and Earnings*.

<sup>2</sup> President's Committee to Appraise Employment and Unemployment Statistics, *Measuring Employment and Unemployment* (Washington, U.S. Government Printing Office, 1963), p. 43.

<sup>3</sup> Robert L. Stein, "New Definitions for Employment and Unemployment," *Employment and Earnings*, February 1967, p. 3.

<sup>4</sup> For a complete listing of those occupations in which 14- and 15-year-olds are restricted, see *A Guide to Child Labor Provisions of the Fair Labor Standards Act*, Child Labor Bulletin 101 (U.S. Department of Labor, Employment Standards Administration, 1973), pp. 5-7 and 30-33.

<sup>5</sup> In structure, State laws are not much different from the Fair Labor Standards Act; most cover six basic elements: minimum ages for employment, requirements for work permits; daily and weekly hour limitations; restraints on nightwork; school attendance requirements; and special restrictions for hazardous occupations. It is difficult to characterize any one State law as being more or less restrictive than the Federal standard given the many areas for comparison. For a de-

tailed analysis of State child labor standards affecting minors under age 18, see Richard R. Nelson, "Labor Legislation: 1978-79," *The Book of the States, 1980-81* (Lexington, Ky., The Council of State Governments, 1980) pp. 559-575.

<sup>6</sup> *Guide to Child Labor Provisions*, p. 30. (Child Labor Regulations No. 3 is currently undergoing scrutiny with the likelihood that the child labor provisions will undergo some changes if approved by the Secretary of Labor.)

<sup>7</sup> William G. Bowen and T. Aldrich Finegan, *The Economics of Labor Force Participation* (Princeton, N.J., Princeton University Press, 1969), pp. 403-04.

<sup>8</sup> Daniel J. B. Mitchell and John Clapp, *Legal Constraints on Teenage Employment: A New Look at Child Labor and School Leaving Laws* (Los Angeles, University of California Institute of Industrial Relations, 1979).

<sup>9</sup> Mitchell and Clapp, *Legal Constraints*, and National Manpower Institute, "Youth Employment and the Law" (National Committee on Employment of Youth, 1975).

<sup>10</sup> Bowen and Finegan, *Economics of Labor*, pp. 409 and 415.



# Involuntary part-time work: new information from the CPS

*Persons who work part time involuntarily have lower median family incomes and a higher incidence of poverty than do other part-time workers*

SYLVIA LAZOS TERRY

Persons who work less than 35 hours per week but would prefer to work full time—frequently referred to as the partially unemployed—receive less attention than other unemployed workers, low wage workers, and those discouraged over job prospects. Nevertheless, the problem of involuntary part-time employment affects millions when the economy is performing well and grows considerably during recessionary periods.

Detailed information about part-time workers<sup>1</sup>—their numbers, characteristics, and reasons for working part time—has long been obtained monthly through the Current Population Survey (CPS).<sup>2</sup> These data, when converted into annual statistics, record the *average number* of persons working part time during a year. However, because part-time jobs are often brief, generating a high employee turnover, one could not, until recently, determine the *total number* of persons who work part time during a given year. Additional information which explores this dimension of part-time work is now obtained annually through the March work experience and income supplement to the CPS.

The March supplement contains a series of retrospective questions about employment, unemployment, and income received during the previous year. New questions were introduced to this supplement in 1975 to determine whether respondents, including those who usually work full time, had worked part time during the

year and their reasons for doing so.<sup>3</sup> Thus, it is now possible to determine not only the total number of persons engaging, both voluntarily and involuntarily, in part-time work during the year, but also to examine the relationship between the incidence and type of part-time work and the level of family income.<sup>4</sup>

## Differences between the two measurements

As derived from the monthly household survey, the *average number* of persons with part-time work during 1978 was 21.4 million. On the other hand, data from the March 1979 supplement show that the total number of different individuals who worked part time during at least part of 1978 was nearly double that, 40.7 million. (See table 1.)

The two sources of data show even more striking differences in the numbers of persons working part time involuntarily. The average of the monthly data collected during 1978 indicated that 3.4 million persons worked part time involuntarily. The work experience survey conducted the following March counted three times as many workers—10.1 million—with some involuntary part-time work during the year. As noted above, the reason for this wide gap between the two sets of numbers is high turnover in the part-time labor market. Many part-time jobs are of very short duration and many others are likely to be filled by different individuals during the year.

In addition, the ratio of the work experience numbers to the CPS monthly averages (column 3 of table 1) shows that flexibility and turnover vary markedly ac-

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ording to the specific reason for working part time. For example, the work experience data show that there were four times as many individuals who had to work part time for a week or more because of "slack work or material shortages" during the course of 1978 than does the average of the monthly data for the same year. These are workers who expect to return to full-time schedules as soon as business conditions improve. Therefore, under a generally favorable economic climate, like that of 1978, their part-time work experience is likely to be brief.<sup>5</sup> In contrast, there were only twice as many individuals who worked part time voluntarily at some time during 1978 than indicated by the annual average of the monthly data. Voluntary part-timers generally find themselves in a work situation which accommodates their needs; therefore, they tend to exhibit less turnover and stay on such schedules longer than other part-time workers.

There are, of course, several basic differences between the way in which part-time work is measured in the work experience supplement and the way it is measured in the monthly CPS. The main difference concerns the so-called "reference period." The work experience survey records, retrospectively, the total number of different individuals who engaged in part-time work for 1 week or more at any time during the year. However, the basic CPS data provide a purely cross-sectional look of the work force and record only those engaged in part-time work during 1 week of each month (the week which includes the 12th).

In order to identify part-timers who would prefer to work full time, the responses obtained in the work experience survey are classified into four categories:

1. Wanted or could only work part time
2. Could only find part-time job
3. Slack work or material shortages
4. Other

The first category refers to part-time work of a predominantly "voluntary" nature. The second and third categories relate to that which is incurred because of job market conditions or other job-related developments and is thus of an "involuntary nature." The fourth category covers a mixture of reasons for part-time employment which cannot be easily labeled as either voluntary or involuntary.<sup>6</sup> The monthly questionnaire includes additional categories of involuntary part-time work: "beginning or ending a job in the survey week" and "repairs to plant and equipment." Thus, the definition of involuntary part-time employment used in the monthly questionnaire is slightly more comprehensive than that used in the annual work experience supplement. Nevertheless, the aim of both is to identify those workers who are employed less than 35 hours a week but would prefer to work more.<sup>7</sup>

**Table 1. Comparison of CPS annual average and work experience part-time data,<sup>1</sup> 1978**

[Number of workers in thousands]

Reason for working part time	Number of workers (in thousand)		Ratio of work experience to CPS annual average
	Annual average of monthly CPS data	Annual work experience supplement	
Total .....	21,441	40,685	1.9
Involuntary reasons .....	3,428	10,118	3.0
Slack work .....	1,499		
Material shortages or repairs to plant and equipment .....	85	6,430	4.1
New job started during week <sup>2</sup> ..	238	( <sup>2</sup> )	( <sup>2</sup> )
Job terminated during week <sup>2</sup> ..	100	( <sup>2</sup> )	( <sup>2</sup> )
Could only find part-time work ..	1,506	3,688	2.4
Voluntary reasons			
Does not want, or unavailable for, full-time work .....	10,430	19,405	1.9
Other reasons .....	7,583	11,161	1.5
Vacation <sup>2</sup> .....	884	( <sup>2</sup> )	( <sup>2</sup> )
Illness <sup>2</sup> .....	1,881	( <sup>2</sup> )	( <sup>2</sup> )
Bad weather <sup>2</sup> .....	902	( <sup>2</sup> )	( <sup>2</sup> )
Industrial dispute <sup>2</sup> .....	27	( <sup>2</sup> )	( <sup>2</sup> )
Legal or religious holiday <sup>2</sup> .....	559	( <sup>2</sup> )	( <sup>2</sup> )
Full time for this job <sup>2</sup> .....	1,311	( <sup>2</sup> )	( <sup>2</sup> )
All other reasons <sup>2</sup> .....	2,019	( <sup>2</sup> )	( <sup>2</sup> )

<sup>1</sup> The monthly CPS annual average and the work experience data are not strictly comparable because of cross-over in some classifications of part-time workers. Specifically, the category "repairs to plant and equipment" is included with "material shortages" in the monthly CPS, while in the work experience supplement "plant repairs" is part of "other reasons." However, this difference does not significantly affect the totals.

<sup>2</sup> Applies only to monthly CPS data.

## Who are these workers?

The work experience supplement shows that about 10 million persons worked part-time involuntarily at some time during 1978—one fourth of all part-time workers during the year. Voluntary part-timers made up close to half of all persons with part-time work during the year and the remaining quarter consisted of those who gave other reasons.

As shown in table 2, the most important reason for working part-time involuntarily is slack work or material shortages. Slack work is any suspension of full-time pay status because of lack of orders, model changeovers, taking inventory, plant breakdowns, shortages of materials, and seasonal or temporary slowdowns, and is often associated with economic downturns.<sup>8</sup> In 1978, 6.4 million persons or 64 percent of those who worked part-time involuntarily named this as their reason for doing so. Workers in this category were usually employed at full-time jobs during the balance of the year (83 percent). The majority were men (61 percent), were primarily between the ages of 25 and 54 (59 percent), and were blue-collar workers (59 percent). The remaining 3.7 million worked part-time involuntarily because that is all they could find. They were most likely to be usually employed at part-time jobs (72 percent); women (62 percent); 16 to 24 years old (53 percent); and white-collar and service workers (70 percent).

**Table 2. Main reason for working part time, by age, sex, and occupation, 1978**

[Numbers in thousands]

Characteristic	Persons with part-time work experience						Persons with involuntary part-time work experience	
	Total	Involuntary			Voluntary	Other	Usually full time	Usually part time
		Total	Slack work	Could only find				
All persons	40,685	10,118	6,430	3,688	19,405	11,161	6,395	3,723
16 to 19 years	8,210	1,639	563	1,076	5,166	1,405	602	1,037
20 to 24 years	7,304	2,103	1,233	870	3,038	2,163	1,424	679
25 to 54 years	19,056	5,268	3,825	1,443	7,621	6,169	3,709	1,559
55 years and over	6,115	1,110	810	300	3,581	1,425	660	450
Men	17,871	5,306	3,891	1,415	6,174	6,392	3,858	1,448
16 to 19 years	4,195	937	384	553	2,458	800	385	552
20 to 24 years	3,586	1,084	762	322	1,279	1,224	847	237
25 to 54 years	7,160	2,690	2,275	415	989	3,483	2,218	472
55 years and over	2,929	596	472	124	1,448	885	407	189
Women	22,815	4,813	2,539	2,274	13,231	4,770	2,537	2,276
16 to 19 years	4,015	702	179	523	2,709	604	217	485
20 to 24 years	3,718	1,018	470	548	1,759	941	576	442
25 to 54 years	11,896	2,577	1,550	1,027	6,632	2,685	1,490	1,087
55 years and over	3,185	515	339	176	2,132	540	252	263
Occupation:								
White collar	17,009	2,833	1,384	1,449	9,922	4,254	1,558	1,275
Blue collar	12,895	4,791	3,785	1,006	3,348	4,757	3,647	1,144
Service	9,181	1,978	843	1,135	5,606	1,596	814	1,164
Farm	1,601	517	418	99	529	554	377	140

*Family status.* Seven of ten persons with some involuntary part-time work during 1978 belonged to a husband-wife family. (See table 3.) However, reasons for working part-time involuntarily differ markedly among family members. Nine of ten of the husbands who worked part-time involuntarily did so because of slack work or material shortages. Wives with some involuntary part-time work were more evenly divided between "slack work" (60 percent) and "could only find part-time work" (40 percent). Other related family members—many of whom are youths—were more likely to work part-time involuntarily because they could only find part-time employment.

Members of families maintained by women made up the second largest group of involuntary part-time work-

ers—about 1.4 million of the 10.1 million total. These persons were just as likely to have worked part-time involuntarily because of slack work as because of their inability to find full-time work.

*Part-year employment.* Table 4 shows that persons with part-time work experience were employed for fewer weeks during the year than were all workers. While 3 in 5 persons who worked during 1978 were employed year-round (50 to 52 weeks), only 2 in 5 with part-time work experience worked all year at either a part-time or full-time job. Nearly one-third of those employed part-time at some time during 1978 worked less than half of the year.

For the 19 million who held part-time jobs voluntarily, working fewer weeks during the year probably indicates a rational choice between leisure, personal responsibilities, and employment. The labor market should and does provide opportunities for marginally attached workers—mothers, students, and retirees—to supplement their incomes and enrich their working lives through part-time jobs. However, for the 10 million persons with involuntary part-time work who already face the labor market problem of reduced work hours, being employed only part of the year probably compounds the personal difficulties already encountered. Those working reduced schedules because of slack work may face temporary lay-offs, unemployment, and eventually drop out of the labor force if business conditions fail to improve. Only 45 percent of these workers were employed the whole year. In addition, more than half of the 3.7 million who could only find part-time jobs worked less than half the year. Not coincidentally,

**Table 3. Main reason for working part-time, by family status, 1978**

[Numbers in thousands]

Family status	Total	Involuntary			Voluntary	Other
		Total	Slack work	Could only find		
All persons	40,685	10,118	6,430	3,688	19,405	11,162
Husband-wife families	29,992	6,882	4,482	2,400	15,068	8,037
Husbands	8,081	2,583	2,271	312	1,818	3,680
Wives	12,769	2,367	1,421	946	7,783	2,618
Other family members	9,142	1,932	790	1,142	5,467	1,739
Families maintained by						
women	4,247	1,376	688	688	1,821	1,049
Householder	1,940	651	365	286	749	540
Other family members	2,307	725	323	402	1,072	509
Families maintained by men	869	277	186	91	284	308
Householder	313	88	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Other family members	556	189	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )
Unrelated men	2,808	871	653	218	910	1,026
Unrelated women	2,770	709	421	288	1,321	740

<sup>1</sup> Not separately available but included in higher level total.



**Table 4. Percent distribution of workers by weeks worked and main reason for working part time, 1978**

Reason for working part time	Total (in thousands)	Percent distribution number of weeks worked		
		50 to 52 weeks	27 to 49 weeks	1 to 26 weeks
All workers .....	110,290	63.4	17.9	18.7
All persons with part-time work experience .....	40,685	40.3	28.3	31.4
Involuntary reasons:				
Slack work or material shortage .....	10,118	36.0	32.0	32.0
Could only find part-time work .....	6,430	44.9	34.5	20.7
Voluntary reasons:				
Wanted to or could only work part time .....	3,688	20.8	27.6	51.5
Other .....	19,405	35.8	27.5	36.8
	11,162	52.0	26.4	21.6

women, blacks, and youths, are overrepresented among persons who could only find part-time work. These demographic groups, as entrants into the assimilation process of the labor market, are also most susceptible to unemployment and low earnings.

### Poverty is more prevalent

What makes persons with involuntary part-time work of particular interest is their lower median family income and higher incidence of poverty<sup>9</sup> relative to other groups of employees. In 1978, 1.4 million or 13.5 percent of all persons who worked part-time involuntarily lived in families with income below the Federal Government's poverty lines, while this was the case for only 7.7 percent of those who did so voluntarily. The median family income of involuntary part-time workers was only three-fourths that of voluntary part-timers. Those who took involuntary part-time jobs because it was all they could find had a lower median family income (\$14,454) and higher incidence of poverty (16.5 percent) than any other group of persons with part-time employment. (See table 5.) Families of persons who worked part time involuntarily because of slack business conditions were slightly better off economically than families of those who could only find part-time work.

Husband-wife families had the highest median income and lowest incidence of poverty among families with a member who experienced involuntary part-time work during the year. On the other hand, women who maintained families and unrelated women were the two groups at the bottom of the income scale. Two of five women who maintained families and 3 of 10 female unrelated individuals who worked part time involuntari-

**Table 5. Main reason for working part-time by median family income, incidence of poverty, and family status, 1978**

Family status	Total	Involuntary		Voluntary	Other
		Slack work	Could only find	Wanted to work	
<b>MEDIAN FAMILY INCOME</b>					
All persons .....	\$17,501	\$14,875	\$14,454	\$19,673	\$16,952
Husbands .....	15,995	15,685	10,182	14,237	17,746
Wives .....	19,940	17,706	15,852	20,816	20,210
Others in husband-wife families .....	28,009	26,757	24,641	29,032	27,011
Women who maintain families .....	7,627	7,181	6,097	8,067	8,358
Others in such families .....	13,293	14,415	12,151	13,513	13,067
Men who maintain families .....	13,213	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	13,727
Others in such families .....	19,283	18,664	16,676	20,115	20,831
Unrelated men .....	6,663	7,808	4,493	5,465	8,185
Unrelated women .....	5,309	5,860	4,071	4,956	6,344
<b>PERCENTAGE BELOW POVERTY</b>					
All persons .....	9.4	11.8	16.5	7.7	8.7
Husbands .....	7.5	10.1	20.4	5.8	5.7
Wives .....	3.9	5.0	6.2	3.3	4.4
Others in husband-wife families .....	3.1	4.5	5.0	2.4	3.3
Women who maintain families .....	33.2	36.0	42.8	30.8	29.7
Others in such families .....	15.5	12.1	26.3	13.2	14.2
Men who maintain families .....	12.4	( <sup>1</sup> )	( <sup>1</sup> )	( <sup>1</sup> )	9.7
Others in such families .....	5.6	7.1	7.5	4.2	5.5
Unrelated men .....	22.3	20.0	33.9	27.9	16.4
Unrelated women .....	26.5	23.7	41.1	26.7	22.0

<sup>1</sup> Data not shown where base is less than 75,000.

ly during the year lived in families with incomes below the poverty level.

Unfortunately, workers most likely to have primary economic responsibility for their families—husbands, women who maintain families, and unrelated individuals—are most adversely affected by involuntary part-time employment. The families of these workers made up more than 70 percent of those with incomes below poverty.

IMPORTANT SIMILARITIES and differences exist between workers whose part-time employment stems from cut-backs in hours and those who take part-time jobs simply because that is all they could find. Persons involuntarily in part-time status differ by sex, age, occupation, family status, and work experience. But these workers share two important characteristics: their median family incomes are lower and their incidence of poverty is greater than any other group of part-time workers. □

### FOOTNOTES

<sup>1</sup> Part-time workers are those who work less than a 35 hour week. For a discussion of the delineation of 35 hours as being part time, see Janice N. Hedges and Stephen J. Gallogly, "Full and part time: a review of definitions," *Monthly Labor Review*, March 1977, pp. 21-28.

<sup>2</sup> The Bureau of Labor Statistics publishes monthly data on invol-

untary part-time workers in *Employment and Earnings*, tables A-27 through A-30. Numerous studies have examined voluntary part-time workers using monthly CPS data. See for example, William V. Deutermann, Jr., and Scott Campbell Brown, "Voluntary part-time workers: a growing part of the labor force," *Monthly Labor Review*,

June 1978, pp. 3-10; John D. Owen, "An Empirical Analysis of the Voluntary Part-time Labor Market," Report to the Employment and Training Administration, U.S. Department of Labor under Grant No. 21-26-76-13-1; and Carol Leon and Robert W. Bednarzik, "A profile of women on part-time schedules," *Monthly Labor Review*, October 1978, pp. 3-12. Studies which have concentrated on worksharers (persons who work part time involuntarily because of slack work) include Robert W. Bednarzik, "Worksharing in the U.S.: its prevalence and duration," *Monthly Labor Review*, July 1980, pp. 3-12; and Sar A. Levitan and Richard S. Belous, *Shorter Hours, Shorter Weeks: Spreading the Work to Reduce Unemployment* (The Johns Hopkins University Press, 1977).

<sup>3</sup> The March work experience supplement obtains information for the civilian noninstitutional population 16 years of age and older. The data presented in this summary have been extracted from the following four questions in the CPS questionnaire:

- a. In the weeks that . . . . worked, how many hours did . . . . usually work per week?  
(If more than 35 hours Question b. is asked, if less than 35 hours Question c. is asked.)
- b. Did . . . . work less than 35 hours for at least one week in 1978? Exclude time off with pay because of holidays, vacations, days off, or sickness.
- c. How many weeks did . . . . work less than 35 hours in 1978?
- d. What was the main reason . . . . worked less than 35 hours per week?

<sup>4</sup> For more complete information regarding the data available on a person's employment experience during the year, see "Work Experience of the Population in 1978," Special Labor Force Report 236, Bureau of Labor Statistics.

<sup>5</sup> In "Worksharing in the U.S.," Robert Bednarzik estimates that the average duration of involuntary part-time employment because of slack work is approximately 6 weeks.

<sup>6</sup> Persons who cited "other" as their main reason for working less

than 35 hours were on reduced schedules because of labor disputes, bad weather, illness, plant retooling, holidays, or because their regular full-time workweeks were less than 35 hours. In 1978, 11.2 million or 27 percent of all part-time workers named "other" as their reason for their short workweeks. Workers in this category are apt to be men (57 percent), 25 to 54 years old (55 percent), and usually employed at full-time jobs (73 percent).

<sup>7</sup> Another methodological difference lies in the identification of part-time workers as usually employed at full-time jobs or usually employed at part-time jobs. Because questions in the monthly CPS refer to a part-time worker's current job, certain reasons for working part-time—wanted to work part-time, could only find part-time work, and full-time workweek is less than 35 hours—are always classified as usually part-time. Other reasons—vacations, bad weather, labor disputes, holidays, and job terminated or begun during survey week—are always classified as usually full time. Questions in the work experience supplement refer to a person's past year's employment experience, thus, no restrictions are placed on the classification of a worker as either usually full time or usually part time. For example, a mother who voluntarily works part time during the summer but returns to a full-time schedule when her children are back in school would be classified during the summer by the monthly CPS as a voluntary part-timer usually employed at a part-time job, while the work experience supplement would count her as a voluntary part-timer who usually works full time.

<sup>8</sup> For detailed information on the cyclical movements of persons involuntarily employed part time, see Robert W. Bednarzik, "Involuntary part-time work: a cyclical analysis," *Monthly Labor Review*, September 1975, pp. 12-18.

<sup>9</sup> For a discussion of the concept of poverty, see *The Measure of Poverty* (U.S. Department of Health, Education, and Welfare, 1976); and *Characteristics of the Population Below the Poverty Level: 1978*, Current Population Reports, Series p. 60, No. 124 (U.S. Bureau of the Census, 1980).

# Technical Note



## Federal agencies updating base year of indexes to 1977

Along with other Federal agencies, the Bureau of Labor Statistics is changing the base year used in its statistical indexes from 1967 to 1977. The rebasing of most BLS series will be completed by December 1981, the target date for conversion of all Federal index numbers adopted by the Office of Federal Statistical Policy and Standards. The BLS Producer, Consumer, and import and export price indexes and price-related indexes (such as the Spendable Earnings Series) will be rebased to 1977 with the release of data for January 1982.

### Periodic revision

The base period of Federal statistical indexes is revised approximately every 10 years. In announcing the latest revision, the Office of Statistical Policy and Standards noted that reference periods are changed to "facilitate the visual comprehension of rates of change from a base period that is not too distant in time."

The Office of Statistical Policy chose the year 1977 for two reasons. First, the most recent quinquennial economic censuses were taken for 1977, and many economic series are benchmarked to these censuses. Second, the continued recovery of the economy in 1977 from the 1974-75 recession was "relatively balanced, with no particular extreme conditions that would make it unrepresentative of the recent period."

The proposal to change the reference period from 1967 to 1977 appeared in the *Federal Register* of August 1, 1979, and the *Statistical Reporter* of August 1979. The announcement provided a 30-day period for public comment on the proposal. Notice of adoption of the 1977 reference period appeared in the *Federal Register* of March 4, 1980.

It should be noted that the BLS rebasing to 1977 is essentially an arithmetic change to make the index numbers easier to comprehend. It does not involve changes in the weights of index components nor any other substantive or conceptual changes. For example, the con-

**Exhibit 1. Schedule of dates for converting BLS statistical series to a base year of 1977 = 100**

Statistical series	Scheduled completion date
<b>Employment data: establishment</b>	
Aggregate weekly hour indexes . . .	July 1981
Aggregate weekly payroll indexes . . .	July 1981
Average weekly earnings indexes . . .	July 1981
Federal Government hours and earnings indexes . . . . .	July 1981
Gross and spendable earnings indexes . . . . .	February 1982
<b>Price data</b>	
Consumer Price Indexes . . . . .	February 1982
Import and export price indexes . . .	February 1982
Producer Price Indexes . . . . .	February 1982
<b>Productivity data</b>	
Compensation per hour indexes . . .	January 1981
Output per hour indexes . . . . .	January 1981
Prices indexes . . . . .	January 1981
Unit labor cost indexes . . . . .	January 1981
Unit nonlabor cost indexes . . . . .	January 1981
Unit profit index . . . . .	January 1981
Productivity for the Federal Government . . . . .	June 1981
Productivity for selected industries	June 1981
Productivity for United States and 11 industrialized countries . . . .	May 1981
Unpublished indexes of deflated value per employee hour . . . . .	January 1981
<b>Wage data</b>	
Area Wage Survey indexes . . . . .	(1)
Hourly Earnings Index . . . . .	July 1981
Industry Wage Survey Indexes . . .	(1)
Salary trend indexes . . . . .	Fall-Winter 1981-82
Union wage rate indexes: building trades . . . . .	January 1981
Union wage rate indexes: other industries . . . . .	July 1981

<sup>1</sup> Completed.



version of the annual index numbers for the Consumer Price Index (All Items) from a 1967=100 base to a 1977=100 base involves dividing the all items index numbers by the 1977 all items index number (181.5) and multiplying by 100:

	1967	1969	1973	1977
1967=100 . . . . .	100.0	109.8	133.1	181.5
1977=100 . . . . .	55.1	60.5	73.3	100.0

**The Bureau schedule**

The BLS Area Wage Survey and Industry Wage Survey indexes have already been changed to the new base year. (See exhibit 1.)

In January 1981, some Bureau productivity indexes were changed to a 1977=100 base. These include the indexes of output per hour, compensation per hour, unit labor costs, unit nonlabor payments, and productivity in the private economy, and in major sectors of the private economy—nonfarm, manufacturing, and nonfinancial corporations. Also the indexes of union wage rates for the major building trades were rebased.

During the middle of this year, the balance of the in-

dexes in the productivity area (productivity for selected industries, for the Federal Government, and for the United States and 11 industrialized countries) will be changed to the new base year. Other indexes scheduled to be changed at midyear are the union wage rates for workers in industries other than the building trades. The employment, hours, and earnings indexes derived from the BLS survey of establishments will be changed to the 1977 base when the annual benchmark revisions are introduced in July 1981. (The Spendable Earnings Series, as noted earlier, will be rebased concurrent with the price index data in January 1982.)

In late 1981 and early 1982, the balance of BLS statistical series, including the price indexes, will be indexed to 1977=100.

The Bureau will publish additional information concerning rebasing of specific series as it becomes available. For instance, a price pamphlet is planned for publication coincident with the release of the rebased price indexes in early 1982. Regular notices indicating the change of the base year will appear in Bureau of Labor Statistics periodicals, bulletins, reports, press releases, and other publications. This will give users ample opportunity to plan any required adjustments. □

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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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# Major Agreements Expiring Next Month



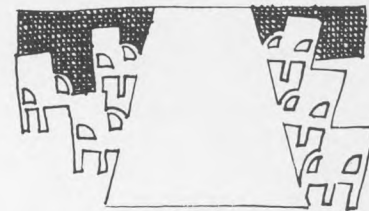
This list of collective bargaining agreements expiring in March is based on contracts on file in the Bureau's Office of Wages and Industrial Relations. The list includes agreements covering 1,000 workers or more.

Employer and location	Industry	Union <sup>1</sup>	Number of workers
AFC Industries, Inc., Amcar Division (Interstate)	Transportation equipment	Steelworkers	2,000
Acme Boot Co., Inc. (Tennessee)	Leather	Rubber Workers	2,200
Allied Chemical Corp., Chesterfield Fibers Plant (Hopewell, Va.)	Chemicals	Teamsters (Ind.)	2,000
American Broadcasting Co., Inc., (Interstate)	Communications	Broadcast Employees and Technicians	1,800
American Can Co. (Interstate)	Fabricated metal products	Machinists	2,100
Associated General Contractors of America, Inc.:			
Connecticut Chapter	Construction	Laborers	6,000
Connecticut Chapter	Construction	Bricklayers	1,300
Houston Chapter (Texas)	Construction	Iron Workers	1,700
Houston Chapter & 1 other (Texas)	Construction	Laborers	2,200
Houston Chapter & 1 other (Texas)	Construction	Carpenters	6,000
Jefferson County, Inc. Chapter (Texas)	Construction	Carpenters	1,500
Associated Hospitals of East Bay, Inc. (San Francisco, Calif.)	Hospitals	Service Employees	1,600
Association of Bituminous Contractors, Inc. (Washington, D.C.)	Mining	Mine Workers (Ind.)	14,000
Association of Motion Pictures & Television Producers, Theatrical & TV (Interstate)	Motion pictures	Writers Guild (Ind.)	6,000
Automotive Parts Distributors Association, Inc. (New York, N.Y.)	Wholesale trade	Teamsters (Ind.)	2,100
Bituminous Coal Operators Association (Interstate)	Construction	Mine Workers (Ind.)	160,000
Builders Association of Missouri, 2 agreements (Missouri)	Construction	Carpenters and Painters	5,750
CBS, Inc., CBS Records, Inc. Division (Pitman, N.J.)	Electrical products	Teamsters (Ind.)	1,700
Cerro Corp., Cerro Metal Products Division (Bellefonte, Pa.)	Primary metals	Auto Workers (Ind.)	1,100
Connecticut Construction Industries Association, Inc. (Connecticut)	Construction	Laborers	4,750
Continental Can Co., Inc. (Interstate)	Fabricated metal products	Machinists	2,500
Crouse-Hinds Co. (Syracuse, N.Y.)	Electrical products	Electrical Workers (IBEW)	1,900
Exxon Corp., Exxon Co., U.S.A., Baton Rouge (La.) Refinery Chemical Co.	Petroleum	Chemical Workers	1,300
Fed Mart Corp., Fed Mart Stores, Inc. (San Diego, Calif.)	Retail trade	Food and Commercial Workers	1,000
Firestone Tire & Rubber Co., Electrical Wheel Co. Division (Quincy, Ill.)	Transportation equipment	Auto Workers (Ind.)	1,200
FMC Corp., Crane and Excavator Division (Cedar Rapids, Iowa)	Machinery	Auto Workers (Ind.)	1,300
FMC Corp., San Jose Divisions (San Jose and Santa Clara, Calif.)	Machinery	Machinists	2,150
General Mills, Inc., Master Agreement (Interstate)	Food products	Grain Millers	4,000
Greater Chicago Hotel & Motel Association (Illinois)	Hotels	Hotel and Restaurant Employees	2,950
Gulf Coast Contractors Association and 2 others (Texas)	Construction	Plumbers	3,600
International Silver Co., Meriden & Wallingford Plants (Connecticut)	Miscellaneous manufacturing	Steelworkers	1,200
Lever Brothers Co. (Hammond, Ind.)	Chemicals	Chemical Workers	1,200
LTV Co., Vought Systems Division (Dallas, Tex.)	Machinery	Auto Workers (Ind.)	3,500
Mesta Machine Co. (West Homestead, Pa.)	Machinery	Steelworkers	1,200
Metropolitan Life Insurance Co. (Interstate)	Insurance	Insurance Workers	3,000
National Electrical Contractors Association, Inc., Northwest Line Constructors Chapter (Washington, Oregon, and California)	Construction	Electrical Workers (IBEW)	1,400
National Electrical Contractors Association, Rocky Mountain Chapter, Inside Wiring (Colorado)	Construction	Electrical Workers (IBEW)	2,800
Owens-Illinois, Inc., Lily Division (Springfield, Mo.)	Paper	Electrical Workers (IBEW)	1,000
Painting and Decorating Contractors Association (Illinois)	Construction	Painters	8,000
Puget Sound Power & Light Co. (Washington)	Utilities	Electrical Workers (IBEW)	1,650
Retail Drug Store Operators (California) <sup>2</sup>	Retail trade	Food and Commercial Workers	5,600
Scott Paper Co., S.D. Warren Co. Division (Maine)	Paper	Machinists; Carpenters; Firemen & Oilers; and Electrical Workers (IBEW)	1,500
Standard Automotive Service Station Agreement (Missouri) <sup>2</sup>	Retail trade	Teamsters (Ind.)	1,350
Tampa Electric Co. (Florida)	Utilities	Electrical Workers (IBEW)	1,300
Textron Inc., Campbell, Wyant and Cannon Foundry Co. (Michigan)	Primary metal	Auto Workers (Ind.)	2,200
Transport of New Jersey (Maplewood, N.J.)	Transit	Amalgamated Transit Union	2,750
Weyerhaeuser Co. (Washington and Oregon)	Paper	Western Pulp and Paper Workers (Ind.)	2,000
Wisconsin Electric Power Co. (Milwaukee, Wis.)	Utilities	Office, Sales and Technical Employees	1,450

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

<sup>2</sup> Industry area (group of companies signing same contract).

# Developments in Industrial Relations



## Rubber Workers take pay cut to keep plant open

In Marion, Ind., members of Local 466 of the Rubber Workers agreed to wage and benefit reductions to avert a shutdown of General Tire & Rubber Co.'s reinforced plastics plant. The company said the cuts were necessary because labor costs in the 27-year-old plant were not competitive with other companies in the industry.

The concessions consisted of a \$1.55-an-hour immediate wage cut, suspension of the cost-of-living clause, cancellation of the Supplemental Unemployment Benefits plan, and a 1-year extension of the current contract, to August 1, 1982. According to the company, the average hourly pay rate had been about \$8.89, with about \$7 in benefit costs. In return for the concessions, General Tire promised to increase the number of hourly employees to 600 by August 1, 1983, from the current 250. The plant has had as many as 1,200 employees.

Elsewhere in Indiana, General Tire was continuing to operate its industrial products plant in Wabash, despite the union's earlier rejection of a company proposal for cost concessions. General Tire had said that if the union did not agree to the concessions, the work would be moved to its Batesville, Ark., plant, where labor costs were \$3.50 an hour lower.

Despite the continuing operation of the plant and the recall of about 150 laid-off employees, a company official said the rejection of the concession proposal would force the company to substantially reduce production in Wabash. He attributed the current production upturn to the model-year changeover in the automobile industry.

## Lesser compensation for new employees at Kroger

A 3-year contract between the Food and Commercial Workers and the Kroger Co.'s Pittsburgh area stores included several union concessions for new employees. The company said the lesser wage and benefit improve-

ments for new employees were needed to help bring labor costs more into line with those of its competitors. Kroger said that about 125 contracts in Western Pennsylvania, Wheeling, W.Va., and the Ohio Valley were substantially less costly than its expiring agreement for the Pittsburgh area.

The 3,500 current employees received a 20- to 50-cents-an-hour wage increase, varying by job classification, and will receive five automatic cost-of-living adjustments, using the same formula as for the adjustments in the prior contract. New part-time workers will not receive the hourly pay increase or the escalator adjustments; new full-time workers will not receive the pay increase, but they will receive a partial escalator adjustment in the final contract year.

New employees will receive only the benefits the pension plan is able to provide from a Kroger payment of 30 cents for each hour worked by the new workers. Current employees will receive larger pensions, financed by Kroger's existing payment of \$109.40 a month for each of these workers.

Other concessions included a change to time-and-a-half premium pay for Sunday and holiday work by new hires (current employees will continue to receive double time); a flat 40-cents-an-hour premium for night work by all employees, instead of the previous 15 percent; termination of the requirement that a union meat department worker be on duty if a store stays open beyond 9 p.m.; and a change to a health and welfare benefits plan for new workers costing Kroger \$56 a month, while current employees continue to be covered by a plan costing \$159.18.

## Printers at Baltimore papers get 10-year contracts

The International Typographical Union negotiated a 10-year contract with Baltimore's three daily newspapers—the *Baltimore Sun*, the *Evening Sun*, and the *Baltimore News American*. The accords give the publishers "full flexibility" to adopt new printing methods in return for a guarantee that the number of workers will not drop below 110 at the *Sun* and 40 at the *News American*. (The union won lifetime job guarantees for all active members in 1973.) The printers received a \$20-a-week pay increase, retroactive to the January 1, 1980, effective date of the contract and will receive in-

"Developments in Industrial Relations" is prepared by George Ruben and other members of the staff of the Division of Trends in Employee Compensation, Bureau of Labor Statistics, and is largely based on information from secondary sources.



creases of \$33 in 1981, \$34 in 1982, and \$35 in 1983. In each of the remaining contract years, their increases will equal the average pay increases negotiated by the pressmen, mailers, and photoengravers.

The Typographical Workers' first long-term agreement in recent years occurred in 1974, when the union negotiated an 11-year contract with New York City daily newspapers. This was followed by long-term contracts in Minneapolis, Minn., Dayton, Ohio, and Buffalo, N.Y. The contracts usually provide for specified wage increases in the first few years and either wage reopeners or increases linked to those for other trades in the remaining years.

### **Machinists reopen contract, get pay raise**

Bargaining under a reopening provision of a 5-year contract scheduled to expire in December 1982, the Pratt & Whitney Division of United Technologies Corp. and the Machinists agreed on immediate wage increases of 45 cents to \$1.20 an hour and a 17- to 51-cent increase in December 1981. According to the parties, the initial increase averaged 77 cents an hour and the December 1981 increase will average 29 cents. The cost-of-living clause was modified to provide quarterly adjustments of up to 12 cents an hour, calculated at the existing rate of 1 cent for each 0.3-point increase in the BLS Consumer Price Index for Urban Wage Earners and Clerical Workers (1967=100). Previously, the allowance was adjusted semiannually, each adjustment was limited to 20 cents, and 2 cents of that was withheld from the workers. The agreement covers about 22,000 employees in East Hartford, Southington, Middleton, and North Haven, Conn.

Earlier, United Technologies' Sikorsky Aircraft Division and the Teamsters settled under a reopening provision of their 1978 contract. The reopener settlement, which covered 6,600 workers in Bridgeport and Stratford, Conn., extended the 1978 agreement by 1 year, to February 1984, and provided for wage and benefit improvements. The initial wage increase, effective in February 1981, is 45 cents to \$1.20 an hour and will average \$1.01 an hour, according to the union. This will be followed by increases of 17 to 51 cents in February 1982 and 18 to 52 cents in February 1983. The workers also will receive a 28-cent increase in February 1981 under the cost-of-living clause, which will be revised to provide semiannual adjustments of up to 30 cents an hour, less 2 cents to be used to help defray the cost of benefit improvements. Previously, the workers received semiannual adjustments of up to 20 cents, less 2 cents.

The employees also received a \$125-bonus payment for settling prior to the February 1981 scheduled date of the contract reopening. Other terms included a 14th annual paid holiday, effective in 1983; a \$14- to \$20-a-month pension rate for each year of credited service, effective in January 1983 (the current rate is \$13 to \$19); and adoption of an optical plan and improvements in the dental plan, also effective in 1983.

### **Teamsters and Montgomery Ward settle**

About 12,500 employees of Montgomery Ward & Co. catalog houses, warehouses, retail stores, and repair service stores throughout the country were covered by 3-year contracts with the Teamsters union. The bargaining involved about 35 local unions, and terms varied somewhat among locations. Generally, the contracts called for an immediate 10-percent wage increase and for 7.5 percent increases in the second and third years; a few also provided for cost-of-living increases. All of the agreements added a paid holiday, bringing the total to 8-11 a year, and added a provision requiring the company to pay a larger portion of future increases in insurance premiums. Previously, the employees paid 25 percent of all insurance costs and the company paid 75 percent.

The agreements were retroactive to August 1, and cover such occupations as salesworkers, shipping and receiving clerks, order fillers, accounting clerks, maintenance workers, carpenters, and engineers.

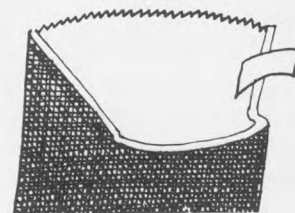
### **A 30-month accord at Disney World**

About 5,600 workers in Orlando, Fla., were covered by a settlement between Disney World and five unions. The 30-month accord provided for an immediate 55-cent-an-hour wage increase for non-tipped workers and 30 cents for tipped workers and a matching increase in February 1982. The company also agreed that workers will receive \$4.10 an hour for each hour of vacation, holiday, and other paid time off; previously, workers received the Federal minimum wage rate.

Other provisions included an eighth paid holiday; a company-financed dental plan for employees and their dependents; and a commitment by Disney to recognize the unions as bargaining agents for employees hired when a planned addition to the theme park opens.

The unions involved in the settlement were the Hotel and Restaurant Employees; Teamsters; Railway and Airline Clerks; Theatrical and Stage Employees; and the Food and Commercial Workers. □

# Book Reviews



## Time for flexitime?

*Working Hours: An Economic Analysis.* By John D. Owen. Lexington, Mass., D.C. Heath and Co., Lexington Books, 1979. 206 pp. \$21.

Working hours or schedules is a subject of growing interest in both the United States and Europe. Its broader context is the continuing search for new ways to improve the quality of worklife. John Owen draws heavily from his recent journal articles and testimony before congressional subcommittees to analyze from basically a neoclassical standpoint the observed historical trend in working hours and schedules. Although the book is best suited for the specialist, the organizational scheme, which confines the more technical matters to the seven appendices, makes it very readable; it will, perhaps, have wide audience appeal.

The major thrust of the book is that the amount of free time available to individual American workers has not grown appreciably since World War II; moreover, due to rigid scheduling of work hours by employers, the quality of available leisure time is not very satisfactory. The determination of the number of hours of work is examined in the first half of the book, while the timing of these hours is analyzed in the latter half.

Owen begins by documenting the trends of the number of hours supplied to the labor market by American families during the past 40 years. He concludes that the abrupt leveling in hours of work in the postwar era among nonstudent adults—after declining throughout this century—together with the continued upward trend in female labor force participation, contributed to a leveling of, or possibly an increase in, the number of hours worked by the average married couple in their prime years. However, it is not always clear, particularly from the charts and tables employed, which demographic group is under discussion. As a result, there is a tendency to construe the notion that working hours in general have leveled off in the postwar era when, indeed, *average* weekly hours of work have continued to decline during this period.

A change in the relative return to effort is stressed as the primary reason for the leveling in hours worked. Owen postulates that because workers have reached a level of affluence at which their health is no longer dependent upon marginal gains in wages, increases in workers' income will not further reduce the material

incentive to work long hours. Hence, no additional pressure will be exercised on reducing hours of work. Recognizing that the invalidity of the argument that there has been a decrease in the "relative return of effort" would severely weaken or nullify his ability to adequately explain a leveling in hours of work, Owen gives rigorous technical treatment of this point in a rather lengthy appendix.

A corollary to the notion of less monetary incentive on the part of prime-aged workers to work more hours is the trend toward longer but fewer workdays among usual full-time workers. (See Janice Neipert Hedges, "The workweek in 1979: fewer but longer workdays," August 1980 issue of the *Review*, pp. 31–33.) Apparently, workers may not want to work longer days for monetary reward but may do so to optimize their leisure time (improve its quality). That is, longer hours in a day are acceptable for occasional or regular 3-day weekends, and schedules that exceed the 40-hour standard are increasingly compressed into 5 days in order to provide a 2-day weekend.

The *quantity* of leisure time is, of course, only one dimension of the individual's resource allocation decision. Owen concludes that American workers in the past 30–40 years have used wage increases to improve the *quality* of their lives (better working and living conditions, for example) rather than to seek amelioration by substantial reduction in worktime. However, Owen also argues that the quality of time is still lower than it should be in the United States because of the maintenance of rigid schedules by employers, schools, and many other commercial and government institutions with which the individual must deal. He suggests that a number of factors—such as a change in the industrial and occupational mix more favorably to the development of alternative work schedules, an increased willingness on the part of employees to pay a higher price for work scheduling freedom, and legislative support—are working together to generate demands for a departure from standard schedules.

The last half—and real strength—of the book provides an economic analysis of the prospects of relief from pressures on leisure time through changes in work schedules. These schedules include voluntary part-time work, compressed workweeks, flexitime, and shorter full-time workweeks. Part-time work has been helpful in permitting many individuals (such as mothers, students,

and retired workers) to balance the scheduling demands of work against family and other private concerns. Factors inhibiting as well as those favoring the growth of part-time work are clearly spelled out. For example, problems with training, promotion, supervision, communication, and workplace utilization contribute to a certain amount of employer resistance to part-time work, while on the other hand, part-timers provide employers with an ample supply of workers to meet peak-load demand periods or other understaffed situations. According to Owen, "the available empirical data offer some support to these hypotheses about how employers use the part-time labor market."

Owen argues that a flexible work schedule, that is, in the timing but not in the total number of hours, opens up considerable individual flexibility without the comparable economic cost involved in part-time jobs and other conventional alternative working schedules. He examines the economics of flexible work schedules, including their long-term social effects and prospects for wider usage. Although an obvious bias in favor of flexible work scheduling tends to creep into his writings, Owen's treatment of flexitime fills a real void in the labor economics literature.

A nuts-and-bolts discussion of flexitime with empirical findings from case studies sets the issues surrounding the concept in perspective. This is followed by an assessment of both potential employer gains and/or losses (problems) with flexitime. On the whole, he sees a fairly good opportunity for the eventual spread of flexible work scheduling even within the present institutional and legal restraints.

Owen avoids making a prediction as to the likelihood of future weekly hours reductions. Quite clearly, any reduction in the standard workweek would impose very serious economic cost but, as he notes, it might be regarded as a reasonable choice in the years ahead if advances in technology lead to substantial gains in labor productivity. "Many observers believe that we are now ready for a change in standard hours scheduling practices." Owen's analysis of both the quantity and quality of leisure time sets in perspective why we are at the threshold of such a change.

—ROBERT W. BEDNARZIK  
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### The proprietors of social security

*Policymaking for Social Security.* By Martha Derthick. Washington, The Brookings Institution, 1979. 446 pp. \$11.95, cloth; \$4.95, paper.

Perverse punster that I am, I was hoping to find nothing of value in the first two chapters of this book

(which consume 61 pages), so that I could comment that *Policymaking for Social Security* provides no benefits before (p)age 62. In fact, however, all the chapters of this excellent book are quite useful in providing the reader with an understanding of how U.S. social security policy has evolved since the enactment of the Social Security Act of 1935. Martha Derthick's skillful use of anecdotal material—drawn mainly from the Oral History Collection at Columbia University—does much to enliven the analysis.

The social security program has grown to the point where it provides monthly checks to 35 million people, and where most workers now pay more in social security taxes than in Federal income taxes. Derthick's book focuses chiefly on the question of why a program of such importance to the American people has, until recently, been the subject of very little debate and conflict. Parts 1 and 2 show how the nature of the social security policymaking process and certain characteristics of the program itself have generated a conflict-free environment. Part 3 analyzes the policymaking that led to three major expansions of the social security program—disability insurance and medicare and a large increase in benefits in 1972. In concluding, Derthick explores the growing debate over social security and presents her views of the future of social security policymaking.

One of Derthick's explanations for the traditional lack of conflict over social security is that "... policy has been made by a relatively constricted and autonomous set of actors with a strong sense of proprietorship in the program." The author points out that from the outset, the executives of the program have been a very capable group who placed an emphasis on quality in recruitment. These program executives developed an organization with a reputation for administrative excellence, and they developed policy planning as a distinct function within the organization before such planning was established in other Federal agencies. According to the author, program executives have also been committed to the idea of social insurance, and they had the wisdom to push for expansion of the program one step at a time, instead of asking for everything at once.

Derthick argues that because social security ran smoothly, U.S. Presidents tended to ignore the program in order to devote their attention to Federal agencies that did pose problems. Because funds for social security are not appropriated from general revenues, congressional responsibility for the program has been concentrated in only two committees (Ways and Means in the House, and Finance in the Senate), and the author argues that members of these committees came to share the program executives' "proprietary" attitude toward social security. The author shows how program executives have dominated social security policymaking despite the presence of many other actual and potential



participants in the policymaking process: advisory councils, political appointees, expert critics, the public, and so forth.

The author cites social security's small beginnings and incremental growth as major factors contributing to the program's popularity. Because beneficiaries in the program's early years were few in proportion to the number of taxpayers, these beneficiaries received extremely generous returns for their contributions to the program. Also, for many years, the program's incremental growth was instrumental in keeping the payroll tax rate artificially low; each time the program was extended to a new group of workers, there was an immediate infusion of revenue into the program without a corresponding increase in payouts. In the last part of the book, Derthick shows how social security has become much more controversial in recent years, as the payroll tax has increased rapidly—in part, because the earlier expansions of the program have left the program executives with very few remaining groups to whom to extend coverage. (In Derthick's opinion, the increased conflict over social security is a good thing, and long overdue.)

When I arrived at work at Social Security headquarters in Baltimore one August morning in 1975, I found the employee cafeteria providing free coffee and doughnuts as part of the agency's commemoration of the 40th anniversary of the signing of the Social Security Act. (The length of the lines in the cafeteria that morning remains the best evidence that I have ever seen for the law of downward-sloping demand.) Today, as Derthick shows so well, social security policymakers must face the reality that there is no such thing as a free breakfast.

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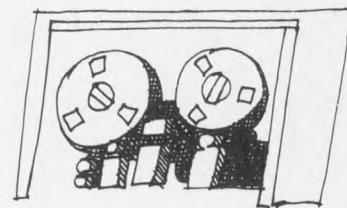
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# Current Labor Statistics



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## NOTES ON CURRENT LABOR STATISTICS

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

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

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

Seasonally adjusted labor force data in tables 2-7 were revised in the February 1981 issue of the *Review* to reflect the preceding year's experience. 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 in tables 11, 13, 16, and 18 begins with the August 1980 issue using the X-11 ARIMA seasonal adjustment methodology. New seasonal factors for productivity data in tables 33 and 34 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. The *Handbook of Labor Statistics 1978*, Bulletin 2000, provides more detailed data and greater historical coverage for most of the statistical series presented in the *Monthly Labor Review*. More information from the household and establishment surveys is provided in *Employment and Earnings*, a monthly publication of the Bureau, and in two comprehensive data books issued annually—*Employment and Earnings, United States* and *Employment and Earnings, States and Areas*. 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**

Title and frequency (monthly except where indicated)	Release date	Period covered	Release date	Period covered	MLR table number
Employment situation .....	February 6	January	March 6	February	1-11
Producer Price Index .....	February 13	January	March 6	February	26-30
Consumer Price Index .....	February 25	January	March 24	February	22-25
Real earnings .....	February 25	January	March 24	February	14-20
Labor turnover in manufacturing .....	February 26	January	March 27	February	12-13
Productivity and costs (quarterly):					
Nonfinancial corporations .....	February 26	4th quarter	.....	.....	31-34
Work stoppages .....	February 27	January	March 31	February	37

## 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 65,000 households beginning in January 1980, 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** are (1) those 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. 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 **unemployment rate** represents the number unemployed as a percent of the civilian labor force.

The **civilian labor force** consists of all employed or unemployed persons in the civilian noninstitutional population; the **total labor force** includes military personnel. 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 longterm 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.

**Full-time workers** are those employed at least 35 hours a week; **part-time workers** are those who work fewer hours. Workers on part-time schedules for economic reasons (such as slack work, terminating or starting a job during the week, material shortages, or inability to find full-time work) are among those counted as being on full-time status, under the assumption that they would be working full time if conditions permitted. The survey classifies unemployed persons in full-time or part-time status by their reported preferences for full-time or part-time work.

### 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 2-7 are seasonally adjusted, based on the seasonal experience through December 1980.

**1. Employment status of the noninstitutional population, 16 years and over, selected years, 1950-80**

(Numbers in thousands)

Year	Total non-institutional population	Total labor force		Civilian labor force						Not in labor force
		Number	Percent of population	Total	Employed			Unemployed		
					Total	Agriculture	Nonagricultural industries	Number	Percent of labor force	
1950	106,645	63,858	59.9	62,208	58,918	7,160	51,758	3,288	5.3	42,787
1955	112,732	68,072	60.4	65,023	62,170	6,450	55,722	2,852	4.4	44,660
1960	119,759	72,142	60.2	69,628	65,778	5,458	60,318	3,852	5.5	47,617
1964	127,224	75,830	59.6	73,091	69,305	4,523	64,782	3,786	5.2	51,394
1965	129,236	77,178	59.7	74,455	71,088	4,361	66,726	3,366	4.5	52,058
1966	131,180	78,893	60.1	75,770	72,895	3,979	68,915	2,875	3.8	52,288
1967	133,319	80,793	60.6	77,347	74,372	3,844	70,527	2,975	3.8	52,527
1968	135,562	82,272	60.7	78,737	75,920	3,817	72,103	2,817	3.6	53,291
1969	137,841	84,240	61.1	80,734	77,902	3,606	74,296	2,832	3.5	53,602
1970	140,182	85,903	61.3	82,715	78,627	3,462	75,165	4,088	4.9	54,280
1971	142,596	86,929	61.0	84,113	79,120	3,387	75,732	4,993	5.9	55,666
1972	145,775	88,991	61.0	86,542	81,702	3,472	78,230	4,840	5.6	56,785
1973	148,263	91,040	61.4	88,714	84,409	3,452	80,957	4,304	4.9	57,222
1974	150,827	93,240	61.8	91,011	83,935	3,492	82,443	5,076	5.6	57,587
1975	153,449	94,793	61.8	92,613	84,783	3,380	81,403	7,830	8.5	58,655
1976	156,048	96,917	62.1	94,773	87,485	3,297	84,188	7,288	7.7	59,130
1977	158,559	99,534	62.8	97,401	90,546	3,244	87,302	6,855	7.0	59,025
1978	161,058	102,537	63.7	100,420	94,373	3,342	91,031	6,047	6.0	58,521
1979	163,620	104,996	64.2	102,908	96,945	3,297	93,648	5,963	5.8	58,623
1980	166,246	106,821	64.3	104,719	97,270	3,310	93,960	7,448	7.1	59,425



**2. Employment status by sex, age, and race, seasonally adjusted**

[Numbers in thousands]

Employment status	Annual average		1980												
	1979	1980	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>TOTAL</b>															
Total noninstitutional population <sup>1</sup>	163,620	166,246	164,898	165,101	165,298	165,506	165,693	165,886	166,105	166,391	166,578	166,789	167,005	167,201	167,396
Total labor force	104,996	106,821	106,142	106,289	106,357	106,261	106,519	107,148	106,683	107,119	107,059	107,101	107,288	107,404	107,191
Civilian noninstitutional population <sup>1</sup>	161,532	164,143	162,809	163,020	163,211	163,416	163,601	163,799	164,013	164,293	164,464	164,667	164,884	165,082	165,272
Civilian labor force	102,908	104,719	104,053	104,208	104,271	104,171	104,427	105,060	104,591	105,020	104,945	104,980	105,167	105,285	105,067
Employed	96,945	97,270	97,781	97,708	97,817	97,628	97,225	97,116	96,780	96,999	97,003	97,180	97,206	97,339	97,282
Agriculture	3,297	3,310	3,323	3,287	3,329	3,337	3,262	3,352	3,232	3,267	3,210	3,399	3,319	3,340	3,394
Nonagricultural industries	93,648	93,960	94,458	94,421	94,488	94,291	93,963	93,764	93,548	93,732	93,793	93,781	93,887	93,999	93,888
Unemployed	5,963	7,448	6,272	6,500	6,454	6,543	7,202	7,944	7,811	8,021	7,942	7,800	7,961	7,946	7,785
Unemployment rate	5.8	7.1	6.0	6.2	6.2	6.3	6.9	7.6	7.5	7.6	7.6	7.4	7.6	7.5	7.4
Not in labor force	58,623	59,425	58,756	58,812	58,940	59,245	59,174	58,739	59,422	59,273	59,519	59,687	59,717	59,797	60,205
<b>Men, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	68,293	69,607	68,940	69,047	69,140	69,238	69,329	69,428	69,532	69,664	69,756	69,864	69,987	70,095	70,198
Civilian labor force	54,486	55,234	54,799	54,892	55,017	54,966	55,127	55,440	55,182	55,344	55,403	55,475	55,495	55,539	55,470
Employed	52,264	51,972	52,364	52,263	52,436	52,230	51,935	51,871	51,624	51,714	51,791	51,823	51,963	52,007	52,045
Agriculture	2,350	2,355	2,404	2,401	2,418	2,386	2,334	2,337	2,301	2,306	2,301	2,389	2,351	2,372	2,331
Nonagricultural industries	49,913	49,617	49,960	49,862	50,018	49,844	49,601	49,494	49,323	49,408	49,490	49,434	49,612	49,635	49,714
Unemployed	2,223	3,261	2,435	2,629	2,581	2,736	3,192	3,569	3,558	3,630	3,612	3,652	3,532	3,532	3,425
Unemployment rate	4.1	5.9	4.4	4.8	4.7	5.0	5.8	6.4	6.4	6.6	6.5	6.6	6.4	6.4	6.2
Not in labor force	13,807	14,373	14,141	14,155	14,123	14,272	14,202	13,988	14,350	14,320	14,353	14,389	14,492	14,556	14,728
<b>Women, 20 years and over</b>															
Civilian noninstitutional population <sup>1</sup>	76,860	78,295	77,542	77,656	77,766	77,876	77,981	78,090	78,211	78,360	78,473	78,598	78,723	78,842	78,959
Civilian labor force	38,910	40,243	39,697	39,852	39,871	39,845	40,098	40,193	40,182	40,383	40,523	40,317	40,486	40,629	40,570
Employed	36,698	37,696	37,421	37,538	37,560	37,550	37,597	37,600	37,613	37,728	37,890	37,804	37,754	37,909	37,820
Agriculture	591	575	570	543	568	557	560	598	550	564	555	592	576	574	665
Nonagricultural industries	36,107	37,120	36,851	36,995	36,992	36,973	37,037	37,002	37,063	37,164	37,335	37,212	37,178	37,335	37,155
Unemployed	2,213	2,547	2,276	2,314	2,311	2,295	2,501	2,593	2,569	2,655	2,633	2,513	2,732	2,720	2,750
Unemployment rate	5.7	6.3	5.7	5.8	5.8	5.8	6.2	6.5	6.4	6.6	6.5	6.2	6.7	6.7	6.8
Not in labor force	37,949	38,052	37,845	37,804	37,895	38,031	37,883	37,897	38,029	37,977	37,950	38,281	38,237	38,213	38,389
<b>Both sexes, 16 - 19 years</b>															
Civilian noninstitutional population <sup>1</sup>	16,379	16,242	16,326	16,317	16,305	16,302	16,291	16,281	16,271	16,268	16,235	16,205	16,174	16,145	16,114
Civilian labor force	9,512	9,242	9,557	9,464	9,383	9,360	9,202	9,427	9,227	9,293	9,019	9,188	9,186	9,117	9,027
Employed	7,984	7,603	7,996	7,907	7,821	7,848	7,693	7,645	7,543	7,557	7,322	7,553	7,489	7,423	7,417
Agriculture	356	380	349	343	343	374	368	377	381	397	354	418	392	394	398
Nonagricultural industries	7,628	7,223	7,647	7,564	7,478	7,474	7,325	7,268	7,162	7,160	6,968	7,135	7,097	7,029	7,019
Unemployed	1,528	1,640	1,561	1,557	1,562	1,512	1,509	1,782	1,684	1,736	1,697	1,635	1,697	1,694	1,610
Unemployment rate	16.1	17.7	16.3	16.5	16.6	16.2	16.4	18.9	18.3	18.7	18.8	17.8	18.5	18.6	17.8
Not in labor force	6,867	7,000	6,769	6,853	6,922	6,942	7,089	6,854	7,044	6,975	7,216	7,017	6,988	7,028	7,087
<b>White</b>															
Civilian noninstitutional population <sup>1</sup>	141,614	143,657	142,645	142,806	142,951	143,115	143,254	143,403	143,565	143,770	143,900	144,051	144,211	144,359	144,500
Civilian labor force	90,602	92,171	91,651	91,783	91,873	91,802	92,044	92,501	92,134	92,335	92,288	92,317	92,516	92,562	92,383
Employed	86,025	86,380	86,809	86,760	86,869	86,723	86,389	86,251	86,007	86,075	86,067	86,307	86,371	86,409	86,377
Unemployed	4,577	5,790	4,842	5,023	5,004	5,079	5,655	6,250	6,127	6,260	6,221	6,010	6,145	6,153	6,006
Unemployment rate	5.1	6.3	5.3	5.5	5.4	5.5	6.1	6.8	6.7	6.8	6.7	6.5	6.6	6.6	6.5
Not in labor force	51,011	51,486	50,994	51,023	51,078	51,313	51,210	50,902	51,431	51,435	51,612	51,734	51,695	51,797	52,117
<b>Black and other</b>															
Civilian noninstitutional population <sup>1</sup>	19,918	20,486	20,163	20,214	20,261	20,301	20,346	20,395	20,448	20,523	20,564	20,617	20,673	20,723	20,771
Civilian labor force	12,306	12,548	12,421	12,453	12,395	12,320	12,401	12,546	12,491	12,661	12,630	12,677	12,686	12,706	12,668
Employed	10,920	10,890	10,993	10,974	10,945	10,856	10,838	10,842	10,809	10,902	10,902	10,894	10,884	10,922	10,895
Unemployed	1,386	1,658	1,428	1,479	1,450	1,464	1,563	1,704	1,682	1,759	1,728	1,783	1,802	1,784	1,773
Unemployment rate	11.3	13.2	11.5	11.9	11.7	11.9	12.6	13.6	13.5	13.9	13.7	14.1	14.2	14.0	14.0
Not in labor force	7,612	7,938	7,742	7,761	7,866	7,981	7,945	7,849	7,957	7,862	7,934	7,940	7,987	8,017	8,103

<sup>1</sup>As in table 1, population figures are not seasonally adjusted.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1980.

### 3. Selected employment indicators, seasonally adjusted

[In thousands]

Selected categories	Annual average		1979	1980											
	1979	1980	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>CHARACTERISTIC</b>															
Total employed, 16 years and over	96,945	97,270	97,781	97,708	97,817	97,628	97,225	97,116	96,780	96,999	97,003	97,180	97,206	97,339	97,282
Men	56,499	55,988	56,617	56,458	56,631	56,489	56,054	55,914	55,597	55,678	55,589	55,754	55,881	55,897	55,920
Women	40,446	41,283	41,164	41,250	41,186	41,139	41,171	41,202	41,183	41,321	41,414	41,426	41,325	41,442	41,362
Married men, spouse present	39,090	38,302	38,848	38,714	38,827	38,706	38,373	38,197	38,220	38,049	37,987	38,027	38,142	38,167	38,231
Married women, spouse present	22,724	23,097	23,054	23,104	23,150	23,171	23,094	23,145	23,131	23,118	23,126	23,027	22,993	23,065	23,063
<b>OCCUPATION</b>															
White-collar workers	49,342	50,809	49,980	50,307	50,447	50,336	50,465	50,627	50,836	51,023	51,307	51,074	51,101	51,148	51,065
Professional and technical	15,050	15,613	15,303	15,353	15,423	15,408	15,528	15,540	15,682	15,717	15,751	15,540	15,780	15,863	15,810
Managers and administrators, except farm	10,516	10,919	10,532	10,638	10,953	10,765	10,773	10,877	10,901	10,999	11,109	11,007	10,979	11,016	11,009
Salesworkers	6,163	6,172	6,291	6,383	6,179	6,132	6,048	6,072	6,046	6,130	6,140	6,316	6,277	6,155	6,175
Clerical workers	17,613	18,105	17,854	17,933	17,892	18,031	18,116	18,138	18,207	18,177	18,307	18,211	18,065	18,114	18,071
Blue-collar workers	32,066	30,800	32,125	31,770	31,669	31,568	31,120	30,800	30,443	30,276	30,232	30,436	30,521	30,550	30,373
Craft and kindred workers	12,880	12,529	13,023	12,806	12,722	12,740	12,713	12,551	12,357	12,403	12,346	12,490	12,485	12,424	12,337
Operatives, except transport	10,909	10,346	10,931	10,691	10,648	10,556	10,450	10,379	10,233	10,189	10,147	10,202	10,210	10,247	10,194
Transport equipment operatives	3,612	3,468	3,614	3,591	3,557	3,551	3,495	3,458	3,429	3,354	3,478	3,434	3,443	3,429	3,402
Nonfarm laborers	4,665	4,456	4,557	4,682	4,742	4,721	4,462	4,412	4,424	4,330	4,261	4,310	4,383	4,450	4,440
Service workers	12,834	12,958	12,965	12,968	13,005	12,982	13,009	12,947	12,941	13,017	12,928	12,943	12,891	12,888	12,982
Farmworkers	2,703	2,704	2,673	2,648	2,745	2,718	2,682	2,730	2,625	2,694	2,620	2,757	2,735	2,729	2,804
<b>MAJOR INDUSTRY AND CLASS OF WORKER</b>															
Agriculture:															
Wage and salary workers	1,413	1,384	1,433	1,421	1,411	1,429	1,377	1,396	1,369	1,360	1,282	1,417	1,363	1,417	1,411
Self-employed workers	1,580	1,628	1,594	1,563	1,636	1,612	1,602	1,642	1,606	1,631	1,640	1,688	1,640	1,612	1,655
Unpaid family workers	304	297	305	294	293	295	287	292	278	295	280	309	325	324	305
Nonagricultural industries:															
Wage and salary workers	86,540	86,706	87,324	87,377	87,192	87,110	86,789	86,722	86,370	86,432	86,490	86,395	86,587	86,643	86,513
Government	15,369	15,624	15,440	15,457	15,539	15,605	15,635	15,720	15,817	15,718	15,531	15,575	15,597	15,651	15,653
Private industries	71,171	71,081	71,884	71,920	71,653	71,505	71,154	71,002	70,553	70,714	70,959	70,820	70,990	70,992	70,860
Private households	1,240	1,166	1,225	1,159	1,181	1,140	1,151	1,197	1,204	1,230	1,196	1,125	1,144	1,148	1,110
Other industries	69,931	69,915	70,659	70,761	70,472	70,365	70,003	69,805	69,349	69,484	69,763	69,695	69,846	69,844	69,750
Self-employed workers	6,652	6,850	6,726	6,751	6,841	6,807	6,804	6,698	6,728	6,801	6,881	6,977	7,005	6,943	6,973
Unpaid family workers	455	404	412	390	400	385	363	406	445	426	403	416	417	405	396
<b>PERSONS AT WORK<sup>1</sup></b>															
Nonagricultural industries	88,133	88,325	89,052	89,109	88,830	88,505	88,041	87,974	87,994	87,431	88,195	88,246	88,488	88,694	88,468
Full-time schedules	72,647	72,022	72,947	72,963	72,937	72,618	71,986	71,501	71,454	70,825	71,526	71,929	72,071	72,265	72,131
Part time for economic reasons	3,281	3,965	3,541	3,549	3,454	3,470	3,803	4,276	3,969	4,086	4,143	4,183	4,220	4,176	4,218
Usually work full time	1,325	1,669	1,526	1,562	1,415	1,481	1,680	1,998	1,734	1,794	1,709	1,701	1,685	1,620	1,647
Usually work part time	1,956	2,296	2,015	1,987	2,039	1,989	2,123	2,278	2,235	2,292	2,434	2,482	2,535	2,556	2,571
Part time for noneconomic reasons	12,205	12,338	12,564	12,597	12,439	12,417	12,252	12,197	12,571	12,520	12,526	12,134	12,197	12,253	12,119

<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.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1980.

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

[Unemployment rates]

Selected categories	Annual average		1979		1980										
	1979	1980	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>CHARACTERISTIC</b>															
Total, 16 years and over .....	5.8	7.1	6.0	6.2	6.2	6.3	6.9	7.6	7.5	7.6	7.6	7.4	7.6	7.5	7.4
Men, 20 years and over .....	4.1	5.9	4.4	4.8	4.7	5.0	5.8	6.4	6.4	6.6	6.5	6.6	6.4	6.4	6.2
Women, 20 years and over .....	5.7	6.3	5.7	5.8	5.8	5.8	6.2	6.5	6.4	6.6	6.5	6.2	6.7	6.7	6.8
Both sexes, 16-19 years .....	16.1	17.7	16.3	16.5	16.6	16.2	16.4	18.9	18.3	18.7	18.8	17.8	18.5	18.6	17.8
White, total .....	5.1	6.3	5.3	5.5	5.4	5.5	6.1	6.8	6.7	6.8	6.7	6.5	6.6	6.6	6.5
Men, 20 years and over .....	3.6	5.2	3.9	4.2	4.1	4.5	5.2	5.8	5.7	5.8	5.8	5.8	5.7	5.7	5.5
Women, 20 years and over .....	5.0	5.6	5.1	5.1	5.2	5.0	5.5	5.7	5.7	5.8	5.8	5.5	5.8	5.8	5.9
Both sexes, 16-19 years .....	13.9	14.8	14.2	14.2	14.2	14.1	14.8	17.1	16.1	16.5	16.6	15.1	16.0	16.4	15.4
Black and other, total .....	11.3	13.2	11.5	11.9	11.7	11.9	12.6	13.6	13.5	13.9	13.7	14.1	14.2	14.0	14.0
Men, 20 years and over .....	8.4	11.4	9.0	9.7	9.5	9.5	10.8	11.7	12.2	12.5	12.5	13.2	12.1	12.0	11.6
Women, 20 years and over .....	10.1	11.1	10.0	10.1	9.3	10.5	11.1	11.6	10.9	11.3	10.9	10.6	12.3	12.2	12.3
Both sexes, 16-19 years .....	33.5	35.8	33.8	34.4	36.9	33.7	31.8	35.3	34.8	35.9	37.6	37.8	37.4	36.6	37.5
Married men, spouse present .....	2.7	4.2	3.0	3.4	3.2	3.4	4.0	4.6	4.6	4.9	4.8	4.7	4.6	4.4	4.3
Married women, spouse present .....	5.1	5.8	5.1	5.3	5.4	5.4	5.7	6.1	6.0	6.1	6.0	5.7	6.0	5.9	5.8
Women who head families .....	8.3	9.1	8.5	9.0	8.5	8.6	9.0	8.3	8.5	8.8	9.0	9.0	10.2	9.9	10.4
Full-time workers .....	5.3	6.8	5.5	5.8	5.8	5.9	6.5	7.3	7.2	7.4	7.3	7.3	7.3	7.4	7.3
Part-time workers .....	8.7	8.7	8.7	8.7	8.8	8.4	8.8	9.0	8.8	8.8	8.7	8.7	9.1	8.6	8.2
Unemployed 15 weeks and over .....	1.2	1.7	1.2	1.3	1.2	1.3	1.5	1.6	1.7	1.8	2.0	2.2	2.2	2.2	2.3
Labor force time lost <sup>1</sup> .....	6.3	7.9	6.5	6.7	6.6	6.8	7.6	8.6	8.1	8.4	8.3	8.2	8.4	8.3	8.2
<b>OCCUPATION</b>															
White-collar workers .....	3.3	3.7	3.3	3.4	3.4	3.4	3.7	3.8	3.7	3.7	3.7	3.8	3.9	3.9	4.0
Professional and technical .....	2.4	2.5	2.2	2.3	2.3	2.3	2.4	2.6	2.5	2.4	2.4	2.5	2.6	2.5	2.6
Managers and administrators, except farm .....	1.9	2.4	2.1	1.9	2.2	2.4	2.6	2.6	2.5	2.6	2.5	2.4	2.5	2.4	2.5
Salesworkers .....	3.9	4.4	4.0	4.3	4.3	4.0	4.5	4.4	4.4	4.2	4.2	4.3	4.6	4.8	4.7
Clerical workers .....	4.6	5.3	4.6	4.8	4.7	4.8	5.1	5.3	5.2	5.4	5.4	5.4	5.6	5.6	5.8
Blue-collar workers .....	6.9	10.0	7.5	8.1	7.9	8.2	9.6	10.9	11.1	11.3	11.1	10.8	10.8	10.7	10.5
Craft and kindred workers .....	4.5	6.6	4.6	5.1	5.1	5.5	6.5	7.5	7.5	7.2	7.6	7.4	7.1	7.1	7.1
Operatives, except transport .....	8.4	12.2	9.3	10.0	9.3	9.4	11.6	13.7	13.4	14.4	13.3	13.0	13.2	13.0	12.9
Transport equipment operatives .....	5.4	8.8	5.3	6.9	6.8	6.9	8.4	8.7	10.0	10.0	9.8	10.4	10.6	10.6	8.8
Nonfarm laborers .....	10.8	14.6	12.6	12.7	12.5	13.3	14.1	14.9	15.7	15.8	16.1	15.2	15.3	15.0	14.8
Service workers .....	7.1	7.9	6.8	6.9	7.0	7.2	7.8	8.2	8.1	8.3	8.5	8.1	8.3	8.3	7.8
Farmworkers .....	3.8	4.4	4.2	4.5	3.9	4.2	4.8	4.7	4.5	4.6	5.5	4.3	4.4	4.0	4.0
<b>INDUSTRY</b>															
Nonagricultural private wage and salary workers <sup>2</sup> .....	5.7	7.4	6.0	6.2	6.2	6.3	7.0	8.0	8.0	8.0	8.0	7.8	7.8	7.8	7.7
Construction .....	10.2	14.2	11.2	11.4	10.9	13.1	14.5	16.6	15.6	15.8	17.3	15.9	14.6	14.8	13.8
Manufacturing .....	5.5	8.5	6.1	6.7	6.7	6.6	7.9	9.7	9.7	9.8	9.3	9.2	9.2	8.9	8.8
Durable goods .....	5.0	8.9	5.8	6.7	6.5	6.5	8.3	10.4	10.9	10.7	10.1	10.0	9.5	9.0	9.0
Nondurable goods .....	6.4	7.9	6.5	6.8	6.9	6.8	7.3	8.6	7.9	8.5	8.0	7.9	8.9	8.6	8.5
Transportation and public utilities .....	3.7	4.9	4.2	4.4	4.5	3.9	4.7	5.0	5.1	5.6	5.6	5.3	5.3	4.9	4.9
Wholesale and retail trade .....	6.5	7.4	6.4	6.6	6.6	6.4	7.0	7.5	7.7	7.6	7.7	7.7	7.8	8.2	8.3
Finance and service industries .....	4.9	5.3	4.7	4.7	4.7	4.9	5.1	5.6	5.6	5.6	5.5	5.4	5.6	5.5	5.5
Government workers .....	3.7	4.1	3.7	3.8	4.0	4.1	4.3	4.2	3.5	4.1	4.0	4.1	4.4	4.2	4.1
Agricultural wage and salary workers .....	9.1	10.8	9.6	10.4	9.5	10.3	11.7	11.4	10.4	10.8	13.2	10.7	11.1	10.1	10.6

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

<sup>2</sup> Includes mining, not shown separately.

NOTE: The monthly data in this table have been revised to reflect seasonal experience through 1980.



### 5. Unemployment rates, by sex and age, seasonally adjusted

Sex and age	Annual average		1979	1980											
	1979	1980	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Total, 16 years and over .....	5.8	7.1	6.0	6.2	6.2	6.3	6.9	7.6	7.5	7.6	7.6	7.4	7.6	7.5	7.4
16 to 19 years .....	16.1	17.7	16.3	16.5	16.6	16.2	16.4	18.9	18.3	18.7	18.8	17.8	18.5	18.6	17.8
16 to 17 years .....	18.1	20.0	18.4	19.0	18.8	17.7	19.0	21.2	20.0	20.5	22.1	20.1	20.9	21.4	19.9
18 to 19 years .....	14.6	16.1	14.7	14.3	15.2	15.1	14.5	17.4	17.6	17.4	16.5	16.0	16.7	16.5	16.4
20 to 24 years .....	9.0	11.5	10.0	10.2	9.9	9.9	11.3	12.5	12.1	12.1	12.0	12.0	12.3	12.1	11.7
25 years and over .....	3.9	5.0	4.0	4.3	4.2	4.4	5.0	5.3	5.4	5.5	5.4	5.4	5.4	5.4	5.3
25 to 54 years .....	4.1	5.4	4.3	4.5	4.6	4.8	5.3	5.6	5.8	5.9	5.9	5.9	5.9	5.9	5.8
55 years and over .....	3.0	3.3	2.8	3.4	2.8	2.8	3.3	3.4	3.3	3.4	3.4	3.4	3.4	3.3	3.5
Men, 16 years and over .....	5.1	6.9	5.4	5.8	5.6	5.8	6.7	7.5	7.5	7.6	7.6	7.4	7.4	7.4	7.2
16 to 19 years .....	15.8	18.2	15.9	16.3	16.0	15.2	16.3	19.4	19.1	19.5	19.9	18.9	19.8	19.8	19.0
16 to 17 years .....	17.9	20.4	18.4	19.0	18.2	16.5	18.8	21.5	21.5	20.9	23.7	21.2	21.8	22.3	20.5
18 to 19 years .....	14.2	16.7	13.8	14.2	14.5	14.5	14.4	17.6	18.8	18.4	17.1	16.9	18.1	17.8	17.8
20 to 24 years .....	8.6	12.5	9.9	10.5	10.3	10.7	12.3	13.5	13.4	13.2	13.6	13.5	13.8	13.2	12.5
25 years and over .....	3.3	4.7	3.4	3.8	3.7	4.0	4.7	5.1	5.2	5.4	5.3	5.4	5.1	5.1	4.9
25 to 54 years .....	3.4	5.1	3.6	3.9	3.9	4.3	4.9	5.4	5.6	5.8	5.7	6.0	5.6	5.6	5.4
55 years and over .....	2.9	3.3	2.7	3.4	2.8	2.8	3.3	3.4	3.6	3.6	3.6	3.5	3.3	3.3	3.3
Women, 16 years and over .....	6.8	7.4	6.9	6.9	6.9	6.9	7.2	7.6	7.4	7.7	7.6	7.2	7.7	7.7	7.7
16 to 19 years .....	16.4	17.2	16.8	16.6	17.4	17.2	16.5	18.3	17.3	17.7	17.6	16.6	17.0	17.2	16.5
16 to 17 years .....	18.3	19.5	18.4	19.1	19.4	19.2	19.3	20.9	18.3	20.1	20.2	18.8	19.8	20.3	19.3
18 to 19 years .....	15.0	15.6	15.7	14.5	16.1	15.8	14.8	17.2	16.3	16.2	15.9	15.1	15.1	15.1	14.8
20 to 24 years .....	9.6	10.3	10.2	9.8	9.4	9.0	10.1	11.3	10.6	10.9	10.2	10.2	10.6	10.8	10.8
25 years and over .....	4.8	5.5	4.8	4.9	5.0	5.1	5.4	5.5	5.5	5.7	5.7	5.4	5.9	5.8	5.9
25 to 54 years .....	5.2	5.9	5.2	5.3	5.4	5.5	5.8	6.0	6.0	6.1	6.2	5.9	6.4	6.2	6.3
55 years and over .....	3.2	3.2	2.9	3.3	2.9	2.9	3.3	3.3	2.9	3.1	3.1	3.3	3.4	3.4	3.9

### 6. Unemployed persons, by reason for unemployment, seasonally adjusted

[Numbers in thousands]

Reason for unemployment	1979	1980												
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
<b>NUMBER OF UNEMPLOYED</b>														
Lost last job .....	2,828	3,038	2,979	3,102	3,581	4,164	4,468	4,364	4,319	4,387	4,240	4,229	4,226	
On layoff .....	993	1,072	1,087	1,135	1,422	1,771	1,954	1,832	1,699	1,744	1,692	1,453	1,470	
Other job losers .....	1,835	1,966	1,892	1,967	2,159	2,393	2,514	2,532	2,620	2,643	2,548	2,776	2,756	
Left last job .....	812	807	831	804	905	930	887	866	890	855	870	897	813	
Reentered labor force .....	1,810	1,808	1,797	1,812	1,909	1,975	1,834	1,868	1,883	1,844	2,013	1,896	1,869	
Seeking first job .....	876	814	825	815	752	871	872	893	870	862	880	890	868	
<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	
Job losers .....	44.7	47.0	46.3	47.5	50.1	52.4	55.4	54.6	54.2	55.2	53.0	53.5	54.3	
On layoff .....	15.7	16.6	16.9	17.4	19.9	22.3	24.2	22.9	21.3	21.9	21.1	18.4	18.9	
Other job losers .....	29.0	30.4	29.4	30.1	30.2	30.1	31.2	31.7	32.9	33.3	31.8	35.1	35.4	
Job leavers .....	12.8	12.5	12.9	12.3	12.7	11.7	11.0	10.8	11.2	10.8	10.9	11.3	10.5	
Reentrants .....	28.6	28.0	27.9	27.7	26.7	24.9	22.8	23.4	23.6	23.2	25.2	24.0	24.0	
New entrants .....	13.8	12.6	12.8	12.5	10.5	11.0	10.8	11.2	10.9	10.8	11.0	11.2	11.2	
<b>UNEMPLOYED AS A PERCENT OF THE CIVILIAN LABOR FORCE</b>														
Job losers .....	2.7	2.9	2.9	3.0	3.4	4.0	4.3	4.2	4.1	4.2	4.0	4.0	4.0	
Job leavers .....	.8	.8	.8	.8	.9	.9	.8	.8	.8	.8	.8	.9	.8	
Reentrants .....	1.7	1.7	1.7	1.7	1.8	1.9	1.8	1.8	1.8	1.8	1.9	1.8	1.8	
New entrants .....	.8	.8	.8	.8	.7	.8	.8	.9	.8	.8	.8	.8	.8	

### 7. Duration of unemployment, seasonally adjusted

[Numbers in thousands]

Weeks of unemployment	Annual average		1979	1980											
	1979	1980	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Less than 5 weeks .....	2,869	3,208	2,984	3,163	3,049	3,005	3,258	3,714	3,281	3,317	3,255	3,042	3,186	3,108	3,115
5 to 14 weeks .....	1,892	2,411	2,000	1,994	2,134	2,207	2,373	2,589	2,812	2,649	2,533	2,586	2,500	2,524	2,217
15 weeks and over .....	1,202	1,829	1,247	1,319	1,299	1,391	1,599	1,686	1,777	1,935	2,150	2,295	2,292	2,329	2,378
15 to 26 weeks .....	684	1,028	717	776	794	796	931	980	1,024	1,093	1,239	1,366	1,256	1,213	1,231
27 weeks and over .....	518	802	530	543	505	595	668	706	753	842	911	929	1,036	1,116	1,147
Average (mean) duration, in weeks .....	10.9	11.9	10.6	10.6	10.7	11.0	11.2	10.6	11.7	11.8	12.5	13.0	13.3	13.6	13.5

NOTE: The monthly data in these tables have been revised to reflect seasonal experience through 1980.

## 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 166,000 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.

LABOR TURNOVER DATA in this section are compiled from personnel records reported monthly on a voluntary basis to the Bureau of Labor Statistics and its cooperating State agencies. A sample of 40,000 establishments represents all industries in the manufacturing and mining sectors of the economy.

### 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 14–20 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 eliminate the effects of price change. 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. **Spendable earnings** are earnings from which estimated social security and Federal income taxes have been deducted. The

Bureau of Labor Statistics computes spendable earnings from gross weekly earnings for only two illustrative cases: (1) a worker with no dependents and (2) a married worker with three dependents.

**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.

**Labor turnover** is the movement of all wage and salary workers from one employment status to another. **Accession rates** indicate the average number of persons added to a payroll in a given period per 100 employees; **separation rates** indicate the average number dropped from a payroll per 100 employees. Although month-to-month changes in employment can be calculated from the labor turnover data, the results are not comparable with employment data from the employment and payroll survey. The labor turnover survey measures changes during the calendar month while the employment and payroll survey measures changes from midmonth to midmonth.

### 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 June 1980 data, published in the August 1980 issue of the *Review*. Consequently, data published in the *Review* prior to that issue are not necessarily comparable to current data. Complete comparable historical unadjusted and seasonally adjusted data are published in a Supplement to Employment and Earnings (unadjusted data from April 1977 through March 1980 and seasonally adjusted data from January 1974 through March 1980) and in *Employment and Earnings, United States, 1909–78*, BLS Bulletin 1312–11 (for prior periods).

Data on recalls were shown for the first time in tables 12 and 13 in the January 1978 issue of the *Review*. For a detailed discussion of the recalls series, along with historical data, see "New Series on Recalls from the Labor Turnover Survey," *Employment and Earnings*, December 1977, pp. 10–19.

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).

The formulas used to construct the spendable average weekly earnings series reflect the latest provisions of the Federal income tax and social security tax laws. For the spendable average weekly earnings formulas for the years 1978–80, see *Employment and Earnings*, March 1980, pp. 10–11. Real earnings data are adjusted using the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W).

## 8. Employment by industry, 1950-79

[Nonagricultural payroll data, in thousands]

Year	Total	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale and retail trade	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services	Government		
											Total	Federal	State and local
1950	45,197	901	2,364	15,241	4,034	9,386	2,635	6,751	1,888	5,357	6,026	1,928	4,098
1951	47,819	929	2,637	16,393	4,226	9,742	2,727	7,015	1,956	5,547	6,389	2,302	4,087
1952	48,793	898	2,668	16,632	4,248	10,004	2,812	7,192	2,035	5,699	6,609	2,420	4,188
1953	50,202	866	2,659	17,549	4,290	10,247	2,854	7,393	2,111	5,835	6,645	2,305	4,340
1954	48,990	791	2,646	16,314	4,084	10,235	2,867	7,368	2,200	5,969	6,751	2,188	4,563
1955	50,641	792	2,839	16,882	4,141	10,535	2,926	7,610	2,298	6,240	6,914	2,187	4,727
1956	52,369	822	3,039	17,243	4,244	10,858	3,018	7,840	2,389	6,497	7,278	2,209	5,069
1957	52,853	828	2,962	17,174	4,241	10,886	3,028	7,858	2,438	6,708	7,616	2,217	5,399
1958	51,324	751	2,817	15,945	3,976	10,750	2,980	7,770	2,481	6,765	7,839	2,191	5,648
1959 <sup>1</sup>	53,268	732	3,004	16,675	4,011	11,127	3,082	8,045	2,549	7,087	8,083	2,233	5,850
1960	54,189	712	2,926	16,796	4,004	11,391	3,143	8,248	2,629	7,378	8,353	2,270	6,083
1961	53,999	672	2,859	16,326	3,903	11,337	3,133	8,204	2,688	7,620	8,594	2,279	6,315
1962	55,549	650	2,948	16,853	3,906	11,566	3,198	8,368	2,754	7,982	8,890	2,340	6,550
1963	56,653	635	3,010	16,995	3,903	11,778	3,248	8,530	2,830	8,277	9,225	2,358	6,868
1964	58,283	634	3,097	17,274	3,951	12,160	3,337	8,823	2,911	8,660	9,596	2,348	7,248
1965	60,765	632	3,232	18,062	4,036	12,716	3,466	9,250	2,977	9,036	10,074	2,378	7,696
1966	63,901	627	3,317	19,214	4,158	13,245	3,597	9,648	3,058	9,498	10,784	2,564	8,220
1967	65,803	613	3,248	19,447	4,268	13,606	3,689	9,917	3,185	10,045	11,391	2,719	8,672
1968	67,897	606	3,350	19,781	4,318	14,099	3,779	10,320	3,337	10,567	11,839	2,737	9,102
1969	70,384	619	3,575	20,167	4,442	14,705	3,907	10,798	3,512	11,169	12,195	2,758	9,437
1970	70,880	623	3,588	19,367	4,515	15,040	3,993	11,047	3,645	11,548	12,554	2,731	9,823
1971	71,214	609	3,704	18,623	4,476	15,352	4,001	11,351	3,772	11,797	12,881	2,696	10,185
1972	73,675	628	3,889	19,151	4,541	15,949	4,113	11,836	3,908	12,276	13,334	2,684	10,649
1973	76,790	642	4,097	20,154	4,656	16,607	4,277	12,329	4,046	12,857	13,732	2,663	11,068
1974	78,265	697	4,020	20,077	4,725	16,987	4,433	12,554	4,148	13,441	14,170	2,724	11,446
1975	76,945	752	3,525	18,323	4,542	17,060	4,415	12,645	4,165	13,892	14,686	2,748	11,937
1976	79,382	779	3,576	18,997	4,582	17,755	4,546	13,209	4,271	14,551	14,871	2,733	12,138
1977	82,471	813	3,851	19,682	4,713	18,516	4,708	13,808	4,467	15,303	15,127	2,727	12,399
1978	86,697	851	4,229	20,505	4,923	19,542	4,969	14,573	4,724	16,252	15,672	2,753	12,919
1979	89,886	960	4,483	21,062	5,141	20,269	5,204	15,066	4,974	17,078	15,920	2,773	13,147

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

## 9. Employment by State

[Nonagricultural payroll data, in thousands]

State	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	State	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>
Alabama	1,377.9	1,343.2	1,348.4	Montana <sup>1</sup>	287.7	283.2	280.8
Alaska	167.7	175.7	170.9	Nebraska <sup>1</sup>	640.2	632.1	635.2
Arizona	1,005.8	1,000.0	1,016.5	Nevada	395.0	403.9	404.5
Arkansas	759.9	760.9	755.5	New Hampshire	380.9	385.4	385.1
California	9,816.5	9,755.3	9,824.2	New Jersey	3,064.3	3,049.9	3,049.1
Colorado	1,247.8	1,262.7	1,263.7	New Mexico	469.5	472.8	470.5
Connecticut	1,422.7	1,405.4	1,411.2	New York	7,267.1	7,190.1	7,216.0
Delaware	257.8	259.4	260.9	North Carolina	2,419.5	2,439.2	2,447.8
District of Columbia	621.0	614.2	616.3	North Dakota	249.3	252.3	251.4
Florida	3,463.5	3,545.6	3,587.7	Ohio	4,538.0	4,436.6	4,458.5
Georgia	2,144.0	2,155.6	2,161.1	Oklahoma	1,116.2	1,146.7	1,151.5
Hawaii	398.1	400.0	405.9	Oregon	1,075.3	1,035.4	1,026.9
Idaho	347.2	338.1	335.7	Pennsylvania	4,911.1	4,784.7	4,800.3
Illinois	4,877.7	4,799.2	4,805.4	Rhode Island	405.6	396.4	398.2
Indiana	2,229.5	2,239.5	2,243.3	South Carolina	1,196.1	1,186.9	1,190.1
Iowa	1,148.2	1,104.5	1,109.6	South Dakota	241.8	239.8	237.2
Kansas	964.1	953.1	957.2	Tennessee	1,810.1	1,772.2	1,774.1
Kentucky	1,264.1	1,210.9	1,220.9	Texas	5,734.7	5,891.4	5,921.2
Louisiana	1,524.5	1,567.3	1,576.5	Utah <sup>1</sup>	560.1	562.2	564.3
Maine	419.8	421.3	417.8	Vermont	199.8	204.2	202.8
Maryland <sup>1</sup>	1,701.5	1,699.0	1,706.0	Virginia	2,127.8	2,141.4	2,142.4
Massachusetts	2,649.9	2,688.0	2,699.3	Washington	1,613.7	1,617.5	1,616.2
Michigan	3,618.9	3,503.2	3,503.2	West Virginia	661.1	636.2	636.7
Minnesota	1,811.9	1,794.5	1,792.1	Wisconsin	2,016.6	2,003.9	2,007.4
Mississippi	849.2	829.1	813.9	Wyoming <sup>1</sup>	204.9	210.4	208.8
Missouri	2,019.9	1,983.6	1,986.6	Virgin Islands	36.4	35.5	36.2

<sup>1</sup>Revised to reflect 1980 benchmark; not strictly comparable with previously published data.



**10. Employment by industry division and major manufacturing group**

[Nonagricultural payroll data, in thousands]

Industry division and group	Annual average		1979	1980											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>
<b>TOTAL</b> .....	86,697	89,886	91,394	89,630	89,781	90,316	90,761	90,849	91,049	89,820	90,072	90,729	91,332	91,652	91,832
<b>MINING</b> .....	851	960	985	982	987	996	1,006	1,024	1,049	1,030	1,029	1,035	1,039	1,055	1,063
<b>CONSTRUCTION</b> .....	4,229	4,483	4,536	4,194	4,109	4,150	4,311	4,471	4,611	4,633	4,712	4,690	4,700	4,611	4,421
<b>MANUFACTURING</b> .....	20,505	21,062	20,987	20,777	20,730	20,793	20,533	20,250	20,201	19,754	20,044	20,269	20,302	20,371	20,353
Production workers .....	14,734	15,085	14,964	14,738	14,678	14,727	14,466	14,172	14,093	13,657	13,947	14,182	14,204	14,260	14,244
<b>Durable goods</b> .....	12,274	12,772	12,733	12,600	12,599	12,647	12,414	12,150	12,065	11,774	11,827	12,028	12,100	12,198	12,212
Production workers .....	8,805	9,120	9,040	8,885	8,869	8,909	8,672	8,409	8,307	8,025	8,075	8,281	8,343	8,430	8,437
Lumber and wood products .....	754.7	766.1	737.4	717.4	718.9	716.9	678.4	654.8	668.0	666.8	683.0	689.2	686.9	682.9	676.9
Furniture and fixtures .....	494.1	499.3	501.8	498.0	494.6	494.1	488.7	469.1	460.8	438.1	454.6	466.6	470.3	473.1	476.4
Stone, clay, and glass products .....	698.2	709.7	697.4	678.2	674.7	679.0	675.5	668.1	666.2	656.0	663.2	667.4	665.5	666.7	654.2
Primary metal industries .....	1,214.9	1,250.2	1,209.9	1,207.2	1,205.1	1,203.7	1,193.8	1,148.8	1,112.9	1,055.5	1,059.6	1,081.8	1,093.1	1,109.2	1,120.7
Fabricated metal products .....	1,672.6	1,723.7	1,725.2	1,696.8	1,699.4	1,703.8	1,671.4	1,619.8	1,598.6	1,538.4	1,567.6	1,594.5	1,604.6	1,615.3	1,615.8
Machinery, except electrical .....	2,325.5	2,481.6	2,471.6	2,538.5	2,536.5	2,539.9	2,523.5	2,509.3	2,486.1	2,440.2	2,417.8	2,449.6	2,456.7	2,475.4	2,488.6
Electric and electronic equipment .....	2,006.1	2,124.3	2,171.9	2,162.9	2,157.7	2,167.7	2,156.2	2,120.2	2,102.2	2,066.5	2,080.7	2,103.5	2,119.3	2,138.8	2,146.7
Transportation equipment .....	2,002.8	2,082.8	2,079.3	1,975.8	1,983.1	2,005.6	1,891.1	1,835.1	1,847.0	1,810.2	1,785.4	1,857.9	1,885.7	1,913.6	1,916.4
Instruments and related products .....	653.1	688.9	698.8	697.7	700.5	703.6	702.2	699.4	702.9	698.3	697.8	695.5	695.9	701.7	705.6
Miscellaneous manufacturing .....	451.5	445.6	439.4	427.7	428.8	432.9	433.0	424.6	420.1	404.0	417.6	422.2	422.1	421.0	410.3
<b>Nondurable goods</b> .....	8,231	8,290	8,254	8,177	8,131	8,146	8,119	8,100	8,136	7,980	8,217	8,241	8,202	8,173	8,141
Production workers .....	5,929	5,965	5,924	5,853	5,809	5,818	5,794	5,763	5,786	5,632	5,872	5,901	5,861	5,830	5,807
Food and kindred products .....	1,724.1	1,728.1	1,706.2	1,659.9	1,644.1	1,641.1	1,626.2	1,638.5	1,676.8	1,709.5	1,795.3	1,790.5	1,738.8	1,691.5	1,655.4
Tobacco manufactures .....	70.6	69.9	70.8	69.1	67.1	64.4	62.9	62.7	64.6	63.9	71.3	75.5	76.4	75.6	70.9
Textile mill products .....	899.1	888.5	889.7	884.0	884.6	886.9	882.1	870.6	853.2	820.6	854.1	854.7	856.8	860.0	860.5
Apparel and other textile products .....	1,332.3	1,312.5	1,287.1	1,282.0	1,305.8	1,318.4	1,304.2	1,299.0	1,310.5	1,236.9	1,299.9	1,309.2	1,307.5	1,306.0	1,292.6
Paper and allied products .....	698.7	706.7	705.9	703.5	701.9	701.8	698.8	692.4	695.0	682.3	688.7	688.6	690.7	692.2	695.1
Printing and publishing .....	1,192.0	1,239.5	1,268.5	1,266.3	1,270.4	1,272.1	1,270.4	1,267.8	1,271.3	1,264.5	1,264.3	1,267.9	1,272.2	1,280.0	1,297.5
Chemicals and allied products .....	1,095.5	1,110.7	1,114.2	1,113.1	1,112.1	1,118.1	1,120.6	1,119.5	1,122.2	1,112.0	1,108.4	1,106.3	1,104.9	1,106.9	1,110.6
Petroleum and coal products .....	207.7	210.0	210.6	208.6	155.9	153.1	173.6	203.4	209.1	212.0	212.4	210.9	210.4	210.3	207.3
Rubber and miscellaneous plastics products .....	754.5	775.6	755.6	750.3	746.3	746.5	737.2	702.4	688.5	659.3	680.4	695.8	703.4	709.0	713.1
Leather and leather products .....	256.8	248.0	245.2	240.3	242.6	243.4	243.2	244.7	218.9	242.6	241.1	240.6	241.2	237.8	
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	4,923	5,141	5,240	5,136	5,130	5,143	5,147	5,167	5,185	5,145	5,144	5,170	5,178	5,159	5,161
<b>WHOLESALE AND RETAIL TRADE</b> .....	19,542	20,269	21,114	20,325	20,155	20,226	20,373	20,497	20,562	20,506	20,579	20,692	20,708	20,924	21,301
<b>WHOLESALE TRADE</b> .....	4,969	5,204	5,264	5,241	5,250	5,269	5,265	5,263	5,287	5,278	5,284	5,291	5,313	5,313	5,318
<b>RETAIL TRADE</b> .....	14,573	15,066	15,850	15,084	14,905	14,957	15,108	15,234	15,275	15,228	15,295	15,401	15,395	15,611	15,983
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4,724	4,974	5,047	5,052	5,061	5,085	5,104	5,137	5,201	5,229	5,232	5,194	5,204	5,217	5,224
<b>SERVICES</b> .....	16,252	17,078	17,271	17,135	17,317	17,478	17,636	17,747	17,846	17,973	17,966	17,915	17,949	17,933	17,935
<b>GOVERNMENT</b> .....	15,672	15,920	16,214	16,029	16,292	16,445	16,651	16,556	16,394	15,550	15,366	15,764	16,252	16,382	16,374
Federal .....	2,753	2,773	2,770	2,763	2,803	2,869	3,103	2,963	2,995	2,949	2,862	2,754	2,774	2,779	2,788
State and local .....	12,919	13,147	13,444	13,266	13,489	13,576	13,548	13,593	13,399	12,601	12,504	13,010	13,478	13,603	13,586

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

[Nonagricultural payroll data, in thousands]

Industry division and group	1979	1980											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>
<b>TOTAL</b> .....	90,678	91,031	91,186	91,144	90,951	90,468	90,047	89,867	90,142	90,384	90,710	90,917	91,122
<b>MINING</b> .....	992	999	1,007	1,009	1,012	1,023	1,029	1,013	1,013	1,028	1,037	1,054	1,070
<b>CONSTRUCTION</b> .....	4,615	4,745	4,659	4,529	4,467	4,436	4,379	4,322	4,359	4,404	4,442	4,468	4,497
<b>MANUFACTURING</b> .....	20,983	20,971	20,957	20,938	20,642	20,286	20,014	19,828	19,940	20,044	20,157	20,282	20,349
Production workers .....	14,956	14,911	14,871	14,850	14,550	14,186	13,931	13,759	13,872	13,972	14,065	14,180	14,237
<b>Durable goods</b> .....	12,706	12,681	12,715	12,707	12,442	12,140	11,947	11,819	11,860	11,955	12,043	12,147	12,185
Production workers .....	9,009	8,953	8,967	8,961	8,686	8,386	8,205	8,084	8,123	8,212	8,288	8,381	8,407
Lumber and wood products .....	746	743	745	737	689	654	648	650	662	674	677	683	685
Furniture and fixtures .....	497	497	495	494	491	472	461	449	456	464	466	468	472
Stone, clay, and glass products .....	704	705	705	700	680	663	647	641	648	655	656	661	660
Primary metal industries .....	1,219	1,215	1,214	1,209	1,193	1,144	1,096	1,049	1,059	1,074	1,096	1,116	1,129
Fabricated metal products .....	1,718	1,707	1,711	1,711	1,678	1,620	1,584	1,551	1,569	1,587	1,595	1,606	1,609
Machinery, except electrical .....	2,459	2,532	2,529	2,530	2,518	2,517	2,476	2,448	2,437	2,452	2,469	2,475	2,476
Electric and electronic equipment .....	2,163	2,169	2,168	2,176	2,167	2,127	2,094	2,079	2,083	2,091	2,107	2,124	2,138
Transportation equipment .....	2,057	1,970	2,006	2,006	1,885	1,819	1,831	1,839	1,840	1,851	1,873	1,902	1,896
Instruments and related products .....	698	699	702	705	703	700	696	698	697	697	697	702	705
Miscellaneous manufacturing .....	445	444	440	439	438	424	414	415	409	410	407	410	415
<b>Nondurable goods</b> .....	8,277	8,290	8,242	8,231	8,200	8,146	8,067	8,009	8,080	8,089	8,114	8,135	8,164
Production workers .....	5,947	5,958	5,904	5,889	5,864	5,800	5,726	5,675	5,749	5,760	5,777	5,799	5,830
Food and kindred products .....	1,724	1,716	1,713	1,704	1,690	1,691	1,677	1,683	1,690	1,672	1,682	1,681	1,672
Tobacco manufactures .....	66	67	68	68	69	70	71	69	67	68	69	71	67
Textile mill products .....	889	888	888	888	884	869	843	833	851	851	856	857	860
Apparel and other textile products .....	1,296	1,305	1,313	1,316	1,302	1,291	1,287	1,276	1,296	1,299	1,292	1,294	1,302
Paper and allied products .....	708	710	709	708	702	692	685	680	682	686	690	692	696
Printing and publishing .....	1,261	1,269	1,273	1,274	1,272	1,268	1,269	1,266	1,266	1,269	1,272	1,277	1,290
Chemicals and allied products .....	1,118	1,121	1,121	1,123	1,123	1,120	1,112	1,103	1,100	1,104	1,105	1,109	1,115
Petroleum and coal products .....	213	214	161	157	175	203	205	207	208	208	209	209	209
Rubber and miscellaneous plastics products .....	756	755	751	749	740	703	681	663	680	692	699	705	714
Leather and leather products .....	246	245	245	244	243	239	237	229	240	240	240	240	239
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	5,212	5,202	5,198	5,202	5,178	5,167	5,134	5,114	5,129	5,124	5,147	5,133	5,135
<b>WHOLESALE AND RETAIL TRADE</b> .....	20,448	20,529	20,637	20,610	20,531	20,487	20,459	20,506	20,589	20,620	20,641	20,647	20,626
<b>WHOLESALE TRADE</b> .....	5,251	5,278	5,302	5,301	5,286	5,268	5,245	5,247	5,263	5,280	5,292	5,297	5,302
<b>RETAIL TRADE</b> .....	15,197	15,251	15,335	15,309	15,245	15,219	15,214	15,259	15,326	15,340	15,349	15,350	15,324
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	5,064	5,091	5,101	5,115	5,119	5,137	5,150	5,167	5,180	5,194	5,214	5,227	5,240
<b>SERVICES</b> .....	17,362	17,462	17,540	17,580	17,618	17,659	17,652	17,760	17,788	17,861	17,913	17,951	18,025
<b>GOVERNMENT</b> .....	16,002	16,032	16,087	16,161	16,384	16,273	16,230	16,157	16,144	16,109	16,159	16,155	16,180
Federal .....	2,773	2,791	2,826	2,886	3,115	2,960	2,951	2,893	2,828	2,765	2,788	2,793	2,808
State and local .....	13,229	13,241	13,261	13,275	13,269	13,313	13,279	13,264	13,316	13,344	13,371	13,362	13,372

**12. Labor turnover rates in manufacturing, 1977 to date**

[Per 100 employees]

Year	Annual average	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>Total accessions</b>													
1977	4.0	3.7	3.7	4.0	3.8	4.6	4.9	4.3	5.3	4.6	3.9	3.1	2.4
1978	4.1	3.8	3.2	3.8	4.0	4.7	4.9	4.4	5.4	4.9	4.3	3.3	2.4
1979	4.0	4.0	3.4	3.8	3.9	4.7	4.8	4.3	5.0	4.5	4.1	3.0	2.2
1980	...	3.8	3.3	3.5	3.1	3.4	3.9	3.8	4.5	4.3	3.6	P2.7	...
<b>New hires</b>													
1977	2.8	2.2	2.1	2.6	2.7	3.5	3.7	3.0	4.0	3.5	3.0	2.2	1.6
1978	3.1	2.5	2.2	2.7	2.9	3.6	3.9	3.3	4.2	3.9	3.5	2.6	1.7
1979	2.9	2.8	2.5	2.8	2.9	3.6	3.8	3.1	3.7	3.4	3.1	2.2	1.5
1980	...	2.4	2.2	2.3	2.1	2.1	2.4	2.1	2.5	2.6	2.2	P1.6	...
<b>Recalls</b>													
1977	.9	1.2	1.3	1.1	.9	.8	.8	.9	1.0	.8	.6	.6	.6
1978	.7	1.0	.7	.8	.8	.8	.7	.8	.9	.7	.6	.5	.5
1979	.7	.9	.7	.7	.7	.8	.7	.9	.8	.8	.7	.5	.5
1980	...	1.1	.9	.9	.8	1.0	1.2	1.4	1.7	1.4	1.1	P.9	...
<b>Total separations</b>													
1977	3.8	3.9	3.4	3.4	3.4	3.5	3.5	4.3	5.1	4.9	3.8	3.4	3.4
1978	3.9	3.6	3.1	3.5	3.6	3.7	3.8	4.1	5.3	4.9	4.1	3.5	3.4
1979	4.0	3.8	3.2	3.6	3.7	3.8	3.9	4.3	5.7	4.7	4.2	3.8	3.5
1980	...	4.1	3.5	3.7	4.7	4.8	4.4	4.2	4.8	4.1	3.7	P3.0	...
<b>Quits</b>													
1977	1.8	1.4	1.3	1.6	1.7	1.9	1.9	1.9	3.1	2.8	1.9	1.5	1.2
1978	2.1	1.5	1.4	1.8	2.0	2.1	2.2	2.1	3.5	3.1	2.3	1.7	1.3
1979	2.0	1.8	1.6	1.9	2.0	2.1	2.1	2.0	3.3	2.7	2.1	1.6	1.1
1980	...	1.6	1.5	1.6	1.5	1.5	1.4	1.4	2.2	1.9	1.4	P1.1	...
<b>Layoffs</b>													
1977	1.1	1.7	1.4	1.0	.9	.8	.8	1.5	1.0	1.1	1.1	1.1	1.5
1978	.9	1.2	.9	.9	.8	.7	.7	1.1	.8	.8	.9	1.0	1.4
1979	1.1	1.1	.8	.8	.9	.7	.9	1.4	1.3	1.1	1.2	1.5	1.7
1980	...	1.6	1.2	1.3	2.3	2.5	2.2	2.0	1.7	1.4	1.5	P1.4	...

**13. Labor turnover rates in manufacturing, by major industry group**

[Per 100 employees]

Major industry group	Accession rates									Separation rates								
	Total			New hires			Recalls			Total			Quits			Layoffs		
	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>	Nov. 1979	Oct. 1980	Nov. 1980 <sup>P</sup>
<b>MANUFACTURING</b>	3.0	3.6	2.7	2.2	2.2	1.6	0.5	1.1	0.9	3.8	3.7	3.0	1.6	1.4	1.1	1.5	1.5	1.4
Seasonally adjusted	4.0	3.8	3.6	2.9	2.1	2.1	...	...	...	4.1	3.4	3.2	2.0	1.3	1.4	1.3	1.4	1.2
<b>Durable goods</b>	2.6	3.4	2.6	1.9	1.8	1.4	.4	1.2	.9	3.5	3.2	2.6	1.3	1.1	.8	1.4	1.3	1.1
Lumber and wood products	3.4	4.3	3.3	2.7	3.1	2.3	.5	1.1	.9	6.7	4.8	4.4	2.6	2.2	1.7	3.1	1.6	2.0
Furniture and fixtures	3.8	4.2	2.8	3.2	3.2	2.1	.5	.9	.7	4.6	4.2	2.9	2.3	2.1	1.4	1.1	1.2	.9
Stone, clay, and glass products	2.7	3.3	2.4	2.0	1.9	1.5	.6	1.2	.8	4.2	3.7	3.9	1.5	1.2	.9	2.0	1.6	2.3
Primary metal industries	1.9	3.6	3.3	1.1	.8	.7	.7	2.3	2.3	3.2	3.0	2.1	.7	.5	.4	1.9	1.8	1.1
Fabricated metal products	3.0	3.6	2.6	2.3	2.1	1.5	.5	1.2	.9	3.9	3.7	3.1	1.5	1.3	.9	1.6	1.7	1.6
Machinery, except electrical	2.3	2.5	2.0	1.8	1.5	1.1	.2	.7	.6	2.5	2.6	1.8	1.1	.9	.6	.7	1.0	.6
Electric and electronic equipment	2.6	2.9	2.4	1.9	1.7	1.4	.3	.7	.6	2.8	2.7	2.3	1.3	1.1	.8	.8	.8	.8
Transportation equipment	2.5	4.7	...	1.4	1.8	...	.7	2.0	...	3.3	3.1	...	.9	.8	...	1.8	1.5	...
Instruments and related products	2.5	2.2	2.1	2.0	1.8	1.6	.2	.3	.3	2.2	2.3	1.8	1.1	1.3	.8	.4	.5	.5
Miscellaneous manufacturing	3.5	4.4	3.4	2.7	3.2	2.4	.6	1.0	.8	6.6	5.0	5.6	2.5	2.1	1.5	3.0	1.9	3.2
<b>Nondurable goods</b>	3.4	3.8	2.9	2.5	2.6	1.9	.7	.9	.8	4.3	4.5	3.7	2.0	1.9	1.4	1.6	1.9	1.7
Food and kindred products	4.6	5.6	3.8	3.2	3.8	2.4	1.1	1.5	1.3	6.3	8.0	6.1	2.6	2.7	1.9	2.9	4.5	3.5
Tobacco manufacturers	4.5	3.4	...	1.4	2.2	...	2.6	.6	...	6.2	3.0	...	.4	1.0	...	5.1	1.0	...
Textile mill products	3.7	3.6	2.7	2.9	2.7	2.0	.5	.6	.4	4.1	3.8	3.0	2.4	2.1	1.5	.8	.9	.8
Apparel and other products	4.5	4.5	3.9	3.1	2.9	2.3	1.2	1.3	1.4	5.6	5.3	5.0	2.6	2.4	2.0	2.3	2.1	2.4
Paper and allied products	2.0	2.2	1.9	1.4	1.4	1.1	.4	.7	.6	2.6	2.5	2.4	.9	.9	.6	1.0	1.0	1.2
Printing and publishing	3.1	3.1	2.8	2.6	2.5	2.2	.4	.5	.5	3.0	3.2	2.6	1.9	1.7	1.5	.5	1.0	.7
Chemicals and allied products	1.3	1.5	1.2	1.0	1.0	.8	.2	.3	.3	1.4	1.5	1.2	.6	.6	.4	.4	.4	.5
Petroleum and coal products	1.5	1.9	1.5	1.3	1.5	1.3	.1	.4	.2	1.8	1.7	1.9	.7	.6	.5	.7	.6	1.0
Rubber and miscellaneous plastics products	3.5	4.5	3.3	2.6	2.8	2.0	.6	1.2	1.0	5.2	4.2	3.3	2.2	2.0	1.3	2.1	1.3	1.2
Leather and leather products	5.5	5.8	4.2	4.1	4.6	2.9	1.1	.9	1.0	6.8	6.6	6.5	3.2	3.4	2.4	2.6	2.2	3.3



### 14. Hours and earnings, by industry division, 1949-79

[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
	Total private			Mining			Construction			Manufacturing		
1949	\$50.24	39.4	\$1.275	\$62.33	36.3	\$1.717	\$67.56	37.7	\$1.792	\$53.88	39.1	\$1.378
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
1951	57.86	39.9	1.45	74.11	38.4	1.93	76.96	38.1	2.02	63.34	40.6	1.56
1952	60.65	39.9	1.52	77.59	38.6	2.01	82.86	38.9	2.13	66.75	40.7	1.64
1953	63.76	39.6	1.61	83.03	38.8	2.14	86.41	37.9	2.28	70.47	40.5	1.74
1954	64.52	39.1	1.65	82.60	38.6	2.14	88.91	37.2	2.39	70.49	39.6	1.78
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
1956	70.74	39.3	1.80	95.06	40.8	2.33	96.38	37.5	2.57	78.78	40.4	1.95
1957	73.33	38.8	1.89	98.25	40.1	2.45	100.27	37.0	2.71	81.19	39.8	2.04
1958	75.08	38.5	1.95	96.08	38.9	2.47	103.78	36.8	2.82	82.32	39.2	2.10
1959 <sup>1</sup>	78.78	39.0	2.02	103.68	40.5	2.56	108.41	37.0	2.93	88.26	40.3	2.19
1960	80.67	38.6	2.09	105.04	40.4	2.60	112.67	36.7	3.07	89.72	39.7	2.26
1961	82.60	38.6	2.14	106.92	40.5	2.64	118.08	36.9	3.20	92.34	39.8	2.32
1962	85.91	38.7	2.22	110.70	41.0	2.70	122.47	37.0	3.31	96.56	40.4	2.39
1963	88.46	38.8	2.28	114.40	41.6	2.75	127.19	37.3	3.41	99.23	40.5	2.45
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	219.30	35.6	6.16	365.50	43.0	8.50	342.99	37.0	9.27	268.94	40.2	6.69
	Transportation and public utilities			Wholesale and retail trade			Finance, insurance, and real estate			Services		
1949				\$42.93	40.5	\$1.060	\$47.63	37.8	\$1.260			
1950				44.55	40.5	1.100	50.52	37.7	1.340			
1951				47.79	40.5	1.18	54.67	37.7	1.45			
1952				49.20	40.0	1.23	57.08	37.8	1.51			
1953				51.35	39.5	1.30	59.57	37.7	1.58			
1954				53.33	39.5	1.35	62.04	37.6	1.65			
1955				55.16	39.4	1.40	63.92	37.6	1.70			
1956				57.48	39.1	1.47	65.68	36.9	1.78			
1957				59.60	38.7	1.54	67.53	36.7	1.84			
1958				61.76	38.6	1.60	70.12	37.1	1.89			
1959 <sup>1</sup>				64.41	38.8	1.66	72.74	37.3	1.95			
1960				66.01	38.6	1.71	75.14	37.2	2.02			
1961				67.41	38.3	1.76	77.12	36.9	2.09			
1962				69.91	38.2	1.83	80.94	37.3	2.17			
1963				72.01	38.1	1.89	84.38	37.5	2.25			
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	325.98	39.9	8.17	164.96	32.6	5.06	190.77	36.2	5.27	175.27	32.7	5.36

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

**15. Weekly hours, by industry division and major manufacturing group**

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

Industry division and group	Annual average		1979	1980											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	35.8	35.6	35.9	35.1	35.1	35.2	35.0	35.0	35.3	35.3	35.5	35.3	35.3	35.3	35.7
<b>MINING</b> .....	43.4	43.0	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	43.1	43.5	43.5	43.5	44.1
<b>CONSTRUCTION</b> .....	36.8	37.0	37.2	35.3	35.7	36.2	36.7	36.9	37.9	37.7	37.3	37.9	37.9	36.7	37.0
<b>MANUFACTURING</b> .....	40.4	40.2	40.9	39.8	39.8	39.8	39.4	39.3	39.4	38.8	39.3	39.7	39.8	40.2	41.0
Overtime hours .....	3.6	3.3	3.4	3.0	2.9	3.0	2.7	2.5	2.5	2.4	2.7	3.0	2.9	3.1	3.3
<b>Durable goods</b> .....	41.1	40.8	41.6	40.3	40.3	40.3	39.9	39.7	39.8	39.1	39.7	40.2	40.3	40.7	41.7
Overtime hours .....	3.8	3.5	3.5	3.1	3.0	3.1	2.7	2.5	2.4	2.3	2.6	2.9	2.9	3.1	3.4
Lumber and wood products .....	39.8	39.4	39.2	38.1	38.5	38.3	37.1	37.6	38.4	38.2	39.2	39.3	39.2	39.2	39.7
Furniture and fixtures .....	39.3	38.7	39.9	38.4	38.4	38.5	37.9	37.3	37.3	36.2	37.6	38.3	38.5	38.4	39.5
Stone, clay, and glass products .....	41.6	41.5	41.8	40.1	40.1	40.7	40.4	40.6	41.0	40.3	40.7	41.1	41.3	41.4	41.5
Primary metal industries .....	41.8	41.4	40.9	40.7	40.7	40.7	40.6	39.3	39.1	38.6	39.0	39.9	39.9	40.7	41.6
Fabricated metal products .....	41.0	40.7	41.9	40.6	40.4	40.6	40.2	39.9	40.1	39.2	40.0	40.5	40.5	40.8	41.7
Machinery except electrical .....	42.1	41.8	42.7	41.5	41.5	41.5	41.1	40.8	40.8	40.0	40.4	41.0	40.7	41.3	42.4
Electric and electronic equipment .....	40.3	40.3	41.3	40.2	40.2	40.0	39.6	39.3	39.4	38.5	39.2	39.7	39.9	40.4	41.1
Transportation equipment .....	42.2	41.1	42.7	40.0	40.4	40.4	39.8	39.9	39.9	39.5	40.0	40.7	41.1	41.7	43.7
Instruments and related products .....	40.9	40.8	41.7	41.0	40.8	40.6	40.4	40.3	40.5	39.6	39.9	40.1	40.3	41.1	41.6
Miscellaneous manufacturing .....	38.8	38.8	39.5	38.8	38.6	38.8	38.4	38.2	38.3	37.8	38.5	39.1	38.9	39.2	39.7
<b>Nondurable goods</b> .....	39.4	39.3	39.9	39.0	38.9	38.9	38.7	38.7	38.8	38.5	38.9	39.1	39.1	39.3	39.9
Overtime hours .....	3.2	3.1	3.2	2.9	2.8	2.9	2.7	2.5	2.5	2.6	2.9	3.0	2.9	3.0	3.1
Food and kindred products .....	39.7	39.9	40.4	39.5	39.1	39.0	38.9	39.7	39.6	39.9	40.3	40.3	39.7	40.2	40.6
Tobacco manufactures .....	38.1	38.0	39.4	37.3	36.9	37.7	38.2	38.7	38.3	36.5	36.8	38.2	40.1	40.0	39.2
Textile mill products .....	40.4	40.4	41.5	40.9	40.8	40.9	39.9	39.8	39.6	38.5	39.2	39.8	39.9	40.3	41.1
Apparel and other textile products .....	35.6	35.3	35.9	35.2	35.4	35.4	35.3	35.3	35.6	35.3	35.4	35.2	35.4	35.4	35.9
Paper and allied products .....	42.9	42.6	43.5	42.7	42.4	42.4	42.2	41.6	41.7	41.4	41.8	42.4	42.2	42.7	43.7
Printing and publishing .....	37.6	37.5	38.1	37.2	37.0	37.2	36.8	36.9	36.7	36.8	37.2	37.3	37.2	37.2	38.2
Chemicals and allied products .....	41.9	41.9	42.2	41.7	41.6	41.7	41.6	41.3	41.2	40.7	40.9	41.3	41.4	42.0	42.4
Petroleum and coal products .....	43.6	43.8	43.5	36.2	39.7	39.4	41.1	42.3	42.3	42.7	42.2	43.4	43.7	43.4	42.9
Rubber and miscellaneous plastics products .....	40.9	40.5	40.7	40.3	39.9	40.0	39.7	39.0	39.3	38.6	40.0	40.3	40.7	41.0	41.5
Leather and leather products .....	37.1	36.5	37.3	36.7	36.8	36.4	36.7	37.0	37.4	36.4	36.6	36.2	36.5	36.4	37.1
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	40.0	39.9	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	39.7	39.7	39.8	39.9	40.0
<b>WHOLESALE AND RETAIL TRADE</b> .....	32.9	32.6	32.9	31.9	31.9	32.0	31.8	31.9	32.3	32.5	32.7	32.1	32.1	32.0	32.5
<b>WHOLESALE TRADE</b> .....	38.8	38.8	39.1	38.5	38.4	38.4	38.4	38.5	38.2	38.2	38.4	38.5	38.7	38.5	38.9
<b>RETAIL TRADE</b> .....	31.0	30.6	31.0	29.8	29.8	29.9	29.7	29.9	30.4	30.7	30.9	30.1	30.0	30.0	30.6
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	36.4	36.2	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.3	36.1	36.3	36.3	36.2
<b>SERVICES</b> .....	32.8	32.7	32.8	32.5	32.5	32.5	32.4	32.3	32.8	33.1	33.1	32.5	32.6	32.6	32.7

### 16. 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	1979	1980											
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>
<b>TOTAL PRIVATE</b> .....	35.7	35.6	35.5	35.4	35.3	35.1	35.0	34.9	35.1	35.2	35.3	35.4	35.4
<b>MINING</b> .....	43.9	43.4	43.2	43.4	42.8	42.7	43.2	41.9	43.1	43.5	43.5	43.5	44.1
<b>CONSTRUCTION</b> .....	37.2	37.3	37.1	36.6	36.7	36.8	37.1	36.8	36.5	37.4	37.0	37.1	37.0
<b>MANUFACTURING</b> .....	40.2	40.3	40.1	39.8	39.8	39.3	39.1	39.0	39.4	39.6	39.7	39.9	40.2
Overtime hours .....	3.2	3.2	3.0	3.1	3.0	2.6	2.4	2.5	2.7	2.7	2.8	2.9	3.1
<b>Durable goods</b> .....	40.7	40.8	40.6	40.3	40.3	39.7	39.5	39.4	39.9	40.1	40.1	40.5	40.8
Overtime hours .....	3.2	3.3	3.1	3.2	3.0	2.5	2.4	2.4	2.6	2.7	2.8	3.0	3.2
Lumber and wood products .....	39.0	39.4	39.1	38.7	37.3	37.5	37.6	38.1	38.9	38.8	38.7	39.3	39.5
Furniture and fixtures .....	38.9	39.2	39.0	38.5	38.5	37.6	37.0	36.6	37.4	38.0	38.0	38.0	38.5
Stone, clay, and glass products .....	41.5	41.4	41.2	40.9	40.6	40.3	40.4	40.2	40.3	40.9	40.9	41.1	41.2
Primary metal industries .....	40.7	40.8	40.8	40.7	40.6	39.2	38.8	38.6	39.2	<sup>c</sup> 39.7	40.1	40.8	41.4
Fabricated metal products .....	40.9	40.9	40.8	40.7	40.8	39.9	39.7	39.6	40.1	40.4	40.4	40.5	40.7
Machinery, except electrical .....	41.5	41.6	41.5	41.3	41.5	41.0	40.7	40.6	40.8	40.9	40.7	41.0	41.2
Electric and electronic equipment .....	40.5	40.5	40.3	40.0	39.9	39.5	39.2	39.0	39.4	39.5	39.9	40.0	40.3
Transportation equipment .....	40.9	40.9	40.8	40.4	40.5	39.7	39.5	39.6	40.9	40.6	40.8	41.4	41.9
Instruments and related products .....	41.0	41.4	40.9	40.4	40.7	40.3	40.4	40.1	40.1	40.1	40.2	40.7	40.9
Miscellaneous manufacturing .....	39.0	39.2	39.1	38.6	38.5	38.3	38.2	38.3	38.6	38.9	38.7	38.7	39.2
<b>Nondurable goods</b> .....	39.4	39.5	39.4	39.0	39.1	38.9	38.6	38.5	38.7	38.8	39.0	39.0	39.5
Overtime hours .....	3.1	3.1	2.9	3.0	3.0	2.6	2.5	2.6	2.8	2.7	2.8	2.9	3.0
Food and kindred products .....	39.9	39.8	39.7	39.3	39.6	39.9	39.6	39.7	39.8	39.7	39.6	39.9	40.1
Tobacco manufactures .....	38.5	38.5	37.9	37.7	38.2	38.2	37.3	38.5	37.3	37.5	39.5	38.9	38.3
Textile mill products .....	41.0	41.5	41.1	40.8	40.3	39.7	39.1	38.8	39.2	39.7	39.9	40.0	40.6
Apparel and other textile products .....	35.6	36.0	35.9	35.3	35.8	35.3	35.2	35.1	35.1	35.1	35.3	35.0	35.6
Paper and allied products .....	42.8	43.0	42.9	42.6	42.5	41.7	41.4	41.4	41.8	42.2	42.2	42.5	43.0
Printing and publishing .....	37.4	37.8	37.4	37.2	37.2	37.1	36.8	36.9	37.1	36.9	37.1	36.8	37.5
Chemicals and allied products .....	41.8	42.0	41.9	41.8	41.5	41.3	41.1	40.8	41.0	41.3	41.4	41.7	42.0
Petroleum and coal products .....	43.4	36.9	40.7	39.7	41.1	42.5	42.3	42.2	42.2	42.7	43.1	43.0	42.8
Rubber and miscellaneous plastics products .....	40.0	40.7	40.0	39.9	40.1	39.3	39.2	39.0	40.2	40.1	40.4	40.7	40.8
Leather and leather products .....	37.0	37.2	37.2	36.9	37.3	36.7	36.7	36.1	36.5	36.2	36.5	36.3	36.8
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	40.0	39.5	39.4	39.5	39.5	39.3	39.6	39.9	39.7	39.7	39.8	39.9	40.0
<b>WHOLESALE AND RETAIL TRADE</b> .....	32.6	32.6	32.4	32.3	32.0	32.1	31.9	31.8	32.0	32.1	32.2	32.2	32.2
<b>WHOLESALE TRADE</b> .....	38.9	38.9	38.8	38.5	38.5	38.6	38.0	38.0	38.2	38.5	38.5	38.5	38.7
<b>RETAIL TRADE</b> .....	30.6	30.6	30.4	30.3	30.0	30.1	30.0	29.8	30.1	30.1	30.2	30.2	30.1
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	36.4	36.2	36.3	36.3	36.2	36.1	36.4	36.2	36.3	36.1	36.3	36.3	36.2
<b>SERVICES</b> .....	32.8	32.7	32.7	32.7	32.6	32.5	32.6	32.6	32.6	32.5	32.6	32.7	32.7

c = corrected.



**17. 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		1979		1980											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>	
<b>TOTAL PRIVATE</b> .....	\$5.69	\$6.16	\$6.38	\$6.42	\$6.46	\$6.51	\$6.53	\$6.57	\$6.61	\$6.64	\$6.68	\$6.80	\$6.86	\$6.92	\$6.94	
<b>MINING</b> .....	7.67	8.50	8.75	8.88	8.90	8.95	9.10	9.08	9.16	9.08	9.18	9.32	9.37	9.52	9.51	
<b>CONSTRUCTION</b> .....	8.66	9.27	9.58	9.49	9.61	9.68	9.69	9.77	9.81	9.91	10.05	10.19	10.25	10.24	10.32	
<b>MANUFACTURING</b> .....	6.17	6.69	6.97	6.96	7.00	7.06	7.09	7.13	7.20	7.29	7.30	7.42	7.49	7.59	7.70	
<b>Durable goods</b> .....	6.58	7.13	7.42	7.39	7.46	7.54	7.56	7.60	7.69	7.77	7.78	7.93	8.02	8.13	8.26	
Lumber and wood products .....	5.60	6.08	6.24	6.21	6.33	6.35	6.28	6.40	6.56	6.72	6.76	6.80	6.76	6.79	6.77	
Furniture and fixtures .....	4.68	5.06	5.26	5.27	5.32	5.37	5.39	5.42	5.49	5.52	5.54	5.58	5.59	5.63	5.71	
Stone, clay, and glass products .....	6.33	6.85	7.11	7.06	7.14	7.27	7.34	7.45	7.53	7.60	7.64	7.69	7.74	7.83	7.83	
Primary metal industries .....	8.20	8.97	9.28	9.30	9.44	9.45	9.53	9.61	9.65	9.82	9.84	9.95	10.09	10.30	10.44	
Fabricated metal products .....	6.35	6.84	7.14	7.09	7.14	7.24	7.27	7.32	7.42	7.42	7.48	7.62	7.68	7.75	7.84	
Machinery, except electrical .....	6.78	7.32	7.63	7.66	7.69	7.76	7.81	7.91	7.97	8.05	8.07	8.28	8.36	8.44	8.55	
Electric and electronic equipment .....	5.82	6.32	6.64	6.67	6.71	6.78	6.79	6.78	6.87	6.96	7.02	7.14	7.20	7.29	7.40	
Transportation equipment .....	7.91	8.54	8.93	8.81	8.86	9.04	9.04	9.06	9.24	9.34	9.35	9.56	9.77	9.88	10.17	
Instruments and related products .....	5.71	6.17	6.50	6.57	6.59	6.63	6.63	6.72	6.80	6.86	6.86	6.92	6.95	7.01	7.09	
Miscellaneous manufacturing .....	4.69	5.03	5.20	5.28	5.30	5.34	5.37	5.40	5.42	5.46	5.46	5.51	5.55	5.60	5.70	
<b>Nondurable goods</b> .....	5.53	6.00	6.26	6.28	6.27	6.30	6.36	6.42	6.48	6.60	6.62	6.69	6.72	6.79	6.85	
Food and kindred products .....	5.80	6.27	6.55	6.61	6.64	6.68	6.75	6.82	6.84	6.89	6.90	6.93	6.95	7.08	7.12	
Tobacco manufactures .....	6.13	6.65	6.98	7.08	7.36	7.57	7.79	7.64	7.97	8.06	7.74	7.42	7.56	7.74	8.18	
Textile mill products .....	4.30	4.66	4.87	4.90	4.90	4.92	4.91	4.90	4.93	5.06	5.19	5.24	5.26	5.29	5.34	
Apparel and other textile products .....	3.94	4.23	4.38	4.44	4.45	4.49	4.46	4.45	4.51	4.50	4.60	4.70	4.73	4.75	4.79	
Paper and allied products .....	6.52	7.13	7.50	7.49	7.52	7.55	7.63	7.65	7.79	7.97	7.99	8.06	8.09	8.19	8.26	
Printing and publishing .....	6.51	6.95	7.21	7.24	7.29	7.34	7.34	7.44	7.46	7.53	7.63	7.73	7.75	7.82	7.87	
Chemicals and allied products .....	7.02	7.60	7.92	7.97	8.01	8.05	8.12	8.17	8.24	8.35	8.39	8.46	8.52	8.57	8.64	
Petroleum and coal products .....	8.63	9.36	9.48	9.46	9.37	9.29	9.83	10.07	10.22	10.25	10.22	10.33	10.39	10.51	10.31	
Rubber and miscellaneous plastics products .....	5.52	5.96	6.21	6.25	6.25	6.27	6.30	6.34	6.39	6.48	6.57	6.63	6.70	6.80	6.88	
Leather and leather products .....	3.89	4.22	4.35	4.45	4.47	4.51	4.52	4.53	4.54	4.54	4.59	4.61	4.64	4.67	4.71	
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	7.57	8.17	8.54	8.55	8.58	8.62	8.71	8.72	8.75	8.90	8.95	9.04	9.20	9.26	9.30	
<b>WHOLESALE AND RETAIL TRADE</b> .....	4.67	5.06	5.18	5.34	5.36	5.40	5.40	5.42	5.43	5.48	5.48	5.56	5.59	5.63	5.62	
<b>WHOLESALE TRADE</b> .....	5.88	6.39	6.69	6.72	6.77	6.83	6.87	6.89	6.95	6.99	7.01	7.08	7.10	7.19	7.25	
<b>RETAIL TRADE</b> .....	4.20	4.53	4.61	4.78	4.78	4.81	4.80	4.82	4.83	4.88	4.89	4.95	4.98	5.01	4.99	
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	4.89	5.27	5.48	5.53	5.60	5.68	5.68	5.70	5.77	5.77	5.82	5.87	5.91	6.01	6.02	
<b>SERVICES</b> .....	4.99	5.36	5.61	5.65	5.70	5.75	5.75	5.79	5.81	5.79	5.81	5.93	6.00	6.09	6.09	

c = corrected.

**18. Hourly Earnings Index for production or nonsupervisory workers on private nonagricultural payrolls, by industry division**

[Seasonally adjusted data: 1967 = 100]

Industry	1979	1980												Nov. 1980 to Dec. 1980	Dec. 1979 to Dec. 1980
	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>		
<b>TOTAL PRIVATE (in current dollars)</b> ..	239.4	240.3	242.4	245.2	246.2	248.3	250.9	252.1	254.0	255.4	257.9	260.7	261.6	0.3	9.3
Mining .....	274.6	277.0	278.5	280.9	283.7	284.2	286.3	285.3	288.9	290.4	294.4	298.7	299.5	.3	9.1
Construction .....	228.1	225.8	229.8	232.2	233.0	234.2	235.3	236.7	239.0	239.3	244.6	242.8	244.6	.7	7.2
Manufacturing .....	244.1	245.2	247.8	250.2	252.4	255.0	258.3	260.6	262.4	264.5	266.6	268.9	270.4	.6	10.8
Transportation and public utilities ..	260.1	260.8	262.4	265.9	267.2	268.7	270.6	272.8	273.2	274.0	280.2	282.6	283.9	.5	9.2
Wholesale and retail trade .....	231.4	234.2	235.2	237.8	238.0	239.8	241.8	243.5	245.3	246.5	247.7	250.4	250.9	.2	8.4
Finance, insurance, and real estate ..	217.9	218.4	221.1	225.7	224.9	226.3	230.2	229.0	232.7	233.1	234.8	239.5	239.0	-.2	9.7
Services .....	237.8	237.7	239.7	242.7	243.0	245.7	248.4	247.6	249.8	251.7	254.2	258.1	258.3	.1	8.6
<b>TOTAL PRIVATE (in constant dollars)</b> ..	103.8	102.7	102.2	102.0	101.4	101.4	101.5	102.0	102.0	101.5	101.5	101.6	( <sup>2</sup> )	( <sup>2</sup> )	( <sup>2</sup> )

### 19. 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		1979	1980											
	1978	1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov. <sup>P</sup>	Dec. <sup>P</sup>
	<b>TOTAL PRIVATE</b> .....	\$203.70	\$219.30	\$229.04	\$225.34	\$226.75	\$229.15	\$228.55	\$229.95	\$233.33	\$234.39	\$237.14	\$240.04	\$242.16	\$244.28
<b>MINING</b> .....	332.88	365.50	384.13	385.39	384.48	388.43	389.48	387.72	395.71	380.45	395.66	405.42	407.60	414.12	419.39
<b>CONSTRUCTION</b> .....	318.69	342.99	356.38	335.00	343.08	350.42	355.62	360.51	371.80	373.61	374.87	386.20	388.48	375.81	381.84
<b>MANUFACTURING</b> .....	249.27	268.94	285.07	277.01	278.60	280.99	279.35	280.21	283.68	282.85	286.89	<sup>c</sup> 294.57	298.10	305.12	315.70
<b>Durable goods</b> .....	270.44	290.90	308.67	297.82	300.64	303.86	301.64	301.72	306.06	303.81	308.87	318.79	323.21	330.89	344.44
Lumber and wood products .....	222.88	239.55	244.61	236.60	243.71	243.21	232.99	240.64	251.90	256.70	264.99	267.24	264.99	266.17	268.77
Furniture and fixtures .....	183.92	195.82	209.87	202.37	204.29	206.75	204.28	202.17	204.78	199.82	208.30	213.71	215.22	216.19	225.55
Stone, clay, and glass products .....	263.33	284.28	297.20	283.11	286.31	295.89	296.54	302.47	308.73	306.28	310.95	316.06	319.66	324.16	324.95
Primary metal industries .....	342.76	371.36	379.55	378.51	384.21	384.62	386.92	377.67	377.32	379.05	383.76	397.01	402.59	419.21	434.30
Fabricated metal products .....	260.35	278.39	299.17	287.85	288.46	293.94	292.25	292.07	297.54	290.86	299.20	308.61	311.04	316.20	326.93
Machinery except electrical .....	285.44	305.98	325.80	317.89	319.14	322.04	320.21	322.73	325.18	322.00	326.03	339.48	340.25	348.57	362.52
Electric and electronic equipment .....	234.55	254.70	274.23	268.13	269.74	271.20	268.88	266.45	270.68	267.96	275.18	283.46	287.28	294.52	304.14
Transportation equipment .....	333.80	350.99	381.31	352.40	357.94	365.22	359.79	361.49	368.68	368.93	374.00	389.09	401.55	412.00	444.43
Instruments and related products .....	233.54	251.74	271.05	269.37	268.87	269.18	267.85	270.82	275.40	271.66	273.71	277.49	280.09	288.11	294.94
Miscellaneous manufacturing .....	181.97	195.16	205.40	204.86	204.58	207.19	206.21	206.28	207.59	206.39	210.21	215.44	215.90	219.52	226.29
<b>Nondurable goods</b> .....	217.88	235.80	249.77	244.92	243.90	245.07	246.13	248.45	251.42	254.10	257.52	261.58	262.75	266.85	273.32
Food and kindred products .....	230.26	250.17	264.62	261.10	259.62	260.52	262.58	270.75	270.86	274.91	278.07	279.28	275.92	284.62	289.07
Tobacco manufactures .....	233.55	252.70	275.01	264.08	271.58	285.39	297.58	295.67	305.25	294.19	284.83	283.44	303.16	309.60	320.66
Textile mill products .....	173.72	188.26	202.11	200.41	199.92	201.23	195.91	195.02	195.23	194.81	203.45	208.55	209.87	213.19	219.47
Apparel and other textile products .....	140.26	149.32	157.24	156.29	157.53	158.95	157.44	157.09	160.56	158.85	162.84	165.44	167.44	168.15	171.96
Paper and allied products .....	279.71	303.74	326.25	319.82	318.85	320.12	321.99	318.24	324.84	329.96	333.98	341.74	341.40	349.71	360.96
Printing and publishing .....	244.78	260.63	274.70	269.33	269.73	273.05	270.11	274.54	273.78	277.10	283.84	288.33	288.30	290.90	300.63
Chemicals and allied products .....	294.14	318.44	334.22	332.35	333.22	335.69	337.79	337.42	339.49	339.85	343.15	349.40	352.73	359.94	366.34
Petroleum and coal products .....	376.27	409.97	412.38	342.45	371.99	366.03	404.01	425.96	432.31	437.68	431.28	448.32	454.04	456.13	442.30
Rubber and miscellaneous plastics products .....	225.77	241.38	252.75	251.88	249.38	250.80	250.11	247.26	251.13	250.13	262.80	267.19	272.69	278.80	285.52
Leather and leather products .....	144.32	154.03	162.26	163.32	164.50	164.16	165.88	167.61	169.80	165.26	167.99	166.88	169.36	169.99	174.74
<b>TRANSPORTATION AND PUBLIC UTILITIES</b> .....	302.80	325.98	341.60	337.73	338.05	340.49	344.05	342.70	346.50	355.11	355.32	358.89	366.16	369.47	372.00
<b>WHOLESALE AND RETAIL TRADE</b> .....	153.64	164.96	170.42	170.35	170.98	172.80	171.72	172.90	175.39	178.10	179.20	178.48	179.44	180.16	182.65
<b>WHOLESALE TRADE</b> .....	228.14	247.93	261.58	258.72	259.97	262.27	263.81	265.27	265.49	267.02	269.18	272.58	274.77	276.82	282.03
<b>RETAIL TRADE</b> .....	130.20	138.62	142.91	142.44	142.44	143.82	142.56	144.12	146.83	149.82	151.10	149.00	149.40	150.30	152.69
<b>FINANCE, INSURANCE, AND REAL ESTATE</b> .....	178.00	190.77	199.47	200.19	203.28	206.18	205.62	205.77	210.03	208.87	211.27	211.91	214.53	218.16	217.92
<b>SERVICES</b> .....	163.67	175.27	184.01	183.63	185.25	186.88	186.30	187.02	190.57	191.65	192.31	192.73	195.60	198.53	199.14

c = corrected.

**20. Gross and spendable weekly earnings, in current and 1967 dollars, 1960 to date**

[Averages for production or nonsupervisory workers on private nonagricultural payrolls]

Year and month	Private nonagricultural workers						Manufacturing workers					
	Gross average weekly earnings		Spendable average weekly earnings				Gross average weekly earnings		Spendable average weekly earnings			
			Worker with no dependents		Married worker with 3 dependents				Worker with no dependents		Married worker with 3 dependents	
	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars	Current dollars	1967 dollars
1960	\$80.67	\$90.95	\$65.59	\$73.95	\$72.96	\$82.25	\$89.72	\$101.15	\$72.57	\$81.82	\$80.11	\$90.32
1961	82.60	92.19	67.08	74.87	74.48	83.13	92.34	103.06	74.60	83.26	82.18	91.72
1962	85.91	94.82	69.56	76.78	76.99	84.98	96.56	106.58	77.86	85.94	85.53	94.40
1963	88.46	96.47	71.05	77.48	78.56	85.67	99.23	108.21	79.51	86.71	87.25	95.15
1964	91.33	98.31	75.04	80.78	82.57	88.88	102.97	110.84	84.40	90.85	92.18	99.22
1965	95.45	101.01	79.32	83.94	86.63	91.67	107.53	113.79	89.08	94.26	96.78	102.41
1966	98.82	101.67	81.29	83.63	88.66	91.21	112.19	115.42	91.45	94.08	99.33	102.19
1967	101.84	101.84	83.38	83.38	90.86	90.86	114.49	114.49	92.97	92.97	100.93	100.93
1968	107.73	103.39	86.71	83.21	95.28	91.44	122.51	117.57	97.70	93.76	106.75	102.45
1969	114.61	104.38	90.96	82.84	99.99	91.07	129.51	117.95	101.90	92.81	111.44	101.49
1970	119.83	103.04	96.21	82.73	104.90	90.20	133.33	114.64	106.32	91.42	115.58	99.38
1971	127.31	104.95	103.80	85.57	112.43	92.69	142.44	117.43	114.97	94.78	124.24	102.42
1972	136.90	109.26	112.19	89.54	121.68	97.11	154.71	123.47	125.34	100.03	135.57	108.20
1973	145.39	109.23	117.51	88.29	127.38	95.70	166.46	125.06	132.57	99.60	143.50	107.81
1974	154.76	104.78	124.37	84.20	134.61	91.14	176.80	119.70	140.19	94.92	151.56	102.61
1975	163.53	101.45	132.49	82.19	145.65	90.35	190.79	118.36	151.61	94.05	166.29	103.16
1976	175.45	102.90	143.30	84.05	155.87	91.42	209.32	122.77	167.83	98.43	181.32	106.35
1977	189.00	104.13	155.19	85.50	169.93	93.63	228.90	126.12	183.80	101.27	200.06	110.23
1978	203.70	104.30	165.39	84.69	180.71	92.53	249.27	127.63	197.40	101.08	214.87	110.02
1979	219.30	100.73	177.55	81.56	194.35	89.27	268.94	123.54	212.43	97.58	232.07	106.60
1979: December	229.04	99.58	184.59	80.26	201.80	87.74	285.07	123.94	223.38	97.12	244.31	106.22
1980: January	225.34	96.59	181.96	77.99	199.00	85.30	277.01	118.74	217.91	93.40	238.20	102.10
February	226.75	95.88	182.98	77.37	200.07	84.60	278.60	117.80	218.99	92.60	239.40	101.23
March	229.15	95.52	184.67	76.98	201.89	84.16	280.99	117.13	220.61	91.96	241.22	100.55
April	228.55	94.21	184.25	75.95	201.43	83.03	279.35	115.15	219.49	90.47	239.97	98.92
May	229.95	93.82	185.23	75.57	202.49	82.62	280.21	114.32	220.08	89.79	240.63	98.18
June	233.33	94.16	187.59	75.70	205.06	82.75	283.68	114.48	222.43	89.76	243.26	98.17
July	234.39	94.51	188.33	75.94	205.86	83.01	282.85	114.05	221.87	89.46	242.63	97.83
August	237.14	95.01	190.25	76.22	207.95	83.31	286.89	114.94	224.61	89.99	245.69	98.43
September	240.04	95.29	192.28	76.33	210.15	83.43	294.57	116.94	229.82	91.23	251.52	99.85
October	242.16	95.30	193.76	76.25	211.76	83.34	298.10	117.32	232.22	91.39	254.20	100.04
November <sup>P</sup>	244.28	95.27	195.24	76.15	213.37	83.22	305.12	119.00	236.98	92.43	259.52	101.22
December <sup>P</sup>	247.76	.....	197.67	.....	216.01	.....	315.70	.....	243.85	.....	267.26	.....

<sup>1</sup>Not available.

NOTE: The earnings expressed in 1967 dollars have been adjusted for changes in price level as measured by the Bureau's Consumer Price Index for Urban Wage Earners and Clerical Workers. These series are described in "The Spendable Earnings Series: A Technical Note on its Calculation,"

*Employment and Earnings and Monthly Report on the Labor Force*, February 1969, pp. 6-13. See also "Spendable Earnings Formulas, 1978-80," *Employment and Earnings*, March 1980, pp. 10-11.

c = corrected.



## UNEMPLOYMENT INSURANCE DATA

UNEMPLOYMENT INSURANCE DATA are compiled monthly by the Employment and Training Administration of the U.S. Department of Labor from records of State and Federal unemployment insurance claims filed and benefits paid. 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 one-third 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.

### 21. Unemployment insurance and employment service operations

[All items except average benefits amounts are in thousands]

Item	1979				1980								
	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
All programs:													
Insured unemployment .....	2,164	2,236	2,559	3,047	3,740	3,730	3,652	3,629	3,680	3,790	4,140	3,911	3,961
State unemployment insurance program: <sup>1</sup>													
Initial claims <sup>2</sup> .....	1,219	1,641	1,827	2,263	2,837	1,818	1,705	2,190	P 2,248	2,319	2,737	.....	.....
Insured unemployment (average weekly volume) .....	2,024	2,057	2,384	2,864	3,537	3,518	3,356	3,278	3,343	3,455	3,692	3,408	3,087
Rate of insured unemployment .....	2.4	2.4	2.8	3.4	4.1	4.1	3.9	3.8	3.9	4.0	4.3	3.9	3.6
Weeks of unemployment compensated .....	6,993	7,638	8,107	9,171	13,792	12,801	13,170	12,689	P 12,302	12,441	14,398	.....	.....
Average weekly benefit amount for total unemployment .....	\$89.07	\$90.59	\$92.39	\$94.54	\$96.41	\$98.39	\$99.15	\$99.52	P \$99.55	\$99.88	\$98.75	.....	.....
Total benefits paid .....	\$606,095	\$673,965	\$728,370	\$843,869	\$1,283,946	\$1,229,877	\$1,218,231	\$1,232,173	\$1,196,836	\$1,213,595	\$1,397,508	.....	.....
Unemployment compensation for ex-servicemen: <sup>3</sup>													
Initial claims <sup>1</sup> .....	23	26	24	24	25	21	21	21	P 20	23	27	.....	.....
Insured unemployment (average weekly volume) .....	52	52	54	56	60	58	63	52	50	45	58	55	56
Weeks of unemployment compensated .....	211	236	232	233	299	255	249	246	P 220	122	331	.....	.....
Total benefits paid .....	\$19,634	\$23,325	\$23,093	\$23,093	\$29,635	\$25,308	\$24,928	\$24,518	\$22,025	\$11,761	\$33,342	.....	.....
Unemployment compensation for Federal civilian employees: <sup>4</sup>													
Initial claims .....	13	18	15	15	19	11	12	11	P 12	14	17	.....	.....
Insured unemployment (average weekly volume) .....	25	28	29	31	34	32	30	25	22	20	26	25	29
Weeks of unemployment compensated .....	91	109	118	118	150	129	123	108	P 88	50	124	.....	.....
Total benefits paid .....	\$8,453	\$10,093	\$11,063	\$11,047	\$14,118	\$12,226	\$11,901	\$10,323	\$8,280	\$4,665	\$11,296	.....	.....
Railroad unemployment insurance:													
Applications .....	13	11	10	11	22	7	5	4	6	24	44	13	.....
Insured unemployment (average weekly volume) .....	21	18	20	19	40	39	30	27	23	27	44	39	.....
Number of payments .....	32	51	36	41	80	71	68	62	54	55	66	86	.....
Average amount of benefit payment .....	\$189.08	\$189.61	\$183.38	\$197.22	\$199.01	\$208.73	\$210.79	\$201.87	\$193.44	\$199.06	\$207.08	\$211.87	.....
Total benefits paid .....	\$5,747	\$8,003	\$6,462	\$8,085	\$14,967	\$14,573	\$13,884	\$13,002	\$9,953	\$10,140	\$13,320	\$17,336	.....
Employment service: <sup>5</sup>													
New applications and renewals .....	15,525	1,855	3,183	4,378	5,980	7,285	8,708	10,021	11,446	12,864	.....	.....	.....
Nonfarm placements .....	4,349	458	768	1,044	1,314	1,561	1,853	2,143	2,413	2,730	.....	.....	.....

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

<sup>2</sup> Includes interstate claims for the Virgin Islands. Excludes transition claims under State programs.

<sup>3</sup> Excludes data on claims and payments made jointly with other programs.

<sup>4</sup> Includes the Virgin Islands. Excludes data on claims and payments made jointly with State programs.

<sup>5</sup> Cumulative total for fiscal year (October 1 - September 30).

NOTE: Date for Puerto Rico included. Dashes indicate data not available.

## 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. One index, a new CPI for All Urban Consumers, covers 80 percent of the total noninstitutional population; and the other index, a revised CPI for Urban Wage Earners and Clerical Workers, covers about half the new index population. The All Urban Consumers index includes, 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, doctor's and dentist's 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. Prices are collected from over 18,000 tenants, 24,000 retail establishments, and 18,000 housing units for property taxes 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

Beginning with the May 1978 issue of the *Review*, regional CPI's cross classified by population size, were introduced. These indexes will 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 will be published bimonthly. (See table 24.)

For further details about the new and the revised indexes and a comparison of various aspects of these indexes with the old unrevised CPI, see *Facts About the Revised Consumer Price Index*, a pamphlet in the Consumer Price Index Revision 1978 series. See also *The Consumer Price Index: Concepts and Content Over the Years*. Report 517, revised edition (Bureau of Labor Statistics, May 1978).

For interarea comparisons of living costs at three hypothetical standards of living, see the family budget data published in the *Handbook of Labor Statistics, 1977*, Bulletin 1966 (Bureau of Labor Statistics, 1977), tables 122-133. Additional data and analysis on price changes are provided in the *CPI Detailed Report and Producer Prices and Price Indexes*, both monthly publications of the Bureau.

As of January 1976, the Wholesale Price Index (as it was then called) incorporated a revised weighting structure reflecting 1972 values of shipments. From January 1967 through December 1975, 1963 values of shipments were used as weights.

For a discussion of the general method of computing consumer, producer, and industry price indexes, see *BLS Handbook of Methods for Surveys and Studies*, Bulletin 1910 (Bureau of Labor Statistics, 1976), chapters 13-15. See also John F. Early, "Improving the measurement of producer price change," *Monthly Labor Review*, April 1978, pp. 7-15. For industry prices, see also Bennett R. Moss, "Industry and Sector Price Indexes," *Monthly Labor Review*, August 1965, pp. 974-82.

**22. Consumer Price Index for Urban Wage Earners and Clerical Workers, annual averages and changes, 1967-79**

[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

**23. 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 (revised)							
	1979	1980					1979	1980						
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
All items	227.5	247.6	247.8	249.4	251.7	253.9	256.2	227.6	247.8	248.0	249.6	251.9	254.1	256.4
Food and beverages	233.1	245.7	248.3	252.0	254.2	255.5	257.4	233.1	246.4	249.1	252.5	255.1	256.6	258.7
Housing	240.8	266.7	265.1	265.8	267.7	271.1	273.8	240.7	266.9	265.1	265.8	267.6	271.0	273.7
Apparel and upkeep	171.7	177.2	176.2	178.6	182.2	183.9	184.8	171.3	176.0	175.4	177.9	181.4	182.8	183.3
Transportation	224.9	249.7	251.0	252.7	254.7	256.1	259.0	225.7	250.6	251.9	253.5	255.2	256.6	259.7
Medical care	248.0	264.7	266.6	268.4	270.6	272.8	274.5	249.1	265.9	267.8	270.0	272.2	274.3	276.3
Entertainment	192.8	205.3	206.6	208.0	209.8	210.9	211.2	192.0	204.0	204.4	205.6	208.1	209.2	209.9
Other goods and services	202.9	212.5	213.5	214.5	220.6	221.5	222.8	202.0	212.1	212.9	214.0	219.0	219.9	221.0
Commodities	217.4	232.8	234.1	236.7	239.0	240.7	242.5	217.4	233.0	234.4	236.9	239.2	240.8	242.9
Commodities less food and beverages	206.9	223.2	224.0	226.0	228.4	230.2	232.0	206.9	223.4	224.2	226.2	228.4	230.0	232.0
Nondurables less food and beverages	216.6	241.1	241.4	242.6	244.1	244.4	245.3	218.1	243.2	243.5	244.8	246.0	246.1	247.1
Durables	198.4	208.6	209.8	212.4	215.3	218.1	220.6	196.9	206.8	208.0	210.5	213.5	216.3	218.9
Services	246.2	274.2	272.4	272.5	274.8	277.9	280.9	246.7	275.1	273.1	273.3	275.4	278.6	281.5
Rent, residential	182.1	191.1	192.1	193.2	195.1	197.1	198.3	181.9	190.8	191.8	193.0	194.8	196.8	198.0
Household services less rent	284.6	328.8	323.3	321.5	322.6	327.4	331.9	286.3	331.9	325.9	324.2	325.3	330.3	334.8
Transportation services	221.5	242.6	243.8	246.4	249.4	250.8	253.3	221.5	242.7	243.9	246.3	248.2	249.6	252.2
Medical care services	267.6	285.9	288.0	289.8	292.3	294.8	296.6	268.8	287.3	289.3	291.7	294.3	296.6	298.7
Other services	206.5	216.9	218.1	219.2	225.3	226.7	227.2	207.3	217.9	218.6	219.5	225.4	227.4	227.9
<b>Special indexes:</b>														
All items less food	224.1	245.5	245.1	246.3	248.6	250.9	253.2	224.2	245.7	245.3	246.6	248.7	251.0	253.4
All items less mortgage interest costs	219.8	235.4	236.8	239.0	241.5	243.0	244.5	220.1	235.7	237.4	239.6	242.0	243.5	245.1
Commodities less food	205.4	221.4	222.2	224.2	226.6	228.3	230.0	205.4	221.6	222.4	224.4	226.5	228.2	230.1
Nondurables less food	212.9	236.3	236.6	237.8	239.3	239.6	240.5	214.4	238.3	238.7	239.9	241.1	241.3	242.2
Nondurables less food and apparel	236.8	269.3	270.3	270.9	271.3	271.1	272.1	238.2	271.4	272.2	272.9	273.0	272.8	273.9
Nondurables	225.8	244.5	245.9	248.3	250.2	251.0	252.4	226.5	245.7	247.2	249.6	251.5	252.3	253.8
Services less rent	258.2	290.0	287.6	287.4	289.8	293.2	296.4	258.8	291.2	288.6	288.6	290.7	294.2	297.4
Services less medical care	242.3	271.0	268.9	268.7	271.0	274.2	277.2	242.6	271.8	269.4	269.4	271.4	274.7	277.7
Domestically produced farm foods	224.5	234.8	238.5	243.5	246.2	247.3	249.2	224.4	234.7	238.4	242.9	246.1	247.0	249.1
Selected beef cuts	256.5	264.8	269.2	274.5	278.8	276.8	278.9	259.2	267.1	271.2	275.9	280.8	279.0	280.7
Energy	307.8	367.8	370.4	370.7	370.1	368.0	366.1	310.7	371.8	373.9	374.2	373.1	371.1	369.5
All items less energy	221.4	238.3	238.3	240.0	242.5	245.1	247.7	221.0	237.6	237.6	239.4	242.0	244.5	247.2
All items less food and energy	216.1	233.7	233.1	234.3	236.9	239.7	242.4	215.4	232.7	232.1	233.4	235.9	238.7	241.5
Commodities less food and energy	191.4	201.2	202.0	204.3	207.2	209.4	211.2	190.4	199.8	200.6	202.9	205.7	207.8	209.9
Energy commodities	332.5	404.1	404.8	404.2	401.7	399.1	400.2	333.8	405.6	406.1	405.5	402.7	400.3	401.3
Services less energy	244.6	271.5	269.1	269.0	271.3	274.9	278.6	245.1	272.5	269.8	269.9	271.9	275.6	279.3
Purchasing power of the consumer dollar, 1967 = \$1	\$0.440	\$0.404	\$0.404	\$0.401	\$0.397	\$0.394	\$0.390	\$0.439	\$0.404	\$0.403	\$0.401	\$0.397	\$0.394	\$0.390



**23. Continued—Consumer Price Index—U.S. city average**

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979		1980					1979		1980				
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
<b>FOOD AND BEVERAGES</b>	233.1	245.7	248.3	252.0	254.2	255.5	257.4	233.1	246.4	249.1	252.5	255.1	256.6	258.7
<b>Food</b>	239.1	252.0	254.8	258.7	261.1	262.4	264.5	239.1	252.7	255.5	259.2	261.9	263.4	265.7
Food at home	236.0	248.0	251.5	256.3	258.9	260.0	262.1	235.4	247.7	251.1	255.6	258.6	259.7	262.0
Cereals and bakery products	228.7	245.9	247.8	249.2	250.3	253.7	255.8	229.7	245.7	248.0	249.6	251.1	254.3	256.8
Cereals and cereal products (12/77 = 100)	121.1	133.1	135.0	136.3	137.1	137.5	138.7	122.1	133.9	135.5	136.8	137.8	138.5	139.7
Flour and prepared flour mixes (12/77 = 100)	122.8	131.1	132.9	133.6	133.3	133.2	132.9	124.6	131.4	132.8	133.9	134.1	133.8	133.6
Cereal (12/77 = 100)	119.7	133.0	135.5	137.6	138.5	139.3	141.1	119.9	133.3	135.5	137.7	138.6	139.3	141.5
Rice, pasta, and cornmeal (12/77 = 100)	121.6	135.2	136.2	136.8	138.4	138.9	140.5	122.7	137.0	137.9	138.4	140.2	141.6	142.7
Bakery products (12/77 = 100)	121.0	129.1	129.8	130.4	130.9	133.1	134.3	121.3	128.8	129.8	130.5	131.2	133.3	134.7
White bread	204.5	216.9	218.4	217.9	219.6	222.7	224.9	203.9	215.4	217.5	217.2	219.3	222.6	225.2
Other breads (12/77 = 100)	121.3	128.1	129.4	129.7	130.9	132.5	133.1	124.2	130.8	132.3	133.3	134.3	135.8	137.0
Fresh biscuits, rolls, and muffins (12/77 = 100)	121.2	129.5	129.2	130.0	129.2	133.4	134.6	120.8	127.9	128.1	128.9	128.1	132.1	134.1
Fresh cakes and cupcakes (12/77 = 100)	119.4	127.6	127.9	129.8	129.5	132.5	133.4	119.1	126.9	127.3	129.4	129.7	132.6	133.1
Cookies (12/77 = 100)	117.1	126.3	127.1	128.7	129.9	131.0	133.1	118.4	126.9	128.3	130.1	131.7	132.5	134.5
Crackers and bread and cracker products (12/77 = 100)	114.5	123.6	125.5	124.6	124.2	126.4	125.6	116.1	124.5	125.7	124.7	124.5	126.5	125.7
Fresh sweetrolls, coffeecake, and donuts (12/77 = 100)	119.9	129.1	129.5	131.4	131.6	133.4	135.3	121.9	130.0	130.0	131.6	132.0	134.1	136.1
Frozen and refrigerated bakery products and fresh pies, tarts, and turnovers (12/77 = 100)	123.7	131.2	131.5	131.4	132.1	135.3	136.2	120.8	127.2	129.6	129.2	129.9	130.9	132.4
Meats, poultry, fish, and eggs	230.2	231.2	236.7	245.4	251.8	252.6	254.9	230.0	230.4	236.1	244.3	251.2	251.8	254.2
Meats, poultry, and fish	235.2	237.9	243.4	251.0	257.7	259.0	260.7	235.0	237.1	242.8	249.8	257.1	258.1	259.9
Meats	237.4	238.1	243.3	251.1	257.8	258.7	261.1	237.3	237.5	242.8	250.0	257.2	258.1	260.3
Beef and veal	255.5	263.8	267.9	273.1	277.5	275.8	277.9	257.7	265.6	269.6	274.1	279.1	277.4	279.1
Ground beef other than canned	264.2	266.9	266.6	272.9	276.8	275.8	277.1	266.0	269.0	268.7	275.6	279.9	279.8	280.4
Chuck roast	263.1	268.6	277.7	279.8	287.7	284.4	291.7	273.1	275.0	285.3	287.9	295.4	294.0	301.9
Round roast	229.1	240.9	243.2	248.8	248.0	250.6	251.2	232.7	243.8	246.2	248.2	249.0	251.1	249.9
Round steak	241.9	247.4	253.2	258.0	260.7	258.9	263.8	239.7	247.3	253.6	256.4	261.4	257.9	261.8
Sirloin steak	247.0	264.8	270.2	274.1	280.9	270.7	271.8	247.4	268.3	274.2	278.8	282.2	272.8	274.9
Other beef and veal (12/77 = 100)	146.3	152.5	155.9	159.0	161.8	161.0	161.8	146.6	152.4	155.2	157.6	161.2	160.3	160.3
Pork	201.0	190.4	200.3	212.0	222.7	225.8	228.6	201.5	190.5	200.7	212.0	222.8	225.8	228.5
Bacon	186.3	173.1	186.3	201.5	220.1	224.7	229.5	188.7	175.6	189.1	205.6	223.0	226.0	232.3
Pork chops	188.8	182.7	193.1	199.9	206.2	207.8	208.5	188.1	180.6	193.3	198.5	205.3	207.3	204.8
Ham other than canned (12/77 = 100)	95.9	87.8	92.1	98.4	102.2	105.5	107.9	95.4	86.1	90.5	96.3	100.7	103.5	106.0
Sausage	254.5	246.2	249.2	262.5	277.9	282.4	283.5	255.8	249.6	252.0	263.6	280.0	283.2	285.9
Canned ham	214.8	208.1	208.6	217.0	225.1	232.5	237.7	214.6	210.1	207.6	219.1	225.9	235.2	242.2
Other pork (12/77 = 100)	112.9	106.3	115.1	123.1	128.6	127.6	128.4	112.7	105.9	114.9	122.7	128.5	127.9	128.8
Other meats	242.0	239.4	239.1	247.8	254.9	259.4	261.8	238.5	235.9	236.5	244.1	251.5	255.8	259.0
Frankfurters	238.9	230.9	229.1	245.8	256.1	260.9	262.6	237.2	231.0	231.5	245.9	254.3	260.3	262.6
Bologna, liverwurst, and salami (12/77 = 100)	133.4	133.4	135.1	138.5	143.5	146.5	148.4	130.4	130.7	131.4	134.5	141.2	143.6	145.7
Other luncheon meats (12/77 = 100)	121.6	121.0	120.6	123.7	125.7	127.8	129.7	119.5	118.1	118.8	121.5	123.5	125.5	127.5
Lamb and organ meats (12/77 = 100)	138.3	137.6	137.2	140.4	143.8	146.1	146.1	139.8	139.3	138.2	140.8	145.0	146.5	147.7
Poultry	171.6	177.9	187.9	197.5	205.2	209.1	204.1	170.1	175.7	186.0	195.1	203.3	205.4	201.4
Fresh whole chicken	166.7	176.3	193.6	205.3	214.0	216.7	208.7	163.3	170.7	189.1	199.9	209.6	210.5	203.5
Fresh and frozen chicken parts (12/77 = 100)	110.8	115.7	120.9	127.8	134.0	134.7	131.8	110.7	115.6	120.8	128.1	134.1	133.5	131.6
Other poultry (12/77 = 100)	115.9	115.9	117.0	120.3	122.9	128.7	128.0	116.0	116.1	116.6	119.1	122.0	127.1	126.5
Fish and seafood	312.2	329.1	330.1	331.8	335.8	336.6	343.0	307.5	324.9	326.4	327.3	333.4	333.8	340.0
Canned fish and seafood (12/77 = 100)	116.8	127.3	129.2	131.2	133.2	133.9	136.0	116.0	125.7	127.3	129.3	131.0	131.2	133.5
Fresh and frozen fish and seafood (12/77 = 100)	120.1	124.2	123.7	123.6	124.8	124.8	127.5	117.8	122.6	122.5	121.8	124.5	124.6	127.0
Eggs	170.1	147.9	154.2	178.3	179.9	175.3	185.2	169.6	147.2	153.5	177.1	178.4	174.4	185.7
Dairy products	216.0	227.2	228.6	229.7	230.6	232.7	235.4	216.3	227.8	229.2	229.9	230.9	233.1	235.9
Fresh milk and cream (12/77 = 100)	121.9	127.1	127.7	127.9	128.0	129.1	130.4	121.8	127.4	128.0	128.0	128.2	129.1	130.4
Fresh whole milk	200.4	208.6	209.4	209.8	209.7	211.3	213.3	199.7	208.7	209.8	209.7	209.8	211.0	213.0
Other fresh milk and cream (12/77 = 100)	120.6	126.0	126.9	127.1	127.7	129.1	130.5	121.1	127.2	127.5	127.6	128.3	129.5	131.0
Processed dairy products (12/77 = 100)	122.3	130.4	131.4	132.5	133.6	134.9	136.9	123.0	130.7	131.9	132.9	134.1	135.8	137.9
Butter	214.4	225.0	226.9	231.2	236.2	238.9	241.5	217.1	227.2	229.7	233.7	238.8	242.5	244.4
Cheese (12/77 = 100)	122.7	128.8	130.0	130.4	132.3	133.4	135.9	122.5	129.0	130.1	130.9	132.7	133.8	136.2
Ice cream and related products (12/77 = 100)	121.4	133.7	134.6	137.0	135.7	138.0	139.1	123.4	133.8	135.5	136.1	135.4	139.1	140.9
Other dairy products (12/77 = 100)	117.8	127.3	127.5	128.3	128.9	129.0	130.6	118.2	127.4	127.7	128.8	129.3	129.4	131.9
Fruits and vegetables	229.5	250.1	253.9	258.4	257.4	254.2	253.3	226.7	250.2	253.0	256.6	255.8	252.3	251.4
Fresh fruits and vegetables	230.1	260.0	265.8	273.0	269.6	262.3	258.3	226.7	261.4	265.2	270.8	267.8	259.6	255.7
Fresh fruits	242.7	273.9	282.7	302.3	286.3	272.9	258.6	238.3	274.9	282.3	300.1	284.9	270.4	255.5
Apples	207.2	293.3	316.6	340.8	295.2	242.2	213.5	207.7	297.4	318.7	342.2	295.3	243.7	213.0
Bananas	209.0	242.6	232.6	234.0	238.0	233.4	235.7	206.5	237.7	228.7	228.0	234.2	230.2	232.0
Oranges	293.9	264.4	273.9	297.1	296.5	312.9	316.6	283.3	251.0	261.5	285.5	284.2	301.5	300.4
Other fresh fruits (12/77 = 100)	127.5	143.7	147.5	158.5	150.8	145.4	134.9	125.7	146.5	148.7	157.9	151.9	145.6	136.4
Fresh vegetables	218.4	247.0	250.1	245.6	253.9	252.4	258.0	216.4	249.4	249.8	244.4	252.4	249.9	256.0
Potatoes	195.7	246.3	310.5	327.1	313.2	295.6	293.0	191.7	244.4	309.4	325.4	309.2	292.0	289.9
Lettuce	244.2	238.8	205.9	213.1	265.9	249.1	273.5	239.0	241.7	200.6	209.3	262.5	241.3	267.2
Tomatoes	225.3	230.6	209.2	205.4	214.2	237.3	192.2	225.4	228.6	210.8	199.6	210.8	235.6	188.9
Other fresh vegetables (12/77 = 100)														

**23. Continued—Consumer Price Index—U.S. city average**

[1967=100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979	1980					1979	1980						
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
<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)	113.4	116.6	118.1	119.4	121.4	122.5	124.1	111.8	115.2	117.0	118.1	119.6	120.9	121.8
Other canned and dried vegetables (12/77=100)	110.0	115.9	117.0	118.0	119.6	120.3	121.5	108.1	114.2	115.6	116.4	117.9	118.5	120.3
Other foods at home	279.6	301.8	304.3	307.8	309.2	311.5	314.8	278.3	301.4	303.7	307.4	309.1	311.7	315.7
Sugar and sweets	283.2	342.0	353.1	355.1	361.1	369.0	381.3	281.9	342.9	354.6	356.6	361.8	369.8	383.9
Candy and chewing gum (12/77=100)	120.1	130.5	131.6	132.6	134.2	134.7	135.7	119.8	130.8	132.0	133.2	134.7	135.4	136.8
Sugar and artificial sweeteners (12/77=100)	116.2	180.3	194.2	194.6	200.2	209.4	225.9	116.2	180.7	194.5	195.1	199.7	209.5	225.9
Other sweets (12/77=100)	116.4	125.8	127.2	128.3	129.2	131.5	132.5	114.6	124.6	126.5	126.9	127.7	129.2	131.9
Fats and oils (12/77=100)	232.3	240.0	239.3	242.0	243.6	246.0	247.4	232.8	240.5	240.6	242.4	244.6	247.0	248.2
Margarine	246.2	249.0	247.0	249.3	249.2	254.2	254.9	246.7	249.4	248.6	251.5	251.8	256.6	256.9
Nondairy substitutes and peanut butter (12/77=100)	115.1	123.1	123.6	124.7	125.8	125.6	127.4	115.0	123.5	124.0	124.8	125.8	125.5	128.0
Other fats, oils, and salad dressings (12/77=100)	121.0	124.9	124.6	126.2	127.4	128.5	129.0	121.3	124.9	125.0	125.7	127.4	128.7	128.8
Nonalcoholic beverages	374.3	395.9	397.4	402.8	403.9	404.9	405.5	370.7	395.1	396.2	403.0	403.6	405.8	407.8
Cola drinks, excluding diet cola	247.5	267.8	268.4	275.2	276.7	280.4	284.0	243.6	267.1	265.6	274.7	274.9	279.6	283.6
Carbonated drinks, including diet cola (12/77=100)	118.4	128.3	129.2	131.3	132.5	133.9	133.8	115.6	125.2	127.4	128.8	130.2	131.8	133.2
Roasted coffee	438.1	432.4	435.3	433.9	426.1	411.8	399.2	430.8	429.2	432.3	430.4	423.1	409.3	395.5
Freeze dried and instant coffee	370.2	380.2	381.0	380.3	376.1	368.1	364.9	369.3	378.7	379.2	379.7	374.8	366.3	364.0
Other noncarbonated drinks (12/77=100)	115.7	121.8	122.1	123.1	124.5	125.8	126.7	114.8	120.8	121.1	122.3	123.8	125.3	126.2
Other prepared foods	215.3	230.9	232.3	234.9	235.2	236.6	239.9	215.7	230.8	231.2	234.2	235.6	236.9	240.4
Canned and packaged soup (12/77=100)	114.3	122.9	123.3	123.7	123.8	124.1	125.1	114.8	123.7	123.5	124.2	124.7	124.9	125.6
Frozen prepared foods (12/77=100)	124.5	132.0	132.4	134.6	133.9	133.9	136.6	122.9	130.8	131.3	131.7	131.6	131.9	133.5
Snacks (12/77=100)	120.4	127.2	128.3	129.3	129.8	130.6	135.2	121.7	127.9	128.5	129.9	130.4	131.0	136.1
Seasonings, olives, pickles, and relish (12/77=100)	118.9	127.5	128.0	129.4	130.7	131.9	133.5	118.2	127.3	127.3	127.8	129.5	132.2	132.8
Other condiments (12/77=100)	116.8	128.8	130.2	131.8	133.0	133.4	133.3	118.5	129.9	131.6	133.4	135.0	135.3	136.5
Miscellaneous prepared foods (12/77=100)	119.0	128.6	129.3	130.9	130.6	132.0	133.5	118.6	128.3	128.9	130.2	131.1	131.7	133.8
Other canned and packaged prepared foods (12/77=100)	117.7	125.2	126.0	127.5	126.9	127.9	128.6	118.0	124.1	125.4	126.8	127.2	128.2	128.9
Food away from home	251.3	266.6	267.8	269.5	271.4	273.1	275.3	252.7	269.9	271.2	272.8	274.9	277.4	279.5
Lunch (12/77=100)	122.3	129.3	130.0	131.2	132.1	132.9	134.3	123.2	130.7	131.1	131.8	132.9	134.4	135.7
Dinner (12/77=100)	122.4	129.5	130.1	130.7	131.9	132.4	133.4	123.0	131.0	132.0	132.8	133.8	135.1	136.1
Other meals and snacks (12/77=100)	120.2	129.0	129.3	130.0	130.4	131.8	132.5	120.9	131.1	131.6	132.3	133.3	133.9	134.5
<b>Alcoholic beverages</b>	177.4	186.4	187.2	188.7	189.6	190.4	190.9	178.0	188.0	189.2	190.6	191.7	192.5	192.8
Alcoholic beverages at home (12/77=100)	115.6	121.4	122.1	123.1	123.6	124.0	124.4	116.5	122.7	123.6	124.6	125.1	125.6	125.9
Beer and ale	176.9	188.2	189.2	190.1	190.8	191.7	192.0	176.9	188.8	189.7	191.1	191.9	192.0	192.2
Whiskey	130.7	134.7	135.2	136.9	137.6	137.7	138.9	131.9	135.4	136.6	137.8	138.5	139.0	139.8
Wine	198.1	211.5	212.6	213.9	214.7	215.4	215.2	201.5	213.7	217.4	218.1	219.8	224.2	224.0
Other alcoholic beverages (12/77=100)	107.0	108.7	109.6	111.2	111.7	112.5	112.9	106.2	108.9	109.6	111.1	111.2	111.6	112.0
Alcoholic beverages away from home (12/77=100)	116.4	122.3	122.5	123.5	124.5	125.1	125.3	114.9	122.5	122.9	123.6	124.8	125.3	125.5
<b>HOUSING</b>	240.8	266.7	265.1	265.8	267.7	271.1	273.8	240.7	266.9	265.1	265.8	267.6	271.0	273.7
<b>Shelter</b>	255.9	286.3	282.9	283.3	285.3	290.4	294.7	256.9	288.0	284.3	284.8	286.8	292.0	296.4
Rent, residential	182.1	191.1	192.1	193.2	195.1	197.1	198.3	181.9	190.8	191.8	193.0	194.8	196.8	198.0
Other rental costs	243.1	264.2	265.7	267.5	268.9	268.8	268.3	242.6	263.9	265.5	267.3	268.6	268.8	268.4
Lodging while out of town	256.2	282.1	283.8	286.4	287.0	286.0	284.2	254.6	280.8	282.3	285.1	285.6	284.9	283.3
Tenants' insurance (12/77=100)	114.6	122.6	123.1	122.2	124.7	125.4	126.5	115.0	122.7	123.3	122.7	125.2	126.0	126.8
Homeownership	282.4	320.4	315.4	315.4	317.6	323.8	329.4	284.1	323.4	317.9	318.1	320.2	326.7	332.3
Home purchase	237.3	252.6	253.9	258.1	261.5	265.5	267.3	237.7	253.0	254.3	258.6	262.1	266.4	268.2
Financing, taxes, and insurance	340.1	416.1	399.6	393.6	393.5	404.7	416.9	343.5	422.0	405.0	398.8	398.9	410.8	423.1
Property insurance	320.8	351.8	355.5	355.9	359.8	362.0	364.5	322.6	352.7	357.2	357.9	362.9	365.3	367.8
Property taxes	185.1	187.7	188.3	190.3	191.2	192.0	192.8	186.6	189.4	190.0	192.0	193.0	193.8	194.7
Contracted mortgage interest cost	423.1	538.9	512.2	501.8	500.9	518.1	536.7	424.2	541.5	514.6	504.2	503.6	521.2	539.7
Mortgage interest rates	175.4	210.3	199.0	192.0	188.9	192.6	198.0	175.6	210.8	199.6	192.5	189.5	193.0	198.4
Maintenance and repairs	266.4	285.9	287.6	288.5	291.6	292.8	294.2	266.5	283.8	285.1	287.7	290.3	290.4	291.1
Maintenance and repair services	288.8	310.6	312.1	312.4	315.9	317.0	318.6	290.3	308.5	309.0	312.1	315.6	315.1	315.9
Maintenance and repair commodities	214.0	228.0	230.3	232.7	234.9	236.3	237.1	213.6	228.8	231.3	233.2	233.9	235.0	235.6
Paint and wallpaper, supplies, tools, and equipment (12/77=100)	118.8	131.3	133.4	134.4	135.6	136.9	137.4	118.1	130.9	132.2	133.1	132.7	133.1	134.7
Lumber, awnings, glass, and masonry (12/77=100)	115.5	118.9	119.1	120.1	122.2	122.4	122.3	117.2	118.5	119.3	120.4	121.8	122.5	122.0
Plumbing, electrical, heating, and cooling supplies (12/77=100)	113.4	119.9	121.1	122.7	123.2	123.8	124.2	114.0	123.8	125.9	126.6	126.1	126.6	124.6
Miscellaneous supplies and equipment (12/77=100)	113.8	119.1	120.1	122.1	122.7	123.3	123.7	112.2	120.7	122.5	123.9	125.2	125.9	126.4
<b>Fuel and other utilities</b>	252.0	282.2	285.5	286.8	288.2	287.6	285.7	252.4	283.0	286.1	287.4	288.7	288.0	286.3
Fuels	307.0	355.8	360.8	362.5	364.5	362.8	358.7	306.9	355.8	360.3	362.1	363.8	362.1	358.2
Fuel oil, coal, and bottled gas	477.4	558.7	560.4	561.5	561.5	558.7	567.0	478.2	558.8	561.9	562.7	562.9	559.9	568.3
Fuel oil	497.2	583.2	585.1	586.1	585.4	581.5	589.8	497.7	583.3	585.6	586.4	585.9	581.8	590.3
Other fuels (6/78=100)	121.7	140.1	140.4	140.8	142.1	143.1	145.7	122.2	141.9	142.1	142.5	143.8	144.8	147.3
Gas (piped) and electricity	267.3	308.8	314.3	316.1	318.4	317.1	310.5	267.1	308.5	313.5	315.4	317.4	316.0	309.8
Electricity	221.5	261.9	267.4	268.3	269.2	265.3	258.7	221.5	262.3	267.6	268.6	269.6	265.3	258.4
Utility (piped) gas	328.9	366.7	371.8	375.2	380.2	384.6	379.0	327.8	364.9	368.6	372.0	376.1	380.9	376.7

**23. Continued—Consumer Price Index—U.S. city average**

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
<b>HOUSING—Continued</b>														
<b>Fuel and other utilities—Continued</b>														
Other utilities and public services	161.0	164.9	165.9	166.5	167.1	167.8	169.0	160.9	164.9	165.9	166.4	167.1	167.8	169.1
Telephone services	133.3	135.5	136.3	136.5	137.0	137.5	138.7	133.3	135.4	136.1	136.4	136.9	137.4	138.7
Local charges (12/77 = 100)	101.8	105.3	105.4	105.4	106.0	106.6	108.3	101.8	105.1	105.2	105.2	105.9	106.5	108.3
Interstate toll calls (12/77 = 100)	98.4	99.5	101.6	101.9	102.1	102.1	101.7	98.4	99.5	101.6	101.9	102.1	102.1	101.8
Intrastate toll calls (12/77 = 100)	101.5	99.6	99.5	99.9	100.1	100.1	100.6	101.3	99.5	99.3	99.7	100.0	99.9	100.5
Water and sewerage maintenance	247.1	259.3	261.3	263.5	264.5	266.2	267.0	247.2	260.5	262.4	264.5	265.5	267.3	268.0
<b>Household furnishings and operations</b>	195.1	205.5	206.2	207.2	209.2	210.1	211.0	193.2	202.9	203.5	204.5	206.0	206.8	208.1
Housefurnishings	166.6	174.6	174.7	175.2	177.3	177.9	178.1	165.5	172.9	172.9	173.5	175.0	175.6	176.4
Textile housefurnishings	178.9	189.4	188.2	189.1	194.1	195.9	192.4	178.4	189.6	188.7	189.6	192.5	195.1	195.7
Household linens (12/77 = 100)	108.8	116.0	114.6	114.1	118.4	119.5	117.3	108.3	116.2	114.8	114.7	117.7	119.5	122.6
Curtains, drapes, slipcovers, and sewing materials (12/77 = 100)	114.4	120.1	120.2	121.9	123.6	124.9	122.7	114.5	120.5	121.0	122.4	122.7	124.1	121.2
Furniture and bedding	182.2	193.6	192.8	192.6	195.7	195.2	196.5	182.1	190.8	189.7	189.9	192.0	192.5	193.9
Bedroom furniture (12/77 = 100)	117.7	126.2	125.4	125.8	127.9	127.4	128.6	115.9	123.1	122.6	123.6	124.5	124.6	125.5
Sofas (12/77 = 100)	107.9	113.0	112.2	111.3	112.7	113.8	114.2	111.7	112.7	111.7	110.4	111.1	113.0	113.6
Living room chairs and tables (12/77 = 100)	107.7	110.6	110.7	111.6	114.1	113.0	113.3	108.6	111.7	111.3	112.3	115.1	114.4	115.6
Other furniture (12/77 = 100)	116.8	127.1	126.6	125.7	127.5	127.0	127.9	115.3	123.9	123.0	122.5	123.6	123.6	124.6
Appliances including TV and sound equipment	137.5	140.2	140.5	141.4	142.0	142.3	142.6	136.2	140.1	140.1	140.6	141.2	141.2	141.4
Television and sound equipment (12/77 = 100)	105.0	105.6	105.8	106.6	107.0	107.1	107.4	104.4	105.2	105.0	105.2	105.7	105.6	106.1
Television	103.6	104.2	104.4	105.0	105.0	104.7	105.1	102.4	103.1	102.7	103.3	103.2	103.2	103.8
Sound equipment (12/77 = 100)	107.4	107.9	108.2	109.1	109.8	110.3	110.6	107.1	108.0	108.0	107.9	108.8	108.7	109.1
Household appliances	158.2	163.4	163.7	164.6	165.5	166.0	166.2	156.2	163.6	163.8	164.5	165.2	165.3	165.2
Refrigerators and home freezer	156.0	163.2	163.6	164.4	164.8	165.8	166.1	158.1	166.8	166.4	168.0	169.1	169.4	169.2
Laundry equipment (12/77 = 100)	113.1	119.1	119.6	120.2	120.9	121.5	122.0	112.2	118.9	118.7	120.1	120.0	120.2	120.2
Other household appliances (12/77 = 100)	110.8	112.7	112.6	113.3	114.2	114.2	114.2	107.6	111.7	112.1	112.0	112.5	112.5	112.4
Stoves, dishwashers, vacuums, and sewing machines (12/77 = 100)	109.7	111.2	111.6	111.8	111.8	112.4	113.0	107.1	111.4	112.8	111.4	111.8	112.1	112.6
Office machines, small electric appliances, and air conditioners (12/77 = 100)	112.1	114.4	113.8	115.1	117.0	116.2	115.5	108.2	112.0	111.3	112.6	113.4	113.0	112.1
Other household equipment (12/77 = 100)	112.4	120.2	121.3	121.7	123.0	124.1	124.6	111.6	118.5	119.7	120.5	121.6	122.2	123.2
Floor and window coverings, infants' laundry cleaning and outdoor equipment (12/77 = 100)	111.1	120.2	120.8	121.7	123.0	123.3	124.3	107.7	114.3	114.7	115.3	116.8	118.2	119.0
Clocks, lamps, and decor items (12/77 = 100)	110.0	118.8	119.0	119.8	120.6	121.6	121.4	108.2	115.9	116.6	117.1	118.2	119.4	119.2
Tableware, serving pieces, and nonelectric kitchenware (12/77 = 100)	116.8	125.4	126.4	125.8	128.2	130.0	130.6	115.2	122.2	124.0	125.1	126.3	126.3	127.4
Lawn equipment, power tools, and other hardware (12/77 = 100)	109.0	113.7	115.9	117.1	117.2	117.9	118.4	111.1	117.6	118.7	119.6	120.3	120.9	122.3
Housekeeping supplies	228.3	245.4	247.3	249.9	252.0	253.6	256.0	226.7	243.0	245.2	247.8	249.6	251.2	253.5
Soaps and detergents	220.6	234.9	237.2	240.1	243.7	248.7	252.4	218.2	232.3	234.4	236.8	241.1	245.6	248.2
Other laundry and cleaning products (12/77 = 100)	114.1	121.1	122.3	124.4	125.6	125.7	126.7	113.7	120.8	122.3	123.9	125.0	125.1	126.2
Cleansing and toilet tissue, paper towels and napkins (12/77 = 100)	119.2	129.4	130.2	132.2	133.8	134.2	135.6	118.6	131.5	132.7	135.1	135.8	136.2	136.6
Stationery, stationery supplies, and gift wrap (12/77 = 100)	111.3	116.9	117.6	117.4	118.0	118.6	118.3	109.2	116.5	117.9	117.4	116.9	118.2	118.8
Miscellaneous household products (12/77 = 100)	115.6	124.4	125.4	127.7	129.0	129.5	131.1	114.1	122.1	123.5	125.5	126.6	126.7	128.4
Lawn and garden supplies (12/77 = 100)	113.8	126.8	127.6	127.5	127.1	126.9	128.0	113.2	121.0	120.7	121.4	120.5	121.0	122.5
Housekeeping services	256.6	269.1	270.4	271.6	273.3	274.5	276.1	255.9	267.0	268.1	269.0	270.2	271.0	272.5
Postage	257.3	257.3	257.3	257.3	257.3	257.3	257.3	257.2	257.3	257.3	253.7	257.3	257.3	257.3
Moving, storage, freight, household laundry, and drycleaning services (12/77 = 100)	120.4	130.5	131.0	131.3	132.8	133.3	134.6	121.2	129.2	129.7	129.7	130.3	130.2	131.4
Appliance and furniture repair (12/77 = 100)	112.9	117.7	118.7	119.4	119.8	120.3	120.7	112.9	117.4	117.8	118.3	118.7	119.2	119.7
<b>APPAREL AND UPKEEP</b>	171.7	177.2	176.2	178.6	182.2	183.9	184.8	171.3	176.0	175.4	177.9	181.4	182.8	183.3
<b>Apparel commodities</b>	165.9	169.7	168.5	171.0	174.9	176.4	177.2	165.7	168.8	168.0	170.7	174.4	175.6	176.0
Apparel commodities less footwear	162.9	166.4	165.0	167.8	171.8	173.1	173.9	162.7	165.3	164.4	167.3	171.1	172.2	172.5
Men's and boys'	165.4	166.8	165.9	167.9	171.7	173.9	174.8	165.3	168.1	167.2	168.4	171.6	173.8	174.8
Men's (12/77 = 100)	104.3	104.8	103.9	105.6	108.1	109.5	110.1	104.5	105.5	104.7	106.1	108.3	109.5	110.2
Suits, sport coats, and jackets (12/77 = 100)	101.2	99.7	97.1	99.2	103.2	104.3	104.7	98.7	95.4	93.2	95.2	98.3	99.7	99.4
Coats and jackets (12/77 = 100)	98.1	96.3	96.0	96.7	99.9	100.4	100.5	99.7	97.1	97.1	98.0	100.0	101.3	101.9
Furnishings and special clothing (12/77 = 100)	112.4	118.2	118.4	119.3	120.8	122.9	123.3	110.0	115.4	115.7	116.3	117.5	118.8	119.7
Shirts (12/77 = 100)	109.7	110.8	110.7	114.9	116.9	118.3	119.6	109.4	112.9	111.2	115.1	117.4	118.5	120.4
Dungarees, jeans, and trousers (12/77 = 100)	100.5	99.5	99.2	99.5	101.2	102.6	103.5	104.0	105.0	104.8	105.0	107.1	108.3	108.7
Boys' (12/77 = 100)	106.6	109.5	110.0	109.5	111.4	113.0	113.3	105.6	109.8	110.0	108.6	110.2	112.0	112.7
Coats, jackets, sweaters, and shirts (12/77 = 100)	103.2	104.6	104.4	106.0	108.1	109.2	109.4	103.4	107.8	107.4	107.1	109.6	111.2	112.5
Furnishings (12/77 = 100)	111.5	114.6	114.7	114.6	116.6	118.1	118.4	109.7	113.3	113.3	112.9	113.7	115.1	115.2
Suits, trousers, sport coats, and jackets (12/77 = 100)	107.4	111.3	112.6	110.3	111.9	113.9	114.3	105.8	110.1	110.9	108.2	109.4	111.5	111.9
Women's and girls'	155.1	153.0	150.6	153.7	159.0	159.7	159.9	154.5	151.2	149.9	154.1	159.8	160.3	159.9
Women's (12/77 = 100)	103.0	101.7	99.8	101.7	105.7	106.1	106.3	103.0	100.8	99.6	102.5	107.0	107.0	106.6
Coats and jackets	173.3	158.1	158.8	164.0	168.9	167.0	164.7	172.4	155.2	157.5	170.2	177.0	176.5	175.5
Dresses	164.3	163.3	153.9	158.3	168.5	170.0	168.1	156.8	152.5	146.2	151.1	156.8	157.5	157.7
Separates and sportswear (12/77 = 100)	99.2	99.5	96.8	98.5	102.2	101.6	102.9	100.7	99.2	97.1	99.7	104.6	103.6	102.8
Underwear, nightwear, and hosiery (12/77 = 100)	108.1	112.1	113.2	114.2	114.6	114.9	116.7	108.9	112.3	112.8	114.3	114.8	115.3	116.4
Suits (12/77 = 100)	95.2	86.5	85.5	86.5	95.4	98.2	97.4	97.5	91.7	90.1	91.3	105.7	106.8	102.8
Girls' (12/77 = 100)	103.9	102.1	102.0	104.5	105.8	107.0	106.5	101.7	99.6	100.0	102.3	103.3	105.1	105.3
Coats, jackets, dresses, and suits (12/77 = 100)	102.2	98.1	98.9	103.4	102.1	103.2	102.7	97.5	93.8	95.6	99.5	97.3	99.0	99.1
Separates and sportswear (12/77 = 100)	103.6	100.7	99.7	102.0	105.3	106.7	105.9	104.3	98.5	98.2	100.7	104.2	106.3	106.8
Underwear, nightwear, hosiery, and accessories (12/77 = 100)	107.2	111.4	111.4	111.2	113.0	113.8	114.0	104.2	110.9	110.4	109.6	111.3	112.8	112.6



23. Continued—Consumer Price Index—U.S. city average

[1967 = 100 unless otherwise specified]

General summary	All Urban Consumers						Urban Wage Earners and Clerical Workers (revised)							
	1979	1980					1979	1980						
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
<b>APPAREL AND UPKEEP—Continued</b>														
<b>Apparel commodities—Continued</b>														
Apparel commodities less footwear—Continued														
Infants' and toddlers' .....	226.3	240.9	243.0	243.9	242.4	244.1	248.9	228.7	246.8	249.2	252.6	248.3	249.2	254.0
Other apparel commodities .....	177.8	205.3	205.5	209.9	210.5	211.8	213.7	179.8	201.0	200.8	204.1	204.4	204.1	204.0
Sewing materials and notions (12/77 = 100) .....	100.8	110.2	109.3	110.2	110.9	111.9	110.3	99.7	110.9	108.8	110.0	110.7	112.0	110.2
Jewelry and luggage (12/77 = 100) .....	121.0	142.2	142.8	146.5	146.8	147.5	149.9	123.8	138.6	139.4	142.0	142.0	141.1	141.8
Footwear .....	183.8	189.0	189.5	190.3	193.2	196.1	196.5	183.2	188.9	189.3	190.0	193.3	195.6	196.4
Men's (12/77 = 100) .....	117.7	121.3	121.1	121.3	123.6	124.7	125.4	119.1	123.6	123.2	123.4	124.9	125.8	126.7
Boys' and girls' (12/77 = 100) .....	114.0	121.0	123.5	122.8	123.3	125.8	126.2	114.5	121.3	123.1	123.9	124.6	126.9	127.4
Womens' (12/77 = 100) .....	113.9	114.6	113.8	115.4	117.7	119.6	119.4	111.2	111.7	111.3	111.7	115.1	116.3	116.5
<b>Apparel services</b> .....	214.2	233.6	234.4	235.4	237.3	240.0	241.9	212.0	231.8	232.6	233.7	234.5	238.1	239.9
Laundry and drycleaning other than coin operated (12/77 = 100) .....	126.3	137.5	137.7	138.3	140.0	141.1	142.4	125.7	137.3	137.5	138.4	139.1	140.9	141.6
Other apparel services (12/77 = 100) .....	114.7	125.5	126.3	126.9	126.9	129.2	130.0	113.3	123.9	124.7	125.0	125.1	127.4	129.1
<b>TRANSPORTATION</b> .....	224.9	249.7	251.0	252.7	254.7	256.1	259.0	225.7	250.6	251.9	253.5	255.2	256.6	259.7
<b>Private</b> .....	225.0	249.7	250.5	251.6	253.2	254.5	257.4	225.7	250.8	251.5	252.7	254.1	255.5	258.6
New cars .....	170.6	178.5	179.2	181.1	181.7	181.9	184.3	170.9	179.4	180.0	181.9	182.3	182.0	184.5
Used cars .....	198.4	200.7	203.4	206.4	214.6	222.7	230.8	198.4	200.8	203.4	206.4	214.6	222.7	230.8
Gasoline .....	306.9	376.2	376.7	375.9	373.0	370.5	370.5	308.3	377.6	377.8	377.1	373.9	371.7	371.7
Automobile maintenance and repair .....	250.8	267.3	269.0	271.1	273.8	276.0	278.4	251.1	268.0	269.7	272.2	273.9	276.6	278.9
Body work (12/77 = 100) .....	121.6	131.4	131.8	133.0	133.8	135.0	136.1	121.7	130.8	131.3	132.4	133.0	134.6	135.9
Automobile drive train, brake, and miscellaneous mechanical repair (12/77 = 100) .....	120.1	127.5	128.1	129.0	130.9	132.7	133.6	120.8	128.8	129.9	131.5	131.8	133.9	135.0
Maintenance and servicing (12/77 = 100) .....	118.4	126.1	127.3	128.4	129.4	130.0	131.0	118.2	126.2	127.2	128.4	129.5	130.2	131.1
Power plant repair (12/77 = 100) .....	118.5	125.9	126.4	127.3	128.7	129.8	131.3	118.6	126.2	126.6	127.5	128.5	129.6	130.8
Other private transportation .....	205.5	225.0	224.5	224.7	226.0	226.5	228.8	206.3	227.3	226.7	226.8	227.6	228.0	230.6
Other private transportation commodities .....	183.4	195.5	197.7	198.3	200.9	200.9	203.1	183.9	196.8	200.1	200.6	201.9	201.4	203.4
Motor oil, coolant, and other products (12/77 = 100) .....	117.4	134.1	136.3	136.3	137.5	136.5	137.8	118.1	133.6	135.5	136.1	135.6	135.4	137.3
Automobile parts and equipment (12/77 = 100) .....	118.7	125.3	126.6	127.0	128.8	128.9	130.3	119.0	126.3	128.4	128.7	129.8	129.4	130.6
Tires .....	161.5	172.3	174.9	175.9	178.8	179.2	181.7	163.0	174.9	178.9	179.9	181.5	180.8	182.5
Other parts and equipment (12/77 = 100) .....	123.0	126.8	126.6	126.2	127.3	126.9	127.3	121.5	125.4	125.7	125.2	125.8	125.7	126.9
Other private transportation services .....	213.4	235.0	233.8	233.9	234.9	235.6	237.9	214.3	237.6	236.0	236.0	236.7	237.3	240.1
Automobile insurance .....	233.9	248.5	249.1	250.2	251.3	251.5	251.9	233.9	248.2	248.7	249.9	250.9	251.2	251.5
Automobile finance charges (12/77 = 100) .....	124.6	153.7	149.7	148.2	148.6	149.9	154.4	124.1	153.5	149.1	147.5	147.5	148.3	153.2
Automobile rental, registration, and other fees (12/77 = 100) .....	108.3	112.9	113.3	114.0	114.5	114.6	115.0	108.9	114.0	114.7	115.4	115.8	116.3	116.7
State registration .....	144.1	146.4	146.4	146.5	146.5	146.5	146.6	144.0	146.5	146.5	146.5	146.5	146.5	146.6
Drivers' license (12/77 = 100) .....	104.5	104.7	104.9	104.9	104.9	104.9	105.0	104.2	104.4	104.6	104.6	104.6	104.7	104.7
Vehicle inspection (12/77 = 100) .....	115.6	121.5	122.6	122.8	122.8	122.9	123.2	116.5	122.1	123.3	123.5	123.5	123.6	123.9
Other vehicle related fees (12/77 = 100) .....	117.1	126.1	126.8	128.3	129.8	130.0	130.7	121.3	132.7	134.6	136.6	137.8	139.1	140.0
<b>Public</b> .....	216.5	242.2	250.5	261.5	271.0	273.6	277.0	214.0	234.9	245.8	256.9	264.4	266.5	269.2
Airline fare .....	232.1	275.5	276.9	289.8	310.3	315.0	321.8	232.4	275.4	275.5	287.9	308.6	313.0	319.8
Intercity bus fare .....	279.8	293.8	294.2	297.9	304.7	307.1	308.0	279.9	293.6	293.9	298.0	304.5	306.9	308.0
Intracity mass transit .....	195.6	204.4	222.6	234.1	234.8	235.6	236.1	195.1	201.9	221.8	233.8	234.4	235.2	235.6
Taxi fare .....	237.0	262.0	263.3	266.2	266.8	267.9	269.2	242.4	267.6	269.2	273.0	273.6	274.7	275.6
Intercity train fare .....	231.0	255.2	255.3	255.4	255.5	255.6	255.6	232.1	255.5	254.4	255.6	255.6	255.7	255.7
<b>MEDICAL CARE</b> .....	248.0	264.7	266.6	268.4	270.6	272.8	274.5	249.1	265.9	267.8	270.0	272.2	274.3	276.3
<b>Medical care commodities</b> .....	157.8	167.9	169.1	170.2	171.3	172.5	173.8	158.5	168.5	169.7	170.8	171.8	173.0	174.1
Prescription drugs .....	145.5	154.8	155.6	156.4	157.5	158.5	159.6	146.2	155.8	156.6	157.4	158.5	159.5	160.2
Anti-infective drugs (12/77 = 100) .....	113.9	120.5	121.2	120.5	122.4	124.1	124.6	115.5	122.0	122.3	121.6	123.4	125.1	125.6
Tranquillizers and sedatives (12/77 = 100) .....	117.1	124.9	125.5	126.1	126.3	127.1	128.9	116.9	124.2	124.7	125.4	125.4	126.2	127.7
Circulatories and diuretics (12/77 = 100) .....	111.0	115.1	115.4	116.0	116.9	117.3	118.3	111.6	117.3	117.6	118.2	118.9	119.3	119.9
Hormones, diabetic drugs, biologicals, and prescription and supplies (12/77 = 100) .....	123.2	134.3	135.5	138.2	138.9	139.6	140.4	122.6	133.7	134.8	137.0	138.1	138.8	139.6
Pain and symptom control drugs (12/77 = 100) .....	116.8	124.2	124.5	125.2	125.6	126.3	126.7	117.5	125.5	126.1	127.6	128.1	128.7	128.3
Supplements, cough and cold preparations, and respiratory agents (12/77 = 100) .....	111.9	118.6	119.3	119.9	120.5	120.4	121.2	112.8	120.2	120.9	121.2	121.8	122.1	122.3
Nonprescription drugs and medical supplies (12/77 = 100) .....	113.4	120.6	121.7	122.6	123.3	124.4	125.3	114.0	121.0	122.0	122.9	123.6	124.4	125.5
Eyeglasses (12/77 = 100) .....	110.9	118.2	118.7	119.9	120.5	121.0	121.2	110.4	117.3	117.8	118.4	119.0	119.6	120.2
Internal and respiratory over-the-counter drugs .....	175.4	187.3	189.1	190.4	191.2	193.5	195.8	176.6	188.4	190.1	191.6	192.4	194.0	195.8
Nonprescription medical equipment and supplies (12/77 = 100) .....	111.8	117.5	119.1	119.9	120.8	121.3	121.5	112.7	117.5	119.0	119.9	121.2	121.8	123.0
<b>Medical care services</b> .....	267.6	285.9	288.0	289.8	292.3	294.8	296.6	268.8	287.3	289.3	291.7	294.3	296.6	298.7
Professional services .....	233.0	251.8	253.5	254.7	257.3	259.0	260.4	235.9	255.1	256.1	257.8	260.4	261.9	263.8
Physicians' services .....	250.8	269.2	270.9	272.2	274.2	276.0	278.0	255.5	273.9	275.4	277.6	280.5	281.8	283.8
Dental services .....	220.7	240.3	241.1	242.2	245.8	247.5	248.0	222.7	243.1	243.0	244.5	247.3	249.0	250.4
Other professional services (12/77 = 100) .....	112.8	122.9	125.0	126.0	126.7	127.6	128.5	112.2	122.2	123.6	123.9	124.5	125.1	126.7
Other medical care services .....	309.5	327.2	329.7	332.3	334.7	338.0	340.5	309.3	326.5	329.8	333.3	335.6	339.2	341.6
Hospital and other medical services (12/77 = 100) .....	122.6	131.4	133.4	135.4	137.1	139.3	141.1	121.8	130.3	132.6	134.9	136.4	138.9	140.5
Hospital room .....	385.1	412.6	418.2	424.0	428.4	435.8	441.0	383.6	408.5	414.9	422.4	427.2	435.3	439.8
Other hospital and medical care services .....	122.0	130.6	132.8	135.1	137.0	139.0	140.9	120.8	129.7	132.3	134.4	136.0	138.4	140.2

**23. Continued—Consumer Price Index—U.S. city average**

[1967=100 unless otherwise specified]

General summary	All Urban Consumers							Urban Wage Earners and Clerical Workers (revised)						
	1979	1980						1979	1980					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
<b>ENTERTAINMENT</b> .....	192.8	205.3	206.6	208.0	209.8	210.9	211.2	192.0	204.0	204.4	205.6	208.1	209.2	209.9
<b>Entertainment commodities</b> .....	194.0	208.3	209.3	210.8	212.8	213.7	214.5	191.3	204.5	204.8	206.4	208.6	209.0	210.2
Reading materials (12/77 = 100) .....	114.5	122.3	123.0	123.2	126.1	127.0	127.6	114.2	121.8	122.5	122.7	125.5	126.6	127.1
Newspapers .....	222.4	239.0	240.0	240.7	242.3	245.3	245.6	222.2	238.2	239.3	239.9	241.5	244.6	244.9
Magazines, periodicals, and books (12/77 = 100) .....	116.0	123.1	124.1	124.0	129.3	129.6	130.7	115.8	122.8	123.7	123.7	129.3	129.6	130.8
Sporting goods and equipment (12/77 = 100) .....	111.7	118.6	119.5	120.9	121.1	121.8	122.8	106.9	114.2	114.2	115.3	115.8	116.3	117.0
Sport vehicles (12/77 = 100) .....	NA	119.8	120.7	122.2	NA	NA	NA	NA	112.6	112.5	113.5	NA	NA	NA
Indoor and warm weather sport equipment (12/77 = 100) .....	107.8	111.1	112.4	113.5	113.8	114.5	114.7	106.1	110.2	110.6	111.7	112.1	112.5	112.2
Bicycles .....	167.1	180.6	181.6	183.6	184.7	185.3	185.7	167.4	181.4	181.4	183.2	184.9	185.4	185.8
Other sporting goods and equipment (12/77 = 100) .....	110.3	114.6	115.0	116.5	117.2	118.2	119.9	110.2	115.3	116.1	116.9	117.4	117.8	119.1
Toys, hobbies, and other entertainment (12/77 = 100) .....	111.2	120.6	121.0	121.8	122.6	122.8	122.8	111.2	119.0	119.1	120.3	121.3	120.9	121.6
Toys, hobbies, and music equipment (12/77 = 100) .....	110.5	119.6	119.0	120.4	121.4	120.9	120.7	109.8	117.0	115.9	117.8	119.0	117.4	118.4
Photographic supplies and equipment (12/77 = 100) .....	109.9	121.8	122.8	122.5	123.1	123.1	121.8	109.6	121.1	122.4	121.7	121.8	122.3	122.7
Pet supplies and expense (12/77 = 100) .....	113.5	121.7	123.2	123.9	124.4	125.8	127.3	114.6	121.4	122.9	123.8	125.2	126.4	126.8
<b>Entertainment services</b> .....	191.5	201.4	203.1	204.3	206.1	207.2	206.9	194.3	204.3	204.8	205.2	208.4	210.6	210.5
Fees for participant sports (12/77 = 100) .....	113.8	120.9	122.1	123.2	124.5	125.5	125.2	115.2	121.5	121.9	121.8	124.7	127.0	126.7
Admissions (12/77 = 100) .....	116.1	120.4	121.3	122.1	122.6	122.7	122.6	117.3	123.2	123.2	124.2	124.1	124.2	124.3
Other entertainment services (12/77 = 100) .....	110.0	116.6	117.4	117.4	118.3	119.0	118.7	112.0	118.2	118.8	119.1	120.8	121.6	121.6
<b>OTHER GOODS AND SERVICES</b> .....	202.9	212.5	213.5	214.5	220.6	221.5	222.8	202.0	212.1	212.9	214.0	219.0	219.9	221.0
<b>Tobacco products</b> .....	191.5	203.4	203.8	204.5	204.5	204.5	207.3	191.4	203.6	204.0	204.4	204.3	204.3	206.8
Cigarettes .....	194.0	206.0	206.4	207.0	206.8	206.8	209.6	194.1	206.4	206.8	207.0	206.8	206.7	209.3
Other tobacco products and smoking accessories (12/77 = 100) .....	112.8	120.2	120.7	122.0	122.8	123.2	124.3	112.4	119.5	120.3	121.7	122.7	123.1	123.9
<b>Personal care</b> .....	200.9	212.4	214.4	215.4	216.7	217.8	219.0	200.5	211.8	213.1	214.7	216.6	218.0	218.5
Toilet goods and personal care appliances .....	193.1	205.1	207.9	209.0	210.3	211.8	212.4	192.4	204.5	206.6	208.8	210.4	212.1	212.7
Products for the hair, hairpieces and wigs (12/77 = 100) .....	112.2	120.7	121.4	121.7	121.8	124.5	124.5	111.4	119.7	120.5	122.5	123.6	123.6	123.2
Dental and shaving products (12/77 = 100) .....	115.6	122.3	124.0	125.2	125.3	126.0	127.2	113.9	120.4	122.0	123.6	124.0	125.3	125.9
Cosmetics, bath and nail preparations, manicure and eye makeup implements (12/77 = 100) .....	111.4	116.7	119.1	119.6	121.3	121.3	120.8	110.2	116.6	117.9	118.5	119.7	121.1	121.0
Other toilet goods and small personal care appliances (12/77 = 100) .....	109.9	117.6	119.4	119.9	120.8	120.8	122.2	112.3	119.1	120.4	121.5	122.1	123.6	125.3
Personal care services .....	208.5	219.6	220.9	221.7	223.1	223.8	225.5	208.6	219.1	219.8	220.7	222.9	224.0	224.4
Beauty parlor services for women .....	210.3	220.6	222.1	222.5	224.5	225.2	227.5	210.2	220.2	221.0	222.0	225.0	225.6	226.1
Haircuts and other barber shop services for men (12/77 = 100) .....	116.1	123.4	123.9	124.8	124.8	125.3	125.6	116.3	122.8	123.0	123.4	123.9	125.0	125.2
<b>Personal and educational expenses</b> .....	224.2	229.5	229.9	231.4	249.5	251.1	251.3	224.4	229.8	230.3	231.8	249.8	251.2	251.4
School books and supplies .....	202.3	207.1	207.2	207.7	221.0	221.9	221.9	205.9	210.9	210.9	211.5	224.8	225.6	225.6
Personal and educational services .....	229.6	235.0	235.5	237.1	256.2	257.8	258.1	229.3	234.8	235.4	237.1	256.1	257.5	257.8
Tuition and other school fees .....	118.1	118.6	118.7	119.4	131.6	132.2	132.2	118.2	118.7	118.8	119.5	131.8	132.4	132.4
College tuition (12/77 = 100) .....	117.3	117.9	118.0	118.7	130.7	131.5	131.5	117.3	117.9	118.0	118.7	130.7	131.5	131.5
Elementary and high school tuition (12/77 = 100) .....	120.9	120.9	120.9	122.0	134.4	134.4	134.4	120.7	120.7	120.7	121.8	134.3	134.3	134.3
Personal expenses (12/77 = 100) .....	116.3	128.7	129.5	130.7	130.5	132.4	133.0	115.5	126.4	127.4	128.5	129.7	131.0	131.6
<b>Special indexes:</b>														
Gasoline, motor oil, coolant, and other products .....	302.9	370.9	371.5	370.7	367.9	365.5	365.5	304.3	372.2	372.5	371.8	368.7	366.6	366.7
Insurance and finance .....	296.0	353.8	342.3	338.3	338.6	346.4	355.3	295.8	354.0	342.6	338.7	339.0	346.7	355.6
Utilities and public transportation .....	220.5	244.8	249.1	251.9	254.8	254.9	253.1	220.3	244.0	248.4	251.2	253.6	253.5	251.6
Housekeeping and home maintenance services .....	280.6	298.6	300.1	300.8	303.6	304.7	306.4	281.3	296.7	297.5	299.7	302.3	302.4	303.5

**24. 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)		
	1980			1980			1980			1980		
	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.	June	Aug.	Oct.
<b>Northeast</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	127.1	129.1	130.5	131.0	134.8	137.2	135.6	138.3	141.2	131.0	134.1	135.6
Food and beverages	126.2	129.5	131.0	128.6	131.0	133.7	130.5	133.4	134.7	127.6	130.4	131.5
Housing	129.6	131.2	131.8	133.1	139.7	141.9	144.9	148.4	151.0	133.5	138.7	139.9
Apparel and upkeep	111.5	112.0	116.2	111.3	113.1	116.2	113.2	113.9	124.6	115.0	115.0	118.6
Transportation	135.3	138.0	139.4	141.7	143.5	145.3	138.2	140.3	142.8	140.2	141.4	143.1
Medical care	123.0	125.1	126.3	123.2	124.4	127.2	123.5	125.0	129.1	124.4	125.2	126.9
Entertainment	117.7	118.3	120.0	120.2	121.1	122.7	116.5	118.9	120.1	123.8	124.4	125.2
Other goods and services	116.1	117.2	121.2	119.0	120.0	124.0	121.9	123.3	127.8	116.8	118.3	122.0
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	128.4	130.4	131.8	132.1	136.1	138.3	133.8	136.9	139.9	131.5	135.1	136.6
Commodities less food and beverages	129.7	131.0	132.3	133.8	138.5	140.5	135.4	138.6	142.3	133.3	137.3	139.1
Services	125.4	127.4	128.8	129.2	132.8	135.4	138.5	140.4	143.4	130.2	132.5	134.0
<b>North Central</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	136.7	136.8	140.8	134.4	134.7	137.6	131.9	132.9	135.1	131.9	131.7	134.6
Food and beverages	128.1	131.5	133.1	126.7	129.8	130.8	128.7	131.8	133.7	129.6	133.9	135.8
Housing	147.5	145.4	151.9	141.2	139.4	143.7	135.6	135.3	137.9	134.5	131.5	135.3
Apparel and upkeep	108.5	109.0	112.1	111.0	112.9	118.2	111.0	112.0	115.3	114.6	113.6	115.5
Transportation	140.1	141.0	143.2	140.7	141.3	143.0	140.4	141.6	142.9	139.8	140.4	142.2
Medical care	126.1	127.8	129.1	125.8	128.8	129.6	126.6	129.1	130.6	128.9	133.7	133.3
Entertainment	120.1	122.4	124.5	117.1	118.6	121.1	121.3	122.7	124.3	117.3	116.9	121.1
Other goods and services	117.9	118.6	122.6	123.2	124.4	128.4	117.5	118.8	122.5	121.6	122.9	128.4
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	132.9	134.5	138.1	129.9	132.4	135.0	129.7	131.9	133.9	128.0	129.8	132.6
Commodities less food and beverages	135.2	135.9	140.4	131.2	133.4	136.8	130.1	131.9	134.0	127.3	128.0	131.2
Services	142.3	140.3	144.9	141.7	138.4	141.8	135.5	134.5	137.1	138.1	134.8	137.7
<b>South</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	133.5	134.8	136.7	134.7	135.4	138.1	133.1	133.7	136.1	131.4	131.9	134.1
Food and beverages	128.5	132.3	134.6	127.9	131.3	133.0	129.1	132.8	134.8	128.1	132.4	134.5
Housing	138.5	138.2	139.8	141.4	140.5	143.5	138.9	137.1	139.7	134.0	132.4	133.7
Apparel and upkeep	116.4	116.7	119.9	112.6	114.1	116.4	107.3	109.4	111.8	107.2	105.6	110.5
Transportation	140.9	143.5	145.0	140.6	142.0	144.5	139.7	141.1	143.0	138.7	140.4	142.2
Medical care	124.1	125.4	126.8	125.8	127.5	130.9	127.5	128.8	132.7	133.9	133.9	140.2
Entertainment	116.3	119.5	120.2	122.5	124.0	125.3	120.3	122.0	125.0	128.0	130.5	132.4
Other goods and services	120.9	122.3	126.4	119.5	121.3	126.8	120.2	121.6	124.7	123.9	125.1	128.2
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	130.9	133.1	135.4	130.6	132.7	135.2	129.7	131.9	134.1	129.0	131.3	133.4
Commodities less food and beverages	132.0	133.5	135.8	131.7	133.3	136.1	130.0	131.5	133.8	129.3	130.9	133.0
Services	137.2	137.1	138.4	140.9	139.5	142.6	138.4	136.4	139.2	135.1	132.7	135.0
<b>West</b>												
<b>EXPENDITURE CATEGORY</b>												
All items	136.1	135.5	137.7	136.0	136.8	139.5	133.6	134.2	136.3	134.3	135.4	136.9
Food and beverages	127.7	130.5	132.7	130.2	133.1	135.0	127.6	129.5	131.7	129.6	132.9	135.6
Housing	142.5	139.2	141.6	141.4	140.9	144.7	137.9	137.2	139.4	135.9	135.6	136.2
Apparel and upkeep	114.5	116.4	117.9	118.4	119.5	121.5	107.4	108.5	111.2	123.6	126.3	129.1
Transportation	141.1	142.8	144.9	140.7	142.4	144.3	142.1	143.6	145.9	141.7	143.5	145.9
Medical care	129.5	130.6	133.0	127.9	129.0	130.7	129.4	132.2	133.3	132.5	134.1	134.9
Entertainment	119.5	120.8	122.3	123.9	125.9	125.7	122.4	125.2	126.9	130.3	131.5	131.2
Other goods and services	121.7	122.8	126.2	124.3	125.7	128.1	119.0	120.2	122.3	124.4	124.5	128.1
<b>COMMODITY AND SERVICE GROUP</b>												
Commodities	130.4	132.3	134.2	132.5	134.6	136.3	130.1	132.2	134.1	131.7	134.1	135.7
Commodities less food and beverage	131.6	133.1	134.8	133.5	135.2	136.8	131.1	133.3	135.1	132.6	134.6	135.7
Services	143.6	139.7	142.5	140.8	140.0	144.0	138.5	137.1	139.5	138.2	137.3	138.7



**25. 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)						
	1979	1980						1979	1980					
	Nov.	June	July	Aug.	Sept.	Oct.	Nov.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
U.S. city average <sup>2</sup> .....	227.5	247.6	247.8	249.4	251.7	253.9	256.2	227.6	247.8	248.0	249.6	251.9	254.1	256.4
Anchorage, Alaska (10/67=100) .....	213.7	....	228.4	....	230.9	....	236.5	211.8	....	224.8	....	226.7	....	232.0
Atlanta, Ga. ....	....	242.2	....	246.5	....	250.2	....	....	244.7	....	249.7	....	252.4	....
Baltimore, Md. ....	227.2	....	252.4	....	255.0	....	258.4	227.9	....	250.8	....	253.2	....	257.4
Boston, Mass. ....	222.7	....	240.9	....	244.4	....	248.8	222.5	....	240.9	....	244.5	....	249.2
Buffalo, N.Y. ....	....	235.4	....	236.8	....	239.6	....	....	234.6	....	235.5	....	238.2	....
Chicago, Ill.-Northwestern Ind. ....	225.9	248.2	246.8	245.2	250.1	253.7	259.9	225.6	248.0	247.0	245.4	249.5	252.8	258.9
Cincinnati, Ohio-Ky.-Ind. ....	233.4	....	256.7	....	259.9	....	262.1	235.6	....	259.1	....	261.7	....	236.5
Cleveland, Ohio ....	....	250.1	....	253.9	....	264.6	....	....	250.5	....	254.4	....	264.2	....
Dallas-Ft. Worth, Tex. ....	....	256.4	....	258.5	....	264.9	....	....	254.5	....	257.4	....	262.9	....
Denver-Boulder, Colo. ....	245.9	....	261.6	....	266.6	....	271.9	248.6	....	265.8	....	270.9	....	276.7
Detroit, Mich. ....	231.3	256.7	253.7	255.1	259.5	264.3	266.4	230.8	255.8	252.1	253.8	257.7	261.4	263.6
Honolulu, Hawaii ....	....	227.5	....	230.1	....	234.6	....	....	228.0	....	229.5	....	233.5	....
Houston, Tex. ....	....	266.5	....	268.6	....	272.3	....	....	262.8	....	265.6	....	269.4	....
Kansas City, Mo.-Kansas ....	....	247.8	....	250.8	....	254.8	....	....	246.3	....	249.3	....	253.0	....
Los Angeles-Long Beach, Anaheim, Calif. ....	224.2	250.1	248.7	247.3	249.6	252.6	255.5	225.8	253.4	251.5	250.1	252.0	254.9	258.4
Miami, Fla. (11/77=100) ....	119.4	....	133.6	....	133.1	....	133.9	120.5	....	134.7	....	134.9	....	135.6
Milwaukee, Wis. ....	229.8	....	251.6	....	258.4	....	262.1	232.5	....	255.9	....	263.2	....	267.5
Minneapolis-St. Paul, Minn.-Wis. ....	....	246.4	....	250.1	....	255.5	....	....	248.4	....	250.6	....	256.6	....
New York, N.Y.-Northeastern N.J. ....	221.3	237.2	238.9	240.8	241.8	243.1	244.7	220.7	236.7	238.4	240.7	241.5	242.6	244.2
Northeast, Pa. (Scranton) ....	220.0	....	239.8	....	243.1	....	247.0	221.1	....	243.2	....	246.9	....	249.5
Philadelphia, Pa.-N.J. ....	222.4	242.5	244.1	246.0	247.2	247.9	249.2	223.8	243.8	245.3	247.3	248.3	249.5	251.1
Pittsburgh, Pa. ....	....	246.1	....	250.7	....	256.3	....	....	246.8	....	251.2	....	257.6	....
Portland, Oreg.-Wash. ....	236.6	....	252.7	....	256.9	....	261.9	236.7	....	252.2	....	255.4	....	260.7
St. Louis, Mo.-Ill. ....	225.7	....	245.0	....	252.4	....	253.8	226.3	....	245.9	....	252.7	....	254.2
San Diego, Calif. ....	247.8	....	269.9	....	271.8	....	279.1	244.8	....	265.7	....	267.7	....	275.1
San Francisco-Oakland, Calif. ....	....	248.0	....	251.0	....	251.9	....	....	247.7	....	251.4	....	252.6	....
Seattle-Everett, Wash. ....	227.6	....	255.1	....	258.1	....	262.6	225.5	....	251.6	....	254.6	....	259.4
Washington, D.C.-Md.-Va. ....	225.4	....	247.2	....	249.2	....	253.6	226.7	....	248.7	....	251.8	....	255.7

<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.

## 26. Producer Price Indexes, by stage of processing

[1967 = 100]

Commodity grouping	Annual average 1979	1980												
		1979 Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
<b>FINISHED GOODS</b>														
Finished goods .....	216.1	228.1	232.4	235.7	238.5	240.5	241.6	243.0	247.1	† 249.1	248.9	252.2	253.2	254.7
Finished consumer goods .....	215.7	229.1	233.5	237.6	240.8	242.1	243.4	245.0	249.6	† 251.9	251.8	253.6	254.7	255.9
Finished consumer foods .....	226.3	232.1	231.4	231.6	233.1	228.9	230.0	231.0	239.7	† 244.9	245.8	245.9	246.9	247.2
Crude .....	231.4	227.9	226.0	220.1	230.9	222.3	226.1	223.6	233.8	† 240.8	253.2	231.3	248.2	252.6
Processed .....	223.8	230.3	229.7	230.4	231.1	227.2	228.1	229.4	238.0	† 243.0	242.9	244.8	244.5	244.5
Nondurable goods less foods .....	225.9	247.9	254.7	262.7	270.9	276.9	279.6	281.0	283.0	† 284.2	284.7	284.9	287.0	289.1
Durable goods .....	181.9	191.8	199.1	202.1	200.3	201.2	201.0	203.5	206.6	† 207.0	204.9	211.0	210.6	211.7
Consumer nondurable goods less food and energy .....	( <sup>2</sup> )	179.1	182.9	185.1	187.0	189.3	190.6	192.1	193.6	† 194.6	195.5	196.6	198.3	199.1
Capital equipment .....	216.7	225.3	229.3	230.5	232.2	236.2	236.6	237.7	240.5	† 241.8	241.3	248.2	249.1	251.1
<b>INTERMEDIATE MATERIALS</b>														
Intermediate materials, supplies, and components .....	242.8	258.7	265.9	271.6	273.7	275.1	276.4	278.2	281.0	† 283.8	284.1	286.3	288.0	291.2
Materials and components for manufacturing .....	234.1	247.8	255.5	259.8	259.5	260.3	262.2	264.1	265.4	† 268.6	268.4	271.8	273.1	275.5
Materials for food manufacturing .....	223.6	230.4	226.0	245.6	240.1	238.7	255.5	260.4	263.9	† 278.5	275.9	296.4	301.6	278.0
Materials for nondurable manufacturing .....	220.1	235.3	241.1	244.0	247.4	253.0	255.5	256.3	257.2	† 259.1	258.3	259.6	261.9	263.4
Materials for durable manufacturing .....	271.3	287.8	303.7	306.5	301.4	296.6	295.5	298.2	299.3	† 301.3	301.4	305.0	304.9	305.2
Components for manufacturing .....	206.8	216.3	219.2	223.2	225.3	227.7	228.6	230.0	231.6	† 235.2	236.2	237.6	238.5	252.2
Materials and components for construction .....	246.9	253.7	257.7	262.1	265.5	265.6	265.7	267.1	269.8	† 271.7	271.5	272.1	273.9	276.2
Processed fuels and lubricants .....	360.9	424.6	444.0	464.0	481.0	486.9	488.8	493.0	505.2	† 508.2	510.2	507.1	510.8	529.7
Manufacturing industries .....	298.9	332.2	340.5	351.4	356.6	358.3	364.3	373.0	378.4	† 381.1	385.9	384.9	384.7	396.3
Nonmanufacturing industries .....	422.9	519.1	550.3	579.9	609.5	620.0	617.2	616.4	636.0	† 639.3	638.2	632.7	640.9	667.3
Containers .....	235.3	247.1	250.9	251.6	253.8	262.6	263.8	265.5	266.6	† 266.8	266.8	270.0	269.8	272.0
Supplies .....	217.6	229.2	232.5	239.0	240.8	241.7	241.8	243.2	247.2	† 249.6	251.7	253.7	256.3	256.0
Manufacturing industries .....	204.4	216.3	220.9	222.5	223.7	227.1	228.5	230.6	231.8	† 233.0	233.1	234.4	235.1	235.7
Nonmanufacturing industries .....	224.7	236.1	238.7	247.8	249.8	249.5	248.9	249.9	255.4	† 258.4	261.5	263.8	267.4	266.7
Feeds .....	224.1	230.4	224.4	223.3	218.9	206.6	210.5	207.7	227.5	† 238.5	251.9	256.3	265.4	255.9
Other supplies .....	221.5	233.9	238.3	249.6	252.9	255.2	253.7	255.6	257.7	† 258.9	259.8	261.6	263.9	265.1
<b>CRUDE MATERIALS</b>														
Crude materials for further processing .....	282.2	296.2	296.8	308.4	303.5	297.0	300.7	299.6	316.6	† 329.1	331.8	336.0	337.6	335.6
Foodstuffs and feedstuffs .....	247.2	249.7	243.0	252.6	245.9	235.5	242.9	242.5	263.5	† 276.7	276.7	279.1	277.3	271.3
Nonfood materials .....	( <sup>2</sup> )	384.2	398.9	414.3	412.7	413.9	410.5	407.9	417.1	† 428.4	436.3	444.1	452.0	457.8
Nonfood materials except fuel .....	284.5	311.6	330.1	341.7	339.8	337.0	329.3	324.4	331.9	† 342.2	348.1	353.5	357.9	363.3
Manufacturing industries .....	293.3	322.5	342.1	354.9	352.5	349.1	340.3	334.7	342.5	† 353.5	360.6	366.0	370.7	376.7
Construction .....	207.0	216.6	226.0	228.7	229.9	232.4	232.8	234.1	239.1	† 243.7	239.6	245.3	247.5	247.8
Crude fuel .....	568.2	634.5	636.3	664.8	664.1	678.9	690.3	695.6	710.5	† 725.4	740.5	756.1	776.1	783.3
Manufacturing industries .....	607.6	688.3	690.3	725.7	724.5	742.2	756.1	762.9	781.4	† 799.8	818.0	837.9	861.8	870.7
Nonmanufacturing industries .....	548.3	603.9	605.7	628.8	628.8	641.3	650.8	655.1	667.3	† 679.5	692.3	704.7	721.9	727.7
<b>SPECIAL GROUPINGS</b>														
Finished goods excluding foods .....	( <sup>2</sup> )	224.6	230.5	234.6	237.8	241.7	242.8	244.3	246.9	† 248.0	247.4	251.7	252.7	254.5
Finished consumer goods excluding foods .....	208.2	225.3	232.3	238.3	242.3	246.2	247.6	249.5	251.9	† 252.8	252.3	255.0	255.9	257.6
Finished consumer goods less energy .....	( <sup>2</sup> )	206.1	209.4	211.2	211.9	211.5	212.4	214.0	218.5	† 220.8	220.9	223.2	224.0	224.7
Intermediate materials less foods and feeds .....	244.0	260.5	268.4	273.7	276.2	278.0	278.6	280.5	282.9	† 285.0	285.2	286.6	288.0	292.6
Intermediate materials less energy .....	( <sup>2</sup> )	249.1	255.3	259.8	260.5	261.4	262.6	264.2	266.3	† 269.1	269.3	272.0	273.6	275.5
Intermediate foods and feeds .....	223.2	229.8	224.8	237.5	232.4	227.3	239.7	242.1	251.0	† 264.4	267.1	282.2	288.7	269.9
Crude materials less agricultural products .....	390.5	435.0	452.9	469.3	469.0	469.9	464.7	463.8	471.0	† 483.9	491.5	502.5	510.4	515.0
Crude materials less energy .....	( <sup>2</sup> )	246.9	244.0	254.8	248.4	238.7	241.5	239.0	257.2	† 269.3	270.7	273.5	273.5	269.3

<sup>1</sup> Data for August 1980 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.

† = revised.

<sup>2</sup> Not available.

**27. Producer Price Indexes, by commodity groupings**

[1967=100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1980													
			1979	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
	All commodities	235.6	249.7	254.9	260.2	261.9	262.8	264.2	265.6	270.4	273.8	274.1	277.0	278.4	280.3	
	All commodities (1957-59 = 100)	250.0	267.3	270.2	275.6	277.4	278.8	280.3	281.8	286.9	290.5	290.8	293.9	295.4	297.4	
	Farm products and processed foods and feeds	229.8	234.6	231.9	237.0	234.9	229.3	233.8	234.3	246.6	255.1	256.3	258.8	260.1	256.5	
	Industrial commodities	236.5	253.1	260.6	265.9	268.6	271.3	271.9	273.5	276.2	278.2	278.2	281.2	282.7	286.1	
<b>FARM PRODUCTS AND PROCESSED FOODS AND FEEDS</b>																
01	Farm products	241.4	242.5	236.4	242.3	239.3	228.9	233.5	233.4	254.3	263.8	266.6	263.4	264.9	265.3	
01-1	Fresh and dried fruits and vegetables	229.0	210.7	219.0	220.6	218.5	223.2	244.0	233.5	252.0	254.0	266.0	240.4	246.4	244.7	
01-2	Grains	214.8	227.9	214.6	223.3	217.9	210.8	219.0	215.3	244.8	256.5	260.6	269.2	270.9	265.2	
01-3	Livestock	260.3	252.5	247.8	257.2	251.8	230.5	233.3	240.0	260.5	275.7	266.8	263.0	254.8	251.4	
01-4	Live poultry	194.3	194.7	195.2	184.6	180.1	171.9	171.3	166.6	227.2	224.5	241.0	222.9	221.0	218.9	
01-5	Plant and animal fibers	209.9	222.0	239.0	269.5	254.9	266.9	272.7	247.0	267.0	280.8	295.2	278.5	287.2	294.1	
01-6	Fluid milk	250.1	264.0	262.3	263.8	263.1	265.4	265.4	265.5	265.8	271.6	275.5	280.9	284.7	290.5	
01-7	Eggs	176.5	198.4	165.6	150.4	184.2	153.3	140.5	146.8	159.3	176.9	188.4	175.2	194.0	217.5	
01-8	Hay, haysseeds, and oilseeds	244.3	230.3	218.1	224.7	215.9	205.1	206.9	207.4	251.4	261.5	280.2	284.4	298.3	310.2	
01-9	Other farm products	289.0	319.4	301.1	304.7	311.5	304.8	311.0	309.4	292.4	282.7	283.9	282.9	296.6	296.0	
02	Processed foods and feeds	222.5	229.3	228.5	233.1	231.6	228.6	233.1	233.9	241.5	249.4	249.8	255.4	256.5	250.8	
02-1	Cereal and bakery products	210.3	229.6	225.4	229.9	231.8	232.4	234.7	233.2	234.7	235.8	238.0	241.3	245.4	248.5	
02-2	Meats, poultry, and fish	242.0	242.8	239.6	239.6	239.2	226.0	224.5	226.6	248.5	259.9	257.7	255.8	250.8	248.0	
02-3	Dairy products	211.2	219.9	221.0	220.8	223.0	227.5	228.5	229.5	230.1	232.6	234.1	238.4	240.6	242.7	
02-4	Processed fruits and vegetables	221.9	222.6	222.9	223.3	223.7	224.6	225.4	227.2	229.8	230.7	231.9	234.5	235.2	237.1	
02-5	Sugar and confectionery	214.7	234.4	235.0	287.5	264.1	275.0	327.8	325.4	313.5	347.1	341.4	399.9	403.4	334.6	
02-6	Beverages and beverage materials	210.7	221.6	224.0	224.8	225.9	227.9	231.2	234.3	234.6	237.1	236.2	236.7	238.1	238.1	
02-7	Fats and oils	243.3	235.6	225.1	226.4	222.6	214.5	212.0	212.8	226.9	240.2	237.8	231.1	237.9	234.3	
02-8	Miscellaneous processed foods	216.5	223.1	225.4	223.5	224.7	225.1	223.7	223.4	223.9	224.0	226.9	230.6	235.0	240.5	
02-9	Manufactured animal feeds	219.4	224.9	219.7	219.8	216.6	205.0	207.2	205.0	223.9	232.4	243.8	247.2	254.9	247.3	
<b>INDUSTRIAL COMMODITIES</b>																
03	Textile products and apparel	168.7	173.1	175.2	176.5	179.3	181.2	182.0	183.0	184.7	185.6	186.2	187.8	189.3	190.2	
03-1	Synthetic fibers (12/75 = 100)	119.0	124.7	127.0	127.2	129.1	130.4	133.2	134.5	136.0	137.5	139.3	140.9	141.4	141.5	
03-2	Processed yarns and threads (12/75 = 100)	109.2	112.7	114.6	118.0	119.3	122.1	124.2	122.8	122.4	123.2	123.4	124.2	124.9	127.6	
03-3	Gray fabrics (12/75 = 100)	127.1	132.3	132.7	132.3	136.8	137.0	136.5	134.8	135.7	137.5	139.2	142.5	144.3	143.3	
03-4	Finished fabrics (12/75 = 100)	107.4	109.9	110.5	111.1	113.2	114.5	115.3	115.8	116.6	116.8	116.8	118.2	119.0	120.0	
03-81	Apparel	160.4	162.6	165.5	166.8	168.0	170.0	170.2	172.7	174.4	175.1	174.7	175.5	176.0	177.0	
03-82	Textile housefurnishings	190.4	197.1	199.0	199.7	201.3	201.6	202.6	202.7	210.7	211.0	217.1	218.0	218.0	218.5	
04	Hides, skins, leather, and related products	252.4	249.2	255.7	250.9	246.8	243.5	240.7	240.9	245.1	251.3	247.8	247.3	255.5	256.6	
04-1	Hides and skins	535.4	443.9	468.8	404.8	348.7	328.6	289.7	315.7	356.6	398.4	356.1	381.5	409.1	392.8	
04-2	Leather	356.7	324.8	347.6	340.3	311.0	297.6	290.4	284.4	292.2	314.2	300.2	272.5	317.3	332.4	
04-3	Footwear	218.0	227.9	229.1	228.0	231.8	231.9	231.9	231.9	232.7	233.7	235.7	236.8	237.7	237.1	
04-4	Other leather and related products	205.0	208.0	213.1	214.8	217.8	216.2	217.4	215.9	217.5	218.7	217.6	221.9	222.6	223.5	
05	Fuels and related products and power	408.1	487.9	508.0	532.7	553.5	566.6	572.1	576.5	585.5	590.6	593.0	592.5	597.6	611.7	
05-1	Coal	450.9	458.6	459.3	459.6	461.7	465.2	466.5	466.6	467.5	468.7	472.1	471.0	475.7	475.7	
05-2	Coke	429.2	431.2	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	430.6	
05-3	Gas fuels <sup>1</sup>	544.1	662.4	677.5	716.6	716.6	730.1	745.1	749.2	762.1	772.6	785.3	801.1	826.5	841.8	
05-4	Electric power	270.2	287.0	290.5	299.3	305.5	310.1	316.5	326.0	331.1	333.6	338.6	337.6	332.0	337.9	
05-61	Crude petroleum <sup>2</sup>	376.5	470.8	513.6	515.1	522.8	533.9	540.1	549.0	551.4	566.8	570.8	579.6	580.7	596.0	
05-7	Petroleum products, refined <sup>3</sup>	444.8	555.2	583.3	620.4	659.0	678.0	680.9	681.7	693.9	697.6	695.5	689.6	696.8	716.3	
06	Chemicals and allied products	222.3	238.2	246.0	248.7	252.8	259.8	262.5	262.8	263.3	264.4	263.2	264.6	266.9	267.9	
06-1	Industrial chemicals <sup>4</sup>	264.0	292.3	302.9	307.9	313.3	322.1	328.5	329.5	328.7	330.0	326.2	329.0	333.4	334.6	
06-21	Prepared paint	204.4	210.7	223.3	223.3	228.7	231.5	238.8	238.8	238.8	238.8	239.6	239.6	241.7	241.7	
06-22	Paint materials	241.2	256.8	259.9	263.4	267.5	272.1	273.9	275.0	277.2	278.4	278.9	279.5	279.5	280.9	
06-3	Drugs and pharmaceuticals	159.4	164.4	166.5	167.6	168.9	172.6	172.8	174.4	175.7	176.1	176.7	178.3	181.1	181.8	
06-4	Fats and oils, inedible	376.7	327.1	325.6	302.2	299.9	298.2	294.7	255.8	260.0	307.6	304.5	302.0	308.2	316.0	
06-5	Agricultural chemicals and chemical products	214.4	232.9	241.9	248.0	256.1	258.5	258.5	257.6	258.7	260.0	260.4	260.0	260.4	262.8	
06-6	Plastic resins and materials	235.9	262.5	270.4	272.1	274.5	287.6	288.4	287.6	285.7	281.5	277.1	276.7	277.1	274.4	
06-7	Other chemicals and allied products	191.8	201.4	209.4	211.3	215.0	223.1	224.8	226.9	228.5	229.0	229.4	231.3	232.6	234.2	
07	Rubber and plastic products	194.3	205.9	207.8	210.7	212.7	214.1	215.0	217.3	218.8	220.5	221.2	222.7	223.0	223.5	
07-1	Rubber and rubber products	209.2	224.3	226.1	231.5	231.5	233.4	234.7	236.8	239.0	240.2	242.5	245.4	245.8	245.9	
07-11	Crude rubber	221.4	240.2	252.7	263.9	255.8	264.7	263.9	264.1	263.4	264.3	266.3	270.7	270.0	267.5	
07-12	Tires and tubes	205.9	223.1	225.1	231.6	231.6	231.8	233.2	235.6	238.0	238.0	239.9	244.7	244.7	244.7	
07-13	Miscellaneous rubber products	206.4	217.7	215.9	217.8	220.6	222.1	224.0	226.4	229.3	232.0	234.8	234.8	234.1	237.1	
07-2	Plastic products (6/78 = 100)	110.0	115.2	116.3	116.7	119.0	119.7	119.9	121.4	122.0	123.2	122.8	123.0	123.1	123.6	
08	Lumber and wood products	300.4	290.1	290.0	294.7	294.9	275.6	272.1	279.8	289.2	296.1	291.8	288.7	293.4	299.4	
08-1	Lumber	354.3	339.5	336.3	341.4	340.6	310.1	301.4	313.0	327.2	333.7	326.6	319.2	325.0	333.0	
08-2	Millwork	254.3	250.3	254.1	258.0	262.2	257.5	251.8	253.0	255.9	260.3	264.5	265.4	270.0	273.3	
08-3	Plywood	250.5	217.9	238.2	243.4	240.0	219.8	230.6	241.7	252.8	266.0	253.6	253.1	256.6	263.5	
08-4	Other wood products	235.4	240.5	242.2	243.4	243.1	241.7	240.7	238.7	236.9	236.2	236.8	236.7	236.6	236.2	

See footnotes at end of table.



27. Continued—Producer Price Indexes, by commodity groupings

[1967 = 100 unless otherwise specified]

Code	Commodity group and subgroup	Annual average 1979	1979					1980							
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
<b>INDUSTRIAL COMMODITIES—Continued</b>															
09	Pulp, paper, and allied products .....	219.0	231.7	237.4	239.2	242.6	247.8	249.2	251.1	251.7	†252.4	252.7	254.4	255.5	257.4
09-1	Pulp, paper, and products, excluding building paper and board .....	220.7	233.4	239.2	240.8	244.1	249.4	250.6	252.4	252.9	†253.8	254.1	255.8	256.7	258.6
09-11	Woodpulp .....	314.3	338.0	356.6	356.4	356.8	385.6	385.6	387.7	388.3	†388.3	390.6	329.1	392.6	392.6
09-12	Wastepaper .....	206.6	221.2	222.9	223.4	224.9	242.5	226.1	206.6	194.0	193.8	192.5	192.8	191.7	190.8
09-13	Paper .....	229.6	242.7	245.5	247.2	250.3	253.5	256.1	257.9	258.2	†258.6	258.9	262.5	264.4	269.8
09-14	Paperboard .....	202.1	215.4	221.8	223.7	227.4	232.1	235.5	238.9	237.1	†238.4	239.2	241.0	243.2	241.1
09-15	Converted paper and paperboard products .....	209.9	221.9	227.7	229.5	233.0	236.7	237.6	239.8	241.2	†242.3	242.5	243.4	243.8	245.2
09-2	Building paper and board .....	182.4	184.6	186.2	191.7	198.7	201.3	206.8	208.9	211.8	†210.3	209.6	212.1	215.6	219.1
10	Metals and metal products .....	259.3	273.6	284.6	288.9	286.8	284.4	281.8	281.9	282.5	†285.1	286.2	290.4	290.7	290.7
10-1	Iron and steel .....	283.5	292.8	297.4	300.3	301.8	307.2	304.8	303.4	300.6	†302.6	304.3	310.4	312.5	316.0
10-13	Steel mill products .....	280.4	289.3	293.6	294.2	295.5	304.1	305.5	305.8	301.0	†301.0	301.0	307.5	309.5	313.4
10-2	Nonferrous metals .....	261.7	291.9	326.3	337.7	321.4	298.3	289.7	288.8	292.6	†298.4	297.9	303.9	301.0	294.4
10-3	Metal containers .....	269.2	280.9	283.3	284.4	288.5	304.1	302.7	302.7	303.0	†303.2	303.2	304.4	303.3	303.3
10-4	Hardware .....	218.7	226.2	228.2	230.4	231.5	237.3	238.4	240.5	242.6	†243.3	245.1	245.8	247.9	249.6
10-5	Plumbing fixtures and brass fittings .....	217.1	226.5	232.8	236.7	242.4	243.8	247.5	248.6	249.7	†250.4	250.5	250.6	251.8	254.4
10-6	Heating equipment .....	187.1	195.6	199.5	202.6	202.6	204.2	204.0	205.0	296.2	†208.0	208.8	210.0	211.2	212.6
10-7	Fabricated structural metal products .....	248.9	257.7	258.9	259.7	265.1	269.1	269.9	270.1	272.2	†273.0	273.8	276.2	277.6	279.2
10-8	Miscellaneous metal products .....	231.4	239.1	240.6	241.6	244.2	246.1	246.7	250.4	251.1	†253.2	255.8	257.1	257.7	258.4
11	Machinery and equipment .....	213.9	223.4	227.6	230.2	232.5	236.4	237.6	239.2	241.5	†242.6	244.3	246.4	247.7	249.5
11-1	Agricultural machinery and equipment .....	232.1	244.2	248.4	249.9	252.0	254.4	256.4	257.1	258.6	†259.9	262.5	262.8	266.1	269.5
11-2	Construction machinery and equipment .....	256.2	268.8	276.0	278.3	279.5	284.2	285.9	287.6	291.5	†293.4	295.0	298.4	299.7	301.1
11-3	Metalworking machinery and equipment .....	241.3	254.6	258.9	261.8	264.1	270.2	272.9	275.4	278.0	†278.8	280.2	282.2	283.7	285.6
11-4	General purpose machinery and equipment .....	236.4	247.6	251.0	253.3	256.7	261.1	262.8	264.8	266.1	†267.0	268.9	271.9	273.2	275.2
11-6	Special industry machinery and equipment .....	247.0	256.1	260.6	263.2	265.5	271.9	273.0	274.3	276.7	†277.1	283.2	286.2	287.9	291.2
11-7	Electrical machinery and equipment .....	178.9	186.6	190.6	194.3	196.5	198.9	199.9	201.6	203.7	†205.0	206.0	207.0	207.4	208.9
11-9	Miscellaneous machinery .....	208.9	216.3	220.3	221.1	223.2	227.2	227.3	228.2	231.1	†232.1	233.1	236.1	238.1	239.2
12	Furniture and household durables .....	171.3	177.9	183.4	185.6	185.7	184.4	185.4	186.5	188.0	†188.9	187.8	189.1	190.4	192.3
12-1	Household furniture .....	186.3	194.8	197.4	198.5	198.9	200.3	203.0	204.0	206.5	†208.0	206.6	207.7	209.1	210.4
12-2	Commercial furniture .....	221.8	225.1	226.9	231.4	232.8	233.6	233.9	235.5	237.2	†237.3	237.4	241.2	241.5	242.4
12-3	Floor coverings .....	147.9	152.9	159.0	158.5	160.8	162.2	161.9	162.1	163.2	†163.8	163.9	165.4	165.7	170.2
12-4	Household appliances .....	160.9	165.3	166.5	168.9	169.9	171.1	173.2	175.5	175.8	†176.3	176.2	176.6	177.2	178.2
12-5	Home electronic equipment .....	91.3	90.5	91.0	91.2	91.3	91.4	92.0	91.8	91.7	†91.3	89.1	88.9	91.1	91.0
12-6	Other household durable goods .....	228.2	254.4	287.4	295.3	288.3	267.3	265.6	266.5	271.5	†275.9	273.2	277.8	278.4	285.1
13	Nonmetallic mineral products .....	248.6	259.6	268.4	274.0	276.5	283.7	284.0	283.4	284.8	†286.0	286.0	287.8	288.4	290.7
13-11	Flat glass .....	183.9	186.4	191.0	191.0	191.4	195.3	195.3	193.6	194.3	†199.5	199.7	200.7	203.1	203.0
13-2	Concrete ingredients .....	244.0	251.0	265.0	266.6	267.5	271.7	272.4	273.2	275.9	†278.6	274.6	277.8	278.5	278.7
13-3	Concrete products .....	244.1	253.2	265.4	266.7	269.1	272.9	275.2	275.8	275.9	†276.0	277.5	276.9	277.6	277.8
13-4	Structural clay products excluding refractories .....	217.9	226.7	229.6	231.0	231.4	235.0	230.0	230.1	230.1	†229.7	230.2	233.4	233.6	234.1
13-5	Refractories .....	236.5	248.0	248.5	251.1	253.9	261.7	264.4	265.8	268.7	†270.6	271.4	274.1	274.1	274.1
13-6	Asphalt roofing .....	325.3	346.5	356.6	372.5	388.8	408.9	401.1	400.9	413.8	†411.2	406.2	408.4	396.9	394.5
13-7	Gypsum products .....	252.3	255.0	255.4	262.2	267.6	264.0	256.5	257.1	253.1	†251.8	251.8	249.5	253.3	252.7
13-8	Glass containers .....	261.1	274.2	274.3	274.3	274.3	294.3	294.3	294.3	294.3	†294.3	294.6	305.0	306.5	311.5
13-9	Other nonmetallic minerals .....	313.7	342.2	351.8	381.7	387.0	399.6	400.7	394.8	396.9	†397.1	400.7	400.6	402.0	415.7
14	Transportation equipment (12/68 = 100) .....	188.1	195.6	198.7	198.2	198.8	203.2	202.5	203.1	206.2	†208.8	204.2	215.8	216.0	224.1
14-1	Motor vehicles and equipment .....	190.5	198.2	200.7	200.1	200.7	205.4	204.5	205.2	208.6	†211.7	205.3	217.8	218.0	225.9
14-4	Railroad equipment .....	277.3	289.0	297.5	299.3	302.1	309.9	310.5	312.2	316.4	†318.0	320.4	323.3	323.6	323.6
15	Miscellaneous products .....	208.7	227.4	242.9	262.9	256.1	252.8	251.7	258.0	261.7	†260.1	264.4	265.0	263.8	265.4
15-1	Toys, sporting goods, small arms, ammunition .....	176.2	183.0	190.9	193.5	194.5	195.4	196.0	197.5	200.2	†201.3	201.6	202.0	202.8	205.6
15-2	Tobacco products .....	217.8	226.6	236.6	237.2	237.3	238.1	247.7	248.1	248.2	†248.2	247.6	248.9	253.9	254.2
15-3	Notions .....	191.8	196.8	203.1	203.2	207.2	216.8	217.0	217.0	221.7	†223.8	223.9	224.0	224.1	225.0
15-4	Photographic equipment and supplies .....	153.7	164.3	165.9	218.6	219.1	212.3	199.6	201.7	201.6	†200.9	201.3	201.2	207.1	207.0
15-51	Mobile homes (12/74 = 100) .....	138.1	144.1	144.7	146.8	147.1	149.4	150.4	150.6	151.2	†151.4	151.0	152.0	152.0	152.4
15-9	Other miscellaneous products .....	263.7	308.8	351.6	378.3	351.3	340.9	340.2	360.2	370.9	†364.6	380.5	381.0	368.2	371.5

<sup>1</sup> Data for August 1980 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.

**28. Producer Price Indexes, for special commodity groupings**

[1967 = 100 unless otherwise specified]

Commodity grouping	Annual average 1979	1979	1980											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
All commodities — less farm products	234.4	249.5	255.7	260.9	262.9	264.8	265.9	267.5	270.9	273.8	273.9	277.3	278.7	280.7
All foods	226.4	232.2	231.2	235.8	234.8	231.9	237.3	237.7	245.9	254.1	254.2	258.3	259.3	253.9
Processed foods	227.2	234.2	233.3	238.6	236.9	234.1	239.0	239.9	247.3	255.7	254.8	261.2	261.4	255.1
Industrial commodities less fuels	218.3	228.5	234.7	238.0	238.9	240.5	240.6	242.0	243.9	246.6	248.8	248.8	249.8	252.2
Selected textile mill products (Dec. 1975 = 100)	113.9	117.2	118.9	119.3	121.3	122.2	122.9	123.7	125.5	126.0	126.9	127.9	128.5	129.6
Hosiery	112.6	115.3	119.2	119.4	120.3	121.1	121.5	122.2	123.5	125.9	126.1	126.4	126.7	126.7
Underwear and nightwear	168.9	172.9	175.3	177.4	182.1	182.4	182.8	187.1	188.3	189.3	189.7	189.9	190.5	190.9
Chemicals and allied products, including synthetic rubber and manmade fibers and yarns	212.4	228.7	236.3	239.2	243.2	250.0	252.8	253.8	254.2	254.7	253.8	255.3	257.3	258.2
Pharmaceutical preparations	152.0	156.9	159.2	160.3	161.7	165.6	165.9	167.6	168.1	168.4	168.8	170.8	173.7	174.6
Lumber and wood products, excluding millwork and other wood products	325.0	310.8	308.6	313.9	312.2	284.7	282.0	293.5	306.9	315.5	306.7	301.4	306.5	314.2
Special metals and metal products	234.6	246.3	253.7	256.0	255.1	255.8	254.0	254.4	256.2	259.0	257.0	264.6	265.0	268.4
Fabricated metal products	236.8	245.3	247.2	248.4	252.0	255.9	256.8	258.6	259.9	261.2	262.7	264.2	265.2	266.3
Copper and copper products	299.3	217.1	227.7	260.7	240.9	222.0	212.2	208.5	214.5	220.4	214.1	216.9	216.9	210.9
Machinery and motive products	207.0	215.9	219.7	220.9	222.5	226.7	227.1	228.3	231.0	232.9	231.7	238.1	239.0	243.8
Machinery and equipment, except electrical	234.2	244.8	249.1	251.1	253.5	258.2	259.6	261.2	263.7	264.6	266.7	269.4	271.3	273.3
Agricultural machinery, including tractors	237.4	251.5	256.1	257.2	260.0	261.9	263.9	264.7	266.3	268.1	270.8	271.1	275.4	279.1
Metalworking machinery	259.1	276.0	281.9	284.4	287.5	293.6	296.8	299.7	303.3	304.5	306.5	309.4	311.4	314.4
Numerically controlled machine tools (Dec. 1971 = 100)	199.8	211.2	213.1	215.4	216.7	223.8	226.9	228.5	228.7	229.3	230.0	231.7	232.4	230.9
Total tractors	251.6	266.2	273.0	275.1	276.6	280.8	282.9	284.0	288.3	291.1	294.0	296.4	296.8	299.4
Agricultural machinery and equipment less parts	232.7	245.8	250.0	251.5	254.1	256.2	258.0	258.7	260.8	262.2	264.6	264.9	268.8	272.2
Farm and garden tractors less parts	236.1	251.1	256.0	257.5	261.5	263.7	264.7	264.8	267.2	270.3	276.3	276.3	276.9	280.8
Agricultural machinery excluding tractors less parts	238.7	252.0	256.4	257.3	258.9	260.7	263.6	265.0	265.9	266.6	266.6	267.0	274.5	277.9
Industrial valves	256.0	266.1	271.0	273.5	280.0	287.8	288.4	290.1	291.1	291.3	290.1	291.8	293.7	296.3
Industrial fittings	261.7	276.8	276.8	280.4	282.8	289.9	291.5	295.9	296.1	296.1	295.9	298.4	298.6	298.6
Abrasive grinding wheels	226.2	239.0	239.0	244.0	244.0	261.4	261.3	261.3	261.5	261.5	261.3	268.4	273.0	273.8
Construction materials	251.4	255.4	259.3	262.6	265.1	262.3	261.8	264.2	267.0	269.6	268.8	269.4	271.8	273.9

<sup>1</sup> Data for August 1980 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.

**29. Producer Price Indexes, by durability of product**

[1967 = 100]

Commodity grouping	Annual average 1979	1979	1980											
		Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
Total durable goods	226.9	237.0	243.8	247.1	247.0	247.7	247.1	248.7	251.2	253.1	252.9	257.2	257.8	260.8
Total nondurable goods	241.7	259.3	263.2	270.2	273.4	274.4	277.6	278.8	285.6	290.3	291.1	292.7	294.8	295.8
Total manufactures	228.8	242.6	248.4	253.2	255.2	257.0	258.3	259.8	263.0	265.7	265.4	268.8	270.1	271.9
Durable	226.1	236.2	242.9	245.7	245.6	246.7	246.7	248.5	251.0	252.7	252.3	256.5	257.1	260.2
Nondurable	231.1	249.0	253.9	260.8	265.2	267.9	270.7	271.7	275.9	279.5	279.4	281.8	283.9	284.2
Total raw or slightly processed goods	270.4	285.9	287.6	295.9	295.4	290.4	292.7	293.8	307.7	315.7	319.5	319.5	321.8	324.3
Durable	262.1	267.8	282.8	305.3	303.4	286.0	262.2	249.9	255.2	265.8	273.1	282.7	285.9	284.1
Nondurable	270.1	286.3	286.9	294.2	293.8	289.8	294.0	296.1	310.6	318.4	321.9	321.1	323.3	326.2

<sup>1</sup> Data for August 1980 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.

**30. Producer Price Indexes for the output of selected SIC industries**

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1979	1980											
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
<b>MINING</b>															
1011	Iron ores (12/75 = 100)	134.8	142.0	142.0	147.3	152.6	152.6	152.6	152.6	155.8	155.8	155.8	155.8	155.8	155.8
1092	Mercury ores (12/75 = 100)	234.4	300.0	308.3	335.4	330.0	337.5	337.5	322.9	331.2	329.1	335.4	338.7	343.7	325.0
1211	Bituminous coal and lignite	451.3	458.9	459.2	459.6	461.7	464.6	466.0	466.0	466.9	467.9	471.2	470.0	474.5	474.3
1311	Crude petroleum and natural gas	459.8	551.3	582.7	598.0	600.6	612.5	619.6	631.5	638.0	656.7	666.4	680.6	690.6	705.5
1442	Construction sand and gravel	217.6	225.6	238.8	243.2	243.9	248.6	249.3	250.0	254.8	255.8	251.9	261.4	263.5	263.4
1455	Kaolin and ball clay (6/76 = 100)	125.8	129.3	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6	136.6	137.2	132.1	133.7
<b>MANUFACTURING</b>															
2011	Meat packing plants	247.4	243.9	240.8	240.1	238.9	225.6	227.2	230.0	249.1	265.3	257.1	257.9	251.3	248.9
2013	Sausages and other prepared meats	219.6	220.0	211.9	207.8	209.4	197.9	193.3	190.9	213.7	233.0	239.3	246.4	249.0	246.8
2016	Poultry dressing plants	187.1	188.5	186.1	178.2	173.5	164.5	164.7	164.2	214.2	212.1	226.0	211.3	205.9	201.8
2021	Creamery butter	228.8	243.1	241.8	242.8	243.4	252.7	253.7	255.7	256.3	268.5	265.8	273.2	273.3	274.8

See footnote at end of table.

30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967 = 100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1980												
			1979 Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
<b>MANUFACTURING—Continued</b>															
2022	Cheese natural and processed (12/72 = 100)	189.2	193.9	195.4	192.9	195.7	201.9	201.9	202.5	203.4	206.8	209.8	215.5	216.8	217.9
2024	Ice cream and frozen desserts (12/72 = 100)	172.5	180.1	180.9	181.5	185.0	191.3	192.1	195.2	195.2	195.5	196.1	199.5	199.8	207.5
2033	Canned fruits and vegetables	208.6	212.2	213.4	213.6	214.7	216.3	217.3	219.9	222.9	223.4	225.4	228.5	231.8	232.8
2034	Dehydrated food products (12/73 = 100)	174.2	157.3	157.6	159.0	156.4	157.5	156.4	156.3	157.7	159.6	159.9	162.6	168.7	170.5
2041	Flour mills (12/71 = 100)	173.1	184.1	181.7	183.6	181.6	175.0	182.3	180.8	188.6	193.1	196.1	201.5	205.1	199.5
2044	Rice milling	204.0	218.1	217.5	233.0	258.0	260.4	254.5	236.0	225.3	219.9	225.9	237.2	265.8	287.2
2048	Prepared foods, n.e.c. (12/75 = 100)	120.4	125.0	122.0	122.6	121.5	116.5	116.9	116.2	122.2	126.6	130.0	129.5	133.6	134.2
2061	Raw cane sugar	210.3	248.4	260.5	374.9	276.0	320.2	456.1	402.4	381.8	484.0	458.9	588.2	563.8	402.9
2063	Beet sugar	202.6	223.2	224.6	293.2	305.7	296.6	339.9	348.0	342.3	365.5	384.7	429.4	476.2	389.6
2067	Chewing gum	245.8	262.3	262.3	262.3	281.9	282.0	282.0	282.0	282.4	282.4	302.4	322.4	322.9	322.9
2074	Cottonseed oil mills	207.4	205.6	182.4	184.4	170.4	154.7	150.4	155.1	191.3	215.1	232.9	218.7	231.7	228.0
2075	Soybean oil mills	245.0	241.9	235.1	230.4	222.3	211.9	212.9	208.6	37.4	256.9	274.9	278.5	290.5	270.2
2077	Animal and marine fats and oils	338.4	300.7	298.1	296.2	297.4	274.0	262.9	238.9	274.5	297.4	307.0	311.0	317.2	310.8
2083	Malt	203.7	228.2	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1	244.1	267.4	267.4	267.4
2085	Distilled liquor, except brandy (12/75 = 100)	113.7	118.1	118.6	118.7	118.7	118.7	118.9	120.5	121.0	127.7	127.7	127.9	128.5	129.2
2091	Canned and cured seafoods (12/73 = 100)	146.4	159.8	160.9	164.0	165.7	170.2	173.1	175.3	175.9	177.5	178.6	180.0	183.1	183.4
2092	Fresh or frozen packaged fish	381.6	388.4	389.7	385.5	391.6	370.5	360.0	361.2	363.7	365.2	355.5	354.3	353.8	354.4
2095	Roasted coffee (12/72 = 100)	254.5	287.5	281.3	273.9	274.0	273.9	273.9	283.1	274.5	274.7	263.9	257.0	252.5	248.5
2098	Macaroni and spaghetti	199.7	227.7	227.7	227.7	227.7	230.5	230.5	230.5	230.5	230.5	239.3	243.6	243.6	243.6
2111	Cigarettes	225.0	234.3	245.8	245.9	246.0	246.3	257.3	257.4	257.4	257.4	257.2	257.6	263.4	263.5
2121	Cigars	147.3	150.4	151.2	154.2	154.4	155.3	155.3	159.8	159.9	159.9	157.2	161.0	161.3	162.4
2131	Chewing and smoking tobacco	248.4	260.8	260.9	265.1	267.3	279.2	278.6	278.6	279.5	279.7	274.9	290.1	290.2	294.0
2211	Weaving mills, cotton (12/72 = 100)	195.3	201.9	204.4	206.9	209.5	211.3	212.9	212.9	217.7	219.0	221.4	223.0	223.9	224.8
2221	Weaving mills, synthetic (12/77 = 100)	115.0	117.2	118.1	118.3	122.7	123.0	122.4	121.2	123.0	124.9	126.1	129.9	132.5	132.0
2251	Women's hosiery, except socks (12/75 = 100)	97.5	100.2	103.3	103.3	104.3	105.0	105.4	105.4	105.4	108.8	108.8	108.9	109.0	109.0
2254	Knit underwear mills	173.3	178.3	182.5	184.1	186.5	186.8	187.1	190.4	192.6	192.9	194.0	194.1	194.6	195.0
2257	Circular knit fabric mills (6/76 = 100)	95.2	98.6	99.3	100.4	103.4	104.0	104.0	105.0	105.4	105.7	105.5	106.4	106.8	107.2
2261	Finishing plants, cotton (6/76 = 100)	121.8	126.6	128.7	129.6	131.9	132.4	134.5	134.6	137.2	137.3	136.8	139.0	139.3	140.1
2262	Finishing plants, synthetics, silk (6/76 = 100)	107.2	109.8	110.3	109.4	110.4	110.7	111.8	112.1	113.8	114.1	115.1	117.3	117.9	120.4
2272	Tufted carpets and rugs	128.0	130.1	134.7	134.5	137.0	137.3	137.1	137.4	137.7	138.3	138.3	139.0	140.3	145.3
2281	Yarn mills, except wool (12/71 = 100)	176.7	183.7	188.0	197.8	199.5	203.7	204.5	202.8	202.9	204.3	205.7	207.8	209.9	215.2
2282	Throwing and winding mills (6/76 = 100)	107.4	109.2	110.1	110.6	112.0	114.8	118.1	115.8	115.0	115.8	115.3	115.8	116.0	118.4
2284	Thread mills (6/76 = 100)	123.7	128.6	128.7	129.2	130.0	134.6	140.0	142.9	143.0	143.1	143.1	143.8	143.9	143.9
2298	Cordage and twine (12/77 = 100)	107.0	114.9	115.0	117.2	118.5	123.6	123.8	125.0	125.0	125.0	125.0	127.1	129.2	129.3
2311	Men's and boys' suits and coats	204.2	206.7	209.0	208.1	208.3	209.7	210.9	211.6	214.9	214.9	214.9	215.9	215.9	216.1
2321	Men's and boys' shirts and nightwear	194.0	196.3	197.7	196.2	199.3	204.0	203.7	205.1	206.5	206.7	206.7	206.9	207.5	208.4
2322	Men's and boys' underwear	188.9	194.0	199.8	202.0	204.0	204.2	204.3	208.5	211.1	211.2	212.8	212.8	212.8	212.8
2323	Men's and boys' neckwear (12/75 = 100)	106.5	110.9	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	112.4	115.4
2327	Men's and boys' separate trousers	161.5	163.5	164.2	174.2	174.3	174.9	174.9	175.1	175.3	175.3	175.3	175.3	175.3	180.3
2328	Men's and boys' work clothing	208.6	219.6	225.1	233.6	235.4	241.2	241.8	242.6	244.8	244.1	243.8	243.9	243.9	244.3
2331	Women's and misses' blouses and waists (6/78 = 100)	102.0	106.8	107.1	106.6	106.7	107.6	107.6	107.8	111.4	112.6	112.6	112.8	112.8	114.0
2335	Women's and misses' dresses (12/77 = 100)	107.0	108.8	112.9	113.8	113.8	113.9	113.9	114.0	114.0	115.4	115.4	116.3	116.3	116.3
2341	Women's and children's underwear (12/72 = 100)	144.3	147.7	149.4	150.0	153.1	153.1	153.2	155.0	155.4	156.9	155.7	156.0	157.1	158.7
2342	Brassieres and allied garments (12/75 = 100)	116.9	118.8	119.7	122.9	124.9	125.4	125.4	126.6	127.8	129.0	129.4	129.4	129.5	129.5
2361	Children's dresses and blouses (12/77 = 100)	104.8	105.6	105.3	105.3	105.5	106.3	105.6	108.0	112.7	112.7	111.9	112.3	114.8	117.0
2381	Fabric dress and work gloves	241.4	246.9	257.7	261.7	265.0	267.5	271.1	271.1	271.1	271.1	271.1	271.1	272.1	272.1
2394	Canvas and related products (12/77 = 100)	109.3	120.1	122.1	122.8	123.4	123.4	123.4	123.4	123.4	123.4	124.5	125.6	125.6	126.6
2396	Automotive and apparel trimmings (12/77 = 100)	111.3	114.3	114.3	114.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	122.3	131.0	131.0
2421	Sawmills and planing mills (12/71 = 100)	251.0	237.9	238.8	239.5	239.1	215.8	209.4	218.1	228.9	234.2	228.0	222.1	226.8	233.5
2436	Softwood veneer and plywood (12/75 = 100)	152.3	138.9	138.5	143.7	139.8	121.9	130.3	140.5	150.4	160.7	150.3	149.2	152.3	158.2
2439	Structural wood members, n.e.c. (12/75 = 100)	151.2	158.2	158.2	158.2	158.3	158.2	152.1	152.1	152.1	152.2	155.5	158.9	157.0	157.1
2448	Wood pallets and skids (12/75 = 100)	166.5	170.5	168.8	167.0	166.3	164.6	162.8	159.7	157.1	156.0	154.9	154.6	154.7	154.1
2451	Mobile homes (12/74 = 100)	138.2	144.1	144.8	146.9	147.2	149.5	150.5	150.7	151.3	151.4	151.1	152.1	152.1	152.4
2492	Particleboard (12/75 = 100)	139.1	134.5	136.9	150.7	158.9	161.9	167.3	171.7	168.7	169.4	162.5	158.6	161.6	164.7
2511	Wood household furniture (12/71 = 100)	165.5	174.5	177.5	178.2	178.9	180.0	182.2	183.5	185.1	186.4	186.0	187.0	188.6	189.8
2512	Upholstered household furniture (12/71 = 100)	150.0	155.7	155.9	158.7	158.7	160.9	161.1	162.5	166.1	166.2	163.4	164.9	165.8	167.6
2515	Mattresses and bedsprings	165.7	172.3	169.9	170.5	170.5	172.8	176.0	176.0	180.8	186.4	186.3	186.3	186.4	186.4
2521	Wood office furniture	215.3	221.9	226.2	233.8	233.8	233.9	233.9	234.0	235.5	235.5	236.2	240.3	239.6	240.8
2611	Pulp mills (12/73 = 100)	200.6	213.9	225.2	225.1	225.5	243.8	243.9	243.9	244.5	244.5	246.6	248.3	249.0	249.1
2621	Paper mills, except building (12/74 = 100)	130.2	136.8	139.0	139.8	142.5	145.0	145.8	146.2	146.4	146.7	146.9	148.5	149.5	151.0
2631	Paperboard mills (12/74 = 100)	119.8	127.6	131.3	132.3	134.6	137.9	139.5	141.2	140.3	141.1	141.6	142.5	143.7	142.8
2647	Sanitary paper products	277.7	290.9	295.8	303.9	311.7	316.7	319.3	321.2	327.4	331.1	332.1	333.6	335.6	339.2
2654	Sanitary food containers	188.7	199.9	206.2	204.8	208.9	212.9	215.5	217.2	218.2	220.3	223.4	223.4	223.4	226.5
2655	Fiber cans, drums, and similar products (12/75 = 100)	134.8	142.3	143.2	143.2	143.3	146.6	148.7	150.6	155.2	155.2	155.2	155.5		



30. Continued—Producer Price Indexes for the output of selected SIC industries

[1967=100 unless otherwise specified]

1972 SIC code	Industry description	Annual average 1979	1980												
			Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug. <sup>1</sup>	Sept.	Oct.	Nov.	Dec.
3021	Rubber and plastic footwear (12/71 = 100)	171.1	173.5	173.5	173.6	173.6	173.7	173.7	173.8	181.8	181.9	182.1	182.7	183.1	183.0
3031	Reclaimed rubber (12/73 = 100)	170.0	179.5	179.7	180.0	184.9	185.9	186.5	186.5	186.5	185.9	183.9	182.0	182.0	184.7
3079	Miscellaneous plastic products (6/78 = 100)	109.9	115.6	116.6	117.0	119.1	120.3	120.5	122.2	122.7	123.9	123.6	123.7	123.8	124.2
3111	Leather tanning and finishing (12/77 = 100)	167.5	153.5	164.3	160.8	146.7	140.8	137.9	134.6	137.7	147.9	141.0	129.1	149.3	156.6
3142	House slippers (12/75 = 100)	135.8	135.9	143.5	145.4	145.4	145.4	145.4	145.4	151.1	151.1	152.5	154.9	159.7	154.9
3143	Men's footwear, except athletic (12/75 = 100)	152.7	160.3	160.3	157.9	158.5	158.5	158.5	158.5	158.5	159.5	161.6	161.7	162.4	162.4
3144	Women's footwear, except athletic	194.5	204.0	205.6	206.3	213.5	213.8	213.8	213.8	214.2	214.3	215.2	217.1	217.1	217.2
3171	Women's handbags and purses (12/75 = 100)	128.9	131.8	131.9	131.9	132.1	132.1	140.8	140.9	140.9	140.9	140.9	140.9	140.9	140.9
3211	Flat glass (12/71 = 100)	151.7	153.9	157.6	157.6	157.9	160.8	160.8	158.9	159.5	162.6	162.8	163.8	166.4	166.3
3221	Glass containers	261.1	274.2	274.3	274.3	274.3	294.2	294.2	294.2	294.2	294.2	294.5	304.9	306.4	311.4
3241	Cement, hydraulic	283.1	286.2	305.7	305.9	306.3	312.6	313.8	313.8	313.3	313.1	309.4	309.0	307.6	307.6
3251	Brick and structural clay tile	258.6	262.7	268.3	270.4	271.9	276.4	278.5	278.5	277.6	278.5	282.6	283.0	283.8	283.8
3253	Ceramic wall and floor tile (12/75 = 100)	117.2	130.3	130.4	130.4	130.4	130.4	117.6	117.6	117.6	117.6	117.6	120.1	120.1	120.1
3255	Clay refractories	242.1	254.0	255.1	259.4	263.7	273.9	275.6	275.9	279.2	279.5	281.3	281.6	282.1	282.1
3259	Structural clay products, n.e.c.	189.2	196.5	196.3	198.1	196.4	203.1	204.1	204.4	204.7	205.0	205.2	205.3	205.4	205.6
3261	Vitreous plumbing fixtures	207.4	217.3	219.2	224.6	226.7	227.6	236.1	235.8	237.2	240.4	241.1	241.5	242.6	245.0
3262	Vitreous china food utensils	295.2	308.2	308.2	308.2	308.2	313.4	313.4	318.6	318.6	318.3	318.7	327.4	327.4	327.4
3263	Fine earthenware food utensils	244.9	294.3	294.3	294.3	294.3	295.1	293.9	294.7	294.6	294.6	296.1	297.6	297.6	297.6
3269	Pottery products, n.e.c. (12/75 = 100)	132.5	150.1	150.1	150.1	150.1	151.4	151.5	152.7	152.7	152.7	153.2	155.4	155.4	155.4
3271	Concrete block and brick	233.0	240.2	249.5	250.6	252.3	259.3	259.4	259.4	259.5	259.5	260.4	259.3	259.4	259.4
3273	Ready-mixed concrete	248.2	257.0	270.8	272.6	275.5	278.8	281.5	282.5	282.6	282.6	283.5	282.8	282.8	283.3
3274	Lime (12/75 = 100)	141.0	144.6	149.5	153.5	155.6	157.1	157.3	157.7	159.6	160.2	158.8	160.9	161.0	162.0
3275	Gypsum products	252.8	255.6	255.9	262.8	268.1	264.6	257.0	257.5	253.5	252.3	252.2	250.0	253.7	253.1
3291	Abrasive products (12/71 = 100)	187.8	196.5	199.4	203.3	203.9	212.0	211.8	213.5	215.2	215.7	217.2	218.8	220.2	220.6
3297	Nonclay refractories (12/74 = 100)	145.6	152.3	152.6	153.3	154.2	157.4	159.7	161.2	162.8	164.9	164.9	167.9	167.6	167.6
3312	Blast furnaces and steel mills	288.8	297.7	302.4	302.9	304.1	312.0	313.3	313.5	308.6	308.5	308.5	314.8	316.6	320.0
3313	Electrometallurgical products (12/75 = 100)	111.9	116.7	117.8	117.8	118.0	118.7	118.6	117.1	117.1	117.1	117.2	117.3	117.3	117.3
3316	Cold finishing of steel shapes	265.5	273.9	274.1	277.1	277.2	285.9	288.1	288.2	282.2	282.3	282.3	288.1	288.5	293.0
3317	Steel pipes and tubes	268.6	273.2	280.5	281.0	283.2	286.8	286.9	290.4	292.4	292.6	292.6	294.3	302.4	308.5
3321	Gray iron foundries (12/68 = 100)	255.8	269.7	273.7	276.9	277.2	279.8	280.5	282.5	283.0	283.2	280.7	288.2	288.6	289.2
3333	Primary zinc	265.7	265.7	266.1	272.4	279.6	274.3	268.2	268.6	255.9	255.9	260.9	269.9	279.3	287.5
3334	Primary aluminum	243.1	266.6	267.0	267.0	267.8	276.0	287.0	290.1	312.1	312.2	313.7	327.6	329.9	329.4
3351	Copper rolling and drawing	213.2	250.0	231.0	253.1	238.6	227.4	222.8	220.2	222.8	226.2	220.2	222.2	223.1	223.1
3353	Aluminum sheet plate and foil (12/75 = 100)	148.9	151.7	153.2	153.5	155.5	157.8	157.6	157.8	158.2	157.6	157.6	161.4	163.3	165.1
3354	Aluminum extruded products (12/75 = 100)	149.3	158.0	158.8	158.9	160.9	167.7	167.7	168.3	168.4	168.1	173.1	176.3	176.4	176.4
3355	Aluminum rolling, drawing, n.e.c. (12/75 = 100)	132.4	140.5	140.7	141.0	141.1	143.8	145.2	146.7	147.4	147.6	147.6	150.5	151.3	151.2
3411	Metal cans	264.1	274.7	276.6	277.3	279.9	295.1	295.2	294.9	295.6	295.9	296.1	297.9	297.2	297.4
3425	Hand saws and saw blades (12/72 = 100)	142.5	163.8	173.1	174.6	176.4	178.0	181.5	181.9	183.5	185.4	185.6	186.6	196.9	190.2
3431	Metal sanitary ware	224.8	232.9	237.8	242.1	243.1	245.5	249.7	249.9	250.9	251.4	251.3	251.5	252.1	253.7
3465	Automotive stampings (12/75 = 100)	128.5	132.4	132.4	132.4	132.7	133.5	133.8	137.8	137.8	139.8	140.4	140.5	141.2	141.5
3482	Small arms ammunition (12/75 = 100)	132.2	143.2	143.2	143.2	142.6	141.7	141.4	144.6	145.1	147.3	150.1	150.6	151.1	161.3
3493	Steel springs, except wire	219.8	225.6	226.1	226.6	228.6	229.2	229.2	230.3	230.3	230.8	231.7	232.8	232.9	233.9
3494	Valves and pipe fittings (12/71 = 100)	204.8	214.3	216.9	219.6	223.1	229.4	229.9	231.8	232.5	232.7	232.3	234.7	235.6	237.6
3498	Fabricated pipe and fittings	289.2	297.4	301.7	301.8	303.5	313.0	313.1	313.8	317.2	317.2	319.9	325.0	329.9	329.9
3519	Internal combustion engines, n.e.c.	243.3	254.9	260.5	261.8	266.1	270.6	271.6	271.7	276.8	278.6	281.8	283.8	287.1	288.5
3531	Construction machinery (12/76 = 100)	125.1	130.9	134.6	135.7	136.3	138.6	139.5	140.3	141.8	142.7	143.5	145.1	145.8	146.7
3532	Mining machinery (12/72 = 100)	229.4	236.4	245.8	247.1	247.8	256.0	257.3	258.2	259.4	262.0	263.4	265.2	267.9	269.6
3533	Oilfield machinery and equipment	291.6	309.1	314.2	316.2	318.9	329.8	333.1	337.4	342.6	344.7	344.7	350.8	357.8	360.9
3534	Elevators and moving stairways	215.9	220.9	225.6	226.1	229.1	232.6	234.1	242.8	244.2	243.8	246.4	248.3	248.4	249.5
3542	Machine tools, metal forming types (12/71 = 100)	242.8	256.7	266.1	268.1	269.4	274.3	275.1	279.2	284.3	285.3	286.2	287.1	287.9	292.5
3546	Power driven hand tools (12/76 = 100)	119.3	124.4	126.3	126.6	127.4	129.0	131.2	131.1	133.5	134.5	134.7	136.3	136.4	137.6
3552	Textile machinery (12/69 = 100)	194.7	200.6	202.6	205.2	207.0	213.4	213.6	217.0	221.7	222.1	222.2	223.7	224.5	226.0
3553	Woodworking machinery (12/72 = 100)	185.4	192.9	201.2	201.6	205.1	212.3	212.1	213.7	215.9	216.0	216.5	217.4	218.1	221.9
3576	Scales and balances, excluding laboratory	194.2	201.0	204.2	205.8	206.6	207.5	208.2	208.6	215.4	226.2	217.0	217.1	217.7	218.0
3592	Carburetors, pistons, rings, valves (6/76 = 100)	139.6	145.3	147.5	147.8	148.6	152.6	153.0	153.5	158.6	159.3	159.9	164.7	165.0	167.4
3612	Transformers	168.1	171.6	172.9	176.6	177.5	180.5	181.5	182.9	186.0	190.9	190.9	194.0	192.8	193.4
3623	Welding apparatus, electric (12/72 = 100)	192.2	200.3	201.3	203.3	206.0	207.0	209.2	211.0	212.1	212.1	211.4	213.8	214.2	215.5
3631	Household cooking equipment (12/75 = 100)	122.2	126.3	128.7	129.3	129.4	129.7	133.1	134.7	134.9	134.4	134.6	134.7	134.9	137.1
3632	Household refrigerators, freezers (6/76 = 100)	113.6	116.3	117.0	118.5	118.6	119.3	119.4	122.0	122.2	122.2	121.9	122.8	123.7	123.8
3633	Household laundry equipment (12/73 = 100)	148.8	153.5	154.0	156.6	158.3	160.3	161.7	162.3	161.2	163.6	165.5	166.1	166.6	167.3
3635	Household vacuum cleaners	141.7	145.8	146.1	149.7	151.3	148.6	149.3	155.8	158.4	158.5	152.1	152.2	152.2	152.5
3636	Sewing machines (12/75 = 100)	121.4	122.6	122.6	129.2	129.2	129.2	129.2	130.0	130.0	129.4	129.7	129.7	129.7	129.7
3641	Electric lamps	235.2	240.8	248.5	252.4	251.8	252.3	251.3	258.1	266.3	268.1	267.8	268.9	269.3	266.2
3644	Noncurrent-carrying wiring devices (12/72 = 100)	204.6	215.0	212.9	215.2	215.3	217.4	218.2	220.4	220.3	220.7	223.0	223.8	225.0	231.2
3646	Commercial lighting fixtures (12/75 = 100)	126.5	131.9	133.4	134.3	136.2	138.0	138.5	139.2	139.2	140.4	141.9	142.3	143.4	145.0
3648	Lighting equipment, n.e.c. (12/75 = 100)	126.0	130.5	133.0	133.2	134.6	139.4	140.2	140.7	140.7	140.9	143.3	143.4	144.5	144.9
3671	Electron tubes receiving type	220.3	227.7	229.1	229.4	229.7	254.0	254.7	255.2	255.5	255.6	255.7	264.6	264.8	272.0
3674	Semiconductors and related devices	84.8	86.4	86.8	88.5	89.3	90.4	91.2	92.0	92.1	91.8	91.7	91.7	91.1	91.1
3675	Electronic capacitors (12/75 = 100)	125.2	138.0	147.7	149.1	151.3	157.0	160.7	160.5	168.6	172.6	174.0	170.0	170.1	170.1
3676	Electronic resistors (12/75 = 100)	124.4	127.3	127.4	128.8	131.8	131.9	133.0	135.2	135.3	136.3	136.9	137.7	137.7	137.8
3678	Electronic connectors (12/75 = 100)	131.7	142.1	145.1	146.4	146.7	146.5	146.8	148.7	148.9	149.1	149.7	150.0</		

## 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 31 through 34, 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 private 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 1976 issue of the *Review*, tables 31-34 were revised to reflect changeover to the new series—private business sector and nonfarm business sector—which differ from the previously published total private economy and nonfarm sector in that output imputed for owner-occupied dwellings and the household and institutions sectors, as well as the statistical discrepancy, are omitted. For a detailed explanation, see J. R. Norsworthy and L. J. Fulco, "New sector definitions for productivity series," *Monthly Labor Review*, October 1976, pages 40-42.

**31. Annual indexes of productivity, hourly compensation, unit costs, and prices, 1950-79**

[1967=100]

Item	1950	1955	1960	1965	1970	1972	1973	1974	1975	1976	1977	1978	1979
<b>Private business sector:</b>													
Output per hour of all persons	61.2	70.6	79.0	95.1	104.4	111.5	113.6	110.2	112.6	116.6	118.7	119.3	118.3
Compensation per hour	42.6	56.1	72.2	88.7	123.3	139.8	151.3	165.2	181.7	197.6	213.3	231.4	253.1
Real compensation per hour	59.2	69.9	81.4	93.9	106.0	111.6	113.6	111.8	112.7	115.9	117.5	118.4	116.4
Unit labor cost	69.6	79.4	91.4	93.3	118.2	125.4	133.2	149.8	161.3	169.5	179.7	194.0	214.0
Unit nonlabor payments	73.1	80.4	85.4	95.9	105.8	118.9	124.9	130.3	150.3	157.9	165.5	174.3	184.4
Implicit price deflator	70.8	79.8	89.3	94.2	113.9	123.2	130.3	143.1	157.5	165.5	174.8	187.2	203.8
<b>Nonfarm business sector:</b>													
Output per hour of all persons	67.2	74.6	81.2	96.0	103.2	110.1	112.0	108.6	110.7	114.6	116.4	116.9	115.7
Compensation per hour	45.6	59.0	74.5	89.4	121.9	138.4	149.2	163.0	179.3	194.2	209.6	227.5	247.9
Real compensation per hour	63.3	73.6	84.1	94.6	104.8	110.5	112.1	110.4	111.2	113.9	115.5	116.4	114.0
Unit labor cost	68.0	79.1	91.7	93.2	118.1	125.7	133.2	150.1	161.9	169.5	180.1	194.6	214.4
Unit nonlabor payments	71.4	80.1	84.4	95.8	106.0	117.4	117.8	124.7	145.9	156.0	163.8	169.9	178.6
Implicit price deflator	69.1	79.4	89.2	94.1	114.0	122.9	127.9	141.4	156.4	164.8	174.5	186.1	202.1
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	( <sup>1</sup> )	( <sup>1</sup> )	80.6	96.9	103.7	110.6	112.9	108.7	112.2	115.8	117.0	118.0	117.5
Compensation per hour	( <sup>1</sup> )	( <sup>1</sup> )	76.0	90.1	121.8	136.7	147.6	161.7	177.9	192.7	208.0	225.0	244.9
Real compensation per hour	( <sup>1</sup> )	( <sup>1</sup> )	85.7	95.3	104.7	109.1	110.9	109.5	110.4	113.0	114.6	115.2	112.7
Unit labor cost	( <sup>1</sup> )	( <sup>1</sup> )	94.3	93.0	117.4	123.7	130.7	148.8	158.6	166.4	177.7	190.6	208.4
Unit nonlabor payments	( <sup>1</sup> )	( <sup>1</sup> )	90.8	100.1	103.5	114.8	116.8	124.8	148.1	156.8	164.4	170.6	179.5
Implicit price deflator	( <sup>1</sup> )	( <sup>1</sup> )	93.1	95.5	112.5	120.5	125.8	140.2	154.9	163.0	173.0	183.5	198.1
<b>Manufacturing:</b>													
Output per hour of all persons	65.8	75.0	79.8	98.4	105.0	115.7	118.9	113.0	118.8	124.0	127.7	128.2	129.2
Compensation per hour	45.6	61.2	78.0	91.1	122.3	136.6	146.5	161.7	181.1	196.1	212.7	229.9	250.8
Real compensation per hour	63.3	76.3	88.0	96.4	105.1	109.0	110.1	109.5	112.3	115.0	117.2	117.6	115.3
Unit labor cost	69.4	81.6	97.7	92.6	116.5	118.1	123.2	143.1	152.4	158.2	166.6	179.4	194.1
Unit nonlabor payments	82.3	88.6	92.3	103.3	96.2	107.4	106.4	105.6	128.4	139.6	147.4	152.4	154.4
Implicit price deflator	73.3	83.8	96.1	95.9	110.3	114.8	118.0	131.6	145.1	152.5	160.7	171.1	181.9

<sup>1</sup> Not available.

**32. Annual changes in productivity, hourly compensation, unit costs, and prices, 1969-79**

Item	Year											Annual rate of change	
	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1950-79	1960-79
<b>Private business sector:</b>													
Output per hour of all persons	0.2	0.7	3.3	3.4	1.9	-3.0	2.1	3.5	1.8	0.5	-0.8	2.5	2.1
Compensation per hour	6.9	7.2	6.7	6.2	8.2	9.2	10.0	8.8	8.0	8.5	9.4	5.9	6.9
Real compensation per hour	1.4	1.2	2.3	2.8	1.9	-1.6	.8	2.8	1.4	0.8	-1.7	2.5	2.0
Unit labor cost	6.6	6.4	3.3	2.8	6.2	12.5	7.7	5.0	6.0	8.0	10.3	3.3	4.7
Unit nonlabor payments	1.0	1.2	6.8	5.3	5.0	4.4	15.3	5.1	4.8	5.3	5.8	3.0	4.2
Implicit price deflator	4.7	4.7	4.4	3.6	5.8	9.8	10.1	5.0	5.6	7.1	8.9	3.2	4.5
<b>Nonfarm business sector:</b>													
Output per hour of all persons	-2	.2	3.0	3.6	1.7	-3.1	2.0	3.5	1.5	.5	-1.1	2.1	1.9
Compensation per hour	6.4	6.8	6.7	6.4	7.8	9.2	10.0	8.3	7.9	8.6	9.0	5.6	6.7
Real compensation per hour	1.0	.8	2.3	3.0	1.5	-1.6	.8	2.4	1.4	.8	-2.1	2.2	1.7
Unit labor cost	6.7	6.5	3.5	2.7	6.0	12.7	7.9	4.7	6.3	8.0	10.2	3.4	4.7
Unit nonlabor payments	.4	1.6	6.7	3.8	.3	5.9	17.0	6.9	5.0	3.7	5.1	2.9	4.0
Implicit price deflator	4.5	4.9	4.5	3.1	4.1	10.5	10.6	5.4	5.9	6.6	8.6	3.3	4.5
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	.4	.0	3.3	3.1	2.1	-3.7	3.2	3.2	1.1	.9	-.4	( <sup>1</sup> )	1.9
Compensation per hour	6.8	6.8	6.2	5.7	7.9	9.6	10.0	8.3	7.9	8.2	8.9	( <sup>1</sup> )	6.5
Real compensation per hour	1.3	.8	1.8	2.4	1.6	-1.3	.8	2.4	1.4	.5	-2.2	( <sup>1</sup> )	1.6
Unit labor cost	6.3	6.8	2.7	2.5	5.7	13.8	6.6	4.9	6.8	7.3	9.3	( <sup>1</sup> )	4.5
Unit nonlabor payments	0	.5	7.3	3.3	1.8	6.8	18.7	5.8	4.9	3.8	5.2	( <sup>1</sup> )	3.6
Implicit price deflator	4.1	4.6	4.2	2.8	4.4	11.5	10.5	5.2	6.1	6.1	7.9	( <sup>1</sup> )	4.2
<b>Manufacturing:</b>													
Output per hour of all persons	1.3	-.1	5.2	4.8	2.8	-5.0	5.1	4.4	3.0	.4	0.8	2.5	2.5
Compensation per hour	6.6	7.1	6.2	5.2	7.2	10.4	12.0	8.3	8.4	8.1	9.1	5.5	6.5
Real compensation per hour	1.2	1.1	1.9	1.8	.9	-.5	2.6	2.4	1.9	.4	-2.0	2.1	1.5
Unit labor cost	5.2	7.2	.9	.4	4.3	16.1	6.6	3.8	5.3	7.7	8.2	2.9	3.9
Unit nonlabor payments	-.4	-3.2	9.2	2.3	-1.0	-.7	21.6	8.8	5.5	3.4	1.3	1.9	2.5
Implicit price deflator	2.3	4.2	3.1	1.0	2.8	11.5	10.2	5.1	5.4	6.5	6.3	2.6	3.5

<sup>1</sup> Not available.

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

[1967=100]

Item	Annual average		Quarterly indexes										
			1978				1979				1980		
	1978	1979	I	II	III	IV	I	II	III	IV	I	II	III
<b>Private business sector:</b>													
Output per hour of all persons	119.3	118.3	118.5	119.1	119.7	119.8	118.9	118.3	117.8	117.7	117.7	116.8	116.9
Compensation per hour	231.4	253.1	224.6	228.8	233.7	238.4	244.8	250.4	255.7	260.3	267.6	275.3	281.1
Real compensation per hour	118.4	116.4	118.8	118.3	118.2	117.9	117.9	117.0	115.8	114.2	112.9	112.5	112.9
Unit labor cost	194.0	214.0	189.4	192.1	195.2	199.0	205.9	211.7	217.0	221.1	227.5	235.6	240.4
Unit nonlabor payments	174.3	184.4	164.8	173.9	177.0	181.3	180.8	183.7	185.6	188.3	190.0	192.3	200.0
Implicit price deflator	187.2	203.8	180.9	185.8	188.9	192.9	197.2	202.0	206.1	209.7	214.5	220.6	226.4
<b>Nonfarm business sector:</b>													
Output per hour of all persons	116.9	115.7	116.2	116.7	117.4	117.6	116.6	115.4	115.0	115.2	114.9	113.8	114.3
Compensation per hour	227.5	247.9	221.0	224.9	229.5	234.4	240.2	244.9	249.9	255.6	262.2	269.0	274.7
Real compensation per hour	116.4	114.0	116.9	116.3	116.1	115.9	115.7	114.4	113.2	112.1	110.6	109.9	110.3
Unit labor cost	194.6	214.4	190.2	192.8	195.6	199.3	206.0	212.1	217.3	221.8	228.2	236.3	240.5
Unit nonlabor payments	169.9	178.6	161.1	169.1	173.0	176.1	174.3	177.6	180.5	182.5	185.9	190.0	197.5
Implicit price deflator	186.1	202.1	180.2	184.7	187.8	191.4	195.1	200.3	204.7	208.4	213.7	220.4	225.8
<b>Nonfinancial corporations:</b>													
Output per hour of all employees	118.0	117.5	116.9	118.0	118.5	118.8	118.1	117.3	117.2	117.1	117.1	116.5	( <sup>1</sup> )117.9
Compensation per hour	225.0	244.9	219.0	222.6	226.9	231.3	237.3	242.1	247.1	252.1	258.8	265.7	( <sup>1</sup> )271.8
Real compensation per hour	115.2	112.7	115.8	115.1	114.8	114.4	114.3	113.1	111.9	110.6	109.2	108.5	( <sup>1</sup> )109.1
Total unit costs	193.3	210.4	190.8	191.6	194.0	196.8	202.3	208.0	213.2	218.0	224.3	233.6	( <sup>1</sup> )238.2
Unit labor cost	190.6	208.4	187.3	188.7	191.5	194.8	201.0	206.4	210.8	215.3	221.1	228.0	( <sup>1</sup> )230.7
Unit nonlabor costs	201.8	216.6	201.5	200.8	201.6	203.1	206.5	213.2	220.5	226.1	234.4	250.8	( <sup>1</sup> )261.7
Unit profits	127.2	127.8	107.1	129.2	132.7	138.7	130.3	129.2	127.5	124.0	120.5	108.3	( <sup>1</sup> )115.1
Implicit price deflator	183.5	198.1	178.3	182.3	184.9	188.2	191.6	196.3	200.4	204.0	208.9	215.0	( <sup>1</sup> )219.9
<b>Manufacturing:</b>													
Output per hour of all persons	128.2	129.2	126.4	127.7	129.3	129.4	128.4	128.7	129.5	129.1	128.2	126.7	126.4
Compensation per hour	229.9	250.8	223.9	227.1	231.7	236.6	242.3	248.0	252.7	258.0	264.6	274.1	282.1
Real compensation per hour	117.6	115.3	118.4	117.5	117.2	117.0	116.7	115.9	114.4	113.2	111.6	112.0	113.2
Unit labor cost	179.4	194.1	177.2	177.8	179.1	182.8	188.8	192.6	195.1	199.9	206.4	216.4	223.1

r = revised.



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

[1967 = 100]

Item	Quarterly percent change at annual rate						Percent change from same quarter a year ago					
	I 1979 to II 1979	II 1979 to III 1979	III 1979 to IV 1979	IV 1979 to I 1980	I 1980 to II 1980	II 1980 to III 1980	II 1978 to II 1979	III 1978 to III 1979	IV 1978 to IV 1979	I 1979 to I 1980	II 1979 to II 1980	III 1979 to III 1980
<b>Private business sector:</b>												
Output per hour of all persons	-2.0	-1.4	-0.3	-0.3	-2.7	0.3	-0.7	-1.6	-1.7	-1.0	-1.2	-0.8
Compensation per hour	9.5	8.7	7.5	11.7	12.0	8.7	9.4	9.4	9.2	9.3	9.9	9.9
Real compensation per hour	-2.9	-4.1	-5.4	-4.5	-1.5	1.5	-1.1	-2.1	-3.2	-4.2	-3.9	-2.5
Unit labor cost	11.8	10.3	7.8	12.1	15.1	8.4	10.2	11.2	11.1	10.5	11.3	10.8
Unit nonlabor payments	6.5	4.2	5.9	3.8	4.9	17.0	5.7	4.8	3.9	5.1	4.7	7.8
Implicit price deflator	10.1	8.3	7.2	9.4	11.9	11.0	8.7	9.1	8.7	8.8	9.2	9.9
<b>Nonfarm business sector:</b>												
Output per hour of all persons	-3.9	-1.5	0.8	-1.1	-3.7	1.5	-1.1	-2.0	-2.0	-1.4	-1.4	-0.7
Compensation per hour	8.1	8.5	9.5	10.7	10.8	8.8	8.9	8.9	9.1	9.2	9.8	9.9
Real compensation per hour	-4.2	-4.4	-3.6	-5.3	-2.6	1.6	-1.6	-2.5	-3.3	-4.4	-4.0	-2.5
Unit labor cost	12.5	10.1	8.6	12.0	15.0	7.2	10.1	11.1	11.3	10.8	11.4	10.7
Unit nonlabor payments	7.7	6.6	4.6	7.5	9.1	16.8	5.0	4.3	3.7	6.6	7.0	9.4
Implicit price deflator	11.0	9.0	7.4	10.6	13.2	10.0	8.5	9.0	8.9	9.5	10.0	10.3
<b>Nonfinancial corporations:</b>												
Output per hour of all employees	-2.7	-0.3	-0.4	-0.1	-1.9	<sup>r</sup> 4.7	-6	-1.1	-1.4	-0.9	-0.7	<sup>r</sup> 0.6
Compensation per hour	8.3	8.5	8.4	11.0	11.1	<sup>r</sup> 9.6	8.7	8.9	9.0	9.0	9.7	<sup>r</sup> 10.0
Real compensation per hour	-4.1	-4.3	-4.5	-5.1	-2.3	<sup>r</sup> 2.3	-1.8	-2.6	-3.3	-4.5	-4.1	<sup>r</sup> -2.4
Total unit costs	11.8	10.2	9.3	12.2	17.6	<sup>r</sup> 8.2	8.6	9.9	10.8	10.9	12.3	<sup>r</sup> 11.7
Unit labor costs	11.2	8.8	8.9	11.1	13.2	<sup>r</sup> 4.7	9.4	10.1	10.6	10.0	10.5	<sup>r</sup> 9.4
Unit nonlabor costs	13.5	14.6	10.6	15.4	31.1	<sup>r</sup> 18.6	6.2	9.4	11.3	13.5	17.7	<sup>r</sup> 18.7
Unit profits	-3.4	-5.3	-10.4	-10.9	-34.7	<sup>r</sup> 27.5	0	-3.9	-10.6	-7.6	-16.2	<sup>r</sup> -9.7
Implicit price deflator	10.2	8.6	7.3	9.9	12.1	<sup>r</sup> 9.6	7.7	8.4	8.4	9.0	9.5	<sup>r</sup> 9.7
<b>Manufacturing:</b>												
Output per hour of all persons	1.1	2.5	-1.3	-2.8	-4.7	-0.7	0.8	0.1	-0.3	0.2	-1.6	-2.4
Compensation per hour	9.6	7.8	8.8	10.5	15.2	12.1	9.2	9.1	9.1	9.2	10.5	11.6
Real compensation per hour	-2.8	-4.9	-4.2	-5.5	1.4	4.6	-1.3	-2.4	-3.3	-4.4	-3.4	-1.0
Unit labor cost	8.5	5.2	10.2	13.7	20.9	12.9	8.3	8.9	9.3	9.3	12.4	14.4

<sup>r</sup> = revised.

## LABOR-MANAGEMENT DATA

MAJOR COLLECTIVE BARGAINING DATA are obtained from contracts on file at the Bureau of Labor Statistics, direct contact with the parties, and from secondary sources. Additional detail is published in *Current Wage Developments*, a monthly periodical of the Bureau. Data on work stoppages are based on confidential responses to questionnaires mailed by the Bureau of Labor Statistics to parties involved in work stoppages. Stoppages initially come to the attention of the Bureau from reports of Federal and State mediation agencies, newspapers, and union and industry publications.

### Definitions

Data on wage changes apply to private nonfarm industry agreements covering 1,000 workers or more. Data on wage and benefit changes *combined* apply only to those agreements covering 5,000 workers or more. **First-year wage settlements** refer to pay changes going into effect within the first 12 months after the effective date of

the agreement. **Changes over the life of the agreement** refer to total agreed upon settlements (exclusive of potential cost-of-living escalator adjustments) expressed at an average annual rate. **Wage-rate changes** are expressed as a percent of straight-time hourly earnings, while **wage and benefit changes** are expressed as a percent of total compensation.

**Effective wage-rate adjustments** going into effect in major bargaining units measure changes actually placed into effect during the reference period, whether the result of a newly negotiated increase, a deferred increase negotiated in an earlier year, or as a result of a cost-of-living escalator adjustment. Average adjustments are affected by workers receiving no adjustment, as well as by those receiving increases or decreases.

**Work stoppages** include all known strikes or lockouts involving six workers or more and lasting a full shift or longer. Data 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.

### 35. Wage and benefit settlements in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Annual average					Quarterly average								
	1975	1976	1977	1978	1979	1978	1979				1980 <sup>P</sup>			
						IV	I	II	III	IV	I	II	III	
Wage and benefit settlements, all industries:														
First-year settlements .....	11.4	8.5	9.6	8.3	9.0	6.1	2.8	10.5	9.0	8.5	8.6	10.1	11.6	
Annual rate over life of contract .....	8.1	6.6	6.2	6.3	6.6	5.2	5.3	7.8	6.1	6.0	6.4	6.8	7.3	
Wage rate settlements, all industries:														
First-year settlements .....	10.2	8.4	7.8	7.6	7.4	7.4	5.7	8.9	6.8	6.3	7.8	8.7	10.7	
Annual rate over life of contract .....	7.8	6.4	5.8	6.4	6.0	5.9	6.6	7.2	5.1	5.3	6.3	6.8	7.4	
Manufacturing:														
First-year settlements .....	9.8	8.9	8.4	8.3	6.9	9.5	8.7	9.7	6.3	5.6	7.0	6.6	8.7	
Annual rate over life of contract .....	8.0	6.0	5.5	6.6	5.4	7.4	7.7	8.1	4.7	4.2	5.6	4.9	5.5	
Nonmanufacturing (excluding construction):														
First-year settlements .....	11.9	8.6	8.0	8.0	7.6	6.4	3.2	8.5	9.4	7.8	9.1	10.4	9.4	
Annual rate over life of contract .....	8.0	7.2	5.9	6.5	6.2	5.1	5.6	5.8	6.5	7.4	7.1	8.6	5.8	
Construction:														
First-year settlements .....	8.0	6.1	6.3	6.5	8.8	8.4	9.7	8.7	9.7	7.5	9.6	12.7	15.7	
Annual rate over life of contract .....	7.5	6.2	6.3	6.2	8.3	7.1	8.2	8.3	8.5	7.6	9.3	10.3	13.3	

### 36. Effective wage adjustments going into effect in major collective bargaining units, 1975 to date

[In percent]

Sector and measure	Average annual changes					Average quarterly changes								
	1975	1976	1977	1978	1979	1978		1979				1980 P		
						III	IV	I	II	III	IV	I	II	III
Total effective wage rate adjustment, all industries .....	8.7	8.1	8.0	8.2	9.1	2.7	1.4	1.4	2.6	3.3	1.6	1.5	2.9	3.1
Change resulting from—														
Current settlement .....	2.8	3.2	3.0	2.0	3.0	.5	.4	.2	1.1	1.0	.5	.4	1.0	1.5
Prior settlement .....	3.7	3.2	3.2	3.7	3.0	1.2	.5	.6	1.0	1.0	.4	.5	1.2	1.1
Escalator provision .....	2.2	1.6	1.7	2.4	3.1	1.0	.5	.6	.5	1.2	.7	.6	.6	.6
Manufacturing .....	8.5	8.5	8.4	8.6	9.6	2.9	1.9	1.5	2.3	3.2	2.4	1.8	3.2	2.6
Nonmanufacturing .....	8.9	7.7	7.6	7.9	8.8	2.5	1.1	1.4	2.8	3.4	1.0	1.3	2.7	3.6

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

### 37. Work stoppages, 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 (thousands)	In effect during month (thousands)	Number (thousands)	Percent of estimated working time
1947 .....	3,693	.....	2,170	.....	34,600	.30
1948 .....	3,419	.....	1,960	.....	34,100	.28
1949 .....	3,606	.....	3,030	.....	50,500	.44
1950 .....	4,843	.....	2,410	.....	38,800	.33
1951 .....	4,737	.....	2,220	.....	22,900	.18
1952 .....	5,117	.....	3,540	.....	59,100	.48
1953 .....	5,091	.....	2,400	.....	28,300	.22
1954 .....	3,468	.....	1,530	.....	22,600	.18
1955 .....	4,320	.....	2,650	.....	28,200	.22
1956 .....	3,825	.....	1,900	.....	33,100	.24
1957 .....	3,673	.....	1,390	.....	16,500	.12
1958 .....	3,694	.....	2,060	.....	23,900	.18
1959 .....	3,708	.....	1,880	.....	69,000	.50
1960 .....	3,333	.....	1,320	.....	19,100	.14
1961 .....	3,367	.....	1,450	.....	16,300	.11
1962 .....	3,614	.....	1,230	.....	18,600	.13
1963 .....	3,362	.....	941	.....	16,100	.11
1964 .....	3,655	.....	1,640	.....	22,900	.15
1965 .....	3,963	.....	1,550	.....	23,300	.15
1966 .....	4,405	.....	1,960	.....	25,400	.15
1967 .....	4,595	.....	2,870	.....	42,100	.25
1968 .....	5,045	.....	2,649	.....	49,018	.28
1969 .....	5,700	.....	2,481	.....	42,869	.24
1970 .....	5,716	.....	3,305	.....	66,414	.37
1971 .....	5,138	.....	3,280	.....	47,589	.26
1972 .....	5,010	.....	1,714	.....	27,066	.15
1973 .....	5,353	.....	2,251	.....	27,948	.14
1974 .....	6,074	.....	2,778	.....	47,991	.24
1975 .....	5,031	.....	1,746	.....	31,237	.16
1976 .....	5,648	.....	2,420	.....	37,859	.19
1977 .....	5,506	.....	2,040	.....	35,822	.17
1978 .....	4,230	.....	1,623	.....	36,922	.17
1979 November .....	272	.....	91	.....	3,201	.17
1979 December .....	149	.....	45	.....	2,424	.13
1980 P: January .....	352	441	207	292	3,142	.16
February .....	354	590	114	332	3,025	.17
March .....	396	631	123	310	2,705	.14
April .....	425	663	116	231	2,786	.14
May .....	505	752	139	214	2,464	.13
June .....	435	714	164	201	2,553	.13
July .....	491	768	270	394	4,030	.21
August .....	409	768	64	238	3,363	.17
September .....	438	711	163	269	3,169	.16
October .....	649	360	94	189	2,638	.13
November .....	284	522	54	118	1,244	.07



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